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# Investopedia

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Investing differs from trading in that investing is for the long-term, usually years or decades. Investing is one of the key strategies to building long-term wealth and financial security.

## 1.1 How To Invest With Confidence

### A Beginner's Guide to Asset Classes

The investment landscape can be extremely dynamic and ever-evolving. But those who take the time to understand the basic principles and the different asset classes stand to gain significantly over the long haul. The first step: learning to distinguish different types of investments and what rung each occupies on the “risk ladder.”

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#### KEY TAKEAWAYS

- Investing can be a daunting prospect for beginners, with an enormous variety of possible assets to add to a portfolio.
  - The investment ‘risk ladder’ identifies asset classes based on their relative riskiness, with cash being the most stable and alternative investments often being the most volatile.
  - Sticking with index funds or exchange-traded funds that mirror the market is often the best path for a new investor.
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#### Understanding the Investment ‘Risk Ladder’

Here are the major asset classes, in ascending order of risk, on the investment risk ladder.

**Cash** A cash bank deposit is the simplest, most easily understandable investment asset—and the safest. Not only does it give investors precise knowledge of the interest they’ll earn, but it also guarantees they’ll get their capital back. On the downside, the interest earned from cash socked away in a savings account seldom beats inflation. Certificates of Deposit (CDs) are highly liquid instruments, very similar to cash that are instruments that typically provide higher interest rates than those in savings accounts. However, money is locked up for a period of time and there are potential early withdrawal penalties involved.

**Bonds** Slightly higher on the risk ladder, bonds are debt instruments in which investors effectively loan money to a company or agency (the issuer), in exchange for periodic interest payments, plus the return of the bond's face amount, once the bond matures. Bonds are issued by corporations, the federal government, and many states, municipalities, and governmental agencies.

A typical corporate bond might have a face value of \$1,000 and pay semi-annual taxable interest. Interest on municipal bonds is exempt from federal taxes and may be exempt from state taxes, for residents who live in the issuing state. Interest on U.S. Treasury bonds and bills are taxed at the federal level only. Bonds can be purchased as new offerings, or they may be procured through the secondary market. A bond's value can fluctuate based on a multitude of factors, but it's chiefly influenced by prevailing interest rates.

**Stocks** Shares of stock let investors participate in the company's success via increases in the stock's price and through dividends. Shareholders have a claim on the company's assets in the event of liquidation (that is, the company going bankrupt) but do not own the assets. Holders of common stock enjoy voting rights at shareholders' meetings. Holders of preferred stock don't have voting rights but do receive preference over common shareholders in terms of the dividend payments.

**Mutual Funds** A mutual fund is a pooled investment vehicle managed by an investment manager, exposing investors to a basket of stocks, bonds or other investment vehicles, as described in a fund's prospectus. Individuals may invest in mutual funds for as little as \$1,000/share, letting them diversify into as many as 100 different stocks contained within a given portfolio. Some mutual funds can passively track stock or bond market indexes like the S&P 500 or the Barclay's Aggregate Bond Index. Other mutual funds are actively managed: They are run by portfolio managers who handpick the underlying investments. However, these funds generally have greater costs, which can cut into an investor's returns.

Mutual funds can make distributions in the form of dividends, interest and capital gains. These distributions will be taxable if held in a non-retirement account. Like individual stocks or bonds, selling a mutual fund can result in a gain or loss on the investment.

Mutual funds are valued at the end of the trading day, and all buy and sell transactions are likewise executed after the market closes.

**Exchange Traded Funds (ETFs)** Exchange-traded funds (ETFs) have become quite popular since their introduction back in the mid-1990s. ETFs are similar to mutual funds, but they trade throughout the day, on a stock exchange, just like shares of stock. Unlike mutual funds, which are valued at the end of each trading day, ETF values fluctuate intra-day. Many ETFs track passive market indexes like the S&P 500, the Barclay's Aggregate Bond Index, and the Russell 2000 index of small-cap stocks. In recent years, actively managed ETFs have emerged, as have so-called smart beta ETFs, which create indexes based on factors such as quality, low volatility, and momentum.

**Alternative Investments** There is a vast universe of alternative investments, including the following sectors:

- Real estate. Investors can acquire real estate by directly buying commercial or residential properties. Alternatively, they can purchase shares in real estate investment trusts (REITs), which pool the money of several investors, to purchase properties. REITS trade like stocks, but there are mutual funds and ETFs that invest in REITs.
- Hedge funds and private equity funds. Hedge funds, which may invest in a spectrum of assets, tend to outperform conventional investment vehicles in turbulent markets. Private equity allows companies to raise capital without going public. Typically only available to accredited investors, these vehicles often require high initial investments of \$1 million or more. They also tend to impose net worth requirements. Both investment types may tie up an investor's money for substantial time periods.
- Commodities. Commodities refer to tangible resources such as gold, silver, crude oil, as well as agricultural products.

### How to Invest Sensibly, Suitably and Simply

Many veteran investors diversify their portfolios using the asset classes listed above, with the mix reflecting their tolerance for risk. A good piece of advice to investors is to start with simple investments, then incrementally expand

their portfolios. Specifically, mutual funds or ETF's exchange-traded funds are a good first step, before moving on to individual stocks, real estate, and other alternative investments.

However, most people are too busy to worry about monitoring their portfolios on a daily basis. Therefore, sticking with index funds that mirror the market is a viable solution. Steven Goldberg, a principal at the firm Tweddell Goldberg Investment Management and longtime mutual funds columnist at Kiplinger.com further argues that most individuals only need three index funds: one covering the U.S. equity market, another with international equities and the third tracking a bond index.

### **The Bottom Line**

Investment education is essential—as is avoiding investments you don't fully understand. Rely on sound recommendations from experienced investors, while dismissing “hot tips” from untrustworthy sources. When consulting professionals, look to independent financial advisors who get paid only for their time, instead of those who collect commissions. And above all: Diversify your holdings across a wide swath of assets.

## **1.1.1 STOCK MARKET BASICS**

### **Stock Market**

#### **What is the Stock Market?**

The stock market refers to the collection of markets and exchanges where regular activities of buying, selling, and issuance of shares of publicly-held companies take place. Such financial activities are conducted through institutionalized formal exchanges or over-the-counter (OTC) marketplaces which operate under a defined set of regulations. There can be multiple stock trading venues in a country or a region which allow transactions in stocks and other forms of securities.

While both terms - stock market and stock exchange - are used interchangeably, the latter term is generally a subset of the former. If one says that she trades in the stock market, it means that she buys and sells shares/equities on one (or more) of the stock exchange(s) that are part of the overall stock market. The leading stock exchanges in the U.S. include the New York Stock Exchange (NYSE), Nasdaq, the Better Alternative Trading System (BATS), and the Chicago Board Options Exchange (CBOE). These leading national exchanges, along with several other exchanges operating in the country, form the stock market of the U.S. Though it is called a stock market or equity market and is primarily known for trading stocks/equities, other financial securities - like exchange traded funds (ETF), corporate bonds and derivatives based on stocks, commodities, currencies, and bonds - are also traded in the stock markets.

### **Understanding the Stock Market**

While today it is possible to purchase almost everything online, there is usually a designated market for every commodity. For instance, people drive to city outskirts and farmlands to purchase Christmas trees, visit the local timber market to buy wood and other necessary material for home furniture and renovations, and go to stores like Walmart for their regular grocery supplies.

Such dedicated markets serve as a platform where numerous buyers and sellers meet, interact and transact. Since the number of market participants is huge, one is assured of a fair price. For example, if there is only one seller of Christmas trees in the entire city, he will have the liberty to charge any price he pleases as the buyers won't have anywhere else to go. If the number of tree sellers is large in a common marketplace, they will have to compete against each other to attract buyers. The buyers will be spoiled for choice with low- or optimum-pricing making it a fair market with price transparency. Even while shopping online, buyers compare prices offered by different sellers on the same shopping portal or across different portals to get the best deals, forcing the various online sellers to offer the best price.

A stock market is a similar designated market for trading various kinds of securities in a controlled, secure and managed the environment. Since the stock market brings together hundreds of thousands of market participants who

wish to buy and sell shares, it ensures fair pricing practices and transparency in transactions. While earlier stock markets used to issue and deal in paper-based physical share certificates, the modern day computer-aided stock markets operate electronically.

## How the Stock Market Works

In a nutshell, stock markets provide a secure and regulated environment where market participants can transact in shares and other eligible financial instruments with confidence with zero- to low-operational risk. Operating under the defined rules as stated by the regulator, the stock markets act as primary markets and as secondary markets.

As a primary market, the stock market allows companies to issue and sell their shares to the common public for the first time through the process of initial public offerings (IPO). This activity helps companies raise necessary capital from investors. It essentially means that a company divides itself into a number of shares (say, 20 million shares) and sells a part of those shares (say, 5 million shares) to common public at a price (say, \$10 per share).

To facilitate this process, a company needs a marketplace where these shares can be sold. This marketplace is provided by the stock market. If everything goes as per the plans, the company will successfully sell the 5 million shares at a price of \$10 per share and collect \$50 million worth of funds. Investors will get the company shares which they can expect to hold for their preferred duration, in anticipation of rising in share price and any potential income in the form of dividend payments. The stock exchange acts as a facilitator for this capital raising process and receives a fee for its services from the company and its financial partners.

Following the first-time share issuance IPO exercise called the listing process, the stock exchange also serves as the trading platform that facilitates regular buying and selling of the listed shares. This constitutes the secondary market. The stock exchange earns a fee for every trade that occurs on its platform during the secondary market activity.

The stock exchange shoulders the responsibility of ensuring price transparency, liquidity, price discovery and fair dealings in such trading activities. As almost all major stock markets across the globe now operate electronically, the exchange maintains trading systems that efficiently manage the buy and sell orders from various market participants. They perform the price matching function to facilitate trade execution at a price fair to both buyers and sellers.

A listed company may also offer new, additional shares through other offerings at a later stage, like through rights issue or through follow-on offers. They may even buyback or delist their shares. The stock exchange facilitates such transactions.

The stock exchange often creates and maintains various market-level and sector-specific indicators, like the S&P 500 index or Nasdaq 100 index, which provide a measure to track the movement of the overall market. The stock exchanges also maintain all company news, announcements, and financial reporting, which can be usually accessed on their official websites. A stock exchange also supports various other corporate-level, transaction-related activities. For instance, profitable companies may reward investors by paying dividends which usually comes from a part of the company's earnings. The exchange maintains all such information and may support its processing to a certain extent.

## Functions of a Stock Market

A stock market primarily serves the following functions:

**Fair Dealing in Securities Transactions:** Depending on the standard rules of demand and supply, the stock exchange needs to ensure that all interested market participants have instant access to data for all buy and sell orders thereby helping in the fair and transparent pricing of securities. Additionally, it should also perform efficient matching of appropriate buy and sell orders.

For example, there may be three buyers who have placed orders for buying Microsoft shares at \$100, \$105 and \$110, and there may be four sellers who are willing to sell Microsoft shares at \$110, \$112, \$115 and \$120. The exchange (through their computer operated automated trading systems) needs to ensure that the best buy and best sell are matched, which in this case is at \$110 for the given quantity of trade.



**Efficient Price Discovery:** Stock markets need to support an efficient mechanism for price discovery, which refers to the act of deciding the proper price of a security and is usually performed by assessing market supply and demand and other factors associated with the transactions.

Say, a U.S.-based software company is trading at a price of \$100 and has a market capitalization of \$5 billion. A news item comes in that the EU regulator has imposed a fine of \$2 billion on the company which essentially means that 40 percent of the company's value may be wiped out. While the stock market may have imposed a trading price range of \$90 and \$110 on the company's share price, it should efficiently change the permissible trading price limit to accommodate for the possible changes in the share price, else shareholders may struggle to trade at a fair price.

**Liquidity Maintenance:** While getting the number of buyers and sellers for a particular financial security are out of control for the stock market, it needs to ensure that whosoever is qualified and willing to trade gets instant access to place orders which should get executed at the fair price.

**Security and Validity of Transactions:** While more participants are important for efficient working of a market, the same market needs to ensure that all participants are verified and remain compliant with the necessary rules and regulations, leaving no room for default by any of the parties. Additionally, it should ensure that all associated entities operating in the market must also adhere to the rules, and work within the legal framework given by the regulator.

**Support All Eligible Types of Participants:** A marketplace is made by a variety of participants, which include market makers, investors, traders, speculators, and hedgers. All these participants operate in the stock market with different roles and functions. For instance, an investor may buy stocks and hold them for long term spanning many years, while a trader may enter and exit a position within seconds. A market maker provides necessary liquidity in the market, while a hedger may like to trade in derivatives for mitigating the risk involved in investments. The stock market should ensure that all such participants are able to operate seamlessly fulfilling their desired roles to ensure the market continues to operate efficiently.

**Investor Protection:** Along with wealthy and institutional investors, a very large number of small investors are also served by the stock market for their small amount of investments. These investors may have limited financial knowledge, and may not be fully aware of the pitfalls of investing in stocks and other listed instruments. The stock exchange must implement necessary measures to offer the necessary protection to such investors to shield them from financial loss and ensure customer trust.

For instance, a stock exchange may categorize stocks in various segments depending on their risk profiles and allow limited or no trading by common investors in high-risk stocks. Derivatives, which have been described by Warren Buffett as financial weapons of mass destruction, are not for everyone as one may lose much more than they bet for. Exchanges often impose restrictions to prevent individuals with limited income and knowledge from getting into risky bets of derivatives.

**Balanced Regulation:** Listed companies are largely regulated and their dealings are monitored by market regulators, like the Securities and Exchange Commission (SEC) of the U.S. Additionally, exchanges also mandate certain requirements – like, timely filing of quarterly financial reports and instant reporting of any relevant developments - to ensure all market participants become aware of corporate happenings. Failure to adhere to the regulations can lead to suspension of trading by the exchanges and other disciplinary measures.

## Regulating the Stock Market

A local financial regulator or competent monetary authority or institute is assigned the task of regulating the stock market of a country. The Securities and Exchange Commission (SEC) is the regulatory body charged with overseeing the U.S. stock markets. The SEC is a federal agency that works independently of the government and political pressure. The mission of the SEC is stated as: “to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation.”

## **Stock Market Participants**

Along with long-term investors and short term traders, there are many different types of players associated with the stock market. Each has a unique role, but many of the roles are intertwined and depend on each other to make the market run effectively.

- Stockbrokers, also known as registered representatives in the U.S., are the licensed professionals who buy and sell securities on behalf of investors. The brokers act as intermediaries between the stock exchanges and the investors by buying and selling stocks on the investors' behalf. An account with a retail broker is needed to gain access to the markets.
- Portfolio managers are professionals who invest portfolios, or collections of securities, for clients. These managers get recommendations from analysts and make the buy or sell decisions for the portfolio. Mutual fund companies, hedge funds, and pension plans use portfolio managers to make decisions and set the investment strategies for the money they hold.
- Investment bankers represent companies in various capacities, such as private companies that want to go public via an IPO or companies that are involved in pending mergers and acquisitions. They take care of the listing process in compliance with the regulatory requirements of the stock market.
- Custodian and depot service providers, which are institution holding customers' securities for safekeeping so as to minimize the risk of their theft or loss, also operate in sync with the exchange to transfer shares to/from the respective accounts of transacting parties based on trading on the stock market.
- Market maker: A market maker is a broker-dealer who facilitates the trading of shares by posting bid and ask prices along with maintaining an inventory of shares. He ensures sufficient liquidity in the market for a particular (set of) share(s), and profits from the difference between the bid and the ask price he quotes.

## **How Stock Exchanges Make Money**

Stock exchanges operate as for-profit institutes and charge a fee for their services. The primary source of income for these stock exchanges are the revenues from the transaction fees that are charged for each trade carried out on its platform. Additionally, exchanges earn revenue from the listing fee charged to companies during the IPO process and other follow-on offerings.

The exchange also earns from selling market data generated on its platform - like real-time data, historical data, summary data, and reference data – which is vital for equity research and other uses. Many exchanges will also sell technology products, like a trading terminal and dedicated network connection to the exchange, to the interested parties for a suitable fee.

The exchange may offer privileged services like high-frequency trading to larger clients like mutual funds and asset management companies (AMC), and earn money accordingly. There are provisions for regulatory fee and registration fee for different profiles of market participants, like the market maker and broker, which form other sources of income for the stock exchanges.

The exchange also makes profits by licensing their indexes (and their methodology) which are commonly used as a benchmark for launching various products like mutual funds and ETFs by AMCs.

Many exchanges also provide courses and certification on various financial topics to industry participants and earn revenues from such subscriptions.

## **Competition for Stock Markets**

While individual stock exchanges compete against each other to get maximum transaction volume, they are facing threat on two fronts.

**Dark Pools:** Dark pools, which are private exchanges or forums for securities trading and operate within private groups, are posing a challenge to public stock markets. Though their legal validity is subject to local regulations, they are gaining popularity as participants save big on transaction fees.

**Blockchain Ventures:** Amid rising popularity of blockchains, many crypto exchanges have emerged. Such exchanges are venues for trading cryptocurrencies and derivatives associated with that asset class. Though their popularity remains limited, they pose a threat to the traditional stock market model by automating a bulk of the work done by various stock market participants and by offering zero- to low-cost services.

## Significance of the Stock Market

The stock market is one of the most vital components of a free-market economy.

It allows companies to raise money by offering stock shares and corporate bonds. It lets common investors participate in the financial achievements of the companies, make profits through capital gains, and earn money through dividends, although losses are also possible. While institutional investors and professional money managers do enjoy some privileges owing to their deep pockets, better knowledge and higher risk taking abilities, the stock market attempts to offer a level playing field to common individuals.

The stock market works as a platform through which savings and investments of individuals are channelized into the productive investment proposals. In the long term, it helps in capital formation & economic growth for the country.

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### KEY TAKEAWAYS

- Stock markets are vital components of a free-market economy because they enable democratized access to trading and exchange of capital for investors of all kinds.
  - They perform several functions in markets, including efficient price discovery and efficient dealing.
  - In the US, the stock market is regulated by the SEC and local regulatory bodies.
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## Examples of Stock Markets

The first stock market in the world was the London stock exchange. It was started in a coffeehouse, where traders used to meet to exchange shares, in 1773. The first stock exchange in the United States of America was started in Philadelphia in 1790. The Buttonwood agreement, so named because it was signed under a buttonwood tree, marked the beginnings of New York's Wall Street in 1792. The agreement was signed by 24 traders and was the first American organization of its kind to trade in securities. The traders renamed their venture as New York Stock and Exchange Board in 1817.

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## A Look at Primary and Secondary Markets

The word "market" can have many different meanings, but it is used most often as a catch-all term to denote both the primary market and the secondary market. In fact, "primary market" and "secondary market" are both distinct terms; the primary market refers to the market where securities are created, while the secondary market is one in which they are traded among investors.

Knowing how the primary and secondary markets work is key to understanding how stocks, bonds, and other securities trade. Without them, the capital markets would be much harder to navigate and much less profitable. We'll help you understand how these markets work and how they relate to individual investors.

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### KEY TAKEAWAYS

- The primary market is where securities are created, while the secondary market is where those securities are traded by investors.
  - In the primary market, companies sell new stocks and bonds to the public for the first time, such as with an initial public offering (IPO).
  - The secondary market is basically the stock market and refers to the New York Stock Exchange, the Nasdaq, and other exchanges worldwide.
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## **Primary Market**

The primary market is where securities are created. It's in this market that firms sell (float) new stocks and bonds to the public for the first time. An initial public offering, or IPO, is an example of a primary market. These trades provide an opportunity for investors to buy securities from the bank that did the initial underwriting for a particular stock. An IPO occurs when a private company issues stock to the public for the first time.

For example, company ABCWXYZ Inc. hires five underwriting firms to determine the financial details of its IPO. The underwriters detail that the issue price of the stock will be \$15. Investors can then buy the IPO at this price directly from the issuing company.

This is the first opportunity that investors have to contribute capital to a company through the purchase of its stock. A company's equity capital is comprised of the funds generated by the sale of stock on the primary market.

A rights offering (issue) permits companies to raise additional equity through the primary market after already having securities enter the secondary market. Current investors are offered prorated rights based on the shares they currently own, and others can invest anew in newly minted shares.

Other types of primary market offerings for stocks include private placement and preferential allotment. Private placement allows companies to sell directly to more significant investors such as hedge funds and banks without making shares publicly available. While preferential allotment offers shares to select investors (usually hedge funds, banks, and mutual funds) at a special price not available to the general public.

Similarly, businesses and governments that want to generate debt capital can choose to issue new short- and long-term bonds on the primary market. New bonds are issued with coupon rates that correspond to the current interest rates at the time of issuance, which may be higher or lower than pre-existing bonds. The important thing to understand about the primary market is that securities are purchased directly from an issuer.

## **Secondary Market**

For buying equities, the secondary market is commonly referred to as the "stock market." This includes the New York Stock Exchange (NYSE), Nasdaq, and all major exchanges around the world. The defining characteristic of the secondary market is that investors trade among themselves.

That is, in the secondary market, investors trade previously issued securities without the issuing companies' involvement. For example, if you go to buy Amazon (AMZN) stock, you are dealing only with another investor who owns shares in Amazon. Amazon is not directly involved with the transaction.

In the debt markets, while a bond is guaranteed to pay its owner the full par value at maturity, this date is often many years down the road. Instead, bondholders can sell bonds on the secondary market for a tidy profit if interest rates have decreased since the issuance of their bond, making it more valuable to other investors due to its relatively higher coupon rate.

The secondary market can be further broken down into two specialized categories: auction market and dealer market.

- **Auction market:** In the auction market, all individuals and institutions that want to trade securities congregate in one area and announce the prices at which they are willing to buy and sell. These are referred to as bid

and ask prices. The idea is that an efficient market should prevail by bringing together all parties and having them publicly declare their prices. Thus, theoretically, the best price of a good need not be sought out because the convergence of buyers and sellers will cause mutually agreeable prices to emerge. The best example of an auction market is the New York Stock Exchange (NYSE).

- **Dealer market:** In contrast, a dealer market does not require parties to converge in a central location. Rather, participants in the market are joined through electronic networks. The dealers hold an inventory of security, then stand ready to buy or sell with market participants. These dealers earn profits through the spread between the prices at which they buy and sell securities. An example of a dealer market is the Nasdaq, in which the dealers, who are known as market makers, provide firm bid and ask prices at which they are willing to buy and sell a security. The theory is that competition between dealers will provide the best possible price for investors.

**Fast Facts** The so-called “third” and “fourth” markets relate to deals between broker-dealers and institutions through over-the-counter electronic networks and are therefore not as relevant to individual investors.

## The OTC Market

Sometimes you’ll hear a dealer market referred to as an over-the-counter (OTC) market. The term originally meant a relatively unorganized system where trading did not occur at a physical place, as we described above, but rather through dealer networks. The term was most likely derived from the off-Wall Street trading that boomed during the great bull market of the 1920s, in which shares were sold “over-the-counter” in stock shops. In other words, the stocks were not listed on a stock exchange, they were “unlisted.”

Over time, however, the meaning of OTC began to change. The Nasdaq was created in 1971 by the National Association of Securities Dealers (NASD) to bring liquidity to the companies that were trading through dealer networks. At the time, few regulations were placed on shares trading over-the-counter, something the NASD sought to improve. As the Nasdaq has evolved over time to become a major exchange, the meaning of over-the-counter has become fuzzier. Today, the Nasdaq is still considered a dealer market and, technically, an OTC. However, today’s Nasdaq is a stock exchange and, therefore, it is inaccurate to say that it trades in unlisted securities.

Nowadays, the term “over-the-counter” refers to stocks that are not trading on a stock exchange such as the Nasdaq, NYSE, or American Stock Exchange (AMEX). This generally means that the stock trades either on the over-the-counter bulletin board (OTCBB) or the pink sheets. Neither of these networks is an exchange; in fact, they describe themselves as providers of pricing information for securities. OTCBB and pink sheet companies have far fewer regulations to comply with than those that trade shares on a stock exchange. Most securities that trade this way are penny stocks or are from very small companies.

### \$13.4 trillion

The market cap of the New York Stock Exchange, the largest stock exchange in the world. Stock exchanges are considered to be part of the “secondary” market.

## Third and Fourth Markets

You might also hear the terms “third” and “fourth” markets. These don’t concern individual investors because they involve significant volumes of shares to be transacted per trade. These markets deal with transactions between broker-dealers and large institutions through over-the-counter electronic networks. The third market comprises OTC transactions between broker-dealers and large institutions. The fourth market is made up of transactions that take place between large institutions. The main reason these third- and fourth-market transactions occur is to avoid placing these orders through the main exchange, which could greatly affect the price of the security. Because access to the third and fourth markets is limited, their activities have little effect on the average investor.

### The Bottom Line

Although not all of the activities that take place in the markets we have discussed affect individual investors, it’s good to have a general understanding of the market’s structure. The way in which securities are brought to the market and

traded on various exchanges is central to the market's function. Just imagine if organized secondary markets did not exist; you'd have to personally track down other investors just to buy or sell a stock, which would not be an easy task.

In fact, many investment scams revolve around securities that have no secondary market, because unsuspecting investors can be swindled into buying them. The importance of markets and the ability to sell a security (liquidity) is often taken for granted, but without a market, investors have few options and can get stuck with big losses. When it comes to the markets, therefore, what you don't know can hurt you, and in the long run, a little education might just save you some money.

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## **How to Buy and Sell Stocks on Your Own**

In order to buy stocks, you need the assistance of a stockbroker since you cannot usually just call up a company and ask to buy their stock on your own. For inexperienced investors, there are two basic categories of brokers to choose from: a full-service broker or an online/discount broker.

### **Full-Service Brokers**

Full-service brokers are what most people visualize when they think about investing—well-dressed, friendly business people sitting in an office chatting with clients. These are the traditional stockbrokers who will take the time to get to know you personally and financially. They will look at factors such as marital status, lifestyle, personality, risk tolerance, age (time horizon), income, assets, debts, and more. By getting to know as much about you as they can, these full-service brokers can then help you develop a long-term financial plan.

Not only can these brokers help you with your investment needs, but they can also provide assistance with estate planning, tax advice, retirement planning, budgeting and any other type of financial advice, hence the term “full-service.” They can help you manage all of your financial needs now and long into the future and are for investors who want everything in one package. In terms of fees, full-service brokers are more expensive than discount brokers but the value in having a professional investment advisor by your side can be well worth the additional costs. Accounts can be set up with as little as \$1,000. Most people, especially beginners, would fall into this category in terms of the type of broker they require.

### **Online/Discount Brokers**

Online/discount brokers, on the other hand, do not provide any investment advice and are basically just order takers. They are much less expensive than full-service brokers since there is typically no office to visit and no certified investment advisors to help you. Cost is usually based on a per-transaction basis and you can typically open an account over the internet with little or no money. Once you have an account with an online broker, you can usually just log on to its website and into your account and be able to buy and sell stocks instantly.

Remember that since these types of brokers provide absolutely no investment advice, stock tips or any type of investment help, you're on your own to manage your investments. The only assistance you will usually receive is technical support. Online (discount) brokers do offer investment-related links, research, and resources that can be useful. If you feel you are knowledgeable enough to take on the responsibilities of managing your own investments or you don't know anything about investing but want to teach yourself, then this is the way to go.

The bottom line is that your choice of broker should be based on your individual needs. Full-service brokers are great for those who are willing to pay a premium for someone else to look after their finances. Online/discount brokers, on the other hand, are great for people with little start-up money and who would like to take on the risks and rewards of investing upon themselves, without any professional assistance. Direct Stock Purchase Plan

Sometimes, companies (often blue-chip firms) will sponsor a special type of program called a DSPP, or Direct Stock Purchase Plan. DSPPs were originally conceived generations ago as a way for businesses to let smaller investors buy



ownership directly from the company. Participating in a DSPP requires an investor to engage with a company directly rather than a broker, but every company's system for administering a DSPP is unique. Most usually offer their DSPP through transfer agents or another third-party administrator. To learn more about how to participate in a company's DSPP, an investor should contact the company's investor relations department.

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### ADVISOR INSIGHT

You can buy or sell stock on your own by opening a brokerage account with one of the many brokerage firms. After opening your account, connect it with your bank checking account to make deposits, which are then available for you to invest.

However, do not equate the ease of opening an account with the ease of making good investment decisions. It is generally recommended that beginners speak to a qualified financial advisor. New investors should read "The Intelligent Investor" by Benjamin Graham. Smart investing can be highly satisfying so take it slow, do your research, and seek out an advisor that has your best interests in mind.

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## Trading hours of world's major stock exchanges

Closing times for stock market exchanges vary, but they generally close in the evening – except on holidays. A stock market exchange is a marketplace where stocks are traded throughout the day; it functions as an entity that ensures orderly trading and efficient dissemination of price quotes for stocks on the exchange. Some of the main stock market exchanges are the Shanghai Stock Exchange, Swiss Exchange, London Stock Exchange, New York Stock Exchange and Nasdaq. Trading is generally conducted on Monday to Friday of each week. Getting access to any of the following markets and exchanges would require a stockbroker.

Investopedia's list of the best online stock brokers can give you a great first look at some of the top brokers in the industry.

### Trading Hours in the United States / Americas

The New York Stock Exchange (NYSE) is based in New York City. The NYSE is one of the largest stock exchanges in the world, and it is a public entity. As of 2019, the NYSE has normal trading hours from 9:30 a.m. to 4 p.m. local time, unless there's an early close due to a holiday.

The Nasdaq is an American stock exchange that serves as a global electronic marketplace for securities trading. Pre-market trading hours are from 4 a.m. to 9:30 a.m. local time, and after-hours trading extends from 4 p.m. to 8 p.m. The normal trading hours begin at 9:30 a.m. and end at 4 p.m.

Canada's Toronto Stock Exchange opens at 9:30 a.m. and closes at 4 p.m. local time, with no break in trading for a lunch period.

### Trading Hours in Asia

The Shanghai Stock Exchange opens at 9:30 a.m. and closes at 3 p.m. local time, and it has a lunch period from 11:30 a.m. to 1 p.m.

Japan's Tokyo Stock Exchange opens at 9:00 a.m. and closes at 3 p.m. local time, with a lunch period from 11:30 a.m. to 12:30 p.m.

The Hong Kong Stock Exchange opens at 9:30 a.m. and closes at 4 p.m. local time, and it has a lunch period from 12 p.m. to 1 p.m.

## **Trading Hours in Europe**

The London Stock Exchange opens at 8 a.m. and closes at 4:30 p.m. local time with no lunch period. Euronext Paris opens at 9 a.m. and closes at 5:30 p.m. local time with no lunch period. The Swiss Exchange opens at 9:00 a.m., closes at 5:30 p.m. local time and has no lunch period.

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## **Getting to Know the Stock Exchanges**

A stock exchange does not own shares. Instead, it acts as a market where stock buyers connect with stock sellers. Stocks can be traded on one or more of several possible exchanges such as the New York Stock Exchange (NYSE). Although you will most likely trade stocks through a broker, it is important to understand the relationship between exchanges and companies, and the ways in which the requirements of different exchanges protect investors.

## **How Does It All Start?**

The primary function of an exchange is to help provide liquidity; in other words, to give sellers a place to “liquidate” their shareholdings.

Stocks first become available on an exchange after a company conducts its initial public offering (IPO). In an IPO, a company sells shares to an initial set of public shareholders (the primary market). After the IPO “floats” shares into the hands of public shareholders, these shares can be sold and purchased on an exchange (the secondary market).

The exchange tracks the flow of orders for each stock, and this flow of supply and demand sets the stock price. Depending on the type of brokerage account you have, you may be able to view this flow of price action. For example, if you see that the “bid price” on a stock is \$40, this means somebody is telling the exchange that he or she is willing to buy the stock for \$40. At the same time you might see that the “ask price” is \$41, which means somebody else is willing to sell the stock for \$41. The difference between the two is the bid-ask spread.

## **Auction Exchanges - NYSE**

The NYSE is primarily auction-based, which means specialists are physically present on the exchange’s trading floors. Each specialist “specializes” in a particular stock, buying and selling the stock in the auction. These specialists are under competitive threat by electronic-only exchanges that claim to be more efficient (that is, they execute faster trades and exhibit smaller bid-ask spreads) by eliminating human intermediaries.

The NYSE is the largest and most prestigious exchange. Listing on the NYSE affords companies great credibility, because they must meet initial listing requirements and also comply annually with maintenance requirements. For example, for U.S. companies to remain listed, the NYSE companies must keep their price above \$4 per share and their market capitalization (number of shares times price) above \$40 million.

Furthermore, investors trading on the NYSE benefit from a set of minimum protections. Among several of the requirements that the NYSE has enacted, the following two are especially significant:

1. Companies must get shareholder approval for any equity incentive plan (for example, stock option plan or restricted stock plan). In the past, companies were allowed to sidestep shareholder approval if an equity incentive plan met certain criteria; this, however, prevented shareholders from knowing how many stock options were available for future grant.
2. A majority of the board of directors’ members must be independent. However, each company has some discretion over the definition of “independent,” which has caused controversy. Furthermore, the compensation committee must be entirely composed of independent directors, and the audit committee must include at least one person who possesses “accounting or financial expertise.”



## The Nasdaq (an Electronic Exchange)

The Nasdaq, an electronic exchange, is sometimes called “screen-based” because buyers and sellers are connected only by computers over a telecommunications network. Market makers, also known as dealers, carry their own inventory of stock. They stand ready to buy and sell Nasdaq stocks, and they are required to post their bid and ask prices.

Nasdaq has listing and governance requirements similar to the NYSE. For example, a stock must maintain a \$4 minimum price. If a company does not maintain these requirements, it can be delisted to one of the OTC markets discussed below.

## Electronic Communication Networks (ECNs)

ECNs are part of an exchange class called alternative trading systems (ATS). ECNs connect buyers and sellers directly. Because they allow for direct connection, ECNs bypass the market makers. You can think of them as an alternative means to trade stocks listed on the Nasdaq and, increasingly, other exchanges as well (such as the NYSE or foreign exchanges).

There are several innovative and entrepreneurial ECNs, and they are generally good for customers because they pose a competitive threat to traditional exchanges, and therefore push down transaction costs. Currently, ECNs do not really serve individual investors; they are mostly of interest to institutional investors.

There are several ECNs, including INET (the result of an early 2004 consolidation between the Instinet ECN and Island ECN) and Archipelago (one of the four original ECNs that launched in 1997).

## Over-the-Counter (OTC)

Over-the-counter (OTC) refers to markets other than the organized exchanges described above. OTC markets generally list small companies, and often (but not always) these companies have “fallen off” to the OTC market because they were delisted from Nasdaq.

Some individual investors will not even consider buying OTC stocks due to the extra risks involved. On the other hand, some strong companies trade on the OTC. In fact, several strong companies have deliberately switched to OTC markets to avoid the administrative burden and costly fees that accompany regulatory oversight laws such as the Sarbanes-Oxley Act. On balance, you should be careful when investing in the OTC if you do not have experience as several penny stocks trade over-the-counter. (To learn more about penny stocks, read our penny stock series).

There are two OTC markets:

- Over-the-Counter Bulletin Board (OTCBB) is an electronic community of market makers. Companies that fall off the Nasdaq often end up here. On the OTCBB, there are no “quantitative minimums” (no minimum annual sales or assets required to list).
- Companies that list on the OTC Pink are not required to register with the SEC. Liquidity is often minimal. Also, keep in mind that these companies are not required to submit quarterly 10Qs.

## The Bottom Line

To be traded, every stock must list on an exchange where buyers and sellers meet. The two big U.S. exchanges are the NYSE and the fast-growing Nasdaq. Companies listed on either of these exchanges must meet various minimum requirements and baseline rules concerning the “independence” of their boards. But these are by no means the only legitimate exchanges. Electronic communication networks are relatively new, but they are sure to grab a bigger slice of the transaction pie in the future. Finally, the OTC market is a fine place for experienced investors with an itch to speculate and the know-how to conduct a little extra due diligence.

## 1.1.2 HOW STOCK INVESTING WORKS

### What Owning a Stock Actually Means

Most people realize that owning a stock means buying a percentage of ownership in the company, but many new investors have misconceptions about the benefits and responsibilities of being a shareholder. Many of these misconceptions stem from a lack of understanding of the amount of ownership that each stock represents. For large companies, such as Apple (AAPL) and Exxon Mobil (XOM), one share is merely a drop in the pond. Even if you owned \$1 million worth of shares, you'd still be a small potato with very little equity in the company.

So what does this mean? Let's take a look at three of the biggest misconceptions about being a shareholder.

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#### KEY TAKEAWAYS

- Stockholders own shares of a company, but the level of ownership may not present the benefits and responsibilities sought after.
  - Most shareholders have no direct control over a company's operations, although some have voting rights affording some authority, such as voting for the board of directors members.
  - Being a shareholder does not mean that you are entitled to discounts or can seize assets and property at will.
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#### Misconception No. 1: I am the boss.

First of all, you're better off not thinking that you can bring your share certificates into the corporate headquarters to boss people around and demand a corner office. As the owner of the stock, you've placed your faith in the company's management and how it handles different situations. If you are not happy with the management, you can always sell your stock, but if you are happy, you should hold onto the stock and hope for a good return.

Furthermore, next time you are pondering whether you're the only person worried about a company's stock price, you should remember that many of the senior company executives (insiders) probably own as many, if not more, shares than you do.

This isn't a guarantee that the company's stock will do well, but it is a way for companies to give their executives an incentive to maintain or increase the stock's price. Insider ownership is a double-edged sword, though, because executives may get involved in some funny business to artificially increase the stock's price and then quickly sell out their personal holdings for a profit.

Even though you can't directly manage the company with your stocks, vote for the directors who can if your stock has voting rights. These are the people who typically hire upper management, which hires lower management, which hires subordinate employees. Thus, as an owner of common stock, you do get a bit of a say in controlling the shape and direction of the company, even though this say doesn't represent direct control.

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#### FAST FACT

More than half of Americans own stock according to a 2016 Gallup Poll.

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#### Misconception No. 2: I get a discount on goods and services.

Another misconception is that ownership in a company translates into discounts. Now, there are definitely some exceptions to the rule. Berkshire Hathaway (BRK.A), for example, has an annual gathering for its shareholders where they can buy goods at a discount from Berkshire Hathaway's held companies. Typically, however, the only thing you get with the ownership rights of a stock is the ability to participate in the company's profitability.

Why would it hurt for you to get a discount? Well, this answer can get a little complicated. After some thought, you probably would not want that discount. Let's look at an example of Ben's Chicken Restaurant (owned by Ben and a couple of his friends) and Cory's Brewing Company (owned by millions of different shareholders). Because only a few people own Ben's Chicken Restaurant, the discount would only be a small portion of the restaurant's income and revenue, which the owners would bear.

For Cory's Brewing Company, the loss in income and revenue would also be borne by the owners (the millions of shareholders). Since revenue is the main driver of stock price and the loss from a discount would mean a drop in stock price, the negative impact of a discount would be more substantial for Cory's Brewing. So, even though an owner of stock may have saved on a purchase of the company's goods, he or she would lose on the investment in the company's stock. Thus, the discount isn't nearly as good as it initially sounds. Misconception No. 3: I own the chair, the desk, the pens, the property, etc.

As an investor in a company, you own a portion of the company (no matter how small that portion is); however, this doesn't mean that you own property of the company. Let's go back to Ben's Chicken Restaurant and Cory's Brewing Company.

Quite often, companies will have loans to pay for property, equipment, inventories, and other things needed for operations. Let's assume Ben's Chicken Restaurant received a loan from a local bank under certain conditions whereby the equipment and property are used as collateral. For a large company like Cory's Brewing Company, the loans come in many different forms, such as through a bank or from investors by means of different bond issues. In either case, the owners must pay back the debtors before getting any money back.

For both companies, the debtors—in the case of Cory's Brewing Company, this is the bank and the bondholders—have the initial rights to the property, but they typically won't ask for their money back while the companies are profitable and show the capacity to repay the money. However, if either of the companies becomes insolvent, the debtors are first in line for the company's assets. Only the money left over from the sale of the company assets is distributed to the stockholders.

### **The Bottom Line**

Hopefully, we've been able to dispel any misconceptions that some stockholders have about the powers of ownership. Next time you think about taking your stock certificate into the nearest McDonald's (MCD) to get a discount on a Happy Meal, attempt to fire the employee after refusing to give it to you, and then finally walk out in disgust with a McFlurry machine, you should remind yourself of the common misconceptions about ownership powers.

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## **The Basics of Trading a Stock: Know Your Orders**

With the growing importance of digital technology and the internet, many investors are opting to buy and sell stocks for themselves rather than pay advisors large commissions to execute trades. However, before you can start buying and selling stocks, you must know the different types of orders and when they are appropriate.

In this article, we'll cover the basic types of stock orders and how they complement your investing style.

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### **KEY TAKEAWAYS**

- Several different types of orders can be used to trade stocks more effectively.
- A market order simply buys or sells shares at the prevailing market prices until the order is filled.
- A limit order specifies a certain price at which the order must be filled, although there is no guarantee that some or all of the order will trade if the limit is set too high or low.
- Commissions are usually lowered on market orders.
- Stop orders, a type of limit order, are triggered when a stock moves above or below a certain level and are often used as a way to insure against larger losses or to lock in profits.

## Market Order vs. Limit Order

The two major types of orders that every investor should know are the market order and the limit order.

### Market Orders

A market order is the most basic type of trade. It is an order to buy or sell immediately at the current price. Typically, if you are going to buy a stock, then you will pay a price at or near the posted ask. If you are going to sell a stock, you will receive a price at or near the posted bid.

One important thing to remember is that the last-traded price is not necessarily the price at which the market order will be executed. In fast-moving and volatile markets, the price at which you actually execute (or fill) the trade can deviate from the last-traded price. The price will remain the same only when the bid and ask prices are exactly at the last-traded price.

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### Important

Market orders do not guarantee a price, but they do guarantee the order's immediate execution.

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Market orders are popular among individual investors who want to buy or sell a stock without delay. The advantage of using market orders is you are guaranteed to get the trade filled; in fact, it will be executed ASAP. Although the investor doesn't know the exact price at which the stock will be bought or sold, market orders on stocks that trade over tens of thousands of shares per day will likely be executed close to the bid and ask prices.

### Limit Orders

A limit order, sometimes referred to as a pending order, allows investors to buy and sell securities at a certain price in the future. This type of order is used to execute a trade if the price reaches the pre-defined level; the order will not be filled if price does not reach this level. In effect, a limit order sets the maximum or minimum price at which you are willing to buy or sell.

For example, if you wanted to buy a stock at \$10, you could enter a limit order for this amount. This means that you would not pay a penny over \$10 for that particular stock. However, it is still possible that you buy it for less than the \$10 per share specified in the order.

There are four types of limit orders:

- **Buy Limit:** an order to purchase a security at or below a specified price. Limit orders must be placed on the correct side of the market to ensure they will accomplish the task of improving price. For a buy limit order, this means placing the order at or below the current market bid.
- **Sell Limit:** an order to sell a security at or above a specified price. To ensure improved price, the order must be placed at or above the current market ask.
- **Buy Stop:** an order to buy a security at a price above the current market bid. A stop order to buy becomes active only after a specified price level has been reached (known as the stop level). Buy stop are orders placed above the market and sell stop orders placed below the market (the opposite of buy and sell limit orders, respectively). Once a stop level has been reached, the order will be immediately converted into a market or limit order.
- **Sell Stop:** an order to sell a security at a price below the current market ask. Like the buy stop, A stop order to sell becomes active only after a specified price level has been reached.

### Market and Limit Order Costs

When deciding between a market or limit order, investors should be aware of the added costs. Typically, the commissions are cheaper for market orders than for limit orders. The difference in commission can be anywhere from a

couple of dollars to more than \$10. For example, a \$10 commission on a market order can be boosted up to \$15 when you place a limit restriction on it. When you place a limit order, make sure it's worthwhile.

Let's say your broker charges \$7 for a market order and \$12 for a limit order. Stock XYZ is presently trading at \$50 per share and you want to buy it at \$49.90. By placing a market order to buy 10 shares, you pay \$500 (10 shares x \$50 per share) + \$7 commission, which is a total of \$507. By placing a limit order for 10 shares at \$49.90 you pay \$499 + \$12 commissions, which is a total of \$511.

Even though you save a little from buying the stock at a lower price (10 shares x \$0.10 = \$1), you will lose it in the added costs for the order (\$5), a difference of \$4. Furthermore, in the case of the limit order, it is possible that the stock doesn't fall to \$49.90 or less. Thus, if it continues to rise, you may lose the opportunity to buy.

## Additional Stock Order Types

Now that we've explained the two main orders, here's a list of some added restrictions and special instructions that many different brokerages allow on their orders:

- **Stop-Loss Order:** Also referred to as a stopped market, on-stop buy, or on-stop sell, this is one of the most useful orders. This order is different because, unlike the limit and market orders, which are active as soon as they are entered, this order remains dormant until a certain price is passed, at which time it is activated as a market order. For instance, if a stop-loss sell order were placed on the XYZ shares at \$45 per share, the order would be inactive until the price reached or dropped below \$45. The order would then be transformed into a market order, and the shares would be sold at the best available price. You should consider using this type of order if you don't have time to watch the market continually but need protection from a large downside move. A good time to use a stop order is before you leave on vacation.
- **Stop-limit Order:** These are similar to stop-loss orders, but as their name states, there is a limit on the price at which they will execute. There are two prices specified in a stop-limit order: the stop price, which will convert the order to a sell order, and the limit price. Instead of the order becoming a market order to sell, the sell order becomes a limit order that will only execute at the limit price or better. This can mitigate a potential problem with stop-loss orders, which can be triggered during a flash crash when prices plummet but subsequently recover.
- **All or None (AON):** This type of order is especially important for those who buy penny stocks. An all-or-none order ensures that you get either the entire quantity of stock you requested or none at all. This is typically problematic when a stock is very illiquid or a limit is placed on the order. For example, if you put in an order to buy 2,000 shares of XYZ but only 1,000 are being sold, an all-or-none restriction means your order will not be filled until there are at least 2,000 shares available at your preferred price. If you don't place an all-or-none restriction, your 2,000 share order would be partially filled for 1,000 shares.
- **Immediate or Cancel (IOC):** An IOC order mandates that whatever amount of an order that can be executed in the market (or at a limit) in a very short time span, often just a few seconds or less, be filled and then the rest of the order canceled. If no shares are traded in that "immediate" interval, then the order is canceled completely.
- **Fill or Kill (FOK):** This type of order combines an AON order with an IOC specification; in other words, it mandates that the entire order size be traded and in a very short time period, often a few seconds or less. If neither condition is met, the order is canceled.
- **Good 'Til Canceled (GTC):** This is a time restriction that you can place on different orders. A good-til-canceled order will remain active until you decide to cancel it. Brokerages will typically limit the maximum time you can keep an order open (active) to 90 days.
- **Day:** If you don't specify a time frame of expiry through the GTC instruction, then the order will typically be set as a day order. This means that after the end of the trading day, the order will expire. If it isn't transacted (filled) then you will have to re-enter it the following trading day.
- **Take Profit:** A take profit order (sometimes called a profit target) is intended to close out the trade at a profit once it has reached a certain level. Execution of a Take Profit order closes the position. This type of order is always connected to an open position of a pending order.

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### Important

Not all brokerages or online trading platforms allow for all of these types of orders. Check with your broker if you do not have access to a particular order type that you wish to use.

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### The Bottom Line

Knowing the difference between a limit and a market order is fundamental to individual investing. There are times where one or the other will be more appropriate, and the order type is also influenced by your investment approach. A long-term investor is more likely to go with a market order because it is cheaper and the investment decision is based on fundamentals that will play out over months and years, so the current market price is less of an issue. A trader, however, is looking to act on a shorter term trend in the charts and, therefore, is much more conscious of the market price paid; in which case, a limit order to buy in with a stop-loss order to sell is usually the bare minimum for setting up a trade.

By knowing what each order does and how each one might affect your trading, you can identify which order suits your investment needs, saves you time, reduces your risk, and, most importantly, saves you money.

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### Optimal Position Size Reduces Risk

Determining how much of a currency, stock or commodity to accumulate on a trade is an often-overlooked aspect of trading. Traders frequently take a random position size. They may take more if they feel “really sure” about a trade, or they may take less if they feel a little leery. These are not valid ways to determine position size.

A trader should also not take a set position size for all circumstances, regardless of how the trade sets up, and this style of trading will likely lead to underperformance over the long run. Let’s look at how position size should actually be determined.

### What Affects Position Size

The first thing we need to know before we can actually determine our position size is the stop level for the trade. Stops should not be set at random levels. A stop needs to be placed at a logical level, where it will tell the trader they were wrong about the direction of the trade. We do not want to place a stop where it could easily be triggered by normal movements in the market.

Once we have a stop level, we now know the risk. For example, if we know our stop is 50 pips from our entry price for a forex trade (or assume 50 cents in a stock or commodity trade), we can now start to determine our position size. The next thing we need to look at is the size of our account. If you have a small account, you should risk a maximum of 1% to 3% of your account on a trade.

Assume a trader has a \$5,000 trading account. If the trader risks 1% of that account on a trade, this means he or she can lose \$50 on a trade, which means the trader can take one mini-lot. If the trader’s stop level is hit, then the trader will have lost 50 pips on one mini lot, or \$50. If the trader uses a 3% risk level, then he or she can lose \$150 (which is 3% of the account). This means that, with a 50-pip stop level, he or she can take three mini-lots. If the trader is stopped out, he or she will have lost 50 pips on three mini lots, or \$150. (Learn more about implementing appropriate stops in: A Logical Method of Stop Placement.)

In the stock market, risking 1% of your account on the trade would mean that a trader could take 100 shares with a stop level of 50 cents. If the stop is hit, this would mean \$50, or 1% of the total account, was lost on the trade. In this case, the risk for the trade has been contained to a small percentage of the account, and the position size has been optimized for that risk.

## Alternative Position-Sizing Techniques

For larger accounts, there are some alternative methods that can be used to determine position size. A person trading a \$500,000 or \$1 million account may not always wish to risk \$5,000 or more (1% of \$500,000) on each and every trade. They may have many positions in the market, they may not actually employ all of their capital, or there may be liquidity concerns with large positions. In this case, a fixed-dollar stop can also be used.

Let's assume a trader with an account of this size wants to risk only \$1,000 on a trade. He or she can still use the method mentioned above. If the distance to the stop from the entry price is 50 pips, the trader can take 20 mini-lots, or 2 standard lots.

In the stock market, the trader could take 2,000 shares with the stop being 50 cents away from the entry price. If the stop is hit, the trader will have lost only the \$1,000 that he or she was willing to risk before placing the trade. (For more, see: Calculating Risk and Reward.)

## Daily Stop Levels

Another option for active or full-time day traders is to use a daily stop level. A daily stop allows traders who need to make split-second judgments and require flexibility in their position-sizing decisions. A daily stop means the trader sets a maximum amount of money he or she can lose in a day, week or month. If traders lose this predetermined amount of capital, or more, they will immediately exit all positions and cease trading for the rest of the day, week or month. A trader using this method must have a track record of positive performance.

For experienced traders, a daily stop loss can be roughly equal to their average daily profitability. For instance, if, on average, a trader makes \$1,000 a day, then he or she should set a daily stop loss that is close to this number. This means that a losing day will not wipe out profits from more than one average trading day. This method can also be adapted to reflect several days, a week or a month of trading results.

For traders who have a history of profitable trading, or who are extremely active in trading throughout the day, the daily stop level allows them freedom to make decisions about position size on the fly throughout the day and yet still control their overall risk. Most traders using a daily stop will still limit risk to a very small percentage of their account on each trade by monitoring positions sizes and the exposure to risk a position is creating.

A novice trader with little trading history may also adapt a method of the daily stop loss in conjunction with using proper position sizing – determined by the risk of the trade and his or her overall account balance.

## The Bottom Line

In order to achieve the correct position size, we must first know our stop level and the percentage or dollar amount of our account we are willing to risk on the trade. Once we have determined these, we can calculate our ideal position size.

## How do I place an order to buy or sell shares?

It is easy to get started buying and selling stocks, especially with the advancements in online trading since the turn of the century. If you're like the vast majority of American traders, you buy stocks from an investment firm or a brokerage firm. You meet with or speak with a stockbroker, who accepts your market orders and facilitates payments between you and other trading parties. Unless you are borrowing on margin, you have a cash account with your broker to help identify your investor profile.

You buy at the offer (or ask) price and sell at the bid price. A closer gap in these prices means more trading volume for the stock.

## Buy and Sell Orders



Trade lengths, costs and price differences vary between different brokers and among different markets. Stocks tend to be very liquid, meaning that trades happen quickly. When you submit an order to your broker, he either fills it from his company's own inventory or routes the order through a computer trading network. A seller is matched with your order, and the trade is executed.

There are several kinds of orders. The most common are market orders, limit orders and stop orders. Use a market order to buy at the current best market price. Limit orders allow you to set the price, and the order may be filled over a period of time. Stop orders allow you to place ceilings on how much you pay for stocks.

You sell stock in much the same way that you buy stock. Place an order with your broker, and wait for the order to be filled through your investment account.

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## **When to Sell a Stock**

There are a few good reasons and many bad ones to unload your shares.

Making money on stocks involves just two key decisions: Buying at the right time and selling at the right time. You've got to get both of those right to make a profit. There are only three good reasons to sell:

- Buying the stock was a mistake in the first place
- The stock price has risen dramatically
- The stock has reached a silly and unsustainable price

Read on for more on all three of these good reasons to sell. But first, consider a couple of common mistakes to avoid when you're buying and selling.

## **Buying Right**

The return on any investment is first determined by the purchase price. One could argue that a profit or loss is made at the moment it's purchased. The buyer just doesn't know it until it's sold.

While buying at the right price may ultimately determine the profit gained, selling at the right price guarantees the profit, if any. If you don't sell at the right time, the benefits of buying at the right time disappear.

## **Selling Stock Is Hard**

Many of us have trouble selling a stock, and the reason is rooted in the innate human tendency toward greed.

Here's an all-too-common scenario: You buy shares of stock at \$25 with the intention of selling it if it reaches \$30. The stock hits \$30 and you decide to hold out for a couple of more points. The stock reaches \$32 and greed overcomes rationality. Suddenly, the stock price drops back to \$29. You tell yourself to just wait until it hits \$30 again. This never happens. You finally succumb to frustration and sell at a loss when it hits \$23.

Greed and emotion have overcome rational judgment. You've treated the stock market like a slot machine and lost. The loss was \$2 a share, but you actually might have made a profit of \$7 when the stock hit its high.

These paper losses might be better ignored than agonized over, but it comes down to the investor's reason for selling or not selling.

To remove human nature from the equation in the future, consider using a limit order, which will automatically sell the stock when it reaches your target price (excluding gap-down situations).

You won't even have to watch that stock go up and down. You'll get a notice when your sell order is placed.



## Never Try to Time the Markets

Timely selling does not require precise market timing. Few investors ever buy at the absolute bottom and sell at the absolute top.

Warren Buffett couldn't do it. He and other legendary stock pickers focus on buying at one price and selling at a higher price.

And that brings us to the three good reasons to sell a stock.

## When Buying Was a Mistake

Presumably, you've put some research into that stock before you bought it. You may later conclude that you've made an analytical error. That error fundamentally affects the business as a suitable investment.

You should sell that stock, even if it means incurring a loss.

The key to successful investing is to rely on your data and analysis instead of Mr. Market's emotional mood swings. If that analysis was flawed for any reason, sell the stock and move on.

The stock price might go up after you sell, causing you to second guess yourself. Or a 10% loss on that investment could turn out to be the smartest investment move you ever made.

Of course, not all analytical mistakes are equal. If a business fails to meet short term earnings forecasts and the stock price goes down, don't overreact and sell if the soundness of the business remains intact. But if you see the company losing market share to competitors, it could be a sign of long-term weakness and a good reason to sell. When the Stock Rises Dramatically

It's very possible that a stock you just bought will rise dramatically in a short period of time for one reason or another. The best investors are the most humble investors. Don't take the fast rise as an affirmation that you are smarter than the overall market. Sell it.

A cheap stock can become an expensive stock very fast for a host of reasons, including speculation by others. Take your gains and move on. Even better, if that stock drops significantly, consider buying it again. If the shares continue to increase, take comfort in the old saying, "no one goes broke booking a profit."

If you own a stock that has been sliding, consider selling on a so-called dead cat bounce. These upticks are temporary and usually based on unexpected news.

## Sell for Valuation

This is a difficult decision, part art, and part science.

The value of any share of stock ultimately rests on the present value of the company's future cash flows. The valuation will always carry a degree of imprecision because the future is uncertain. This is why value investors rely heavily on the margin of safety concept in investing.

A good rule of thumb is to consider selling if the company's valuation becomes significantly higher than its peers. Of course, this is a rule with many exceptions. For example, if Procter & Gamble (PG) is trading for 15 times earnings while Kimberly-Clark (KMB) is trading for 13 times earnings, it's no reason to sell PG when you consider the sizable market share of many of PG's products.

Another more reasonable selling tool is to sell when a company's P/E ratio significantly exceeds its average P/E ratio over the past five or 10 years. For instance, at the height of the internet boom, Walmart shares had a P/E of 60 times earnings. Despite Walmart's quality, any owner of shares should have considered selling and potential buyers should have considered looking elsewhere.

When a company's revenue declines, it's usually a sign of reduced demand. First, look at the annual revenue numbers in order to see the big picture, but don't rely solely on those numbers. Look at the quarterly numbers. The annual revenue numbers for a major oil and gas company might be impressive annually, but what if energy prices have fallen in recent months?

Also, when you see a company cutting costs, it often means that the company is not thriving. The biggest indicator is reducing headcount. The good news for you is that cost-cutting will be seen as a positive, initially, which will often lead to stock gains. This shouldn't be seen as an opportunity to buy more shares, but rather as a chance to exit the position before any subsequent plunge in value.

### **Selling for Financial Needs**

This might not count as a "good" reason from an analytical standpoint, but it's a reason nonetheless. Stocks are an asset, and there are times when people need to cash in their assets.

Whether it is seed money for a new business, paying for college, or purchasing a home, the decision depends on an individual's financial situation rather than the fundamentals of the stock.

### **The Bottom Line**

Any sale that results in profit is a good sale, particularly if the reasoning behind it is sound. When a sale results in a loss with an understanding of why that loss occurred, it too may be considered a good sell. Selling is a poor decision only when it is dictated by emotion instead of data and analysis.

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## **Income, Value, and Growth Stocks**

Investors who buy stocks typically do so for one of two reasons: They believe that the price will rise and allow them to sell the stock at a profit, or they intend to collect the dividends paid on the stock as investment income. Of course, some stocks can satisfy both objectives, at least to some extent, but most stocks can be classified into one of three categories: growth, income or value. Those who understand the characteristics of each type of stock can use this knowledge to grow their portfolios more efficiently.

### **Growth Stocks**

As the name implies, growth companies by definition are those that have substantial potential for growth in the foreseeable future. Growth companies may currently be growing at a faster rate than the overall markets, and they often devote most of their current revenue toward further expansion. Every sector of the market has growth companies, but they are more prevalent in some areas such as technology, alternative energy, and biotechnology.

Most growth stocks tend to be newer companies with innovative products that are expected to make a big impact on the market in the future, but there are exceptions. Some growth companies are simply very well-run entities with good business models that have capitalized on the demand for their products. Growth stocks can provide substantial returns on capital, but many of them are smaller, less-stable companies that may also experience severe price declines.

An example of a growth company:

- Amazon.Com Inc (AMZN) – This Net juggernaut continues to add features, open new markets and take customers from other retail-oriented companies. The 2018 trailing P/E of 263 reflects this astounding growth potential, compared to the SP-500 trailing P/E of 24.6.

## Value Stocks

Undervalued companies can often provide long-term profits for those who do their homework. A value stock trades at a price below where it appears it should be based on its financial status and technical trading indicators. It may have high dividend payout ratios or low financial ratios such as price-to-book or price-earnings ratios. The stock price may also have dropped due to public perception regarding factors that have little to do with the company's current operations.

For example, the stock price of a well-run, financially sound company may drop substantially for a short time period if the company CEO becomes embroiled in a serious personal scandal. Smart investors know that this is a good time to buy the stock, as the public will soon forget about the incident and the price will most likely revert to its previous level.

Of course, the definition of what exactly is a good value for a given stock is somewhat subjective and varies according to the investor's philosophy and point of view. Value stocks are typically considered to carry less risk than growth stocks because they are usually those of larger, more-established companies. However, their prices do not always return to their previous higher levels as expected.

An example of a good value stock:

- Cardinal Health Inc (CAH) –The stock looks undervalued because it's trading at a 4 year low even though EPS has nearly doubled from \$2.48 in 2014 to an estimated \$4.95 in the fiscal year 2018. This is better than the broad market's estimated 3.14% annual earnings growth in the next 7 to 10 years.

## Income Stocks

Investors look to income stocks to bolster their fixed-income portfolios with dividend yields that typically exceed those of guaranteed instruments such as Treasury securities or CDs.

There are two main types of income stocks. Utility stocks are common stocks that have historically remained fairly stable in price but usually pay competitive dividends. Preferred stocks are hybrid securities that behave more like bonds than stocks. They often have call or put features or other characteristics, but also pay competitive yields.

Although income stocks can be an attractive alternative for investors unwilling to risk their principal, their values can decline when interest rates rise.

One example of a good income stock:

- AT&T (T) – The company is financially sound, carries a reasonable amount of debt and currently pays an annual dividend yield of 6.2%.

## How to Find Stocks in These Categories

There is no one right way to discover specific types of stocks. Those who want growth can peruse investing websites or bulletin boards for lists of growth companies, then do their own homework on them. Many analysts also publish blogs and newsletters that tout stocks in each of the three categories.

Investors looking for income can calculate the dividend yields on common and preferred offerings, and then evaluate the amount of risk in the security. There are also stock screening programs available that investors can use to search for stocks according to specific criteria, such as dividend yields or financial ratios.

## The Bottom Line

Stocks can provide a return on capital from future growth, current undervaluation or dividend income. Many stocks (such as AT&T) offer some combination of these, and smart investors know that dividends can make a substantial difference in the total return they receive.

## How can I prevent commissions and fees from eating up my trading profits?

First off, understand that there is no universal system regarding trading commissions charged by brokerage firms. Some charge rather steep fees for each trade, while others charge very little, depending on the level of service they provide. A discount brokerage firm might charge as little as \$10 for a common stock trade or even less, while a full-service broker might easily charge \$100 or more per trade.

In these cases, the answer to this question actually has more to do with the amount of money you invest in each trade than it does with how often you trade. If, for example, you only have \$1,000 to invest in a trade and you're using a discount broker that charges \$20 per trade, 2% of the value of your trade is eaten away by the commission fee when you first enter your position. When you eventually decide to close out of your trade, you will likely pay another \$20 commission fee, which means that the round-trip cost of the trade is \$40, or 4% of your initial cash amount. That means that you will need to earn at least a 4% return on your trade before you break even and can begin to make a profit.

With this type of fee structure, which is quite common, it really does not matter how often you trade. All that matters is that your trades make enough of a percentage gain to cover the costs of your commission fees. However, there is one caveat to this - some brokerage firms give commission discounts to investors who make many trades. For example, a brokerage firm may charge \$20 per trade for its regular customers, but for customers who make 50 trades or more per month, they may only charge \$10 per trade.

In other cases, an investor and his or her broker may agree to a fixed annual percentage fee (e.g. an annual fee of 2% of assets under management). In this case, it really does not matter how often you trade because you'll pay the same annual percentage fee.

To learn more about commission fees and their impact on your investment returns, check out [Paying Your Investment Advisor - Fees Or Commissions?](#)

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### ADVISOR INSIGHT

Minimizing commissions and fees can have a huge impact over the course of your entire investing career. Here are three ways to do so:

1. Invest in exchange-traded funds (ETFs) rather than mutual funds. The expense ratios are almost always lower for an ETF versus a comparable mutual fund. It is now very easy to build a low cost, well-diversified portfolio using ETFs with an expense ratio of 0.25% or less per year.
2. Avoid products with front-end loads, back-end loads or 12b-1 fees. These are typically found within mutual funds, but not ETFs.
3. Seek out ETFs with no trading fees. A growing number of fund families are waiving trading fees on their ETFs.

If you do decide to invest in a fund with a trading fee, try to invest more than \$1,000 per fund.

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## What Type of Brokerage Account Is Right for You?

A broker, also known as a brokerage, is a company that connects buyers and sellers of investment vehicles like stocks and bonds. A brokerage account is often where an investor keeps assets. Which type of brokerage to choose is a matter of the investor's needs and preferences.

### Quick History of Brokerages

Before the middle of the twentieth century, access to stock and bond markets was restricted to the affluent who had enough money to invest and who could afford the services a human broker to place trades and act as an investment

advisor.

In the 1970s and 1980s, a range of so-called discount brokerage firms, such as Vanguard and Charles Schwab, sprang up. They were willing to take on a less affluent clientele because their business models sought to accumulate a large number of small clients.

The late 1990s saw the rise of the internet, and online brokerages such as E\*TRADE and FOREX.com were founded to seize the opportunity new technology offered. They extended the discount brokerage model by reducing commissions and minimum balances. That's because they had far less overhead in terms of physical space and human brokers placing trades, so they could pass these savings on to the consumer

## **The Rise of Self-directed Investing and Online Brokerage**

With lower trading costs, the online brokerage account also brought with it the self-directed investor—the investor who conducts investment research on their own and then chooses which stocks and bonds to buy for their portfolio.

Today, there are a wide array of traditional, discount, and online self-directed brokerage platforms available, each with their own pros and cons.

In addition, a new development over the past few years has been the advent of the robo-advisor. These are automated software platforms, often available as mobile apps, that take care of nearly all of your investment decisions at a very low cost.

Arguably the first robo-advisor, Betterment launched in 2010 after the Great Recession. Since then, robo-advising has seen exponential growth in adoption and a flurry of both startups and existing brokerages adding a robo-advisor arm. With all of these choices, then, let's look at which type of brokerage is best suited for what type of investor.

## **Human Brokers and Financial Advisors**

Some people prefer to have a human handle their finances. If this is you, then a traditional human advisor may suit you better than a robo-advisor. Human brokers and financial advisors have been around since the beginning of modern stock markets, and they've carved out a space in today's competitive landscape by catering to the more affluent investor (typically with \$100,000 or more to invest) or those who prefer human interaction.

Effective financial advisors not only build and monitor investment portfolios, but they offer financial advice in all areas of their clients' lives and provide auxiliary services such as insurance, estate planning, accounting services, and lines of credit, either themselves or via a referral network.

Customers of these brokers can expect to pay around 1% a year or more of assets under management to the advisor, or up to \$50 per trade for individual transactions. Many advisors claim that these fees are well worth the extra value that they bring, whether it be their ability to pick stocks appropriate for their clients' portfolios, their access to unique products and offerings, or a comprehensive financial plan.

Many advisors are available by phone or email and quite responsive. They also usually make a point to meet their clients in person when appropriate.

When comparing this set of brokerages, pay attention to independence. Ask if your advisor is compelled to sell a particular product or service (for example the one offered by their particular company), or if they're able to offer you the best products regardless of which fund family it came from.

Also, pay attention to fees. If they're charging more than 1%, ask why and judge for yourself whether the extra cost is worth it. Professional certifications such as the CFP or CFA designation show that your broker has been trained and has passed a series of rigorous exams related to financial markets and planning.

Customers should use FINRA's BrokerCheck tool to see if their broker has been subject to regulatory complaints or ethics violations.

## Online Self-Directed Broker Accounts

Online self-directed platforms include the likes of E\*TRADE, TD Ameritrade, and Robinhood, among many others. Today, most financial institutions and even many banks offer their customers a self-directed online brokerage account.

For example, Capital One, Citibank, or Wells Fargo all offer investing platforms. Almost twenty years into the 21st century, most of the discount brokerage space has consolidated into online investing.

For the most part, these platforms leave it up to you to figure out which investments are the best, but they typically offer a suite of research and analysis tools, as well as expert recommendations and insights, to help you make informed decisions. You are then on your own to execute the trades to build your portfolio through their website or mobile app.

These platforms charge a per-transaction commission, usually ranging from \$4.95 to \$9.95 per stock trade, and an extra \$.50 to \$1.00 per options contract. They let you trade on margin, create options strategies, and invest directly in mutual funds as well as individual stocks, foreign exchange (forex) and exchange-traded funds (ETFs).

Online brokerages are best for the self-directed investor who knows about the markets or knows how to conduct their own research to choose a portfolio best suited for their goals. If you're only going to make a few trades a year, you may want to pay a little bit more per trade in order to get access to higher quality research and analysis. If you're a day trader, you'll probably want to consider a site that hands out free trades to their most active users.

Each online brokerage has its own strengths and weaknesses. Who you are and what you value will steer you to the one that's best for you. For instance, some people may value the convenience of having all of their financial accounts under the same roof. Others may value interactive charting. Still, others may value access to IPOs.

## Robo-advisors

Robo-advisors automate investing and use technology to manage your portfolio. Since Betterment launched in 2010, there has been a proliferation of both startups and existing financial companies offering this sort of algorithmic trading service.

Unlike the trading algorithms that power the high-frequency trading (HFT) desks at hedge funds and banks, robo-advisors are likely to put your money to work using low-cost, indexed ETFs. In fact, it is the convergence of ultra-low-fee ETFs with low-cost technology solutions available on mobile platforms that make robo-advising possible. You can now invest with as little as \$1 on some platforms for as little as 0.15% per year in fees. Some platforms don't charge an advisory fee at all, but they charge for optional add-on services.

Before robo-advisors, if you had only a few hundred dollars or even a few thousand dollars to invest, you'd have to go online to a self-directed platform. Now, you can put your \$200 or \$2,000 to work without having to conduct any investment research, pick any individual stocks, or worry about rebalancing your portfolio.

Algorithm-based robo-advisors aim to place you in an efficient and diversified passive portfolio. Many of these platforms will even tax-optimize your portfolios with tax-loss harvesting, a process by which an investor sells losing positions to offset the capital gains generated by winning positions. The algorithms themselves are a proprietary company secret of robo-advisors.

Robo-advisors are an ideal option for new or young investors who have little to invest. Minimum balances for robo-advisor accounts are quite low, and some will let you start with as little as \$1. These platforms are also good for people who are fans of passive investment strategies since most often you'll find your robo-advisor develops a portfolio of indexed ETFs on your behalf.

Robo-advisors also shine for those long-term investors who simply are too busy (or unmotivated) to do their own research on which ETF has the best risk/return characteristics combined with their associated fees, costs, and tax implications.

But robo-advisors are certainly not for everyone. If you're an active trader, you may find them boring or unsophisticated. While robos are adapting to this by allowing for more customizability of portfolio choice (for example, most robos will now let you adjust your allocation weights away from their initial recommendation), it defeats the purpose

of these products to start speculating on hot stocks or volatile companies within these platforms. Likewise, if you're a sophisticated investor who needs margin, options trading and technical charts, a robo-advisor is probably not for you.

If you choose a robo-advisor, the factors to consider are primarily cost, reputation, and added services. Monitor the cost of extra services: some are free but others add an extra cost.

## 1.1.3 INVESTING VS. TRADING

### Investing vs. Trading: What's the Difference?

#### Investing vs. Trading: An Overview

Investing and trading are two very different methods of attempting to profit in the financial markets. Both investors and traders seek profits through market participation. In general, investors seek larger returns over an extended period through buying and holding. Traders, by contrast, take advantage of both rising and falling markets to enter and exit positions over a shorter timeframe, taking smaller, more frequent profits.

#### Investing

The goal of investing is to gradually build wealth over an extended period of time through the buying and holding of a portfolio of stocks, baskets of stocks, mutual funds, bonds, and other investment instruments.

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#### Important

Investors often enhance their profits through compounding or reinvesting any profits and dividends into additional shares of stock.

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Investments often are held for a period of years, or even decades, taking advantage of perks like interest, dividends, and stock splits along the way. While markets inevitably fluctuate, investors will "ride out" the downtrends with the expectation that prices will rebound and any losses eventually will be recovered. Investors typically are more concerned with market fundamentals, such as price/earnings ratios and management forecasts.

Anyone who has a 401(k) or an IRA is investing, even if they are not tracking the performance of their holdings on a daily basis. Since the goal is to grow a retirement account over the course of decades, the day-to-day fluctuations of different mutual funds are less important than consistent growth over an extended period.

#### Trading

Trading involves more frequent transactions, such as the buying and selling of stocks, commodities, currency pairs, or other instruments. The goal is to generate returns that outperform buy-and-hold investing. While investors may be content with annual returns of 10 percent to 15 percent, traders might seek a 10 percent return each month. Trading profits are generated by buying at a lower price and selling at a higher price within a relatively short period of time. The reverse also is true: trading profits can be made by selling at a higher price and buying to cover at a lower price (known as "selling short") to profit in falling markets.

While buy-and-hold investors wait out less profitable positions, traders seek to make profits within a specified period of time and often use a protective stop-loss order to automatically close out losing positions at a predetermined price level. Traders often employ technical analysis tools, such as moving averages and stochastic oscillators, to find high-probability trading setups.

A trader's style refers to the timeframe or holding period in which stocks, commodities, or other trading instruments are bought and sold. Traders generally fall into one of four categories:



- **Position Trader:** Positions are held from months to years.
- **Swing Trader:** Positions are held from days to weeks.
- **Day Trader:** Positions are held throughout the day only with no overnight positions.
- **Scalp Trader:** Positions are held for seconds to minutes with no overnight positions.

Traders often choose their trading style based on factors including account size, amount of time that can be dedicated to trading, level of trading experience, personality, and risk tolerance.

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## **KEY TAKEAWAYS**

- Investing takes a long-term approach and often applies to such things as retirement accounts.
  - Trading involves short-term strategies to maximize returns daily, monthly, or quarterly.
  - Investors are more likely to ride out short-term losses, while traders will attempt to make transactions that can help them profit quickly from fluctuating markets.
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## **ADVISOR INSIGHT**

While one could consider their trading activities as investing, for me, the difference between trading and investing has more to do with time.

When you invest in something, you are looking to grow your money. Some people invest for a long time, such as for retirement, while others invest for a short time to hit a specific goal, such as buying a car. A person who owns an annuity, for instance, is investing for a longer time horizon than someone who enjoys trading stocks and moves their money around quite frequently.

Trading, on the other hand, suggests the investor is taking a very short-term approach and is principally concerned with either making quick cash or the thrill of participating in the markets.

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## **Stock vs. ETF: Which Should You Buy**

Say you've decided that you want to invest in a particular sector. Now you need to decide whether to buy stocks or an exchange-traded fund (ETF). Investors encounter this question every day. Many are under the impression that if you buy an ETF, you are stuck with receiving the average return in the sector. This is not necessarily true, depending on the characteristics of the sector.

## **Choosing Between Stocks and ETFs**

Making this choice is no different from any other investment decision. As always, you want to look for ways to reduce your risk. Of course, you want to generate a return that beats the market (creating alpha.) Reducing the volatility of an investment is the general method of mitigating risk. Most rational investors give up some upside potential to prevent a potentially catastrophic loss. An investment that offers diversification across an industry group should reduce the portfolio's volatility. This is one way that diversification through ETFs works in your favor.

Alpha is the ability of an investment to outperform its benchmark. Any time you can fashion a more stable alpha, you will be able to experience a higher return on your investment. There is a general belief that you must own stocks, rather than an ETF, to beat the market. This notion is not always correct. Being in the right sector can lead to achieving alpha, as well.



## When Stock Picking Might Work

Industries or situations where there is a wide dispersion of returns or instances in which ratios and other forms of fundamental analysis could be used to spot mispricing, offer stock-pickers an opportunity to exceed expected returns.

Maybe you have a good insight into how well a company is performing, based on your research and experience. This insight gives you an advantage that you can use to lower your risk and achieve a better return. Good research can create value-added investment opportunities, rewarding the stock investor.

The retail industry is one group in which stock picking might offer better opportunities than buying an ETF that covers the sector. Companies in the sector tend to have a wide dispersion of returns based on the particular products they carry, creating an opportunity for the insightful stock picker to do well.

For example, let's say that you recently noticed that your daughter and her friends prefer a particular retailer. Upon further research, you find the company has upgraded its stores and hired new product management people. This led to the recent rollout of new products that have caught the eye of your daughter's age group. So far, the market has not noticed. This type of perspective (and your research) might give you an edge in picking the stock over buying a retail ETF.

Company insight through a legal or sociological perspective may provide investment opportunities that are not immediately captured in market prices. When such an environment is determined for a particular sector, where there is much return dispersion, single-stock investments can provide a higher return than a diversified approach.

## When an ETF Might Be the Best Choice

Sectors that have a narrow dispersion of returns from the mean do not offer stock pickers an advantage when trying to generate market-beating returns. The performance of all companies in these sectors tends to be similar.

For these sectors, the overall performance is fairly similar to the performance of any one stock. The utilities and consumer staples industries fall into this category. In this case, investors need to decide how much of their portfolio to allocate to the sector overall, rather than pick specific stocks. Since the dispersion of returns from utilities and consumer staples tends to be narrow; picking a stock does not offer a sufficiently higher return for the risk that is inherent in owning individual securities. Since ETFs pass through the dividends that are paid by the stocks in the sector, investors receive that benefit as well.

Often, the stocks in a particular sector are subject to disperse returns, yet investors are unable to select those securities which are likely to continue outperforming. Therefore, they cannot find a way to lower risk and enhance their potential returns by picking one or more stocks in the sector.

If the drivers of the performance of the company are more difficult to understand, you might consider the ETF. These companies may possess complicated technology or processes that cause them to underperform or do well.

Perhaps performance depends on the successful development and sale of a new unproven technology. The dispersion of returns is wide, and the odds of finding a winner can be quite low. The biotechnology industry is a good example, as many of these companies depend on the successful development and sale of a new drug. If the development of the new drug does not meet expectations in the series of trials, or the FDA does not approve the drug application, the company faces a bleak future. On the other hand, if the FDA approves the drug, investors in the company can be highly rewarded.

Certain commodities and specialty technology groups such as semiconductors fit the category where ETFs may be the preferred alternative. For example, if you believe that now is a good time to invest in the mining sector, you may want to gain specific industry exposure.

However, you are concerned that some stocks might encounter political problems harming their production. In this case, it is wise to buy into the sector rather than a specific stock, since it reduces your risk. You can still benefit from growth in the overall sector, especially if it outperforms the overall market.

## The Bottom Line

When deciding whether to pick stocks or select an ETF, look at the risk and the potential return that can be achieved. Stock-picking offers an advantage over ETFs when there is a wide dispersion of returns from the mean. And you can gain an advantage using your knowledge of the industry or the stock.

ETFs offer advantages over stocks in two situations. First, when the return from stocks in the sector has a narrow dispersion around the mean, an ETF might be the best choice. Second, if you are unable to gain an advantage through knowledge of the company, an ETF is your best choice.

Whether picking stocks or an ETF, you need to stay up to date on the sector or the stock in order to understand the underlying investment fundamentals. You do not want to see all of your good work go to waste as time passes. While it's important to do your research so you can be able to choose a stock or ETF, It's also important to research and select the broker that best suits you.

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### **Why would a person choose a mutual fund over an individual stock?**

There are a number of reasons why an individual may choose to buy mutual funds instead of individual stocks. The most common advantages are that mutual funds offer diversification, convenience, and lower costs.

Many experts agree that almost all of the advantages of stock portfolio diversification (the benefits derived from buying a number of different stocks of companies operating in dissimilar sectors) are fully realized when a portfolio holds around 20 stocks from companies operating in different industries. At that point, a large portion of the risk associated with investing has been diversified away. The remaining risk is deemed to be systematic risk, or market-wide risk. Since most brokerage firms charge the same commission for one share or 5,000 shares, it can be difficult for an investor just starting out to buy into 20 different stocks.

The convenience of mutual funds is surely one of the main reasons investors choose them to provide the equity portion of their portfolio, rather than buying individual shares themselves. Determining a portfolio's asset allocation, researching individual stocks to find companies well positioned for growth as well as keeping an eye on the markets is all very time consuming. People devote entire careers to the stock market, and many still end up losing on their investments. Though investing in a mutual fund is certainly no guarantee that your investments will increase in value over time, it's a way to avoid some of the complicated decision-making involved in investing in stocks.

Many mutual funds like a sector fund offer investors the chance to buy into a specific industry, or buy stocks with a specific growth strategy such as aggressive growth fund, or value investing in a value fund. If you want to track the overall market, you can buy an index fund. You can diversify into non-equity asset classes by buying a bond fund, which invests only in fixed income.

Some investors find that buying a few shares of a mutual fund that meets their basic investment criteria easier than finding out what the companies the fund invests in actually do, and if they are good quality investments. They'd prefer to leave the research and decision-making up to someone else.

Finally, the trading costs of frequent stock trades can add up quickly for individual investors. Gains made from the stock's price appreciation can be canceled out by the costs of completing a single sale of an investor's shares of a given company. Investors who make a lot of trades should take a look at our list of brokers who charge lower-than-average fees.

With a mutual fund, the cost of trading is spread over all investors in the fund, thereby lowering the cost per individual. Many full-service brokerage firms make their money off of these trading costs, and the brokers working for them are encouraged to trade their clients' shares on a regular basis. Though the advice given by a broker may help clients make wise investment decisions, many investors find that the financial benefit of having a broker just doesn't justify the costs.

It's important to remember there are disadvantages of mutual fund investment as well, so as with any decision, educating yourself and learning about the bulk of available options is the best way to proceed.

Most online brokers have mutual fund screeners on their sites to help you find the mutual funds that fit your portfolio. You can also search out funds that can be purchased without generating a transaction fee, or funds that charge low management fees. The search function can also let you locate socially responsible funds.

An alternative to mutual funds are exchange-traded funds (ETFs). We have compiled a list of brokers that best serve investors who want to trade this particular type of asset.

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## ADVISOR INSIGHT

A mutual fund will provide diversification through the exposure to a multitude of stocks. The reason that is recommended over owning a single stock is that owning an individual stock would carry more risk than a mutual fund.

This type of risk is known as unsystematic risk. Unsystematic risk is risk that can be diversified against. For example, by owning just one stock, you would be carrying company risk that may not apply to other companies in the same sector of the market. What if their CEO and executive team leaves unexpectedly? What if a natural disaster hits a manufacturing center slowing down production? What if earnings are down because of a defect in a product or a lawsuit? These are just a few examples of the types of things that could happen to one company, but are not likely to happen to all companies at once.

Yes, there is also systematic risk, which is risk that you cannot diversify against. This would be similar to market risk or volatility risk. It should be understood that there is risk associated with investing in the market. If the market as a whole declines in value, that is not something that can easily be diversified against.

Therefore, if you'd like to invest in individual stocks, I would recommend researching how you can compile your own basket of stocks so that you don't own just one stock. Make sure you are sufficiently diversified between large and small companies, value and growth companies, domestic and international companies, and also between stocks and bonds, according to your risk tolerance. This is where it might be helpful to seek out professional help when constructing these types of portfolios. This type of research and portfolio construction and monitoring can take quite some time.

The alternative is to invest in a mutual fund for instant diversification... of course, there are a list of things to be aware of when choosing mutual funds as well. Fees, investment philosophy, loads, and performance are just a few components to consider when evaluating mutual funds.

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## ETF vs. Mutual Fund: What's the Difference?

### ETF vs. Mutual Fund: An Overview

Investors face a bewildering array of choices: stocks or bonds, domestic or international, different sectors and industries, value or growth. Deciding whether to buy a mutual fund or exchange-traded fund (ETF) may seem like a trivial consideration next to all the others, but there are key differences between the two types of funds that can affect how much money you make and how you make it.

Both mutual funds and ETFs hold portfolios of stocks and/or bonds and occasionally something more exotic, such as precious metals or commodities. They must adhere to the same regulations covering what they can own, how much can be concentrated in one or a few holdings, how much money they can borrow in relation to the portfolio size, and more. Beyond those elements, the paths diverge. Some of the differences may seem obscure, but they can make one type of fund or the other a better fit for your needs.

## ETF

As the name suggests, ETFs trade on exchanges, just as common stocks do, and the other side of the trade is some other investor like you, not the fund manager. You can buy and sell at any point during a trading session at whatever

the price is at the moment based on market conditions, not just at the end of the day, and there's no minimum holding period. This is especially relevant in the case of ETFs tracking international assets, where the price of the asset hasn't yet updated to reflect new information, but the U.S. market's valuation of it has. As a result, ETFs can reflect the new market reality faster than mutual funds can.

Another key difference is that most ETFs are index-tracking, meaning that they try to match the returns and price movements of an index, such as the S&P 500, by assembling a portfolio that matches the index constituents as closely as possible.

Passive management isn't the only reason that ETFs are typically cheaper. Index-tracking ETFs have lower expenses than index-tracking mutual funds, and the handful of actively managed ETFs out there are cheaper than actively managed mutual funds.

Clearly, something else is going on. It relates to the mechanics of running the two kinds of funds and the relationships between funds and their shareholders.

In an ETF, because buyers and sellers are doing business with one another, the managers have far less to do. The ETF providers, however, want the price of the ETF (set by trades within the day) to align as closely as possible to the net asset value of the index. To do this, they adjust the supply of shares by creating new shares or redeeming old shares. Price too high? ETF providers will create more supply to bring it back down. All of this can be executed with a computer program, untouched by human hands.

The ETF structure results in more tax efficiency, too. Investors in ETFs and mutual funds are taxed each year based on the gains and losses incurred within the portfolios, but ETFs engage in less internal trading, and less trading creates fewer taxable events (the creation and redemption mechanism of an ETF reduces the need for selling). So unless you invest through a 401(k) or other tax-favored vehicles, your mutual funds will distribute taxable gains to you, even if you simply held the shares. Meanwhile, with an all-ETF portfolio, the tax will generally be an issue only if and when you sell the shares.

ETFs are still relatively new while mutual funds have been around for ages, so investors who aren't just starting out are likely to hold mutual funds with built-in taxable gains. Selling those funds may trigger capital gains taxes, so it's important to include this tax cost in the decision to move to an ETF.

The decision boils down to comparing the long-term benefit of switching to a better investment and paying more upfront tax, versus staying put in a portfolio of less optimal investments with higher expenses (that might also be a drain on your time, which is worth something).

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### **Important**

Keep in mind that, unless you gift or bequeath your ETF portfolio, you will one day pay tax on these built-in gains. So you are often just deferring taxes, not avoiding them.

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### **Mutual Fund**

When you put money into a mutual fund, the transaction is with the company that manages it—the Vanguards, T. Rowe Prices, and BlackRocks of the world—either directly or through a brokerage firm. The purchase of a mutual fund is executed at the net asset value of the fund based on its price when the market closes that day or the next if you place your order after the close of the markets.

When you sell your shares, the same process occurs, but in reverse. However, don't be in too great of a hurry. Some mutual funds assess a penalty, sometimes at 1 percent of the shares' value for selling early (typically sooner than 90 days after you bought in).

Mutual funds can track indexes, but most are actively managed. In that case, the people who run them pick a variety of holdings to try to beat the index that they judge their performance against.

That can get pricey. Actively managed funds must spend money on analysts, economic and industry research, company visits, and so on. That typically makes mutual funds more expensive to run—and for investors to own—than ETFs. Mutual funds and ETFs are both open-ended. That means that the number of outstanding shares can be adjusted up or down in response to supply and demand.

When more money comes into and then goes out of a mutual fund on a given day, the managers have to alleviate the imbalance by putting the extra money to work in the markets. If there's a net outflow, they have to sell some holdings if there's insufficient spare cash in the portfolio.

### **The Bottom Line**

Given the distinctions between the two kinds of funds, which one is better for you? It depends. Each can fill certain needs. Mutual funds often make sense for investing in obscure niches, including stocks of smaller foreign companies and complex yet potentially rewarding areas like market-neutral or long/short equity funds that feature esoteric risk/reward profiles.

But in most situations and for most investors who want to keep things simple, ETFs, with their combination of low costs, ease of access, and emphasis on index tracking, may hold the edge. Their ability to provide exposure to various market segments in a straightforward way makes them useful tools if your priority is to accumulate long-term wealth with a balanced, broadly diversified portfolio.

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### **KEY TAKEAWAYS**

- Both mutual funds and ETFs hold portfolios of stocks and/or bonds and occasionally something more exotic, such as precious metals or commodities.
  - A key difference is that most ETFs are index-tracking.
  - Mutual funds can track indexes but most are actively managed.
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## **1.1.4 BONDS & FIXED INCOME**

### **Bond**

#### **What Is a Bond?**

A bond is a fixed income instrument that represents a loan made by an investor to a borrower (typically corporate or governmental). A bond could be thought of as an I.O.U. between the lender and borrower that includes the details of the loan and its payments. Bonds are used by companies, municipalities, states, and sovereign governments to finance projects and operations. Owners of bonds are debtholders, or creditors, of the issuer. Bond details include the end date when the principal of the loan is due to be paid to the bond owner and usually includes the terms for variable or fixed interest payments made by the borrower.

#### **The Issuers of Bonds**

Governments (at all levels) and corporations commonly use bonds in order to borrow money. Governments need to fund roads, schools, dams or other infrastructure. The sudden expense of war may also demand the need to raise funds.

Similarly, corporations will often borrow to grow their business, to buy property and equipment, to undertake profitable projects, for research and development or to hire employees. The problem that large organizations run into is that they typically need far more money than the average bank can provide. Bonds provide a solution by allowing many individual investors to assume the role of the lender. Indeed, public debt markets let thousands of investors each lend a portion of the capital needed. Moreover, markets allow lenders to sell their bonds to other investors or to buy bonds from other individuals—long after the original issuing organization raised capital.

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## KEY TAKEAWAYS

- Bonds are units of corporate debt issued by companies and securitized as tradeable assets.
  - A bond is referred to as a fixed income instrument since bonds traditionally paid a fixed interest rate (coupon) to debtholders. Variable or floating interest rates are also now quite common.
  - Bond prices are inversely correlated with interest rates: when rates go up, bond prices fall and vice-versa.
  - Bonds have maturity dates at which point the principal amount must be paid back in full or risk default.
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## How Bonds Work

Bonds are commonly referred to as fixed income securities and are one of three asset classes individual investors are usually familiar with, along with stocks (equities) and cash equivalents. Many corporate and government bonds are publicly traded; others are traded only over-the-counter (OTC) or privately between the borrower and lender.

When companies or other entities need to raise money to finance new projects, maintain ongoing operations, or refinance existing debts, they may issue bonds directly to investors. The borrower (issuer) issues a bond that includes the terms of the loan, interest payments that will be made, and the time at which the loaned funds (bond principal) must be paid back (maturity date). The interest payment (the coupon) is part of the return that bondholders earn for loaning their funds to the issuer. The interest rate that determines the payment is called the coupon rate.

The initial price of most bonds is typically set at par, usually \$100 or \$1,000 face value per individual bond. The actual market price of a bond depends on a number of factors: the credit quality of the issuer, the length of time until expiration, and the coupon rate compared to the general interest rate environment at the time. The face value of the bond is what will be paid back to the borrower once the bond matures.

Most bonds can be sold by the initial bondholder to other investors after they have been issued. In other words, a bond investor does not have to hold a bond all the way through to its maturity date. It is also common for bonds to be repurchased by the borrower if interest rates decline, or if the borrower's credit has improved, and it can reissue new bonds at a lower cost.

## Characteristics of Bonds

Most bonds share some common basic characteristics including:

- Face value is the money amount the bond will be worth at maturity; it is also the reference amount the bond issuer uses when calculating interest payments. For example, say an investor purchases a bond at a premium \$1,090 and another investor buys the same bond later when it is trading at a discount for \$980. When the bond matures, both investors will receive the \$1,000 face value of the bond.
- The coupon rate is the rate of interest the bond issuer will pay on the face value of the bond, expressed as a percentage. For example, a 5% coupon rate means that bondholders will receive  $5\% \times \$1000 \text{ face value} = \$50$  every year.
- Coupon dates are the dates on which the bond issuer will make interest payments. Payments can be made in any interval, but the standard is semiannual payments.
- The maturity date is the date on which the bond will mature and the bond issuer will pay the bondholder the face value of the bond.
- The issue price is the price at which the bond issuer originally sells the bonds.
- Two features of a bond—credit quality and time to maturity—are the principal determinants of a bond's coupon rate.

If the issuer has a poor credit rating, the risk of default is greater, and these bonds pay more interest. Bonds that have a very long maturity date also usually pay a higher interest rate. This higher compensation is because the bondholder is more exposed to interest rate and inflation risks for an extended period.

Credit ratings for a company and its bonds are generated by credit rating agencies like Standard and Poor's, Moody's, and Fitch Ratings. The very highest quality bonds are called "investment grade" and include debt issued by the U.S. government and very stable companies, like many utilities. Bonds that are not considered investment grade, but are not in default, are called "high yield" or "junk" bonds. These bonds have a higher risk of default in the future and investors demand a higher coupon payment to compensate them for that risk.

Bonds and bond portfolios will rise or fall in value as interest rates change. The sensitivity to changes in the interest rate environment is called "duration". The use of the term duration in this context can be confusing to new bond investors because it does not refer to the length of time the bond has before maturity. Instead, duration describes how much a bond's price will rise or fall with a change in interest rates.

The rate of change of a bond's or bond portfolio's sensitivity to interest rates (duration) is called "convexity". These factors are difficult to calculate, and the analysis required is usually done by professionals.

## Categories of Bonds

There are four primary categories of bonds sold in the markets. However, you may also see foreign bonds issued by corporations and governments on some platforms.

- Corporate bonds are issued by companies. Companies issue bonds rather than seek bank loans for debt financing in many cases because bond markets offer more favorable terms and lower interest rates.
- Municipal bonds are issued by states and municipalities. Some municipal bonds offer tax-free coupon income for investors.
- Government bonds such as those issued by the U.S. Treasury. Bonds issued by the Treasury with a year or less to maturity are called "Bills"; bonds issued with 1 – 10 years to maturity are called "notes"; and bonds issued with more than 10 years to maturity are called "bonds". The entire category of bonds issued by a government treasury is often collectively referred to as "treasuries." Government bonds issued by national governments may be referred to as sovereign debt.
- Agency bonds are those issued by government-affiliated organizations such as Fannie Mae or Freddie Mac.

## Varieties of Bonds

The bonds available for investors come in many different varieties. They can be separated by the rate or type of interest or coupon payment, being recalled by the issuer, or have other attributes.

Zero-coupon bonds do not pay coupon payments and instead are issued at a discount to their par value that will generate a return once the bondholder is paid the full face value when the bond matures. U.S. Treasury bills are a zero-coupon bond. For example, the U.S. Treasury sold 26-week bills with \$100 face value for \$98.78 on October 18th, 2018. That equates to a total annual yield of 2.479% once the bondholder is repaid the entire \$100 at the maturity date.

Convertible bonds are debt instruments with an embedded option that allows bondholders to convert their debt into stock (equity) at some point, depending on certain conditions like the share price. For example, imagine a company that needs to borrow \$1 million to fund a new project. They could borrow by issuing bonds with a 12% coupon that matures in 10 years. However, if they knew that there were some investors willing to buy bonds with an 8% coupon that allowed them to convert the bond into stock if the stock's price rose above a certain value, they might prefer to issue those.

The convertible bond may be the best solution for the company because they would have lower interest payments while the project was in its early stages. If the investors converted their bonds, the other shareholders would be diluted, but the company would not have to pay any more interest or the principal of the bond.



The investors who purchased a convertible bond may think this is a great solution because they can profit from the upside in the stock if the project is successful. They are taking more risk by accepting a lower coupon payment, but the potential reward if the bonds are converted could make that trade-off acceptable.

Callable bonds also have an embedded option but it is different than what is found in a convertible bond. A callable bond is one that can be “called” back by the company before it matures. Assume that a company has borrowed \$1 million by issuing bonds with a 10% coupon that mature in 10 years. If interest rates decline (or the company’s credit rating improves) in year 5 when the company could borrow for 8%, they will call or buy the bonds back from the bondholders for the principal amount and reissue new bonds at a lower coupon rate.

A callable bond is riskier for the bond buyer because the bond is more likely to be called when it is rising in value. Remember, when interest rates are falling, bond prices rise. Because of this, callable bonds are not as valuable as bonds that aren’t callable with the same maturity, credit rating, and coupon rate.

A Puttable bond allows the bondholders to put or sell the bond back to the company before it has matured. This is valuable for investors who are worried that a bond may fall in value, or if they think interest rates will rise and they want to get their principal back before the bond falls in value.

The bond issuer may include a put option in the bond that benefits the bondholders in return for a lower coupon rate or just to induce the bond sellers to make the initial loan. A puttable bond usually trades at a higher value than a bond without a put option but with the same credit rating, maturity, and coupon rate because it is more valuable to the bondholders.

The possible combinations of embedded puts, calls, and convertibility rights in a bond are endless and each one is unique. There isn’t a strict standard for each of these rights and some bonds will contain more than one kind of “option” which can make comparisons difficult. Generally, individual investors rely on bond professionals to select individual bonds or bond funds that meet their investing goals.

## **Pricing Bonds**

The market prices bonds based on their particular characteristics. A bond’s price changes on a daily basis, just like that of any other publicly-traded security, where supply and demand in any given moment determine that observed price. But there is a logic to how bonds are valued. Up to this point, we’ve talked about bonds as if every investor holds them to maturity. It’s true that if you do this you’re guaranteed to get your principal back plus interest; however, a bond does not have to be held to maturity. At any time, a bondholder can sell their bonds in the open market, where the price can fluctuate, sometimes dramatically.

The price of a bond changes in response to changes in interest rates in the economy. This is due to the fact that for a fixed-rate bond, the issuer has promised to pay a coupon based on the face value of the bond – so for a \$1,000 par, 10% annual coupon bond, the issuer will pay the bondholder \$100 each year.

Say that prevailing interest rates are also 10% at the time that this bond is issued, as determined by the rate on a short-term government bond. An investor would be indifferent investing in the corporate bond or the government bond since both would return \$100. However, imagine a little while later, that the economy has taken a turn for the worse and interest rates dropped to 5%. Now, the investor can only receive \$50 from the government bond, but would still receive \$100 from the corporate bond.

This difference makes the corporate bond much more attractive. So, investors in the market will bid up to the price of the bond until it trades at a premium that equalizes the prevailing interest rate environment—in this case, the bond will trade at a price of \$2,000 so that the \$100 coupon represents 5%. Likewise, if interest rates soared to 15%, then an investor could make \$150 from the government bond and would not pay \$1,000 to earn just \$100. This bond would be sold until it reached a price that equalized the yields, in this case to a price of \$666.67.



## Inverse to Interest Rates

This is why the famous statement that a bond's price varies inversely with interest rates works. When interest rates go up, bond prices fall in order to have the effect of equalizing the interest rate on the bond with prevailing rates, and vice versa.

Another way of illustrating this concept is to consider what the yield on our bond would be given a price change, instead of given an interest rate change. For example, if the price were to go down from \$1,000 to \$800, then the yield goes up to 12.5%. This happens because you are getting the same guaranteed \$100 on an asset that is worth \$800 (\$100/\$800). Conversely, if the bond goes up in price to \$1,200, the yield shrinks to 8.33% (\$100/\$1,200).

## Yield-to-Maturity (YTM)

The yield-to-maturity (YTM) of a bond is another way of considering a bond's price. YTM is the total return anticipated on a bond if the bond is held until the end of its lifetime. Yield to maturity is considered a long-term bond yield but is expressed as an annual rate. In other words, it is the internal rate of return of an investment in a bond if the investor holds the bond until maturity and if all payments are made as scheduled. YTM is a complex calculation but is quite useful as a concept evaluating the attractiveness of one bond relative to other bonds of different coupon and maturity in the market. The formula for YTM involves solving for the interest rate in the following equation, which is no easy task, and therefore most bond investors interested in YTM will use a computer:

$$YTM = \sqrt[n]{\frac{FaceValue}{PresentValue}} - 1$$

We can also measure the anticipated changes in bond prices given a change in interest rates with a measure known as the duration of a bond. Duration is expressed in units of the number of years since it originally referred to zero-coupon bonds, whose duration is its maturity.

For practical purposes, however, duration represents the price change in a bond given a 1% change in interest rates. We call this second, more practical definition the modified duration of a bond.

The duration can be calculated to determine the price sensitivity to interest rate changes of a single bond, or for a portfolio of many bonds. In general, bonds with long maturities, and also bonds with low coupons have the greatest sensitivity to interest rate changes. A bond's duration is not a linear risk measure, meaning that as prices and rates change, the duration itself changes, and convexity measures this relationship.

## Real World Bond Example

A bond represents a promise by a borrower to pay a lender their principal and usually interest on a loan. Bonds are issued by governments, municipalities, and corporations. The interest rate (coupon rate), principal amount and maturities will vary from one bond to the next in order to meet the goals of the bond issuer (borrower) and the bond buyer (lender). Most bonds issued by companies include options that can increase or decrease their value and can make comparisons difficult for non-professionals. Bonds can be bought or sold before they mature, and many are publicly listed and can be traded with a broker.

While governments issue many bonds, corporate bonds can be purchased from brokerages. If you're interested in this investment, you'll need to pick a broker. You can take a look at Investopedia's list of the best online stock brokers to get an idea of which brokers best fit your needs.

Because fixed-rate coupon bonds will pay the same percentage of its face value over time, the market price of the bond will fluctuate as that coupon becomes more or less attractive compared to the prevailing interest rates.

Imagine a bond that was issued with a coupon rate of 5% and a \$1,000 par value. The bondholder will be paid \$50 in interest income annually (most bond coupons are split in half and paid semiannually.) As long as nothing else changes in the interest rate environment, the price of the bond should remain at its par value.

However, if interest rates begin to decline and similar bonds are now issued with a 4% coupon, the original bond has become more valuable. Investors who want a higher coupon rate will have to pay extra for the bond in order to entice the original owner to sell. The increased price will bring the bond's total yield down to 4% for new investors because they will have to pay an amount above par value to purchase the bond.

On the other hand, if interest rates rise and the coupon rate for bonds like this one rise to 6%, the 5% coupon is no longer attractive. The bond's price will decrease and begin selling at a discount compared to the par value until its effective return is 6%.

The bond market tends to move inversely with interest rates because bonds will trade at a discount when interest rates are rising and at a premium when interest rates are falling.

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## **Bond Yield**

### **What is Bond Yield?**

Bond yield is the return an investor realizes on a bond. The bond yield can be defined in different ways. Setting the bond yield equal to its coupon rate is the simplest definition. The current yield is a function of the bond's price and its coupon or interest payment, which will be more accurate than the coupon yield if the price of the bond is different than its face value. More complex calculations of a bond's yield will account for the time value of money and compounding interest payments. These calculations include yield to maturity (YTM), bond equivalent yield (BEY) and effective annual yield (EAY).

### **Overview of Bond Yield**

When investors buy bonds, they essentially lend bond issuers money. In return, bond issuers agree to pay investors interest on bonds through the life of the bond and to repay the face value of bonds upon maturity. The simplest way to calculate a bond yield is to divide its coupon payment by the face value of the bond. This is called the coupon rate.

$$\text{CouponRate} = \frac{\text{AnnualCouponPayment}}{\text{BondFaceValue}}$$

If a bond has a face value of \$1,000 and made interest or coupon payments of \$100 per year, then its coupon rate is 10% ( $\$100 / \$1,000 = 10\%$ ). However, sometimes a bond is purchased for more than its face value (premium) or less than its face value (discount), which will change the yield an investor earns on the bond.

### **Bond Yield Vs. Price**

As bond prices increase, bond yields fall. For example, assume an investor purchases a bond that matures in five years with a 10% annual coupon rate and a face value of \$1,000. Each year, the bond pays 10%, or \$100, in interest. Its coupon rate is the interest divided by its par value.

If interest rates rise above 10%, the bond's price will fall if the investor decides to sell it. For example, imagine interest rates for similar investments rise to 12.5%. The original bond still only makes a coupon payment of \$100, which would be unattractive to investors who can buy bonds that pay \$125 now that interest rates are higher.

If the original bond owner wants to sell her bond, the price can be lowered so that the coupon payments and maturity value equal yield of 12%. In this case, that means the investor would drop the price of the bond to \$927.90. In order to fully understand why that is the value of the bond, you need to understand a little more about how the time value of money is used in bond pricing, which is discussed later in this article.

If interest rates were to fall in value, the bond's price would rise because its coupon payment is more attractive. For example, if interest rates fell to 7.5% for similar investments, the bond seller could sell the bond for \$1,101.15. The further rates fall, the higher the bond's price will rise, and the same is true in reverse when interest rates rise.

In either scenario, the coupon rate no longer has any meaning for a new investor. However, if the annual coupon payment is divided by the bond's price, the investor can calculate the current yield and get a rough estimate of the bond's true yield.

$$\text{CurrentYield} = \frac{\text{AnnualCouponPayment}}{\text{BondPrice}}$$

The current yield and the coupon rate are incomplete calculations for a bond's yield because they do not account for the time value of money, maturity value or payment frequency. More complex calculations are needed to see the full picture of a bond's yield.

### Yield to Maturity

A bond's yield to maturity (YTM) is equal to the interest rate that makes the present value of all a bond's future cash flows equal to its current price. These cash flows include all the coupon payments and its maturity value. Solving for YTM is a trial and error process that can be done on a financial calculator, but the formula is as follows:

$$\text{Price} = \sum_{t=1}^T \frac{\text{CashFlows}_t}{(1 + \text{YTM})^t} \quad \text{where:} \quad \text{YTM} = \text{Yield to maturity}$$

In the previous example, a bond with \$1,000 face value, five years to maturity and \$100 annual coupon payments was worth \$927.90 in order to match a YTM of 12%. In that case, the five coupon payments and the \$1,000 maturity value were the bond's cash flows. Finding the present value of each of those six cash flows with a discount or interest rate of 12% will determine what the bond's current price should be.

### Bond Equivalent Yield – BEY

Bond yields are normally quoted as a bond equivalent yield (BEY), which makes an adjustment for the fact that most bonds pay their annual coupon in two semi-annual payments. In the previous examples, the bonds' cash flows were annual, so the YTM is equal to the BEY. However, if the coupon payments were made every six months, the semi-annual YTM would be 5.979%.

The BEY is a simple annualized version of the semi-annual YTM and is calculated by multiplying the YTM by two. In this example, the BEY of a bond that pays semi-annual coupon payments of \$50 would be 11.958% (5.979% X 2 = 11.958%). The BEY does not account for the time value of money for the adjustment from a semi-annual YTM to an annual rate.

### Effective Annual Yield – EAY

Investors can find a more precise annual yield once they know the BEY for a bond if they account for the time value of money in the calculation. In the case of a semi-annual coupon payment, the effective annual yield (EAY) would be calculated as follows:

$$\text{EAY} = \left( \frac{1 + \text{YTM}}{2} \right)^2 - 1 \quad \text{where:} \quad \text{EAY} = \text{Effective annual yield}$$

If an investor knows that the semi-annual YTM was 5.979%, then he or she could use the previous formula to find the EAY of 12.32%. Because the extra compounding period is included, the EAY will be higher than the BEY.

## Complications Finding a Bond's Yield

There are a few factors that can make finding a bond's yield more complicated. For instance, in the previous examples, it was assumed that the bond had exactly five years left to maturity when it was sold, which would rarely be the case.

When calculating a bond's yield, the fractional periods can be dealt with simply; the accrued interest is more difficult. For example, imagine a bond has four years and eight months left to maturity. The exponent in the yield calculations can be turned into a decimal to adjust for the partial year. However, this means that four months in the current coupon period have elapsed and there are two more to go, which requires an adjustment for accrued interest. A new bond buyer will be paid the full coupon, so the bond's price will be inflated slightly to compensate the seller for the four months in the current coupon period that have elapsed.

Bonds can be quoted with a "clean price" that excludes the accrued interest or the "dirty price" that includes the amount owed to reconcile the accrued interest. When bonds are quoted in a system like a Bloomberg or Reuters terminal, the clean price is used.

## Bond Yield Summary

A bond's yield is the return to an investor from the bond's coupon and maturity cash flows. It can be calculated as a simple coupon yield, which ignores the time value of money and any changes in the bond's price or using a more complex method like yield to maturity. The yield to maturity is usually quoted as a bond equivalent yield (BEY), which makes bonds with coupon payment periods less than a year easy to compare.

Bonds can be purchased through a variety of different sources. A common way to go about purchasing some bond types is to use an investment account through a broker.

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## Four basic things to know about bonds

Want to strengthen your portfolio's risk/return profile? Adding bonds can create a more balanced portfolio by adding diversification and calming volatility. Yet even to experienced stock investors, the bond market may seem unfamiliar. Many investors make only passing ventures into bonds because they are confused by the apparent complexity of the market and the terminology. In reality, bonds are actually very simple debt instruments – you can get your start in bond investing by learning these basic bond-market terms.

### 1. Basic Bond Characteristics

A bond is simply a type of loan taken out by companies. Investors lend a company money when they buy its bonds. In exchange, the company pays an interest "coupon" (the annual interest rate paid on a bond, expressed as a percentage of face value) at predetermined intervals (usually annually or semiannually) and returns the principal on the maturity date, ending the loan.

Unlike stocks, bonds can vary significantly based on the terms of the bond's indenture, a legal document outlining the characteristics of the bond. Because each bond issue is different, it is important to understand the precise terms before investing. In particular, there are six important features to look for when considering a bond.

**Maturity** The maturity date of a bond is the date when the principal, or par, amount of the bond will be paid to investors, and the company's bond obligation will end.

**Secured/Unsecured** A bond can be secured or unsecured. Unsecured bonds are called debentures; their interest payments and return of principal are guaranteed only by the credit of the issuing company. If the company fails, you may get little of your investment back. On the other hand, a secured bond is a bond in which specific assets are pledged to bondholders if the company cannot repay the obligation.

**Liquidation Preference** When a firm goes bankrupt, it pays money back to investors in a particular order as it liquidates. After a firm has sold off all its assets, it begins to pay out to investors. Senior debt is debt that must be paid first, followed by junior (subordinated) debt. Stockholders get whatever is left over.

**Coupon** The coupon amount is the amount of interest paid to bondholders, normally annually or semiannually.

**Tax Status** While the majority of corporate bonds are taxable investments, there are some government and municipal bonds that are tax-exempt, meaning that income and capital gains realized on the bonds are not subject to the usual state and federal taxation.

Because investors do not have to pay taxes on returns, tax-exempt bonds will have lower interest than equivalent taxable bonds. An investor must calculate the tax-equivalent yield to compare the return with that of taxable instruments.

**Callability** Some bonds can be paid off by an issuer before maturity. If a bond has a call provision, it may be paid off at earlier dates, at the option of the company, usually at a slight premium to par.

## 2. Risks of Bonds

**Credit/Default Risk** Credit or default risk is the risk that interest and principal payments due on the obligation will not be made as required.

**Prepayment Risk** Prepayment risk is the risk that a given bond issue will be paid off earlier than expected, normally through a call provision. This can be bad news for investors, because the company only has an incentive to repay the obligation early when interest rates have declined substantially. Instead of continuing to hold a high-interest investment, investors are left to reinvest funds in a lower interest rate environment.

**Interest Rate Risk** Interest rate risk is the risk that interest rates will change significantly from what the investor expected. If interest rates significantly decline, the investor faces the possibility of prepayment. If interest rates increase, the investor will be stuck with an instrument yielding below market rates. The greater the time to maturity, the greater the interest rate risk an investor bears, because it is harder to predict market developments farther out into the future.

## 3. Bond Ratings

**Agencies** The most commonly cited bond rating agencies are Standard & Poor's, Moody's and Fitch. These agencies rate a company's ability to repay its obligations. Ratings range from 'AAA' to 'Aaa' for "high grade" issues very likely to be repaid to 'D' for issues that are currently in default. Bonds rated "BBB" to "Baa" or above are called "investment grade"; this means that they are unlikely to default and tend to remain stable investments. Bonds rated "BB" to "Ba" or below are called "junk bonds," which means that default is more likely, and they are thus more speculative and subject to price volatility.

Occasionally, firms will not have their bonds rated, in which case it is solely up to the investor to judge a firm's repayment ability. Because the ratings systems differ for each agency and change from time to time, it is prudent to research the rating definition for the bond issue you are considering.

## 4. Bond Yields

Bond yields are all measures of return. Yield to maturity is the measurement most often used, but it is important to understand several other yield measurements that are used in certain situations.

**Yield to Maturity (YTM)** As said above, yield to maturity (YTM) is the most commonly cited yield measurement. It measures what the return on a bond is if it is held to maturity and all coupons are reinvested at the YTM rate. Because it is unlikely that coupons will be reinvested at the same rate, an investor's actual return will differ slightly. Calculating YTM by hand is a lengthy procedure, so it is best to use Excel's RATE or YIELDMAT functions (starting with Excel 2007) for this computation. A simple function is also available on a financial calculator.

**Current Yield** Current yield can be used to compare the interest income provided by a bond to the dividend income provided by a stock. This is calculated by dividing the bond's annual coupon amount by the bond's current price.

Keep in mind that this yield incorporates only the income portion of return, ignoring possible capital gains or losses. As such, this yield is most useful for investors concerned with current income only.

**Nominal Yield** The nominal yield on a bond is simply the percentage of interest to be paid on the bond periodically. It is calculated by dividing the annual coupon payment by the par value (face value) of the bond. It is important to note that the nominal yield does not estimate return accurately unless the current bond price is the same as its par value. Therefore, nominal yield is used only for calculating other measures of return.

**Yield to Call (YTC)** A callable bond always bears some probability of being called before the maturity date. Investors will realize a slightly higher yield if the called bonds are paid off at a premium. An investor in such a bond may wish to know what yield will be realized if the bond is called at a particular call date, to determine whether the prepayment risk is worthwhile. It is easiest to calculate this yield using Excel's YIELD or IRR functions, or with a financial calculator.

**Realized Yield** The realized yield of a bond should be calculated if an investor plans to hold a bond only for a certain period of time, rather than to maturity. In this case, the investor will sell the bond, and this projected future bond price must be estimated for the calculation. Because future prices are hard to predict, this yield measurement is only an estimation of return. This yield calculation is best performed using Excel's YIELD or IRR functions, or by using a financial calculator.

### **The Bottom Line**

Although the bond market appears complex, it is really driven by the same risk/return tradeoffs as the stock market. Once an investor masters these few basic terms and measurements to unmask the familiar market dynamics, then he or she can become a competent bond investor. Once you've gotten a hang of the lingo, the rest is easy.

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## **What Is the Quickest, Easiest, and Cheapest Way to Buy a Bond?**

Bonds usually can be purchased from a bond broker through full service or discount brokerage channels, similar to the way stocks are purchased from a stockbroker. While the presence of online brokerage services has brought investing costs down, dealing with a bond broker can still be prohibitive to some retail investors.

### **How Bond Brokers Work**

Many specialized bond brokerages require high minimum initial deposits; \$5,000 is typical. There may also be account maintenance fees. And of course, commissions on trades. Depending on the quantity and type of bond purchased, broker commissions can range from 0.5% to 2%.

When using a broker (even your regular one) to purchase bonds, you may be told that the trade is free of commission. What often happens, however, is that the price is marked up so that the cost you are charged essentially includes a compensatory fee. If the broker isn't earning anything off of the transaction, he or she probably would not offer the service.

For example, say you placed an order for 10 corporate bonds that were trading at \$1,025 per bond. You'd be told, though, that they cost \$1,035.25 per bond, so the total price of your investment comes not to \$10,250 but to \$10,352.50. The difference represents an effective 1% commission for the broker.

To determine the markup before purchase, look up the latest quote for the bond; you can also use the Trade Reporting and Compliance Engine (TRACE), which shows all over-the-counter (OTC) transactions for the secondary bond market. Use your discretion to decide whether or not the commission fee is excessive or one you are willing to accept.

## Buying Government Bonds

Purchasing government bonds such as Treasuries (U.S.) or Canada Savings Bonds (Canada) works slightly differently than buying corporate or municipal bonds. Many financial institutions provide services to their clients that allow them to purchase government bonds through their regular investment accounts. If this service is not available to you through your bank or brokerage, you also have the option to purchase these securities directly from the government.

In the U.S., for example, Treasury bonds and bills (T-bonds and T-bills) can be purchased through TreasuryDirect. Sponsored by the U.S. Department of the Treasury Bureau of the Fiscal Service, TreasuryDirect lets individual investors buy, sell and hold Treasury Bills, Notes, Bonds, Inflation-Protected Securities (TIPS), and Series I and EE Savings Bonds in paperless form via electronic accounts. No fees or commissions are charged, but only U.S. citizens are eligible to participate.

## Bond Funds

Another way to gain exposure in bonds would be to invest in a bond fund, a mutual fund or exchange-traded fund (ETF) that exclusively holds bonds in its portfolio.

When buying and selling these funds (or, for that matter, bonds themselves on the open market), keep in mind that these are “secondary market” transactions, meaning that you are buying from another investor and not directly from the issuer. One drawback of mutual funds and ETFs is that investors do not know the maturity of all the bonds in the fund portfolio since they are changing quite often, and therefore these investment vehicles are not appropriate for an investor who wishes to hold a bond until maturity.

Another drawback is that you will have to pay additional fees to the portfolio managers, though bond funds tend to have lower expense ratios than their equity counterparts. Passively managed bond ETFs, which track a bond index, tend to have the fewest expenses of all.

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## How To Invest In Corporate Bonds

When investors buy a bond, they are lending money to the entity that issues the bond. The bond is a promise to repay the face value of the bond (the amount loaned) with an additional specified interest rate within a specified period of time. The bond, therefore, may be called an “I.O.U.”

## Bond Types

The various types of bonds include U.S. government securities, municipals, mortgage and asset-backed, foreign bonds, and corporate bonds.

Corporate bonds are issued by companies and are either publicly traded or private. Bond rating services – such as Standard & Poor’s, Moody’s, and Fitch – calculate the risk inherent in each bond issue, or the chances of a default or failure to pay, and assign a series of letters to each issue signifying its risk factor.

## Bond Ratings and Risk

Bonds rated triple-A (AAA) are the most reliable and the least risky; bonds rated triple B (BB) and below are the most risky. Bond ratings are calculated using many factors including financial stability, current debt, and growth potential.

In a well-diversified investment portfolio, highly-rated corporate bonds of short-term, mid-term, and long-term maturity (when the principal loan amount is scheduled for repayment) can help investors accumulate money for retirement, save for a college education for children, or to establish a cash reserve for emergencies, vacations or for other expenses.



## **Buying (and Selling) Bonds**

Some corporate bonds are traded on the over-the-counter (OTC) market and offer good liquidity – the ability to quickly and easily sell the bond for ready cash. This is important, especially if you plan on getting active with your bond portfolio. Investors may buy bonds from this market or buy the initial offering of the bond from the issuing company in the primary market. OTC bonds typically sell in \$5,000 face values.

Primary market purchases may be made from brokerage firms, banks, bond traders, and brokers, all of which take a commission (a fee based on a percentage of the sale price) for facilitating the sale. Bond prices are quoted as a percentage of the face value of the bond, based on \$100. For example, if a bond is selling at 95, it means that the bond may be purchased for 95% of its face value; a \$10,000 bond, therefore, would cost the investor \$9,500.

## **Interest Payments**

Interest on bonds is usually paid every six months. On the highest rated bonds, these semi-annual payments are a reliable source of income. Bonds with the least risk pay lower rates of return. The higher risk bonds, in order to attract lenders (buyers), pay a higher return but are less reliable.

When bond prices decline, the interest rate increases because the bond costs less, but the interest rate remains the same as its initial offering. Conversely, when the price of a bond goes up, the effective yield declines. Long term bonds usually offer a higher interest rate because of the unpredictability of the future. A company's financial stability and profitability may change over the long term and not be the same as when it first issued its bonds. To offset this risk, bonds with long maturity dates pay a higher interest.

A callable or redeemable bond is a bond that may be redeemed by the issuing company before the maturity date. The downside for investors, if a high yield bond is called, is the loss of interest return for the years remaining in the life of the bond. Sometimes, however, a firm calling a bond will pay a cash premium to the bond holder.

Bond prices are listed in many newspapers, including Barron's, Investor's Business Daily and The Wall Street Journal. The prices listed for bonds are for recent trades, usually for the previous day, so keep in mind that prices fluctuate and market conditions may change quickly. An alternative to investing in individual corporate bonds is to invest in a professionally managed bond fund or an index-pegged fund, which is a passive fund tied to the average price of a "basket" of bonds.

## **The Bottom Line**

A well-diversified investment portfolio should hold a percentage of the total amount invested in highly-rated bonds of various maturities. Although no corporate bond is entirely risk free, and may sometimes even result at a loss because of changing market conditions, highly-rated corporate bonds could reasonably assure a steady income stream over the life of the bond.

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## **Introduction to Treasury Securities**

When it comes to conservative investments, nothing says safety of principal like Treasury securities. These instruments have stood for decades as a bastion of safety in the turbulence of the investment markets — the last line of defense against any possible loss of principal.

The guarantees that stand behind these securities are indeed regarded as one of the key cornerstones of both the domestic and international economy, and they are attractive to both individual and institutional investors for many reasons.



## Basic Characteristics of Treasury Securities

Treasury securities are divided into three categories according to their lengths of maturities. These three types of bonds share many common characteristics, but also have some key differences. The categories and key features of treasury securities include:

- **T-Bills** – These have the shortest range of maturities of all government bonds. Among bills auctioned on a regular schedule, there are five terms: 4 weeks, 8 weeks, 13 weeks, 26 weeks, and 52 weeks. Another bill, the cash management bill, isn't auctioned on a regular schedule. It is issued in variable terms, usually of only a matter of days. These are the only type of treasury security found in both the capital and money markets, as three of the maturity terms fall under the 270-day dividing line between them. T-Bills are issued at a discount and mature at par value, with the difference between the purchase and sale prices constituting the interest paid on the bill.
- **T-Notes** – These notes represent the middle range of maturities in the treasury family, with maturity terms of 2, 3, 5, 7 and 10 years currently available. The Treasury auctions 2-year notes, 3-year notes, 5-year notes, and 7-year notes every month. The agency auctions 10-year notes at original issue in February, May, August, and November, and as reopenings in the other eight months. Treasury notes are issued at a \$1,000 par value and mature at the same price. They pay interest semiannually.
- **T-Bonds** – Commonly referred to in the investment community as the “long bond”, T-Bonds are essentially identical to T-Notes except that they mature in 30 years. T-Bonds are also issued at and mature at a \$1,000 par value and pay interest semiannually. Treasury bonds are auctioned monthly. Bonds are auctioned at original issue in February, May, August, and November, and then as reopenings in the other eight months.

## Auction Purchase of Treasury Securities

All three types of Treasury securities can be purchased online at auction in \$100 increments. However, not every maturity term for each type of security is available at every auction. For example, the 2, 3, 5 and 7-year T-Notes are available each month at auction, but the 10-year T-Note is only offered quarterly.

All maturities of T-Bills are offered weekly except for the 52-week maturity, which is auctioned once each month. Employees who wish to purchase Treasury securities may do so through the TreasuryDirect Payroll Savings Plan. This program allows investors to automatically defer a portion of their paychecks into a TreasuryDirect account. The employee then uses these funds to purchase treasury securities electronically.

Taxpayers can also funnel their income tax refunds directly into a TreasuryDirect account for the same purpose. Paper certificates are no longer issued for Treasury securities, and all accounts and purchases are now recorded in an electronic book-entry system.

## Risk and Reward of Treasury Securities

The greatest advantage of Treasury securities is that they are, of course, unconditionally backed by the full faith and credit of the U.S. government. Investors are guaranteed the return of both their interest and the principal that they are due, as long as they hold them to maturity. However, even Treasury securities come with some risk.

Like all guaranteed financial instruments, Treasuries are vulnerable to both inflation and changes in interest rates. The interest rates paid by T-Bills and Notes are also among the lowest of any type of bond or fixed-income security, and typically only exceed the rates offered by cash accounts such as money market funds.

The 30-year bond pays a higher rate because of its longer maturity and may be competitive with other offerings with shorter maturities. However, Treasury securities no longer come with call features, which are commonly attached to many corporate and municipal offerings. Call features allow bond issuers to call back their offerings after a certain time period, such as 5 years, and then reissue new securities that may pay a lower interest rate.

The vast majority of Treasury securities also trade in the secondary market in the same manner as other types of bonds. Their prices rise accordingly when interest rates drop and vice-versa. They can be bought and sold through virtually any broker or retail money manager as well as banks and other savings institutions. Investors who purchase Treasury securities in the secondary market are still guaranteed to receive the remaining interest payments on the bond plus its face value at maturity (which may be more or less than what they paid the seller for them).

### **Tax Treatment of Treasury Securities**

The same tax rules apply for all three types of Treasury securities. The interest paid on T-bills, T-notes and T-bonds is fully taxable at the federal level, but is unconditionally tax-free for states and localities. The difference between the issue and maturity prices of T-Bills is classified as interest for this purpose.

Investors who also realize profits or losses on Treasuries that they traded in the secondary markets must report short- or long-term capital gains and losses accordingly. Each year, the Treasury department sends investors Form 1099-INT, which shows the taxable interest that must be reported on the 1040.

### **Who Buys Treasury Securities?**

Treasury securities are used by virtually every type of investor in the market. Individuals, institutions, estates, trusts and corporations all use Treasury securities for various purposes. Many investment funds use Treasuries to meet certain objectives while satisfying their fiduciary requirements, and individual investors often purchase these securities because they can count on receiving their principal and interest according to the specified schedule — without fear of them being called out prematurely.

Fixed-income investors who live in states with high-income tax rates can also benefit from the tax exemption of Treasuries at the state and local levels.

### **The Bottom Line**

Treasury securities comprise a significant segment of the domestic and international bond markets. For more information on Treasury securities, visit [www.treasurydirect.gov](http://www.treasurydirect.gov). This useful website contains a wealth of information on T-Bills, T-notes and T-bonds, including complete auction schedules, a system search for those who need to inquire whether they still own bonds, a list of all bonds that have stopped paying interest and a plethora of other resources.

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## **The Basics of Municipal Bonds**

If your primary investing objective is to preserve capital while generating a tax-free income stream, municipal bonds are worth considering. Municipal bonds (munis) are debt obligations issued by government entities. When you buy a municipal bond, you are loaning money to the issuer in exchange for a set number of interest payments over a predetermined period. At the end of that period, the bond reaches its maturity date, and the full amount of your original investment is returned to you.

### **Taxes**

While municipal bonds are available in both taxable and tax-exempt formats, the tax-exempt bonds tend to get the most attention because the income they generate is, for most investors, exempt from federal and, in many cases, state and local income taxes. Investors subject to the alternative minimum tax (AMT) must include interest income from certain munis when calculating the tax and should consult a tax professional prior to investing.

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### **KEY TAKEAWAYS**

- Municipal bonds are good for people who want to hold on to capital while creating a tax-free income source.
  - General obligation bonds are issued to raise funds right away to cover costs, while revenue bonds are issued to finance infrastructure projects.
  - Both general obligation bonds and revenue bonds are tax-exempt and low-risk, with issuers very likely to pay back their debts.
  - Buying municipal bonds is low-risk, but not risk-free, as the issuer could fail to make agreed-upon interest payments or be unable to repay the principal upon maturity.
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## **Types of Municipal Bonds**

Municipal bonds come in the following two varieties:

- general obligation bonds (GO)
- revenue bonds

General obligation bonds, issued to raise immediate capital to cover expenses, are supported by the taxing power of the issuer. Revenue bonds, which are issued to fund infrastructure projects, are supported by the income generated by those projects. Both types of bonds are tax-exempt and particularly attractive to risk-averse investors due to the high likelihood that the issuers will repay their debts.

## **Credit Risk**

Although buying municipal bonds is low-risk, they are not entirely without risk. If the issuer is unable to meet its financial obligations, it may fail to make scheduled interest payments or be unable to repay the principal upon maturity. To assist in the evaluation of an issuer's creditworthiness, ratings agencies (such as Moody's Investors Service and Standard & Poor's) analyze a bond issuer's ability to meet its debt obligations and issue ratings from 'Aaa' or 'AAA' for the most creditworthy issuers to 'Ca', 'C', 'D', 'DDD', 'DD', or 'D' for those in default. Bonds rated 'BBB', 'Baa', or better are generally considered appropriate investments when capital preservation is the primary objective. To reduce investor concern, many municipal bonds are backed by insurance policies guaranteeing repayment in the event of default.

Every year, Moody's publishes a report on more than 10,000 municipal bond issuers. The most recent report was released in September 2018 and covered defaults in 2017. The report showed seven of 10 Moody's-rated municipal defaults in 2017 were related to the Commonwealth of Puerto Rico debt crisis. Overall, the total default volume for 2017 was \$31.5 billion, a rise of about 15% from \$22.6 billion in the previous year—and the highest in the 48-year study period, according to Moody's.

According to Moody's data, there continues to be a very clear delineation in default rates beginning in 2007. Between 1970 and 2007, Moody's reported an average of only 1.3 defaults per year in the muni bond sphere. That number quadrupled after 2007, highlighted by seven defaults in 2013.

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## **FAST FACT**

Moody's most recent annual report on municipal bonds shows the rating agency expects defaults in 2018 and 2019 to drop from 2017 levels and the total default volume to dwindle after it hit a 48-year high in the most recent report.

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## Tax Bracket Changes

Municipal bonds generate tax-free income and therefore pay lower interest rates than taxable bonds. Investors who anticipate a significant drop in their marginal income-tax rate may be better served by the higher yield available from taxable bonds.

## Call Risk

Many bonds allow the issuer to repay all or a portion of the bond prior to the maturity date. The investor's capital is returned with a premium added in exchange for the early debt retirement. While you get your entire initial investment plus some back if the bond is called, your income stream ends earlier than expected.

## Market Risk

The interest rate of most municipal bonds is paid at a fixed rate. This rate doesn't change over the life of the bond. However, the underlying price of a particular bond will fluctuate in the secondary market due to market conditions. Changes in interest rates and interest rate expectations are generally the primary factors involved in municipal bond secondary market prices.

When interest rates fall, newly issued bonds will pay a lower yield than existing issues, which makes the older bonds more attractive. Investors who want the higher yield may be willing to pay more to get it.

Likewise, if interest rates rise, newly issued bonds will pay a higher yield than existing issues. Investors who buy the older issues are likely to do so only if they get them at a discount.

If you buy a bond and hold it until maturity, market risk is not a factor because your principal investment will be returned in full at maturity. Should you choose to sell prior to the maturity date, your gain or loss will be dictated by market conditions, and the appropriate tax consequences for capital gains or losses will apply.

## Buying Strategies

The most basic strategy for investing in municipal bonds is to purchase a bond with an attractive interest rate, or yield, and hold the bond until it matures. The next level of sophistication involves the creation of a municipal bond ladder. A ladder consists of a series of bonds, each with a different interest rate and maturity date. As each rung on the ladder matures, the principal is reinvested into a new bond. Both of these strategies are categorized as passive strategies because the bonds are bought and held until maturity.

Investors seeking to generate both income and capital appreciation from their bond portfolio may choose an active portfolio management approach, whereby bonds are bought and sold instead of held to maturity. This approach seeks to generate income from yields and capital gains from selling at a premium.

## Evaluating Stability vs. Fit

Stability is relative in the municipal bond market. Municipal bonds tend to be safer than many other types of investments, but they are less safe than U.S. Treasury bonds. You can also trade in multiple kinds of municipal bonds, such as assessment bonds, revenue bonds, or general obligation bonds.

The issuer of the bond also matters; bonds issued from municipal authorities in a city with strong financials would be considered more stable than those from a city whose credit rating has been downgraded or has recently filed for bankruptcy.

Plenty of investors make an understandable mistake during tough or uncertain times and develop tunnel vision about stability and safety. In their flight from risk, however, they fail to consider how an investment fits in their financial plans.

Municipal bonds can be a tax haven, often generating higher returns than Treasuries. They can still lose to inflation and tie up large sums of money for much longer than a recession typically lasts.

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## **What Are the Risks of Investing in a Bond?**

The most well-known risk in the bond market is interest rate risk – the risk that bond prices will fall as interest rates rise. By buying a bond, the bondholder has committed to receiving a fixed rate of return for a set period. Should the market interest rate rise from the date of the bond's purchase, the bond's price will fall accordingly. The bond will then be trading at a discount to reflect the lower return that an investor will make on the bond.

## **Interest Rate Risk Factors For Bonds**

Market interest rates are a function of several factors, including the demand for and supply of money in the economy, the inflation rate, the stage that the business cycle is in, and the government's monetary and fiscal policies.

From a mathematical standpoint, interest-rate risk refers to the inverse relationship between the price of a bond and market interest rates. To explain, if an investor purchased a 5% coupon, a 10-year corporate bond that is selling at par value, the present value of the \$1,000 par value bond would be \$614. This amount represents the amount of money that is needed today to be invested at an annual rate of 5% per year over a 10-year period, in order to have \$1,000 when the bond reaches maturity.

Now, if interest rates increase to 6%, the present value of the bond would be \$558, because it would only take \$558 invested today at an annual rate of 6% for 10 years to accumulate \$1,000. In contrast, if interest rates decreased to 4%, the present value of the bond would be \$676. As you can see from the difference in the present value of these bond prices, there truly is an inverse relationship between the price of a bond and market interest rates, at least from a mathematical standpoint.

From the standpoint of supply and demand, the concept of interest-rate risk is also straightforward to understand. For example, if an investor purchased a 5% coupon and 10-year corporate bond that is selling at par value, the investor would expect to receive \$50 per year, plus the repayment of the \$1,000 principal investment when the bond reaches maturity.

Now, let's determine what would happen if market interest rates increased by one percentage point. Under this scenario, a newly issued bond with similar characteristics as the originally issued bond would pay a coupon amount of 6%, assuming that it is offered at par value.

For this reason, under a rising interest rate environment, the issuer of the original bond would find it difficult to find a buyer willing to pay par value for their bond, because a buyer could purchase a newly issued bond in the market that is paying a higher coupon amount. As a result, the issuer would have to sell her bond at a discount from par value in order to attract a buyer. As you can probably imagine, the discount on the price of the bond would be the amount that would make a buyer indifferent in terms of purchasing the original bond with a 5% coupon amount, or the newly issued bond with a more favorable coupon rate.

The inverse relationship between market interest rates and bond prices holds true under a falling interest-rate environment as well. However, the originally issued bond would now be selling at a premium above par value, because the coupon payments associated with this bond would be greater than the coupon payments offered on newly issued bonds. As you may now be able to infer, the relationship between the price of a bond and market interest rates is simply explained by the supply and demand for a bond in a changing interest-rate environment.

## **Reinvestment Risk for Bond Investors**

One risk is that the proceeds from a bond will be reinvested at a lower rate than the bond originally provided. For example, imagine that an investor bought a \$1,000 bond that had an annual coupon of 12%. Each year the investor receives \$120 ( $12\% \times \$1,000$ ), which can be reinvested back into another bond. But imagine that over time the market rate falls to 1%. Suddenly, that \$120 received from the bond can only be reinvested at 1%, instead of the 12% rate of the original bond.

## **Call Risk for Bond Investors**

Another risk is that a bond will be called by its issuer. Callable bonds have call provisions, which allow the bond issuer to purchase the bond back from the bondholders and retire the issue. This is usually done when interest rates have fallen substantially since the issue date. Call provisions allow the issuer to retire the old, high-rate bonds and sell low-rate bonds in a bid to lower debt costs.

## **Default Risk for Bond Investors**

This risk refers to an event wherein the bond's issuer is unable to pay the contractual interest or principal on the bond in a timely manner, or at all. Credit rating services such as Moody's, Standard & Poor's and Fitch give credit ratings to bond issues, which helps to give investors an idea of how likely it is that a payment default will occur. For example, most federal governments have very high credit ratings (AAA); they can raise taxes or print money to pay debts, making default unlikely. However, small emerging companies have some of the worst credit (BB and lower). They are much more likely to default on their bond payments, in which case bondholders will likely lose all or most of their investments.

## **Inflation Risk for Bond Investors**

This risk refers to an event wherein the rate of price increases in the economy deteriorates the returns associated with the bond. This has the greatest effect on fixed bonds, which have a set interest rate from inception. For example, if an investor purchases a 5% fixed bond, and then inflation rises to 10% per year, the bondholder will lose money on the investment because the purchasing power of the proceeds has been greatly diminished. The interest rates of floating-rate bonds (floaters) are adjusted periodically to match inflation rates, limiting investors' exposure to inflation risk.

## **1.1.5 OPTIONS & FUTURES**

### **Options vs. Futures: What's the Difference?**

#### **Options vs. Futures: An Overview**

Options and futures are both financial products that investors use to make money or to hedge current investments. Both are agreements to buy an investment at a specific price by a specific date.

- An option gives an investor the right, but not the obligation, to buy (or sell) shares at a specific price at any time, as long as the contract is in effect.
- A futures contract requires a buyer to purchase shares, and a seller to sell them, on a specific future date unless the holder's position is closed before the expiration date.
- The options and futures markets are very different, however, in how they work and how risky they are to the investor.

## Call Options and Put Options

There are only two kinds of options: call options and put options. A call option is an offer to buy a stock at a specific price, called a strike price, before the agreement expires. A put option is an offer to sell a stock at a specific price.

In either case, options are a derivative form of investment. They are offers to buy or offers to sell shares but don't represent actual ownership of the underlying investments until the agreement is finalized.

As an example, say an investor opens a call option to buy stock XYZ at a \$50 strike price sometime within the next three months. The stock is currently trading at \$49. If the stock jumps to \$60, the call buyer can exercise the right to buy the stock at \$50. That buyer can then immediately sell the stock for \$60 for a \$10 profit per share.

Alternatively, the option buyer can simply sell the call and pocket the profit, since the call option is worth \$10 per share.

If the option is trading below \$50 at the time the contract expires, the option is worthless. The call buyer loses the upfront payment for the option, called the premium.

## The Risks of Options

The risk to the buyer of a call option is limited to the premium paid up front. This premium rises and falls throughout the life of the contract. It is based on a number of factors, including how far the strike price is from the current underlying security's price as well as how much time remains on the contract. This premium is paid to the investor who opened the put option, also called the option writer.

The option writer is on the other side of the trade. This investor has unlimited risk. Assume in this example that the stock goes up to \$100. The option writer would be forced to buy the shares at \$100 per share in order to sell them to the call buyer for \$50 a share. In return for a small premium, the option writer is losing \$50 per share.

Either the option buyer or the option writer can close their positions at any time by buying a call option, which brings them back to flat. The profit or loss is the difference between the premium received and the cost to buy back the option or get out of the trade.

## Put Option

A put option is the right to sell shares at the strike price at or before expiry. A trader buying this option hopes the price of the underlying stock will fall.

For example, if an investor owns a put option to sell XYZ at \$100, and XYZ's price falls to \$80 before the option expires, the investor will gain \$20 per share, minus the cost of the premium. If the price of XYZ is above \$100 at expiration, the option is worthless and the investor loses the premium paid up front.

Either the put buyer or the writer can close out their option position to lock in a profit or loss at any time before its expiration. This is done by buying the option, in the case of the writer, or selling the option, in the case of the buyer. The put buyer may also choose to exercise the right to sell at the strike price.

## Futures Contracts

A futures contract is the obligation to sell or buy an asset at a later date at an agreed price.

Futures are most understandable when considered in terms of commodities such as corn or oil. Futures contracts are a true hedge investment. A farmer might want to lock in an acceptable price up front in case of market prices fall before the crop can be delivered. The buyer wants to lock in a price up front, too, in case of prices soar by the time the crop is delivered.



Assume two traders agree to a \$50 per barrel price on an oil futures contract. If the price of oil moves up to \$55, the buyer of the contract is making \$5 per barrel. The seller, on the other hand, is losing out on a better deal.

## **Who Trades Futures?**

There's a big difference between institutional and retail traders in the futures market.

Futures were invented for institutional buyers. These dealers intend to actually take possession of barrels of crude oil to sell to refiners, or tons of corn to sell to supermarket distributors. Establishing a price in advance makes the businesses on both sides of the contract less vulnerable to big price swings.

Retail buyers, however, buy and sell futures contracts as a bet on the price direction of the underlying security. They want to profit from changes in the price of futures, up or down. They do not intend to actually take possession of any products.

The market for futures has expanded greatly beyond oil and corn. Stock futures can be purchased on individual stocks or on an index like the S&P 500.

In any case, the buyer of a futures contract is not required to pay the full amount of the contract up front. A percentage of the price called an initial margin is paid.

For example, an oil futures contract is for 1,000 barrels of oil. An agreement to buy an oil futures contract at \$100 represents the equivalent of a \$100,000 agreement. The buyer may be required to pay several thousand dollars for the contract and may owe more if that bet on the direction of the market proves to be wrong.

## **Futures Are Bigger Bets**

Options are risky, but futures are riskier for the individual investor.

A standard option contract is for 100 shares of stock. If the underlying stock is trading at \$30, then the total stake is \$3,000. A standard gold contract is 100 ounces of gold. If gold is trading at \$1,300 per ounce, the contract represents \$130,000. Options contracts are smaller by default, although an investor can buy multiple contracts.

## **Futures Are Riskier**

When an investor buys a stock option, the only financial liability is the cost of the premium at the time the contract is purchased. However, when a seller opens a put option, that seller is exposed to the maximum liability of the stock's underlying price. If a put option gives the buyer the right to sell the stock at \$50 per share but the stock falls to \$10, the person who initiated the contract must agree to purchase the stock for the value of the contract, or \$50 per share.

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### **Important**

Futures contracts tend to be for large amounts of money. The obligation to sell or buy at a given price makes futures riskier by their nature.

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Futures contracts, however, involve maximum liability to both the buyer and the seller. As the underlying stock price moves, either party to the agreement may have to deposit more money into their trading accounts to fulfill a daily obligation.

This is because gains on futures positions are automatically marked to market daily, meaning the change in the value of the positions, up or down, is transferred to the futures accounts of the parties at the end of every trading day.



## Options Are Optional

Investors who purchase call or put options have the right to buy or sell a stock at a specific strike price. However, they are not obligated to exercise the option at the time the contract expires. Options investors only exercise contracts when they are in the money, meaning that the option has some intrinsic value.

Purchasers of futures contracts are obligated to buy the underlying stock from the seller of the contract upon expiration no matter what the price of the underlying asset is.

## Example of an Options Contract

To complicate matters, options are bought and sold on futures. But that allows for an illustration of the differences between options and futures.

In this example, one options contract for gold on the Chicago Mercantile Exchange has as its underlying asset one COMEX gold futures contract.

An options investor might purchase a call option for a premium of \$2.60 per contract with a strike price of \$1,600 expiring in February 2019.

The holder of this call has a bullish view on gold and has the right to assume the underlying gold futures position until the option expires after market close on February 22, 2019. If the price of gold rises above the strike price of \$1,600, the investor will exercise the right to buy the futures contract. Otherwise, the investor will allow the options contract to expire. The maximum loss is the \$2.60 premium paid for the contract.

## Example of a Futures Contract

The investor may instead decide to buy a futures contract on gold. One futures contract has as its underlying asset 100 troy ounces of gold.

That means the buyer is obligated to accept 100 troy ounces of gold from the seller on the delivery date specified in the futures contract. Assuming the trader has no interest in actually owning the gold, the contract will be sold before the delivery date or rolled over to a new futures contract.

As the price of gold rises or falls, the amount of gain or loss is credited or debited to the investor's account at the end of each trading day.

If the price of gold in the market falls below the contract price the buyer agreed to, the futures buyer is still obligated to pay the seller the higher contract price on the delivery date.

## Other Differences

Options and futures may sound similar, but they are very different. Futures markets are easier to understand but carry considerable risk due to the size of many of the contracts.

Buying options can be quite complex, but the risk is capped to the premium paid. Options writers assume more risk. In fact, options writing is best left to experienced options traders.

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## KEY TAKEAWAYS

- Options and futures are similar trading products that provide investors with the chance to make money and hedge current investments.
- An option gives the buyer the right, but not the obligation, to buy (or sell) an asset at a specific price at any time during the life of the contract.

A futures contract gives the buyer the obligation to purchase a specific asset, and the seller to sell and deliver that asset at a specific future date unless the holder's position is closed prior to expiration.

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## Options Trading Strategies: A Guide for Beginners

Options are conditional derivative contracts that allow buyers of the contracts (option holders) to buy or sell a security at a chosen price. Option buyers are charged an amount called a “premium” by the sellers for such a right. Should market prices be unfavorable for option holders, they will let the option expire worthless, thus ensuring the losses are not higher than the premium. In contrast, option sellers (option writers) assume greater risk than the option buyers, which is why they demand this premium.

Options are divided into “call” and “put” options. With a call option, the buyer of the contract purchases the right to buy the underlying asset in the future at a predetermined price, called exercise price or strike price. With a put option, the buyer acquires the right to sell the underlying asset in the future at the predetermined price.

## Why Trade Options Rather Than a Direct Asset?

There are some advantages to trading options. The Chicago Board of Options Exchange (CBOE) is the largest such exchange in the world, offering options on a wide variety of single stocks, ETFs and indexes. Traders can construct option strategies ranging from buying or selling a single option to very complex ones that involve multiple simultaneous option positions.

The following are basic option strategies for beginners.

**Buying Calls (Long Call)** This is the preferred strategy for traders who:

- Are “bullish” or confident on a particular stock, ETF or index and want to limit risk
- Want to utilize leverage to take advantage of rising prices

Options are leveraged instruments, i.e., they allow traders to amplify the benefit by risking smaller amounts than would otherwise be required if trading the underlying asset itself. A standard option contract on a stock controls 100 shares of the underlying security.

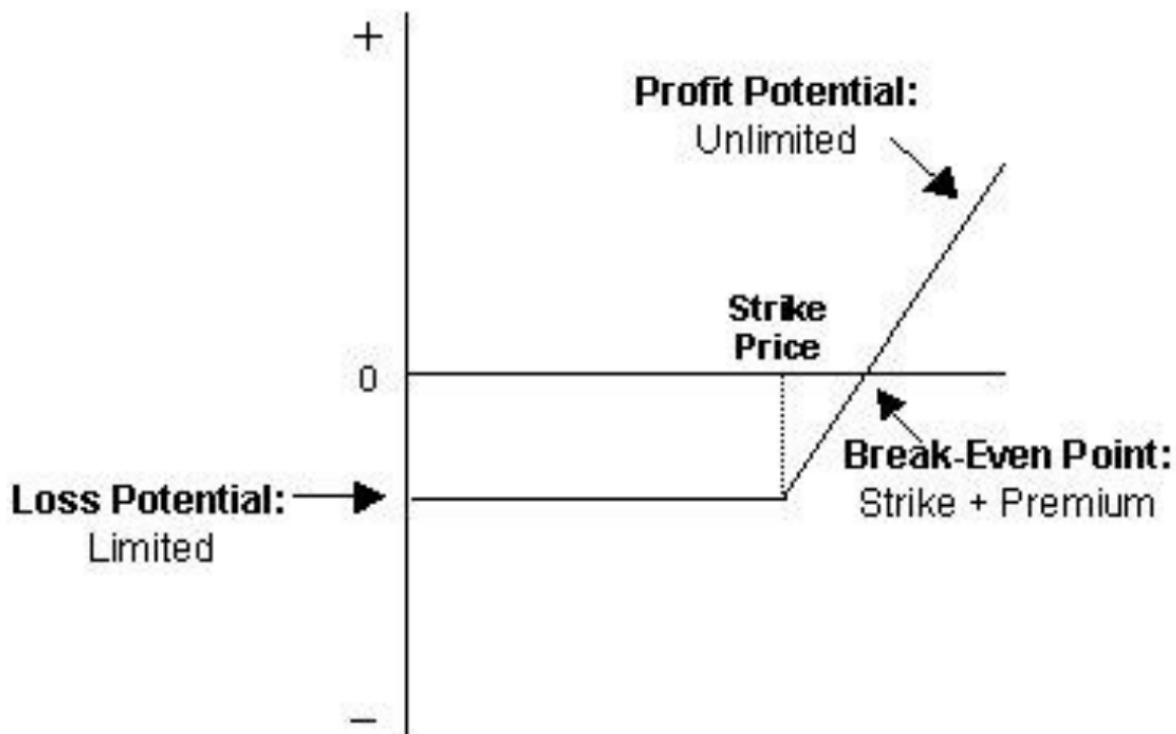
Suppose a trader wants to invest \$5,000 in Apple (AAPL), trading around \$165 per share. With this amount, he or she can purchase 30 shares for \$4,950. Suppose then that the price of the stock increases by 10% to \$181.50 over the next month. Ignoring any brokerage, commission or transaction fees, the trader's portfolio will rise to \$5,445, leaving the trader with a net dollar return of \$495, or 10% on the capital invested.

Now, let's say a call option on the stock with a strike price of \$165 that expires about a month from now costs \$5.50 per share or \$550 per contract. Given the trader's available investment budget, he or she can buy nine options for a cost of \$4,950. Because the option contract controls 100 shares, the trader is effectively making a deal on 900 shares. If the stock price increases 10% to \$181.50 at expiration, the option will expire in the money and be worth \$16.50 per share (\$181.50-\$165 strike), or \$14,850 on 900 shares. That's a net dollar return of \$9,990, or 200% on the capital invested, a much larger return compared to trading the underlying asset directly.

**Risk/Reward:** The trader's potential loss from a long call is limited to the premium paid. Potential profit is unlimited, as the option payoff will increase along with the underlying asset price until expiration, and there is theoretically no limit to how high it can go.

**Buying Puts (Long Put)** This is the preferred strategy for traders who:

- Are bearish on a particular stock, ETF or index, but want to take on less risk than with a short-selling strategy



- Want to utilize leverage to take advantage of falling prices

A put option works the exact opposite way a call option does, with the put option gaining value as the price of the underlying decreases. While short-selling also allows a trader to profit from falling prices, the risk with a short position is unlimited, as there is theoretically no limit on how high a price can rise. With a put option, if the underlying rises past the option's strike price, the option will simply expire worthless.

**Risk/Reward:** Potential loss is limited to the premium paid for the options. The maximum profit from the position is capped since the underlying price cannot drop below zero, but as with a long call option, the put option leverages the trader's return.

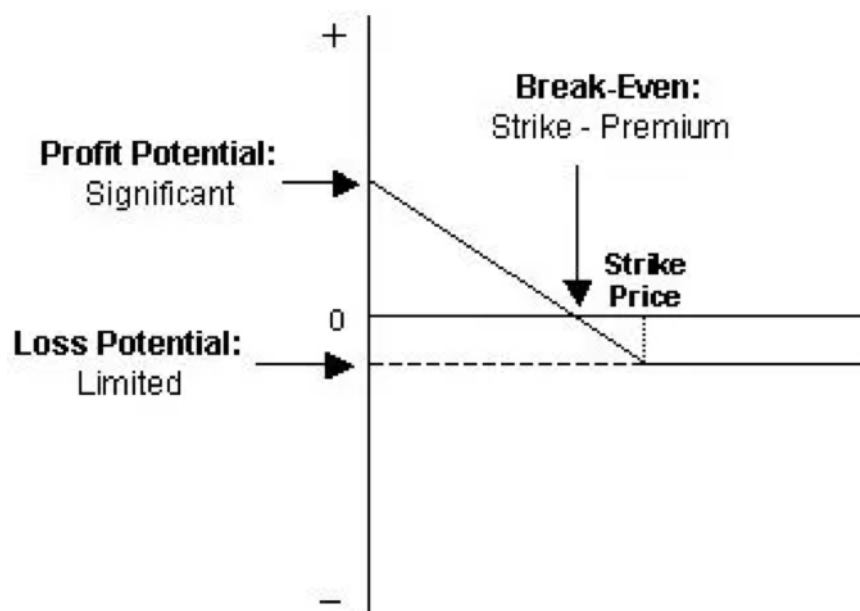
**Covered Call** This is the preferred position for traders who:

- Expect no change or a slight increase in the underlying's price
- Are willing to limit upside potential in exchange for some downside protection

A covered call strategy involves buying 100 shares of the underlying asset and selling a call option against those shares. When the trader sells the call, he or she collects the option's premium, thus lowering the cost basis on the shares and providing some downside protection. In return, by selling the option, the trader is agreeing to sell shares of the underlying at the option's strike price, thereby capping the trader's upside potential.

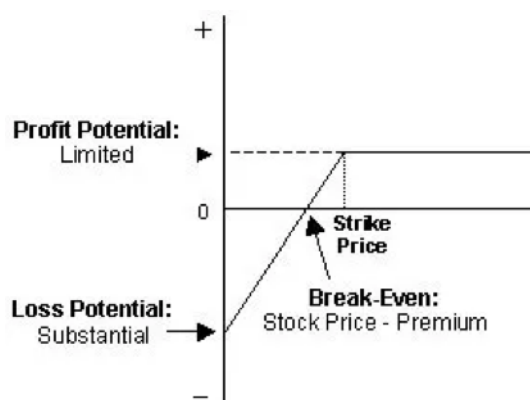
Suppose a trader buys 1,000 shares of BP (BP) at \$44 per share and simultaneously writes 10 call options (one contract for every 100 shares) with a strike price of \$46 expiring in one month, at a cost of \$0.25 per share, or \$25 per contract and \$250 total for the 10 contracts. The \$0.25 premium reduces the cost basis on the shares to \$43.75, so any drop in the underlying down to this point will be offset by the premium received from the option position, thus offering limited downside protection.

If the share price rises above \$46 before expiration, the short call option will be exercised (or "called away"), meaning the trader will have to deliver the stock at the option's strike price. In this case, the trader will make a profit of \$2.25 per share (\$46 strike price - \$43.75 cost basis).



However, this example implies the trader does not expect BP to move above \$46 or significantly below \$44 over the next month. As long as the shares do not rise above \$46 and get called away before the options expire, the trader will keep the premium free and clear and can continue selling calls against the shares if he or she chooses.

**Risk/Reward:** If the share price rises above the strike price before expiration, the short call option can be exercised and the trader will have to deliver shares of the underlying at the option's strike price, even if it is below the market price. In exchange for this risk, a covered call strategy provides limited downside protection in the form of premium received when selling the call option.



**Protective Put** This is the preferred strategy for traders who:

- Own the underlying asset and want downside protection.

A protective put is a long put, like the strategy we discussed above; however, the goal, as the name implies, is downside protection versus attempting to profit from a downside move. If a trader owns shares that he or she is bullish on in the long run but wants to protect against a decline in the short run, they may purchase a protective put.

If the price of the underlying increases and is above the put's strike price at maturity, the option expires worthless and the trader loses the premium but still has the benefit of the increased underlying price. On the other hand, if the underlying price decreases, the trader's portfolio position loses value, but this loss is largely covered by the gain from the put option position. Hence, the position can effectively be thought of as an insurance strategy.

The trader can set the strike price below the current price to reduce premium payment at the expense of decreasing downside protection. This can be thought of as deductible insurance. Suppose, for example, that an investor buys 1,000 shares of Coca-Cola (KO) at a price of \$44 and wants to protect the investment from adverse price movements over the next two months. The following put options are available:

June 2018 options	Premium
\$44 put	\$1.23
\$42 put	\$0.47
\$40 put	\$0.20

The table shows that the cost of protection increases with the level thereof. For example, if the trader wants to protect the investment against any drop in price, he or she can buy 10 at-the-money put options at a strike price of \$44 for \$1.23 per share, or \$123 per contract, for a total cost of \$1,230. However, if the trader is willing to tolerate some level of downside risk, he or she can choose less costly out-of-the-money options such as a \$40 put. In this case, the cost of the option position will be much lower at only \$200.

**Risk/Reward:** If the price of the underlying stays the same or rises, the potential loss will be limited to the option premium, which is paid as insurance. If, however, the price of the underlying drops, the loss in capital will be offset by an increase in the option's price and is limited to the difference between the initial stock price and strike price plus the premium paid for the option. In the example above, at the strike price of \$40, the loss is limited to \$4.20 per share ( $\$44 - \$40 + \$0.20$ ).

**Other Options Strategies** These strategies may be a little more complex than simply buying calls or puts, but they are designed to help you better manage the risk of options trading:

- **Covered call strategy or buy-write strategy:** Stocks are bought, and the investor sells call options on the same stock. The number of shares you bought should be identical to the number of call options contracts you sold.
- **Married Put Strategy:** After buying a stock, the investor buys put options for an equivalent number of shares. The married put works like an insurance policy against short-term losses call options with a specific strike price. At the same time, you'll sell the same number of call options at a higher strike price.
- **Protective Collar Strategy:** An investor buys an out-of-the-money put option, while at the same time writing an out-of-the-money call option for the same stock.
- **Long Straddle Strategy:** Investor buys a call option and a put option at the same time. Both options should have the same strike price and expiration date.
- **Long Strangle Strategy:** Investor buys an out-of-the-money call option and a put option at the same time.

They have the same expiration date but they have different strike prices. The put strike price should be below the call strike price.

### The Bottom Line

Options offer alternative strategies for investors to profit from trading underlying securities. There's a variety of strategies involving different combinations of options, underlying assets, and other derivatives. Basic strategies for beginners include buying calls, buying puts, selling covered calls and buying protective puts. There are advantages to trading options rather than underlying assets, such as downside protection and leveraged returns, but there are also disadvantages like the requirement for upfront premium payment. The first step to trading options is to choose a broker. Fortunately, Investopedia has created a list of the best online brokers for options trading to make getting started easier.

## 1.1.6 MANAGING A PORTFOLIO

## **Risk Tolerance and Your Personal Portfolio**

Many of us would love to manage our own investments, but it can be overwhelming to know where to begin. Do we use stocks, bonds, futures, commodities, or real estate? Should we go long, buy on margin, short a stock, or put everything into CDs?

You could, of course, dive into these topics individually, but if you are trying to manage your own risk, you first have to determine your risk tolerance. From there, you can manage your accounts based on how much risk you want to take on and how much active managing you want to do.

## **Determining Your Risk Tolerance**

Risk tolerance is an incredibly important aspect of getting started in investing. Depending on your age, income, investments, and goals, you will fall into one of five risk categories:

- Very aggressive
- Aggressive
- Balanced
- Conservative
- Very conservative

The easiest way to get a feel for which end of the spectrum you fall is to go by age. If you're young and just starting your career, you will fall toward the very aggressive side of the spectrum, while if you are older and approaching retirement, then you are likely near the very conservative side. Take a risk tolerance questionnaire to determine exactly where you fall.

There are some slight variations, but managing your risk is similar in all five categories.

## **Managing Risk as a Very Aggressive Investor**

If you qualify as a very aggressive investor, you have things pretty easy. Simply put, you will want all of your investments to be in stocks (equities) and none in bonds (fixed income). Some may argue that having a small portion in bonds is essential, but the truth is, you need the most growth to give your account a huge boost while you're young. Having a 100 percent equities portfolio also means that you are taking on a lot of risk. To manage that risk, most people will put all of their money in mutual funds. These funds are spread out through hundreds of different stocks and minimize the risk of any one company going bankrupt and ruining the fund.

For example, take Enron — you could have made a ton of money investing everything in this company, but would have lost everything when they went bankrupt. Mutual funds help minimize single-security risk.

Keep in mind that you will still want to have a cash equivalent emergency fund, equity in your house, and other non-investment accounts, so you won't truly have everything invested in stocks.

## **Managing Risk as an Aggressive Investor**

Similar to the very aggressive investor, as an aggressive investor, you will want to have a large portion of your account invested in equities. However, your account will also incorporate large-cap stocks — those companies that are well established and the risk of failure is minimal — and some bonds. The large caps and bonds won't grow as quickly as other equities, but if the economy is in a downturn, they won't drop in value as much either.

Your biggest risk here is similar to that of the very aggressive investor. You want to spread the risk around with mutual funds so you don't lose everything (or a big portion) in one market downturn. This means that if you have company stock that you have accumulated over the years, it may be time to cash some of that in to redistribute the risk.

An aggressive investor will have an account that is between 70 and 90 percent equities, with the remaining 10 to 30 percent allocated to fixed income.

### Managing Risk as a Balanced Investor

Those well into their working careers, but still a decade or two from retirement, will likely be balanced investors. You are done taking substantial risks, and now want steady growth. Your biggest risk is that a huge market downturn (like we saw in 2008 and 2009) could devastate your investments and cause your retirement plans to be thrown off completely.

To combat this risk, you need to move into more equities and possibly look at some alternative investments. Changing your allocation to between 40 and 70 percent equities will minimize a lot of the market fluctuations. When looking at the graph of your investments, the growth will be steadier, but slower than your aggressive counterparts.

Keeping more money in cash while looking into real estate and precious metals will help to keep your account at a more even keel than having everything traditionally invested.

(To learn more about risk and return, see [Perspectives on the Risk-Return Relationship](#).)

### Managing Risk as a Conservative Investor

When you have a firm retirement date set, you will likely fall squarely into the conservative investor category. You no longer want the risk of losing large portions of your account, but you still need some risk to grow faster than inflation.

Your allocation will change to between 20 and 40 percent equities. These equities will be almost all large cap (and probably those that pay dividends) to keep the volatility down. Your risk profile changes from the risk of losing money to the risk of your account not growing fast enough. Without the aggressive equities, your account grows more slowly, but it doesn't drop as much during recessions.

Fortunately, by this period your other life expenses should be minimized (house paid off, school loans gone, kids through college) and you can dedicate more of your income to your investments.

### Managing Risk as a Very Conservative Investor

By the time you are within a few years of retirement, your account should become very conservative. You will want very little risk, and your goal may be to simply preserve your money rather than to grow it. You will have things arranged so you can keep up with inflation instead of growing your account.

To essentially negate risk, your account will be up to 20 percent equities. You will want to have several years worth of income invested in cash equivalents (a CD ladder is great for this). The reasoning is that you need to eliminate the risk of a three- to five-year market downturn. You don't want to draw on your investments when the market is at a low, so during the years it is declining, and subsequently climbing, you pay living expenses from cash savings. When the market has recovered, then you can withdraw funds to replenish your depleted cash sources.

Your most conservative years will be the five before retirement through the five following retirement. During these years, you can't afford to lose money while you figure out your retirement lifestyle and income needs. After a few years of retirement, you can actually start to take on more risk. Keep in mind that by the age of 80 you likely won't be spending as much.

### The Bottom Line

How much risk you are willing to take is the key to building a portfolio that will meet your needs, but you can't just assess this once. Every year or two you should re-evaluate your risk tolerance. Then, you should continue to adjust your portfolio as necessary to keep it in line with your risk tolerance.

Everyone's goals are going to be different, so while these tips for managing risk will work for most people, they won't work for everyone. Some will want to be more hands on; others will want to be more hands off. Find an investment strategy that is right for you, then make it a point to base your investments on logic rather than emotion. (For more, see Investopedia's Introduction to Risk Management.)

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## **The Importance Of Diversification**

Diversification is a technique that reduces risk by allocating investments among various financial instruments, industries, and other categories. It aims to maximize returns by investing in different areas that would each react differently to the same event.

Most investment professionals agree that, although it does not guarantee against loss, diversification is the most important component of reaching long-range financial goals while minimizing risk. Here, we look at why this is true and how to accomplish diversification in your portfolio.

## **Different Types of Risk**

Investors confront two main types of risk when investing. The first is undiversifiable, which is also known as systematic or market risk. This type of risk is associated with every company. Common causes include inflation rates, exchange rates, political instability, war, and interest rates. This type of risk is not specific to a particular company or industry, and it cannot be eliminated or reduced through diversification—it is just a risk investors must accept.

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### **FAST FACT**

Systematic risk affects the market in its entirety, not just one particular investment vehicle or industry.

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The second type of risk is diversifiable. This risk is also known as unsystematic risk and is specific to a company, industry, market, economy, or country. It can be reduced through diversification. The most common sources of unsystematic risk are a business risk and financial risk. Thus, the aim is to invest in various assets so they will not all be affected the same way by market events.

## **Why You Should Diversify**

Let's say you have a portfolio of only airline stocks. If it is announced that airline pilots are going on an indefinite strike and that all flights are canceled, share prices of airline stocks will drop. That means your portfolio will experience a noticeable drop in value.

If, however, you counterbalanced the airline industry stocks with a couple of railway stocks, only part of your portfolio would be affected. In fact, there is a good chance the railway stock prices would climb, as passengers turn to trains as an alternative form of transportation.

But, you could diversify even further because there are many risks that affect both rail and air because each is involved in transportation. An event that reduces any form of travel hurts both types of companies. Statisticians, for example, would say that rail and air stocks have a strong correlation.

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### **FAST FACT**

By diversifying, you're making sure you don't put all your eggs in one basket.

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Therefore, you would want to diversify across the board, not only different types of companies but also different types of industries. The more uncorrelated your stocks are, the better.

It's also important to diversify among different asset classes. Different assets such as bonds and stocks will not react in the same way to adverse events. A combination of asset classes will reduce your portfolio's sensitivity to market swings. Generally, bond and equity markets move in opposite directions, so if your portfolio is diversified across both areas, unpleasant movements in one will be offset by positive results in another.

And finally, don't forget: location, location, location. Diversification also means you should look for investment opportunities beyond your own geographical borders. After all, volatility in the United States may not affect stocks and bonds in Europe, so investing in that part of the world may minimize and offset the risks of investing at home.

## Problems with Diversification

While there are many benefits to diversification, there may be some downsides as well. It may be somewhat cumbersome to manage a diverse portfolio, especially if you have multiple holdings and investments. Secondly, it can put a dent in your bottom line. Not all investment vehicles cost the same, so buying and selling may be expensive—from transaction fees to brokerage charges. And since higher risk comes with higher rewards, you may end up limiting what you come out with.

There are also additional types of diversification, and many synthetic investment products have been created to accommodate investors' risk tolerance levels. However, these products can be very complicated and are not meant to be created by beginner or small investors. For those who have less investment experience, and do not have the financial backing to enter into hedging activities, bonds are the most popular way to diversify against the stock market.

Unfortunately, even the best analysis of a company and its financial statements cannot guarantee it won't be a losing investment. Diversification won't prevent a loss, but it can reduce the impact of fraud and bad information on your portfolio.

## How Many Stocks You Should Have

Obviously, owning five stocks is better than owning one, but there comes a point when adding more stocks to your portfolio ceases to make a difference. There is a debate over how many stocks are needed to reduce risk while maintaining a high return.

The most conventional view argues that an investor can achieve optimal diversification with only 15 to 20 stocks spread across various industries.

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## KEY TAKEAWAYS

- Diversification reduces risk by investing in investments that span different financial instruments, industries, and other categories.
- Risk can be both undiversifiable or systemic, and diversifiable or unsystemic.
- Investors may find balancing a diversified portfolio complicated and expensive, and it may come with lower rewards because the risk is mitigated.

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## The Bottom Line

Diversification can help an investor manage risk and reduce the volatility of an asset's price movements. Remember, however, that no matter how diversified your portfolio is, risk can never be eliminated completely.

You can reduce the risk associated with individual stocks, but general market risks affect nearly every stock and so it is also important to diversify among different asset classes. The key is to find a happy medium between risk and return. This ensures you can achieve your financial goals while still getting a good night's rest.

## How to Calculate Your Portfolio's Investment Returns

Return on investment (ROI) is one measure of an investment's success. It directly measures the return on that investment relative to its cost. To calculate ROI, the return of an investment is divided by its cost. This is useful as a crude gauge of how effective an investment is to a portfolio. This method can also be used to measure and evaluate an entire portfolio.

### Calculating Returns for an Entire Portfolio

The first step in calculating returns for your investment portfolio is identifying and gathering the requisite data. Once you have the data prepared, there are several considerations to make before performing the calculations.

Begin by defining the time period over which you want to calculate returns (daily, weekly, monthly, quarterly or annually). You need to strike a net asset value (NAV) of each position in each portfolio for those time periods and note any cash flows, if applicable.

### Holding Period Return

Once you have defined your time periods and summed up the portfolio NAV, you can begin calculations. The simplest method to calculate a basic return is called the holding period return. It simply calculates the percentage difference from period to period of the total portfolio NAV and includes income from dividends or interest.

Holding period return/yield is a useful tool for comparing returns on investments held for different periods of time.

### Adjusting for Cash Flows

If money was deposited or withdrawn from your portfolios, you will need to adjust for the timing and amount of cash flows. For example, when calculating a monthly return, if you deposited \$100 in your account mid-month, the portfolio end-of-month NAV has an additional \$100 that was not due to investment returns. This can be adjusted using various calculations, depending on the circumstances. For example, the modified Dietz method is a popular formula to adjust for cash flows. Using an internal rate of return (IRR) calculation with a financial calculator is also an effective way to adjust returns for cash flows. IRR is a discount rate that makes the net present value zero. It is used to measure the potential profitability of an investment.

### Annualizing Returns

For multi-period returns, a common practice is to annualize returns. This is done to make the returns more comparable across other portfolios or potential investments. It allows for a common denominator when comparing returns.

An annualized return is a geometric average of the amount of money earned by an investment each year. It shows what could have been earned over a period of time if the returns had been compounded. Annualized return does not give an indication of volatility experienced during the corresponding time period. That volatility can be better measured using standard deviation.

#### Example

For example, the sum total of the positions in a brokerage account is \$1,000 at the beginning of the year and \$1,350 at the end of the year. There was a dividend paid on June 30. The account owner deposited \$100 on March 31. The return for the year is 16.3% after adjusting for the \$100 cash flow into the portfolio one-quarter of the way through the year.

## What Are Corporate Actions?

### De-coding the stock split, merger, spin-off and more

When a publicly-traded company issues a corporate action, it is doing something that will affect its stock price. If you're a shareholder or considering buying shares of a company, you need to understand how an action will affect the company's stock. A corporate action can also tell you a great deal about a company's financial health and its short-term future.

#### Examples

Corporate actions include stock splits, dividends, mergers and acquisitions, rights issues and spin-offs. All of these are major decisions that typically need to be approved by the company's board of directors and authorized by its shareholders.

### The Stock Split

A stock split, sometimes called a bonus share, divides the value of each of the outstanding shares of a company. A two-for-one stock split is most common. An investor who holds one share will automatically own two shares, each worth exactly half the price of the original share.

So, the company has just cut its own stock price in half. Inevitably, the market will adjust the price upwards the day the split is implemented.

The effects: Current shareholders are rewarded, and potential buyers are more interested.

Notably, there are twice as many common stock shares out there than there were before the split. Nevertheless, a stock split is a non-event, because it does not affect a company's equity or its market capitalization. Only the number of shares outstanding changes.

Stock splits are gratifying to shareholders, both immediately and in the longer term. Even after that initial pop, they often drive the price of the stock higher. Cautious investors may worry that repeated stock splits will result in too many shares being created.

### The Reverse Split

A reverse split would be implemented by a company that wants to force up the price of its shares.

For example, a shareholder who owns 10 shares of stock valued at \$1 each will have only one share after a reverse split of 10 for one, but that one share will be valued at \$10.

A reverse split can be a sign that the company's stock has sunk so low that its executives want to shore up the price, or at least make it appear that the stock is stronger. The company may even need to avoid getting categorized as a penny stock.

In other cases, a company may be using a reverse split to drive out small investors.

### Dividends

A company can issue dividends in either cash or stock. Typically, they are paid out at specific periods, usually quarterly or annually. Essentially, these are a share of the company profits that are being paid to owners of the stock.

Dividend payments affect the equity of a company. The distributable equity (retained earnings and/or paid-in capital) is reduced.

A cash dividend is straightforward. Each shareholder is paid a certain amount of money for each share. If an investor owns 100 shares and the cash dividend is \$0.50 per share, the owner will be paid \$50.

A stock dividend also comes from distributable equity but in the form of stock instead of cash. If the stock dividend is 10%, for example, the shareholder will receive one additional share for every 10 owned.

If the company has a million shares outstanding, the stock dividend would increase its outstanding shares to a total of 1.1 million. Notably, the increase in shares dilutes the earnings per share, so the stock price would decrease.

The distribution of a cash dividend signals to an investor that the company has substantial retained earnings from which shareholders can directly benefit. By using its retained capital or paid-in capital account, a company is indicating that it expects to have little trouble replacing those funds in the future.

However, when a growth stock starts to issue dividends, many investors conclude that a company that was rapidly growing is settling down for a stable but unspectacular rate of growth.

## **Rights Issues**

A company implementing a rights issue is offering additional or new shares only to current shareholders. The existing shareholders are given the right to purchase or receive these shares before they are offered to the public.

A rights issue regularly takes place in the form of a stock split, and in any case can indicate that existing shareholders are being offered a chance to take advantage of a promising new development.

## **Mergers and Acquisitions**

A merger occurs when two or more companies combine into one with all parties involved agreeing to the terms. Usually, one company surrenders its stock to the other.

When a company undertakes a merger, shareholders may welcome it as an expansion. On the other hand, they could conclude that the industry is shrinking, forcing the company to gobble up the competition to keep growing.

In an acquisition, a company buys a majority stake of a target company's shares. The shares are not swapped or merged. Acquisitions can be friendly or hostile.

A reverse merger is also possible. In this scenario, a private company acquires a public company, usually one that is not thriving. The private company has just transformed itself into a publicly-traded company without going through the tedious process of an initial public offering. It may change its name and issue new shares.

## **The Spin-Off**

A spin-off occurs when an existing public company sells a part of its assets or distributes new shares in order to create a new independent company.

Often the new shares will be offered through a rights issue to existing shareholders before they are offered to new investors. A spin-off could indicate a company ready to take on a new challenge or one that is refocusing the activities of the main business.

## Why Dividends Matter To Investors

**“The only thing that gives me pleasure is to see my dividend coming in.” –John D. Rockefeller.**

One of the simplest ways for companies to communicate financial well-being and shareholder value is to say “the dividend check is in the mail.” Dividends, those cash distributions that many companies pay out regularly from earnings to stockholders, send a clear, powerful message about future prospects and performance. A company’s willingness and ability to pay steady dividends over time – and its power to increase them – provide good clues about its fundamentals.

## Dividends Signal Fundamentals

Before corporations were required by law to disclose financial information in the 1930s, a company’s ability to pay dividends was one of the few signs of its financial health. Despite the Securities and Exchange Act of 1934 and the increased transparency it brought to the industry, dividends still remain a worthwhile yardstick of a company’s prospects.

Typically, mature, profitable companies pay dividends. However, companies that do not pay dividends are not necessarily without profits. If a company thinks that its own growth opportunities are better than investment opportunities available to shareholders elsewhere, it often keeps the profits and reinvests them into the business. For these reasons, few “growth” companies pay dividends. But even mature companies, while much of their profits may be distributed as dividends, still need to retain enough cash to fund business activity and handle contingencies.

The progression of Microsoft (MSFT) through its life cycle demonstrates the relationship between dividends and growth. When Bill Gates’ brainchild was a high-flying growing concern, it paid no dividends but reinvested all earnings to fuel further growth. Eventually, this 800-pound software “gorilla” reached a point where it could no longer grow at the unprecedented rate it had maintained for so long.

So, instead of rewarding shareholders through capital appreciation, the company began to use dividends and share buybacks as a way of keeping investors interested. The plan was announced in July 2004, nearly 18 years after the company’s IPO. The cash distribution plan put nearly \$75 billion worth of value into the pockets of investors through a new 8-cent quarterly dividend, a special \$3 one-time dividend, and a \$30 billion share buyback program spanning four years. In 2018, the company is still paying dividends with a yield of 1.8%.

## The Dividend Yield

Many investors like to watch the dividend yield, which is calculated as the annual dividend income per share divided by the current share price. The dividend yield measures the amount of income received in proportion to the share price. If a company has a low dividend yield compared to other companies in its sector, it can mean two things: (1) the share price is high because the market reckons the company has impressive prospects and isn’t overly worried about the company’s dividend payments, or (2) the company is in trouble and cannot afford to pay reasonable dividends. At the same time, however, a high dividend yield can signal a sick company with a depressed share price.

A dividend yield is of little importance for growth companies because, as we discussed above, retained earnings will be reinvested in expansion opportunities, giving shareholders profits in the form of capital gains (think Microsoft).

## Dividend Coverage Ratio

When you evaluate a company’s dividend-paying practices, ask yourself if the company can afford to pay the dividend. The ratio between a company’s earnings and net dividend paid to shareholders – known as dividend coverage – remains a well-used tool for measuring whether earnings are sufficient to cover dividend obligations. The ratio is calculated as earnings per share divided by the dividend per share. When coverage is getting thin, odds are good that there will be a dividend cut, which can have a dire impact on valuation. Investors can feel safe with a coverage ratio of 2 or 3.

In practice, however, the coverage ratio becomes a pressing indicator when coverage slips below about 1.5, at which point prospects start to look risky. If the ratio is under 1, the company is using its retained earnings from last year to pay this year's dividend.

At the same time, if the payout gets very high, say above 5, investors should ask whether management is withholding excess earnings, not paying enough cash to shareholders. Managers who raise their dividends are telling investors that the course of business over the coming 12 months or more will be stable.

### **The Dreaded Dividend Cut**

If a company with a history of consistently rising dividend payments suddenly cuts its payments, investors should treat this as a signal that trouble is looming.

While a history of steady or increasing dividends is certainly reassuring, investors need to be wary of companies that rely on borrowings to finance those payments. Take the utilities industry, which once attracted investors with reliable earnings and fat dividends. As some of those companies were diverting cash into expansion opportunities while trying to maintain dividend levels, they had to take on greater debt levels. Watch out for companies with debt-to-equity ratios greater than 60%. Higher debt levels often lead to pressure from Wall Street as well as from debt-rating agencies. That, in turn, can hamper a company's ability to pay its dividend.

### **Great Disciplinarian**

Dividends bring more discipline to management's investment decision-making. Holding onto profits might lead to excessive executive compensation, sloppy management, and unproductive use of assets. Studies show that the more cash a company keeps, the more likely it is that it will overpay for acquisitions and, in turn, damage shareholder value. In fact, companies that pay dividends tend to be more efficient in their use of capital than similar companies that do not pay dividends. Furthermore, companies that pay dividends are less likely to be cooking the books. Let's face it, managers can be awfully creative when it comes to making earnings look good. But with dividend obligations to meet twice a year, manipulation becomes that much more challenging.

Finally, dividends are public promises. Breaking them is both embarrassing to management and damaging to share prices. To tarry over raising dividends, never mind suspending them, is seen as a confession of failure. (For related insight, see "5 Reasons Why Dividends Matter to Investors.")

### **A Way to Calculate Value**

Another reason why dividends matter is dividends can give investors a sense of what a company is really worth. The dividend discount model is a classic formula that explains the underlying value of a share, and it is a staple of the capital asset pricing model which, in turn, is the basis of corporate finance theory. According to the model, a share is worth the sum of all its prospective dividend payments, "discounted back" to their net present value. As dividends are a form of cash flow to the investor, they are an important reflection of a company's value.

It is important to note also that stocks with dividends are less likely to reach unsustainable values. Investors have long known that dividends put a ceiling on market declines.

### **The Bottom Line on Why Dividends Matter**

The bottom line is that dividends matter significantly. Evidence of profitability in the form of a dividend check can help investors sleep easily. Profits on paper say one thing about a company's prospects; profits that produce cash dividends say another thing entirely.

## 1.1.7 STOCK RESEARCH

### What Are Stock Fundamentals?

We hear the word “fundamentals” on an almost-daily basis. Analysts, executives, and investors appear on CNBC daily to talk about the fundamentals of a stock. Fund managers are always talking about how this or that stock has strong fundamentals. There are also some traders who, in turn, proclaim that fundamentals don’t actually matter and investors should rely on a stock’s “technical” merits instead.

### Fundamentals of Stock Fundamentals

In the broadest terms, fundamental analysis involves looking at any data, besides the trading patterns of the stock itself, which can be expected to impact the price or perceived value of a stock. As the name implies, it means getting down to basics.

Unlike its cousin, technical analysis, which focuses only on the trading and price history of a stock, fundamental analysis focuses on creating a portrait of a company, identifying the fundamental value of its shares, and buying or selling the stock based on that information.

Some of the indicators commonly used to assess company fundamentals include:

- Cash flow
- Return on assets
- Conservative gearing
- History of profit retention for funding future growth
- Soundness of capital management for the maximization of shareholder earnings and returns

Think of the stock market as a shopping mall. Stocks are the items for sale in the retail outlets. Technical analysts will ignore the goods for sale. Instead, they will keep an eye on the crowds as a guide for what to buy. So, if a technical analyst notices shoppers congregating inside a computer shop, he or she will try to buy as many PCs as possible, betting that the growing demand will push PC prices higher.

### The Fundamental Approach

Fundamental analysts have a more staid approach. Their sights are set solely on the products in the mall. Shoppers are dismissed as an unreliable, emotional herd with no inkling of the real value of the goods for sale. Fundamental analysts move slowly through the stores seeking the best deals. Once the crowd moves on from the PCs, they will take a closer look at the ones that were passed over.

Fundamental analysts might take a stab at determining the scrap value of the PC stripped down to its hard disk, memory cards, monitor, and keyboard. In the stock market, this is akin to calculating the book value, or liquidation price, of a company.

Fundamental analysts will also take a very close look at the quality of the PC. Is it going to last, or will it break down within a year? The fundamental analysts will pore over the specifications, scrutinize the manufacturer’s warranty, and consult consumer reports. Similarly, equity analysts check a company’s balance sheet for financial stability.

Then, the fundamental analysts might try to understand the performance of the PC in terms of, say, processing power, memory, or image resolution. These are like the forecast earnings and dividends identified from a company’s income statement.

Finally, the fundamental analysts will put together all the data and come up with an intrinsic value, or value independent of the current sale price. If the sale price is less than the calculated intrinsic value, the fundamentalists will buy PCs. If not, they will either sell the PCs they already own or wait for prices to fall before buying more.



## Good Fundamentals Don't Equal Profits

Performing fundamental analysis can be a lot of hard work. But that is, arguably, the source of its appeal. By taking the trouble to dig into a company's financial statements and assessing its future prospects, investors can learn enough to know when the stock price is wrong. These conscientious investors are able to spot the market's mistakes and make themselves money. At the same time, buying companies based on intrinsic, long-term value protects investors from the dangers of day-to-day market fluctuations.

However, the fact that fundamental analysis shows that a stock is undervalued does not guarantee that it will trade at its intrinsic value any time soon. Things are not so simple. In reality, real share price behavior relentlessly calls into question almost every stock holding, and even the most independently minded investor can start doubting the merits of fundamental analysis. There is no magic formula for figuring out intrinsic value.

When the stock market is booming, it is easy for investors to fool themselves into thinking they have a knack for picking winners. But when the market falls and the outlook is uncertain, investors cannot rely on luck. They actually need to know what they're doing.

### Bottom Line

There is much that the investor can do to learn about fundamentals. Investors who roll up their sleeves and tackle the terminology, tools, and techniques of fundamental analysis will enjoy greater confidence in using financial information and, at the same time, will probably become better stock pickers. At the very least, investors will have a better idea of what is meant when someone recommends a stock on strong fundamentals.

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## Five Essentials You Need To Know About Every Stock You Buy

Investing is easy, but investing successfully is tough. Statistics show that the majority of retail investors, those who aren't investment professionals, lose money every year. There could be a variety of reasons why, but there is one that every investor with a career outside of the investment market understands: they don't have time to research a large amount of stocks, and they don't have a research team to help with that monumental task. (For related reading, check out [The 4 Basic Elements Of Stock Value](#).)

For that reason, investments made after little research often result in losses. That's the bad news. The good news is that, although the ideal way to purchase a stock is after a large amount of research, an investor can cut down on the amount of research by looking at these select items: [TUTORIAL: Bond & Debt Basics](#)

### What They Do

Jim Cramer, in his book "Real Money," advises investors to never purchase a stock unless they have an exhaustive knowledge of how they make money. What do they manufacture? What kind of service do they offer? In what countries do they operate? What is their flagship product and how is it selling? Are they known as the leader in their field? Think of this as a first date. You probably wouldn't go on date with somebody if you had no idea who they were. If you do, you're asking for trouble.

This information is very easy to find. Using the search engine of your choice, go to their company website and read about them. Then, as Cramer advises, go to a family member and educate them on your potential investment. If you can answer all of their questions, you know enough.

### Price/Earnings Ratio

Imagine for a moment you were in the market for somebody who could help you with your investments. You interview two people. One person has a long history of making people a lot of money. Your friends have seen a big return from



this person, and you can't find any reason why you shouldn't trust him with your investment dollars. He tells you that for every dollar he makes for you, he's going to keep 40 cents, leaving you with 60 cents. The other guy is just getting started in the business. He has very little experience and, although he seems promising, he doesn't have much of a track record of success. The advantage to this guy is that he's cheaper. He only wants to keep 20 cents for every dollar he makes you - but what if he doesn't make you as many dollars as the first guy?

If you understand this example, you understand the P/E or price/earnings ratio. If you notice that a company has a P/E of 20, this means that investors are willing to pay \$20 for every \$1 per earnings. That might seem expensive but not if the company is growing fast.

The P/E can be found by comparing the current market price to the cumulative earnings of the last four quarters. Compare this number to other companies similar to the one you're researching. If your company has a higher P/E than other similar companies, there had better be a reason. If it has a lower P/E but is growing fast, that's an investment worth watching. (If these numbers have you in the dark, these easy calculations should help light the way, see [How To Find P/E And PEG Ratios](#).)

## **Beta**

Beta seems like something difficult to understand, but it's not. In fact, it can be found on the same page as the P/E Ratio on a major stock data provider, such as Yahoo or Google. Beta measures volatility or how moody your company's stock has acted over the last five years. Think of the S&P 500 as the pillar of mental stability. If your company drops or rises in value more than the S&P over a five-year period, it has a higher beta. With beta, anything higher than 1 is high beta (meaning higher risk) and anything lower than 1 is low beta (lower risk). (Beta says something about price risk, but how much does it say about fundamental risk factors?)

You have to watch high beta stocks closely because, although they have the potential to make you a lot of money, they also have the potential to take your money. A lower beta means that a stock doesn't react to the S&P 500 movements as much as others. This is known as a defensive stock because your money is much safer. You won't make as much in a short amount of time, but you also don't have to watch it every day.

## **Dividend**

If you don't have time watch the market every day, and you want your stocks to make money without that kind of attention, look for dividends. Dividends are like interest in a savings account. You get paid regardless of the stock price. Dividends of 6% or more are not unheard of in high quality stocks. Before purchasing a stock, look for the dividend rate. If you simply want to park money in the market, invest in stocks with a high dividend. (For more, see [Why Dividends Matter](#).)

## **The Chart**

Learning to read a chart is a skill that takes time, but basic chart reading takes very little skill. If an investment's chart starts at the lower left and ends at the upper right, that's a good thing. If the chart is heading down, stay away and don't try to figure out why. There are thousands of stocks to choose from without picking one that is losing money. If you really believe in this stock, put it on your watch list and come back to it at a later time. There are many people who believe in investing in stocks that have scary looking charts, but they have research time and resources that you probably don't.

## **The Bottom Line**

Nothing takes the place of exhaustive research. However, one key way to protect your assets is to invest for the longer term by taking advantage of dividends and finding stocks with a proven record of success. Unless you have the time, risky and aggressive trading strategies should be avoided or minimized.

## Sector Breakdown

### What Is a Sector Breakdown?

A sector breakdown is the mix of sectors within a fund or portfolio, typically expressed as a portfolio percentage. Sector designations can vary depending on the fund's investment criteria and overall objective.

### Understanding Sector Breakdown

A sector breakdown is provided for fund analysis and can help an investor to observe the investment allocations of a fund. Sector investing can be a significant factor influencing investments in the fund. A fund may target a specific sector, seek to diversify among sectors or generally have sector variance that results from investing from a broad universe. A sector fund would have an allocation of 100% to a specified sector.

Some funds may have restraints on sector investments. Therefore sector analysis is used by fund managers to exclude specific investments. This often occurs with environmental, social and governance focused funds. These funds seek to exclude micro sectors like tobacco.

Fund companies regularly provide sector reporting in their marketing materials. Sector breakdowns provide a representation of the sector allocations of the fund's assets, often on a monthly or quarterly basis. Some funds may even report sector breakdowns daily on the fund's website.

### GICS Sectors

Sectors are typically considered to be a broad classification. Within each sector numerous sub-sectors and industries can also be further delineated. The Global Industry Classification Standard also known as GICS is the primary financial industry standard for defining sector classifications.

The Global Industry Classification Standard was developed by index providers MSCI and Standard and Poor's. Its hierarchy begins with 11 sectors which can be further delineated to 24 industry groups, 68 industries and 157 sub-industries. It follows a coding system which assigns a code from each grouping to every company publicly traded in the market. The GICS coding system is integrated throughout the industry allowing for detailed reporting and stock screening through financial technology.

The 11 broad GICS sectors commonly used for sector breakdown reporting include the following:

- Energy
- Materials
- Industrials
- Consumer Discretionary
- Consumer Staples
- Health Care
- Financials
- Information Technology
- Telecommunication Services
- Utilities
- Real Estate

## Diversification and Sectors

A diversified stock portfolio will hold stocks across most, if not all, GICS sectors. Diversification across stock sectors helps to mitigate idiosyncratic or unsystematic risks caused by factors affecting specific industries or companies within an industry.

Sector indexes can also be used by investors seeking to invest in the growth prospects of a single sector. Investment companies offer passive index funds that seek to replicate each of the eleven GICS sectors. The Vanguard Information Technology Index Fund is one example of a passively managed mutual fund that seeks to replicate the holdings of the MSCI U.S. Investable Market Information Technology Index. The strategy is also available to investors through an exchange-traded fund, the Vanguard Information Technology ETF.

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## How to Analyze a Company's Financial Position

To understand and value a company, investors have to look at its financial position. Fortunately, it is not as difficult as it sounds to perform a financial analysis of a company by examining its financial statements.

If you borrow money from a bank, you have to list the value of all of your significant assets, as well as all of your significant liabilities. Your bank uses this information to assess the strength of your financial position; it looks at the quality of the assets, such as your car and your house, and places a conservative valuation upon them. The bank also ensures that all liabilities, such as mortgage and credit card debt, are appropriately disclosed and fully valued. The total value of all assets less the total value of all liabilities gives your net worth or equity.

Evaluating the financial position of a listed company is quite similar, except investors need to take another step and consider that financial position in relation to market value. Let's take a look.

### Start with the Balance Sheet

Like your own financial position, a company's financial situation is defined by its assets and liabilities. A company's financial position also includes shareholder equity. All of this information is presented to shareholders in the balance sheet.

Let's suppose that we are examining the financial statements of the fictitious publicly listed retailer The Outlet to evaluate its financial position. To do this, we review the company's annual report, which can often be downloaded from a company's website. The standard format for the balance sheet is assets, followed by liabilities, then shareholder equity.

### Current Assets and Liabilities

Assets and liabilities are broken into current and non-current items. Current assets or current liabilities are those with an expected life of fewer than 12 months. For example, suppose that the inventories that The Outlet reported as of December 31, 2018, are expected to be sold within the following year, at which point the level of inventory will fall, and the amount of cash will rise.

Like most other retailers, The Outlet's inventory represents a significant proportion of its current assets, and so should be carefully examined. Since inventory requires a real investment of precious capital, companies will try to minimize the value of a stock for a given level of sales, or maximize the level of sales for a given level of inventory. So, if The Outlet sees a 20% fall in inventory value together with a 23% jump in sales over the prior year, this is a sign they are managing their inventory relatively well. This reduction makes a positive contribution to the company's operating cash flows.

Current liabilities are the obligations the company has to pay within the coming year, and include existing (or accrued) obligations to suppliers, employees, the tax office and providers of short-term finance. Companies try to manage cash flow to ensure that funds are available to meet these short-term liabilities as they come due.

## **The Current Ratio**

The current ratio – which is total current assets divided by total current liabilities – is commonly used by analysts to assess the ability of a company to meet its short-term obligations. An acceptable current ratio varies across industries, but should not be so low that it suggests impending insolvency, or so high that it indicates an unnecessary build-up in cash, receivables or inventory. Like any form of ratio analysis, the evaluation of a company's current ratio should take place in relation to the past.

## **Non-Current Assets and Liabilities**

Non-current assets or liabilities are those with lives expected to extend beyond the next year. For a company like The Outlet, its biggest non-current asset is likely to be the property, plant and equipment the company needs to run its business.

Long-term liabilities might be related to obligations under property, plant and equipment leasing contracts, along with other borrowings.

## **Financial Position: Book Value**

If we subtract total liabilities from assets, we are left with shareholder equity. Essentially, this is the book value, or accounting value, of the shareholders' stake in the company. It is principally made up of the capital contributed by shareholders over time and profits earned and retained by the company, including that portion of any profit not paid to shareholders as a dividend.

## **Market-to-Book Multiple**

By comparing the company's market value to its book value, investors can in part determine whether a stock is under- or over-priced. The market-to-book multiple, while it does have shortcomings, remains a crucial tool for value investors. Extensive academic evidence shows that companies with low market-to-book stocks perform better than those with high multiples. This makes sense since a low market-to-book multiple shows that the company has a strong financial position in relation to its price tag.

Determining what can be defined as a high or low market-to-book ratio also depends on comparisons. To get a sense of whether The Outlet's book-to-market multiple is high or low, you need to compare it to the multiples of other publicly listed retailers.

## **The Bottom Line**

A company's financial position tells investors about its general well-being. A financial analysis of a company's financial statements - along with the footnotes in the annual report - is essential for any serious investor wanting to understand and value a company properly.

## Technical Analysis Definition

### What is Technical Analysis?

Technical analysis is a trading discipline employed to evaluate investments and identify trading opportunities by analyzing statistical trends gathered from trading activity, such as price movement and volume. Unlike fundamental analysts, who attempt to evaluate a security's intrinsic value, technical analysts focus on patterns of price movements, trading signals and various other analytical charting tools to evaluate a security's strength or weakness.

Technical analysis can be used on any security with historical trading data. This includes stocks, futures, commodities, fixed-income, currencies, and other securities. In this tutorial, we'll usually analyze stocks in our examples, but keep in mind that these concepts can be applied to any type of security. In fact, technical analysis is far more prevalent in commodities and forex markets where traders focus on short-term price movements.

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### KEY TAKEAWAYS

- Technical analysis is a trading discipline employed to evaluate investments and identify trading opportunities in price trends and patterns seen on charts.
  - Technical analysts believe past trading activity and price changes of a security can be valuable indicators of the security's future price movements.
  - Technical analysis may be contrasted with fundamental analysis, which focuses on a company's financials rather than historical price patterns or stock trends.
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## The Basics Of Technical Analysis

Technical analysis as we know it today was first introduced by Charles Dow and the Dow Theory in the late 1800s. Several noteworthy researchers including William P. Hamilton, Robert Rhea, Edson Gould and John Magee further contributed to Dow Theory concepts helping to form its basis. In modern day, technical analysis has evolved to include hundreds of patterns and signals developed through years of research.

Technical analysts believe past trading activity and price changes of a security can be valuable indicators of the security's future price movements. They may use technical analysis independent of other research efforts or in combination with some concepts of intrinsic value considerations but most often their convictions are based solely on the statistical charts of a security. The Market Technicians Association (MTA) is one of the most popular groups supporting technical analysts in their investments with the Chartered Market Technicians (CMT) designation a popular certification for many advanced technical analysts.

## The Underlying Assumptions of Technical Analysis

There are two primary methods used to analyze securities and make investment decisions: fundamental analysis and technical analysis. Fundamental analysis involves analyzing a company's financial statements to determine the fair value of the business, while technical analysis assumes that a security's price already reflects all publicly-available information and instead focuses on the statistical analysis of price movements. Technical analysis attempts to understand the market sentiment behind price trends by looking for patterns and trends rather than analyzing a security's fundamental attributes.

Charles Dow released a series of editorials discussing technical analysis theory. His writings included two basic assumptions that have continued to form the framework for technical analysis trading.

1. Markets are efficient with values representing factors that influence a security's price, but

2. Market price movements are not purely random but move in identifiable patterns and trends that tend to repeat over time

The efficient market hypothesis (EMH) essentially means the market price of a security at any given point in time accurately reflects all available information, and therefore represents the true fair value of the security. This assumption is based on the idea that the market price reflects the sum total knowledge of all market participants. While this assumption is generally believed to be true, it can be affected by news or announcements about a security that may have varied short-term or long-term influence on a security's price. Technical analysis only works if markets are weakly efficient.

The second basic assumption underlying technical analysis, the notion that price changes are not random, leads to the belief of technical analysts that market trends, both short-term and long-term, can be identified, enabling market traders to profit from investing based on trend analysis.

Today, technical analysis is based on three main assumptions:

- 1: The market discounts everything.** Many experts criticize technical analysis because it only considers price movements and ignores fundamental factors. Technical analysts believe that everything from a company's fundamentals to broad market factors to market psychology are already priced into the stock. This removes the need to consider the factors separately before making an investment decision. The only thing remaining is the analysis of price movements, which technical analysts view as the product of supply and demand for a particular stock in the market.
- 2: Price moves in trends.** Technical analysts believe that prices move in short-, medium-, and long-term trend. In other words, a stock price is more likely to continue a past trend than move erratically. Most technical trading strategies are based on this assumption.
- 3: History tends to repeat itself.** Technical analysts believe that history tends to repeat itself. The repetitive nature of price movements is often attributed to market psychology, which tends to be very predictable based on emotions like fear or excitement. Technical analysis uses chart patterns to analyze these emotions and subsequent market movements to understand trends. While many form of technical analysis have been used for more than 100 years, they are still believed to be relevant because they illustrate patterns in price movements that often repeat themselves.

## How Technical Analysis Is Used

Technical analysis attempts to forecast the price movement of virtually any tradable instrument that is generally subject to forces of supply and demand, including stocks, bonds, futures and currency pairs. In fact, some view technical analysis as simply the study of supply and demand forces as reflected in the market price movements of a security. Technical analysis most commonly applies to price changes, but some analysts track numbers other than just price, such as trading volume or open interest figures.

Across the industry there are hundreds of patterns and signals that have been developed by researchers to support technical analysis trading. Technical analysts have also developed numerous types of trading systems to help them forecast and trade on price movements. Some indicators are focused primarily on identifying the current market trend, including support and resistance areas, while others are focused on determining the strength of a trend and the likelihood of its continuation. Commonly used technical indicators and charting patterns include trendlines, channels, moving averages and momentum indicators.

In general, technical analysts look at the following broad types of indicators:

- price trends
- chart patterns
- volume and momentum indicators
- oscillators

- moving averages
- support and resistance levels

## The Difference Between Technical Analysis And Fundamental Analysis

Fundamental analysis and technical analysis, the major schools of thought when it comes to approaching the markets, are at opposite ends of the spectrum. Both methods are used for researching and forecasting future trends in stock prices, and like any investment strategy or philosophy, both have their advocates and adversaries.

Fundamental analysis is a method of evaluating securities by attempting to measure the intrinsic value of a stock. Fundamental analysts study everything from the overall economy and industry conditions to the financial condition and management of companies. Earnings, expenses, assets and liabilities are all important characteristics to fundamental analysts.

Technical analysis differs from fundamental analysis in that the stock's price and volume are the only inputs. The core assumption is that all known fundamentals are factored into price; thus, there is no need to pay close attention to them. Technical analysts do not attempt to measure a security's intrinsic value, but instead use stock charts to identify patterns and trends that suggest what a stock will do in the future.

## Limitations Of Technical Analysis

The major hurdle to the legitimacy of technical analysis is the economic principle of the efficient markets hypothesis. According to the EMH, market prices reflect all current and past information already and so there is no way to take advantage of patterns or mispricings to earn extra profits, or alpha. Economists and fundamental analysts who believe in efficient markets do not believe that any actionable information is contained in historical price and volume data, and furthermore that history does not repeat itself; rather, prices move as a random walk.

A second criticism of technical analysis is that it works in some cases but only because it constitutes a self-fulfilling prophecy. For example, many technical traders will place a stop-loss order below the 200-day moving average of a certain company. If a large number of traders have done so and the stock reaches this price, there will be a large number of sell orders, which will push the stock down, confirming the movement traders anticipated. Then, other traders will see the price decrease and also sell their positions, reinforcing the strength of the trend. This short-term selling pressure can be considered self-fulfilling, but it will have little bearing on where the asset's price will be weeks or months from now. In sum, if enough people use the same signals, they could cause the movement foretold by the signal, but over the long run this sole group of traders cannot drive price.

## 1.2 Investing Essentials

Investing requires saving money to invest, then developing a diversified portfolio. Portfolios need to be adjusted periodically based on life changes, but the focus should remain on the long term.

### 1.2.1 What is the Difference Between Alpha and Beta?

#### Alpha and Beta for Beginners

In finance, alpha and beta are two of the most commonly used measurements, to gauge how successful portfolio managers performs, relative to their peers. Simply defined, alpha is the excess return (also known as the active return), an investment or a portfolio of investments ushers in, above and beyond a market index or benchmark that represent the market's broader movements.



Beta is a measurement of the volatility, or systematic risk of a security or portfolio, compared to the market as a whole. Often referred to as the beta coefficient, beta is a key component in the capital asset pricing mode (CAPM), which calculates the theoretically appropriate required rate of return of an asset, to make it worth incorporating into an investment portfolio.

Alpha and beta are standard technical risk calculations that investment managers use to calculate and compare an investment's returns, along with standard deviation, R-squared, and the Sharpe ratio.

**FAST FACT** Both alpha and beta are historical measures.

## Alpha

Although the Alpha figure is often represented as a single number (like 3 or -5), it actually describes a percentage that measuring how a stock of mutual fund performed compared to a benchmark index. The numbers mentioned would mean the investment respectively fared 3% better and 5% worse than the broader market. Therefore, an alpha of 1.0 means the investment outperformed its benchmark index by 1%, while conversely, an alpha of -1.0 means the investment underperformed its benchmark index by 1%.

Alpha, one of the most commonly quoted indicators of investment performance, is defined as the excess return on an investment relative to the return on a benchmark index. For example, if you invest in a stock, and it returns 20% while the S&P 500 earned 5%, the alpha is 15. An alpha of -15 would indicate that the investment underperformed by 20%.

Alpha is also a measure of risk. In the above example, the -15 means the investment was far too risky given the return. An alpha of zero suggests that an investment has earned a return commensurate with the risk. Alpha of greater than zero means an investment outperformed.

Alpha is one of the five major risk management indicators for mutual funds, stocks, and bonds and, in a sense, tells investors whether an asset has performed better or worse than its beta predicts.

When hedge fund managers talk about high alpha, they're usually saying that their managers are good enough to outperform the market. But that raises another important question: when alpha is the "excess" return over an index, what index are you using? For example, a fund manager might say that she or he generated a 20% return when the S&P returned 15%, an alpha of 5. But is the S&P an appropriate index to use? Consider a manager who has invested in Apple Inc. (AAPL) on Aug. 1, 2014. Compared to the S&P 500, the alpha would look quite good: Apple returned 18.14%, while the S&P 500 returned 6.13%, for an alpha of about 12.

But few experts would consider the S&P a proper comparison for Apple, given the differing levels of risk. Perhaps the NASDAQ would be a more appropriate measure. The NASDAQ in that same yearlong period returned 15.51%, which pulls the alpha of that Apple investment down 2.63. So when judging whether a portfolio has a high alpha or not, it's useful to ask just what the baseline portfolio is.

## Alpha Examples

Alpha is essential to gauging an investment manager's true success. For example, an 8% return on a mutual fund seems impressive when equity markets as a whole are returning 4%. But that same 8% return would be considered underwhelming if the broader market is earning 15%.

With the CAPM capital asset pricing model, alpha is the rate of return that exceeds the model's prediction. Investors generally prefer investments with high alpha. For example, if the CAPM analysis indicates that the portfolio should have earned 5%, based on risk, economic conditions and other factors, but instead the portfolio earned just 3%, the alpha of the portfolio would be therefore be a discouraging -2%.

Formula for Alpha:

Alpha = End Price + DPS / Start Price - 1 where: DPS = Distribution per share



Portfolio managers seek to generate alpha by diversifying portfolios to eliminate unsystematic risk. Because alpha represents the performance of a portfolio relative to a benchmark, it represents the value that a portfolio manager adds or subtracts from a fund's return. The baseline number for alpha is zero, which indicates that the portfolio or fund is tracking perfectly with the benchmark index. In this case, it can be extrapolated that investment manager has neither added or lost any value.

## Beta

Beta fundamentally analyzes the volatility of an asset or portfolio in relation to the overall market, to help investors determine how much risk they're willing to take to achieve the return for taking on said risk. The baseline number for beta is one, which indicates that the security's price moves exactly as the market moves. A beta of less than 1 means that the security will be less volatile than the market, while a beta greater than 1 indicates that the security's price will be more volatile than the market. If a stock's beta is 1.5, it is considered to be 50% more volatile than the overall market.

Unlike alpha, which measures relative return, beta is the measure of relative volatility. It measures the systematic risk of a security or a portfolio in comparison to the market as a whole. A tech stock such as that mentioned in the example above would have a beta in excess of 1 (and probably rather high), while a T-bill would be close to zero because its prices hardly move relative to the market as a whole.

Beta is a multiplicative factor. A stock with a beta of 2 relative to the S&P 500 goes up or down twice as much as the index in a given period of time. If the beta is -2, then the stock moves in the opposite direction of the index by a factor of two. Some investments with negative betas are inverse exchange-traded funds (ETFs) or some types of bonds.

What beta also tells you is when risk cannot be diversified away. If you look at the beta of a typical mutual fund, it's essentially telling you how much risk you're adding to a portfolio of funds.

Again, similar caveats to alpha apply: it's important to know what you're using as your benchmark for volatility. Morningstar, Inc. (MORN), for example, uses U.S. Treasuries as its benchmark for beta calculations. The firm takes the return of a fund over T-bills and compares that to the return over the markets as a whole and using those two numbers comes up with a beta. There are, though, a number of other benchmarks one could use.

Beta is a statistical measure of the volatility of a stock versus the overall market. It's generally used as both a measure of systematic risk and a performance measure. The market is described as having a beta of 1. The beta for a stock describes how much the stock's price moves in relation to the market. If a stock has a beta above 1, it's more volatile than the overall market. As an example, if an asset has a beta of 1.3, it's theoretically 30% more volatile than the market. Stocks generally have a positive beta since they are correlated to the market.

If the beta is below 1, the stock either has lower volatility than the market or it's a volatile asset whose price movements are not highly correlated with the overall market. The price of Treasury bills (T-bills) has a beta lower than 1 because it doesn't move very much in relation to the overall market. Many consider stocks in the utility sector to have betas less than 1 since they're not very volatile. Gold, on the other hand, is quite volatile but has at times had a tendency to move inversely to the market. Lower beta stocks with less volatility do not carry as much risk, but generally provide less opportunity for a higher return.

The beta coefficient is calculated by dividing the covariance of the stock return versus the market return by the variance of the market. Beta is used in the calculation of the capital asset pricing model (CAPM). This model calculates the required return for an asset versus its risk. The required return is calculated by taking the risk-free rate plus the risk premium. The risk premium is found by taking the market return minus the risk-free rate and multiplying it by the beta.

The market against which to measure beta is often represented by a stock index. The most commonly used stock index is the S&P 500. The S&P 500 is used as the measure because of the high number of large-cap stocks included in the index, as well as the broad number of sectors included. The Dow Jones Industrial Average has also previously been the main measure of the market, but it has fallen out of favor since it only includes 30 companies and is very limited in its breadth.

Beta is an important concept for the analysis of hedge funds. It can show the relationship between a hedge fund's returns and the market return. Beta can show how much risk the fund is taking in certain asset classes and can be used to measure against other benchmarks, such as fixed income or even hedge fund indexes. This measure can help investors determine how much capital to allocate to a hedge fund or whether they would be better off keeping their exposure in the equity market or even cash.

## Beta Examples

Here are the betas (at the time of writing) for three popular stocks:

Micron Technology Inc. (MU): beta = 1.26 Coca-Cola Company (KO): beta = .37 Apple Inc. (AAPL): beta = .99

We can see that Micron is seen as 26% more volatile than the market, while Coca-Cola is 37% as volatile as the market, and Apple is more in line with the market or 0.01% less volatile than the market.

Betas vary across companies and sectors. For example, while many utility stocks have a beta of less than 1, many high-tech, Nasdaq-listed stocks have a beta of greater than 1. This means that the latter groups of stocks offer the possibility of higher rates of return, but generally pose more risk.

While a positive alpha is always more desirable than a negative alpha, beta isn't as clear-cut. Risk averse investors such as retirees seeking a steady income are attracted to lower beta. On the other hand, risk-tolerant investors who seek growth, are often willing to invest in higher beta stocks, whose higher volatility often generate superior returns.

Investors must distinguish short-term risks, where beta and price volatility are useful, from long-term risks, where fundamental, big picture risk factors are more prevalent.

Investors looking for low-risk investments might gravitate to low beta stocks, whose prices will not fall quite as much as the overall market drops during downturns. However, those same stocks will not rise as much as the overall market during upswings. Investors can use beta figures to determine their optimal risk-reward ratios for their portfolios.

### Formula for Beta

Here is a useful formula for calculating beta:

Beta = CR / Variance of Market's Return where: CR = Covariance of asset's return with market's return

Covariance is used to measure the correlation in price moves of two different stocks. Covariance measures how two stocks move in relation to one another. A positive covariance means the stocks tend to move in lockstep, while a negative covariance conveys stocks move in opposite directions. On the other hand, variance refers to how far a stock moves relative to its mean, and is frequently used to measure the volatility of an individual stock's price over time.

### Past Performance

Both alpha and beta are backward-looking risk ratios and it is important to remember that past performance is no guarantee of future results.

Investors use alpha to measure a portfolio manager's performance against a benchmark while also monitoring the risk or beta associated with the investments that comprise the portfolio. Some investors might look for either a high beta or low beta depending on their risk tolerance and expected rate of return.

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Alpha and beta are common measurements that gauge the performance of portfolio managers compared to their peers. Alpha is the excess return or active return of an investment or a portfolio. Beta measures volatility of a security or portfolio compared to the market. Both alpha and beta are backward-looking and can't guarantee future results.

Alpha is the excess return on an investment relative to the return on a benchmark index. Beta is the measure of relative volatility. Alpha and beta are both risk ratios that calculate, compare, and predict returns.

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### The Bottom Line

Alpha and beta are both risk ratios that investors use as a tool to calculate, compare, and predict returns. They're very important numbers to know, but one must check carefully to see how they are calculated.

## 1.2.2 Asset Class

### What is an Asset Class?

An asset class is a grouping of investments that exhibit similar characteristics and are subject to the same laws and regulations. Asset classes are made up of instruments which often behave similarly to one another in the marketplace. Historically, the three main asset classes have been equities (stocks), fixed income (bonds) and cash equivalent or money market instruments. Currently, most investment professionals include real estate, commodities, futures, other financial derivatives and even cryptocurrencies to the asset class mix. Investment assets include both tangible and intangible instruments which investors buy and sell for the purposes of generating additional income on either a short- or a long-term basis.

### Understanding Asset Class

Simply put, an asset class is a grouping of comparable financial securities. For example, IBM, MSFT, AAPL are a grouping of stocks. Asset classes and asset class categories are often mixed together. There is usually very little correlation, and in some cases a negative correlation, between different asset classes. This characteristic is integral to the field of investing.

Financial advisors view investment vehicles as asset class categories that are used for diversification purposes. Each asset class is expected to reflect different risk and return investment characteristics and perform differently in any given market environment. Investors interested in maximizing return often do so by reducing portfolio risk through asset class diversification.

Financial advisors focus on asset class as a way to help investors diversify their portfolio. Different asset classes have different cash flows streams and varying degrees of risk. Investing in several different asset classes ensures a certain amount of diversity in investment selections. Diversification reduces risk and increases your probability of making a return.

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### Asset Class and Investing Strategy

Investors looking for alpha employ investment strategies focused on achieving alpha returns. Investment strategies can be tied to growth, value, income or a variety of other factors that help to identify and categorize investment options according to a specific set of criteria. Some analysts link criteria to performance and/or valuation metrics such as earnings-per-share growth (EPS) or the price-to-earnings (P/E) ratio. Other analysts are less concerned with performance and more concerned with the asset type or class. An investment in a particular asset class is an investment in an asset that exhibits a certain set of characteristics. As a result, investments in the same asset class tend to have similar cash flows.

## Asset Class Types

Equities, or stocks; bonds, or fixed-income securities; cash, or marketable securities; and commodities are the most liquid asset classes and, therefore, the most quoted asset classes. There are also alternative asset classes, such as real estate, and valuable inventory, such as artwork, stamps and other tradable collectibles. Some analysts also refer to an investment in hedge funds, venture capital, crowdsourcing or cryptocurrencies as examples of alternative investments. That said, an asset's illiquidity does not speak to its return potential; It only means it may take more time to find a buyer to convert the asset to cash.

### 1.2.3 Institutional vs. Retail Investors: What's the Difference?

#### Institutional vs. Retail Investors: An Overview

All types of investors are not the same, and there are a number of differences between those who are considered institutional investors and those who are seen as non-institutional, or retail, investors. Understanding the difference is worthwhile. If you are considering an investment in a particular stock or mutual fund that you have seen publicized in the financial press, there is a good chance you do not qualify as an institutional investor. In fact, if you are even wondering what an institutional investor is, you are probably not an institutional investor. Let us take this opportunity to lay out some of the differences.

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An institutional investor is a person or organization that trades securities in large enough quantities that it qualifies for preferential treatment and lower fees. A retail investor is a non-professional investor who buys and sells securities through brokerage firms or savings accounts like 401(k)s. Most institutional investors invest other people's money on their behalf.

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## 1.2.4 Bull Market

### What is a Bull Market?

A bull market is the condition of a financial market of a group of securities in which prices are rising or are expected to rise. The term “bull market” is most often used to refer to the stock market but can be applied to anything that is traded, such as bonds, real estate, currencies and commodities. Because prices of securities rise and fall essentially continuously during trading, the term “bull market” is typically reserved for extended periods in which a large portion of security prices are rising. Bull markets tend to last for months or even years.

### Understanding Bull Markets

Bull markets are characterized by optimism, investor confidence and expectations that strong results should continue for an extended period of time. It is difficult to predict consistently when the trends in the market might change. Part of the difficulty is that psychological effects and speculation may sometimes play a large role in the markets.

There is no specific and universal metric used to identify a bull market. Nonetheless, perhaps the most common definition of a bull market is a situation in which stock prices rise by 20%, usually after a drop of 20% and before a second 20% decline. Since bull markets are difficult to predict, analysts can typically only recognize this phenomenon after it has happened. A notable bull market in recent history was the period between 2003 and 2007. During this time, the S&P 500 increased by a significant margin after a previous decline; as the 2008 financial crisis took effect, major declines occurred again after the bull market run.

### Characteristics of a Bull Market

Bull markets generally take place when the economy is strengthening or when it is already strong. They tend to happen in line with strong gross domestic product (GDP) and a drop in unemployment and will often coincide with a rise in corporate profits. Investor confidence will also tend to climb throughout a bull market period. The overall demand for stocks will be positive, along with the overall tone of the market. In addition, there will be a general increase in the amount of IPO activity during bull markets.

Notably, some of the factors above are more easily quantifiable than others. While corporate profits and unemployment are quantifiable, it can be more difficult to gauge the general tone of market commentary, for instance. Supply and

demand for securities will seesaw: supply will be weak while demand will be strong. Investors will be eager to buy securities, while few will be willing to sell. In a bull market, investors are more willing to take part in the (stock) market in order to gain profits.

## **Bull vs. Bear Markets**

The opposite of a bull market is a bear market, which is characterized by falling prices and typically shrouded in pessimism. The commonly held belief about the origin of these terms suggests that the use of “bull” and “bear” to describe markets comes from the way the animals attack their opponents. A bull thrusts its horns up into the air, while a bear swipes its paws downward. These actions are metaphors for the movement of a market. If the trend is up, it’s a bull market. If the trend is down, it’s a bear market.

Bull and bear markets often coincide with the economic cycle, which consists of four phases: expansion, peak, contraction and trough. The onset of a bull market is often a leading indicator of economic expansion. Because public sentiment about future economic conditions drives stock prices, the market frequently rises even before broader economic measures, such as gross domestic product (GDP) growth, begin to tick up. Likewise, bear markets usually set in before economic contraction takes hold. A look back at a typical U.S. recession reveals a falling stock market several months ahead of GDP decline.

## **How to Take Advantage of a Bull Market**

Investors who want to benefit from a bull market should buy early in order to take advantage of rising prices and sell them when they’ve reached their peak. Although it is hard to determine when the bottom and peak will take place, most losses will be minimal and are usually temporary. Below, we’ll explore several prominent strategies investors utilize during bull market periods. However, because it is difficult to assess the state of the market as it exists currently, these strategies involve at least some degree of risk as well.

### **Buy and Hold**

One of the most basic strategies in investing is the process of buying a particular security and holding onto it, potentially to sell it at a later date. This strategy necessarily involves confidence on the part of the investor: why hold onto a security unless you expect its price to rise? For this reason, the optimism that comes along with bull markets helps to fuel the buy and hold approach.

### **Increased Buy and Hold**

Increased buy and hold is a variation on the straightforward buy and hold strategy, and it involves additional risk. The premise behind the increased buy and hold approach is that an investor will continue to add to his or her holdings in a particular security so long as it continues to increase in price. One common method for increasing holdings suggests that an investor will buy an additional fixed quantity of shares for every increase in stock price of a pre-set amount.

### **Retracement Additions**

A retracement is a brief period in which the general trend in a security’s price is reversed. Even during a bull market, it’s unlikely that stock prices will only ascend. Rather, there are likely to be shorter periods of time in which small dips occur as well, even as the general trend continues upward. Some investors watch for retracements within a bull market and move to buy during these periods. The thinking behind this strategy is that, presuming that the bull market continues, the price of the security in question will quickly move back up, retroactively providing the investor with a discounted purchase price.

### **Full Swing Trading**

Perhaps the most aggressive way of attempting to capitalize on a bull market is the process known as full swing trading. Investors utilizing this strategy will take very active roles, using short-selling and other techniques to attempt to squeeze out maximum gains as shifts occur within the context of a larger bull market.

A bull market is a period of time in financial markets when the price of an asset or security rises continuously. The commonly accepted definition of a bull market is when stock prices rise by 20% after two declines of 20% each. Traders employ a variety of strategies, such as increased buy and hold and retracement, to profit off bull markets.

## Bull Market Example

The most prolific bull market in modern American history started at the end of the stagflation era in 1982 and concluded during the dotcom bust in 2000. During this secular bull market — a term that denotes a bull market lasting many years — the Dow Jones Industrial Average (DJIA) averaged 16.8% annual returns. The NASDAQ, a tech-heavy exchange, increased its value five-fold between 1995 and 2000, rising from 1,000 to over 5,000. A protracted bear market followed the 1982-2000 bull market. From 2000 to 2009, the market struggled to establish footing and delivered average annual returns of -6.2%. However, 2009 saw the start of ten-year bull market run. Analysts believe that the last bull market started on March 9, 2009 and was mainly led by an upswing in technology stocks.

## 1.2.5 Rule of 72 Definition

### What Is the Rule of 72?

The Rule of 72 is a quick, useful formula that is popularly used to estimate the number of years required to double the invested money at a given annual rate of return.

While calculators and spreadsheet programs like excel sheets have inbuilt functions to accurately calculate the precise time required to double the invested money, the Rule of 72 comes in handy for mental calculations to quickly gauge an approximate value. Alternatively, it can compute the annual rate of compounded return from an investment given how many years it will take to double the investment.

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The Rule of 72 is a simplified way to estimate the doubling of an investment's value, based on a logarithmic formula. The Rule of 72 can be applied to investments, inflation or anything that grows, such as GDP or population. The formula is useful for understanding the effect of compound interest.

The Formula for the Rule of 72 Is

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Years to Double =  $72 / \text{Interest Rate}$  where: Interest Rate = Rate of return on an investment

### How to Calculate the Rule of 72

If an investment scheme promises an 8% annual compounded rate of return, it will take approximately  $(72 / 8) = 9$  years to double the invested money. Note that a compound annual return of 8% is plugged into this equation as 8, and not 0.08, giving a result of nine years (and not 900).

The formula has emerged as a simplified version of the original logarithmic calculation that involves complex functions like taking the natural log of numbers. The rule applies to the exponential growth of an investment based on a compounded rate of return.

The precise formula for calculating the exact doubling time for an investment earning a compounded interest rate of  $r\%$  per period is as follows:

$T = \ln(2) / \ln(1 + 100r)$  72 / r where: T=Time to double ln=Natural log function r=Compounded interest rate per period =Approximately equal to



To find out exactly how long it would take to double an investment that returns 8% annually, you would use the following equation:

$$T = \ln(2) / \ln(1 + (8 / 100)) = 9.006 \text{ years, which is very close to the approximate value obtained by } (72 / 8) = 9 \text{ years}$$

Since people cannot do logarithmic functions instantly without the help of log tables or scientific calculators, they can rely on the simpler version that uses the factor of 72 and gets almost the same result. If it takes 9 years to double a \$1,000 investment, then the investment will grow to \$2,000 in year 9, \$4,000 in year 18, \$8,000 in year 27, and so on.

## **What Does the Rule of 72 Tell You?**

People love money, and they love it more to see the money getting double. Getting a rough estimate of how much time it will take to double the money also helps the average Joe to compare investments. However, mathematical calculations can be complex for common individuals to compute how much time is required for their money to double from a particular investment that promises a certain rate of return. The Rule of 72 offers a useful shortcut since the equations related to compound interest are too complicated for most people to do without a calculator. Simple Versus Compound Interest

The interest rate charged on an investment or a loan broadly falls into two categories—simple or compounded. Simple interest is determined by multiplying the daily interest rate by the principal amount and by the number of days that elapse between payments. It is used for calculating interest on investments where the accumulated interest is not added back to the principal.

In the case of compound interest, the interest is calculated on the initial principal and also on the accumulated interest of previous periods of a deposit. Compound interest can be thought of as “interest on interest,” and it will make the invested money grow to a higher amount at a faster rate compared to that from the simple interest, which is calculated only on the principal amount.

Simply put, since the interest portion gets accumulated in case of compound interest, it raises the principal value with each passing month and leads to higher exponential returns overall. By not withdrawing the interest every month, the investor is increasing the principal value which helps him earn more interest.

It contrasts with simple interest where the investor withdraws the interest every month and keeps the principal amount consistent leading to comparatively lower returns. The Rule of 72 applies to cases of compound interest, and not to the cases of simple interest.

## **Examples of How to Use the Rule of 72**

The unit does not necessarily have to be invested or loaned money. The Rule of 72 could apply to anything that grows at a compounded rate, such as population, macroeconomic numbers, charges or loans. If the gross domestic product (GDP) grows at 4% annually, the economy will be expected to double in  $72 \div 4 = 18$  years.

With regards to the fee that eats into investment gains, the Rule of 72 can be used to demonstrate the long-term effects of these costs. A mutual fund that charges 3% in annual expense fees will reduce the investment principal to half in around 24 years. A borrower who pays 12% interest on his credit card (or any other form of loans which is charging compound interest) will double the amount he owes in six years.

The rule can also be used to find the amount of time it takes for money's value to halve due to inflation. If inflation is 6%, then a given purchasing power of the money will be worth half in around  $(72 \div 6) = 12$  years. If inflation decreases from 6% to 4%, an investment will be expected to lose half its value in 18 years, instead of 12 years.

Additionally, the Rule of 72 can be applied across all kinds of durations provided the rate of return is compounded. If the interest per quarter is 4%, then it will take  $(72 \div 4) = 18$  quarters or 4.5 years to double the principal. If the population of a nation increases at the rate of 1% per month, it will double in 72 months, or six years.



## Variations in Applying the Rule of 72

The Rule of 72 is reasonably accurate for interest rates that fall in the range of 6% and 10%. When dealing with rates outside this range, the rule can be adjusted by adding or subtracting 1 from 72 for every 3 points the interest rate diverges from 8% threshold. For example, the rate of 11% annual compounding interest is 3 percentage points higher than 8%.

Hence, adding 1 (for the 3 points higher than 8%) to 72 leads to using the rule of 73 for higher precision. For 14% rate of return, it would be the rule of 74 (adding 2 for 6 percentage points higher), and for 5% rate of return, it will mean reducing 1 (for 3 percentage points lower) to lead to the rule of 71.

For example, say you have a very attractive investment scheme offering a 22% rate of return. The basic rule of 72 says the initial investment will double in 3.27 years. However, since  $(22 - 8)$  is 14, and  $(14 \div 3)$  is 4.67, the adjusted rule should use  $72 + 5 = 77$  for the numerator. This gives a value of 3.5 years, indicating that you'll have to wait an additional quarter to double your money compared to the result of 3.27 years obtained from the basic Rule of 72. The period given by the logarithmic equation is 3.49, so the result obtained from the adjusted rule is more accurate.

For daily or continuous compounding, using 69.3 in the numerator gives a more accurate result. Some people adjust this to 69 or 70 for the sake of easy calculations.

Amid all the variations suggested for better estimations, one can rely on the basic Rule of 72 to make the quick mental calculation for roughly assessing when their money or loan amount would double.

### 1.2.6 Where do investors tend to put their money in a bear market?

A bear market is traditionally defined as a period of negative returns in the broader market where prices fall 20 percent or more from recent highs. During this type of market, most stocks see their share prices fall at least that far. There are several strategies that are used when investors believe that this market is about to occur or is occurring, which depend on the investor's risk tolerance, investment time horizon and objectives.

One of the safest strategies, and the most extreme, is to sell all of your investments and either hold cash or invest the proceeds into much more stable financial instruments, such as short-term government bonds. By doing this, an investor can reduce his or her exposure to the stock market and minimize the effects of a bear market. That said, most, if not all investors, have no ability to time the market with accuracy. Selling everything, also known as capitulation, can cause an investor to miss the rebound and lose out on the upside.

For investors looking to maintain positions in the stock market, a defensive strategy is usually taken. This type of strategy involves investing in larger companies with strong balance sheets and a long operational history, which are considered to be defensive stocks. The reason for this is that these larger more stable companies tend to be less affected by an overall downturn in the economy or stock market, making their share prices less susceptible to a larger fall. With strong financial positions, including a large cash position to meet ongoing operational expenses, these companies are more likely to survive downturns. These also include companies that service the needs of businesses and consumers, such as food businesses (people still eat even when the economy is in a downturn). On the other hand, it is the riskier companies, such as small growth companies, that are typically avoided because they are less likely to have the financial security that is required to survive downturns.

These are just two of the more common strategies and there is a wide range of other strategies tailored to a bear market. The most important thing is to understand that a bear market is a very difficult one for long investors because most stocks fall over the period, and most strategies can only limit the amount of downside exposure, not eliminate it.

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#### Advisor Insight

A bear market can be an opportunity to buy more stocks at cheaper prices. The best way to invest is a strategy called dollar-cost averaging: You invest a small, fixed amount, say \$1,000, in the stock market every month regardless of how bleak the headlines are. Invest in stocks that have value and that also pay dividends; since dividends account for a big part of gains from equities, having them makes the bear markets shorter and less painful to weather. Diversifying

your portfolio to include alternative investments whose performance is non-correlated with (that is, contrary to) stock and bond markets is valuable, too.

Finally, It is important to have a financial advisor to “hold your hand” during market downturns, preventing you from selling out at the wrong time based on fear or emotion.

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## **1.2.7 Bear Market**

### **What Is a Bear Market?**

A bear market is a condition in which securities prices fall 20% or more from recent highs amid widespread pessimism and negative investor sentiment. Typically, bear markets are associated with declines in an overall market or index like the S&P 500, but individual securities or commodities can be considered to be in a bear market if they experience a decline of 20% or more over a sustained period of time - typically two months or more.

The U.S. major market indexes fell into bear market territory on December 24th, 2018. The last prolonged bear market in the United States occurred between 2007 and 2009 during the Financial Crisis and lasted for roughly 17 months. The S&P 500 lost 50% of its value during that time.

### **Secular and Cyclical Bear Markets**

Bear markets can last for multiple years or just several weeks. A secular bear market can last anywhere from 10 to 20 years and is characterized by below average returns on a sustained basis. There may be rallies within secular bear markets where stocks or indexes rally for a period, but the gains are not sustained, and prices revert to lower levels.

A cyclical bear market can last anywhere from a few weeks to several years.

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Bear markets are markets in which the prices of securities falls by more than 20 percent amid widespread negative investor sentiment and fear. Bear markets can be cyclical or secular. The former lasts for several weeks or a couple of months and the latter can last for several decades. Short selling, put options, and inverse ETFs are some of the ways in which investors can make money during a bear market.

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### **The Naming of Bear and Bull**

The term “bear market” is the opposite of a “bull market,” or market where prices for securities are rising or are expected to rise.

The bear market phenomenon gets its name from the way in which a bear attacks its prey—swiping its paws downward. This is why markets with falling stock prices are called bear markets. Just like the bear market, the bull market is named after the way in which the bull attacks by thrusting its horns up into the air.

### **What Causes a Bear Market?**

The causes of a bear market often vary, but in general, a weak or slowing or sluggish economy will bring with it a bear market. The signs of a weak or slowing economy are typically low employment, low disposable income, weak productivity and a drop in business profits. In addition, any intervention by the government in the economy can also trigger a bear market.

For example, changes in the tax rate or in the federal funds rate can lead to a bear market. Similarly, a drop in investor confidence may also signal the onset of a bear market. When investors believe something is about to happen, they will take action — in this case, selling off shares to avoid losses.

## Phases of a Bear Market

Bear markets usually have four different phases.

The first phase is characterized by high prices and high investor sentiment. Towards the end of this phase, investors begin to drop out of the markets and take in profits. In the second phase, stock prices begin to fall sharply, trading activity and corporate profits begin to drop, and economic indicators, that may have once been positive, start to become below average. Some investors begin to panic as sentiment starts to fall. This is referred to as capitulation. The third phase shows speculators start to enter the market, consequently raising some prices and trading volume. In the fourth and last phase, stock prices continue to drop, but slowly. As low prices and good news starts to attract investors again, bear markets start to lead to bull markets.

## Bear Market vs. Correction

A bear market should not be confused with a correction, which is a short-term trend that has a duration of fewer than two months. While corrections offer a good time for value investors to find an entry point into stock markets, bear markets rarely provide suitable points of entry. This barrier is because it is almost impossible to determine a bear market's bottom. Trying to recoup losses can be an uphill battle unless investors are short sellers or use other strategies to make gains in falling markets.

Between 1900 and 2018, there were 33 bear markets, averaging one every 3.5 years. One of the most recent bear markets coincided with the global financial crisis occurring between October 2007 and March 2009. During that time the Dow Jones Industrial Average (DJIA) declined 54%. As of December 2018, some forecasters predict that we are headed toward another bear market.

## Short Selling in Bear Markets

Investors can make gains in a bear market by short selling. This technique involves selling borrowed shares and buying them back at lower prices. It is an extremely risky trade and can cause heavy losses if it does not work out. A short seller must borrow the shares from a broker before a short sell order is placed. The short seller's profit and loss amount is the difference between the price where the shares were sold and the price where they were bought back, referred to as "covered."

For example, an investor shorts 100 shares of a stock at \$94. The price falls and the shares are covered at \$84. The investor pockets a profit of  $10 \times 100 = \$1,000$ . If the stock trades higher unexpectedly, the investor is forced to buy back the shares at a premium, causing heavy losses.

## Puts and Inverse ETFs in Bear Markets

A put option gives the owner the freedom, but not the responsibility, to sell a stock at a specific price on, or before, a certain date. Put options can be used to speculate on falling stock prices, and hedge against falling prices to protect long-only portfolios. Investors must have options privileges in their accounts to make such trades.

Inverse ETFs are designed to change values in the opposite direction of the index they track. For example, the inverse ETF for the S&P 500 would increase by 1% if the S&P 500 index decreased by 1%. There are many leveraged inverse ETFs that magnify the returns of the index they track by two and three times. Like options, inverse ETFs can be used to speculate or protect portfolios.

## Real World Examples of Bear Markets

The ballooning housing mortgage default crisis caught up with the stock market in October 2007. Back then, the S&P 500 had touched a high of 1565.15 October 9. By March 5, 2009, it had crashed to 682.55 as the extent and ramifications of housing mortgage defaults on the overall economy became clear.

Other examples are the 1929 Great Depression. The aftermath of the bursting of the dot com bubble in March 2000, which wiped out approximately 49% of the S&P 500's value and lasted until October 2002, is another example.

## 1.2.8 Public Company

### What Is a Public Company?

A public company is a corporation whose ownership is distributed amongst general public shareholders via the free trade of shares of stock on exchanges or over-the-counter markets. Although a small percentage of shares are initially floated to the public, daily trading in the market determines the value of the entire company.

It is considered to be “public” since shareholders, who become equity owners of the company, maybe composed of anybody who purchases stock in the firm.

### Understanding a Public Company

Public companies are publicly traded within the open market, and a variety of investors buy the shares. Most public companies were once private companies that, after meeting all regulatory requirements, opted to become public to raise capital. Examples of public companies include Chevron Corporation, F5 Networks, Inc., Google LLC, and Proctor & Gamble Company.

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#### important

The US Securities and Exchange Commission (SEC) states that any company in the United States with over 500 shareholders and more than \$10 million in assets must register with the SEC and adhere to its reporting standards and regulations.

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### Advantages and Disadvantages of Public Companies

Public companies have certain inherent advantages over private companies. Public companies sell future equity stakes and increase access to debt markets. Once a company goes public, additional offerings generate revenue through the creation and sale of new shares in the marketplace.

Yet, with these advantages comes increased regulatory scrutiny and less control for majority owners and company founders. Public companies must meet mandatory reporting standards regulated by government entities. Additionally, applicable shareholders are entitled to documents and notifications on business activities.

Once a company is public, however, it must answer to its shareholders. For example, shareholders vote on certain corporate structure changes and amendments. Shareholders can vote with their dollars by bidding up the company to a premium valuation or selling it at a level below its intrinsic value.

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#### Key Takeaways

A public company issues shares through an IPO and trades on at least one stock exchange. Most private companies go public to raise capital. Many public companies go private to gain more control over the company and its decisions.

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## Public Company Reporting and Disclosure Requirements

The U.S. Securities and Exchange Commission (SEC) sets stringent reporting requirements for public companies. These requirements include the public disclosure of financial statements and annual 10-K reports outlining the state of the company.

The reporting requirements ensure that public companies adhere to all rules established by the Sarbanes-Oxley Act, reforms designed to prevent fraudulent reporting, and as enforced by the SEC. Each stock exchange also has specific financial and reporting guidelines that govern whether a stock is listed for trading.

### From Public to Private

**Public Company Reporting and Disclosure Requirements** In situations where a public company no longer wishes to operate within that business model, it can return to a privately held state by buying back all outstanding shares from current shareholders. Once the purchase is complete, the company will be delisted from its associated stock exchanges and return to private operations.

## 1.2.9 Security

### What Is Security?

The term “security” is a fungible, negotiable financial instrument that holds some type of monetary value. It represents an ownership position in a publicly-traded corporation—via stock—a creditor relationship with a governmental body or a corporation—represented by owning that entity’s bond—or rights to ownership as represented by an option.

### Understanding Securities

Securities can be broadly categorized into two distinct types: equities and debts. However, you will also see hybrid securities that combine elements of both equities and debts.

#### Equity Securities

An equity security represents ownership interest held by shareholders in an entity (a company, partnership or trust), realized in the form of shares of capital stock, which includes shares of both common and preferred stock. Holders of equity securities are typically not entitled to regular payments—although equity securities often do pay out dividends—but they are able to profit from capital gains when they sell the securities (assuming they’ve increased in value, naturally). Equity securities do entitle the holder to some control of the company on a pro rata basis, via voting rights. In the case of bankruptcy, they share only in residual interest after all obligations have been paid out to creditors.

#### Debt Securities

A debt security represents money that is borrowed and must be repaid, with terms that stipulates the size of the loan, interest rate, and maturity or renewal date. Debt securities, which include government and corporate bonds, certificates of deposit (CDs) and collateralized securities (such as CDOs and CMOs), generally entitle their holder to the regular payment of interest and repayment of principal (regardless of the issuer’s performance), along with any other stipulated contractual rights (which do not include voting rights). They are typically issued for a fixed term, at the end of which they can be redeemed by the issuer. Debt securities can be secured (backed by collateral) or unsecured, and, if unsecured, may be contractually prioritized over other unsecured, subordinated debt in the case of a bankruptcy.

#### Hybrid Securities

Hybrid securities, as the name suggests, combine some of the characteristics of both debt and equity securities. Examples of hybrid securities include equity warrants (options issued by the company itself that give shareholders the right to purchase stock within a certain timeframe and at a specific price), convertible bonds (bonds that can be converted

into shares of common stock in the issuing company) and preference shares (company stocks whose payments of interest, dividends or other returns of capital can be prioritized over those of other stockholders).

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### **important**

Although the preferred stock is technically classified as equity security, it is often treated as debt security because it “behaves like a bond.” Preferred shares offer a fixed dividend rate and are a popular instrument for income-seeking investors. It is essentially fixed-income security.

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## **Investing in Securities**

The entity that creates the securities for sale is known as the issuer, and those that buy them are, of course, investors. Generally, securities represent an investment and a means by which municipalities, companies, and other commercial enterprises can raise new capital. Companies can generate a lot of money when they go public, selling stock in an initial public offering (IPO), for example. City, state or county governments can raise funds for a particular project by floating a municipal bond issue. Depending on an institution’s market demand or pricing structure, raising capital through securities can be a preferred alternative to financing through a bank loan.

On the other hand, purchasing securities with borrowed money, an act known as buying on a margin is a popular investment technique. In essence, a company may deliver property rights, in the form of cash or other securities, either at inception or in default, to pay its debt or other obligation to another entity. These collateral arrangements have been growing of late, especially among institutional investors.

### **How Securities Trade**

Publicly traded securities are listed on stock exchanges, where issuers can seek security listings and attract investors by ensuring a liquid and regulated market in which to trade. Informal electronic trading systems have become more common in recent years, and securities are now often traded “over-the-counter,” or directly among investors either online or over the phone.

As mentioned above, an IPO represents a company’s first major sale of equity securities to the public. Following an IPO, any newly issued stock, while still sold in the primary market, is referred to as a secondary offering. Alternatively, securities may be offered privately to a restricted and qualified group in what is known as a private placement – an important distinction in terms of both company law and securities regulation. Sometimes companies sell stock in a combination of a public and private placement.

In the secondary market, also known as the aftermarket, securities are simply transferred as assets from one investor to another: shareholders can sell their securities to other investors for cash and/or capital gain. The secondary market thus supplements the primary. The secondary market is less liquid for privately-placed securities since they are not publicly tradable and can only be transferred among qualified investors.

### **Other Types of Securities**

Certificated securities are those that are represented in physical, paper form. Securities may also be held in the direct registration system, which records shares of stock in book-entry form. In other words, a transfer agent maintains the shares on the company’s behalf without the need for physical certificates. Modern technologies and policies have, in some cases, eliminating the need for certificates and for the issuer to maintain a complete security register. A system has developed wherein issuers can deposit a single global certificate representing all outstanding securities into a universal depository known as the Depository Trust Company (DTC). All securities traded through DTC are held in electronic form. It is important to note that certificated and un-certificated securities do not differ in terms of the rights or privileges of the shareholder or issuer.

Bearer securities are those that are negotiable and entitle the shareholder to the rights under the security. They are transferred from investor to investor, in certain cases by endorsement and delivery. In terms of proprietary nature, pre-electronic bearer securities were always divided, meaning each security constituted a separate asset, legally distinct from others in the same issue. Depending on market practice, divided security assets can be fungible or (less commonly) non-fungible, meaning that upon lending, the borrower can return assets equivalent either to the original asset or to a specific identical asset at the end of the loan. In some cases, bearer securities may be used to aid tax evasion, and thus can sometimes be viewed negatively by issuers, shareholders and fiscal regulatory bodies alike. They are therefore rare in the United States.

Registered securities bear the name of the holder and other necessary details maintained in a register by the issuer. Transfers of registered securities occur through amendments to the register. Registered debt securities are always undivided, meaning the entire issue makes up one single asset, with each security being a part of the whole. Undivided securities are fungible by nature. Secondary market shares are also always undivided.

Letter securities are not registered with the SEC, and therefore cannot be sold publicly in the marketplace. Letter security—also known as restricted security, letter stock or letter bond—is sold directly by the issuer to the investor. The term is derived from the SEC requirement for an “investment letter” from the purchaser, stating that the purchase is for investment purposes and is not intended for resale.

Cabinet securities are listed under a major financial exchange, such as the NYSE, but are not actively traded. Held by an inactive investment crowd, they are more likely to be a bond than a stock. The “cabinet” refers to the physical place where bond orders were historically stored off of the trading floor. The cabinets would typically hold limit orders, and the orders were kept on hand until they expired or were executed.

## Residual Securities

Residual securities are a type of convertible security – that is, they can be changed into another form, usually that of common stock. A convertible bond, for example, would be a residual security because it allows the bondholder to convert the security into common shares. Preferred stock may also have a convertible feature. Corporations may offer residual securities to attract investment capital when competition for funds is highly competitive.

When residual security is converted or exercised, it increases the number of current outstanding common shares. This can dilute the total share pool, and their price as well. Dilution also affects financial analysis metrics, such as earnings per share, because a company’s earnings now have to be divided by a greater number of shares.

In contrast, if a publicly traded company takes measures to reduce the total number of its outstanding shares, the company is said to have consolidated them. The net effect of this action is to increase the value of each individual share. This is often done to attract more or larger investors, such as mutual funds.

## Regulation of Securities

In the United States, the U.S. Securities and Exchange Commission (SEC) regulates the public offer and sale of securities.

Public offerings, sales, and trades of U.S. securities must be registered and filed with the SEC’s state securities departments. Self Regulatory Organizations (SROs) within the brokerage industry often take on regulatory positions as well. Examples of SROs include the National Association of Securities Dealers (NASD) and the Financial Industry Regulatory Authority (FINRA).

The definition of a security offering was established by the Supreme Court in a 1946 case. In its judgment, the court derives the definition of a security based on four criteria - the existence of an investment contract, the formation of a common enterprise, a promise of profits by the issuer, and use of a third party to promote the offering.

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## Key Takeaways



Securities are fungible and tradable financial instruments used to raise capital in public and private markets. There are primarily three types of securities: equity - which provide ownership rights to holders, debt - which are essentially loans that are repaid with periodic payments, and hybrid - which combine aspects of debt and equity. Public sales of securities are regulated by the SEC. Self-regulatory organizations also play an important role in the regulation of derivative securities. Examples include NASD, NFA, and FINRA.

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### **Issuing Securities: Examples**

Consider the case of XYZ, a successful startup that is interested in raising capital to spur its next stage of growth. Up until now, the startup's ownership has been divided between its two founders. It has a couple of options to access capital. It can tap public markets by conducting an IPO or it can raise money by offering its shares to investors in a private placement.

The former method enables the company to generate more capital but it comes saddled with hefty fees and disclosure requirements. In the latter method, shares are traded on secondary markets and not subject to public scrutiny. Both cases, however, involve the distribution of shares that dilute the stake of founders and confer ownership rights on investors. This is an example of equity security.

Next, consider the case of a government interested in raising money to revive its economy. It uses bonds or debt security to raise that amount, promising regular payments to holders of the coupon.

Finally, consider the case of a startup ABC that raises money from private investors, including family and friends. The startup's founders offer their investors a convertible note that converts into shares of the startup at a later event. Most such events are funding events. The note is essentially debt security because it is a loan made by investors to the startup's founders. At a later stage, the note turns into equity in the form of a predefined number of shares that give a slice of the company to investors. This is an example of a hybrid security.

### **1.2.10 The Top 5 Books Every Young Investor Must Read**

It's imperative for young adults and professionals to start investing early. One of the main reasons for doing so is to obtain the power of compound interest. By holding long-term investments, one can allow his or her assets to generate more returns. Investing just a few years earlier could translate into tens of thousands, if not hundreds of thousands of additional funds for your retirement nest egg.

But while it is important to invest early, it is also important to invest wisely. These five classic investing books can provide indispensable business and finance insights for young investors.

“Rich Dad Poor Dad” (1997) by Robert Kiyosaki

This classic is a must-read for young investors. Kiyosaki's view is that the poor and middle class work for money, but the rich work to learn. He stresses the importance of financial literacy and presents financial independence as the ultimate goal to avoid the rat race of corporate America.

The author points out that while accounting is important to learn, it can also be misleading. Banks label a house as an asset for the individual, but because of the required payments to keep it, it can be a liability in terms of cash flow. Real assets add cash flow to your wallet.

Kiyosaki advocates investments that produce periodic cash flow for the investor while providing upside in terms of equity value. Real estate investments and stocks that provide dividends are viewed favorably. The author advises that America's educational system is designed to keep people working hard for the rest of their lives and that the school system does a poor job of teaching people to create enough wealth so they won't have to work anymore. Kiyosaki also highlights the importance of tax planning.

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### **Key Takeaways**



Kiyosaki advocates investments that produce periodic cash flow for the investor while providing upside in terms of equity value. Warren Buffett provides his views on a variety of topics relevant to corporate America and shareholders. Peter Lynch is one of the most successful stock market investors and hedge fund managers of the past century. Graham delves into the history of the stock market and informs the reader on conducting fundamental analysis on a stock. “Think and Grow Rich” was written during the Great Depression, and has since sold more than 100 million copies worldwide.

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“The Essays of Warren Buffett: Lessons for Corporate America” (1997) by Warren Buffett

In his essays, Warren Buffett—widely considered to be modern history’s most successful investor—provides his views on a variety of topics relevant to corporate America and shareholders. Young investors can get a glimpse of the interface between a company’s management and its shareholders, as well as the thought processes involved in enhancing a company’s enterprise value.

Buffett’s essays include discussions on corporate governance, finance, investing, alternatives to common stock, mergers and acquisitions, accounting and valuation, accounting policy, and tax matters. Buffett outlines his basic business principles, and as the steward of Berkshire Hathaway Inc. (BRK-A), informs the shareholders of the company that their mutual interests are aligned. He has a philosophy of bringing in talented managers at portfolio companies and leaving them alone. He advocates purchasing shares of businesses at times when these stocks are trading at a discount from their inherent value, but he opposes following investing trends.

“Beating the Street” (1993) by Peter Lynch

Peter Lynch is one of the most successful stock market investors and hedge fund managers of the past century. He started as an intern at Fidelity Investments in the mid-1960s. Nearly 11 years later, he was tasked to manage the Magellan Fund, which at the time had close to \$18 million in assets. By 1990, the fund had grown to a whopping \$18 billion in assets with nearly 1,000 stock positions. During this time, the fund boasted average returns of more than 29% per year.

“Beating The Street” allows the reader to peek into Lynch’s mind and thought processes in terms of deciding whether to buy or sell a stock. Lynch believes that an individual investor could exploit market opportunities better than Wall Street, and encourages investors to invest in what they know.

“The Intelligent Investor” (1949) by Benjamin Graham

This book was written in 1949 and has been hailed by Warren Buffett as the best investing book ever written. Benjamin Graham is considered the “father of value investing.” This paradigm advocates the purchase of stocks that appear underpriced relative to their inherent value, which is determined through fundamental analysis.

Graham delves into the history of the stock market and informs the reader on conducting fundamental analysis on a stock. He discusses various ways of managing your portfolio including both a positive and defensive approach. He then compares the stocks of several companies to illustrate his points.

“Think and Grow Rich” (1937) by Napoleon Hill

“Think and Grow Rich” was written during the Great Depression, and has since sold more than 100 million copies worldwide. Hill conducted extensive research based on his associations with wealthy individuals during his lifetime. At the suggestion of Andrew Carnegie, Hill published 13 principles for success and personal achievement from his observations and research. These include desire, faith, specialized knowledge, organized planning, persistence, and the “sixth sense.” Hill also believed in brainstorming with like-minded people, whose efforts can create synergistic energy.

This book conveys valuable insights into the psychology of success and abundance and should be considered a priority read given the current period’s emphasis on shock-value entertainment and negative news.

The best investors did not emerge overnight but instead honed their skills through years of thought, research and practice. When you are done with these books, there are several more to add to your reading list.

## 5 Books for Millennials Interested in Investing

A common denominator that can be found among the world's wealthiest and most successful persons is that they attribute many of their accomplishments to constantly investing in their knowledge base. Approximately eight hours of Warren Buffett's day is spent reading. That equates to more than 500 pages each day, or just under 3,000 hours of reading a year. Bill Gates, the founder of Microsoft Corp. (MSFT), is also an avid reader who reads one book a week.

In "The Monk Who Sold His Ferrari," Robin Sharma explains that "investing in yourself is the best investment you will ever make. It will not only improve your life, but it will also improve the lives of all those around you."

Reading books about finance and investing is a great way for Millennials to effectively invest their time and pocket money into becoming better investors. Books can be great mentors as they allow for wisdom to be easily accessible at any time of day and virtually anywhere. Below are five books that can help millennials become better investors.

"Alwaleed: Businessman, Billionaire, Prince," by Riz Kahn (2005)

According to Forbes, Prince Alwaleed Bin Talal Al Saud is the world's 34th richest man. In "Alwaleed: Businessman, Billionaire, Prince" Riz Khan, a prominent British journalist, documents the life of the man who is often referred to as the Arabian Warren Buffett. Despite being a member of Saudi Arabia's Royal Family, Prince Alwaleed is considered a self-made man. The biography shares the story of how the Prince built an investment holding company worth \$85 billion from scratch. The book also gives insight into his unique approach to investing.

"Rich Dad's Cashflow Quadrant," by Robert Kiyosaki (2011)

There is no doubt that Robert Kiyosaki is one of America's most sought-after finance experts. His New York Times bestseller, "Rich Dad Poor Dad" taught millions of readers a number of things. In "Cashflow Quadrant," Robert briefly outlines the basic principles shared in his first book "Rich Dad Poor Dad" and expands on those concepts by explaining the advantages and disadvantages of the four possible ways people can make money: by being an employee, self-employed, business owner and an investor.

"Warren Buffett Invests Like a Girl," by The Motley Fool (2011)

The number one takeaway from The Motley Fool's "Warren Buffett Invests Like a Girl" is that an investor's temperament can either be a great asset or a huge liability. It is quite obvious that Buffett's temperament, which the books describe as extremely feminine, is a great asset. The easy-to-read book compares the characteristics of female investors to male investors and points out that, like Buffett, investors should take a feminine approach to investing.

"Warren Buffett's 3 Favorite Books," by Preston George Pysh (2012)

Warren Buffett's investment philosophy was greatly influenced by Benjamin Graham's "The Intelligent Investor" and "Security Analysis" in addition to "The Wealth of Nations" by Adam Smith. These three books are great resources for investors, but they can be a bit complex for beginners. Preston Pysh realized this and simplified the primary concepts shared in each of those books into one easily digestible text called "Warren Buffett's 3 Favorite Books."

"Berkshire Hathaway Letters to Shareholders," by Max Olson (2014)

Every year the undisputed heavyweight champion of the world of investing, Warren Buffett, writes a letter containing timeless wisdom and insights into his mind to the shareholders of his multi-billion dollar conglomerate, Berkshire Hathaway. These letters have been compiled by Max Olson into a book called "Berkshire Hathaway Letters to Shareholders" and allows readers to see how Buffett and his investments have evolved over the last forty-nine years.

### The Bottom Line

Although experience and knowledge come as a result of making many mistakes, investors should try to learn from the mistakes that others have made in the world of finance and investing as much as possible. This can save investors a lot of time and prevent large monetary losses. Reading books is a great way to learn about the lives, philosophies and strategies of successful investors.

### Top 10 Books Every Investor Should Read

When it comes to learning about investing, the internet is a convenient way to navigate the current information jungle. But those seeking greater historical perspective and a more detailed analysis should consider reading the following classic investment themed books: “The Intelligent Investor” (1949) by Benjamin Graham

The undisputed father of value investing, Benjamin Graham’s “The Intelligent Investor” birthed ideas about security analysis that laid the foundation for a generation of investors, including his most famous student, Warren Buffett, who called this work: “By far the best book on investing ever written.” Published in 1949, this book teaches time-tested principles that every investor can use. “COMMON STOCKS AND UNCOMMON PROFITS” (1958) by Philip A. Fisher

Another pioneer in the world of financial analysis, Philip Fisher has had a major influence on modern investment theory and is credited with the idea of analyzing stocks based on their growth potential. “COMMON STOCKS AND UNCOMMON PROFITS” teaches investors to analyze the quality of a business and its ability to produce profits. First published in the 1950s, Fisher’s lessons are just as applicable, more than a half-century later.

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### Key Takeaways

Investing can be a confusing endeavor, with vast choices that can either generate or hemorrhage one’s wealth. Fortunately, there are many books on the subject, containing valuable strategies, written by those who have achieved investment success. A list of top titles include:

The Intelligent Investor, by Benjamin Graham  
 COMMON STOCKS AND UNCOMMON PROFITS, by Philip A. Fisher  
 Stocks For The Long Run, by Jeremy Siegel  
 Learn To Earn, One Up On Wall Street, and Beating The Street, by Peter Lynch  
 A Random Walk Down Wall Street, by Burton G. Malkiel  
 The Essays Of Warren Buffett: Lessons For Corporate America (Revised 2001) by Warren Buffett and Lawrence Cunningham  
 How To Make Money In Stocks, by William J. O’Neil  
 Rich Dad Poor Dad, by Robert T. Kiyosaki  
 Common Sense On Mutual Funds, by John Bogle  
 Irrational Exuberance, by Robert J. Shiller

“Stocks For The Long Run” (1994) by Jeremy Siegel

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As the title suggests, Wharton School of Business professor Jeremy Siegel champions the concept of investing in stocks over the long haul. Extensively drawing on more than two centuries of research, Siegel believes equities will not only surpass all other financial assets when it comes to performance, but he argues that stock returns are safer and more predictable during inflationary climates. “Learn To Earn” (1995), “One Up On Wall Street” (1989) or “Beating The Street” (1994) by Peter Lynch

Peter Lynch came to prominence in the 1980s as the manager of the spectacularly-performing Fidelity Magellan Fund, and he has since authored a trio of well-received books. Geared towards a younger audience, “Learn To Earn” explains many business basics, while “One Up On Wall Street” makes the case for the benefits of self-directed investing. Not to be outdone, “Beating The Street” focuses on the process Lynch used for picking winning stocks when he ran the famed Magellan Fund. All three titles preach a common-sense approach, insisting that individual investors who conduct thorough due diligence can invest just like the experts. “A Random Walk Down Wall Street” (1973) by Burton G. Malkiel

According to Malkiel’s book, no amount of fundamental or technical research will help investors beat the market, and he consequently likens investing in a random walk. Like any good academic, Malkiel backs up his argument with copious research and statistics. But even so, many find Malkiel’s ideas to be controversial at best; blasphemous at worst. “The Essays Of Warren Buffett: Lessons For Corporate America” (Revised 2001) by Warren Buffett and Lawrence Cunningham

Although he seldom comments on his specific stock holdings, Warren Buffet is transparent about the principles behind his investments. This book is a collection of letters he wrote to shareholders over the past few decades, that definitively summarize the techniques of the world’s greatest investor. “How To Make Money In Stocks” (2009, 4th ed.) by William J. O’Neil

Bill O’Neil founded Investor’s Business Daily, a national publisher of daily financial newspapers, and created the

CANSLIM system of choosing stocks, where each letter in the acronym stands for a key factor to look for when purchasing shares in a company (C = Current quarterly earnings per share, A = Annual earnings increases over the last five years, etc.) If you're interested in stock picking, "How To Make Money In Stocks" is a great place to start because it skips generalities to provide tangible ideas you can immediately apply to your research. "Rich Dad Poor Dad" (1997) by Robert T. Kiyosaki

This book centers around the lessons rich folks teach their kids about money, which, according to Robert Kiyosaki, poor and middle-class parents too often neglect. Kiyosaki's simple-but-effective message preaches the importance of investing early, to make your assets work for you—a concept all children should know. "Common Sense On Mutual Funds" (1999) by John Bogle

John Bogle, the founder of the Vanguard Group, is a driving force behind the case for index funds and the case against actively-managed mutual funds. His book begins with a primer on investment strategy, before blasting the mutual fund industry for the exorbitant fees it charges investors. Mutual funds investors should be sure to give this book a read. "Irrational Exuberance" (2000) by Robert J. Shiller

Named after Alan Greenspan's infamous 1996 comment on the absurdity of stock market valuations, Shiller's book, released in March 2000, gave a chilling warning of the impending dot-com bubble's burst. The Yale economist dispels the myth that the market is rational and instead explains that the market is more influenced by emotion, herd behavior and speculation.

The more you know, the more you'll be able to incorporate the advice of some of these experts into your own investment strategy.

## **1.2.11 Smart Money**

### **What Is Smart Money?**

Smart money is the capital that is being controlled by institutional investors, market mavens, central banks, funds, and other financial professionals. Smart money was originally a gambling term that referred to the wagers made by gamblers with a track record of success.

Usually, these gamblers had deep knowledge of the sport they were betting on or insider knowledge that the public was unable to tap into. The investing world is similar. The populace perceives that the smart money is invested by those with a fuller understanding of the market or with information that a regular investor cannot access. As such, the smart money is considered to have a much better chance of success when the trading patterns of institutional investors diverge from retail investors.

### **How Smart Money Works**

Smart money is cash invested or wagered by those considered experienced, well informed, "in-the-know," or all three. There is little empirical evidence to support the notion that smart-money investments perform better than non-smart-money investments; however, such influxes of cash influence many speculation methods.

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#### **important**

Smart money can refer to the collective force of big money that can move markets. In this context, the central bank is the force behind smart money, and individual traders are riding the coattails of the smart money.

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### **Identifying Smart Money**

Because insiders and informed speculators typically invest more, smart money is sometimes identified by greater-than-usual trading volume, particularly when little or no public data exists to justify the volume. Knowing who are the

holders of smart money and where they are investing can be of great benefit to retail investors who want to ride the coattails of smart money investors.

Tracking methods group transactional data from commercial and non-commercial traders into various assets and markets. These “smart money versus dumb money” charts emphasize the stark differences in how the two groups position themselves in the market. However, smart and dumb labels are often exaggerated. On an individual basis, most professional portfolio managers and traders struggle to match the returns of blind index investing over time.

### **The Scale of Smart Money**

Investors with large followings, such as Warren Buffett, are considered smart money investors, but the scale of their activities is not always taken into account. When the cash reserves at Berkshire Hathaway accumulate and are not invested, this is definitely a sign that Buffett does not see many value opportunities in the market. However, Buffett functions on a different scale. A \$25,000 investment is not too significant in a billion-dollar portfolio.

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#### **Key Takeaways**

Smart money is capital placed in the market by institutional investors, market mavens, central banks, funds, and other financial professionals. Smart money also refers to the force that influences and moves financial markets, often led by the actions of central banks. Smart money is invested on a much larger scale than retail investments.

Buffett’s smart money acquires companies rather than taking a position. Institutional investors of Buffett’s size need scale for overall portfolio impact. Therefore, even when the smart money is out of value picks in the current market conditions, it does not mean that there are no opportunities—particularly for modestly sized stocks.

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#### **Fast Fact**

In the context of gambling, smart money refers to those who earn a living on their bets; many gamblers use historical mathematical algorithms to decide how much and on what to wager.

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## **1.2.12 Wall Street**

### **What Is Wall Street?**

Wall Street is a street located in the lower Manhattan section of New York City and is the home of the New York Stock Exchange or NYSE. Wall Street has also been the historic headquarters of some of the largest U.S. brokerages and investment banks.

### **Understanding Wall Street**

Today, the term Wall Street is used as a collective name for the financial and investment community, which includes stock exchanges, large banks, brokerages, securities, and underwriting firms. Today, brokerages are located in various locations while providing access to the same information available to Wall Street’s tycoons.

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#### **Key Takeaways**

Wall Street is a street located in the lower Manhattan section of New York City that is the home of the New York Stock Exchange or NYSE. Wall Street has also been the historic headquarters of some of the largest U.S. brokerages and investment banks. Today, Wall Street is used as an umbrella term to describe the financial markets and the companies that trade publicly on exchanges throughout the U.S.

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Wall Street got its name from the wooden wall Dutch colonists built in lower Manhattan in 1653 to defend themselves from the British and Native Americans. The wall was taken down in 1699, but the name stuck.

The Wall Street area became a center of trade in the 1700s, but it didn't become famous for being America's financial center until 1792 when 24 of the United States' first and most prominent brokers signed the Buttonwood agreement. The agreement outlined the common commission-based form of trading securities. Some of the first securities traded were war bonds, as well as banking stocks such as First Bank of the United States, Bank of New York, and Bank of North America.

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### **Important**

Wall Street didn't become famous for being America's financial center until the Buttonwood agreement was signed, which eventually formed the New York Stock and Exchange Board. Today, the NYSE is still located at 11 Wall Street.

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The NYSE came later. In 1817 the Buttonwood agreement, which got its name because the agreement occurred under a Buttonwood tree, was revised. The organization of brokers renamed themselves as the The New York Stock and Exchange Board. The organization rented out space for trading securities, in several locations, until 1865 when they found their current location at 11 Wall Street.

After World War I, Wall Street, and New York City surpassed London to become the world's most significant financial center. Today, Wall Street remains the home of several important financial institutions. The New York Stock Exchange is still found on Wall Street, as is the American Stock Exchange, and several banks and brokerages.

### **Wall Street Versus Main Street**

While Wall Street often refers to the global finance and investment community, it is often compared and contrasted to Main Street. The term Main Street is often used as a metaphor for individual investors, small businesses, employees, and the overall economy. Main Street is a common name for the principal street of a town where most of the local businesses are located.

There is often a perceived conflict between the goals, desires, and motivations of Main Street and Wall Street. Wall Street tends to represent big businesses and financial institutions, while Main Street represents the mom and pop shops and small companies.

### **Special Considerations**

Today, Wall Street is used as an umbrella term to describe the financial markets, and the companies that trade publicly on exchanges throughout the U.S. Although Wall Street is an important location where a number of financial institutions are based, the globalization of finance has led to many financial institutions being established around the world.

Wall Street is often shortened to "the Street," which is how the term is frequently used by those in the financial world and in the media. For example, when reporting a company's earnings, an analyst might compare a company's revenues to what the Street was expecting. In this case, the analyst is comparing the company's earnings to what financial analysts and investment firms were expecting for that period.

## **1.2.13 What is securitization?**

Securitization is the process of taking an illiquid asset, or group of assets, and through financial engineering, transforming it (or them) into a security. The derisive phrase "securitization food chain," popularized by the film "Inside Job" about the 2007-2008 financial crisis, describes the process by which groups of such illiquid assets (usually debts) are packaged, bought, securitized and sold to investors.

A typical example of securitization is a mortgage-backed security (MBS), a type of asset-backed security that is secured by a collection of mortgages. First issued in 1968, this tactic led to innovations like collateralized mortgage obligations (CMOs), which first emerged in 1983. MBS became extremely common by the mid-1990s. The process works as follows.

### Forging a Securitization Food Chain

The first step in the chain begins with the simple process of would-be home- or property-owners applying for mortgages at commercial banks. The regulated and authorized financial institution originates the loans, which are secured by claims against the various properties the mortgagors purchase. Mortgage notes (claims on future dollars) are assets for the lenders, but these assets come with clear counterparty risk. The borrower could fail to repay the loan, and so banks often sell notes for cash.

This leads to the second big link in the chain: Individual mortgages are bundled together into a mortgage pool, which is held in trust as the collateral for an MBS. The MBS can be issued by a third-party financial company, such as a large investment banking firm, or by the same bank that originated the mortgages in the first place. Mortgage-backed securities are also issued by aggregators such as Fannie Mae or Freddie Mac.

Regardless, the result is the same: A new security is created, backed up by the claims against the mortgagors' assets. Shares of this security can be sold to participants in the secondary mortgage market. This market is extremely large, providing a significant amount of liquidity to the group of mortgages, which otherwise would be quite illiquid on their own. (For a one-stop shop on subprime mortgages, the secondary market and the subprime meltdown, check out the Subprime Mortgages Feature.)

There are multiple kinds of MBS: pass-throughs, a simple variety in which mortgage payments are gathered and passed through to investors, and CMOs. CMOs break the mortgage pool into a number of different parts, referred to as tranches. This spreads the risk of default around, similar to how standard portfolio diversification works. The tranches can be structured in virtually any way that the issuer sees fit, allowing a single MBS to be tailored for a variety of risk tolerance profiles.

Pension funds will typically invest in high-credit rated mortgage-backed securities, while hedge funds will seek higher returns by investing in those with low credit ratings. In any case, the investors would receive a proportionate amount of the mortgage payments as their return on investment – the final link in the chain.

## 1.2.14 How Operating Leverage Can Impact a Business

Return on equity, free cash flow (FCF) and price-to-earnings ratios are a few of the common methods used for gauging a company's well-being and risk level for investors. One measure that doesn't get enough attention, though, is operating leverage, which captures the relationship between a company's fixed and variable costs. (To read more on ratios, see "Analyze Investments Quickly With Ratios" and the "Ratio Analysis Tutorial.")

In good times, operating leverage can supercharge profit growth. In bad times, it can crush profits. Even a rough idea of a firm's operating leverage can tell you a lot about a company's prospects. In this article, we'll give you a detailed guide to understanding operating leverage.

### What Is Operating Leverage?

Essentially, operating leverage boils down to an analysis of fixed costs and variable costs. Operating leverage is highest in companies that have a high proportion of fixed operating costs in relation to variable operating costs. This kind of company uses more fixed assets in its operations. Conversely, operating leverage is lowest in companies that have a low proportion of fixed operating costs in relation to variable operating costs. (To learn more about operating and financial leverage, read "What Are the Risks of Having Both High Operating Leverage and High Financial Leverage?")

The benefits of high operating leverage can be immense. Companies with high operating leverage can make more money from each additional sale if they don't have to increase costs to produce more sales. The minute business picks



up, fixed assets such as property, plant and equipment (PP&E), as well as existing workers, can do a whole lot more without adding additional expenses. Profit margins expand and earnings soar faster. (Read more about margins in “The Bottom Line on Margins” and “Measuring Company Efficiency.”)

## **Real-Life Examples of Operating Leverage**

The best way to explain operating leverage is by way of examples. Take, for example, a software maker such as Microsoft. The bulk of this company’s cost structure is fixed and limited to upfront development and marketing costs. Whether it sells one copy or 10 million copies of its latest Windows software, Microsoft’s costs remain basically unchanged. So, once the company has sold enough copies to cover its fixed costs, every additional dollar of sales revenue drops into the bottom line. In other words, Microsoft possesses remarkably high operating leverage.

By contrast, a retailer such as Wal-Mart demonstrates relatively low operating leverage. The company has fairly low levels of fixed costs, while its variable costs are large. Merchandise inventory represents Wal-Mart’s biggest cost. For each product sale that Wal-Mart rings in, the company has to pay for the supply of that product. As a result, Wal-Mart’s cost of goods sold (COGS) continues to rise as sales revenues rise.

## **Operating Leverage and Profits**

By examining how sensitive a company’s operating income is to a change in revenue streams, the degree of operating leverage directly reflects a company’s cost structure, and cost structure is a significant variable when determining profitability. (For more, see “What Does a High Degree of Operating Leverage Indicate?”) If fixed costs are high, a company will find it difficult to manage short-term revenue fluctuation, because expenses are incurred regardless of sales levels. This increases risk and typically creates a lack of flexibility that hurts the bottom line. Companies with high risk and high degrees of operating leverage find it harder to obtain cheap financing.

In contrast, a company with relatively low degrees of operating leverage has mild changes when sales revenue fluctuates. Companies with high degrees of operating leverage experience more significant changes in profit when revenues change.

Higher fixed costs lead to higher degrees of operating leverage; a higher degree of operating leverage creates added sensitivity to changes in revenue. A more sensitive operating leverage is considered more risky, since it implies that current profit margins are less secure moving into the future.

While this is riskier, it does mean that every sale made after the break-even point will generate a higher contribution to profit. There are fewer variable costs in a cost structure with a high degree of operating leverage, and variable costs always cut into added productivity – though they also reduce losses from lack of sales.

## **Risky Business**

Operating leverage can tell investors a lot about a company’s risk profile. Although high operating leverage can often benefit companies, companies with high operating leverage are also vulnerable to sharp economic and business cycle swings.

As stated above, in good times, high operating leverage can supercharge profit. But companies with a lot of costs tied up in machinery, plants, real estate and distribution networks can’t easily cut expenses to adjust to a change in demand. So, if there is a downturn in the economy, earnings don’t just fall, they can plummet.

Consider the software developer Inktomi. During the 1990s, investors marveled at the nature of its software business. The company spent tens of millions of dollars to develop each of its digital delivery and storage software programs. But thanks to the internet, Inktomi’s software could be distributed to customers at almost no cost. In other words, the company had close to zero cost of goods sold. After its fixed development costs were recovered, each additional sale was almost pure profit.



After the collapse of dotcom technology market demand in 2000, Inktomi suffered the dark side of operating leverage. As sales took a nosedive, profits swung dramatically to a staggering \$58 million loss in Q1 of 2001 – plunging down from the \$1 million profit the company had enjoyed in Q1 of 2000. (To read more about the dotcom bust, see “The Greatest Market Crashes” and “When Fear and Greed Take Over.”)

The high leverage involved in counting on sales to repay fixed costs can put companies and their shareholders at risk. High operating leverage during a downturn can be an Achilles heel, putting pressure on profit margins and making a contraction in earnings unavoidable. Indeed, companies such as Inktomi, with high operating leverage, typically have larger volatility in their operating earnings and share prices. As a result, investors need to treat these companies with caution.

## Measuring Operating Leverage

Operating leverage occurs when a company has fixed costs that must be met regardless of sales volume. When the firm has fixed costs, the percentage change in profits due to changes in sales volume is greater than the percentage change in sales. With positive (i.e. greater than zero) fixed operating costs, a change of 1% in sales produces a change of greater than 1% in operating profit.

A measure of this leverage effect is referred to as the degree of operating leverage (DOL), which shows the extent to which operating profits change as sales volume changes. This indicates the expected response in profits if sales volumes change. Specifically, DOL is the percentage change in income (usually taken as earnings before interest and tax, or EBIT) divided by the percentage change in the level of sales output.

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For illustration, let's say a software company has invested \$10 million into development and marketing for its latest application program, which sells for \$45 per copy. Each copy costs the company \$5 to sell. Sales volume reaches one million copies.

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So, the software company enjoys a DOL of 1.33. In other words, a 25% change in sales volume would produce a  $1.33 \times 25\% = 33\%$  change in operating profit.

Unfortunately, unless you are a company insider, it can be very difficult to acquire all of the information necessary to measure a company's DOL. Consider, for instance, fixed and variable costs, which are critical inputs for understanding operating leverage. It would be surprising if companies didn't have this kind of information on cost structure, but companies are not required to disclose such information in published accounts.

Investors can come up with a rough estimate of DOL by dividing the change in a company's operating profit by the change in its sales revenue.

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Looking back at a company's income statements, investors can calculate changes in operating profit and sales. Investors can use the change in EBIT divided by the change in sales revenue to estimate what the value of DOL might be for different levels of sales. This allows investors to estimate profitability under a range of scenarios.

Software can do the math for you. For more, see “How Can I Calculate Degree of Operating Leverage on Excel?”

Be very careful using either of these approaches. They can be misleading if applied indiscriminately. They do not consider a company's capacity for growing sales. Few investors really know whether a company can expand sales volume past a certain level without, say, sub-contracting to third parties or making further capital investment, which would increase fixed costs and alter operational leverage. At the same time, a company's prices, product mix and

cost of inventory and raw materials are all subject to change. Without a good understanding of the company's inner workings, it is difficult to get a truly accurate measure of the DOL. The Bottom Line

Even if it is not 100% accurate, knowledge of a company's DOL can help us assess

In finance, companies assess their business risk by capturing a variety of factors that may result in lower-than-anticipated profits or losses. One of the most important factors that affect a company's business risk is operating leverage; it occurs when a company must incur fixed costs during the production of its goods and services. A higher proportion of fixed costs in the production process means that the operating leverage is higher and the company has more business risk.

When a firm incurs fixed costs in the production process, the percentage change in profits when sales volume grows is larger than the percentage change in sales. When the sales volume declines, the negative percentage change in profits is larger than the decline in sales. Operating leverage reaps large benefits in good times when sales grow, but it significantly amplifies losses in bad times, resulting in a large business risk for a company.

Although you need to be careful when looking at operating leverage, it can tell you a lot about a company and its future profitability, and the level of risk it offers to investors. While operating leverage doesn't tell the whole story, it certainly can help.

## **1.2.15 Buy-Side vs. Sell-Side Analysts: What's the Difference?**

### **Buy-Side vs. Sell-Side Analysts: An Overview**

Much has been made of the "Wall Street analyst," as though it were a uniform job description. In reality, there are significant differences between sell-side and buy-side analysts. True, both spend much of their day researching companies and industries in an effort to handicap the winners or losers. On many fundamental levels, however, the jobs are quite different.

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#### **Key Takeaways**

When the system functions as it should, both buy-side and sell-side analysts are valuable. Smart buy-siders make a point of quickly figuring out who they can trust and rely on in the sell-side community. Dedicated sell-side analysts can typically dive deeper than buy-side analysts and really learn the ins and outs of an industry. Sell-side analysts typically work for brokerages, buy-side analysts work for funds.

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### **Sell-Side Analysts**

If you have ever watched a financial news program, you have probably heard the reporter reference "analysts." These analysts are typically sell-side analysts and are believed to provide an unbiased opinion based on proprietary research on a company's securities.

Simply put, the job of a sell-side research analyst is to follow a list of companies, all typically in the same industry, and provide regular research reports to the firm's clients. As part of that process, the analyst will typically build models to project the firms' financial results, as well as speak with customers, suppliers, competitors, and other sources with knowledge of the industry.

From the public's standpoint, the ultimate outcome of the analyst's work is a research report, a set of financial estimates, a price target, and a recommendation as to the stock's expected performance. The estimates derived from the models of several sell-side analysts also can be averaged together to come up with a single expectation called the consensus estimate.

Stocks may move, in the short term, based on an analyst upgrade or downgrade or based on whether they beat-or-miss expectations during earnings season. Typically, if a company beats the consensus estimate, its stock price will rise, while the opposite occurs if a company misses the estimate. However, this is not always the case.

Occasionally, sell-side analysts fail to revise their estimates, but their expectations do change. Sometimes financial news will refer to a “whisper number,” which is an estimate that is different from the consensus estimate. This whisper number becomes the newest, although unwritten, consensus expectation.

When an analyst “initiates” coverage on a company, he or she usually assigns a rating in the form of “buy,” “sell,” or “hold.” This rating is a signal to the investment community, portraying how the analyst believes the stock price will move in a given time frame. The rating can sometimes be a reflection of the expected stock movement and not a reflection of how the analyst feels the company will perform.

In practice, the job of a sell-side analyst is to convince institutional accounts to direct their trading through the trading desk of the analyst’s firm, and the job is very much about marketing. In order to capture trading revenue, the analyst must be seen by the buy-side as providing valuable services. Information is clearly valuable, and some analysts will constantly hunt for new information or proprietary angles on the industry. Since nobody cares about the third iteration of the same story, there is a tremendous amount of pressure to be the first to the client with new and different information.

Of course, that is not the only way to stand out with clients. Institutional investors value one-on-one meetings with company management and will reward those analysts who arrange those meetings. On a very cynical level, there are times when the job of a sell-side analyst is much like that of a high-priced travel agent.

Complicating matters is the fact that companies will often restrict access to management by those analysts who do not toe their line, placing analysts in the uncomfortable position of giving the Street useful news and opinions (which may be negative) and maintaining cordial relations with company management. Investment banking is a huge source of profit for the banks, and if an analyst makes a negative recommendation, the investment banking side of the business may lose that client.

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### **Important**

Analysts also seek to create expert networks they can rely upon for a constant stream of information; after all, it stands to reason that a deeper understanding of a market or product will allow for differentiated calls.

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Much of this information is digested and analyzed—it never actually reaches the public page—and cautious investors might not necessarily assume that an analyst’s printed word is their real feeling for a company. Rather, it is in the private conversations with the buy-side (conversations that occupy much of an analyst’s day) where the real truth is imagined to come out.

### **Buy-Side Analysts**

In contrast to the sell-side analyst position, the job of a buy-side analyst is much more about being right; benefiting the fund with high-alpha ideas is crucial, as is avoiding major mistakes. In point of fact, avoiding the negative is often a key part of the buy-side analyst’s job, and many analysts pursue their job from the mindset of figuring out what can go wrong with an idea.

On a day-to-day basis, the jobs do not look all that different. Buy-side analysts will read news (though more of it is from sell-side analysts than the sell-side analyst would read), track down information, build models, and otherwise go about the business of trying to deepen their knowledge on their area of responsibility—all with an eye toward making the best stock recommendations.

Though the largest institutions will have their analysts allocated similarly to sell-side analysis, buy-side analysts, in general, have broader coverage responsibilities. It is not uncommon for funds to have analysts covering the technology sector or industrials sector, whereas most sell-side firms would have several analysts covering particular industries within those sectors (like software, semiconductors, etc.).

Whereas many sell-side analysts try to spend much of their time finding the best sources of information about their sector, many buy-side analysts spend that time trying to sort out the most useful sell-side analysts. That is not to say

that many buy-side analysts do not do their own proprietary research (the good ones always do); it just means there is significant value to a buy-side analyst in developing a list of the go-to analysts in their space.

Buy-side firms do not usually pay for or buy the sell-side research outright, but they are often indirectly responsible for a sell-side analyst's compensation. Usually, the buy-side firm pays soft dollars to the sell-side firm, which is a roundabout way of paying for the research. Soft dollars can be thought of as extra money paid when trades are made through the sell-side firms.

In essence, the sell-side analysts' research directs the buy-side firm to make trades through their trading department, creating profit for the sell-side firm. Additionally, buy-side analysts often have some say in how trades are directed by their firm, and that is quite often a key component of sell-side analyst compensation.

#### Key Differences Key Differences —————

Although both sell-side and buy-side analysts are charged with following and assessing stocks, there are many differences between the two jobs.

On the compensation front, sell-side analysts often make more, but there is a wide range, and buy-side analysts at successful funds (particularly hedge funds) can do much better. Working conditions arguably tilt in the favor of buy-side analysts; sell-side analysts are frequently on the road and often work longer hours, though buy-side analysis is arguably a higher pressure job.

As the job descriptions might suggest, there are significant differences in what these analysts are really paid to do. Speaking realistically, sell-side analysts are paid largely for information flow and to access the management (and/or high-quality information sources). Compensation for buy-side analysts is much more dependent upon the quality of recommendations the analyst makes and the overall success of the fund(s).

The two jobs also differ in the role accuracy plays. Contrary to what many investors expect, good models and financial estimates have less weight to the role of a sell-side analyst but can be critical for the buy-side analyst. Likewise, price targets and buy/sell/hold calls are not nearly as important to sell-side analysts as some financial media might seem to think. In fact, analysts can be below average when it comes to modeling or stock picks but still do all right so long as they provide useful information.

On the other hand, a buy-side analyst usually cannot afford to be wrong often, or at least not to a degree that significantly affects the fund's relative performance.

Buy-side and sell-side analysts also have to abide by different rules and standards. Sell-side analysts have to pass several regulatory exams that buy-side analysts do not. Likewise, buy-side analysts typically enjoy less restrictive rules on share ownership, disclosures and outside employment, at least insofar as regulators are concerned (individual employers have different rules concerning these practices).

## **1.2.16 Investment Banker**

### **What Is an Investment Banker?**

An investment banker is an individual who often works as part of a financial institution and is primarily concerned with raising capital for corporations, governments, or other entities.

Investment bankers often work at investment banks, the largest of which are Goldman Sachs (GS), Morgan Stanley (MS), JPMorgan Chase (JPM), Bank of America Merrill Lynch (BAC), and Deutsche Bank (DB).

### **What Does an Investment Banker Do?**

Whether or not an investment banker is affiliated with such a firm, he or she will assist in large, complicated financial transactions. These may include structuring an acquisition, merger, or sale for a client or group of clients. A core task also includes the issuing of securities as a means of raising money. This involves creating detailed documentation for the Securities and Exchange Commission (SEC), necessary for a company to go public.

An investment banker can save a client time and money by identifying risks associated with a particular project before a company moves forward. In theory, the investment banker is an expert in his or her field, who has a finger on the pulse of the current investing climate. Businesses and non-profit institutions often turn to investment bankers for advice on how best to plan their development.

An investment banker also assists with pricing financial instruments and navigating regulatory requirements. Often, when a company holds its initial public offering (IPO), an investment bank will buy all or much of that company's shares directly, acting as an intermediary. In this case, acting on behalf of the company going public, the investment bank will subsequently sell the company's shares into the public market, creating immediate liquidity.

An investment bank also stands to make a profit in this scenario, generally pricing its shares at a markup from what the firm initially paid. Yet, in doing so the investment bank also takes on a substantial amount of risk. Though experienced analysts at the investment bank use their expertise to accurately price the stock, an investment banker can lose money on the deal if they have overvalued the shares.

### **An Example of Investment Banking and an IPO**

For example, suppose that Pete's Paints Co., a chain supplying paints and other hardware, wants to go public. Pete, the owner, gets in touch with Katherine, a prominent investment banker, working for a larger firm. Pete and Katherine strike a deal, in which Katherine (on behalf of her firm) agrees to buy 100,000 shares of Pete's Paints for the company's IPO at the price of \$24 per share, based on recommendations from her team of analysts. The investment bank pays \$2.4 million for the 100,000 shares.

After filing the appropriate paperwork, such as SEC Form S-1, and setting the date and time of the IPO, Katherine and her team begin selling the stock into the open market at \$26 per share. Yet the investment bank is unable to sell more than 20% of the shares at this price, given weak demand, and is forced to reduce the price to \$23 in order to sell the rest of the holdings. This ultimately leads to a loss for Katherine and her team.

### **Skills and Requirements to Be an Investment Banker**

The investment banking field has gained interest over the years as investment bankers are generally very well-paid. Yet these positions require specific skills, like excellent number-crunching abilities, strong verbal and written communication skills, and the capacity to work very long and grueling hours.

[Important: Educational requirements usually include an MBA from a top-notch institution and potentially the chartered financial analyst (CFA) designation.]

As such, investment bankers are required to abide by their firm's stipulated code of conduct and will generally sign a confidentiality agreement, given the sensitive nature of the information they receive. Moreover, there is potential for a conflict of interest if the advisory and trading divisions of investment banks interact.

A hierarchy of positions typically exists in investment banking, which follows (from junior to senior): analyst, associate, vice president, senior vice president, and then managing director.

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### **Key Takeaways**

An investment banker is an individual who often works as part of a financial institution and is primarily concerned with raising capital for corporations, governments or other entities. The investment banking field has gained interest over the years as investment bankers are generally very well-paid. Investment bankers must have excellent number-crunching abilities, strong verbal and written communication skills, and the capacity to work very long and grueling hours.

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## 1.2.17 A Top-Down Approach to Investing

### What Is an Investment Banker?

Most investors struggle with the art of picking stocks. Should they base their decisions solely on what the company does and how well it does it? Or should they focus more on larger macroeconomic trends, such as the strength of the economy, to determine which stocks to buy? There is no right or wrong answer. However, investors should develop systems that help them achieve their investment goals.

The second option mentioned is referred to as the top-down investing approach to the market. This method allows investors to analyze the market from the big picture all the way down to individual stocks. This differs from the bottom-up approach, which begins with individual stocks' fundamentals and eventually expands to include the global economy.

### Start at the Top: The Global View

Because the top-down approach begins at the top, the first step is to determine the world economy's health. This is done by analyzing not only the developed countries but also emerging countries. A quick way to determine an economy's health is to look at gross domestic product (GDP) growth over the past few years and the estimates going forward. Often, the emerging market countries will have the best growth numbers when compared with their mature counterparts.

Unfortunately, because we live at a time in which war and geopolitical tensions are heightened, we must be mindful of what is currently affecting each region of the world. A few regions and countries throughout the world will fall off the radar immediately and will no longer be included in the remainder of the analysis due to the amount of financial instability that could wreak havoc on any investments. (For related reading, see: [5 Emerging Market Equity ETFs to Watch in 2018](#).)

### Analyze the Trends

After determining which regions present a high reward-to-risk ratio, the next step is to use charts and technical analysis. By looking at a long-term chart of the specific countries' stock index, we can determine whether the corresponding stock market is in an uptrend and worth analyzing, or is in a downtrend, which would not be an appropriate place to put our money at this time. These first two steps can help you discover the countries that would match your wants and needs for diversification.

### Look to the Economy

The third step is to do a more in-depth analysis of the U.S. economy and stock market's health. By examining the economic numbers such as interest rates, inflation and employment, we can determine the current market strength and have a better idea of what the future holds. There is often a divergence between the story the economic numbers tell and the trend of the stock market indexes.

The final step in macroanalysis is to analyze the major U.S. stock indexes such as the S&P 500 and Nasdaq. Both fundamental and technical analysis can be used as barometers to determine the health of the indices. The market's fundamentals can be determined by such ratios as price-to-earnings, price-to-sales and dividend yields. Comparing the numbers to past readings can help determine whether the market level is historically overbought or oversold. Technical analysis will help ascertain where the market is in relation to the long-term cycle. Use charts showing the past several decades and zone down the time horizon to a daily view. For example, indicators such as the 50-day and 200-day moving averages help us find the current market trend and whether it is appropriate for investors to be invested heavily in equities. (For related reading, see: [Weighted Moving Averages: The Basics](#).)

So far, our process has taken a macro approach to the market and has helped us determine our asset allocation. If, after the first few steps, we find that the results are bullish, there is a good chance a majority of the investment-worthy assets



will be from the equities market. On the other hand, if the outlook is bleak, the allocation will shift its focus from equities to more conservative investments such as fixed income and money markets. Microanalysis: Is This Investment Right for You?

Deciding on asset allocation is only half the battle. The next integral step will help investors determine which sectors to focus on when searching for specific investments such as stocks and exchange traded funds (ETFs). Analyzing the pros and cons of specific sectors (i.e. health care, technology and mining) will narrow the search even further. The process of analyzing the sectors involves tactics used in the prior approach such as fundamental and technical analysis.

In addition to the mentioned tools, investors must consider the long-term prospects of the specific sectors. For example, the emergence of an aging baby boomer generation over the next decade could serve as a major catalyst for sectors such as health care and leisure. Conversely, the increasing demand for energy coupled with higher prices is another long-term theme that could benefit the alternative energy and oil and gas sectors. After the entire amount of information is processed, a number of sectors should rise to the top and offer investors the best opportunities.

The emergence of ETFs and sector-specific mutual funds has allowed the top-down approach to end at this level in certain situations. If an investor decides the biotech sector must be represented in the portfolio, he or she has the option of buying an ETF or mutual fund composed of a basket of biotech stocks. Instead of moving to the next step in the process and taking on the risk of an individual stock, the investor may choose to invest in the entire sector instead. (For related reading, see: [An Introduction to Sector Mutual Funds](#).)

However, if an investor feels the added risk of selecting and buying an individual stock is worth the extra reward, there is an additional step in the process. This final phase of the top-down approach can often be the most intensive, because it involves analyzing individual stocks from a number of perspectives.

Fundamental analysis includes a variety of measurements such as price/earnings to growth ratio, return on equity and dividend yield, to name a few. An important aspect of individual stock analysis will be the company's growth potential over the next few years. Ideally, investors want to own a stock with a high growth potential, because it will be more likely to lead to a high stock price.

Technical analysis will concentrate on the long-term weekly charts, as well as daily charts, for an entry price. At this point, the individual stocks are chosen and the buying process begins.

## The Positives of the Top-Down Approach

Proponents of the top-down approach argue the system can help investors determine an ideal asset allocation for a portfolio in any type of market environment. Often a top-down approach will uncover a situation that may not be appropriate for large investments into equities. The ability to keep investors from over-investing in equities during a bear market is the biggest pro for the system. When a market is in a downtrend, the probability of picking winning investments drops dramatically even if the stock meets all the required conditions. When using the bottom-up system, an investor will determine which stocks to buy before considering the state of the market. This type of approach can lead to investors being overly exposed to equities, and the portfolio will likely suffer.

Other benefits to the top-down approach include diversification among not only top sectors, but also the leading foreign markets. This results in a portfolio that is diversified within the top investment-worthy sectors and regions. This type of investing is referred to in some small circles as "conversification," a mixture between concentration and diversification.

## The Negatives of Top-Down Investing

So far, the top-down approach may sound foolproof; however, investors must consider a few other factors. First and foremost, there is the possibility your research will be incorrect, causing you to miss out on an opportunity. For example, if the top-down approach indicates the market is set to continue lower in the near future, it may result in a lesser exposure to equities. However, if your analysis is wrong and the market rallies, the portfolio will be underexposed to the market and will miss out on the rally gains.

Then there's the problem of being under-invested in a bull market, which can prove to be costly over the long term. Another downfall to the system occurs when sectors are eliminated from the analysis. As a result, all stocks in the

sector are not included as possible investments. Often a leader in the sector is overlooked due to this process and will never make its way into the portfolio. Finally, investors could miss out on bargain stocks when the market is near lows.

## **The Bottom Line**

In the end, investors must remember there is no single approach to investing and every approach has its own pros and cons. One of the keys to becoming a successful long-term investor is finding a system that best fits your goals and objectives. (For further reading, see: [Bottom-Up and Top-Down Investing Explained](#).)

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## 1.3 Portfolio Management

Portfolio management consists of three main elements: investing time horizon, diversification of investments, and risk tolerance.

### 1.3.1 Asset Management

#### What is Asset Management?

Asset management is the direction of all or part of a client's portfolio by a financial services institution, usually an investment bank, or an individual. Institutions offer investment services along with a wide range of traditional and alternative product offerings that might not be available to the average investor.

#### Understanding Asset Management

Asset management refers to the management of investments on behalf of others. The process essentially has a dual mandate - appreciation of a client's assets over time while mitigating risk. There are investment minimums, which means that this service is generally available to high net-worth individuals, government entities, corporations and financial intermediaries.

The role of an asset manager consists of determining what investments to make, or avoid, that will grow a client's portfolio. Rigorous research is conducted utilizing both macro and micro analytical tools. This includes statistical analysis of the prevailing market trends, interviews with company officials, and anything else that would aid in achieving the stated goal of client asset appreciation. Most commonly, the advisor will invest in products such as equity, fixed income, real estate, commodities, alternative investments and mutual funds.

Accounts held by financial institutions often include check writing privileges, credit cards, debit cards, margin loans, the automatic sweep of cash balances into a money market fund and brokerage services.

When individuals deposit money into the account, it is typically placed into a money market fund that offers a greater return that can be found in regular savings and checking accounts. Account holders can choose between Federal Deposit Insurance Company-backed (FDIC) funds and non-FDIC funds. The added benefit to account holders is all of their banking and investing needs can be serviced by the same institution rather than having separate brokerage account and banking options.

These types of accounts resulted from the passing of the Gramm-Leach-Bliley Act in 1999, which replaced the Glass-Steagall Act. The Glass-Steagall Act of 1933 was created during the Great Depression and did not allow financial institutions to offer both banking and security services.

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#### Key Takeaways

Asset management refers to the management of investments on behalf of others. The goal is to grow a client's portfolio over time while mitigating risk. Asset management is a service offered by financial institutions catering to high net-worth individuals, government entities, corporations and financial intermediaries.

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#### Example of an Asset Management Institution

Merrill Lynch offers a Cash Management Account (CMA) to fulfill the needs of clients who wish to pursue banking and investment options with one vehicle, under one roof. The account gives investors access to a personal financial advisor. This advisor offers advice and a range of investment options that include initial public offerings (IPO) in which Merrill Lynch may participate, as well as foreign currency transactions.

Interest rates for cash deposits are tiered. Deposit accounts can be linked together so that all eligible funds aggregate to receive the appropriate rate. Securities held in the account fall under the protective umbrella of the Securities Investor Protection Corporation (SIPC). SIPC does not shield investor assets from inherent risk but rather protects those assets from financial failure of the brokerage firm itself.

Along with typical check writing services, the account offers worldwide access to Bank of America automated teller machines (ATM) without transaction fees. Bill payment services, fund transfers and wire transfers are available. The MyMerrill app allows users to access the account and perform a number of basic functions via a mobile device. Accounts with more than \$250,000 in eligible assets sidestep both the annual \$125 fee and the \$25 assessment applied to each sub-account held.

## **1.3.2 Diversification**

### **What Is Diversification?**

Diversification is a risk management strategy that mixes a wide variety of investments within a portfolio. The rationale behind this technique is that a portfolio constructed of different kinds of assets will, on average, yield higher long-term returns and lower the risk of any individual holding or security.

### **The Basics of Diversification**

Diversification strives to smooth out unsystematic risk events in a portfolio, so the positive performance of some investments neutralizes the negative performance of others. The benefits of diversification hold only if the securities in the portfolio are not perfectly correlated—that is, they respond differently, often in opposing ways, to market influences.

Studies and mathematical models have shown that maintaining a well-diversified portfolio of 25 to 30 stocks yields the most cost-effective level of risk reduction. The investing in more securities generates further diversification benefits, albeit at a drastically smaller rate.

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### **Key Takeaways**

Diversification is a strategy that mixes a wide variety of investments within a portfolio. Portfolio holdings can be diversified across asset classes and within classes, and also geographically—by investing in both domestic and foreign markets. Diversification limits portfolio risk but can also mitigate performance, at least in the short term.

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### **Diversification by Asset Class**

Fund managers and investors often diversify their investments across asset classes and determine what percentages of the portfolio to allocate to each. Classes can include:

Stocks—shares or equity in a publicly traded company Bonds—government and corporate fixed-income debt instruments Real estate—land, buildings, natural resources, agriculture, livestock, and water and mineral deposits Exchange-traded funds (ETFs)—a marketable basket of securities that follow an index, commodity, or sector Commodities—basic goods necessary for the production of other products or services Cash and short-term cash-equivalents (CCE)—Treasury bills, certificate of deposit (CD), money market vehicles, and other short-term, low-risk investments

They will then diversify among investments within the assets classes, such as by selecting stocks from various sectors that tend to have low return correlation, or by choosing stocks with different market capitalizations. In the case of bonds, investors can select from investment-grade corporate bonds, U.S. Treasuries, state and municipal bonds, high-yield bonds and others.

## Foreign Diversification

Investors can reap further diversification benefits by investing in foreign securities because they tend to be less closely correlated with domestic ones. For example, forces depressing the U.S. economy may not affect Japan's economy in the same way. Therefore, holding Japanese stocks gives an investor a small cushion of protection against losses during an American economic downturn.

## Diversification and the Retail Investor

Time and budget constraints can make it difficult for noninstitutional investors—i.e., individuals—to create an adequately diversified portfolio. This challenge is a key reason why mutual funds are so popular with retail investors. Buying shares in a mutual fund offers an inexpensive way to diversify investments.

While mutual funds provide diversification across various asset classes, exchange-traded funds (ETFs) afford investor access to narrow markets such as commodities and international plays that would ordinarily be difficult to access. An individual with a \$100,000 portfolio can spread the investment among ETFs with no overlap.

## Disadvantages of Diversification

Reduced risk, a volatility buffer: The pluses of diversification are many. However, there are drawbacks, too. The more holdings a portfolio has, the more time-consuming it can be to manage—and the more expensive, since buying and selling many different holdings incurs more transaction fees and brokerage commissions. More fundamentally, diversification's spreading-out strategy works both ways, lessening both the risk and the reward.

Say you've invested \$120,000 equally among six stocks, and one stock doubles in value. Your original \$20,000 stake is now worth \$40,000. You've made a lot, sure, but not as much as if your entire \$120,000 had been invested in that one company. By protecting you on the downside, diversification limits you on the upside—at least, in the short term. Over the long term, diversified portfolios do tend to post higher returns (see example below).

### Pros

- Reduces portfolio risk
- Hedges against market volatility
- Offers higher returns long-term

### Cons

- Limits gains short-term
- Time-consuming to manage
- Incurs more transaction fees, commissions

## Diversification and Smart Beta

Smart beta strategies offer diversification by tracking underlying indices but do not necessarily weigh stocks according to their market cap. ETF managers further screen equity issues on fundamentals and rebalance portfolios according to objective analysis and not just company size. While smart beta portfolios are unmanaged, the primary goal becomes outperformance of the index itself.

For example, as of March 2019, the iShares Edge MSCI USA Quality Factor ETF holds 125 large- and mid-cap U.S. stocks. By focusing on return on equity (ROE), debt-to-equity (D/E) ratio, and not solely market cap, the ETF has returned 90.49% cumulatively since its inception in July 2013. A similar investment in the S&P 500 Index grew by 66.33%.

## **Real World Example**

Say an aggressive investor who can assume a higher level of risk, wishes to construct a portfolio composed of Japanese equities, Australian bonds, and cotton futures. He can purchase stakes in the iShares MSCI Japan ETF, the Vanguard Australian Government Bond Index ETF, and the iPath Bloomberg Cotton Subindex Total Return ETN, for example.

With this mix of ETF shares, due to the specific qualities of the targeted asset classes and the transparency of the holdings, the investor ensures true diversification in their holdings. Also, with different correlations, or responses to outside forces, among the securities, they can slightly lessen their risk exposure.

## **1.3.3 Long-Term Investments**

### **What Are Long-Term Investments?**

A long-term investment is an account on the asset side of a company's balance sheet that represents the company's investments, including stocks, bonds, real estate and cash. Long-term investments are assets that a company intends to hold for more than a year.

The long-term investment account differs largely from the short-term investment account in that short-term investments will most likely be sold, whereas the long-term investments will not be sold for years and, in some cases, may never be sold.

Being a long-term investor means that you are willing to accept a certain amount of risk in pursuit of potentially higher rewards and that you can afford to be patient for a longer period of time. It also suggests that you have enough capital available to afford to tie up a set amount for a long period of time.

### **Long-Term Investments Explained**

A common form of long-term investing occurs when company A invests largely in company B and gains significant influence over company B without having a majority of the voting shares. In this case, the purchase price would be shown as a long-term investment.

When a holding company or other firm purchases bonds or shares of common stock as investments, the decision about whether to classify it as short-term or long-term has some fairly important implications for the way those assets are valued on the balance sheet. Short-term investments are marked to market, and any declines in value are recognized as a loss.

However, increases in value are not recognized until the item is sold. Therefore, the balance sheet classification of an investment – whether it is long-term or short-term – has a direct impact on the net income that is reported on the income statement.

### **Held to Maturity Investments**

If an entity intends to keep an investment until it has matured and the company can demonstrate the ability to do so, the investment is noted as being "held to maturity." The investment is recorded at cost, although any premiums or discounts are amortized over the life of the investment.

The long-term investment may be written down to properly reflect an impaired value. However, there may not be any adjustment for temporary market fluctuations. Since investments must have an end date, equity securities may be not be classified as held to maturity.

## Available for Sale and Trading Investments

Investments held with the intention of resale within a year, for the purpose of garnering a short-term profit, are classified as current investments. A trading investment may not be a long-term investment. However, a company may hold an investment with the intention to sell in the future.

These investments are classified as “available for sale” as long as the anticipated sale date is not within the next 12 months. Available for sale long-term investments are recorded at cost when purchased and subsequently adjusted to reflect their fair values at the end of the reporting period. Unrealized holding gains or losses are kept as “other comprehensive income” until the long-term investment has been sold.

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### Key Takeaways

A long-term investment is an account a company plans to keep for at least a year such as stocks, bonds, real estate and cash. The account appears on the asset side of a company’s balance sheet. Long-term investors are generally willing to take on more risk for higher rewards. These are different from short-term investments, which are meant to be sold within a year.

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## 1.3.4 Investment Analysis

### What Is Investment Analysis?

Investment analysis is a broad term encompassing many different aspects of evaluating financial assets, sectors, and trends. It can include analyzing past returns to predict future performance, selecting the type of investment instrument that best suits an investor’s needs, or evaluating securities such as stocks and bonds, or a category of securities, for risk, yield potential or price movements.

Investment analysis is key to any sound portfolio management strategy.

### How Investment Analysis Works

Investment analysis can help determine how an investment is likely to perform and how suitable it is for a given investor. Key factors in investment analysis include entry price, expected time horizon for holding an investment, and the role the investment will play in the portfolio.

In conducting an investment analysis of a mutual fund, for example, an investor looks at factors such as how the fund performed compared to its benchmark or peers. Peer fund comparison includes investigating the differences in performance, expense ratios, management stability, sector weighting, investment style, and asset allocation.

In investing, one size does not always fit all. Just as there are many different types of investors with varying goals, time horizons, and incomes, there are also securities that match best within those individual perimeters. An older investor may be more risk-averse than a young one who is just beginning to save for retirement.

Investment analysis can also involve evaluating an overall investment strategy, in terms of the thought process that went into making it, needs and financial situation at the time, how decisions affected a portfolio’s performance and the need for correction or adjustment if any.

Investors who are not comfortable doing their investment analysis can seek advice from an investment advisor or another financial professional.

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## **Key Takeaways**

Investment analysis involves researching and evaluating securities to determine their future performance and their suitability, given an investor's needs, goals and risk tolerance. Investment analysis can also involve evaluating an overall financial or portfolio strategy. Types of investment analysis include bottom-up, top-down, fundamental, and technical.

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## **Types of Investment Analysis**

While there are countless individual ways to analyze securities, sectors, and the markets, investment analysis can be divided into a few different categories.

### **Top-down vs Bottom-up**

When making investment decisions, investors can use a bottom-up investment analysis approach or top-down approach. Bottom-up investment analysis entails analyzing individual stocks for their merits, such as valuation, management competence, pricing power, and other unique characteristics of the stock and underlying company. Bottom-up investment analysis does not focus on economic cycles or market cycles firsthand for capital allocation decisions. Instead, it aims to find the best companies and stocks regardless of the overarching economic, market, or particular industry macro trends. In essence, bottom-up investing takes more of a microeconomic—small scale economic—approach to investing rather than a large scale, national economy or global—macroeconomics—approach.

The macroeconomic approach is a hallmark of top-down investment analysis. It emphasizes economic, market, and industry trends before making a more granular investment decision to allocate capital to specific companies. An example of a top-down approach is an investor evaluating different company sectors and finding that financials will likely perform better than industrials. As a result, the investor decides the investment portfolio will be overweight financials and underweight industrials. They then proceed to find the best stocks in the financial sector. On the contrary, a bottom-up investor may have found that an industrial company made for a compelling investment and allocated a significant amount of capital to it even though the outlook for its broader industry was negative.

## **Fundamental vs Technical Analysis**

Other investment analysis methods include fundamental analysis and technical analysis. The fundamental analysis stresses evaluating the financial health of companies as well as economic outlooks. Practitioners of fundamental analysis seek stocks they believe the market has mispriced—trading at a price lower than that warranted by their companies' intrinsic value. Often encompassing bottom-up analysis, these investors will evaluate a company's financial soundness, future business prospects, dividend potential, and economic moat to determine whether they will make satisfactory investments. Proponents of this style include Warren Buffett and his mentor, Benjamin Graham.

The technical analysis stresses evaluating patterns of stock prices and statistical parameters, via computer-calculated charts and graphs. Unlike fundamental analysts, who attempt to evaluate a security's intrinsic value, technical analysts focus on patterns of price movements, trading signals, and various other analytical charting tools to evaluate a security's strength or weakness. Day traders make frequent use of technical analysis in devising their strategies and timing their positions' entrances and exits.

## **Real World Example of Investment Analysis**

Research analysts constantly release investment analysis reports on individual securities, asset classes, and market sectors, evaluating the outlook and recommending a buy, sell, or hold position on the sector. For example, March 28, 2019, Charles Schwab issued an analysis of consumer staples equities. The report takes a macroeconomic approach, looking at various positive and negative political and economic developments that could influence the sector. They looked at retailer cost-cutting efforts, the increase in merger and acquisitions (M&A), trade disputes, and geopolitical

anxieties. The analyst's then assigned an overall neutral assessment rating of "market perform." This neutral rating basically means the subject of the analysis should provide returns in line with that of the S&P 500.

### 1.3.5 Active vs. Passive Investing: What's the Difference?

#### Active vs. Passive Investing: An Overview

Whenever there's a discussion about active or passive investing, it can pretty quickly turn into a heated debate because investors and wealth managers tend to strongly favor one strategy over the other. While passive investing is more popular among investors, there are arguments to be made for the benefits of active investing, as well.

#### Active Investing

Active investing, as its name implies, takes a hands-on approach and requires that someone act in the role of portfolio manager. The goal of active money management is to beat the stock market's average returns and take full advantage of short-term price fluctuations. It involves a much deeper analysis and the expertise to know when to pivot into or out of a particular stock, bond, or any asset. A portfolio manager usually oversees a team of analysts who look at qualitative and quantitative factors, then gaze into their crystal balls to try to determine where and when that price will change.

Active investing requires confidence that whoever is investing the portfolio will know exactly the right time to buy or sell. Successful active investment management requires being right more often than wrong.

#### Passive Investing

If you're a passive investor, you invest for the long haul. Passive investors limit the amount of buying and selling within their portfolios, making this a very cost-effective way to invest. The strategy requires a buy-and-hold mentality. That means resisting the temptation to react or anticipate the stock market's every next move.

The prime example of a passive approach is to buy an index fund that follows one of the major indices like the S&P 500 or Dow Jones. Whenever these indices switch up their constituents, the index funds that follow them automatically switch up their holdings by selling the stock that's leaving and buying the stock that's becoming part of the index. This is why it's such a big deal when a company becomes big enough to be included in one of the major indices: It guarantees that the stock will become a core holding in thousands of major funds.

When you own tiny pieces of thousands of stocks, you earn your returns simply by participating in the upward trajectory of corporate profits over time via the overall stock market. Successful passive investors keep their eye on the prize and ignore short-term setbacks—even sharp downturns.

#### Key Differences

In their Investment Strategies and Portfolio Management program, Wharton faculty teaches about the strengths and weaknesses of passive and active investing.

#### Passive Investing

Some of the key benefits of passive investing are:

- Ultra-low fees: There's nobody picking stocks, so oversight is much less expensive. Passive funds simply follow the index they use as their benchmark.
- Transparency: It's always clear which assets are in an index fund.
- Tax efficiency: Their buy-and-hold strategy doesn't typically result in a massive capital gains tax for the year.

Proponents of active investing would say that passive strategies have these weaknesses:



Too limited: Passive funds are limited to a specific index or predetermined set of investments with little to no variance; thus, investors are locked into those holdings, no matter what happens in the market. Small returns: By definition, passive funds will pretty much never beat the market, even during times of turmoil, as their core holdings are locked in to track the market. Sometimes, a passive fund may beat the market by a little, but it will never post the big returns active managers crave unless the market itself booms. Active managers, on the other hand, can bring bigger rewards (see below), although those rewards come with greater risk as well.

### Active Investing

Advantages to active investing, according to Wharton:

Flexibility: Active managers aren't required to follow a specific index. They can buy those "diamond in the rough" stocks they believe they've found. Hedging: Active managers can also hedge their bets using various techniques such as short sales or put options, and they're able to exit specific stocks or sectors when the risks become too big. Passive managers are stuck with the stocks the index they track holds, regardless of how they are doing. Tax management: Even though this strategy could trigger a capital gains tax, advisors can tailor tax management strategies to individual investors, such as by selling investments that are losing money to offset the taxes on the big winners.

But active strategies have these shortcomings:

Very expensive: Thomson Reuters Lipper pegs the average expense ratio at 1.4 percent for an actively managed equity fund, compared to only 0.6 percent for the average passive equity fund. Fees are higher because all that active buying and selling triggers transaction costs, not to mention that you're paying the salaries of the analyst team researching equity picks. All those fees over decades of investing can kill returns. Active risk: Active managers are free to buy any investment they think would bring high returns, which is great when the analysts are right but terrible when they're wrong.

### Special Considerations

So which of these strategies makes investors more money? You'd think a professional money manager's capabilities would trump a basic index fund. But they don't. If we look at superficial performance results, passive investing works best for most investors. Study after study (over decades) shows disappointing results for the active managers.

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### Important

Only a small percentage of actively-managed mutual funds ever do better than passive index funds.

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All this evidence that passive beats active investing may be oversimplifying something much more complex, however, because active and passive strategies are just two sides of the same coin. Both exist for a reason and many pros blend these strategies.

A great example is the hedge fund industry. Hedge funds managers are known for their intense sensitivity to the slightest changes in asset prices. Typically hedge funds avoid mainstream investments, yet these same hedge fund managers actually invested about \$50 billion in index funds in 2017 according to research firm Symmetric. Ten years ago, hedge funds only held \$12 billion in passive funds. Clearly, there are good reasons why even the most aggressive active asset managers opt to use passive investments.

However, recent reports suggest that in the current 2019 market upheaval, actively managed Exchange-Traded Funds (ETFs) are soaring. While passive funds still dominate overall, due to lower fees, investors are showing that they're willing to put up with the higher fees in exchange for the expertise of an active manager to help guide them amid all the volatility.

## Active vs. Passive Investing Example

Many investment advisors believe the best strategy is a blend of active and passive styles. For example, Dan Johnson is a fee-only advisor in Ohio. His clients tend to want to avoid the wild swings in stock prices and they seem ideally suited for index funds.

He favors passive indexing but explains, “The passive versus active management doesn’t have to be an either/or choice for advisors. Combining the two can further diversify a portfolio and actually help manage overall risk.”

He says for clients who have large cash positions, he actively looks for opportunities to invest in ETFs just after the market has pulled back. For retired clients who care most about income, he may actively choose specific stocks for dividend growth while still maintaining a buy-and-hold mentality.

Andrew Nigrelli, a Boston-area wealth advisor and manager, agrees. He takes a goals-based approach to financial planning. He mainly relies on long-term passive investment indexing strategies rather than picking individual stocks and strongly advocates passive investing, yet he also believes that it isn’t just the returns that matter, but risk-adjusted returns.

“Controlling the amount of money [that] goes into certain sectors or even specific companies when conditions are changing quickly can actually protect the client.”

For most people, there’s a time and a place for both active and passive investing over a lifetime of saving for major milestones like retirement. More advisors wind up using a combination of the two strategies—despite the grief the two sides give each other over their strategies.

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### Important

Active investing requires a hands-on approach, typically by a portfolio manager or other so-called active participant. Passive investing involves less buying and selling and often results in investors buying index funds or other mutual funds. Both styles of investing are beneficial, but passive investing is more popular in terms of the amount of money invested. Additionally, at least on a superficial level, passive investments have made more money historically. In the current 2019 market upheaval, active investing has become more popular than it has in several years, although passive is still a bigger market.

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## 1.3.6 Aggressive Investment Strategy

### What is an Aggressive Investment Strategy?

An aggressive investment strategy typically refers to a style of portfolio management that attempts to maximize returns by taking a relatively higher degree of risk. Strategies for achieving higher than average returns typically emphasize capital appreciation as a primary investment objective, rather than income or safety of principal. Such a strategy would therefore have an asset allocation with a substantial weighting in stocks and possibly little or no allocation to bonds or cash.

Aggressive investment strategies are typically thought to be suitable for young adults with smaller portfolio sizes. Because a lengthy investment horizon enables them to ride out market fluctuations, and losses early in one’s career have less impact than later, investment advisors do not consider this strategy suitable for anyone else but young adults unless such a strategy is applied to only a small portion of one’s nest-egg savings. Regardless of the investor’s age, however, a high tolerance for risk is an absolute prerequisite for an aggressive investment strategy.

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### Key Takeaways

Aggressive investing accepts more risk in pursuit of greater return. Aggressive portfolio management may achieve its aims through one or more of many strategies including asset selection and asset allocation. Investor trends after 2012

showed a preference away from aggressive strategies and active management and towards passive index investing.

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## **Understanding Aggressive Investment Strategy**

The aggressiveness of an investment strategy depends on the relative weight of high-reward, high-risk asset classes, such as equities and commodities, within the portfolio.

For example, Portfolio A which has an asset allocation of 75% equities, 15% fixed income, and 10% commodities would be considered quite aggressive, since 85% of the portfolio is weighted to equities and commodities. However, it would still be less aggressive than Portfolio B, which has an asset allocation of 85% equities and 15% commodities.

Even within the equity component of an aggressive portfolio, the composition of stocks can have a significant bearing on its risk profile. For instance, if the equity component only consists of blue-chip stocks, it would be considered less risky than if the portfolio only held small-capitalization stocks. If this is the case in the earlier example, Portfolio B could arguably be considered less aggressive than Portfolio A, even though it has 100% of its weight in aggressive assets.

Yet another aspect of an aggressive investment strategy has to do with allocation. A strategy that simply divided all available money equally into 20 different stocks could be a very aggressive strategy, but dividing all money equally into just 5 different stocks would be more aggressive still.

Aggressive Investment strategies may also include a high turnover strategy, seeking to chase stocks that show high relative performance in a short time period. The high turnover may create higher returns, but could also drive higher transaction costs, thus increasing the risk of poor performance.

## **Aggressive Investment Strategy and Active Management**

An aggressive strategy needs more active management than a conservative “buy-and-hold” strategy, since it is likely to be much more volatile and could require frequent adjustments, depending on market conditions. More rebalancing would also be required to bring portfolio allocations back to their target levels. Volatility of the assets could lead allocations to deviate significantly from their original weights. This extra work also drives higher fees as the portfolio manager may require more staff to manage all such positions.

Recent years have seen significant pushback against active investing strategies. Many investors have pulled their assets out of hedge funds, for example, due to those managers’ underperformance. Instead, some have chosen to place their money with passive managers. These managers adhere to investing styles that often employ managing index funds for strategic rotation. In these cases, portfolios often mirror a market index, such as the S&P 500.

## **1.3.7 Bottom-Up Investing**

### **What Is Bottom-Up Investing?**

Bottom-up investing is an investment approach that focuses on the analysis of individual stocks and de-emphasizes the significance of macroeconomic cycles and market cycles. In bottom-up investing, the investor focuses his attention on a specific company and its fundamentals, rather than on the industry in which that company operates or on the greater economy as a whole. This approach assumes individual companies can do well even in an industry that is not performing, at least on a relative basis.

Bottom-up investing forces investors to consider microeconomic factors first and foremost. These factors include a company’s overall financial health, analysis of financial statements, the products and services offered, supply and demand, and other individual indicators of corporate performance over time. For example, a company’s unique marketing strategy or organizational structure may be a leading indicator that causes a bottom-up investor to invest. Alternatively, accounting irregularities on a particular company’s financial statements may indicate problems for a firm in an otherwise booming industry sector.

## How Bottom-Up Investing Works

The bottom-up approach is the opposite of top-down investing, which is a strategy that first considers macroeconomic factors when making an investment decision. Top-down investors instead look at the broad performance of the economy, and then seek industries that are performing well, investing in the best opportunities within that industry. Conversely, making sound decisions based on a bottom-up investing strategy entails picking a company and giving it a thorough review prior to investing. This includes becoming familiar with the company's public research reports.

Most of the time, bottom-up investing does not stop at the individual firm level, although that is the dimension where analysis begins and where the most weight is given. Industry group, economic sector, market and macroeconomic factors are brought into the overall analysis in turn, but starting from the bottom and working your way up in scale.

Bottom-up investors are usually those who employ long-term, buy-and-hold strategies that rely strongly on fundamental analysis. This is due to the fact that a bottom-up approach to investing gives an investor a deep understanding of a single company and its stock, providing insight into an investment's long-term growth potential. Top-down investors, on the other hand, can be more opportunistic in their investment strategy, and may seek to enter and exit positions quickly to make profits off short-term market movements.

Bottom-up investors can be most successful when they invest in a company they actively use and know about from the ground level. Companies such as Facebook, Google and Tesla are all good examples of this idea, because each has a well-known consumer product that can be used every day. When an investor looks at a company from a bottom-up perspective, he first inherently understands its value from the perspective of relevance to consumers in the real world.

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### Key Takeaways

Bottom-up investing is an investment approach that focuses on the analysis of individual stocks and de-emphasizes the significance of macroeconomic cycles and market cycles. In bottom-up investing, the investor focuses his attention on a specific company and its fundamentals, rather than top-down investing that looks industry groups or on the greater economy first. The bottom-up approach assumes individual companies can do well even in an industry that is not performing, at least on a relative basis.

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## Example of a Bottom-Up Approach

Facebook (NYSE: FB) is a good potential candidate for a bottom-up approach because investors intuitively understand its products and services well. Once a candidate such as Facebook is identified as a "good" company, an investor conducts a deep dive into its management and organizational structure, financial statements, marketing efforts and price per share. This would include calculating financial ratios for the company, analyzing how those figures have changed over time, and project future growth.

Next, the analyst takes a step up from the individual firm and would compare Facebook's financials with that of its competitors and industry peers in the social media and internet industry. Doing so can show if Facebook stands apart from its peers or if it shows anomalies that others do not have. The next step up is to compare Facebook with the larger scope of technology companies on a relative basis. After that, general market conditions are taken into consideration, such as whether Facebook's P/E ratio is in line with the S&P 500, or whether the stock market is in a general bull market. Finally, macroeconomic data is included in the decision making, looking at trends in unemployment, inflation, interest rates, GDP growth and so on.

Once all these factors are built into an investor's decision, starting from the bottom up, then a decision can be made to make a trade.

## Bottom-Up versus Top-Down Investing

As we've seen, bottom-up investing starts with an individual company's financials and then adds increasingly more macro layers of analysis. By contrast, a top-down investor will first examine various macro-economic factors to see

how these factors may affect the overall market, and therefore the stock they are interested in investing in. They will analyze gross domestic product (GDP), the lowering or raising of interest rates, inflation and the price of commodities to see where the stock market may be headed. They will also look at the performance of the overall sector or industry that a stock is in. These investors believe that if the sector is doing well, chances are, the stocks they are examining will also do well and bring in returns. These investors may look at how outside factors such as rising oil or commodity prices or changes in interest rates will affect certain sectors over others, and therefore the companies in these sectors. (See also: A Top-Down Approach to Investing.)

For example, if the price of a commodity such as oil goes up and the company they are considering investing in, uses large quantities of oil to make their product, the investor will consider how strong an effect the rise in oil prices will have on the company's profits. So their approach starts out very broad, looking at the macroeconomy, then at the sector and then at the stocks themselves. Top-down investors might also choose to invest in one country or region, if its economy is doing well. So, for instance, if European stocks are faltering, the investor will stay out of Europe, and may instead pour money into Asian stocks if that region is showing fast growth.

Bottom-up investors will research the fundamentals of a company to decide whether or not to invest in it. On the other hand, top-down investors take into consideration the broader market and economic conditions when choosing stocks for their portfolio.

### **1.3.8 Manage My Own Investments? Are You Kidding?**

Individual investors now have unprecedented access to investment information and markets. Detailed security statistics and real-time news are easy to obtain online, which has leveled the informational playing field between Wall Street and Main Street. But even though individual investors are constantly encouraged to “do it themselves,” can they manage their investments as well as the professionals and without the assistance of paid advisors? More importantly, should individual investors go it alone? These are challenging questions that require honest self-evaluation to answer. Let's take a look at how you as an investor can tackle this subject and form an opinion on the matter.

#### **Individual Investor Performance**

Studies have shown the track record for individual investors is not encouraging. DALBAR, a leading financial services marketing research firm, released a study that showed from 1990 to 2010, the unmanaged S&P 500 Index earned an average of 7.81% annually. Over that same period, the average equity investor earned a paltry 3.49% annually.

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#### **Key Takeaways**

Detailed security statistics and real-time news are easy to obtain online, which has leveled the informational playing field between Wall Street and Main Street. If you determine that you have an essentially rational predisposition, you can largely control the remaining emotional vestiges by leaning on a process. You do not need to be a financial analyst, but you do need to be comfortable with numbers.

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The difference in wealth accumulation between these two numbers is staggering. Over 20 years, a \$100,000 investment would grow to nearly \$450,000 if compounded at 7.81%, while a \$100,000 investment would grow to only \$198,600 if compounded at 3.49%! It's important to note, however, the performance differential had little to do with the returns of the average equity mutual fund, which performed just shy of the index itself, but was most affected by the fact that investors were unable to manage their own emotions and moved into funds near market tops while bailing out at market lows.

#### **Spock vs. Captain Kirk**

One of the constant themes of the original 1960s television series “Star Trek” dealt with the relative strengths and weaknesses of emotion versus reason. Captain Kirk, the captain of the Starship Enterprise, often made decisions based

on his human instincts, which his purely logical Vulcan first officer, Spock, sometimes found irrational. However, these “gut-based” decisions yielded positive outcomes that seemed improbable based on reasoned analysis. At times, emotion and instinct proved successful, even in the face of reason. Unfortunately, while instinct prevailed in outer space, when it comes to investing, Spock would beat Captain Kirk over the long-term. There are instances when following a hunch proves profitable, but not very often. Over the long-term, reason, logic, and discipline will beat out emotion every time.

Our problem is that, like Captain Kirk, we are human. Divorcing ourselves from emotion is against our nature. Still, to the extent we are able, that is what we must do. Fear will lead you to sell just when an investment’s falling price is near its bottom. Over-optimism will cause you to buy just when the price is at its peak. Disciplining your emotional side is no easy task, even for a trained, experienced professional. Before you attempt to do it yourself, you must make an honest assessment of your emotional make-up. You don’t have to be Spock, but you can’t be Chicken Little either!

If you determine that you have an essentially rational predisposition, you can largely control the remaining emotional vestiges by leaning on a process. You must develop some rational, logical process to maintain discipline in the face of emotion. Without this process, you are destined to underperform. This process must be quantitative in nature and steadfast in approach.

### **Basic Attributes of a Successful Investor**

Assuming you possess the proper emotional constitution, what other basic abilities and resources are required to make your own investment decisions successfully? Some proficiency in math is essential. You do not need to be a financial analyst, but you do need to be comfortable with numbers. Words in an annual report or a prospectus can paint a deceptively positive picture, but numbers are harder to manipulate. You also need to be able to execute present value and/or future value calculations. You will find this easy to accomplish using any financial calculator.

You also need a way to accurately and reliably track the actual performance of your overall investment portfolio. Investors often suffer from selective memory. Successful selections are remembered clearly while unsuccessful choices are conveniently forgotten. Self-deception is no ally. You must be able to honestly assess how your do-it-yourself efforts match up against the professionals. Fortunately, brokerage houses are making reliable portfolio performance tracking more accessible to the individual investor.

In the final analysis, however, your requirements will be based on how much of the process you decide to do yourself. This does not have to be an all-or-none decision. You may find it wise to outsource some parts of the process to others.

### **Know Your Limitations**

You must make an honest assessment of your limitations to be successful in trading. Start with an area in which you have a high level of confidence and let others do the rest. You may feel confident you can act as your advisor but need to use professional money managers for mutual funds or private money managers for your investment assets. You may feel confident you can structure and manage a diversified portfolio of individual stocks but are not sure you can do the same with bonds, which can be significantly more complicated. Here again, you can make your stock selections but use outside managers to handle your fixed-income investments. As time passes and your abilities grow, you will be in a position to bring some or all of your outsourced areas back in-house.

### **Winning the Loser’s Game**

Winning the Loser’s Game (2002) by Charles D. Ellis sprang from an article he wrote in 1975. It was the article John Bogle cited as one of the major influences in his decision to create index mutual funds when he started Vanguard Group. In these pieces, Ellis states most professional money managers fail to outperform the market because they are the market consistently. Regardless of the asset class, highly skilled, highly trained, highly intelligent investment professionals dominate market landscapes. To think you can always do a better job than this amalgamated brain-trust borders on obsession.



What you may be able to do, however, is compete with these professionals by using their collective wisdom. For example, several decades ago, when McDonald's was the top hamburger chain and Burger King was number two, a marketing study revealed Burger King had developed a highly cost-effective way of deciding where to locate new restaurants. While McDonald's would spend millions of dollars carefully determining ideal spots to build, once that decision was made and construction began, Burger King would build a new restaurant across the street. By smartly leveraging McDonald's research, Burger King achieved a virtually identical location outcome at a fraction of the cost.

A great deal of time, energy, brain power, and resources are expended on Wall Street to generate volumes of information and data. With the internet, most of the critical components of this research are readily accessible for free. Use them!

## **You Can Do It**

Professionals struggle every day to compete effectively. Why, then, should it be easy for you? Your emotions will attempt to sabotage your effort, and the endeavor will require time and dedication. You may not need to give up your day job, but investing may need to become your primary hobby. Despite these challenges, you do have some advantages.

Your most significant strength is no one knows you better than you know yourself. This places you in a unique position to tailor your investment strategy more precisely. You also do not face many of the short-term pressures the professionals face. Despite their supposed long-term focus, they are primarily judged on recent performance, and failure to perform well in the short-term can lead to job loss. You are in a position to take a longer-term perspective. There is also a herd mentality on Wall Street. Going against the prevailing stampede is very difficult, even when that stampede is going in the wrong direction, as with the tech bubble in the late 1990s or with the subprime mortgage meltdown of 2007. You are not a member of the herd, so you are in a better position to go against the flow.

## **The Bottom Line**

Becoming your investment advisor and money manager is not easy, but it can be done, and if you genuinely enjoy investing, it can be gratifying.

### **1.3.9 6 Ways to Boost Portfolio Returns**

Today's investors are all looking for ways to earn higher returns. Here are some tried-and-true tips to help you improve your returns and possibly avoid some costly investment mistakes. For example, should you choose equity or bonds or both? Should you invest in small companies or large companies? Should you choose an active or passive investment strategy? What is rebalancing? Read on to glean some investor insights that stand the test of time.

#### **#1. Equities Over Bonds**

While equities do carry a higher risk than bonds, a manageable combination of the two in a portfolio can offer an attractive return with low volatility.

For example, during the investment period from 1926 (when the first tracking data was available) through 2010, the S&P 500 Index (500 U.S. large-cap stocks) achieved an average gross annual return of 9.9% while long-term U.S. government bonds averaged 5.5% for the same period.

If you then consider that the Consumer Price Index (CPI - a standard measure of inflation) for the period was 3%, that brought the adjusted real return down to 6.9% for stocks and 2.5% for bonds. Inflation can erode purchasing power and returns, but equity investing can help enhance returns making investing a rewarding venture.



## #2. Small vs. Large Companies

The performance histories of U.S. companies (since 1926) and international companies (since 1970) show that small-capitalization companies have outperformed large-capitalization companies in both the U.S. and international markets.

Smaller companies carry a higher risk than large companies over time because they are less established. They are riskier loan candidates for banks, have smaller operations, fewer employees, reduced inventory, and, typically, minimal track records. However, an investment portfolio that tilts to small-to-midsize companies over large size companies has historically provided higher returns than one that tilts to large-cap stocks.

U.S. small companies outperformed U.S. large companies by an average return of approximately 2% per year from 1926 to 2010. Using the same small-cap theory, international small companies outperformed international large companies by an average of 5.8 per year during the same period. The graph below shows the average annual index returns for both large and small companies from 1926 to 2010, and this trend has not changed from 2010 to 2018, according to US News.

## #3. Managing Your Expenses

How you invest your portfolio will have a direct impact on the cost of your investments and the bottom line investment return that goes into your pocket. The two primary methods to invest are through active management or passive management. Active management has significantly higher costs than passive. It is typical for the expense difference between active and passive management to be at least 1% per year.

Active management tends to be much more expensive than passive management since it requires the insights of high-priced research analysts, technicians, and economists who are all searching for the next best investment idea for a portfolio. Because active managers have to pay for fund marketing and sales costs, they typically attach a 12b-1, annual marketing or distribution fee on mutual funds, and sales loads to their investments so that Wall Street brokers will sell their funds.

Passive management is used to minimize investment costs and avoid the adverse effects of failing to predict future market movements. Index funds use this approach as a way of owning the entire stock market versus market timing and stock picking. Sophisticated investors and academic professionals understand that most active managers fail to beat their respective benchmarks consistently over time. Therefore, why incur the additional costs when passive management is typically three times less expensive?

Examples: A \$1,000,000 passively-managed portfolio with a 0.40% expense ratio will cost \$4,000 per year for the investments.

A \$1,000,000 actively-managed portfolio with a 1.20% expense ratio will cost \$12,000 per year for the investments.

## #4. Value vs. Growth Companies

Since index tracking has been available, value companies have outperformed growth companies in both the United States and international markets. Academic financial professionals that have studied both value and growth companies for decades have commonly referred to this as the “value effect.” A portfolio that tilts toward value companies above growth companies has historically provided higher investment returns.

Growth stocks tend to have high stock prices relative to their underlying accounting measures, and they are considered healthy, fast-growing companies that typically have little concern for dividend payouts. Value companies, on the other hand, have low stock prices relative to their underlying accounting measures such as book value, sales, and earnings.

These companies are distressed companies and may have poor earnings growth and a poor outlook for the future. Several value companies will offer an annual dividend payout for investors, which can add to the investor's gross return. This helps if the stock price has a slow appreciation for the given year. The irony is that these distressed value companies have significantly outperformed their healthy growth counterparts over long periods as the graph below illustrates.

## #5. Diversification

Asset allocation and diversification is the process of adding multiple asset classes that are different in nature (U.S. small stocks, international stocks, REITs, commodities, global bonds) to a portfolio with an appropriate percentage allocation to each class. Since asset classes have different correlations with one another, an efficient mix can dramatically reduce the overall portfolio risk and improve the expected return. Commodities (such as wheat, oil, silver) are known to have a low correlation to stocks; thus, they can complement a portfolio by reducing the overall portfolio risk and improving expected returns.

“The Lost Decade” has become a common nickname for the stock market period between 2000 through 2010 as the S&P 500 Index returned a measly average annual return of 0.40%. However, a diversified portfolio with various asset classes would have enjoyed considerably different results.

## #6. Rebalancing

Over time, a portfolio will drift away from its original asset class percentages and should be put back in line with the targets. A 50/50 stock-to-bond mix could easily become a 60/40 stock to bond mix after a prosperous stock market rally. The act of adjusting the portfolio back to its original allocation is called rebalancing.

Rebalancing can be accomplished in three ways:

Adding new cash to the under-weighted portion of the portfolio. Selling a portion of the over-weighted piece and adding this to the under-weighted class. Taking withdrawals from the over-weighted asset class.

Rebalancing is a smart, effective, and automatic way to buy low and sell high without the risk of emotions affecting investment decisions. Rebalancing can enhance portfolio performance and return a portfolio to your original level of risk tolerance.

## The Bottom Line

Despite how complicated portfolio investing has become over the last several decades, some simple tools have proved over time to improve investment results. Implementing tools such as the value and size effect along with superior asset allocation could add an expected return premium of up to 3 to 5% per year to an investor’s annual return. Investors should also keep a close eye on portfolio expenses, as reducing these costs adds more to their return instead of fattening the wallets of investment managers on Wall Street.

## 1.3.10 How to Adjust and Renew Your Portfolio

Portfolio rebalancing is nothing more than regular maintenance for your investments, like going to the doctor for a checkup or getting your car’s oil changed. Rebalancing means selling some stocks and buying some bonds, or vice versa, so that most of the time, your portfolio’s asset allocation matches the level of returns you’re trying to achieve and the amount of risk you’re comfortable taking. And while rebalancing does involve buying and selling, it is still part of a long-term, passive investing strategy – the type that tends to do the best in the long run. In this article, we’ll talk more about what rebalancing is as well as why, how often, and how to do it.

## Why Rebalance Your Portfolio?

Rebalancing your portfolio is the only way to stay on track with your target asset allocation. Asset allocation refers to the percentage of your portfolio that’s held in different investments, such as 80% stocks and 20% bonds. Your target asset allocation is the percentage you want to hold in each investment so that you’re comfortable with how much risk you’re taking and you’re on track to earn the investment returns you need to meet your goals, such as being able to retire by age 65. The more stocks you hold, the more risk you’re taking on and the more volatile your portfolio will

be – the more its value will change with swings in the market. But stocks tend to outperform bonds significantly over the long run, which is why so many investors rely more on stocks than on bonds to meet their goals.

When the stock market does well, the percentage of your portfolio's dollar value that's represented by stocks will increase as the value of your stock holdings goes up. If you start with an 80% allocation to stocks, for example, it might increase to 85%. Then, your portfolio will be riskier than you intended it to be. The solution? Sell 5% of your stock holdings and buy bonds with the money. That's an example of rebalancing.

When the market is doing well, you might have a hard time, psychologically speaking, with rebalancing. Who wants to sell investments that are doing well? They might go higher and you might miss out! Consider these three reasons:

They might go lower and then you'll suffer greater losses than you're comfortable with. When you sell an investment that's been performing well, you're locking in those gains. They're real; they don't just exist on a screen in your brokerage account. And when you buy an investment that's not performing as well, you're getting a bargain. Overall, you're selling high and buying low, which is exactly what all investors hope for. Rebalancing usually involves selling only 5% to 10% of your portfolio. So even if you are bothered by the idea of selling winners and buying losers (in the short term), at least you're only doing it with a small amount of your money.

Most of the time, you'll be selling stocks and rebalancing into bonds. A Vanguard study looked back over the years 1926 to 2009 and found that for an investor who wanted to maintain a balance of 60% stocks and 40% bonds, there were only seven occasions during those years when maintaining the ideal target allocation involved the bond proportion straying at least 5% from the 40% target.

You don't have to rebalance, of course. The more heavily your portfolio becomes weighted toward stocks, the higher your long-term returns will probably be. But they won't be that much higher than if you had a more balanced asset allocation, and the additional volatility might cause you to make financially harmful decisions, like selling stocks at a loss. For a completely rational investor (which no one really is), it might make sense to hold 100% stocks. But for anyone who has an emotional reaction to seeing their retirement account balance decline when the stock market suffers, holding some bonds and rebalancing regularly is the best way to stay on track with your plan and achieve the best risk-adjusted returns over time.

One of the times when investors found themselves rebalancing out of bonds and into stocks was during the financial crisis. At the time, it might have seemed scary to buy stocks that were plunging. But those stocks were essentially purchased at a huge discount, and the long bull market that followed the Great Recession rewarded those investors handsomely. Today, those same investors should still be rebalancing. If not, they will have become strongly overweighted in stocks and they'll suffer more than they need to the next time the market declines. Since markets are cyclical, it's only a matter of time until a market's fortunes, whether good or bad, reverse.

## How Often Should You Rebalance?

There are three frequencies with which you might choose to rebalance your portfolio:

According to a set timeframe, like once a year at tax time. Whenever your target asset allocation strays by a certain percentage, such as 5% or 10%. According to a set timeframe, but only if your target asset allocation has strayed by a certain percentage (a combination of choices 1 and 2).

The downside of the first option is that you might waste time and money (in the form of transaction costs) rebalancing needlessly. There's really no point in rebalancing if your portfolio is a mere 1% out of alignment with your plan.

You'll need to decide how much "drift" you're okay with – how far you're comfortable letting your asset allocation deviate from your target – to determine how often to rebalance. In other words, if your target allocation is 60% stocks, 40% bonds, do you want to rebalance when your portfolio has drifted to 65% stocks, 35% bonds, or are you comfortable waiting until it's reached 70% stocks, 30% bonds?

As it turns out, you don't need to worry much about when or how often to rebalance. The same Vanguard study that analyzed a 60/40 portfolio from 1926 through 2009 found that "there is no optimal frequency or threshold when selecting a rebalancing strategy." Someone who rebalanced monthly would have more than 1,000 rebalancing events,

while someone who rebalanced quarterly would have 335 and someone who rebalanced annually would have just 83. Yet the average annualized return and volatility were nearly identical among the three groups. Someone who had a 10% threshold and rebalanced annually (option 3) would have only had 15 rebalancing events over those 83 years. Vanguard recommends checking your portfolio every six months or once a year and rebalancing at a 5% threshold to strike the best balance between risk management and minimizing costs.

Taking it a step further, the Vanguard study actually found that it would be fine to never rebalance your portfolio. On average, someone who started with a 60% allocation to stocks would have ended up with an 84% allocation to stocks. This person would have spent zero time or money rebalancing. Their portfolio's volatility was about 2.5 percentage points higher than that of an investor who did rebalance. And their average annualized returns were 9.1%, compared with 8.6%, 8.8% and 8.6% for the hypothetical investors who rebalanced monthly, quarterly and annually.

Other times you might want to consider rebalancing annually are when your life situation changes in a way that affects your risk tolerance:

Married a multimillionaire? You can safely shift to more conservative asset allocation. Assuming both you and your spouse manage your existing assets wisely, you may already be set for life.

Become disabled or seriously ill? Again, you might want to rebalance into something more conservative since you want to be able to spend the money you have during the time you have left. You'll also need money for medical bills sooner rather than later.

Divorcing and not responsible for child support or alimony? With no one to provide for but yourself, you might decide to rebalance into a higher percentage of stocks since your risk-taking won't affect your family.

Planning to buy a house in the next few years? You'd be wise to rebalance into more bonds and fewer stocks so that you'll have plenty of cash to pull out – even if there's a market downturn – when you're ready to withdraw your down payment.

Now that we've covered what rebalancing is and why you should (probably, maybe) do it, let's talk about how to do it.

## **Look at Your Overall Portfolio**

To get an accurate picture of your investments, you need to look at all your accounts combined, not just individual accounts. If you have both a 401(k) and a Roth IRA, you want to know how they are working together. What does your combined portfolio look like? Obviously, you'll skip this step if you only have one investment account.

Use one of these three methods to create a combined picture of all your investment accounts.

1. **Spreadsheet.** On a single sheet, input each of your accounts, each of the investments within those accounts and how much money you have in each investment. Note whether each investment is a stock, bond or cash holding. Calculate the percentage of your total holdings allocated to each category. This isn't the easiest or fastest method, but it might be fun if you're a personal finance geek who likes making spreadsheets.

Next, compare the allocation of your holdings in each category to your target allocation. If any of your holdings are target-date funds or balanced funds, which will include both stocks and bonds, consult the website of the company that offers those funds (e.g., Fidelity, Vanguard, Schwab) or a research site such as Morningstar (which is what we used to create the spreadsheet below) to see how they're allocated.

Advanced tip: You can break down the stock and bond categories further for a more detailed picture. What percentage of your stocks, for example, are a small cap or large cap? What percentage are domestic or international? What percentage of your bonds are corporate and what percentage is a government issued security?

You'll notice when you look up your funds' asset allocations that funds supposedly 100% dedicated to a specific asset class often have a tiny percentage of their holdings, perhaps 0.5% to 2.0%, in cash. Don't sweat this small detail when rebalancing your portfolio.

Also, in the example above, you'll note that our investor hasn't strayed far from their target asset allocation. They might decide not to bother rebalancing until the difference is 5% or even 10%.

2. Brokerage software. Some brokerage firms allow their customers to view all their investments in one place, not just the investments they hold with that brokerage. Examples include the Merrill Edge Asset Allocator and Fidelity's Full View. You'll need to provide your login information for each account whose details you want to view. If you're using Fidelity's Full View, for example, and you have a self-employed 401(k) with Fidelity and a Roth IRA with Vanguard, you'll need to give Fidelity your Vanguard login details so you can see your two accounts' combined asset allocation.
3. Apps. Apps such as Personal Capital's Investment Checkup, SigFig's Portfolio Tracker, FutureAdvisor and Wealthica (for Canadian investors) can sync with your existing accounts to provide a regularly updated and complete picture of your investments. You can use these apps for free; their providers are hoping you'll sign up for one of the company's paid services, such as portfolio management. Again, you'll have to provide these sites with the login details of your brokerage accounts to see your combined asset allocation.

If you think finding a way to examine your overall portfolio is too much work or if you don't want to share your login details across sites, here's another strategy: Strive to maintain your target asset allocation in each of your accounts. Make sure your 401(k) is allocated 60% to stocks and 40% to bonds, and do the same for your IRA. Then rebalance within each account as needed.

## Analyze Your Portfolio

Once you have a complete view of your portfolio holdings, examine these four things:

1. Overall asset allocation. What percentage of your investments are in stocks, bonds, and cash? How does this allocation compare to your target allocation?

Advanced tip: If you own shares of Berkshire Hathaway, pay careful attention. While it's technically a stock, it has large cash and bond holdings. You might have to do some manual asset allocation calculations if the software you're using isn't smart enough to recognize this.

2. Overall risk. If you find that you have 70% stocks and 30% bonds, is that too risky for you? If you find that you have 20% cash, 30% bonds and 50% stocks, are you not taking enough risk to meet your investment goals?
3. Overall fees. Ideally, you want your investment fees to be as close to zero as possible, and thanks to increased innovation and competition in the investment marketplace, you might be able to achieve this goal. Fidelity's Total Market Index Fund (FSTMX), for example, has an annual expense ratio of 0.09% for its investor-class shares, which require a \$2,500 minimum investment in the fund. The higher your investment fees, the lower your returns, all else being equal. Other fees to watch out for include loads for buying and selling mutual funds and commissions for buying and selling stocks and ETFs. For long-term buy-and-hold investors, loads and commissions may cost less over time than annual expense ratios.
4. Returns. Are your portfolio's returns meeting your goals? If they aren't, that's not necessarily a problem: What you really care about are the long-term average annual returns, and your portfolio might have had a negative return over the last two years because of a recession. That's why you want to look at how your portfolio's investments are performing compared to similar investments. Is your stock market fund tracking the index it's supposed to track? You can look this up on Morningstar, which has determined appropriate benchmarks for different funds and has created color-coded graphs to show you how your fund has performed against its benchmark. Another possibility is that your portfolio's asset allocation can't possibly meet your goals. If your goal is to earn an 8% average annual return and your portfolio consists of 80% bonds and 20% stocks, there's almost no chance you're going to meet your goal unless you flip your asset allocation to 80% stocks and 20% bonds.

Advanced tip: If at this stage, you find that you have an unwieldy number of accounts – perhaps you have several 401(k) plans with several former employers – consider consolidating them. You can roll over old 401(k) balances to an IRA (traditional or Roth, depending on which kind of 401(k) you have or whether you're willing to pay taxes to switch to a Roth). The IRA switch will give you maximum control over your fees and investments. Or, if you like your current employer's 401(k) and your current employer allows it, you can roll your old 401(k) balances into your current 401(k). Note that 401(k) balances have more protection against creditors.

## Learn What's New

Investment innovation might mean that what you currently hold isn't the best option for meeting your goals. As an example, you might have an index mutual fund that charges an expense ratio of 0.5% when you could be holding a nearly identical index ETF with an expense ratio of 0.05%. Does this sound too good to be true? How could you get a nearly identical investment for so much less? Unlike some mutual funds, ETFs rarely charge sales loads or 12b-1 (marketing) fees. Also unlike some mutual funds, ETFs are usually passively managed (they follow a given index by investing in all the stocks in that index), not actively managed by human fund managers picking winners and losers. Passive management is not only less expensive but tends to yield better returns – partly due to the lower fees.

Another possibility is that you might want to move your assets to a robo-advisor to lower your fees and eliminate the task of managing your own investments. We talk more about robo-advisors a bit later in this article.

## What Should You Sell vs. Buy?

Next, it's time to figure out which investments to unload from your portfolio. Primarily, you want to sell overweighted assets. If stocks have been outperforming bonds, then your desired asset allocation will have gotten out of whack in favor of stocks. You might be holding 75% stocks and 25% bonds when your goal is to hold 70% stocks and 30% bonds. In that case, you'll need to sell 5% of your stock holdings.

Which stocks, including stock mutual funds and stock ETFs, should you sell? Start with these:

- stock funds with fees that are too high
- stock funds you don't understand
- stocks of companies whose business model you don't understand
- stocks and funds that are too risky or not risky enough for your tolerance
- stocks and funds that haven't performed as well as their benchmarks or as well as you expected them too
- individual stocks that are overvalued or underperforming their peers or that no longer have a positive outlook

If it is bonds you're looking to sell, consider these criteria:

- bonds whose credit rating has dropped (these bonds are now riskier than they were when you purchased them)
- bonds that are underperforming their benchmarks
- bonds with returns that aren't keeping pace with inflation
- bond funds with fees that are higher than they need to be (that is, you could get a nearly identical bond fund for less)

If none of these traits apply to your holdings, sell the investment with the lowest trading fee, such as shares of a no-transaction-fee mutual fund or ETF.

Before you can purchase new investments, you'll have to wait for your sales to settle. Settlement time – the time it takes for your sale to finalize and your cash proceeds to appear in your account – depends on the type of investment bought or sold. For stocks and ETFs, settlement time can be T+2 in industry jargon, where T is the date you place the trade and 2 is two business days. Mutual funds settle a bit faster, in one to two business days. Keep in mind that if you place a trade after the market closes, it won't be executed until the following business day.

While your sales are settling, decide what you want to buy. The easiest thing is to buy more of what you already have that you're underweight in. Reexamine that investment and ask yourself, "Would I buy it today?" If not, seek out a new investment that aligns with your goals.



## Portfolio Rebalancing by Age/Goals

Portfolio rebalancing in and of itself isn't really a function of how old you are or what you're trying to achieve with your portfolio. Asset allocation is. But since choosing an asset allocation is the precursor to portfolio rebalancing, let's talk about how you might allocate your portfolio at different key times in your life.

### Age 25

You've probably read that young investors should place a high percentage of their money in stocks since they have a long time horizon and since stocks tend to perform the best in the long run. But your ideal asset allocation depends not just on your age but also on your risk tolerance. If a 10% drop in the stock market would cause you to panic and start selling stocks, you have a lower risk tolerance than someone who would see that same market drop as a buying opportunity. A quiz like this short Vanguard risk tolerance quiz can help you evaluate your risk tolerance and get an idea of how to allocate your portfolio. A simplistic formula like 100 minus your age to get the percentage of your portfolio to allocate to stocks (75% for a 25-year-old) might be a useful starting point, but you'll need to tweak that percentage to suit your investing personality. You can invest 100% in stocks if you have a very high-risk tolerance and long time horizon, for example.

That Vanguard study we were talking about earlier found that with a hypothetical portfolio invested from 1926 through 2009, average annualized returns after inflation would be as low as 2.4% for someone invested 100% in bonds and as high as 6.7% for someone invested 100% in stocks. But the difference between investing 100% in stocks versus 80% in stocks, 20% in bonds was just half a percentage point, with the latter earning real average annualized returns of 6.2%. And someone invested 70% in stocks and 30% in bonds would have earned 5.9%, while a 60/40 investor would have earned 5.5%.

What we can take away from these findings is that the most important thing is to invest in something tried and true; maybe don't invest 100% or even 20% of your portfolio in bitcoin, which is still considered highly speculative. Since most people are more upset when they lose money in the stock market than they are happy when they make money in the stock market, a strategy that makes you comfortable with the amount of risk you're taking and helps you stay the course during market corrections is the best strategy for you. So even if you're 25 years old and you keep hearing that you should be invested 80% in stocks, if you're only comfortable with 50% in stocks and want to keep the other 50% in bonds, that's fine.

### Age 45

At this point in your life, you might have received an inheritance from a parent or grandparent and be wondering what to do with the money and how the windfall should affect your investment strategy. (Or you might not receive an inheritance ever, or not until you're in your 60s, 70s or 80s.) Another scenario many people face around age 45 is needing money to send a child to college – tens of thousands of dollars, or maybe even hundreds of thousands if you have multiple children or a private school-bound child who didn't receive any financial aid.

If you inherit assets, such as stocks, you have to decide how they fit into your overall portfolio and rebalance accordingly. Having more money might mean you'd prefer a more conservative allocation since you don't need to take on as much risk to achieve the growth you need. Inheriting lots of stocks might throw your target allocation way out of whack; you might need to sell off a lot of them and buy bonds. Or you might have inherited lots of bonds and want to own more stocks. You'll also want to think about whether the particular assets you've inherited are things you would buy if you were picking out investments with your own money. And if you inherit cash, well, you can just use the money to purchase the stocks and bonds you want to create your ideal asset allocation.

As far as paying for college, let's say you have a 529 plan, a tax-advantaged account that helps families save money for education expenses. When your child is 10 or more years away from college, you can use an aggressive asset allocation with a high percentage of stocks. As your child gets closer to college age, you need to rebalance in a way that makes your asset allocation more conservative. Use account contributions to buy bonds instead of stocks. The account's value needs to become less volatile and more stable over time so you'll be able to withdraw money for your child's education when you need it without having to sell investments at a loss. Some 529 plans even have age-based options that act like target-date retirement funds but with the shorter time horizon associated with raising kids and sending them to college.



Also at age 45, if you've been highly successful and watched your spending carefully, you might be on track to retire early. If that's the case, you might need to start rebalancing toward a more conservative asset allocation. Then again, you might not want to – it depends on your philosophy about stock ownership during retirement, which again has to do with your risk tolerance. When you're zero to 10 years away from retirement, your portfolio is considered to be in the transition stage. Most experts say you should be moving toward an asset allocation that's weighted more heavily toward bonds than toward stocks – but not too heavily, because you still need continued growth so you won't outlive your portfolio. Instead of moving toward the 40% bond, 60% stock asset allocation that might be recommended for someone planning to retire at age 65, you might move toward a 50/50 allocation. When rebalancing, you'll be selling stocks and buying bonds.

### Age 65

Age 65 represents the early years of retirement (or just before it) for most people who can afford to retire. (Full Social Security retirement age for people retiring right now is 66; Medicare starts at 65.) It can mean starting to withdraw retirement account assets for income. Rebalancing your portfolio at this age could mean selling stocks to gradually move your portfolio toward a heavier bond weighting as you get older. The only catch is that you won't want to sell stocks at a loss; which investments you'll sell for income will depend on what you can sell for a profit. Being diversified within each major asset class (for example, holding both large-cap and small-cap stock funds, both international and domestic stock funds, and both government and corporate bonds) gives you a better chance of always having assets to sell at a profit.

You should also have a retirement drawdown strategy in place – perhaps you're going to withdraw 4% of your portfolio balance in year one and adjust that dollar amount by the inflation rate in each following year. Portfolio rebalancing will require a different approach because you're now accounting for regular withdrawals, whereas before retirement, you were accounting only (or mostly) for contributions. You might also be making withdrawals from multiple accounts, which might mean rebalancing multiple accounts. Once you reach age 70½ you will have to start taking required minimum distributions (RMDs) from 401(k)s and traditional IRAs to avoid tax penalties.

When you take RMDs, you can rebalance your portfolio by selling an overweight asset class. Keep in mind that you'll be paying taxes on withdrawals of earnings and pre-tax contributions unless it's a Roth account. People with significant assets outside of retirement accounts can rebalance in a low-cost, tax-efficient way by gifting appreciated investments to charity or gifting low-basis shares (stock shares with huge capital gains on their original value) to friends or family.

Now that you understand how the rebalancing process works, the next question is whether to do it yourself, use a robo-advisor, or use a real, live investment advisor to help you. Consider the pros and cons of each in terms of skill, time and cost.

## DIY Portfolio Rebalancing

Rebalancing your portfolio on your own, without the help of a robo-advisor or investment advisor, doesn't require you to spend any money. What it does cost you is time; how much time depends on the complexity of your investments and your grasp of how to rebalance. If you have one IRA with one stock ETF and one bond ETF, rebalancing will be quick and easy. The more accounts and the more funds you have, the more complicated the task becomes.

The most common rebalancing advice is to sell the investments you're overweight in – which will almost always be stocks, since they grow faster than bonds, as we mentioned earlier – and use that money to buy the investments you're underweight in, which will almost always be the bond. But a simpler method that may have lower transaction costs is to use any new contributions to your account to purchase the investments you need more of.

If you receive a year-end bonus, a tax refund or a large gift, use that money. If you make a lump sum contribution to your IRA, divvy that money up between stocks and bonds in a way that rebalances your portfolio. You might not end up perfectly reallocating your investments back to your target ratio, but you might get close enough that it's worth not incurring any transaction costs from selling. That being said, many brokerage firms offer no-transaction-fee mutual funds and ETFs, in which case it won't cost you anything to buy and sell exactly what you need.

The biggest risks to DIY portfolio balancing are not doing it at all and, if you're working with a taxable account, incurring taxes – especially short-term capital gains taxes, which have a higher rate than long-term capital gains taxes.

Any time you pay investment taxes, you're hurting your net returns.

To sum up, here's an example of how this whole process plays out. TOTAL STARTING PORTFOLIO VALUE: \$10,000

Allocation before rebalancing:

Stock mutual fund value: \$7,500 (75% of your portfolio)

Bond mutual fund value: \$2,500 (25% of your portfolio)

To rebalance:

Sell: \$500 of the stock mutual fund

Buy: \$500 of the bond mutual fund

Allocation after rebalancing:

Stock mutual fund value: \$7,000 (70% of your portfolio)

Bond mutual fund value: \$3,000 (30% of your portfolio) TOTAL ENDING PORTFOLIO VALUE: \$10,000

One thing might complicate this process: The bond mutual fund you want to purchase additional shares of might have a minimum investment that's higher than \$500. If that happens, you could purchase shares of a nearly identical bond ETF that doesn't have any investment minimum.

Also, if you have to pay any commissions to buy or sell, your total ending portfolio value will dip below \$10,000.

### Automatic Portfolio Rebalancing

The easiest way to rebalance your DIY portfolio is to choose funds whose managers do the rebalancing for you. Target-date funds, which are mutual funds that hold a basket of investments and have an asset allocation that's based on your projected (target) retirement date, are an example of a type of fund that is rebalanced automatically. You don't have to do anything.

A fund for investors with a target retirement date of 2040, for example, might have a starting target asset allocation of 90% stocks and 10% bonds. The fund's managers will rebalance the fund as often as needed to maintain that target allocation. In addition, they will shift the fund's asset allocation over time, making it more conservative too and through 2040. These funds typically have low expense ratios; the industry average was 0.43% as of December 31, 2015.

What about balanced mutual funds? Also called hybrid funds or asset allocation funds, these are similar to target-date funds in that they hold both stocks and bonds and aim to maintain a specific allocation, such as 60% stocks and 40% bonds. However, that allocation doesn't change over time; balanced funds are for investors of any age. Balanced funds, like target-date funds, are rebalanced automatically. Balanced funds had an industry-average expense ratio of 0.74% in 2016.

### Robo-Advisor Rebalancing

First, a caveat: Most robo-advisors don't manage employer-sponsored retirement accounts. An exception is Bloom. Robo-advisors do, however, manage IRAs and taxable accounts.

Working with a robo-advisor requires virtually no time or skill on your part: The robo-advisor does all the work automatically. All you have to do is open an account, put money in it and choose your target asset allocation, or answer the software's questions to help it set a target asset allocation for you.

Costs are low, too. Robo-advisors such as Betterment, Wealthfront, and SigFig use strategies to make rebalancing less expensive by avoiding or minimizing short- and long-term capital gains taxes. A common strategy is to avoid selling any investments when rebalancing your portfolio. Instead, when you deposit cash or receive a dividend, the robo-advisor uses that money to purchase more of the investment you're underweight in.

If, for example, your portfolio has drifted from 60% stocks, 40% bonds to 65% stocks, 35% bonds, the next time you add money to your account, the robo-advisor will use your deposit to buy more bonds. By not selling any investments, you don't face any tax consequences. This strategy is called cash flow rebalancing.

You can use this strategy on your own to save money, too, but it's only helpful within taxable accounts, not within retirement accounts such as IRAs and 401(k)s. There are no tax consequences when you buy or sell investments within a retirement account.

Another strategy robo-advisors use to keep transaction costs low is to sell whichever asset class you're overweight at any time you decide to withdraw money from your portfolio.

Further, when your robo-advisor rebalances your portfolio, you won't incur the commissions, transactions or trading fees that you might encounter when rebalancing on your own or through an investment advisor. Robo-advisors don't charge these fees. Instead, they charge an annual fee based on the dollar amount of assets they manage for you. Betterment, for example, charges an annual fee of 0.25% of assets under management and there's no minimum account balance. And because robo-advisors are automated, they may rebalance your portfolio as often as daily, so it's usually in near-perfect balance.

## **Hiring an Investment Advisor**

If you hire someone to manage your investments, portfolio rebalancing is one of the tasks they'll do for you, along with creating an investment plan based on your goals and risk tolerance and recommending investments to help you meet those goals.

It's certainly possible to manage your investments and rebalance your portfolio yourself. But some people don't have the time, aren't confident in their ability to learn what they need to know and perform the right tasks, or just don't want to deal with it. Other people know how to manage their own investments but find themselves making emotional decisions that hurt their returns. If you fall into one of these categories, hiring an investment advisor could pay off.

You want to hire a fee-only fiduciary. This type of professional has no conflicts of interest that prevent them from acting outside your best interests. They are paid for the time they spend helping you, not for the specific investments they sell you or the number of trades they make on your behalf. For any fee-only fiduciary you're choosing, check their background using the Financial Industry Regulatory Authority's (FINRA) BrokerCheck website and the Securities and Exchange Commission's Investment Adviser Public Disclosure website. Depending on the type of advisor, you may be able to check their background at one, both or neither of these websites. If they do show up in one of these databases, you can see their work history, exams passed, credentials earned and any disciplinary actions or customer complaints against them. You can also sometimes check an advisor's credentials with the credentialing organization. You can verify, for example, an individual's certified financial planner certification and background at the CFP Board's website.

The biggest drawback to using an investment advisor to rebalance your portfolio is the cost of hiring one. The industry average cost is about 1.0% of assets managed per year. If your portfolio totals \$50,000, you'll pay your advisor \$500 per year. In addition, you'll pay any commissions and fees associated with the investments in your portfolio. Paying any fees, including an investment advisor's fees, will reduce your overall returns.

Some advisory services try to beat the industry average. Vanguard finds that on a \$250,000 investment with an average annual return of 6% over 20 years, using the company's Personal Advisor Services (which only cost 0.3% of assets under management per year) could give you \$96,798 more compared with paying the industry average 1.02% fee. Here, you're making more than average while spending less than average on fees.

An advisor's fee can pay for itself, and then some. Investors tend to earn lower returns than the funds they invest in because of their tendency to buy low and sell high. A financial advisor's behavioral coaching can overcome this problem. Working with an advisor can help you stay the course, especially in bull or bear markets when your emotions might tempt you to stray from your long-term investment strategy. A study Vanguard published in September 2016 found that through financial planning, discipline and guidance – not through trying to outperform the market – advisors can increase their clients' average annual returns by 3%.

Another reason to hire an investment advisor is if it's going to mean the difference between actually having an investment plan or doing nothing. The latter is toxic to your long-term financial health.

You don't have to hire someone on an ongoing basis; you can hire someone to help you on a per project or hourly basis. Not all advisors work this way, but many offer the option. And you can hire someone anywhere in the country whom you can consult online, by Skype or by phone.

Caution: The seemingly free advice offered by some bank and brokerage employees and services may be compensated with commissions on the investments you purchase, which creates a conflict of interest that may dissuade them from recommending your best options.

Another downside is that many advisors have investment minimums. Vanguard Personal Advisor Services has a fairly low minimum, at \$50,000. You might not have enough assets for certain advisors to take you on as a client. Some services require that you have at least half a million to invest.

The funny thing about hiring an advisor to rebalance your portfolio is that they're probably going to use an automatic asset rebalancing tool (in other words, software). This software accounts for the investor's risk tolerance, tax goals (such as tax loss harvesting and avoiding capital gains and wash sales) in the case of a taxable portfolio, and asset location (whether to hold certain investments in a nontaxable account such as a 401(k) or in a taxable brokerage account).

It's expensive, sophisticated software that you wouldn't buy on your own, yes. But robo-advisors also use the software. Why not, then, just hire a robo-advisor?

A Vanguard study published in May 2013 found that for 58,168 self-directed Vanguard IRA investors over the five years ended December 31, 2012, investors who made trades for any reason other than rebalancing – such as reacting to market shake-ups – fared worse than those who stayed the course. If robo-advising won't prevent you from buying high and selling low, then paying an individual investment advisor to make sure you stay disciplined with your investing strategy can pay off.

## The Bottom Line

The first time you rebalance your portfolio might be the hardest because everything is new. It's a good skill to learn and a good habit to get into, though. While it isn't designed to increase your long-term returns directly, it is designed to increase your risk-adjusted returns. For most people, taking a little less risk through rebalancing is a good thing because it keeps them from panicking when the market sours and helps them stick with their long-term investment plan. And that means the discipline of rebalancing can increase your long-term returns.

### 1.3.11 Diversification: It's All About (Asset) Class

If one were to poll investors and investment professionals to determine their ideal investment scenario, the vast majority would no doubt agree it is a double-digit total return in all economic environments, each and every year. Naturally, they would also agree that the worst-case scenario is an overall decrease in asset value. But despite this knowledge, very few achieve the ideal and many encounter the worst-case scenario.

The reasons for this are diverse: misallocation of assets, pseudo-diversification, hidden correlation, weighting imbalance, false returns, and underlying devaluation. The solution, however, could be simpler than you would expect. In this article, we will show how to achieve true diversification through asset class selection, rather than stock picking and market timing.

## The Importance of Asset Class Allocation

Most investors, including investment professionals and industry leaders, do not beat the index of the asset class in which they invest, according to two studies by Brinson, Beebower et al entitled "Determinants of Portfolio Performance" (1986) and "Determinants of Portfolio Performance II: An Update" (1991). This conclusion is also backed

up in a third study by Ibbotson and Kaplan entitled “Does Asset Allocation Policy Explain 40%, 90% or 100% of Performance?” (2000). Which begs the question, if a U.S. equities growth fund does not consistently equal or beat the Russell 3000 Growth Index, what value has the investment management added to justify their fees? Perhaps simply buying the index would be more beneficial.

Furthermore, the studies show a high correlation between the returns investors achieve and the underlying asset class performance. For example, a U.S. bond fund or portfolio will generally perform much like the Lehman Aggregate Bond Index, increasing and decreasing in tandem. This shows that, as returns can be expected to mimic their asset class, asset class selection is far more important than both market timing and individual asset selection. Brinson and Beebower concluded that market timing and individual asset selection accounted for only 6% of the variation in returns, with strategy or asset class making up the balance.

### **Broad Diversification Across Multiple Asset Classes**

Many investors do not truly understand effective diversification, often believing they are fully diversified after spreading their investment across large caps, mid or small caps, energy, financial, health care or technology stocks, or even investing in emerging markets. In reality, however, they have merely invested in multiple sectors of the equities asset class and are prone to rise and fall with that market.

If we were to look at the Morningstar style indexes or their sector indexes, we would see that despite slightly varying returns, they generally track together. However, when one compares the indexes as a group or individually to the commodities indexes, we do not tend to see this simultaneous directional movement. Therefore, only when positions are held across multiple uncorrelated asset classes is a portfolio genuinely diversified and better able to handle market volatility as the high-performing asset classes can balance out the underperforming classes.

### **Hidden Correlation**

An effectively diversified investor remains alert and watchful, because correlation between classes can change over time. International markets have long been the staple for diversification; however, there has been a marked increase in correlation between the global equity markets. This is most easily seen among the European markets after the formation of the European Union. In addition, emerging markets are also becoming more closely correlated with U.S. and U.K. markets. Perhaps even more troubling is the increase in what was an originally unseen correlation between the fixed income and equities markets, traditionally the mainstay of asset class diversification.

It is possible that the increasing relationship between investment banking and structured financing may be the cause for this, but on a broader level, the growth of the hedge fund industry could also be a direct cause of the increased correlation between fixed income and equities as well as other smaller asset classes. For example, when a large, global multi-strategy hedge fund incurs losses in one asset class, margin calls may force it to sell assets across the board, universally affecting all the other classes in which it had invested.

### **Class Realignment**

Ideal asset allocation is not static. As the various markets develop, their varying performance leads to an asset class imbalance, so monitoring and realignment is imperative. Investors may find it easier to divest underperforming assets, moving the investment to asset classes generating better returns, but they should keep an eye out for the risks of overweighting in any one asset class, which can often be compounded by the effects of style drift.

An extended bull market can lead to overweighting in an asset class that may be due for a correction. Investors should realign their asset allocation at both ends of the performance scale.

## Relative Value

Asset returns can be misleading, even to a seasoned investor. They are best interpreted relative to the performance of the asset class, the risks associated with that class and the underlying currency. One cannot expect to receive similar returns from tech stocks and government bonds, but one should identify how each fits into the total investment holding. Effective diversification will include assets classes of varying risk profiles held in various currencies. A small gain in a market with a currency that increases relative to your portfolio currency can outperform a large gain in a retreating currency. Likewise, large gains can become losses when converted back to a strengthened currency. For evaluative purposes, the investor should analyze the various asset classes in relation to their “home currency” and a neutral indicator.

The Swiss franc, which has been one of the more stable currencies since the 1940s with relatively low inflation, can be one benchmark against which to measure other currencies. For example, in a year in which the S&P 500 was up roughly 3.53% when factoring in the American dollar’s devaluation against other currencies in the same year, investors would effectively experience a net loss. In other words, an investor who chose to sell his or her entire portfolio at the end of that year would get more U.S. dollars than one year previously, but the investor could buy less with those dollars than the year before relative to other foreign currencies. When the home currency devalues, investors often ignore the steady decrease of their investments’ buying power, which is similar to holding an investment that yields less than inflation.

All too often, private investors become bogged down with stock picking and trading—activities that are not only time-consuming but can be overwhelming. It could be more beneficial—and significantly less resource-intensive—to take a broader view and concentrate on the asset classes. With this macro view, the investor’s individual investment decisions are simplified, and they may even be more profitable.

### 1.3.12 7 Market Anomalies Every Investor Should Know

It is generally a given that there are no free rides or free lunches on Wall Street. With hundreds of investors constantly on the hunt for even a fraction of a percent of extra performance, there are no easy ways to beat the market. Nevertheless, certain tradable anomalies seem to persist in the stock market, and those understandably fascinate many investors.

While these anomalies are worth exploring, investors should keep this warning in mind—anomalies can appear, disappear, and re-appear with almost no warning. Consequently, mechanically following any sort of trading strategy can be risky, but paying attention to these seven moments could reward sharp investors.

#### 1. Small Firms Tend to Outperform

Smaller firms (that is, smaller capitalization) tend to outperform larger companies. As anomalies go, the small-firm effect makes sense. A company’s economic growth is ultimately the driving force behind its stock performance, and smaller companies have much longer runways for growth than larger companies.

A company like Microsoft (MSFT) might need to find an extra \$6 billion in sales to grow 10%, while a smaller company might need only an extra \$70 million in sales for the same growth rate. Accordingly, smaller firms typically are able to grow much faster than larger companies.

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#### Key Takeaways

Market anomalies can be great opportunities for investors. Anomalies should influence but not dictate a trading decision. Proper research of a company’s financials is more important for long-term growth. Most market anomalies are psychologically driven. There is no way to prove these anomalies, since their proof would flood the market in their direction, therefore creating an anomaly in themselves.

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## 2. January Effect

The January effect is a rather well-known anomaly. Here, the idea is that stocks that underperformed in the fourth quarter of the prior year tend to outperform the markets in January. The reason for the January effect is so logical that it is almost hard to call it an anomaly. Investors will often look to jettison underperforming stocks late in the year so that they can use their losses to offset capital gains taxes (or to take the small deduction that the IRS allows if there is a net capital loss for the year). Many people call this event “tax-loss harvesting.”

As selling pressure is sometimes independent of the company’s actual fundamentals or valuation, this “tax selling” can push these stocks to levels where they become attractive to buyers in January. Likewise, investors will often avoid buying underperforming stocks in the fourth quarter and wait until January to avoid getting caught up in the tax-loss selling. As a result, there is excess selling pressure before January and excess buying pressure after January 1, leading to this effect.

## 3. Low Book Value

Extensive academic research has shown that stocks with below-average price-to-book ratios tend to outperform the market. Numerous test portfolios have shown that buying a collection of stocks with low price/book ratios will deliver market-beating performance.

Although this anomaly makes sense to a point—unusually cheap stocks should attract buyers’ attention and revert to the mean—this is, unfortunately, a relatively weak anomaly. Though it is true that low price-to-book stocks outperform as a group, individual performance is idiosyncratic, and it takes very large portfolios of low price-to-book stocks to see the benefits.

## 4. Neglected Stocks

A close cousin of the “small-firm anomaly,” so-called neglected stocks are also thought to outperform the broad market averages. The neglected-firm effect occurs on stocks that are less liquid (lower trading volume) and tend to have minimal analyst support. The idea here is that as these companies are “discovered” by investors, the stocks will outperform.

Many investors monitor long-term purchasing indicators like P/E ratios and RSI. These tell them if a stock has been oversold, and if it might be time to consider loading up on shares.

Research suggests that this anomaly actually is not true—once the effects of the difference in market capitalization are removed, there is no real outperformance. Consequently, companies that are neglected and small tend to outperform (because they are small), but larger neglected stocks do not appear to perform any better than would otherwise be expected. With that said, there is one slight benefit to this anomaly—through the performance appears to be correlated with size, neglected stocks do appear to have lower volatility.

## 5. Reversals

Some evidence suggests that stocks at either end of the performance spectrum, over periods of time (generally a year), do tend to reverse course in the following period—yesterday’s top performers become tomorrow’s underperformers, and vice versa.

Not only does statistical evidence back this up, but the anomaly also makes sense according to investment fundamentals. If a stock is a top performer in the market, odds are that its performance has made it expensive; likewise, the reverse is true for underperformers. It would seem like common sense, then, to expect that the over-priced stocks would underperform (bringing their valuation back in line) while the under-priced stocks outperform.

Reversals also likely work in part because people expect them to work. If enough investors habitually sell last year’s winners and buy last year’s losers, that will help move the stocks in exactly the expected directions, making it something of a self-fulfilling anomaly.



## 6. The Days of the Week

Efficient market supporters hate the “Days of the Week” anomaly because it not only appears to be true, but it also makes no sense. Research has shown that stocks tend to move more on Fridays than Mondays and that there is a bias toward positive market performance on Fridays. It is not a huge discrepancy, but it is a persistent one.

On a fundamental level, there is no particular reason that this should be true. Some psychological factors could be at work. Perhaps an end-of-week optimism permeates the market as traders and investors look forward to the weekend. Alternatively, perhaps the weekend gives investors a chance to catch up on their reading, stew and fret about the market, and develop pessimism going into Monday.

## 7. Dogs of the Dow

The Dogs of the Dow are included as an example of the dangers of trading anomalies. The idea behind this theory was basically that investors could beat the market by selecting stocks in the Dow Jones Industrial Average that had certain value attributes.

Investors practiced different versions of the approach, but there were two common approaches. The first is to select the 10 highest-yielding Dow stocks. The second method is to go a step further and take the five stocks from that list with the lowest absolute stock price and hold them for a year.

It is unclear whether there was ever any basis in fact for this approach, as some have suggested that it was a product of data mining. Even if it had once worked, the effect would have been arbitrated away—for instance, by those picking a day or week ahead of the first of the year.

To some extent, this is simply a modified version of the reversal anomaly; the Dow stocks with the highest yields probably were relative underperformers and would be expected to outperform.

## The Bottom Line

Attempting to trade anomalies is a risky way to invest. Many anomalies are not even real in the first place, but they are also unpredictable. What’s more, they are often a product of large-scale data analysis that looks at portfolios consisting of hundreds of stocks that deliver just a fractional performance advantage.

Likewise, it would seem to make sense to try to sell losing investments before tax-loss selling really picks up and to hold off buying underperformers until at least well into December.

# 1.4 Financial Technology & Automated Investing

Portfolio managers develop asset management models based on age, income, time to retirement, etc. They then plug your variables into their model to determine your so-called individualized portfolio.

## 1.4.1 Financial Technology

Financial technology, also known as Fintech, is a rapidly developing industry in which traditional banking, investing, and money management is moving to digital platforms.

## Financial Technology – Fintech

## What Is Financial Technology – Fintech?

Financial technology (Fintech) is used to describe new tech that seeks to improve and automate the delivery and use of financial services. At its core, fintech is utilized to help companies, business owners and consumers better manage their financial operations, processes, and lives by utilizing specialized software and algorithms that are used on computers and, increasingly, smartphones. Fintech, the word, is a combination of “financial technology”.

When fintech emerged in the 21st Century, the term was initially applied to the technology employed at the back-end systems of established financial institutions. Since then, however, there has been a shift to more consumer-oriented services and therefore a more consumer-oriented definition. Fintech now includes different sectors and industries such as education, retail banking, fundraising and nonprofit, and investment management to name a few.

Fintech also includes the development and use of crypto-currencies such as bitcoin. That segment of fintech may see the most headlines, the big money still lies in the traditional global banking industry and its multi-trillion-dollar market capitalization.

## Understanding Fintech

Broadly, the term “financial technology” can apply to any innovation in how people transact business, from the invention of digital money to double-entry bookkeeping. Since the internet revolution and the mobile internet/smartphone revolution, however, financial technology has grown explosively, and fintech, which originally referred to computer technology applied to the back office of banks or trading firms, now describes a broad variety of technological interventions into personal and commercial finance.

Fintech now describes a variety of financial activities, such as money transfers, depositing a check with your smartphone, bypassing a bank branch to apply for credit, raising money for a business startup, or managing your investments, generally without the assistance of a person. According to EY’s 2017 Fintech Adoption Index, one-third of consumers utilize at least two or more fintech services and those consumers are also increasingly aware of fintech as a part of their daily lives.

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## Key Takeaways

Fintech refers to the integration of technology into offerings by financial services companies in order to improve their use and delivery to consumers. It primarily works by unbundling offerings by such firms and creating new markets for them. Startups disrupt incumbents in the finance industry by expanding financial inclusion and using technology to cut down on operational costs. Fintech funding is on the rise but regulatory problems abound.

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## Fintech in Practice

The most talked-about (and most funded) fintech startups share the same characteristic: they are designed to be a threat to, challenge, and eventually usurp entrenched traditional financial services providers by being more nimble, serving an underserved segment or providing faster and/or better service.

For example, Affirm seeks to cut credit card companies out of the online shopping process by offering a way for consumers to secure immediate, short-term loans for purchases. While rates can be high, Affirm claims to offer a way for consumers with poor or no credit a way to both secure credits and also build their credit histories. Similarly, Better Mortgage seeks to streamline the home mortgage process (and obviate traditional mortgage brokers) with a digital-only offering that can reward users with a verified pre-approval letter within 24 hours or applying. GreenSky seeks to link home improvement borrowers with banks by helping consumers avoid entrenched lenders and save on interest by offering zero-interest promotional periods.

For consumers with no or poor credit, Tala offers consumers in the developing world microloans by doing a deep data dig on their smartphones for their transaction history and seemingly unrelated things, such as what mobile games they

play. Tala seeks to give such consumers better options than local banks, unregulated lenders and other microfinance institutions.

In short, if you have ever wondered why some aspect of your financial life was so unpleasant (such as applying for a mortgage with a traditional lender) or felt like it wasn't quite the right fit, fintech probably has (or seeks to have) a solution for you. For example, fintech seeks to answer questions like, "Why is what makes up my FICO score so mysterious and how it is used to judge my creditworthiness?"

As such, loan originator Upstart wants to make FICO (as well as other lenders both traditional and fintech) obsolete by using different data sets to determine creditworthiness. They include employment history, education, and whether a would-be borrower knows their credit score to decide on whether to underwrite and how to price loans. Similar treatment is given to financial services that range from bridge loans for house flippers (LendingHome), to a digital investment platform that addresses the fact that women live longer and have unique savings requirements, tend to earn less than men and have different salary curves that can leave less time for savings to grow (Ellevest).

### Fintech's Expanding Horizons

Up until now, financial services institutions offered a variety of services under a single umbrella. The scope of these services encompassed a broad range from traditional banking activities to mortgage and trading services. In its most basic form, Fintech unbundles these services into individual offerings. The combination of streamlined offerings with technology enables fintech companies to be more efficient and cut down on costs associated with each transaction.

If one word can describe how many fintech innovations have affected traditional trading, banking, financial advice, and products, it's 'disruption,' like financial products and services that were once the realm of branches, salesmen and desktops move toward mobile devices or simply democratize away from large, entrenched institutions.

For example, the mobile-only stock trading app Robinhood charges no fees for trades, and peer-to-peer lending sites like Prosper Marketplace, Lending Club and OnDeck promise to reduce rates by opening up competition for loans to broad market forces. Business loan providers such as Kabbage, Lendio, Accion and Funding Circle (among others) offer startup and established businesses easy, fast platforms to secure working capital. Oscar, an online insurance startup, received \$165 million in funding in March 2018. Such significant funding rounds are not unusual and occur globally for fintech startups.

Entrenched, traditional banks have been paying attention, however, and have invested heavily into becoming more like the companies that seek to disrupt them. For example, investment bank Goldman Sachs launched consumer lending platform Marcus in 2016 and recently expanded its operations to the United Kingdom.

That said, many tech-savvy industry watchers warn that keeping apace of fintech-inspired innovations requires more than just ramped up tech spend. Rather, competing with lighter-on-their-feet startups requires a significant change in thinking, processes, decision-making, and even overall corporate structure.

### Fintech and New Tech

New technologies, like machine learning/artificial intelligence, predictive behavioral analytics, and data-driven marketing, will take the guesswork and habit out of financial decisions. "Learning" apps will not only learn the habits of users, often hidden to themselves, but will engage users in learning games to make their automatic, unconscious spending and saving decisions better. Fintech is also a keen adaptor of automated customer service technology, utilizing chatbots to and AI interfaces to assist customers with basic task and also keep down staffing costs. Fintech is also being leveraged to fight fraud by leveraging information about payment history to flag transactions that are outside the norm.

## **Fintech Landscape**

Fintech startups received \$17.4 billion in funding in 2016 and were on pace to surpass that sum as of late 2017, according to CB Insights, which counted 26 fintech unicorns globally valued at \$83.8 billion. The same firm reported that there were 39 VC-backed fintech unicorns worth \$147.37 billion by the end of 2018.

North America produces most of the fintech startups, with Asia a relatively close second. Global fintech funding hit a new high in the first quarter of 2018 let by a significant uptick in deals in North America. Asia, which could surpass the United States in fintech deals, also saw a spike in activity. Funding activity in Europe was at a five-quarter low in Q1 2018 but surged back in Q2.

Some of the most active areas of fintech innovation include or revolve around the following areas:

Cryptocurrency and digital cash. Blockchain technology, including Ethereum, a distributed ledger technology (DLT) that maintain records on a network of computers, but has no central ledger. Smart contracts, which utilize computer programs (often utilizing the blockchain) to automatically execute contracts between buyers and sellers. Open banking, a concept that leans on the blockchain and posits that third-parties should have access to bank data to build applications that create a connected network of financial institutions and third-party providers. An example is the all-in-one money management tool Mint. Insurtech, which seeks to use technology to simplify and streamline the insurance industry. Regtech, which seeks to help financial service firms meet industry compliance rules, especially those covering Anti-Money Laundering and Know Your Customer protocols which fight fraud. Robo-advisors, such as Betterment, utilize algorithms to automate investment advice to lower its cost and increase accessibility.

Unbanked/underbanked, services that seek to serve disadvantaged or low-income individuals who are ignored or underserved by traditional banks or mainstream financial services companies. Cybersecurity, given the proliferation of cybercrime and the decentralized storage of data, cybersecurity and fintech are intertwined.

## **Fintech Users**

There are four broad categories of users for fintech: 1) B2B for banks and 2) their business clients, and 3) B2C for small businesses and 4) consumers. Trends toward mobile banking, increased information, data, and more accurate analytics and decentralization of access will create opportunities for all four groups to interact in heretofore unprecedented ways.

As for consumers, as with most technology, the younger you are the more likely it will be that you are aware of and can accurately describe what fintech is. The fact is that consumer-oriented fintech is mostly targeted toward millennials given the huge size and rising earning (and inheritance) potential of that much-talked-about segment. Some fintech watchers believe that this focus on millennials has more to do with the size of that marketplace than the ability and interest of Gen Xers and Baby Boomers in using fintech. Rather, fintech tends to offer little to older consumers because it fails to address their problems.

When it comes to businesses, before the advent and adoption of fintech, a business owner or startup would have gone to a bank to secure financing or startup capital. If they intended to accept credit card payments they would have to establish a relationship with a credit provider and even install infrastructure, such as a landline-connected card reader. Now, with mobile technology, those hurdles are a thing of the past.

## **Regulation and Fintech**

Financial services are among the most heavily regulated sectors in the world. Not surprisingly, regulation has emerged as the number one concern among governments as fintech companies take off.

As technology is integrated into financial services processes, regulatory problems for such companies have multiplied. In some instances, the problems are a function of technology. In others, they are a reflection of the tech industry's

impatience to disrupt finance.

For example, automation of processes and digitization of data makes fintech systems vulnerable to attacks from hackers. Recent instances of hacks at credit card companies and banks are illustrations of the ease with which bad actors can gain access to systems and cause irreparable damage. The most important questions for consumers in such cases will pertain to the responsibility for such attacks as well as misuse of personal information and important financial data.

There have also been instances where the collision of a technology culture that believes in a “Move fast and break things” philosophy with the conservative and risk-averse world of finance has produced undesirable results. San Francisco-based insurtech startup Zenefits, which was valued at over a billion dollars in private markets, broke California’s insurance laws by allowing unlicensed brokers to sell its products and underwrite insurance policies. The SEC fined the firm \$980,000 and they had to pay \$7 million to California’s Department of Insurance.

Regulation is also a problem in the emerging world of cryptocurrencies. Initial coin offerings (ICOs) are a new form of fundraising that allows startups to raise capital directly from lay investors. In most countries, they are unregulated and have become fertile ground for scams and frauds. Regulatory uncertainty for ICOs has also allowed entrepreneurs to slip security tokens disguised as utility tokens past the SEC to avoid fees and compliance costs.

Because of the diversity of offerings in fintech and the disparate industries it touches, it is difficult to formulate a single and comprehensive approach to these problems. For the most part, governments have used existing regulations and, in some cases, customized them to regulate fintech.

They have established fintech sandboxes to evaluate the implications of technology in the sector. The passing of General Data Protection Regulation, a framework for collecting and using personal data, in the EU is another attempt to limit the amount of personal data available to banks. Several countries where ICOs are popular, such as Japan and South Korea, have also taken the lead in developing regulations for such offerings to protect investors.

## Regtech

### What Is Regtech?

Regtech is the management of regulatory processes within the financial industry through technology. The main functions of regtech include regulatory monitoring, reporting, and compliance.

Regtech or RegTech consists of a group of companies that use cloud computing technology through software-as-a-service (SaaS) to help businesses comply with regulations efficiently and less expensively. Regtech is also known as regulatory technology.

[Important: Financial institutions and regulators both use Regtech to deal with complicated compliance processes.]

### Understanding Regtech

Regtech is a community of tech companies that solve challenges arising from a technology-driven economy through automation. The rise in digital products has increased data breaches, cyber hacks, money laundering, and other fraudulent activities.

With the use of big data and machine-learning technology, regtech reduces the risk to a company’s compliance department by offering data on money laundering activities conducted online—activities that a traditional compliance team may not be privy to due to the increase of underground marketplaces online.

Regtech tools seek to monitor transactions that take place online in real time to identify issues or irregularities in the digital payment sphere. Any outlier is relayed to the financial institution to analyze and determine if fraudulent activity is taking place. Institutions that identify potential threats to financial security early on are able to minimize the risks and costs associated with lost funds and data breaches.

Regtech companies collaborate with financial institutions and regulatory bodies, using cloud computing and big data to share information. Cloud computing is a low-cost technology wherein users can share data quickly and securely with other entities.

A bank that receives huge amounts of data may find it too complex, expensive, and time-consuming to comb through. A regtech firm can combine complex information from a bank with data from previous regulatory failures to predict potential risk areas that the bank should focus on. By creating the analytics tools needed for these banks to successfully comply with the regulatory body, the regtech firm saves the bank time and money. The bank also has an effective tool to comply with rules set out by financial authorities.

## **History of Regtech**

Following the 2008 financial crisis ushered in an increase in financial sector regulation. There was also a rise in the disruptive use of technology within the financial sector. Technology breakthroughs led to an increase in the number of fintech companies that create technology-driven products to enhance the customer experience and engagement with financial institutions.

The reliance on consumer data to produce digital products has led to concerns among regulatory bodies calling for more laws on data privacy usage and distribution. The coupling of more regulatory measures and laws with a sector more reliant on technology brought about the need for regulatory technology.

As of mid-2018, deregulation in the United States—as seen in the unwinding of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) rules—has led to a slowdown in regtech company financing deals, though the compliance burden should still fuel the drive toward greater automation.

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## **Key Takeaways**

Regtech is the management of regulatory processes within the financial industry. The main functions of regtech include regulatory monitoring, reporting, and compliance. It consists of a group of companies that help businesses comply with regulations efficiently and less expensively.

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## **Characteristics of Regtech**

Some of the important characteristics of regtech include agility, speed, integration, and analytics.

Regtech can quickly separate and organize cluttered and intertwined data sets through extract and transfer load technologies. Regtech can also be used to generate reports quickly. It can also be used for integration purposes to get solutions running in a short amount of time. Finally, regtech uses analytic tools to mine big data sets and use them for different purposes.

### **Regtech Applications**

Regtech operates in various spheres of the financial and regulatory space. A number of projects that regtech automates include employee surveillance, compliance data management, fraud prevention, and audit trail capabilities.

A regtech business can't just collaborate with any financial institution or regulatory authority as it may have different goals and strategies that differ from the other parties. For example, a regtech that seeks to identify credit card fraud in the digital payments ecosystem may not develop a relationship with an investment firm concerned with its employees' activities online or the Securities and Exchange Commission (SEC) whose current issue may be an increase in insider trading activities.

### **Regtech Companies**

Some example of notable regtech companies and the tools they have created include:

IdentityMind Global: Provides anti-fraud and risk management services for digital transactions by tracking payment entities. Trunomi: Securely manages the consent to use customer personal data. Suade: Helps banks submit required regulatory reports without disruption to their architecture. Silverfinch: Connects asset managers and insurers through a fund data utility to meet Solvency II requirements. PassFort: Automates the collection and storage of customer due diligence data. Fund Recs: Oversees how data is managed and processed by the fund industry.

## Micro-Investing Platform

### What is a Micro-Investing Platform

A micro-investing platform is an application that allows users to regularly save small sums of money. Micro-investing platforms aim to remove traditional barriers to investing, such as brokerage account minimums, to encourage people to invest even if they have limited incomes and assets. By making investing simple and painless, micro-investing platforms can help people who otherwise wouldn't accumulate savings for future investment.

### Breaking Down Micro-Investing Platform

Micro-investing platforms are the digital-age equivalent of taking all the spare change from your purchases and saving it in a jar until the jar is full and then taking the full jar of change to the bank. Here's an example of how a micro-investing platform might work. You sign up for an account with the platform and register your debit card. Each time you make a purchase, the platform rounds up your purchase to the nearest dollar and deposits the difference into an investment account.

You are unlikely to notice the extra \$0.50 missing from your account when you pay \$3.50 for a cappuccino, but over time, you will notice the growing sum in your brokerage account. If you buy that same coffee 20 times a month (basically, every workday), you will have effortlessly invested \$10 by the end of the month or \$120 by the end of the year. Of course, a better solution would be for you to make your own cappuccinos at home for \$0.50 and invest the \$3.00 savings per cup and end up with an extra \$60 a month and \$720 a year to invest, but for individuals who don't want to change their behavior, micro-investing offers a superior alternative to investing nothing at all.

### Micro-Investing Platform: How it Works

Micro-investing makes investing sums as low as a few pennies possible by eliminating per transaction fees and investment minimums. Consumers don't need to save up \$100 for one share of a stock or mutual fund, and they don't need to pay a brokerage fee of \$7.95 to purchase that share. Instead, they pay the micro-investing platform a nominal fee, perhaps \$1 per month, and it invests their money in fractional shares. Further, because those fractional shares are in exchange-traded funds (ETF), the consumer's investment is diversified across many different stocks and/or bonds, helping to protect against market swings in a way that investing in a single stock does not.

Even for people who save regularly, micro-investing platforms can improve their situation. Saving \$50 a month for 10 years in a savings account with 0% interest rate results in \$6,000, which actually has less intrinsic value after 10 years since savings accounts usually pay interest at a lower rate than inflation. Investing \$49 a month (after the \$1 platform fee) for 10 years with an average annual return of 7%, however, results in \$8,580 before taxes and inflation.

### Micro-Investing Platform and Automatic Investment

Automatic investment is not a required feature of a micro-investing platform; the ability to invest very small amounts of money is. To that end, some micro-investing platforms aim to help users to not only get in the habit of saving and investing but also to learn about investing. The platform might teach them how to choose an ETF based on their goals, risk tolerance, interests and beliefs, for example.



A notable micro-investing platform is Acorns Grow, Inc. which automatically invests a user's spare change through a smartphone app. Micro-investing platforms must register with the Securities and Exchange Commission (SEC) as a Registered Investment Advisor (RIA) and as a broker-dealer.

## **Collaborative Economy**

### **What Is a Collaborative Economy?**

A collaborative economy is a marketplace where consumers rely on each other instead of large companies to meet their wants and needs. Collaborative economies consist of giving, swapping, borrowing, trading, renting, and sharing products and services for a fee, between an individual who has something and an individual who needs something — generally with the help of a web-based middleman. A collaborative economy may also be known as a “shared economy,” “sharing economy,” or a “peer-to-peer economy.”

### **Understanding Collaborative Economy**

Essential to a collaborative economy is a company or group acts as a middleman to facilitate consumers' ability to rely on each other. For example, through Uber, individuals with cars can provide rides to other individuals who want an inexpensive alternative to taxi service; through Craigslist, individuals buy used vehicles and rent out extra living spaces to each other; and consumers on Etsy buy jewelry and other handmade items from individual crafters. The model behind many collaborative economy businesses may be best exemplified by that of eBay Inc., which has been linking buyers and sellers on the internet since 1995. As a “network orchestrator,” eBay creates a peer-to-peer network where participants interact, exchange items or services for money, and create value.

Collaborative economy may be a more accurate term for what may refer to as a “sharing economy,” because the middlemen that facilitate such economic activity do so for a fee. A 2015 Harvard Business Review article posited that when a market is mediated, it is more of an “access economy” than a sharing economy.

### **Collaborative Economy Examples**

Companies in the collaborative economy are often disruptive to established businesses (think Uber and the taxi industry or Airbnb and the hotel industry), and many have experienced rapid revenue growth. They rely on the digital space and smartphone apps to connect buyers and sellers. Online reviews and, in some cases, background checks facilitate trust to make these exchanges possible.

The collaborative economy encompasses many types of businesses. There are services like Taskrabbit which lets consumers hire individuals to complete tasks ranging from running errands to assembling furniture; Crowdfunding services like Lending Club which connect people who need to borrow money with numerous individuals who collectively fund loans; Room rental services like Airbnb that lets property owners earn extra income by renting out their spare rooms or entire homes to travelers; and peer-to-peer marketplaces such as Poshmark, used for reselling high quality used clothing.

### **Collaborative Economy Challenges**

Businesses that rely on customers who buy something rather than share it face a significant threat from businesses in the collaborative economy. Research shows that customers will consider sharing instead of buying if it will result in cost savings of at least 25%, if it is more convenient, or if it offers access to brand-name items. Likewise, sharers can be converted to buyers for the same reasons. Ownership-based companies can join forces with borrowing- or sharing-based companies so that both benefit, for example, specialty grocer Whole Foods's collaboration with Instacart, a grocery delivery service provided by independent contractors who work on their schedules.

A big uncertainty surrounding many collaborative economy companies is regulation. Collaborative platforms like Uber and Airbnb have faced well-publicized regulatory battles in numerous cities where their long-established competitors have tried to use fear of consumer harm as a premise, sometimes valid and sometimes overblown, to implement regulations to put these new companies out of business or to make doing business more difficult.

## **Decentralized Market**

### **What Is a Decentralized Market?**

A decentralized market is a market structure that consists of a network of various technical devices that enable investors to create a marketplace without a centralized location. In a decentralized market, technology provides investors with access to various bid/ask prices and makes it possible for them to deal directly with other investors and dealers rather than with a given exchange.

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### **Key Takeaways**

A decentralized market is a market, usually digital, where buyers and sellers can supersede the traditional method of trading within an exchange, instead dealing directly with each other. A common example of a decentralized market is real estate, where buyers deal directly with sellers. A newer example would be cryptocurrency and the blockchain system. Decentralized markets lack oversight, which can be seen as a benefit or a disadvantage. A benefit would be that costs can be low since there is no intermediary. A disadvantage would be that there are no governing authorities to monitor transactions, offer assistance, or provide a legal framework.

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### **How a Decentralized Market Works**

The foreign exchange market is an example of a decentralized market because there is no one physical location where investors go to buy or sell currencies. Forex traders can use the internet to check the quotes of various currency pairs from different dealers from around the world.

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### **Important**

In a basic sense, a decentralized market is where a variety of assets are bought, sold, or traded.

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Real estate, for example, is traditionally sold through a decentralized market, wherein buyers and sellers complete their transactions without first funneling the process through some sort of clearing house. Bonds and securitized products can also be procured through decentralized markets.

The advent and rise of blockchain technology and cryptocurrency have created more opportunities for decentralized markets to operate. Through such technology and mediums, buyers and sellers are afforded a sense of security and trust in transactions without the need for a central clearinghouse to monitor and affirm the transactions.

### **Why Decentralized Markets Are Used**

Among the perceived benefits of decentralized markets is the fact that it can greatly reduce the possibility of hackers compromising accounts or transactions because there is no single data resource they can attempt to infiltrate.

Decentralized markets can allow for transparency between parties, especially if they use technology that ensures all parties share mutually agreed-upon data and information in the transaction.

The concept of decentralized markets, in a basic sense, might not be new. As more financial transactions are conducted through them they can pose challenges for regulators and legal enforcement. By comparison, centralized markets give regulators a clear path for taking action, if necessary, regarding suspect transactions that may occur.

With the examples of blockchain and cryptocurrency, the absence of regulatory oversight of decentralized markets is often cited as a benefit by advocates for those technologies.

The continued growth of decentralized markets for financial transactions that use cryptocurrency has led to discussions on ways to potentially introduce regulation and enforcement. For some advocates of decentralized markets, this may diminish some of the benefits they sought for anonymity and direct control over the transactions they engage in.

## **Top 5 Books to Learn About the Fintech Industry**

Financial technology, commonly referred to by the shorthand phrase “fintech,” provides support and auxiliary services for the financial sector, and it is one of the most rapidly growing industries worldwide. For investors who want to gain a better understanding of the industry, here are five of the best books written explaining what fintech is all about, and how it is changing the financial services sector.

### **‘The FINTECH Book,’ by Susanne Chisti and Janos Barberis**

Subtitled “The Financial Technology Handbook for Investors, Entrepreneurs and Visionaries,” this book is a comprehensive guide to the fintech industry. It aims to provide information and helpful advice to bankers, fintech entrepreneurs and investors eyeing profit opportunities in the fintech industry. The book offers a compilation of knowledge and insights from leading fintech industry authorities.

The material included in “The FINTECH Book” was itself crowdsourced, mirroring one of the major fintech-related economic trends, and edited by two leading fintech authorities. Chisti is the chief executive officer (CEO) of FINTECH Circle, the first angel investor network in Europe with a focus on fintech. Barberis is the founder of the SuperCharger, a fintech accelerator based in Hong Kong.

### **‘Breaking Banks: The Innovators, Rogues, and Strategists Rebooting Banking,’ by Brett King**

Much of financial technology provides support services to banks and other traditional financial institutions. However, a number of fintech firms are disruptors within the financial services sector, and such companies are the subject of King’s book. The book provides insightful interviews with and stories about fintech entrepreneurs who are at the forefront of providing financial services through new, nontraditional means, and examines phenomena such as the rise of peer-to-peer (P2P) lending and robo-advisors.

King is a recognized authority on the changing face of banking and finance, the author of several books on technological advances in banking, and in 2012 was voted American Banker’s Innovator of the Year.

### **‘Smarter Bank: Why Money Management Is More Important Than Money Movement to Banks and Credit Unions,’ by Ron Shevlin**

The focus of Shevlin’s “Smarter Bank” text is not the disruptors emerging as competitors with traditional banks, but how the best and brightest banks are adapting to and taking advantage of technological innovations in financial services. Shevlin dubs those banks “smarter” that are embracing the latest technology and adjusting their business models to better mesh with financial services innovations and a changing financial marketplace. He shows how leading banks are employing fintech products and services to improve both customer relationships and bottom-line profitability. The book addresses a broad range of subjects, including innovations in the use of big data, customer engagement, the increasing importance of mobile banking and online payment services, and the financial behaviors of millennials. It is definitely a recommended read for banking executives.

Shevlin, a long-time marketing consultant and banking industry analyst, was in 2014 ranked No. 2 on Bank Innovation's list of "30 Innovators to Watch: Key Executives Shaping the Industry."

### **'Digital Bank: Strategies to Launch or Become a Digital Bank,' by Chris Skinner**

Skinner followed up his ninth book, "The Future of Banking in a Globalized World," with "Digital Bank," a book ambitiously aimed at offering a blueprint for creating what Skinner foresees as the bank of the future. The book is essentially an extension of the work that Skinner has been doing for years through the Financial Services Club, a networking forum for financial services professionals, which he founded in 2004. It's focused toward helping banking industry professionals become more aware of the impact of the digital revolution in banking — which encompasses mobile devices, social media connection, cloud computing and data analytics — and particularly the way in which mobile and internet banking is changing the ways in which both individuals and companies interact with their banks. Skinner offers illustrations and real-world examples of the changing face of banking and financial services through examinations of online banks, such as Ally Bank in the United States, Germany's Fidor Bank and the major European peer-to-peer lending service company Zopa.

### **'The Age of Cryptocurrency: How Bitcoin and Digital Money Are Challenging the Global Economic Order,' by Paul Vigna and Michael Casey**

As the title indicates, Vigna and Casey's book focuses on the rise of cryptocurrencies such as bitcoin. Vigna and Casey, reporters for the Wall Street Journal, explain the significance of alternative currencies and how they may revolutionize the world's basic monetary system by providing, through means of the rapidly developing blockchain technology, an entirely new financial system, one that opens up provision of basic financial services for the vast portion of the world's population that is unbanked. The authors provide a clear explanation of the origins of digital cryptocurrencies and how they function in providing transactions and other financial services outside of, and independently from, a central bank. In particular, the book provides a thorough examination of bitcoin, acknowledging its weaknesses but more emphatically acknowledging that the major cryptocurrency has established a firm foothold in the monetary world and is likely to continue to increase in acceptance and importance.

### **How WePay Works**

The ubiquitousness of the Internet has transformed various industries, providing consumers with the means to purchase goods or services through mobile apps and desktop platforms. Likewise, innovation has driven a dramatic shift in the way individuals and consumers make those payments. The gradual decline in cash and check payments is being met with increased usage of credit cards and payment apps.

It is estimated that cash-based transactions will decrease in the U.S. from \$1.4 trillion in 2014 to \$1.34 trillion in 2018. As an early developer of online payments, PayPal paved the way and revolutionized the industry. Apple (AAPL) and Google (GOOG) are also gaining traction in the payments space with their Apple Pay and Google Wallet platforms, which control 1.7 percent and 4 percent of all mobile payments respectively. Apple Pay allows iOS users to make mobile payments in stores while Google Wallet offers similar services for Gmail and Android users.

In addition to those two giants, smaller companies such as Stripe and WePay are making headway in the online payments industry. WePay provides marketplaces, crowdfunding sites, and small platform-oriented businesses with software to seamlessly facilitate payments and processing. Operating in stiff competition with PayPal and Stripe, WePay has grown over the last six years to processing \$1 billion in payments. In the ever changing economy, WePay's business model has provided a means for growth and expansion.

## **Simplifying the Payment Process**

Upon its founding in 2008, WePay was established to process payments amongst peer-to-peer groups such as friends, family, and sports teams. WePay has since pivoted, focusing on e-commerce platforms with the rise of online marketplaces and crowdfunding websites. The company differentiates its business model from the way other payment accounts operate. Traditional payment models tie an individual name to one account; however, WePay allows users to separate payments between multiple groups and even personal transactions. Accounts are still tied to an individual name, but transaction history is separated by different accounts.

WePay serves as the back office for payment processing of several e-commerce websites. The fall in cash and check payments and the popular utilization of electronic payments has resulted in WePay's rapid growth and expansion.

## **WePay Clear**

Launched in 2014, WePay Clear allows merchants to directly accept and process payments through customizable applications on their websites. Traditionally, small businesses have directed online payments through outside sources such as PayPal. With WePay Clear, websites no longer share user information with payment providers, limiting their exposure to outside sources of payment problems. While competitor Stripe offers a similar service, WePay Clear differentiates itself from the competition with comprehensive fraud and chargeback protection. Furthermore, as a white label solution, WePay withholds its brand from customers' business websites.

## **Sources of Revenue**

WePay's rapid financial growth has come largely from operating in ecommerce for small businesses and crowdfunding platforms. The company generates revenue through transaction fees on credit card and ACH payments. WePay charges 2.9 percent plus 30 cents for each credit card transaction and 1 percent plus 30 cents in fees for every bank (ACH) payment.

In the crowdfunding space, it is estimated that WePay has grown 276 percent in payment volume from 2013 to 2014. Furthermore, PaymentWeek forecasts WePay will triple its revenue by the end of 2014.

## **The Bottom Line**

As the online payments industry continues to mature, the volume of electronic payments will also increase. Although an infant in the industry, WePay offers robust APIs for customizable and fully integrated software geared towards online marketplaces and crowdfunding platforms. Unlike similar services, WePay's risk API provides full protection with no risk of loss for clients. Additionally, WePay's new service WePay Clear offers clients a seamless onboard checkout service within the company's website.

As consumers move away from cash and checks in favor of electronic payments, providers such as WePay must continue to develop the means to protect clients from hackers, fraud, and money laundering to be successful.

## **1.4.2 Automated Investing**

Automated investing is the use of digital platforms to make pre-programmed investing and trading decisions for customers based on algorithms and variables from the user such as age, income, goals, and risk tolerance.

## **5 Popular Robo-Advisors**

Robo-advisors have surged in popularity as people seek low-cost, automated investment opportunities. Within minutes, robo-advisors allow you to set up a customized, diverse portfolio. They can also give you access to wealth management

services previously reserved for the ultra-wealthy like tax-loss harvesting and access to a certified financial planner. For these, and other reasons, robo-advisors are increasingly attracting attention from investors.

## Growth in Robo-Advisors

As new firms enter the market and veteran robo-advisors increase their offerings, new robo-advisors continue to pop up. As an investor, how do you filter through all the brokerages to find the best one? In truth, the best robo-advisor will differ from investor to investor, depending on their respective financial situation and needs. However, the top-rated robo-advisors share common features:

- A low initial investment
- Decreased fees—by comparison to traditional advisors
- Popular investment options
- Comprehensive portfolio management features

## How Robo-Advisors Work

A robo-advisor is an investment platform that uses technology to help investors with their money. After you fill out your personal information, investment goals and risk tolerance, it will create a portfolio for you and manage it, making sure it stays on that trajectory over time. This is done through the use of algorithms. Many of these automated platforms will also rebalance your portfolio for you and use tax harvesting to lower your liability to the IRS.

## Why Use a Robo-Advisor?

There are many reasons why investors may choose to use robo-advisors as opposed to a traditional portfolio manager or financial advisor including:

**Low fees and no conflict of interest:** Many robo-advisors charge significantly lower fees compared to traditional financial advisors. And because it's an automated service, there's no conflict of interest, unlike a human financial advisor who may be under pressure to sell a specific set of products.

**Low minimum requirements:** Most financial advisors require a minimum investment of \$100,000 — a balance that may be unattainable upfront for many people. Robo-advisors have a much lower requirement, as low as \$500.

**Availability:** Unlike most firms, robo-advisors are there for you when you need them. As long as you have an internet connection, you can get the help you need.

### 1. Betterment

Robo-advisor behemoth Betterment LLC is best suited for new investors as it has no minimum account balance for its digital or standard plan. It had about \$13.5 billion in assets under management (AUM) as of February 2019. Betterment takes a passive approach to their investing and trades through the Apex Clearing Corporation—just like its main competitor Wealthfront.

It also offers top-tier portfolio management services through its Premium and Plus plans. Betterment employs automated tax-loss harvesting, and the company promises clients can keep “an additional 2.9% of your investment returns each year” because of its passive investing approach, rebalancing, and tax-efficient techniques.

Betterment offers a mix of low-fee stock and bond index funds. Based on a risk questionnaire, Betterment will provide you with a customized, diverse portfolio.

For its basic Digital plan, Betterment charges a 0.25% annual fee with no minimum balance, which includes access to automated portfolio management, customer service and all of its web tools. This plan also gives customers access to one phone consultation each year with Betterment's experts. If a customer has over \$2 million invested through Betterment, the customer pays 0.15% per year for anything above \$2 million.

Betterment's Premium plans are pricier and have account minimums. But, they offer clients unlimited calls with Betterment's team of financial planners. The minimum account balance for the premium plans is \$100,000, and the

annual fee is 0.40%. There are no additional transaction fees with Betterment except the low expense ratio fees charged by the fund companies. The premium plan is made for folks who have a more complex financial situation and want to discuss their strategy with a CFP instead of messaging. For Premium accounts with over \$2 million, the fee is .30% on the portion of your balance above \$2 million.

In addition to calls with financial advisors, Betterment offers retirement planning and a variety of account types such as IRA, 401(k) and trust accounts.

## 2. Personal Capital

Personal Capital is a good choice for anyone who may want an automated experience with regular access to a financial advisor. This all-in-one online financial platform provides a suite of free financial planning tools as well as calls with its team of advisors. It had over \$8.5 billion in AUM as of February 2019, with 19,000 clients across the U.S. The robo-advisor allows clients to connect their existing bank accounts to the platform to track their spending and retirement savings as well as their portfolio's performance. The robo-advisor follows the modern portfolio theory investing approach to determine your portfolio's optimal asset class mix and maximize your portfolio's return. Its portfolios have a weighted income expense average of 0.08%. The brokerage also employs tax loss harvesting and rebalancing.

The fees for this robo-advisor are higher than the others mentioned on this list, ranging from 0.49% to 0.89% annually. That means the company charges on a sliding scale. People who invest up to \$1 million will pay the highest fee — 0.89%. Thus, the more money a client invests, the lower the fee. That means anyone who invests more than \$10 million with the company will only pay 0.49% — the lowest fee on the scale.

While the company's fees are comparatively high, Personal Capital earns points for its wealth of financial planning tools and its dedicated team of financial advisors. Personal Capital offers three different accounts:

Investment Service for those who have up to \$200,000 in investable assets and two premium services  
Wealth Management plan for those with \$200,000 to \$1,000,000 in investable assets Private Client plan  
for those with more than \$1,000,000 in investable assets

While all plans give clients access to a human advisor, the premium plans provide access to dedicated financial advisors and additional wealth management features such as tax-loss harvesting, and a suite of other services like estate and tax planning services.

The company also offers a free Financial Tools app, which gives users access to services such as a retirement planner, an investment checkup and a budgeting plan.

## 3. Schwab Intelligent Portfolios

Charles Schwab's Intelligent Portfolios is a good choice for investors who don't want to be burdened with extra costs. Its "zero fees" structure has attracted a lot of attention, as it doesn't charge advisory fees, account fees, or commissions. Rather, clients of the Intelligent Portfolios pay the operating expenses on the exchange-traded funds (ETFs) in their portfolios—the same as they would pay if they invested in ETFs on their own. Schwab earns money from other sources including management fees from Schwab ETFs and select third-party ETFs. While Schwab's accounts are "free," a minimum balance of \$5,000 is required to open an account. This is the highest minimum requirement for all the robo-advisors included in this list.

Schwab offers IRAs, 401k, 401(k) rollover, retirement and trust accounts. As with Betterment, clients complete a risk-tolerance questionnaire when starting an account. The platform is goal-based and will construct a custom portfolio based on your responses to the questionnaires. Their ETF portfolio offers a wide variety of asset classes, and asset allocation is the basis of Schwab's investment philosophy. Like Betterment and most top-tier robo-advisors, it employs automatic rebalancing and automatic tax loss harvesting for accounts with a value greater than \$50,000.

According to Schwab's website: "The operating expenses you'll pay on the ETFs on your portfolio are the same as the ones you'd pay if you invested in them on your own." The expense ratios for Schwab's ETFs range from 0.03% to 0.40% based on data from Strategic Insight Simfund. The operating expenses you'll pay will differ depending on the makeup of your portfolio, especially since fundamentally weighted ETFs carry higher operating expense ratios.

## 4. SigFig



SigFig is best suited for those who may already have some investment savvy. It is worth considering if you are already using an online brokerage because it manages your existing investments. With SigFig, you keep your existing investments if you have holdings with TD Ameritrade, Charles Schwab or Fidelity Investments, and the robo-advisor creates an “intelligent, tax-efficient, diversified portfolio.”

Similar to other robo-advisors, SigFig requires you to complete a risk-assessment questionnaire to customize your portfolio. The minimum account balance with SigFig is \$2,000 and accounts under \$10,000 are managed for free. Accounts greater than \$10,000 pay an account fee of 0.25%. However, you are only charged the fee for the amount over the \$10,000 threshold.

SigFig offers two account types: the managed account and free portfolio tracker account. If you manage your account yourself, then you can use SigFig’s platform to streamline tracking how your portfolio is performing using its handy dashboard tools.

The managed account provides a suite of features such as access to phone calls with its financial advisors, asset allocation models, tax loss harvesting, automated rebalancing and automated reinvesting.

The robo-brokerage, which was founded in 2007, is steadily expanding its features and partnerships. SigFig is partnered with other brokerages including TD Ameritrade and Charles Schwab.

## 5. Wealthfront

Wealthfront is great for investors who want to take a worry-free, hands-off approach to their investment strategy. It is another robo-advisor behemoth with over \$10 billion in assets under management. The robo-advisor will build you a personalized, diverse portfolio based on your answers to a risk questionnaire. Your Wealthfront account is held at Apex Clearing Corporation (APEX), and Wealthfront makes investments on your behalf.

Wealthfront recently lowered its minimum investment amount to an affordable \$500. Additionally, there are no management fees for accounts with values of less than \$10,000. Once you hit \$10,000, the Wealthfront platform fees are 0.25% of your AUM. Similar to SigFig, the first \$10,000 is always managed for free. Wealthfront currently offers a referral program that will give you and your referee an extra \$5,000 to be managed with no management fees. There are no trading fees and the underlying mutual fund fees average a low 0.16%.

It offers a suite of portfolio management services and various account types such as individual accounts, trust accounts, IRAs and 529 College Savings Plans. The firm employs a tax-optimized direct investing strategy for tax-loss harvesting and minimizing investing costs. Under this strategy, individual stocks representing an index are purchased instead of the actual index ETF, so certain stocks may be sold for tax-loss harvesting. The firm also performs daily tax-loss harvesting. Finally, Wealthfront offers periodic rebalancing. This service is available to those with \$100,000 or more invested with Wealthfront.

The brokerage offers other additional features for those with \$100,000 or more invested in an individual or joint investment account such as its new portfolio line of credit program which was introduced in April 2017. In short, clients who meet the \$100,000 threshold automatically qualify for a loan worth up to 30% of their account balance. Wealthfront offers these loans at relatively attractive interest rates of 4.75% to 6.00% and offers a flexible repayment program. Cash deposited into the investment account associated with the loan is first applied to the loan’s balance before being reinvested, but there’s no fixed term for the loan.

Beyond the features mentioned above, Wealthfront offers several value-add features for accounts of all sizes. For example, its financial planning experience called Path. This financial planning feature is accessible from your dashboard. It analyzes your spending and savings patterns and provides recommendations based on your habits.

## The Bottom Line

The best robo-advisor truly differs from investor to investor. Those who value having access to a live human in addition to automated investing may be best served by companies like Personal Capital. The young or frugal investor in search of low fees may be best served by robo-advisor offerings from their own established discount brokerage with a relationship in place.

### 1.4.3 Blockchain Technology

Blockchain creates a faster, more efficient way for businesses to transmit, receive, and track orders using secure data. It is the foundation of cryptocurrency trading and is moving into regulated industries such as banking and auctions.

#### Distributed Ledgers

##### What Are Distributed Ledgers?

A distributed ledger is a database that is consensually shared and synchronized across multiple sites, institutions or geographies. It allows transactions to have public “witnesses,” thereby making a cyberattack more difficult. The participant at each node of the network can access the recordings shared across that network and can own an identical copy of it.

Further, any changes or additions made to the ledger are reflected and copied to all participants in a matter of seconds or minutes. Underlying the distributed ledger technology is the blockchain, which is the technology that underlies bitcoin.

##### Distributed Ledgers Explained

A distributed ledger can be described as a ledger of any transactions or contracts maintained in decentralized form across different locations and people, eliminating the need of a central authority to keep a check against manipulation. All the information on it is securely and accurately stored using cryptography and can be accessed using keys and cryptographic signatures.

Once the information is stored, it becomes an immutable database, which the rules of the network govern. While centralized ledgers are prone to cyber-attack, distributed ledgers are inherently harder to attack because all the distributed copies need to be attacked simultaneously for an attack to be successful. Further, these records are resistant to malicious changes by a single party.

Since ancient times, ledgers have been at the heart of economic transactions – to record contracts, payments, buy-sell deals or movement of assets or property. The journey which began with recording on clay tablets or papyrus made a big leap with the invention of paper. Over the last couple of decades, computers have provided the process of record keeping and ledger maintenance great convenience and speed.

Today, with innovation, the information stored on computers is moving towards much higher forms—which is cryptographically secured, fast and decentralized.

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#### Key Takeaways

Underlying the distributed ledger technology is the blockchain, which is the technology that underlies bitcoin. It can be described as a ledger of any transactions or contracts maintained in decentralized form across different locations and people. It eliminates the need of a central authority to keep a check against manipulation.

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#### Real World Example of Distributed Ledgers

Distributed ledger technology has great potential to revolutionize the way governments, institutions, and corporate work. It can help governments in tax collection, issuance of passports, record land registries, licenses and outlay of social security benefits as well as voting procedures.

The technology is making waves in several industries, including:

Finance Music and entertainment Diamond and precious assets Artwork Supply chains of various commodities

While the distributed ledger technology has multiple advantages, it's in a nascent stage and is still being explored to adopt in the best possible ways. The future of centuries-old ledgers is decentralized.

## **Blockchain-as-a-Service (BaaS)**

### **DEFINITION of Blockchain-as-a-Service (BaaS)**

Blockchain as a Service (BaaS) is an offering that allows customers to leverage cloud-based solutions to build, host and use their own blockchain apps, smart contracts and functions on the blockchain while the cloud-based service provider manages all the necessary tasks and activities to keep the infrastructure agile and operational. It is an interesting development in the blockchain ecosystem that is indirectly aiding the blockchain adoption across businesses. It is based on, and works similar to, the concept of Software As A Service (SaaS) model.

### **BREAKING DOWN Blockchain-as-a-Service (BaaS)**

Individuals and businesses are increasingly willing to adapt to blockchain technology. However, the technical complexities and operational overhead involved in creating, configuring, and operating the blockchain, and maintaining its infrastructure, often act as deterrents to its mass adoption. Along with leading tech giants, many startups are now offering a viable solution to this problem through the Blockchain-as-a-Service (BaaS) model. (See also, All About Amazon's New Blockchain Service.) How Does BaaS Work?

BaaS is when an external service provider sets up all the necessary "blockchain technology and infrastructure" for a customer for a fee. By paying for BaaS, a client pays the BaaS provider to set up and maintain blockchain connected nodes on their behalf. A BaaS provider handles the complex back-end for the client and their business.

The BaaS operator takes care of keeping all the important blockchain-related artifacts and the infrastructure up and running. It also includes support activities like bandwidth management, suitable allocation of resources, hosting requirements, and provides security features like the prevention of hacking attempts. By using a BaaS model, the client can now focus on their core job – the functionality of their blockchain – instead of worrying about infrastructure and performance related issues.

Think about BaaS' working similar to that of a web hosting provider. You build a fantastic website that is capable of getting millions of hits per day. You can host and run that website on your own computer/server from your own office and take care of all the maintenance and support work yourself or by hiring support staff. However, another hassle-free option is for you to host your website on an external web hosting provider like Amazon Web Services or HostGator, and let them take care of all infrastructure and maintenance issues. BaaS works similar to the second option and allows you to focus on your core website functionality.

Hyperledger Cello, a BaaS-like blockchain module toolkit and utility system under the Hyperledger project, provides a graphic demonstrating the working model of Blockchain-as-a-Service.

BaaS may be the necessary catalyst that can lead to a much wider and deeper penetration of blockchain technology across various industry sectors and businesses. Instead of creating and running their own blockchains, a business, large or small, can now simply "outsource" the technical complex work and focus on its core activities.

Large technology firms are already throwing their hats into the blockchain rings with their own BaaS offerings. Microsoft offers a BaaS module on its Azure platform, IBM has its own BaaS which is focused on private consortium blockchains, and Amazon and Oracle have their own blockchain cloud hosting services. (See also, Oracle to Launch Blockchain Products This Month.)

## How Blockchain Can Protect the Global Economy

For many investors and analysts, the 2008 financial crisis is a powerful demonstration of what happens when the financial world puts too much trust in centralized institutions. While cryptographers and computer scientists had already developed ideas for digital cash and some of the mechanisms involved in modern-day cryptocurrencies, the events of 2008 were in many ways a set of catalysts for the digital currency space as it exists today. Satoshi Nakamoto's famous bitcoin white paper was published in the same year as the financial crisis.

While it's impossible to go back in time, some supporters of blockchain believe that, if the new technology had been in existence earlier in the century, it might have prevented 2008's events from happening in the first place. A recent report by Coin Telegraph highlights some of the members of the cryptocurrency community who believe that distributed ledger technology could now help to prevent subsequent global financial turmoil as well.

### Issues of Trust

Fintech journalists Paul Vigna and Michael Casey have written on the subject of trust as a social resource. Indeed, Vigna and Casey point to a breakdown of trust as a potential primary issue in the collapse of Lehman Brothers a decade ago. The authors believe that, although many analysts see the 2008 crisis as the result of issues involving short-term liquidity, the deeper cause of the subprime mortgage bubble was more accurately described as society's imperturbable trust in financial institutions, their record-keeping systems and their practices. Because of this trust, bankers were not caught when they manipulated their ledgers in order to resell assets with little or no value over many years.

Lehman Brothers posted earnings of more than \$4 billion just months before folding. For Vigna and Casey, this suggests that the firm's financial statements were not based in reality. For these two authors, the issue comes down to the complexity and the outdated nature of bank accounting. When things went wrong at Lehman, the firm was able to hide its troubles by engaging in shady accounting practices.

### Blockchain for Trust and Transparency

Taking Vigna and Casey's argument, a large portion of the 2008 events were able to happen because of a severe lack of transparency in the financial status of big banks, as well as a limitless public trust in those banks. Certainly, while the 2008 crisis may have challenged society's trust in major financial institutions, overall that sense of trust remains to a high degree. Further, transparency remains a major issue.

This is where blockchain technology can help to prevent future crises like the one from 2008, according to the report. If every asset's value and ownership is securely recorded in a shared ledger that is entirely transparent and immutable, the corrupt practices that allowed institutions to hide their struggles will no longer be possible, according to the report. Blockchain expert Alex Tapscott has also argued that blockchain technology can enhance transparency of capital flows, thereby helping to prevent future financial disasters.

For blockchain supporters, the idea plays out as follows: A central bank will no longer go to individual banks in order to review their operations and records. Because there is a shared record of transactions, regulators can monitor cash flows as transactions are made. Because of this, central banks would at all times have a realistic picture of liquidity and the distribution of risk. They would also have an understanding of how each individual financial firm is behaving. This could take huge amounts of uncertainty out of the process of assessing the financial system's health; in turn, regulators would know in advance when things were starting to become unstable, and they could adjust accordingly before a crisis develops.

Blockchain proponents believe that the technology can provide numerous other benefits to the health of the financial world, too. These include protection against fraud, identity theft and much more. The technology seems to hold exceptional promise. However, whether and how it can be integrated into the mainstream financial landscape remains to be seen.

## How Health Care Is Moving Toward Blockchain

Although individuals on different sides of the political spectrum are likely to disagree about what's to be done to fix the U.S. health care system, few would likely dispute that the sector is in rough shape at this point.

To be sure, fixing health care is a process that's sure to be lengthy and to involve many factions within the business, science and political worlds. Still, even as debates have raged about large-scale issues with the industry, technological advances have helped to increase efficiency in small but important ways: New software allows for the safer, faster transmission and storage of health records by providers, for instance.

On the other hand, it's no secret that many parts of the health care industry are mired in technology and practices that could only be described as outdated. Pagers and fax machines come to mind. Many in the space agree with a 2016 report by the Government Accountability Office (GAO), summarized by HowToToken, that suggests that obsolete health care computer systems not only cost the industry money but also jeopardize the health and livelihood of patients. Given these issues, there are new signs emerging that the health care space may be primed to take advantage of blockchain technology, popular in the cryptocurrency space but not yet in the mainstream business world.

## How Could Blockchain Help?

John Halamka, chief information officer at Beth Israel Deaconess Medical Center in Boston, explained that patient data often is scattered across different facilities, making it difficult to access at crucial times. Blockchain technology could revolutionize the way that health data is stored and transmitted. Indeed, given that it sports an ultra-secure cryptographic database and shared ledger to provide for speedy and easy communication, blockchain tech may be just the solution for the industry.

With blockchain, health care systems could store medical records confidentially, updating patient data across multiple facilities and locations in real time and with security. This would free up time and resources in health facilities to be further dedicated toward patient care and innovation, rather than administration.

## Blockchain Solutions Already in Play

Several companies have already made use of blockchain in an effort to enhance health care. None of these operations has taken off on a national scale as of yet, but they signal interest within the industry, as well as a theoretical openness to new technology.

Hashed Health is one such company. Utilizing blockchain, Hashed Health generates a free and open community for health care professionals to discuss and partner in an effort to explore blockchain's uses in the industry. The company also provides an advisory branch to help health care organizations understand how blockchain can be integrated into existing systems. Finally, the company has a lab that aims to develop new blockchain tech solutions to problems that have plagued the health care industry.

MedRec is another blockchain-focused company in the health care space. MedRec operates a transparent peer-to-peer ledger that allows providers to track files and information seamlessly. The service allows for easier direct communication with patients, too. Clinicians, facilities and large-scale systems are connected on a single platform, allowing for the most efficient transmission of information possible.

DYNOSTICS is a third such company. Catering toward individual users, DYNOSTICS helps individuals to determine their current state of fitness, providing instantaneous feedback and a single location for all data. Like both of the other companies above, DYNOSTICS is focused on data security and privacy.

To be sure, there are other companies looking to revolutionize health care through blockchain, as well. Will any of these operations succeed in transforming the staid and, in many cases, problematic practices of the industry? That remains to be seen. However, the fact that companies within the blockchain space are making aggressive bids to attempt these solutions can be seen as a good sign of progress to come.

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## **How Blockchain Can Help Failing Economies**

When many investors in the U.S. hear the word “blockchain,” they immediately think of cryptocurrencies, and with good reason. The impressive new technology provides the support necessary for the decentralized, anonymized tracking and transaction of digital currencies around the world. However, as many industries are discovering, blockchain technology also allows for many other uses and applications as well.

From insurance and real estate to crowdfunding and data management, the potential applications of blockchain technology are numerous, and it’s likely that there will be new ways of adapting this technology to the mainstream business world in the future as well. But one important use of blockchain technology may be outside the mainstream business world: Some of the world’s most impoverished nations may benefit from the integration of blockchain technology in various ways.

## **Protecting Children**

The Democratic Republic of Congo, a central African country ravaged by a devastating and protracted war that has led to millions of deaths, is routinely listed among the poorest nations in the world. Now, a report from Bitcoin News highlights a project slated for launch later this year that could help to protect children there from forced labor. This project will provide global manufacturers of high-tech devices like smartphones with a guarantee that cobalt used in lithium-ion batteries was not mined by children. Democratic Republic of Congo has a significant problem with informal mining sites, many of which include child workers.

The country holds half of the cobalt reserves around the world, and this could prove to be beneficial to the struggling economy in the years to come, particularly as electric cars are likely to become increasingly popular. Indeed, for the year 2016, Congo mined 54% of the 123,000 tons of cobalt generated around the world.

## **Basic Necessities**

In Venezuela, where hyperinflation has prompted dramatic shortages of basic necessities and food, bitcoin and other cryptocurrencies could help ease the strain. Given its global usage and the relative ease of cross-border payments and transfers, cryptocurrency has been a viable alternative to an increasingly problematic local fiat money for many Venezuelan citizens.

Haiti, still reeling from hurricane and earthquake damage caused over the last decade, and with a gross national Income per capita of just \$810, according to the most recent census, also stands to benefit from blockchain. The Haitian government has suggested that blockchain technology could be used to record and register property transactions, voting, intellectual property and other aspects of bureaucracy.

For Paul Domjan, global head of research, analytics and data at investment bank Exotix, emerging nations are the most promising beneficiaries of blockchain tech. He argues that, because “frontier markets in Latin America, Sub-Saharan Africa, and South Asia lag far behind [in the area of ownership recording], with average performance less than half that of the best-performing economies,” they are primed for the benefits of blockchain.

Amnesty International researcher Mark Dummett has voiced cautious support for the integration of blockchain into efforts to address these and other problems plaguing developing nations, saying that “you have to be wary of technological solutions to problems that are also political and economic, but blockchain may help. We’re not against it.”



Besides the applications listed above, supporters of blockchain believe that it could enhance the distribution of government services in these nations, help to provide identity services and even help to enhance freedom of speech and anti-corruption activities as well. All of these ideas are promising on paper, but as of yet major project implementation has yet to take shape, although various companies and projects have discussed plans and potential applications.

## Blockchain Technology To Revolutionize Traditional Banking

One of the biggest threats to the banking sector today is technology. Whether it is coming from large technology firms such as Google Inc. (GOOG), Apple Inc. (AAPL), eBay Inc. (EBAY) or Amazon.com Inc. (AMZN), or from new financial technology (FinTech) start-ups, traditional banks are beginning to taking notice. One potential disrupter for the financial industry today comes from applications involving blockchain technology — the tamper-proof system of distributed ledgers which underlie cryptocurrencies such as Bitcoin. Large financial institutions, from investment banks to stock exchanges to central banks, are all beginning to work on their own blockchain-based solutions in order to stay on top of this innovation. (For more, see: Technology, The Biggest Threat to Banks.)

### Banks are Taking Notice

Before looking at just how blockchain technology can disrupt traditional banking, it is worth taking note of some the key institutions that have publicly announced interest in it (meanwhile, many other banks are doing so without informing the public). (See also: How Will Bitcoin 2.0 Change the World)

French investment bank BNP Paribas has announced it will begin looking at how blockchain technology can be applied to its currency funds and for order processing.

Technology-focused stock exchange NASDAQ OMX Group Inc. (NDAQ) has said it is working with blockchains to “reduce the time, costs, and points of friction across the capital markets.”

Goldman Sachs Group Inc. (GS), while not overtly reporting that they are working on anything in house, caused some speculation after it participated in a \$50 million investment round in funding Bitcoin wallet and payments company Circle, Inc.

Spain-based Banco Santander (SAN) is working internally to develop blockchain-based solutions that will reduce its costs by \$20 billion a year by the end of the decade.

Barclays (BCS) is viewing blockchain technology as “transformative” and is experimenting with it both internally and via partnerships with start-ups to use it as it relates to financial services.

Swiss investment bank UBS (UBS) has gone so far as to create its own standalone blockchain lab to conduct proprietary research for the company to use.

It has been revealed that Citigroup Inc. (C) has worked on at least three different blockchain-based undertakings including its own cryptocurrency known as CitiCoin.

Additionally, Société Generale, Standard Chartered, The Bank of England, Deutsche Bank, DBS Bank, BBVA (BBVA), LHV Bank, BNY Mellon (BK), CBW Bank, Westpac (WBK) and the Commonwealth Bank of Australia are all in the race to research and deploy this technology.

### Payments and Remittances

The most obvious and basic use for blockchain technology is its use as a payments system. Bitcoin and other cryptocurrencies act both as a digital money and also a method to send payments in that money-form around the globe. These transactions require only an internet connection and take place instantly. While it is true that it may take many minutes for a transaction to be 100% confirmed, the transaction itself takes place in a matter of moments. These transactions are borderless, secure and largely anonymous. Furthermore, transaction costs are minimal, costing only a few cents per transaction making it a much cheaper way to send money around the world than wire companies like



Western Union (WU) or via credit card processors such as Visa Inc. (V), Mastercard Inc. (MA) or Discover Financial Services (DFS). A merchant not wanting to pay the initial and ongoing fees in order to accept credit cards could take electronic payment via a cryptocurrency instead for a fraction of the cost.

Remittance overseas is a difficult undertaking. The fees are high, processing time is slow, the money can be intercepted or stolen, and there are legal and tax issues that must be considered. A blockchain-based system would eliminate these problems. Already there are dozens of companies that have been started to facilitate remittances in this way.

## **Account Balances and Deposits**

Consumers generally utilize banks to hold deposits in checking and savings accounts. But once you deposit money into a bank account, the bank loans most of it out via fractional reserve banking. As a result, most of the money that shows up when you view your account balance is not held by the bank. In fact, a bank run causes a bank to fail when too many customers attempt to withdraw their money all at the same time, and the money just isn't there. A bank account balance, therefore, is just an accounting entry.

The blockchain is ultimately a ledger that represents accounting entries. Therefore, bank accounts could come to be represented on blockchains making them more secure, accessible and cheaper to maintain. Furthermore, it could help alleviate the risk of bank runs.

## **Secondary Market Trading and Clearing**

The simplest purchase of a company's shares to a complex over-the-counter currency swap requires clearing and settlement of trades. Ownership of the asset or contract being traded must verifiably change hands and be recorded. Today, exchange fees and clearing fees are added to the cost of each trade and can become sizable over time and given large volumes of orders.

If the ownership of shares could exist on a blockchain and any change of ownership could be immediately validated and confirmed, it would greatly reduce transaction costs and clearing costs for all sorts of asset classes from stocks to bonds to derivatives to commodities to real estate. It is entirely possible that such storied institutions as the New York Stock Exchange or the Chicago Board of Trade may one day be replaced by a distributed ledger technology that is more secure, robust and less expensive to operate and transact on. (For more, see: *Medici: The Blockchain Based Stock Exchange*.)

Overstock (OSTK) recently announced it was developing a blockchain-based asset exchange called T0 in order to directly issue some of its corporate bonds to investors. New York-based bitcoin exchange Coinsetter has announced that it will roll out a blockchain-based platform to clear over the counter transactions which can settle in T+10 minutes. To put that in perspective, buying a share of stock on a U.S. exchange takes T+3 days to settle.

## **Primary Market Issuance and IPOs**

If secondary market trading can occur on blockchains, can primary markets also exist? The answer is yes. Imagine you are a company seeking to raise capital via issuing new shares to public via an IPO. Today, this would be a very expensive undertaking requiring an investment bank (or a syndicate of such banks) to underwrite and sell your shares. This can cost as much as 9% or more of the capital being raised.

Now, imagine that you can issue shares of your company by yourself directly to the blockchain where you can then sell them in exchange for money. These virtual shares can then be exchanged on secondary markets that also exist via the blockchain. If this scenario becomes accepted by the public, it could be a huge disrupter to both asset exchanges as well as the investment banking industry.

## The Bottom Line

Blockchain technology is being taken seriously by the financial sector as it may prove to be a great disrupter to the traditional banking industry. The tamper-proof, decentralized, immutable nature of the blockchain make it ideal for reducing costs and streamlining everything from payments, asset trading, securities issuance, retail banking, and clearing and settlements. It becomes obvious that blockchain technology is much more than Bitcoin or cryptocurrencies. While those implementations as payments and money systems are indeed disruptive, the greater disruption may come from alternative uses of this unique and powerful characteristics.

## 1.5 Fundamental Analysis

Fundamental analysis attempts to measure a security's intrinsic value by examining related economic and financial factors including the balance sheet, strategic initiatives, microeconomic indicators, and consumer behavior.

### 1.5.1 Essentials

#### Required Rate of Return – RRR

##### What Is Required Rate of Return – RRR?

The required rate of return is the minimum return an investor will accept for owning a company's stock, as compensation for a given level of risk associated with holding the stock. The RRR is also used in corporate finance to analyze the profitability of potential investment projects.

The required rate of return is also known as the hurdle rate, which like RRR, denotes the appropriate compensation needed for the level of risk present. Riskier projects usually have higher hurdle rates or RRRs than those that are less risky.

#### The Formula and Calculating RRR

There are a couple of ways to calculate the required rate of return. If an investor is considering buying equity shares in a company that pays dividends, the dividend-discount model is ideal. The dividend discount model is also known as the Gordon growth model.

The dividend-discount model calculates the RRR for equity of a dividend-paying stock by utilizing the current stock price, the dividend payment per share, and the forecasted dividend growth rate. The formula is as follows:

$$\text{RRR} = \text{Expected dividend payment} / \text{Share price} + \text{Forecasted dividend growth rate}$$

Calculating RRR Using the Dividend-Discount Model.

Take the expected dividend payment and divide it by the current stock price. Add the result to the forecasted dividend growth rate.

Another way to calculate RRR is to use the capital asset pricing model (CAPM), which is typically used by investors for stocks that don't pay dividends.

The CAPM model of calculating RRR uses the beta of an asset. Beta is the risk coefficient of the holding. In other words, beta attempts to measure the riskiness of a stock or investment over time. Stocks with betas greater than 1 are considered riskier than the overall market (represented by the S&P 500), whereas stocks with betas less than 1 are considered less risky than the overall market.

The formula also uses the risk-free rate of return, which is typically the yield on short-term U.S. Treasury securities. The final variable is the market rate of return, which is typically the annual return of the S&P 500 index. The formula for RRR using the CAPM model is as follows:

$$\text{RRR} = \text{Risk-free rate of return} + \text{beta} ( \text{Market rate of return} - \text{Risk-free rate of return} )$$

Calculating RRR using CAPM

Add the current risk-free rate of return to the beta of the security. Take the market rate of return and subtract the risk-free rate of return. Add the results to achieve the required rate of return.

Subtract the risk-free rate of return from the market rate of return.

Take that result and multiply it by the beta of the security.

Add the result to the current risk-free rate of return to determine the required rate of return.

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### **Key Takeaways**

The required rate of return is the minimum return an investor will accept for owning a company's stock, that compensates them for a given level of risk. Inflation must also be factored into an RRR calculation, which finds the minimum rate of return an investor considers acceptable, taking into account their cost of capital, inflation and the return available on other investments. The RRR is a subjective minimum rate of return, and a retiree will have a lower risk tolerance and therefore accept a smaller return than an investor who recently graduated college.

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### **What Does RRR Tell You?**

The required rate of return RRR is a key concept in equity valuation and corporate finance. It's a difficult metric to pinpoint due to the different investment goals and risk tolerance of individual investors and companies. Risk-return preferences, inflation expectations, and a company's capital structure all play a role in determining the company's own required rate. Each one of these and other factors can have major effects on a security's intrinsic value.

For investors using the CAPM formula, the required rate of return for a stock with a high beta relative to the market should have a higher RRR. The higher RRR relative to other investments with low betas is necessary to compensate investors for the added level of risk associated with investing in the higher beta stock.

In other words, RRR is in part calculated by adding the risk premium to the expected risk-free rate of return to account for the added volatility and subsequent risk.

For capital projects, RRR is useful in determining whether to pursue one project versus another. The RRR is what's needed to go ahead with the project although some projects might not meet the RRR but are in the long-term best interests of the company.

Inflation must also be factored into RRR analysis. The RRR on a stock is the minimum rate of return on a stock that an investor considers acceptable, taking into account their cost of capital, inflation and the return available on other investments.

For example, if inflation is 3% per year, and the equity risk premium over the risk-free return (using a U.S. Treasury bill which returns 3%), then an investor might require a return of 9% per year to make the stock investment worthwhile. This is because a 9% return is really a 6% return after inflation, which means the investor would not be rewarded for the risk they were taking. They would receive the same risk-adjusted return by investing in the 3% yielding Treasury bill, which would have a zero real rate of return after adjusting for inflation.

### **Examples of RRR**

A company is expected to pay an annual dividend of \$3 next year, and its stock is currently trading at \$100 a share. The company has been steadily raising its dividend each year at a 4% growth rate.

$RRR = 7\%$  or  $((\$3 \text{ expected dividend} / \$100 \text{ per share}) + 0.04 \text{ growth rate})$

In the capital asset pricing model (CAPM), RRR can be calculated using the beta of a security, or risk coefficient, as well as the excess return that investing in the stock pays over a risk-free rate, is the equity risk premium. RRR Using CAPM Formula Example

A company has a beta of 1.50 meaning it's riskier than the overall market's beta of one. The current risk-free rate is 2% on a short-term U.S. Treasury. The long-term average rate of return for the market is 10%.  $RRR = 12\%$  or  $(0.02 + 1.50 \times (0.10 - 0.02))$ .

## RRR vs. Cost of Capital

Although the required rate of return is used in capital budgeting projects, RRR is not the same level of return that's needed to cover the cost of capital. The cost of capital is the minimum return needed to cover the cost of debt and issuing equity to raise funds for the project. The cost of capital is the lowest return needed to account for the capital structure. The RRR should always be higher than the cost of capital.

## Limitations of RRR

The RRR calculation does not factor in inflation expectations since rising prices erode investment gains. However, inflation expectations are subjective and can be wrong.

Also, the RRR will vary between investors with different risk tolerance levels. A retiree will have a lower risk tolerance than an investor who recently graduated college. As a result, the RRR is a subjective rate of return.

RRR does not factor in the liquidity of an investment. If an investment can't be sold for a period of time, the security will likely carry a higher risk than one that's more liquid.

Also, comparing stocks in different industries can be difficult since the risk or beta will be different. As with any financial ratio or metric, it's best to utilize multiple ratios in your analysis when considering investment opportunities.

## The Formula for Calculating EBITDA (With Examples)

There are a number of metrics available to measure profitability. EBITDA (earnings before interest, taxes, depreciation, and amortization) is one indicator of a company's financial performance and is used to determine the earning potential of a company. With EBITDA, factors like debt financing as well as depreciation, and amortization expenses are stripped out when calculating profitability.

## Ways to Calculate EBITDA

There are two formulas for calculating EBITDA. The first formula uses operating income as the starting point, while the second formula uses net income. Both formulas have their benefits and drawbacks. The first formula is below:

$EBITDA = \text{operating income} + \text{depreciation and amortization}$

Operating income is a company's profit after subtracting operating expenses or the costs of running the daily business. Operating income helps investors separate out the earnings for the company's operating performance by excluding interest and taxes.

### EBITDA Example

Below is the income statement for JC Penney Company Inc. (JCP) as of May 5, 2018.

Operating income was \$3 million, highlighted in blue. Depreciation was \$141 million, but the \$3 million in operating income includes subtracting the \$141 million in depreciation. As a result, depreciation and amortization need to be added back into the operating income number during the EBITDA calculation. EBITDA was \$144 million for the period or \$141 million + \$3 million.

EBITDA can also be calculated by taking net income and adding back interest, taxes, depreciation, and amortization, whereby:

$$\text{EBITDA} = \text{net profit} + \text{interest} + \text{taxes} + \text{depreciation and amortization}$$

Below is the same income statement for JC Penney Company Inc. (JCP) from May 05, 2018. However, EBITDA is calculated using the net income formula.

Net income posted a loss of -78 million for the quarter, highlighted in blue. Depreciation was \$141 million, highlighted in red. Net interest expense was \$78 million while the company had a credit or benefit from income taxes for \$1 million, highlighted in green. EBITDA was \$140 million or  $-\$78 \text{ million} + \$141 \text{ million} - \$1 \text{ million} + \$78 \text{ million}$  (net interest). Since income tax was originally a credit of \$1 million, we deducted it back out to calculate EBITDA.

We can see from the above example that each EBITDA formula resulted in different profit numbers. The difference between the two EBITDA calculations can occur if companies have one-time adjustments like a credit from the sale of equipment or investment profits. As a result, both EBITDA formulas might yield slightly different results, and investors should be aware of what components make up the difference.

For JC Penney, the difference lies in the two numbers highlighted below. The pension income of \$19 million and the loss from extinguishment of debt of \$23 million netted out to the \$4 million difference. As a result, the EBITDA formulas can yield different results depending on whether the calculation uses the net income or the operating income formula.

#### Key Takeaways

EBITDA can be used to analyze and compare profitability among companies and industries as it eliminates the effects of financing and accounting decisions. Investors and analysts might want to use multiple profit metrics when analyzing the financial performance of a company since EBITDA does have some limitations.

As stated earlier, depreciation is not captured in EBITDA and can lead to distortions for companies with a significant amount of fixed assets. For example, oil companies have sizable amounts of fixed assets or property, plant, and equipment. As a result, the depreciation expense would be considerable, and with depreciation expenses removed, the earnings of the company would be inflated using EBITDA.

It's important to note that the calculation of EBITDA is not officially regulated allowing companies to massage the figure to make their company look more profitable. An unscrupulous company could use one calculation method one year and switch the calculation the following year if the second formula made the company appear more profitable. If the calculation method remains constant from year to year, EBITDA can be a very useful metric for comparing historical performance.

## Book Value Per Common Share - BVPS Definition

### What is Book Value Per Common Share?

Book value per common share (or, simply book value per share - BVPS) is a method to calculate the per-share value of a company based on common shareholders' equity in the company. Should the company dissolve, the book value per common share indicates the dollar value remaining for common shareholders after all assets are liquidated and all debtors are paid.

The Formula for Book Value Per Common Share Is

The book value per common share (formula below) is an accounting measure based on historical transactions:

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$$\text{BVPS} = (\text{Total Shareholder Equity} - \text{Preferred Equity}) / \text{Total Outstanding Shares}$$

### What Does BVPS Tell You?

The book value of common equity in the numerator reflects the original proceeds a company receives from issuing common equity, increased by earnings or decreased by losses, and decreased by paid dividends. A company's stock buybacks decrease the book value and total common share count. Stock repurchases occur at current stock prices, which can result in a significant reduction in a company's book value per common share. The common share count used in the denominator is typically an average number of diluted common shares for the last year, which takes into account any additional shares beyond the basic share count that can originate from stock options, warrants, preferred shares, and other convertible instruments.

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### Key Takeaways

Book value per common share calculates the per-share value of a company based on common shareholders' equity in the company. Since preferred stockholders have a higher claim on assets and earnings than common shareholders, preferred equity is subtracted from shareholder's equity to derive the equity available to common shareholders. If a company's BVPS is higher than its market value per share, then its stock may be considered to be undervalued.

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### Example of BVPS

As a hypothetical example, assume that XYZ Manufacturing's common equity balance is \$10 million, and that 1 million shares of common stock are outstanding, which means that the BVPS is (\$10 million / 1 million shares), or \$10 per share. If XYZ can generate higher profits and use those profits to buy more assets or reduce liabilities, the firm's common equity increases. If, for example, the company generates \$500,000 in earnings and uses \$200,000 of the profits to buy assets, common equity increases along with BVPS. On the other hand, if XYZ uses \$300,000 of the earnings to reduce liabilities, common equity also increases.

### The Difference Between Market Value per Share and Book Value per Share

The market value per share is a company's current stock price, and it reflects a value that market participants are willing to pay for its common share. The book value per share is calculated using historical costs, but the market value per share is a forward-looking metric that takes into account a company's earning power in the future. With increases in a company's estimated profitability, expected growth, and safety of its business, the market value per share grows higher. Significant differences between the book value per share and the market value per share arise due to the ways in which accounting principles classify certain transactions.

For instance, consider a company's brand value, which is built through a series of marketing campaigns. U.S. generally accepted accounting principles (GAAP) require marketing costs to be expensed immediately, reducing the book value per share. However, if advertising efforts enhance the image of a company's products, the company can charge premium prices and create brand value. Market demand may increase the stock price, which results in a large divergence between the market and book values per share.

### The Difference Between Book Value per Common Share and Net Asset Value (NAV)

While BVPS considers the residual equity per-share for a company's stock, net asset value, or NAV, is a per-share value calculated for a mutual fund or an exchange-traded fund, or ETF. For any of these investments, the NAV is calculated by dividing the total value of all the fund's securities by the total number of outstanding fund shares. NAV is generated daily for mutual funds. Total annual return is considered by a number of analysts to be a better, more accurate gauge of a mutual fund's performance, but the NAV is still used as a handy interim evaluation tool.

## Limitations of BVPS

Because book value per share only considers the book value, it fails to incorporate other intangible factors that may increase the market value of a company's shares, even upon liquidation. For instance, banks or high-tech software companies often have very little tangible assets relative to their intellectual property and human capital (labor force). These intangibles would not always be factored in to a book value calculation.

## Amortization vs. Depreciation: What's the Difference?

### Amortization vs. Depreciation: An Overview

The cost of business assets can be expensed each year over the life of the asset, and amortization and depreciation are two methods of calculating value for those business assets. The expense amounts are subsequently used as a tax deduction reducing the tax liability for the business. In this article, we'll review amortization, depreciation, and one more common method used by businesses to spread out the cost of an asset. The key difference between all three methods involves the type of asset being expensed. Amortization

Amortization is the practice of spreading an intangible asset's cost over that asset's useful life. Intangible assets are not physical assets, per se. Examples of intangible assets that are expensed through amortization might include:

Patents and trademarks Franchise agreements Proprietary processes, such as copyrights Cost of issuing bonds to raise capital Organizational costs

Unlike depreciation, amortization is typically expensed on a straight-line basis, meaning the same amount is expensed in each period over the asset's useful life. Additionally, assets that are expensed using the amortization method typically don't have any resale or salvage value, unlike with depreciation.

It's important to note the context when using the term amortization since it carries another meaning. An amortization schedule is often used to calculate a series of loan payments consisting of both principal and interest in each payment, as in the case of a mortgage.

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### Important

The term amortization is used in both accounting and in lending with completely different definitions and uses.

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## Depreciation

Depreciation is the expensing of a fixed asset over its useful life. Fixed assets are tangible assets, meaning they are physical assets that can be touched. Some examples of fixed or tangible assets that are commonly depreciated include:

Buildings Equipment Office furniture Vehicles Land Machinery

Since tangible assets might have some value at the end of their life, depreciation is calculated by subtracting the asset's salvage value or resale value from its original cost. The difference is depreciated evenly over the years of the expected life of the asset. In other words, the depreciated amount expensed in each year is a tax deduction for the company until the useful life of the asset has expired.

For example, an office building can be used for many years before it becomes run down and is sold. The cost of the building is spread out over the predicted life of the building, with a portion of the cost being expensed in each accounting year.

Depreciation of some fixed assets can be done on an accelerated basis, meaning that a larger portion of the asset's value is expensed in the early years of the asset's life. For example, vehicles are typically depreciated on an accelerated basis.



## Special Considerations

Depletion is another way the cost of business assets can be established. It refers to the allocation of the cost of natural resources over time. For example, an oil well has a finite life before all of the oil is pumped out. Therefore, the oil well's setup costs are spread out over the predicted life of the well.

With depreciation, amortization, and depletion, all three methods are non-cash expenses with no cash spent in the years they are expensed. Also, it's important to note that in some countries, such as Canada, the terms amortization and depreciation are often used interchangeably to refer to both tangible and intangible assets.

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## Key Takeaways

Amortization and depreciation are two methods of calculating the value for business assets over time. Amortization is the practice of spreading an intangible asset's cost over that asset's useful life. Depreciation is the expensing of a fixed asset over its useful life.

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## Revenue vs. Profit: What's the Difference?

### Revenue vs. Profit: An Overview

Revenue is the total amount of income generated by the sale of goods or services related to the company's primary operations. Profit, typically called net profit or the bottom line, is the amount of income that remains after accounting for all expenses, debts, additional income streams and operating costs.

### Revenue

Revenue is often referred to as the top line because it sits at the top of the income statement. The revenue number is the income a company generates before any expenses are taken out.

For example, with a shoe retailer, the money it makes from selling shoes before accounting for any expenses is its revenue. If the company also has income from investments or a subsidiary company, that income is not considered revenue; it does not come from the sale of shoes. Additional income streams and various types of expenses are accounted for separately.

### Profit

Also referred to as the bottom line, profit is referred to as net income on the income statement. There are variations of profit on the income statement that are used to analyze the performance of a company.

However, there are other profit margins in between the top line (revenue) and bottom line (net profit); the term "profit" may emerge in the context of gross profit and operating profit. These are steps on the way to net profit.

Gross profit is revenue minus the cost of goods sold (COGS), which are the direct costs attributable to the production of the goods sold in a company. This amount includes the cost of the materials used in creating the good along with the direct labor costs used to produce the good.

Operating profit is gross profit minus all other fixed and variable expenses associated with operating the business, such as rent, utilities, and payroll.

### **Example: Revenue vs. Profit**

Below are the figures and the income statement portion for J.C. Penney for 2017. The numbers were reported on their 10K annual statement, page 46, closing on February 03, 2018.

Revenue or Total Net Sales = \$12.50 billion Gross Profit = \$4.33 billion (total revenue of \$12.50B - COGS of \$8.17B) Operating Profit = \$116 million (minus all other fixed and variable expenses associated with operating the business, such as rent, utilities, and payroll) Profit or Net income = -\$116 million (a loss)

### **Key Differences**

When most people refer to a company's profit, they are not referring to gross profit or operating profit, but rather net income, which is the remainder after expenses, or the net profit. It's possible for a company to generate revenue but have a net loss. We can see that J.C. Penney suffered a loss on the bottom line of \$116 million, despite earning \$12.5 billion in revenue. The loss occurs typically when debts or expenses outstrip earnings, as in the case of J.C. Penney.

### **Special Considerations**

Accrued revenue is the same as unrealized revenue. Accrued revenue is the revenue earned by a company for the delivery of goods or services that have yet to be paid by the customer.

For example, a company sells widgets for \$5 each on net-30 terms to all of its customers and sells 10 widgets in August. Since it invoices its customers on net-30 terms, the company's customers won't have to pay until 30 days later, or on September 30. As a result, the revenue for August will be considered accrued revenue until the company receives customer payment.

From an accounting standpoint, the company would recognize \$50 in revenue on its income statement and \$50 in accrued revenue as an asset on its balance sheet. When the company collects the \$50, the cash account on the income statement increases, the accrued revenue account decreases, and the \$50 on the income statement will remain unchanged.

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### **Important**

It's important not to confuse accrued revenue with unearned revenue; unearned revenue can be thought of as the opposite of accrued revenue.

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Unearned revenue accounts for money prepaid by a customer for goods or services that have not been delivered. If a company requires prepayment for its goods, it would recognize the revenue as unearned, and would not recognize the revenue on its income statement until the period for which the goods or services were delivered.

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### **Key Takeaways**

Revenue is the total amount of income generated by the sale of goods or services related to the company's primary operations. Profit is the amount of income that remains after accounting for all expenses, debts, additional income streams, and operating costs. While revenue and profit both refer to money a company earns, it's possible for a company to generate revenue but have a net loss.

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### **Bottom-Line Growth vs. Top-Line Growth: What's the Difference?**

## Bottom-Line Growth vs. Top-Line Growth: An Overview

The top line and bottom line are two of the most important lines on the income statement for a company. Investors and analysts pay particular attention to them for signs of any changes from quarter to quarter and year to year.

The top line refers to a company's revenues or gross sales. Therefore, when a company has "top-line growth," the company is experiencing an increase in gross sales or revenues.

The bottom line is a company's net income, or the "bottom" figure on a company's income statement.

More specifically, the bottom line is a company's income after all expenses have been deducted from revenues. These expenses include interest charges paid on loans, general and administrative costs, and income taxes. A company's bottom line can also be referred to as net earnings or net profits.

## Key Differences

The most profitable companies typically grow both their top and bottom lines. However, more established companies might have flat sales or revenue for a particular reporting period but are still able to boost their bottom line through expenses reduction. Cost-cutting measures are common during periods of sluggish economic activity or recessions.

## Important

Knowing the factors that impact both the top and bottom lines can help investors determine whether a company's management is growing their sales and revenue and managing expenses efficiently.

## Special Considerations

Management can enact strategies to increase the bottom line. For starters, increases in revenue, or the top line, should filter down and boost the bottom line. This may be done through increasing production, lowering sales returns through product improvement, expanding product lines, or increasing prices. Other income, such as investment income, interest income, rental, or co-location fees collected, and the sale of property or equipment, also increase the bottom line.

A company can increase its bottom line through the reduction of expenses. A company's products could be produced using different input goods or with more efficient methods. Decreasing wages and benefits, operating out of less expensive facilities, utilizing tax benefits, and limiting the cost of capital are ways to increase the bottom line. For example, a company finding a new supplier for raw materials that resulted in a cost savings of millions of dollars would give a boost to the company's bottom line. Conversely, if a company's bottom line shows a decrease from one period to the next, it's an indication the company has suffered a dip in income or a surge in expenses.

From an accounting standpoint, the bottom line of a company does not carry over from one period to the next on the income statement. Accounting entries are performed to close all temporary accounts including all revenue and expense accounts. Upon the closing of these accounts, the net balance, or the bottom line, is transferred to retained earnings.

The bottom line figure, or net income, can be spent in a number of different ways by a company's executives. The bottom line can be used to issue payments to stockholders in the form of dividends as an incentive to maintain ownership. Alternatively, the bottom line can be used to repurchase stock and retire equity. Or perhaps a company may keep all earnings reported on the bottom line to utilize in product development, location expansion, or other means of improving the company.

## Bottom-Line Growth vs. Top-Line Growth: Example

Apple Inc. (AAPL) posted a top-line revenue number of \$228.57 billion at the end of their fiscal year on September 30, 2017. The company's revenue number represented a 6.7 percent top-line growth rate from the same period a year

earlier.

Apple posted a bottom-line number of \$48.35 billion in the same period, which represented a 5.8 percent increase in their bottom line from 2016.

A company like Apple might experience top-line growth due to a new product launch like the new iPhone, a new service, or a new advertising campaign that lead to increased sales which boosted revenue by 6.7 percent year-on-year. Bottom-line growth might have occurred from the increase in revenues, but also from keeping expenses under control.

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### **Key Takeaways**

Both the top-line and bottom-line figures are useful in determining the financial strength of a company, but they are not interchangeable. The bottom line describes how efficient a company is with its spending and managing its operating costs. Top line, on the other hand, only indicates how effective a company is at generating sales and revenue and does not take into consideration operating efficiencies which could have a dramatic impact on the bottom line.

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## **Cash Cow**

### **What Is a Cash Cow?**

A cash cow is one of the four categories (quadrants) in the BCG matrix that represents a product, product line, or company with a large market share within a mature industry.

A cash cow is also a reference to a business, product, or asset that, once acquired and paid off, will produce consistent cash flows over its lifespan.

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### **Key Takeaways**

A cash cow is a business or unit that, once it has been paid for, will produce steady cash flow over its lifespan. A cash cow is also one of four quadrants in the BCG matrix, which looks at the value of different units within a corporation. Cash cows are part of mature, slow-growing industries, have a large chunk of the market share and require minimal investment to thrive.

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## **Understanding Cash Cows**

A cash cow is a metaphor for a dairy cow that produces milk over the course of its life and requires little to no maintenance. The phrase is applied to a business that is also similarly low-maintenance. Modern-day cash cows require little investment capital and perennially provide positive cash flows, which can be allocated to other divisions within a corporation. They are low risk, high reward investments.

Cash cows are one of four quadrants in the BCG matrix, a business unit organization method introduced by the Boston Consulting Group in the early 1970s. The BCG matrix, also known as the Boston Box or Grid, places an organization's businesses or products into one of four categories: star, question mark, dog, and cash cow. The matrix helps firms understand where their business stands in terms of market share and industry growth rate. It serves as a comparative analysis of a business's potential and an evaluation of the industry and market.

However, some firms, especially large corporations, realize that businesses/products within their portfolio lie between two categories. This is especially true with product lines at different points in the product life-cycle. Cash cows and stars tend to complement each other, whereas dogs and question marks use resources less efficiently.

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### **Important**

A cash cow is a reference to a business, product, or asset that produces consistent cash flow over its lifespan; it's also a reference to one of the four quadrants in the BCG Matrix, a business unit organization method.

## Cash Cow Example

A cash cow is a company or business unit in a mature slow-growth industry. Cash cows have a large share of the market and require little investment. For example, the iPhone is Apple's (AAPL) cash cow. Its return on assets is far greater than its market growth rate; as a result, Apple can invest the excess cash generated by the iPhone into other projects or products.

Cash cows, such as Microsoft (MSFT) and Intel (INTL), provide dividends and have the capacity to increase their dividend due to their ample free cash flows calculated as cash flows from operations minus capital expenditures. These companies are mature and do not need as much capital to grow. They are marked by high-profit margins and strong cash flows. Cash cows can also be slow-growth companies or business units with well-established brands in the industry. *Special Considerations*

In contrast to a cash cow, a star, in the BCG matrix, is a company or business unit that realizes a high market share in high-growth markets. Stars require large capital outlays but can generate significant cash. If a successful strategy is adopted, stars can morph into cash cows.

Question marks are the business units experiencing low market share in a high-growth industry. They require large amounts of cash to capture more of or sustain their position within the market. Depending on the strategy adopted by the firm, question marks can land in any of the other quadrants.

Lastly, dogs are the business units with low market shares in low-growth markets. There is no large investment requirement, and they don't generate large cash flows. Often, dogs are phased out in an effort to salvage the organization.

## Economic Moat

### What is an Economic Moat?

Conceptualized and named by Warren Buffett, an economic moat is a distinct advantage a company has over its competitors which allows it to protect its market share and profitability. It is often an advantage that is difficult to mimic or duplicate (brand identity, patents) and thus creates an effective barrier against competition from other firms.

### Understanding an Economic Moat

Every successful company understands that the main threat to their continued success will be from competitors, and keeping them at bay is critical to sustaining their dominance. With the passage of time, they are likely to see an erosion to their bottom line as competitors eat away at their market share. Which is why a business that intends to remain dominant has to establish an economic moat. Economic moat describes a company's competitive advantage derived as a result of various business tactics that allow it to earn above-average profits for a sustainable period of time.

This is important not only to the company's bottom line but also to potential investors seeking to maximize their portfolios by including companies that will maintain their performance edge. By establishing a defensible competitive advantage a company can fashion a wide enough economic moat that effectively curbs competition within their industry. Essentially, the wider the economic moat, the larger and more sustainable the competitive advantage of a firm.

An intangible asset, such as a company crafting a well-known brand name (Nike), pricing power edge (Apple), cost advantages (Walmart), making it costly for customers to switch products (cell phone companies), efficient scale, and network effects are all advantages that businesses can utilize to create a wide economic moat.

The most obvious financial characteristics that companies with a wide economic moat have is that they usually generate large amounts of free cash flow and have a track record of strong returns.

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### **Key Takeaways**

An economic moat is a distinct advantage a company has over its competitors which allows it to protect its market share and profitability. It is often an advantage that is difficult to mimic or duplicate (brand identity, patents) and thus creates an effective barrier against competition from other firms. The most obvious financial characteristics that companies with a wide economic moat have is that they usually generate large amounts of free cash flow and have a track record of strong returns.

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### **Sources of Economic Moats**

A company that is able to maintain low operating expenses in relation to its sales compared to its peers has cost advantages, and it can undercut its competition by lowering prices and keeping rivals at bay. Consider Wal-Mart Stores Inc., which has an immense volume of sales and negotiates low prices with its suppliers, resulting in low-cost products in its stores that are hard to replicate by its competitors.

Intangible assets refer to the patents, brands and licenses that allow a company to protect its production process and charge premium prices. While brands are typically derived from superior product offerings and marketing, patents are obtained as a result of companies' filings with governments to protect know-hows for a specific period of time, typically 20 years. Pharmaceutical companies earn high profits due to patented drugs after spending billions on research and development.

Efficient scale arises when a particular market is best served by a limited number of companies, giving them near monopoly statuses. Utility firms are examples of companies with efficient scale that is necessary to serve electricity and water to their customers in a single geographic area. Building a second utility company in the same area would be too costly and inefficient.

Switching costs is another type of economic moat, which make it very time-consuming and expensive for consumers to switch products or brands. Autodesk Inc. offers various software solutions for engineers and designers that are very difficult to learn. Once an Autodesk customer starts using its software, he is unlikely to switch, allowing Autodesk to charge premium prices for its products.

The network effect can further fortify a company's economic moat by making its products more valuable the more people use them. An example of a network effect is online marketplaces such as Amazon and eBay, which are widely popular among consumers because of the large quantity of people buying and selling various products through their platforms.

### **Strength, Weakness, Opportunity, and Threat (SWOT) Analysis**

#### **What Is SWOT Analysis?**

SWOT (strengths, weaknesses, opportunities, and threats) analysis is a framework used to evaluate a company's competitive position and to develop strategic planning. SWOT analysis assesses internal and external factors, as well as current and future potential.

A SWOT analysis is designed to facilitate a realistic, fact-based, data-driven look at the strengths and weaknesses of an organization, its initiatives, or an industry. The organization needs to keep the analysis accurate by avoiding pre-conceived beliefs or gray areas and instead focusing on real-life contexts. Companies should use it as a guide and not necessarily as a prescription.

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### **Key Takeaways**

SWOT analysis is a strategic planning technique that provides assessment tools. Identifying core strengths, weaknesses, opportunities, and threats lead to fact-based analysis, fresh perspectives and new ideas. SWOT analysis works best when diverse groups or voices within an organization are free to provide realistic data points rather than prescribed messaging.

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## Understanding SWOT Analysis

SWOT analysis is a technique for assessing the performance, competition, risk, and potential of a business, as well as part of a business such as a product line or division, an industry, or other entity.

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### Important

Using internal and external data, a SWOT analysis can tell a company where it needs to improve internally, as well as help develop strategic plans.

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Using internal and external data, the technique can guide businesses toward strategies more likely to be successful, and away from those in which they have been, or are likely to be, less successful. An independent SWOT analysis analysts, investors or competitors can also guide them on whether a company, product line or industry might be strong or weak and why.

## A Visual Overview

Analysts present a SWOT analysis as a square with each of the four areas making up one quadrant. This visual arrangement provides a quick overview of the company's position. Although all the points under a particular heading may not be of equal importance, they all should represent key insights into the balance of opportunities and threats, advantages and disadvantages, and so forth.

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### Fast facts

SWOT Analysis was first used to analyze businesses. Now it's often used by governments, nonprofits, and individuals, including investors and entrepreneurs.

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## Example of SWOT Analysis

In 2015, a Value Line SWOT analysis of The Coca-Cola Company noted strengths such as its globally famous brand name, vast distribution network and opportunities in emerging markets. However, it also noted weaknesses and threats such as foreign currency fluctuations, growing public interest in "healthy" beverages and competition from healthy beverage providers.

Its SWOT analysis prompted Value Line to pose some tough questions about Coca-Cola's strategy, but also to note that the company "will probably remain a top-tier beverage provider" that offered conservative investors "a reliable source of income and a bit of capital gains exposure."

Strengths describe what an organization excels at and what separates it from the competition: a strong brand, loyal customer base, a strong balance sheet, unique technology, and so on. For example, a hedge fund may have developed a proprietary trading strategy that returns market-beating results. It must then decide how to use those results to attract new investors. Weaknesses stop an organization from performing at its optimum level. They are areas where the business needs to improve to remain competitive: a weak brand, higher-than-average turnover, high levels of debt, an inadequate supply chain, or lack of capital.



Opportunities refer to favorable external factors that could give an organization a competitive advantage. For example, if a country cuts tariffs, a car manufacturer can export its cars into a new market, increasing sales and market share. Threats refer to factors that have the potential to harm an organization. For example, a drought is a threat to a wheat-producing company, as it may destroy or reduce the crop yield. Other common threats include things like rising costs for materials, increasing competition, tight labor supply and so on.

## **Advantages of SWOT Analysis**

A SWOT analysis is a great way to guide business-strategy meetings. It's powerful to have everyone in the room to discuss the company's core strengths and weaknesses and then move from there to define the opportunities and threats, and finally to brainstorming ideas. Oftentimes, the SWOT analysis you envision before the session changes throughout to reflect factors you were unaware of and would never have captured if not for the group's input.

A company can use a SWOT for overall business strategy sessions or for a specific segment such as marketing, production or sales. This way, you can see how the overall strategy developed from the SWOT analysis will filter down to the segments below before committing to it. You can also work in reverse with a segment-specific SWOT analysis that feeds into an overall SWOT analysis.

## **Porter's 5 Forces**

### **What are Porter's Five Forces**

Porter's Five Forces is a model that identifies and analyzes five competitive forces that shape every industry, and helps determine an industry's weaknesses and strengths. Frequently used to identify an industry's structure to determine corporate strategy, Porter's model can be applied to any segment of the economy to search for profitability and attractiveness.

The model is named after Michael E. Porter.

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### **Key Takeaways**

Porter's Five Forces is a framework for analyzing a company's competitive environment. The number and power of a company's competitive rivals, potential new market entrants, suppliers, customers, and substitute products influence a company's profitability. Analyzing these elements can be used to guide business strategy to increase competitive advantage.

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## **Understanding Porter's Five Forces**

Porter's Five Forces is a business analysis model that helps to explain why different industries are able to sustain different levels of profitability. The model was published in Michael E. Porter's book, "Competitive Strategy: Techniques for Analyzing Industries and Competitors" in 1980. The model is widely used to analyze the industry structure of a company as well as its corporate strategy. Porter identified five undeniable forces that play a part in shaping every market and industry in the world, with some caveats. The forces are frequently used to measure competition intensity, attractiveness, and profitability of an industry or market. These forces are:

1. Competition in the industry
2. Potential of new entrants into the industry
3. Power of suppliers
4. Power of customers

## 5. Threat of substitute products

### Competition in the Industry

This force refers to the number of competitors and their ability to undercut a company. The larger the number of competitors, along with the number of equivalent products and services they offer, the lesser the power of a company. Suppliers and buyers seek out a company's competition if they are able to offer a better deal or lower prices. Conversely, when competitive rivalry is low, a company has greater power to charge higher prices and set the terms of deals to achieve higher sales and profits.

### Potential of New Entrants Into an Industry

A company's power is also affected by the force of new entrants into its market. The less time and money it costs for a competitor to enter a company's market and be an effective competitor, the more a company's position may be significantly weakened. An industry with strong barriers to entry is an attractive feature for companies that allows them to charge higher prices and negotiate better terms.

### Power of Suppliers

This force addresses how easily suppliers can drive up the cost of inputs. It is affected by the number of suppliers of key inputs of a good or service, how unique these inputs are, and how much it would cost a company to switch from one supplier to another. The fewer the number of suppliers, and the more a company depends upon a supplier, the more power a supplier holds to drive up input costs and push for advantage in trade. On the other hand, when there are many suppliers or low switching costs between rival suppliers a company can keep input costs lower increasing profits.

### Power of Customers

This specifically deals with the ability that customers have to drive prices down. It is affected by how many buyers or customers a company has, how significant each customer is, and how much it would cost a company to find new customers or markets for its output. A smaller and more powerful client base, means that each customer has more power to negotiate for lower prices and better deals. A company that has many, smaller, independent customers will have an easier time charging higher prices to increase profitability.

### Threat of Substitutes

Substitute goods or services that can be used in place of a company's products or services pose a threat. Companies that produce goods or services for which there are no close substitutes will have more power to increase prices and lock in favorable terms. When close substitutes are available, customers will have the option to forgo buying a company's product, and a company's power can be weakened.

Understanding Porter's Five Forces and how they apply to an industry, can enable a company to adjust its business strategy to better use its resources to generate higher earnings for its investors.

### Understanding SWOT Analysis

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## **Important**

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## **Net Worth**

### **What is Net Worth?**

Net worth is a quantitative concept that measures the value of an entity and can be applicable to individuals, corporations, sectors and even countries. Simply stated, net worth is the difference between assets and liabilities. Positive net worth means that assets exceed liabilities while negative net worth describes the opposite scenario.

### **Understanding Net Worth**

Net worth (assets minus liabilities) gauges financial health. An asset is anything that is owned and has monetary value while liabilities are obligations that deplete resources. Assets can be liquid when they are, or can be easily turned into, cash (like a checking account). They are non-liquid when it could take time to turn into cash (like a home). Liabilities are obligations that have to be paid off (like a car loan).

Net worth provides a snapshot of an entity's current financial position. Positive and increasing net worth indicates good financial health, while a decrease would be cause for concern as it might be indicative of a decrease in assets relative to liabilities.

The best way to improve one's net worth, whether it be an individual or corporation, is to either reduce liabilities while assets either stay constant or rise, or increase assets while liabilities either stay constant or fall.

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### **Key Takeaways**

Net worth is a quantitative concept that measures the value of an entity and can be applicable to individuals, corporations, sectors and even countries. Net worth is the difference between assets and liabilities and provides a snapshot of an entity's current financial position. In business, net worth is also known as book value or shareholders' equity. In fact, the balance sheet is also known as a net worth statement. People with a substantial net worth are known as high net worth individuals (HNWI).

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### **Net Worth in Business**

In the business context, net worth is also known as book value or shareholders' equity. In fact, the balance sheet is also known as a net worth statement. The value of a company's equity equals the difference between the value of total assets and total liabilities. Note that the values on a company's balance sheet highlight historical costs or book values, not current market values.

Lending institutions scrutinize a business' net worth to determine if it is financially healthy. If total liabilities exceed total assets, which is negative net worth, a creditor may not be too confident in a company's ability to repay its loans.

A company that is consistently profitable will have a rising net worth or book value, as long as these earnings are not fully distributed to shareholders as dividends but are retained in the business. For public companies, rising book values over time may be rewarded by an increase in the value of stocks trading in the markets.

## Net Worth in Personal Finance

An individual's net worth is simply the value that is left after subtracting liabilities from assets. Examples of liabilities (debt) include mortgages, credit card balances, student loans, car loans, etc. An individual's assets include checking and savings account balances, value of securities such as stocks or bonds, home value, market value of an automobile, etc. In other words, whatever is left after selling all assets and paying off personal debt is the net worth. Note that the value of personal net worth includes the current market value of assets and the current debt costs.

Consider a couple with the following assets - primary residence valued at \$250,000, an investment portfolio with a market value of \$100,000, and automobiles and other assets valued at \$25,000. Liabilities are primarily an outstanding mortgage balance of \$100,000 and a car loan of \$10,000.

The couple's net worth would, therefore, be calculated as  $[\$250,000 + \$100,000 + \$25,000] - [\$100,000 + \$10,000] = \$265,000$

Assume that five years later, the couple's financial position is as follows - residence value \$225,000, investment portfolio \$120,000, savings \$20,000, automobile and other assets \$15,000; mortgage loan balance \$80,000, car loan \$0 (paid off). The net worth five years later would be  $[\$225,000 + \$120,000 + \$20,000 + \$15,000] - \$80,000 = \$300,000$ .

In other words, the couple's net worth has gone up by \$35,000 despite the decrease in the value of their residence and car. The increase in net worth is due to the fact that the decline in residence value was more than offset by increases in other assets (such as the investment portfolio and savings) as well as the decrease in liabilities.

An individual can have a negative net worth if his debt is more than the value of his assets. For example, if the sum of an individual's credit card bills, utility bills, outstanding mortgage payments, auto loan bills, and student loans is higher than the total value of his cash and investments, his net worth will be negative. In this case, the individual may file for Chapter 7 bankruptcy protection to eliminate some of the debt and to prevent creditors from trying to collect on the debt. However, some liabilities such as child support, alimony, and taxes, cannot be discharged. In addition, a bankruptcy will stay on an individual's credit report for many years.

People with a substantial net worth are known as high net worth individuals (HNWI), and form the prime market for wealth managers and investment counselors. Investors with a net worth (excluding their primary residence) of at least \$1 million - either alone or together with their spouse - are considered as "accredited investors" by the Securities and Exchange Commission (SEC), for the purpose of investing in unregistered securities offerings.

If you want to save some time in calculating your personal net worth, use our free Net Worth Tracker which allows you to calculate, analyze and record your net worth for free.

## Book Value

### What is Book Value?

An asset's book value is equal to its carrying value on the balance sheet, and companies calculate it netting the asset against its accumulated depreciation. Book value is also the net asset value of a company calculated as total assets minus intangible assets (patents, goodwill) and liabilities. For the initial outlay of an investment, book value may be net or gross of expenses such as trading costs, sales taxes, service charges and so on.

### Breaking Down Book Value

Book value is also known as "net book value" and, in the U.K., "net asset value."

As the accounting value of a firm, book value has two main uses:

1. It serves as the total value of the company's assets that shareholders would theoretically receive if a company were liquidated.

2. When compared to the company's market value, book value can indicate whether a stock is under- or overpriced.

In personal finance, the book value of an investment is the price paid for a security or debt investment. When a company sells stock, the selling price minus the book value is the capital gain or loss from the investment.

For more information, check out [Digging Into Book Value](#).

## Historical Cost

The term book value derives from the accounting practice of recording asset value at the original historical cost in the books. While the book value of an asset may stay the same over time by accounting measurements, the book value of a company collectively can grow from the accumulation of earnings generated through asset use. Since a company's book value represents the shareholding worth, comparing book value with market value of the shares can serve as an effective valuation technique when trying to decide whether shares are fairly priced.

## Mark-to-Market Valuation

There are limitations to how accurately book value can be a proxy to the shares' market worth when mark-to-market valuation is not applied to assets that may experience increases or decreases of their market values. For example, real estate owned by a company may gain in market value at times, while its old machinery can lose value in the market because of technological advancements. In these instances, book value at the historical cost would distort an asset or a company's true value, given its fair market price.

## Price-to-Book Ratio

Price-to-book (P/B) ratio as a valuation multiple is useful for value comparison between similar companies within the same industry when they follow a uniform accounting method for asset valuation. The ratio may not serve as a valid valuation basis when comparing companies from different sectors and industries whereby some companies may record their assets at historical costs and others mark their assets to market. As a result, a high P/B ratio would not necessarily be a premium valuation, and conversely, a low P/B ratio would not automatically be a discount valuation.

## Understanding Net Worth

Net worth (assets minus liabilities) gauges financial health. An asset is anything that is owned and has monetary value while liabilities are obligations that deplete resources. Assets can be liquid when they are, or can be easily turned into, cash (like a checking account). They are non-liquid when it could take time to turn into cash (like a home). Liabilities are obligations that have to be paid off (like a car loan).

Net worth provides a snapshot of an entity's current financial position. Positive and increasing net worth indicates good financial health, while a decrease would be cause for concern as it might be indicative of a decrease in assets relative to liabilities.

The best way to improve one's net worth, whether it be an individual or corporation, is to either reduce liabilities while assets either stay constant or rise, or increase assets while liabilities either stay constant or fall.

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## Key Takeaways

Net worth is a quantitative concept that measures the value of an entity and can be applicable to individuals, corporations, sectors and even countries. Net worth is the difference between assets and liabilities and provides a snapshot of an entity's current financial position. In business, net worth is also known as book value or shareholders' equity. In

fact, the balance sheet is also known as a net worth statement. People with a substantial net worth are known as high net worth individuals (HNWI).

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## **Net Worth in Business**

In the business context, net worth is also known as book value or shareholders' equity. In fact, the balance sheet is also known as a net worth statement. The value of a company's equity equals the difference between the value of total assets and total liabilities. Note that the values on a company's balance sheet highlight historical costs or book values, not current market values.

Lending institutions scrutinize a business' net worth to determine if it is financially healthy. If total liabilities exceed total assets, which is negative net worth, a creditor may not be too confident in a company's ability to repay its loans.

A company that is consistently profitable will have a rising net worth or book value, as long as these earnings are not fully distributed to shareholders as dividends but are retained in the business. For public companies, rising book values over time may be rewarded by an increase in the value of stocks trading in the markets.

## **Net Worth in Personal Finance**

An individual's net worth is simply the value that is left after subtracting liabilities from assets. Examples of liabilities (debt) include mortgages, credit card balances, student loans, car loans, etc. An individual's assets include checking and savings account balances, value of securities such as stocks or bonds, home value, market value of an automobile, etc. In other words, whatever is left after selling all assets and paying off personal debt is the net worth. Note that the value of personal net worth includes the current market value of assets and the current debt costs.

Consider a couple with the following assets - primary residence valued at \$250,000, an investment portfolio with a market value of \$100,000, and automobiles and other assets valued at \$25,000. Liabilities are primarily an outstanding mortgage balance of \$100,000 and a car loan of \$10,000.

The couple's net worth would, therefore, be calculated as  $[\$250,000 + \$100,000 + \$25,000] - [\$100,000 + \$10,000] = \$265,000$

Assume that five years later, the couple's financial position is as follows - residence value \$225,000, investment portfolio \$120,000, savings \$20,000, automobile and other assets \$15,000; mortgage loan balance \$80,000, car loan \$0 (paid off). The net worth five years later would be  $[\$225,000 + \$120,000 + \$20,000 + \$15,000] - \$80,000 = \$300,000$ .

In other words, the couple's net worth has gone up by \$35,000 despite the decrease in the value of their residence and car. The increase in net worth is due to the fact that the decline in residence value was more than offset by increases in other assets (such as the investment portfolio and savings) as well as the decrease in liabilities.

An individual can have a negative net worth if his debt is more than the value of his assets. For example, if the sum of an individual's credit card bills, utility bills, outstanding mortgage payments, auto loan bills, and student loans is higher than the total value of his cash and investments, his net worth will be negative. In this case, the individual may file for Chapter 7 bankruptcy protection to eliminate some of the debt and to prevent creditors from trying to collect on the debt. However, some liabilities such as child support, alimony, and taxes, cannot be discharged. In addition, a bankruptcy will stay on an individual's credit report for many years.

People with a substantial net worth are known as high net worth individuals (HNWI), and form the prime market for wealth managers and investment counselors. Investors with a net worth (excluding their primary residence) of at least \$1 million - either alone or together with their spouse - are considered as "accredited investors" by the Securities and Exchange Commission (SEC), for the purpose of investing in unregistered securities offerings.

If you want to save some time in calculating your personal net worth, use our free Net Worth Tracker which allows you to calculate, analyze and record your net worth for free.



## Market Value

### What is Market Value?

Market value is the price an asset would fetch in the marketplace. Market value is also commonly used to refer to the market capitalization of a publicly traded company, and is obtained by multiplying the number of its outstanding shares by the current share price. Market value is easiest to determine for exchange-traded instruments such as stocks and futures, since their market prices are widely disseminated and easily available, but is a little more challenging to ascertain for over-the-counter instruments like fixed income securities. However, the greatest difficulty in determining market value lies in estimating the value of illiquid assets like real estate and businesses, which may necessitate the use of real estate appraisers and business valuation experts respectively.

### Understanding Market Value

A company's market value is a good indication of investors' perceptions about its business prospects. The range of market values in the marketplace is enormous, ranging from less than \$1 million for the smallest companies to hundreds of billions for the world's biggest and most successful companies.

Market value is determined by the valuations or multiples accorded by investors to companies, such as price-to-sales, price-to-earnings, enterprise value-to-EBITDA, and so on. The higher the valuations, the greater the market value.

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### Key Takeaways

Market value is the price an asset fetches in the market and is commonly used to refer to market capitalization. Market values are dynamic in nature because they depend on an assortment of factors, from physical operating conditions to economic climate to the dynamics of demand and supply.

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### The Dynamic Nature of Market Values

Market value can fluctuate a great deal over periods of time and is substantially influenced by the business cycle. Market values plunge during the bear markets that accompany recessions and rise during the bull markets that happen during economic expansions.

Market value is also dependent on numerous other factors, such as the sector in which the company operates, its profitability, debt load and the broad market environment. For example, Company X and Company B may both have \$100 million in annual sales, but if X is a fast-growing technology firm while B is a stodgy retailer, X's market value will generally be significantly higher than that of Company B.

In the example above, Company X may be trading at a sales multiple of 5, which would give it a market value of \$500 million, while Company B may be trading at a sales multiple of 2, which would give it a market value of \$200 million.

Market value for a firm may diverge significantly from book value or shareholders' equity. A stock would generally be considered undervalued if its market value is well below book value, which means the stock is trading at a deep discount to book value per share. This does not imply that a stock is overvalued if it is trading at a premium to book value, as this again depends on the sector and the extent of the premium in relation to the stock's peers.

## Fundamentals

### What Are Fundamentals?

Fundamentals include the basic qualitative and quantitative information that contributes to the financial or economic well-being and the subsequent financial valuation of a company, security or currency. Where qualitative information

includes elements that cannot be directly measured such as management experience, quantitative analysis (QA) uses mathematics and statistics to understand the asset and predict movement.

Analysts and investors examine these fundamentals to develop an estimate as to whether the underlying asset is considered a worthwhile investment, and if there is fair valuation in the market. For businesses, information such as profitability, revenue, assets, liabilities and growth potential are considered fundamentals. Through the use of fundamental analysis, you may calculate a company's financial ratios to determine the feasibility of the investment.

## **Fundamentals Explained**

In business and economics, fundamentals represent the primary characteristics and business data necessary to determine the stability and health of an asset. This business data can include macroeconomic, large scale and microeconomic, smaller scale, factors to set a value on securities.

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### **Key Takeaways**

Fundamentals provide a method to set the financial value of a company, security or currency. Included in the fundamental analysis is basic qualitative and quantitative information that contributes to the asset's financial or economic well-being. Macroeconomic fundamentals include topics that affect an economy at large. Microeconomic fundamentals focus on the activities within smaller segments of the economy.

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## **Macroeconomics and Microeconomics**

Macroeconomic fundamentals are topics that affect an economy at-large, including statistics regarding unemployment, supply and demand, growth, and inflation, as well as considerations for monetary or fiscal policy and international trade. These categories can be applied to the analysis of a large-scale economy as a whole or can be related to individual business activity to make changes based on macroeconomic influences.

Microeconomic fundamentals focus on the activities within smaller segments of the economy, such as a particular market or sector. This small-scale focus can include issues of supply and demand within the specified segment, labor, and both consumer and firm theories. Consumer theory investigates how people spend within their particular budget restraints. The theory of the firm states that a business exists and makes decisions to earn profits.

## **Fundamentals in Business**

By looking at the economics of a business, including the overall management and the financial statements, investors are looking at a company's fundamentals. Not only do these data points show the health of the business, but they also indicate the probability for further growth. A company with little debt and sufficient cash is considered to have strong fundamentals.

Strong fundamentals suggest that a business has a viable framework or financial structure. Conversely, those with weak fundamentals may have issues in the areas of debt obligation management, cost control or overall organizational management. A business with strong fundamentals may be more likely to survive adverse events, like economic recessions or depressions, than one with weaker fundamentals. Also, strength may indicate less risk should an investor consider purchasing securities associated with the businesses mentioned.

## **Economic Level Fundamental**

While fundamentals are most often considered factors that relate to particular businesses or securities, national economies, and their currencies also have a set of fundamentals that can be analyzed. For example, interest rates,

gross domestic product (GDP) growth, trade balance surplus/deficits, and inflation levels are some macroeconomic factors that are considered to be fundamentals of a currency's value. Large scale, macroeconomic fundamentals are also part of the top-down analysis of individual companies.

## Fundamental Analysis

Investors and financial analysts are interested in evaluating the fundamentals of a company to compare its economic position relative to its industry peers, to the broader market, or to itself over time. Fundamental analysis involves digging deep into a company's financial statements to extract its profit and growth potential, relative riskiness, and to ultimately decide if its shares are over, under or fairly valued in the market.

Often fundamental analysis involves computing and analyzing ratios to make apples-to-apples comparisons. Some common fundamental analysis ratios include the

Debt-to-equity ratio (DE) measures how a company is financing its operations. The quick ratio measures the company's ability to meet its short-term obligations. The degree of financial leverage (DFL) measures the stability or volatility of the earnings per share (EPS). The price-to-earnings (P/E) ratio compares investment to earnings dollars. DuPont analysis looks at return on equity (ROE) through looking at asset use efficiency, operating efficiency, and financial leverage.

Fundamental analysis should be carried out with a holistic approach, utilizing several ratios and including some bottom-up and well as top-down analysis to come to specific conclusions and actions.

## Real World Example

In the fourth quarter of 2018, according to Market Watch, large-cap tech companies Microsoft and Apple had similar market caps for the first time since 2010. Although the two companies had similar market caps of about \$850 billion, they had very different fundamentals. For example, Microsoft was trading at 45X earnings while Apple was trading at 15X earnings.

Also, while Microsoft's earnings were predicated on software as a service (SaaS) and software sales, Apple's were still primarily dependent on hardware sales. Apple's revenue base is about 2½ times Microsoft's, the global market for its devices is far more saturated than the global market for Microsoft's software.

Though the two companies were comparable in size, Microsoft was positioned to take advantage of a rapidly growing market, while Apple was not.

## How Do I Read and Analyze an Income Statement?

The income statement, also known as the profit and loss (P&L) statement, is the financial statement that depicts the revenues, expenses and net income generated by an organization over a specific period of time. It is one of the most heavily scrutinized financial statements issued by every organization. And though the data contained within this document is relatively simple, there is a great deal of useful information that can be garnered from it to help assess a firm's historical financial performance and develop an estimate of its prospects. Because of this, it is critical for users to have a sound understanding of the story every income statement is trying to tell.

## What Does an Income Statement Look Like?

While almost no two income statements look the same, they all possess a common set of data: total revenue, total expenses, and net income. Though this represents the minimum amount of data that must be provided, additional details for each section are frequently included to give users more insight into the organization's financial activities. Some of the most common line items and the order in which they appear are listed below.

**Product-level revenue:** This line item depicts the revenue associated with a specific product the firm sells. There may be multiple lines if the organization sells several different products.

**Cost of goods sold (COGS):** This expense line item denotes the costs directly tied to the product. For example, a paper mill lists the cost of the pulp used to manufacture paper in the COGS section.

**Gross profit:** This is the amount of revenue left over after subtracting COGS. Simply put, this is the amount of revenue available to pay for operational expenses and compensate ownership.

**Selling, general, and administrative expense (SG&A):** This expense line item is an aggregation of all costs related to the sale of the firm's product(s) and the general operation of the organization.

**Interest Expense:** This operating expense line item shows how much interest the firm paid to fund its operations during the period.

## **How Is It Used?**

Income statements are meant to provide users with insights into the financial performance of an organization. Numerous metrics and analyses can be developed with this data to provide more in-depth assessments of the organization. However, when used in comparative company analysis, these metrics become valuable. In this type of analysis, income statement metrics such as total revenue growth and gross profit margin are calculated for similar companies within an industry and compared to one another. For example, see the metrics associated with a pair of technology manufacturers below.

### **TechOne**

Revenue growth: 12.6% Gross profit margin: 74% Net profit margin: 35% Net income growth: 18.6%

### **Alpha Systems**

Revenue growth: 16.2% Gross profit margin: 67% Net profit margin: 35% Net income growth: 19.6%

For an investor looking to purchase shares of a technology manufacturer, comparing the statistics of these two companies yields a number of insights that are not obvious if viewed on a standalone basis. The following are just a few of the conclusions that can be drawn.

On both revenue and net income growth basis, Alpha Systems is outperforming TechOne. As future growth prospects are highly important to every investor, Alpha Systems appears to be the more attractive option. TechOne has a lower COGS due to its higher gross profit margin than Alpha Systems. This suggests that TechOne can source its inputs for less than Alpha Systems, which could be indicative of an inherent competitive advantage. Despite both firms having the same net profit margin, Alpha Systems appears to have lower operating costs than TechOne based on the differences between gross and net profit margins. This implies Alpha Systems is operating its business more efficiently than TechOne.

Numerous other analyses can be performed as part of any comparative company analysis using the income statement. The point is that any income statement analysis should include some form of comparative analysis to give the reported numbers, and associated metrics, the needed context. By doing so, investors, management, and others can fully understand how an organization is performing financially and make informed decisions accordingly.

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### **Price-to-Earnings Ratio – P/E Ratio**

#### **What Is Price-to-Earnings Ratio – P/E Ratio?**

The price-to-earnings ratio (P/E ratio) is the ratio for valuing a company that measures its current share price relative to its per-share earnings (EPS). The price-to-earnings ratio is also sometimes known as the price multiple or the earnings multiple.

P/E ratios are used by investors and analysts to determine the relative value of a company's shares in an apples-to-apples comparison. It can also be used to compare a company against its own historical record or to compare aggregate markets against one another or over time.

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#### **Key Takeaways**

Generally, a high P/E ratio means that investors are anticipating higher growth in the future. The current average market P/E ratio is roughly 20 to 25 times earnings. Companies that are losing money do not have a P/E ratio. Both the forward and the trailing P/E ratios are used in practice.

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### **P/E Ratio Formula and Calculation**

Analysis and investors review a company's P/E ratio when they determine if the share price accurately represents the projected earnings per share. The formula and calculation used for this process follow.

$$\text{P/E Ratio} = \frac{\text{Market value per share}}{\text{Earnings per share}}$$

To determine the P/E value, one simply must divide the current stock price by the earnings per share (EPS). The current stock price (P) can be gleaned by plugging a stock's ticker symbol into any finance website, and although this concrete value reflects what investors must currently pay for a stock, the EPS is a slightly more nebulous figure.

EPS comes in two main varieties. The first is a metric listed in the fundamentals section of most finance sites; with the notation "P/E (TTM)," where "TTM" is a Wall Street acronym for "trailing 12 months." This number signals the company's performance over the past 12 months. The second type of EPS is found in a company's earnings release, which often provides EPS guidance. This is the company's best-educated guess of what it expects to earn in the future.

Sometimes, analysts are interested in long term valuation trends and consider the P/E 10 or P/E 30 measures, which average the past 10 or past 30 years of earnings, respectively. These measures are often used when trying to gauge the overall value of a stock index, such as the S&P 500 since these longer term measures can compensate for changes in the business cycle. The P/E ratio of the S&P 500 has fluctuated from a low of around 6x (in 1949) to over 120x (in 2009). The long-term average P/E for the S&P 500 is around 15x, meaning that the stocks that make up the index collectively command a premium 15 times greater than their weighted average earnings.

### Forward Price-To-Earnings

These two types of EPS metrics factor into the most common types of P/E ratios: the forward P/E and the trailing P/E. A third and less common variation uses the sum of the last two actual quarters and the estimates of the next two quarters.

The forward (or leading) P/E uses future earnings guidance rather than trailing figures. Sometimes called “estimated price to earnings,” this forward-looking indicator is useful for comparing current earnings to future earnings and helps provide a clearer picture of what earnings will look like – without changes and other accounting adjustments.

However, there are inherent problems with the forward P/E metric – namely, companies could underestimate earnings in order to beat the estimate P/E when the next quarter’s earnings are announced. Other companies may overstate the estimate and later adjust it going into their next earnings announcement. Furthermore, external analysts may also provide estimates, which may diverge from the company estimates, creating confusion.

### Trailing Price-To-Earnings

The trailing P/E relies on past performance by dividing the current share price by the total EPS earnings over the past 12 months. It’s the most popular P/E metric because it’s the most objective – assuming the company reported earnings accurately. Some investors prefer to look at the trailing P/E because they don’t trust another individual’s earnings estimates. But the trailing P/E also has its share of shortcomings – namely, a company’s past performance doesn’t signal future behavior.

Investors should thus commit money based on future earnings power, not the past. The fact that the EPS number remains constant, while the stock prices fluctuate, is also a problem. If a major company event drives the stock price significantly higher or lower, the trailing P/E will be less reflective of those changes.

The trailing P/E ratio will change as the price of a company’s stock moves, since earnings are only released each quarter while stocks trade day in and day out. As a result, some investors prefer the forward P/E. If the forward P/E ratio is lower than the trailing P/E ratio, it means analysts are expecting earnings to increase; if the forward P/E is higher than the current P/E ratio, analysts expect a decrease in earnings. Valuation From P/E

The price-to-earnings ratio or P/E is one of the most widely-used stock analysis tools used by investors and analysts for determining stock valuation. In addition to showing whether a company’s stock price is overvalued or undervalued, the P/E can reveal how a stock’s valuation compares to its industry group or a benchmark like the S&P 500 Index.

In essence, the price-to-earnings ratio indicates the dollar amount an investor can expect to invest in a company in order to receive one dollar of that company’s earnings. This is why the P/E is sometimes referred to as the price multiple because it shows how much investors are willing to pay per dollar of earnings. If a company was currently trading at a multiple (P/E) of 20, the interpretation is that an investor is willing to pay \$20 for \$1 of current earnings.

The P/E ratio helps investors determine the market value of a stock as compared to the company’s earnings. In short, the P/E ratio shows what the market is willing to pay today for a stock based on its past or future earnings. A high P/E could mean that a stock’s price is high relative to earnings and possibly overvalued. Conversely, a low P/E might indicate that the current stock price is low relative to earnings.



## Example of Using the P/E Ratio

As a historical example, let's calculate the P/E ratio for Walmart Stores Inc. (WMT) as of November 14, 2017, when the company's stock price closed at \$91.09. The company's profit for the fiscal year ending January 31, 2017, was US\$13.64 billion, and its number of shares outstanding was 3.1 billion. Its EPS can be calculated as \$13.64 billion / 3.1 billion = \$4.40. Walmart's P/E ratio is, therefore,  $\$91.09 / \$4.40 = 20.70x$ . Investor Expectations

In general, a high P/E suggests that investors are expecting higher earnings growth in the future compared to companies with a lower P/E. A low P/E can indicate either that a company may currently be undervalued or that the company is doing exceptionally well relative to its past trends. When a company has no earnings or is posting losses, in both cases P/E will be expressed as "N/A." Though it is possible to calculate a negative P/E, this is not the common convention.

The price-to-earnings ratio can also be seen as a means of standardizing the value of one dollar of earnings throughout the stock market. In theory, by taking the median of P/E ratios over a period of several years, one could formulate something of a standardized P/E ratio, which could then be seen as a benchmark and used to indicate whether or not a stock is worth buying.

## P/E Ratio vs. Earnings Yield

The inverse of the P/E ratio is the earnings yield (which can be thought of like the E/P ratio). The earnings yield is thus defined as EPS divided by the stock price, expressed as a percentage.

If Stock A is trading at \$10, and its EPS for the past year was 50 cents (TTM), it has a P/E of 20 (i.e.,  $\$10 / 50$  cents) and an earnings yield of 5% (50 cents / \$10). If Stock B is trading at \$20 and its EPS (TTM) was \$2, it has a P/E of 10 (i.e.,  $\$20 / \$2$ ) and an earnings yield of 10% ( $\$2 / \$20$ ).

The earnings yield as an investment valuation metric is not as widely used as its P/E ratio reciprocal in stock valuation. Earnings yields can be useful when concerned about the rate of return on investment. For equity investors, however, earning periodic investment income may be secondary to growing their investments' values over time. This is why investors may refer to value-based investment metrics such as P/E ratio more often than earnings yield when making stock investments.

The earnings yield is also useful in producing a metric when a company has zero or negative earnings. Since such a case is common among high-tech, high growth, or start-up companies, EPS will be negative producing an undefined P/E ratio (sometimes denoted as N/A). If a company has negative earnings, however, it will produce a negative earnings yield, which can be interpreted and used for comparison.

## P/E vs. PEG Ratio

A P/E ratio, even one calculated using a forward earnings estimate, don't always tell you whether or not the P/E is appropriate for the company's forecasted growth rate. So, to address this limitation, investors turn to another ratio called the PEG ratio.

A variation on the forward P/E ratio is the price-to-earnings-to-growth ratio, or PEG. The PEG ratio measures the relationship between the price/earnings ratio and earnings growth to provide investors with a more complete story than the P/E on its own. In other words, the PEG ratio allows investors to calculate whether a stock's price is overvalued or undervalued by analyzing both today's earnings and the expected growth rate for the company in the future. The PEG ratio is calculated as a company's trailing price-to-earnings (P/E) ratio divided by the growth rate of its earnings for a specified time period. The PEG ratio is used to determine a stock's value based on trailing earnings while also taking the company's future earnings growth into account, and is considered to provide a more complete picture than the P/E ratio. For example, a low P/E ratio may suggest that a stock is undervalued and therefore should be bought – but factoring in the company's growth rate to get its PEG ratio can tell a different story.

PEG ratios can be termed "trailing" if using historic growth rates or "forward" if using projected growth rates.

Although earnings growth rates can vary among different sectors, a stock with a PEG of less than 1 is typically considered undervalued since its price is considered to be low compared to the company's expected earnings growth. A PEG greater than 1 might be considered overvalued since it might indicate the stock price is too high as compared to the company's expected earnings growth.

### Absolute vs. Relative P/E

Analysts may also make a distinction between absolute P/E and relative P/E ratios in their analysis. Absolute P/E

The numerator of this ratio is usually the current stock price, and the denominator may be the trailing EPS (TTM), the estimated EPS for the next 12 months (forward P/E) or a mix of the trailing EPS of the last two quarters and the forward P/E for the next two quarters. When distinguishing absolute P/E from relative P/E, it is important to remember that absolute P/E represents the P/E of the current time period. For example, if the price of the stock today is \$100, and the TTM earnings are \$2 per share, the P/E is 50 (\$100/\$2). Relative P/E

The relative P/E compares the current absolute P/E to a benchmark or a range of past P/Es over a relevant time period, such as the past 10 years. The relative P/E shows what portion or percentage of the past P/Es the current P/E has reached. The relative P/E usually compares the current P/E value to the highest value of the range, but investors might also compare the current P/E to the bottom side of the range, measuring how close the current P/E is to the historic low.

The relative P/E will have a value below 100% if the current P/E is lower than the past value (whether the past high or low). If the relative P/E measure is 100% or more, this tells investors that the current P/E has reached or surpassed the past value.

### Limitations of Using the P/E Ratio

Like any other fundamental designed to inform investors on whether or not a stock is worth buying, the price-to-earnings ratio comes with a few important limitations that are important to take into account, as investors may often be led to believe that there is one single metric that will provide complete insight into an investment decision, which is virtually never the case. Companies that aren't profitable, and consequently have no earnings – or negative earnings per share, pose a challenge when it comes to calculating their P/E. Opinions vary on how to deal with this. Some say there is a negative P/E, others assign a P/E of 0, while most just say the P/E doesn't exist (not available - N/A) or is not interpretable until a company becomes profitable for purposes of comparison.

One primary limitation of using P/E ratios emerges when comparing P/E ratios of different companies. Valuations and growth rates of companies may often vary wildly between sectors due both to the differing ways companies earn money and to the differing timelines during which companies earn that money.

As such, one should only use P/E as a comparative tool when considering companies in the same sector, as this kind of comparison is the only kind that will yield productive insight. Comparing the P/E ratios of a telecommunications company and an energy company, for example, may lead one to believe that one is clearly the superior investment, but this is not a reliable assumption.

### Other P/E Considerations

An individual company's P/E ratio is much more meaningful when taken alongside P/E ratios of other companies within the same sector. For example, an energy company may have a high P/E ratio, but this may reflect a trend within the sector rather than one merely within the individual company. An individual company's high P/E ratio, for example, would be less cause for concern when the entire sector has high P/E ratios.

Moreover, because a company's debt can affect both the prices of shares and the company's earnings, leverage can skew P/E ratios as well. For example, suppose there are two similar companies that differ primarily in the amount of

debt they take on. The one with more debt will likely have a lower P/E value than the one with less debt. However, if business is good, the one with more debt stands to see higher earnings because of the risks it has taken.

Another important limitation of price-to-earnings ratios is one that lies within the formula for calculating P/E itself. Accurate and unbiased presentations of P/E ratios rely on accurate inputs of the market value of shares and of accurate earnings per share estimates. While the market determines the value of shares and, as such, that information is available from a wide variety of reliable sources, this is less so for earnings, which are often reported by companies themselves and thus are more easily manipulated. Since earnings are an important input in calculating P/E, adjusting them can affect P/E as well.

## **Price-To-Book – P/B Ratio**

### **What Is Price-To-Book – P/B Ratio?**

Companies use the price-to-book ratio to compare a firm's market to book value by dividing the price per share by book value per share (BVPS). An asset's book value is equal to its carrying value on the balance sheet, and companies calculate it netting the asset against its accumulated depreciation.

Book value is also the net asset value of a company calculated as total assets minus intangible assets (patents, goodwill) and liabilities. For the initial outlay of an investment, book value may be net or gross of expenses, such as trading costs, sales taxes, and service charges.

Some people may know this ratio by its less common name, price-equity ratio.

### **P/B Formula and Calculation**

In this equation, book value per share is calculated as follows: (total assets - total liabilities) / number of shares outstanding). Market value per share is obtained by simply looking at the share price quote in the market.

$$\text{P/B Ratio} = \frac{\text{Market Price per Share}}{\text{Book Value per Share}}$$

### **Market Price per Share**

A lower P/B ratio could mean the stock is undervalued. However, it could also mean something is fundamentally wrong with the company. As with most ratios, this varies by industry.

The P/B ratio also indicates whether you're paying too much for what would remain if the company went bankrupt immediately.

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### **Key Takeaways**

The P/B ratio measures the market's valuation of a company relative to its book value. P/B ratio is used by value investors to identify potential investments. P/B ratio can be used to compare companies with one another.

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### **Learning From Price-To-Book**

The P/B ratio reflects the value that market participants attach to a company's equity relative to its book value of equity. A stock's market value is a forward-looking metric that reflects a company's future cash flows. The book value of equity is an accounting measure based on the historic cost principle and reflects past issuances of equity, augmented by any profits or losses, and reduced by dividends and share buybacks.

It is difficult to pinpoint a specific numeric value of a “good” price-to-book (P/B) ratio when determining if a stock is undervalued and therefore a good investment. Ratio analysis can vary by industry. A good P/B ratio for one industry might be a poor ratio for another.

The price-to-book ratio compares a company’s market value to its book value. The market value of a company is its share price multiplied by the number of outstanding shares. The book value is the net assets of a company.

In other words, if a company liquidated all of its assets and paid off all its debt, the value remaining would be the company’s book value. P/B ratio provides a valuable reality check for investors seeking growth at a reasonable price and is often looked at in conjunction with return on equity (ROE), a reliable growth indicator. Large discrepancies between P/B ratio and ROE often send up a red flag on companies. Overvalued growth stocks frequently show a combination of low ROE and high P/B ratios. If a company’s ROE is growing, its P/B ratio should also be growing.

It’s helpful to identify some general parameters or a range for P/B value, and then consider various other factors and valuation measures that more accurately interpret the P/B value and forecast a company’s potential for growth.

The P/B ratio has been favored by value investors for decades and is widely used by market analysts. Traditionally, any value under 1.0 is considered a good P/B for value investors, indicating a potentially undervalued stock. However, value investors may often consider stocks with a P/B value under 3.0 as their benchmark.

### Equity Market Value vs. Book Value

Due to accounting conventions on the treatment of certain costs, the market value of equity is typically higher than the book value of a company, producing a P/B ratio above a value of 1. Under certain circumstances of financial distress, bankruptcy or expected plunges in earnings power, a company’s P/B ratio can dive below a value of 1.

Because accounting principles do not recognize intangible assets such as the brand value, unless the company derived them through acquisitions, companies expense all costs associated with creating intangible assets immediately.

For example, companies must expense research and development costs, reducing a company’s book value. However, these R&D outlays can create unique production processes for a company or result in new patents that can bring royalty revenues going forward. While accounting principles favor a conservative approach in capitalizing costs, market participants may raise the stock price because of such R&D efforts, resulting in wide differences between the market and book values of equity.

### P/B vs. Price-to-Tangible-Book Ratio

Closely related to the P/B ratio is the price to tangible book value (PTBV). The latter is a valuation ratio expressing the price of a security compared to its hard, or tangible, book value as reported in the company’s balance sheet. The tangible book value number is equal to the company’s total book value less the value of any intangible assets.

Intangible assets can be items such as patents, intellectual property, and goodwill. This may be a more useful measure of valuation when the market is valuing something like a patent in different ways or if it is difficult to put a value on such an intangible asset in the first place.

### Limitations of the P/B Ratio

Investors find the P/B ratio useful because the book value of equity provides a relatively stable and intuitive metric they can easily compare to the market price. The P/B ratio can also be used for firms with positive book values and negative earnings since negative earnings render price-to-earnings ratios useless, and there are fewer companies with negative book values than companies with negative earnings.

However, when accounting standards applied by firms vary, P/B ratios may not be comparable, especially for companies from different countries. Additionally, P/B ratios can be less useful for service and information technology

companies with little tangible assets on their balance sheets. Finally, the book value can become negative because of a long series of negative earnings, making the P/B ratio useless for relative valuation.

Other potential problems in using the P/B ratio stem from the fact that any number of scenarios, such as recent acquisitions, recent write-offs, or share buybacks, can distort the book value figure in the equation. In searching for undervalued stocks, investors should consider multiple valuation measures to complement the P/B ratio.

### **Example of Using the P/B Ratio**

Assume that a company has \$100 million in assets on the balance sheet and \$75 million in liabilities. The book value of that company would be calculated simply as \$25 million (\$100M - \$75M). If there are 10 million shares outstanding, each share would represent \$2.50 of book value. If each share sells on the market at \$5, then the P/B ratio would be 2x ( $5 \div 2.50$ ). This illustrates that the market price is valued at twice its book value.

### **Should You Pay More Attention to the EV/EBITDA or P/E Multiple?**

The price-to-earnings (P/E) ratio is one of the most popular and widely used financial metrics, but it has a number of inherent flaws for which the enterprise value to EBITDA (EV/EBITDA) ratio compensates.

### **Understanding How the P/E Ratio Works**

The P/E ratio is a valuation metric that compares a company's stock earnings per share (EPS) to its current market price. This metric is widely known and used as an indicator of a company's future growth potential. The P/E ratio does not reveal a full picture, and it is most useful when comparing only companies within the same industry or comparing companies against the general market.

A high P/E ratio typically means that the market is willing to pay a higher price relative to earnings because there is an expectation of future growth in the company. Tech stocks, for example, usually carry high P/E ratios. A low P/E ratio indicates that the market is expecting lower growth in the company or perhaps less favorable macroeconomic conditions that might hurt the company. As a result, despite its earnings, the stock typically sells off somewhat if it has a low P/E since investors don't think the current price justifies the earnings outlook.

### **P/E Ratio Shortfalls**

There are problems that arise for investors with the use of the P/E ratio. The stock price can get run up if investors are overly optimistic causing an overvalued P/E ratio. Also, the earnings portion of the metric can be manipulated somewhat if, for example, a company's earnings are flat, but the company's management reduces their outstanding shares, thus boosting the company's earnings on a per share basis.

### **Advantages of Using the EV/EBITDA Multiple**

The EV/EBITDA ratio helps to allay some of the P/E's downfalls and is a financial metric that measures the return a company makes on its capital investments. EBITDA stands for Earnings Before Interest, Taxes, Depreciation, and Amortization. In other words, EBITDA provides a clearer picture of the financial performance of a company since it strips out debt costs, taxes, and accounting measures like depreciation, which spreads the costs of fixed assets out for many years.

The other component is enterprise value (EV) and is the sum of a company's equity value or market capitalization plus its debt less cash. EV is typically used in buyouts. The EV/EBITDA ratio is calculated by dividing EV by EBITDA to achieve an earnings multiple that is more comprehensive than the P/E ratio.

## EV/EBITDA Flaws

However, the EV/EBITDA ratio has its drawbacks, such as the fact that it doesn't include capital expenditures, which for some industries can be significant. As a result, it may produce a more favorable multiple by not including those expenditures.

Though the calculation of this ratio can be complex, EV and EBITDA for publicly traded companies are widely available on most financial websites. The ratio is often preferred to other return metrics because it evens out differences in taxation, capital structure (debt), and asset counting.

## P/E Versus EV/EBITDA

The P/E ratio has been established as a prime market valuation metric, and the sheer volume of current and historical data gives the metric weight in regard to stock analysis. Some analysts contend that using the EV/EBITDA ratio versus the P/E ratio as a valuation method produces better investment returns.

Both metrics have inherent advantages and disadvantages. As with any financial metric, it's important to consider several financial ratios including the P/E ratio and the EV/EBITDA ratio in determining whether a company is fairly valued, overvalued, or undervalued.

## Porter's 5 Forces vs. SWOT Analysis: What's the Difference?

### Porter's 5 Forces vs. SWOT Analysis: An Overview

Porter's 5 Forces and SWOT analysis are both tools used to analyze and make strategic decisions. Porter's 5 Forces is used to analyze the competitive environment within an industry, while a SWOT analysis tends to look more deeply within an organization to analyze its internal potential.

Each of the models seeks to define the company's position in the market. Porter's 5 Forces are generally more of a micro tool, while SWOT analysis is comparatively macro.

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### Key Takeaways

Porter's 5 Forces is a comparative analysis strategy that analyzes competitive market forces within an industry. SWOT analysis looks at the strengths, weaknesses, opportunities, and threats of an individual or organization to analyze its internal potential. While Porter's 5 Forces are all external factors, the SWOT analysis examines both internal (strengths and weaknesses) and external (opportunities and threats) forces. Both tools can be used to put strategic planning processes in place to further a company or individual's success.

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## Porter's 5 Forces

Porter's 5 Forces is a comparative analysis strategy. Companies can use it to determine competition within their industry, along with an industry's weaknesses and strengths. This model can be applied to any segment of the economy to search for profitability and attractiveness.

The strategy was devised by Harvard Business School professor Michael E. Porter as part of his book "Competitive Strategy: Techniques for Analyzing Industries and Competitors," which was published in 1980. It can be used to analyze a company's industry structure as well as its corporate strategy. By using Porter's 5 Forces, companies can set expectations of profitability.

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### Important

Along with corporate analysis, Porter's 5 Forces can be used to identify profitability in any segment of the economy.

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Porter's 5 Forces outlines five key competitive forces that make up every industry including:

The potential for new entrants into the industry. When entry is easy for new companies, it means there is usually a higher degree of competition. Existing competition in the industry. More established rivals mean a high level of competition in the industry. The arrival of new goods or services on the market. Newer products and services can erode those that are already established. Supplier power. When more suppliers begin to bargain, it may lead to scarcity. This may drum up competition for raw materials and other resources, leading to an increase in costs and cut into a company's profits. Consumer power. Consumers who have more power to bargain can lead to a drop in profitability.

Each of these forces is generally external in nature, and is not the result of a company's internal structure. The forces are generally analyzed against a micro concept such as an individual business line or idea.

Businesses can adjust their strategies by understanding Porter's 5 Forces. Using these can help trigger higher profits and, therefore, boost earnings for their investors.

## **SWOT Analysis**

SWOT stands for strengths, weaknesses, opportunities, and threats. A SWOT analysis is a strategic tool used to shape the success of a business, place, industry, product, or person. It tells an entity what it can and cannot do both internally and externally, outlining how it can accomplish its goals and what stands in its way to achieve them.

Each piece of a SWOT analysis is used as one element of a comparison to existing solutions and competitors. The focus, however, remains on the internal fortitude of the concept. The SWOT analysis is often considered a more macro review, as it can give a sense of whether an objective is attainable. Users often go through a SWOT exercise simply to identify their own competitive advantages and disadvantages.

The strengths and weaknesses are internal characteristics—ones that can be controlled and/or changed, often easily, and from the inside. The strengths outline how the entity excels and exceeds against its competition. This may include forces like location, brand power, marketing, cash on hand, technology, or pricing. An entity's weaknesses, on the other hand, prevent it from performing to its fullest potential. Debt, lack of capital, workforce turnover, and a lack of resources are all examples of weaknesses.

External factors include opportunities and threats, which may not necessarily be easy to contain. The opportunities an entity has are the favorable factors, which give it an edge over its competition within the industry. Tax cuts and reform are an example. Threats, on the other hand, are external factors that can hinder a company's competitive advantage. A weaker labor force and higher costs for raw materials may be potential threats.

A SWOT analysis can come in the form of brain-storming or self-assessment activities. In order for a SWOT analysis to work, there must be an open atmosphere, where everyone is allowed to contribute with their own ideas. After this is done, a company's management (or an individual) can work on analyzing each idea and put a strategic plan into place to guarantee (continued) success.

## **How Can EV/EBITDA Be Used in Conjunction With the P/E Ratio?**

The EV/EBITDA multiple and the price to earnings ratio (P/E ratio) are used together to provide a fuller, more complete analysis of a company's financial health and prospects for future revenues and growth. Both ratios use a different approach when analyzing a company and offer different perspectives on its financial health.



## The EV/EBITDA Ratio

EBITDA stands for Earnings Before Interest, Taxes, Depreciation, and Amortization. EBITDA is calculated before other factors are considered; therefore, the metric provides a clearer picture of the financial performance of a company. The costs of fixed assets are distributed over many years.

The other component of the EV/EBITDA ratio is enterprise value (EV). This is the sum of a company's equity value or market capitalization plus its debt less cash. EV is typically used in buyouts. The EV/EBITDA ratio is calculated by dividing EV by EBITDA to achieve an earnings multiple that is more comprehensive than the P/E ratio.

The EV/EBITDA ratio compares a company's enterprise value to its earnings before interest, taxes, depreciation, and amortization. This metric is widely used as a valuation tool; it compares the company's value, including debt and liabilities, to true cash earnings. Lower ratio values indicate that a company is undervalued.

However, the EV/EBITDA ratio has its drawbacks. The ratio does not include capital expenditures, which for some industries can be significant. As a result, it may produce more favorable multiple by not including those expenditures. By not reflecting changes in capital structure, however, the ratio allows analysts and investors to make more accurate comparisons of companies with different capital structures.

EV/EBITDA is also exclusive of non-cash expenses such as amortization and depreciation. Investors are often less concerned with non-cash expenses and more focused on cash flow and available working capital.

## The Price to Earnings (P/E) Ratio

The P/E ratio is a ratio of market price per share to earnings per share (EPS). The P/E ratio is one of the most used and accepted valuation metrics and provides investors with a comparison of the current per share price of a company to the amount the company earns per share. The P/E ratio is most useful when comparing only companies within the same industry or comparing companies against the general market.

Ultimately, this metric is ideal for helping investors understand exactly what the market is willing to pay for the company's earnings. Thus, the P/E ratio represents the market's overall consensus on the company's future prospects. A low P/E ratio indicates that the market is expecting lower growth in a company and its industry or perhaps macroeconomic conditions that might be detrimental to the company. In this case, stock with a low P/E ratio typically sells off because investors don't think the current price justifies the earnings outlook.

A higher P/E ratio, on the other hand, indicates that the market expects share prices to continue to rise. Higher P/E ratios are not always positive, however. High ratios may be the result of overly optimistic projections and corresponding overpricing of shares. Also, earnings figures are easy to manipulate because this ratio takes non-cash items into consideration. Thus, it is often advisable to use this metric in conjunction with metrics such as EV/EBITDA to obtain a more complete and accurate assessment of a company.

## 1.5.2 Tools for Fundamental Analysis

Much of fundamental analysis relies on economic data and central bank policies. Most trading platforms provide some form of economic calendar or research commentary so you're not flying blind.

### What Is Considered a Good Net Debt-to-Equity Ratio?

Financial analysts and investors are often very interested in analyzing financial statements in order to carry out financial ratio analysis to understand a company's economic health and to determine if an investment is considered worthwhile or not.

The debt-to-equity ratio (D/E) is a financial leverage ratio that is frequently calculated and looked at. It is considered to be a gearing ratio. Gearing ratios are financial ratios that compare the owner's equity or capital to debt, or funds borrowed by the company.

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### Fast Facts

The debt-to-equity ratio is determined by dividing a corporation's total liabilities by its shareholder equity.

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This ratio compares a company's total liabilities to its shareholder equity. It is widely considered one of the most important corporate valuation metrics because it highlights a company's dependence on borrowed funds and its ability to meet those financial obligations.

Because debt is inherently risky, lenders and investors tend to favor businesses with lower D/E ratios. For lenders, a low ratio means a lower risk of loan default. For shareholders, it means a decreased probability of bankruptcy in the event of an economic downturn. A company with a higher ratio than its industry average, therefore, may have difficulty securing additional funding from either source.

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### Key Takeaways

The debt-to-equity ratio is a financial leverage ratio, which is frequently calculated and analyzed, that compares a company's total liabilities to its shareholder equity. The D/E ratio is considered to be a gearing ratio, a financial ratio that compares the owner's equity or capital to debt, or funds borrowed by the company. The optimal D/T ratio varies by industry, but it should not be above a level of 2.0. A D/E ratio of 2 indicates the company derives two-thirds of its capital financing from debt and one-third from shareholder equity.

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## The Preferred Debt-to-Equity Ratio

The optimal debt-to-equity ratio will tend to vary widely by industry, but the general consensus is that it should not be above a level of 2.0. While some very large companies in fixed asset-heavy industries (such as mining or manufacturing) may have ratios higher than 2, these are the exception rather than the rule.

A D/E ratio of 2 indicates that the company derives two-thirds of its capital financing from debt and one-third from shareholder equity, so it borrows twice as much funding as it owns (2 debt units for every 1 equity unit). A company's management will, therefore, try to aim for a debt load that is compatible with a favorable D/E ratio in order to function without worrying about defaulting on its bonds or loans.

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### important

The debt-to-equity ratio is associated with risk: A higher ratio suggests higher risk and that the company is financing its growth with debt.

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## Why Debt Capital Matters

A business that ignores debt financing entirely may be neglecting important growth opportunities. The benefit of debt capital is that it allows businesses to leverage a small amount of money into a much larger sum and repay it over time. This allows businesses to fund expansion projects more quickly than might otherwise be possible, theoretically increasing profits at an increased rate.

A company that does not make use of the leveraging potential of debt financing may be doing a disservice to the ownership and its shareholders by limiting the ability of the company to generate maximum profits.

The interest paid on debt is also typically tax-deductible for the company, while equity capital is not. Debt capital also usually carries a lower cost of capital than equity.

## Role of Debt-to-Equity Ratio in Company Profitability

When looking at a company's balance sheet, it is important to consider the average D/E ratios for the given industry, as well as those of the company's closest competitors, and that of the broader market.

If a company has a D/E ratio of 5, but the industry average is 7, this may not be an indicator of poor corporate management or economic risk. There are also many other metrics used in corporate accounting and financial analysis that are used as indicators of financial health that should be studied alongside the D/E ratio.

## Market Value Of Equity

### What is Market Value Of Equity?

Market value of equity is the total dollar value of a company's equity calculated by multiplying the current stock price by total outstanding shares. A company's market value of equity is therefore always changing as these two input variables change. Market value of equity is a synonym for market capitalization. It is used to measure a company's size and helps investors diversify their investments across companies of different sizes and different levels of risk.

### Understanding Market Value Of Equity

A company's market value of equity can be thought of as the total value of the company decided by investors. The market value of equity can shift significantly throughout a trading day, particularly if there are significant news items like earnings. Large companies tend to be more stable in terms of market value of equity owing to the number and diversity of investors they have. Small, thinly-traded companies can easily see double digit shifts in the market value of equity because of a relatively small number of transactions pushing the stock up or down. This is also why small companies can be targets for market manipulation.

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### Key Takeaways

Market value of equity represents how much investors think a company is worth today. Market value of equity is the same as market capitalization and both are calculated by multiplying the total shares outstanding by the current price per share. Market value of equity changes throughout the trading day as the stock price fluctuates.

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### Calculating Market Value of Equity

Market value of equity is calculated by multiplying the number of shares outstanding by the current share price. For example, on March 28, 2019, Apple stock was trading at \$188.72 per share. As of this date, the company's stock buy back program has lowered the shares outstanding from over 6 billion to 4,715,280,000. So the market equity of capitalization is calculated as follows:

Stock Price (\$188.72) x Shares Outstanding (4,715,280,000) = \$889,867,641,600

For simplicity, people usually quote the above market value of equity as \$889.9 billion.

### The Difference Between Market Value of Equity, Enterprise Value and Book Value

Market value of equity can be compared to other valuations like book value and enterprise value. A company's enterprise value incorporates its market value of equity into the equation along with total debt minus cash and cash equivalents to provide a rough idea of a company's takeover valuation.

The market value of equity is also distinct from the book value of equity. The book value of equity is based on stockholders' equity, which is a line item on the company's balance sheet. A company's market value of equity differs from its book value of equity because the book value of equity focuses on owned assets and owed liabilities. The market value of equity is generally believed to price in some of the company's growth potential beyond its current balance sheet. If the book value is above the market value of equity, however, it may be due to market oversight. This means the company is a potential value buy.

## **Market Value of Equity and Market Profile**

In general, there are three different levels of market capitalization, and each level has its own profile. Companies with a market capitalization of less than \$2 billion are considered small capitalization, or small caps. Companies with a market capitalization of between \$2 billion and \$10 billion are considered medium capitalization stocks, also referred to as mid-caps. Companies with a market capitalization over \$10 billion are considered large capitalization, or large caps.

Each level has a profile that can help investors gain insights into the behavior of the company. Small caps are generally young companies in the growth stage of development. They are risky, but have higher growth potential. Large caps are mature companies; they may not offer the same growth potential, but they can offer stability. Mid-caps offer a hybrid of the two. By owning stocks in each category, investors ensure a certain amount of diversification in assets, sales, maturity, management, growth rate, growth prospects and market depth.

## **Return on Total Assets (ROTA)**

### **What Is Return on Total Assets (ROTA)?**

Return on total assets (ROTA) is a ratio that measures a company's earnings before interest and taxes (EBIT) relative to its total net assets.

The ratio is considered to be an indicator of how effectively a company is using its assets to generate earnings. EBIT is used instead of net profit to keep the metric focused on operating earnings without the influence of tax or financing differences when compared to similar companies.

The Formula for Return on Total Assets – ROTA Is

Return on Total Assets =  $\text{EBIT} / \text{Average Total Assets}$  where where: EBIT=earnings before interest and taxes

### **How to Calculate ROTA**

To calculate ROTA, obtain the net income figure from a company's income statement, and then add back interest and/or taxes that were paid during the year. The resulting number result is the company's EBIT.

The EBIT number should then be divided by the company's total net assets to show the earnings that the company has generated for each dollar of assets on its books.

Total assets include contra accounts for this ratio, meaning that allowance for doubtful accounts and accumulated depreciation are both subtracted from the total asset balance before calculating the ratio.

### **What Does Return on Total Assets Tell You?**

The greater a company's earnings in proportion to its assets (and the greater the coefficient from this calculation), the more effectively that company is said to be using its assets. The ROTA, expressed as a percentage or decimal, provides insight into how much money is generated from each dollar invested into the organization.

This allows the organization to see the relationship between its resources and its income, and it can provide a point of comparison to determine if an organization is using its assets more or less effectively than it had previously. In circumstances where the company earns a new dollar for each dollar invested in it, the ROTA is said to be one, or 100 percent.

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### Key Takeaways

The return on total assets shows how effectively a company uses its assets to generate earnings. The ROTA metric can be used to determine which companies are reporting the most efficient use of their assets as compared with their earnings. Some concern exists about ROTA relying on the book value of total assets rather than their market value, giving a return that looks higher than it should be in reality.

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### Limitations of Using Return on Total Assets (ROTA)

Over time, the value of an asset may diminish or increase. In the case of real estate, the value of the asset may rise. On the other hand, most mechanical pieces of a business, such as vehicles or other machinery, generally depreciate over time as wear and tear affect their value.

Since the ROTA formula uses the book values of assets from the balance sheet, it may be significantly understating the fixed assets' actual market value. This leads to a higher ratio result that shows a return on total assets that is higher than it should be because the denominator (total assets) is too low.

Another limitation is how the ratio works with financed assets. If debt was used to buy an asset, the ROTA could look favorable, while the company may actually be having trouble making its interest expense payments.

The ratio inputs can be adjusted to reflect the assets' functional values while accounting for the interest rate currently being paid to a financial institution. For example, if an asset was acquired with funds from a loan with an interest rate of 5% and the return on the associated asset was a gain of 20%, then the adjusted ROTA would be 15%.

Since many newer companies have higher amounts of debt associated with their assets, these adjustments may make the business look less attractive in the eyes of investors. Once those debts begin to clear, the ROTA will appear to improve accordingly.

### Understanding the Time Value of Money

Congratulations!!! You have won a cash prize! You have two payment options: A: Receive \$10,000 now or B: Receive \$10,000 in three years. Which option would you choose?

### What Is the Time Value of Money?

If you're like most people, you would choose to receive the \$10,000 now. After all, three years is a long time to wait. Why would any rational person defer payment into the future when he or she could have the same amount of money now? For most of us, taking the money in the present is just plain instinctive. So at the most basic level, the time value of money demonstrates that all things being equal, it seems better to have money now rather than later.

But why is this? A \$100 bill has the same value as a \$100 bill one year from now, doesn't it? Actually, although the bill is the same, you can do much more with the money if you have it now because over time you can earn more interest on your money.

Back to our example: By receiving \$10,000 today, you are poised to increase the future value of your money by investing and gaining interest over a period of time. For Option B, you don't have time on your side, and the payment received in three years would be your future value. To illustrate, we have provided a timeline:

If you are choosing Option A, your future value will be \$10,000 plus any interest acquired over the three years. The future value for Option B, on the other hand, would only be \$10,000. So how can you calculate exactly how much more Option A is worth, compared to Option B? Let's take a look.

## Future Value Basics

If you choose Option A and invest the total amount at a simple annual rate of 4.5%, the future value of your investment at the end of the first year is \$10,450. We arrive at this sum by multiplying the principal amount of \$10,000 by the interest rate of 4.5% and then adding the interest gained to the principal amount:

$$\$10,000 \times 0.045 = \$450$$

$$\$450 + \$10,000 = \$10,450$$

You can also calculate the total amount of a one-year investment with a simple manipulation of the above equation:

$$OE = (\$10,000 \times 0.045) + \$10,000 = \$10,450 \text{ where: } OE = \text{Original}$$

$$\text{Manipulation} = \$10,000 \times [(1 \times 0.045) + 1] = \$10,450$$

$$\text{Final Equation} = \$10,000 \times (0.045 + 1) = \$10,450$$

The manipulated equation above is simply a removal of the like-variable \$10,000 (the principal amount) by dividing the entire original equation by \$10,000.

If the \$10,450 left in your investment account at the end of the first year is left untouched and you invested it at 4.5% for another year, how much would you have? To calculate this, you would take the \$10,450 and multiply it again by 1.045 (0.045 + 1). At the end of two years, you would have \$10,920.25.

## Calculating Future Value

The above calculation, then, is equivalent to the following equation:

$$\text{Future Value} = \$10,000 \times (1 + 0.045) \times (1 + 0.045)$$

Think back to math class and the rule of exponents, which states that the multiplication of like terms is equivalent to adding their exponents. In the above equation, the two like terms are  $(1 + 0.045)$ , and the exponent on each is equal to 1. Therefore, the equation can be represented as the following:

$$\text{Future Value} = \$10,000 \times (1 + 0.045)^2$$

We can see that the exponent is equal to the number of years for which the money is earning interest in an investment. So, the equation for calculating the three-year future value of the investment would look like this:

$$\text{Future Value} = \$10,000 \times (1 + 0.045)^3$$

However, we don't need to keep on calculating the future value after the first year, then the second year, then the third year, and so on. You can figure it all at once, so to speak. If you know the present amount of money you have in an investment, its rate of return, and how many years you would like to hold that investment, you can calculate the future value (FV) of that amount. It's done with the equation:

$FV = PV \times (1 + i)^n$  where: FV = Future value PV = Present value (original amount of money) i = Interest rate per period  
n = Number of periods

## Present Value Basics

If you received \$10,000 today, its present value would, of course, be \$10,000 because the present value is what your investment gives you now if you were to spend it today. If you were to receive \$10,000 in one year, the present value of the amount would not be \$10,000 because you do not have it in your hand now, in the present.

To find the present value of the \$10,000 you will receive in the future, you need to pretend that the \$10,000 is the total future value of an amount that you invested today. In other words, to find the present value of the future \$10,000, we need to find out how much we would have to invest today in order to receive that \$10,000 in one year.

To calculate the present value, or the amount that we would have to invest today, you must subtract the (hypothetical) accumulated interest from the \$10,000. To achieve this, we can discount the future payment amount (\$10,000) by the interest rate for the period. In essence, all you are doing is rearranging the future value equation above so that you may solve for present value (PV). The above future value equation can be rewritten as follows:

$$PV = FV(1+i)^{-n}$$

An alternate equation would be:

$PV = FV \times (1+i)^{-n}$  where: PV = Present value (original amount of money) FV = Future value i = Interest rate per period  
n = Number of periods

## Calculating Present Value

Let's walk backward from the \$10,000 offered in Option B. Remember, the \$10,000 to be received in three years is really the same as the future value of an investment. If we had one year to go before getting the money, we would discount the payment back one year. Using our present value formula (version 2), at the current two-year mark, the present value of the \$10,000 to be received in one year would be  $\$10,000 \times (1 + .045)^{-1} = \$9,569.38$ .

Note that if today we were at the one-year mark, the above \$9,569.38 would be considered the future value of our investment one year from now.

Continuing on, at the end of the first year we would be expecting to receive the payment of \$10,000 in two years. At an interest rate of 4.5%, the calculation for the present value of a \$10,000 payment expected in two years would be  $\$10,000 \times (1 + .045)^{-2} = \$9,157.30$ .

Of course, because of the rule of exponents, we don't have to calculate the future value of the investment every year counting back from the \$10,000 investment in the third year. We could put the equation more concisely and use the \$10,000 as FV. So, here is how you can calculate today's present value of the \$10,000 expected from a three-year investment earning 4.5%:

$$\$8,762.97 = \$10,000 \times (1 + .045)^{-3}$$

So the present value of a future payment of \$10,000 is worth \$8,762.97 today if interest rates are 4.5% per year. In other words, choosing Option B is like taking \$8,762.97 now and then investing it for three years. The equations above illustrate that Option A is better not only because it offers you money right now but because it offers you \$1,237.03 (\$10,000 - \$8,762.97) more in cash! Furthermore, if you invest the \$10,000 that you receive from Option A, your choice gives you a future value that is \$1,411.66 (\$11,411.66 - \$10,000) greater than the future value of Option B.

## Present Value of a Future Payment

Let's up the ante on our offer. What if the future payment is more than the amount you'd receive right away? Say you could receive either \$15,000 today or \$18,000 in four years. The decision is now more difficult. If you choose to receive \$15,000 today and invest the entire amount, you may actually end up with an amount of cash in four years that is less than \$18,000.

How to decide? You could find the future value of \$15,000, but since we are always living in the present, let's find the present value of \$18,000. This time, we'll assume interest rates are currently 4%. Remember that the equation for present value is the following:

$$PV = FV \times (1+i)^{-n}$$

In the equation above, all we are doing is discounting the future value of an investment. Using the numbers above, the present value of an \$18,000 payment in four years would be calculated as  $\$18,000 \times (1 + 0.04)^{-4} = \$15,386.48$ .



From the above calculation, we now know our choice today is between opting for \$15,000 or \$15,386.48. Of course, we should choose to postpone payment for four years!

## **The Bottom Line**

These calculations demonstrate that time literally is money—the value of the money you have now is not the same as it will be in the future and vice versa. So, it is important to know how to calculate the time value of money so that you can distinguish between the worth of investments that offer you returns at different times. (For related reading, see “Time Value of Money and the Dollar”)

## **What Is the Intrinsic Value of a Stock?**

“Intrinsic value” is a philosophical concept, wherein the worth of an object or endeavor is derived in and of itself—or, in layman’s terms, independent of other extraneous factors. A company’s stock also is capable of holding intrinsic value, outside of what its perceived market price is, and is often touted as an important aspect to consider by value investors when picking a company to invest in.

Some buyers may simply have a “gut feeling” about the price of a stock, taking into deep consideration its corporate fundamentals. Others may base their purchase on the hype behind the stock (“everyone is talking positively about it; it must be good!”) However, in this article, we will look at another way of figuring out the intrinsic value of a stock, which reduces the subjective perception of a stock’s value by analyzing its fundamentals and determining the worth of a stock in and of itself (in other words, how it generates cash).

For the sake of brevity, we will exclude intrinsic value as it applies to call and put options.

## **Dividend Discount Model**

When figuring out a stock’s intrinsic value, cash is king. Many models that calculate the fundamental value of a security factor in variables largely pertaining to cash: dividends and future cash flows, as well as utilize the time value of money. One model popularly used for finding a company’s intrinsic value is the dividend discount model. The basic DDM is:

Where:

Div = Dividends expected in one period

r = Required rate of return

One variety of this model is the Gordon Growth Model, which assumes the company in consideration is within a steady state—that is, with growing dividends in perpetuity. It is expressed as the following:

$P = D1 / (rg)$  where: P = Present value of stock D1 = Expected dividends one year from the present r = Required rate of return for equity investors g = Annual growth rate in dividends in perpetuity

As the name implies, it accounts for the dividends that a company pays out to shareholders which reflect on the company’s ability to generate cash flows. There are multiple variations of this model, each of which factor in different variables depending on what assumptions you wish to include. Despite its very basic and optimistic in its assumptions, the Gordon Growth model has its merits when applied to the analysis of blue-chip companies and broad indices.

## **Residual Income Model**

Another such method of calculating this value is the residual income model, which expressed in its simplest form is:

$V0 = BV0 + RIt(1+r)^t$  where: BV0=Current book value of the company’s equity RIt=Residual income of a company at time period t r=Cost of equity

If you find your eyes glazing over when looking at that formula—don't worry, we are not going to go into further details. What is important to consider though, is how this valuation method derives the value of the stock based on the difference in earnings per share and per-share book value (in this case, the security's residual income), to come to an intrinsic value for the stock. Essentially, the model seeks to find the intrinsic value of the stock by adding its current per-share book value with its discounted residual income (which can either lessen the book value or increase it.)

## Discounted Cash Flow

Finally, the most common valuation method used in finding a stock's fundamental value is the discounted cash flow (DCF) analysis. In its simplest form, it resembles the DDM:

$DCF = CF_1/(1+r)^1 + CF_2/(1+r)^2 + CF_3/(1+r)^3 + CF_n/(1+r)^n$  where:  $CF_n$ =Cash flows in period  $n$   $r$  = Discount rate, Weighted Average Cost of Capital (WACC)

Using DCF Analysis, you can use the model to determine a fair value for a stock based on projected future cash flows. Unlike the previous two models, DCF analysis looks for free cash flows—that is, cash flow where net income is added with amortization/depreciation and subtracts changes in working capital and capital expenditures. It also utilizes WACC as a discount variable to account for the time value of money. McClure's explanation provides an in-depth example demonstrating the complexity of this analysis, which ultimately determines the stock's intrinsic value.

## Why Intrinsic Value Matters

Why does intrinsic value matter to an investor? In the listed models above, analysts employ these methods to see if whether or not the intrinsic value of a security is higher or lower than its current market price, allowing them to categorize it as "overvalued" or "undervalued." Typically, when calculating a stock's intrinsic value, investors can determine an appropriate margin of safety, where the market price is below the estimated intrinsic value. By leaving a 'cushion' between the lower market price and the price you believe it's worth, you limit the amount of downside that you would incur if the stock ends up being worth less than your estimate.

For instance, suppose in one year you find a company that you believe has strong fundamentals coupled with excellent cash flow opportunities. That year it trades at \$10 per share, and after figuring out its DCF, you realize that its intrinsic value is closer to \$15 per share: a bargain of \$5. Assuming you have a margin of safety of about 35%, you would purchase this stock at the \$10 value. If its intrinsic value drops by \$3 a year later, you are still saving at least \$2 from your initial DCF value and have ample room to sell if the share price drops with it.

For a beginner getting to know the markets, intrinsic value is a vital concept to remember when researching firms and finding bargains that fit within his or her investment objectives. Though not a perfect indicator of the success of a company, applying models that focus on fundamentals provide a sobering perspective on the price of its shares.

## The Bottom Line

Every valuation model ever developed by an economist or financial academic is subject to the risk and volatility that exists in the market as well as the sheer irrationality of investors. While calculating intrinsic value may not be a guaranteed way of mitigating all losses to your portfolio, it does provide a clearer indication of a company's financial health, which is vital when picking stocks you intend on holding for the long-term. Moreover, picking stocks with market prices below their intrinsic value can also help in saving money when building a portfolio.

Although a stock may be climbing in price in one period, if it appears overvalued, it may be best to wait until the market brings it down to below its intrinsic value to realize a bargain. This not only saves you from deeper losses but allows for wiggle room to allocate cash into other, more secure investment vehicles like bonds and T-bills.

## Decoding DuPont Analysis

Return on equity (ROE) is a closely-watched number among knowledgeable investors. It is a strong measure of how well a company's management creates value for its shareholders. The number can be misleading, however, as it is vulnerable to measures that increase its value while also making the stock riskier. Without a way of breaking down ROE components, investors could be duped into believing a company is a good investment when it's not. Read on to learn how to use DuPont analysis to break apart ROE and gain a much better understanding of where movements in ROE are coming from.

The beauty of ROE is that it is an important measure that only requires two numbers to compute: net income and shareholders' equity.

$$\text{ROE} = \text{Net Income} / \text{Shareholder Equity}$$

If this number goes up, it is generally a good sign for the company as it is showing that the rate of return on the shareholders' equity is rising. The problem is that this number can also increase simply when the company takes on more debt, thereby decreasing shareholder equity. This would increase the company's leverage, which could be a good thing, but it will also make the stock riskier.

## Three-Step DuPont

A more in-depth knowledge of ROE is necessary to avoid mistaken assumptions. In the 1920s, the DuPont corporation created an analysis method that fills this need by breaking down ROE into a more complex equation. DuPont analysis shows the causes of shifts in the number.

There are two variants of DuPont analysis: the original three-step equation, and an extended five-step equation. The three-step equation breaks up ROE into three very important components:

$\text{ROE} = \text{NPM} \times \text{Asset Turnover} \times \text{Equity Multiplier}$  where: NPM=Net profit margin, the measure of operating efficiency  
Asset Turnover=Measure of asset use efficiency  
Equity Multiplier=Measure of financial leverage

## The Three-Step DuPont Calculation

Taking the ROE equation:  $\text{ROE} = \text{net income} / \text{shareholder's equity}$  and multiplying the equation by  $(\text{sales} / \text{sales})$ , we get:

$$\text{ROE} = \text{Net Income} / \text{Sales} \times \text{Sales} / \text{Shareholders' Equity}$$

We now have ROE broken into two components: the first is net profit margin and the second is the equity turnover ratio. Now by multiplying in  $(\text{assets} / \text{assets})$ , we end up with the three-step DuPont identity:

$$\text{ROE} = \text{Net Income} / \text{Sales} \times \text{Sales} / \text{Assets} \times \text{Assets} / \text{Shareholders' Equity}$$

This equation for ROE breaks it into three widely used and studied components:

$$\text{ROE} = \text{NPM} \times \text{Asset Turnover} \times \text{Equity Multiplier}$$

We have ROE broken down into net profit margin (how much profit the company gets out of its revenues), asset turnover (how effectively the company makes use of its assets) and equity multiplier (a measure of how much the company is leveraged). The usefulness should now be clearer.

If a company's ROE goes up due to an increase in the net profit margin or asset turnover, this is a very positive sign for the company. However, if the equity multiplier is the source of the rise, and the company was already appropriately leveraged, this is simply making things riskier. If the company is getting over-leveraged, the stock might deserve more of a discount despite the rise in ROE. The company could be under-leveraged as well. In this case, it could be positive and show that the company is managing itself better.

Even if a company's ROE has remained unchanged, examination in this way can be very helpful. Suppose a company releases numbers and ROE is unchanged. Examination with DuPont analysis could show that both net profit margin and asset turnover decreased, two negative signs for the company, and the only reason ROE stayed the same was a large increase in leverage. No matter what the initial situation of the company, this would be a bad sign.

### Five-Step DuPont

The five-step, or extended, DuPont equation breaks down net profit margin further. From the three-step equation we saw that, in general, rises in the net profit margin, asset turnover and leverage will increase ROE. The five-step equation shows that increases in leverage don't always indicate an increase in ROE.

### The Five-Step Calculation

Since the numerator of the net profit margin is net income, this can be made into earnings before taxes (EBT) by multiplying the three-step equation by 1 minus the company's tax rate:

$ROE = EBT/S \times S/A \times A/E \times (1TR)$  where: EBT=Earnings before tax S=Sales A=Assets E=Equity TR=Tax rate

We can break this down one more time since earnings before taxes is simply earnings before interest and taxes (EBIT) minus the company's interest expense. So, if there is a substitution for the interest expense, we get:

$ROE = (EBIT/S \times S/AIE/A) \times A/E \times (1TR)$  where: IE=Interest expense

The practicality of this breakdown is not as clear as the three-step, but this identity provides us with:

$ROE = (OPM \times ATIER) \times EM \times TRR$  where: OPM=Operating profit margin AT=Asset turnover IER=Interest expense rate EM=Equity multiplier TRR=Tax retention rate

If the company has a high borrowing cost, its interest expenses on more debt could mute the positive effects of the leverage.

### Learn the Cause Behind the Effect

Both the three- and five-step equations provide a deeper understanding of a company's ROE by examining what is changing in a company rather than looking at one simple ratio. As always with financial statement ratios, they should be examined against the company's history and its competitors.

For example, when looking at two peer companies, one may have a lower ROE. With the five-step equation, you can see if this is lower because: creditors perceive the company as riskier and charge it higher interest, the company is poorly managed and has leverage that is too low, or the company has higher costs that decrease its operating profit margin. Identifying sources like these leads to better knowledge of the company and how it should be valued.

### The Bottom Line

A simple calculation of ROE may be easy and tell quite a bit, but it does not provide the whole picture. If a company's ROE is lower than its peers, the three- or five-step identities can help show where the company is lagging. It can also shed light on how a company is lifting or propping up its ROE. DuPont analysis helps significantly broaden understanding of ROE.

## How to Use Enterprise Value to Compare Companies

Enterprise value (EV) is an indicator of how the market attributes value to a firm as a whole. Enterprise value is a term coined by analysts to discuss the aggregate value of a company as an enterprise rather than just focusing on its current market capitalization.

The market cap figure measures how much you need to fork out to buy an entire public company. When sizing up a company, investors get a better picture of the real value with enterprise value, compared to market cap.

Why doesn't the market cap properly represent a firm's value? First, it leaves a lot of important factors out, such as a company's debt and its cash reserves. Enterprise value is basically a modification of market cap, as it incorporates debt and cash for determining a company's valuation.

## Enterprise Value Calculation

Simply put, EV is the sum of a company's market cap and its net debt. To compute the EV, total debt—both short- and long-term—is added to a company's market cap, then cash and cash equivalents are subtracted.

Market capitalization is the share price multiplied by the number of outstanding shares. So, if a company has 10 million shares, each currently selling for \$25, the market capitalization is \$250 million. This number tells you what you would have to pay to buy every share of the company. Therefore, rather than telling you the company's value, market cap simply represents the company's price tag.

## The Role of Debt and Cash

Why are debt and cash considered when valuing a firm? If the firm is sold to a new owner, the buyer has to pay the equity value (in acquisitions, the price is typically set higher than the market price) and must also repay the firm's debts. Of course, the buyer gets to keep the cash available with the firm, which is why cash needs to be deducted.

Think of two companies that have equal market caps. One has no debt on its balance sheet, while the other one is heavily indebted. The debt-laden company will be making interest payments on the debt over the years. So, even though the two companies have equal market caps, it would cost more to purchase the company with more debt.

By the same token, imagine two companies with equal market caps of \$250 million and no debt. One has negligible cash and cash equivalents and the other has \$250 million in cash. The first company would have an enterprise value of \$250 million, while the second company's EV would be \$500 million.

If a company with a market cap of \$250 million carries \$150 million as long-term debt, an acquirer would ultimately pay a lot more than \$250 million to buy the company in its entirety. With the \$150 million in debt, the total acquisition price would be \$400 million. Although debt increases the purchase price, cash decreases the price.

## Enterprise Value Ratios

Frankly, knowing a company's EV alone is not all that useful. You can learn more about a company by comparing EV to a measure of the company's cash flow or earnings before interest and taxes (EBIT). Comparative ratios demonstrate nicely how EV works better than market cap for assessing companies with differing debt or cash levels or, in other words, differing capital structures.

It is important to use EBIT (earnings before interest and tax) in the comparative ratio because EV assumes that, upon the acquisition of a company, its acquirer immediately pays debt and consumes cash, not accounting for interest costs or interest income. Even better is free cash flow, which helps avoid other accounting distortions.

For example, let's look at the price of two comparable stocks: Air Macklon and Cramer Airlines. At \$45 per share, Macklon had a market cap of \$13.5 billion and a P/E (market cap/earnings) ratio of 10. But its balance sheet was

burdened with nearly \$30 billion in net debt. So Macklon's EV was \$43.5 billion, or nearly 13 times its \$3.4 billion in EBIT.

By contrast, Air Cramer enjoyed a share price of \$23 per share and a market cap of \$6.1 billion and P/E ratio of 20, twice that of Air Macklon. But because Cramer owed a lot less—its net debt stood at \$3.5 billion, its EV was \$9.6 billion and its EV/EBIT ratio was only 10.

By market cap (P/E) alone, Air Macklon looked like it was half the price of Cramer Airlines. But on the basis of EV, which takes into account important things like debt and cash levels, Cramer Airlines was priced much less per share. As the market gradually discovered, Cramer represented a better buy, offering more value for its price.

## The Bottom Line

The value of EV lies in its ability to compare companies with different capital structures. By using enterprise value instead of market capitalization to look at the value of a company, investors get a more accurate sense of whether or not a company is truly undervalued.

## How Do You Calculate a Company's Equity?

The equity of a company, or shareholders' equity, is the net difference between a company's total assets and its total liabilities. A company's equity is used in fundamental analysis to determine its net worth.

Shareholders' equity represents the net value of a company, or the amount of money left over for shareholders if all assets were liquidated and all debts repaid.

## How to Calculate Shareholders' Equity

The formula for calculating shareholders' equity is:

Shareholder's Equity = Total Assets - Total Liabilities

You can find a company's total liabilities and total assets on its balance sheet.

## Example of Shareholders' Equity

Below is the balance sheet for Apple Inc. (AAPL) as of March 31, 2018.

Total assets (in green) were \$367.502 billion Total liabilities (in red) were \$240.624 billion Shareholders' equity was \$126.878 billion (\$367.502 - \$240.624)

The value of \$126.878 billion in shareholders' equity represents the amount left for shareholders if Apple liquidated all of its assets and paid off all of its liabilities.

An alternative calculation of company equity is the value of share capital and retained earnings less the value of treasury shares.

Shareholders' equity is an effective metric for determining the net worth of a company, but it should be used in tandem with analysis of all financial statements, including the balance sheet, income statement, and cash flow statement.

## Why Is Shareholders' Equity Important?

Shareholders' equity can be negative or positive. If it reads positive, the company has enough assets to cover its liabilities. If negative, the company's liabilities exceed its assets; if prolonged, it amounts to balance sheet insolvency.

As such, many investors view companies with negative shareholders' equity as risky or unsafe. However, shareholders' equity alone is not a definitive indicator of a company's financial health; however, used in conjunction with other tools and metrics, an investor can accurately analyze the health of an organization.

All the statistics required to compute shareholders' equity is available on a company's balance sheet. Total assets include current and non-current assets. Current assets are assets that can be converted to cash within a year (e.g., cash, accounts receivable, inventory). Long-term assets are assets that cannot be converted to cash or consumed within a year (e.g. investments; property, plant, and equipment; and intangibles, such as patents).

Total liabilities consist of current and long-term liabilities. Current liabilities are debts typically due for repayment within one year (e.g. accounts payable and taxes payable). Long-term liabilities are obligations that are due for repayment in periods longer than one year (e.g., bonds payable, leases, and pension obligations). Upon calculating the total assets and liabilities, shareholders' equity can be determined.

Market analysts and investors prefer a balance between the amount of retained earnings that a company pays out to investors in the form of dividends and the amount retained to reinvest back into the company.

Shareholders' equity is an essential metric to consider when determining the return being generated versus the total amount invested by equity investors. For example, ratios like return on equity (ROE), which is the result of a company's net income divided by shareholders' equity, is used to measure how well a company's management is using its equity from investors to generate profit.

## **Valuing Firms Using Present Value of Free Cash Flows**

Investing decisions can be made based on simple analysis such as finding a company you like with a product you think will be in demand. The decision might not be based on scouring financial statements, but the reason for picking this type of company over another is still sound. Your underlying prediction is that the company will continue to produce and sell high-demand products, and thus will have cash flowing back into the business. The second—and very important—part of the equation is that the company's management knows where to spend this cash to continue operations. A third assumption is that all of these potential future cash flows are worth more today than the stock's current price.

To place numbers into this idea, we could look at these potential cash flows from the operations and find what they are worth based on their present value. In order to determine the value of a firm, an investor must determine the present value of operating free cash flows. Of course, we need to find the cash flows before we can discount them to the present value.

## **Free Cash Flows**

What are free cash flows? Free cash flows refer to the cash a company generates after cash outflows. It helps support the company's operations and maintain its assets. Free cash flow measures profitability. It includes spending on assets but does not include non-cash expenses on the income statement.

This figure is available to all investors, who can use it to determine the overall health and financial well-being of a company. It can also be used by future shareholders or potential lenders to see how a company would be able to pay dividends or its debt and interest payments.

## **Operating Free Cash Flow**

Operating free cash flow (OFCF) is the cash generated by operations, which is attributed to all providers of capital in the firm's capital structure. This includes debt providers as well as equity.

Calculating the OFCF is done by taking earnings before interest and taxes (EBIT) and adjusting for the tax rate, then adding depreciation and taking away capital expenditure, minus the change in working capital and minus changes in other assets. Here is the actual formula:



$OFCF = EBIT \times (1 - T) + D - CAPEX - D \times w_c - D \times a$  where: EBIT=earnings before interest and taxes T=tax rate D=depreciation  $w_c$ =working capital a=any other assets

This is also referred to as the free cash flow to the firm and is calculated in such a way as to reflect the overall cash-generating capabilities of the firm before deducting debt-related interest expenses and non-cash items. Once we have calculated this number, we can calculate the other metrics needed, such as the growth rate.

### Calculating the Growth Rate

The growth rate can be difficult to predict and can have a drastic effect on the resulting value of the firm. One way to calculate it is to multiply the return on the invested capital (ROIC) by the retention rate. The retention rate is the percentage of earnings that is held within the company and not paid out as dividends. This is the basic formula:

$g = RR \times ROIC$  where: RR = average retention rate, or (1 - payout ratio) ROIC =  $EBIT(1 - \text{tax}) \div \text{total capital}$

### Valuation

The valuation method is based on the operating cash flows coming in after deducting the capital expenditures, which are the costs of maintaining the asset base. This cash flow is taken before the interest payments to debt holders in order to value the total firm. Only factoring in equity, for example, would provide the growing value to equity holders. Discounting any stream of cash flows requires a discount rate, and in this case, it is the cost of financing projects at the firm. The weighted average cost of capital (WACC) is used for this discount rate. The operating free cash flow is then discounted at this cost of capital rate using three potential growth scenarios—no growth, constant growth, and changing growth rate.

### No Growth

To find the value of the firm, discount the OFCF by the WACC. This discounts the cash flows expected to continue for as long as a reasonable forecasting model exists.

Firm value =  $OFCF_t \div (1 + WACC)^t$  where: OFCF=the operating free cash flows in period t WACC=weighted average cost of capital

### Constant Growth

In a more mature company, you may find it more appropriate to include a constant growth rate in the calculation. To calculate the value, take the OFCF of next period and discount it at WACC minus the long-term constant growth rate of the OFCF.

Value of the firm =  $OFCF_1 \div (k - g)$  where: OFCF<sub>1</sub>=operating free cash flow k=discount rate, in this case WACC g=expected growth rate in OFCF  
 $\text{Value of the firm} = OFCF_1 \div (k - g)$  where: OFCF<sub>1</sub>=text{operating free cash flow} k = text{discount rate, in this case WACC} g = text{expected growth rate in OFCF}

### Multiple Growth Periods

Assuming the firm is about to see more than one growth stage, the calculation is a combination of each of these stages. Using the supernormal dividend growth model for the calculation, the analyst needs to predict the higher-than-normal growth and the expected duration of such activity. After this high growth, the firm might be expected to go back into a normal steady growth into perpetuity. To see the resulting calculations, assume a firm has operating free cash flows of

\$200 million, which is expected to grow at 12% for four years. After four years, it will return to a normal growth rate of 5%. We will assume that the weighted average cost of capital is 10%.

Both the two-stage dividend discount model (DDM) and FCFE model allow for two distinct phases of growth—an initial finite period where the growth is abnormal, followed by a stable growth period expected to last forever. In order to determine the long-term sustainable growth rate, one would usually assume the rate of growth will equal the long-term forecasted GDP growth. In each case, the cash flow is discounted to the present dollar amount and added together to get a net present value.

Comparing this to the company's current stock price can be a valid way of determining the company's intrinsic value. Recall that we need to subtract the total current value of the firm's debt to get the value of the equity. Then, divide the equity value by common shares outstanding to get the value of equity per share. This value can then be compared to how much the stock is selling for in the market to see if it is overvalued or undervalued.

## **The Bottom Line**

Calculations dealing with the value of a firm will always use unique methods based on the firm being examined. Growth companies may need a two-period method when there is higher growth for a couple of years. In a larger, more mature company you can use a more stable growth technique. It always comes down to determining the value of the free cash flows and discounting them to today.

## **Intrinsic Value vs. Current Market Value: What's the Difference?**

### **Intrinsic Value vs. Current Market Value: An Overview**

There is a significant difference between intrinsic value and market value, though both are ways of valuing a company. Intrinsic value is an estimate of the actual true value of a company, regardless of market value.

Market value is the current value of a company as reflected by the company's stock price. Therefore, market value may be significantly higher or lower than the intrinsic value. Market value is also commonly used to refer to the market capitalization of a publicly-traded company and is obtained by multiplying the number of its outstanding shares by the current share price.

## **Intrinsic Value**

Intrinsic value is a core metric used by value investors to analyze a company. The idea is that it is best to invest in companies that have a higher true value than the one being assigned to it by the market. Intrinsic value is a type of fundamental analysis. Tangible and intangible factors are considered when setting the value, including financial statements, market analysis, and the company's business plan.

There is an inherent degree of difficulty in arriving at a company's intrinsic value. Due to all the possible variables involved, such as the value of the company's intangible assets, estimates of the genuine value of a company can vary greatly between analysts.

Some analysts utilize discounted cash flow analysis to include future earnings in the calculation, while others look purely at the current liquidation value or book value as shown on the company's most recent balance sheet. Further, difficulty arises from the fact that the balance sheet itself since it is an internally produced company document and may not be a completely accurate representation of assets and liabilities.

## **Market Value**

Market value is the company's value calculated from its current stock price and rarely reflects the actual current value of a company. Market value is, instead, almost more of a measure of public sentiment about a company. The reason

for this is that the market value reflects supply and demand in the investing market, how eager (or not) investors are to participate in the company's future. Another difficult factor in determining market value is how to value illiquid assets such as real estate and business lines.

The market value is usually higher than the intrinsic value if there is strong investment demand, leading to possible overvaluation. The opposite is true if there is weak investment demand, which can result in the undervaluation of the company.

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**Key Takeaways**

Intrinsic value and market value are two distinct ways to value a company. Market value is simply a measure of how much the market values the company, or how much it would cost to buy it. Market value is easy to determine for publicly traded companies but can be a little more complicated for private companies. Intrinsic value is an estimate of the actual value of a company, separate from how the market values it. Value investors look for companies with higher intrinsic value than market value. They see this as a good investment opportunity.

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**Comparable Company Analysis (CCA)****What Is a Comparable Company Analysis (CCA)**

A comparable company analysis (CCA) is a process used to evaluate the value of a company using the metrics of other businesses of similar size in the same industry. Comparable company analysis operates under the assumption that similar companies will have similar valuation multiples, such as EV/EBITDA. Analysts compile a list of available statistics for the companies being reviewed and calculate the valuation multiples in order to compare them.

**Understanding Comparable Company Analysis (CCA)**

One of the first things every banker learns is how to do a comp analysis or comparable company analysis. The process of creating a comparable company analysis is fairly straightforward. The information the report provides is used to determine a ballpark estimate of value for the stock price or the firm's value.

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**Key Takeaways**

Comparable company analysis is the process of comparing companies based on similar metrics to determine their enterprise value. A company's valuation ratio determines whether it is overvalued or undervalued. If the ratio is high, then it is overvalued. If it is low, then the company is undervalued. The most common valuation measures used in comparable company analysis are enterprise value to sales (EV/S), price to earnings (P/E), price to book (P/B), and price to sales (P/S).

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**Comparable Company Analysis**

Comparable company analysis starts with establishing a peer group consisting of similar companies of similar size in the same industry or region. Investors are then able to compare a particular company to its competitors on a relative basis. This information can be used to determine a company's enterprise value (EV) and to calculate other ratios used to compare a company to those in its peer group.

## **Relative vs. Comparable Company Analysis**

There are many ways to value a company. The most common approaches are based on cash flows and relative performance compared to peers. Models that are based on cash, such as the discounted cash flow (DCF) model, can help analysts calculate an intrinsic value based on future cash flows. This value is then compared to the actual market value. If the intrinsic value is higher than the market value, the stock is undervalued. If the intrinsic value is lower than the market value, the stock is overvalued.

In addition to intrinsic valuation, analysts like to confirm cash flow valuation with relative comparisons, and these relative comparisons allow the analyst to develop an industry benchmark or average.

The most common valuation measures used in comparable company analysis are enterprise value to sales (EV/S), price to earnings (P/E), price to book (P/B), and price to sales (P/S). If the company's valuation ratio is higher than the peer average, the company is overvalued. If the valuation ratio is lower than the peer average, the company is undervalued. Used together, intrinsic and relative valuation models provide a ballpark measure of valuation that can be used to help analysts gauge the true value of a company.

## **Valuation and Transaction Metrics Used in Comps**

Comps can also be based on transaction multiples. Transactions are recent acquisitions in the same industry. Analysts compare multiples based on the purchase price of the company rather than the stock. If all companies in a particular industry are selling for an average of 1.5 times market value or 10 times earnings, it gives the analyst a way to use the same number to back into the value of a peer company based on these benchmarks.

## **Degree of Financial Leverage – DFL Definition**

### **What Is a Degree of Financial Leverage - DFL?**

A degree of financial leverage (DFL) is a leverage ratio that measures the sensitivity of a company's earnings per share (EPS) to fluctuations in its operating income, as a result of changes in its capital structure. The degree of financial leverage (DFL) measures the percentage change in EPS for a unit change in operating income, also known as earnings before interest and taxes (EBIT).

This ratio indicates that the higher the degree of financial leverage, the more volatile earnings will be. Since interest is usually a fixed expense, leverage magnifies returns and EPS. This is good when operating income is rising, but it can be a problem when operating income is under pressure.

The Formula for DFL Is

$$\text{DFL} = \% \text{change in EPS} / \% \text{change in EBIT}$$

DFL can also be represented by the equation below:

$$\text{DFL} = \text{EBIT} / \text{EBIT} - \text{Interest}$$

### **What Does Degree of Financial Leverage Tell You?**

The higher the DFL, the more volatile earnings per share (EPS) will be. Since interest is a fixed expense, leverage magnifies returns and EPS, which is good when operating income is rising but can be a problem during tough economic times when operating income is under pressure.

DFL is invaluable in helping a company assess the amount of debt or financial leverage it should opt for in its capital structure. If operating income is relatively stable, then earnings and EPS would be stable as well, and the company can afford to take on a significant amount of debt. However, if the company operates in a sector where operating income is quite volatile, it may be prudent to limit debt to easily manageable levels.

The use of financial leverage varies greatly by industry and by the business sector. There are many industry sectors in which companies operate with a high degree of financial leverage. Retail stores, airlines, grocery stores, utility companies, and banking institutions are classic examples. Unfortunately, the excessive use of financial leverage by many companies in these sectors has played a paramount role in forcing a lot of them to file for Chapter 11 bankruptcy.

Examples include R.H. Macy (1992), Trans World Airlines (2001), Great Atlantic & Pacific Tea Co (A&P) (2010) and Midwest Generation (2012). Moreover, excessive use of financial leverage was the primary culprit that led to the U.S. financial crisis between 2007 and 2009. The demise of Lehman Brothers (2008) and a host of other highly levered financial institutions are prime examples of the negative ramifications that are associated with the use of highly levered capital structures.

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### Key Takeaways

The degree of financial leverage (DFL) is a leverage ratio that measures the sensitivity of a company's earnings per share to fluctuations in its operating income, as a result of changes in its capital structure. This ratio indicates that the higher the degree of financial leverage, the more volatile earnings will be. The use of financial leverage varies greatly by industry and by the business sector.

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### Example of How to Use DFL

Consider the following example to illustrate the concept. Assume hypothetical company BigBox Inc. has operating income or earnings before interest and taxes (EBIT) of \$100 million in Year 1, with interest expense of \$10 million, and has 100 million shares outstanding. (For the sake of clarity, let's ignore the effect of taxes for the moment.)

EPS for BigBox in Year 1 would thus be:

Operating Income of \$100 Million  $\div$  \$10 Million Interest Expense  $\div$  100 Million Shares Outstanding = \$0.90

The degree of financial leverage (DFL) is:

$\$100 \text{ Million} / \$100 \text{ Million} - \$10 \text{ Million} = 1.11$

This means that for every 1% change in EBIT or operating income, EPS would change by 1.11%.

Now assume that BigBox has a 20% increase in operating income in Year 2. Notably, interest expenses remain unchanged at \$10 million in Year 2 as well. EPS for BigBox in Year 2 would thus be:

Operating Income of \$120 Million  $\div$  \$10 Million Interest Expense  $\div$  100 Million Shares Outstanding = \$1.10

In this instance, EPS has increased from 90 cents in Year 1 to \$1.10 in Year 2, which represents a change of 22.2%.

This could also be obtained from the DFL number =  $1.11 \times 20\% \text{ (EBIT change)} = 22.2\%$ .

If EBIT had decreased instead to \$70 million in Year 2, what would have been the impact on EPS? EPS would have declined by 33.3% (i.e., DFL of  $1.11 \times -30\% \text{ change in EBIT}$ ). This can be easily verified since EPS, in this case, would have been 60 cents, which represents a 33.3% decline.

### Free Cash Flow Yield: The Best Fundamental Indicator

When evaluating stocks, most investors are familiar with fundamental indicators such as the price-to-earnings ratio (P/E), book value, price-to-book (P/B), and the PEG ratio. Also, investors who recognize the importance of cash generation use the company's cash flow statements when analyzing its fundamentals. They acknowledge that these statements offer a better representation of the company's operations.

However, very few people look at how much free cash flow (FCF) is available vis-à-vis the value of the company. Called the free cash flow yield, it's a better indicator than the P/E ratio.

## **Free Cash Flow**

Money in the bank is what every company strives to achieve. Investors are interested in what cash the company has in its bank accounts, as these numbers show the truth of a company's performance. It is more difficult to hide financial misdeeds and management adjustments in the cash flow statement.

Cash flow is the measure of money into and out of a company's bank accounts. Free cash flow, a subset of cash flow, is the amount of cash left over after the company has paid all its expenses and capital expenditures (funds reinvested into the company).

You can quickly calculate the free cash flow of a company from the cash flow statement. Start with the total from the cash generated from operations. Next, find the amount for capital expenditures in the "cash flow from investing" section. Then subtract the capital expenditures number from the total cash generated from operations to derive free cash flow (FCF).

When free cash flow is positive, it indicates the company is generating more cash than is used to run the business and reinvest to grow the business. It's fully capable of supporting itself, and there is plenty of potential for further growth. A negative free cash flow number indicates the company is not able to generate sufficient cash to support the business. However, many small businesses do not have positive free cash flow as they are investing heavily to grow their venture rapidly.

Free cash flow is similar to earnings for a company without the more arbitrary adjustments made in the income statement. As a result, you can use free cash flow to help measure the performance of a company in a similar way to looking at the net income line. (Free cash flow is not the same as net cash flow, however.

Free cash flow is the amount of cash that is available for stockholders after the extraction of all expenses from the total revenue. The net cash flow is the amount of profit the company has with the costs that it pays currently, excluding long-term debts or bills. A company that has a positive net cash flow is meeting operating expenses at the current time, but not long-term costs, so it is not always an accurate measurement of the company's progress or success.)

The P/E ratio measures how much annual net income is available per common share. However, the cash flow statement is a better measure of the performance of a company than the income statement. (For a complete list and discussion of all the major ratios in financial analysis, be sure to check out our [6 Basic Financial Ratios and What They Reveal](#).)

## **Free Cash Flow Yield**

Is there a comparable measurement tool to the P/E ratio that uses the cash flow statement? Happily, yes. We can use the free cash flow number and divide it by the value of the company as a more reliable indicator. Called the free cash flow yield, this gives investors another way to assess the value of a company that is comparable to the P/E ratio. Since this measure uses free cash flow, the free cash flow yield provides a better measure of a company's performance.

The most common way to calculate free cash flow yield is to use market capitalization as the divisor. Market capitalization is widely available, making it easy to determine. The formula is as follows:

Free Cash Flow Yield = Free Cash Flow / Market Capitalization

Market Capitalization

Another way to calculate free cash flow yield is to use enterprise value as the divisor. To many, enterprise value is a more accurate measure of the value of a firm, as it includes the debt, value of preferred shares and minority interest, but minus cash and cash equivalents. The formula is as follows:

Free Cash Flow Yield = Free Cash Flow / Enterprise Value

Enterprise Value

Both methods are valuable tools for investors. Use of market capitalization is comparable to the P/E ratio. Enterprise value provides a way to compare companies across different industries and companies with various capital structures.

To make the comparison to the P/E ratio easier, some investors invert the free cash flow yield, creating a ratio of either market capitalization or enterprise value to free cash flow.

### Using Free Cash Flow Yield

As an example, the table below shows the free cash flow yield for four large-cap companies and their P/E ratios in the middle of 2009. Apple (AAPL) sported a high trailing P/E ratio, thanks to the company's high growth expectations. General Electric (GE) had a trailing P/E ratio that reflected a slower growth scenario. Comparing Apple's and GE's free cash flow yield using market capitalization indicated that GE offered more attractive potential at this time. The primary reason for this difference was the large amount of debt that GE carried on its books, primarily from its financial unit. Apple was essentially debt-free. When you substituted market capitalization with the enterprise value as the divisor, Apple became a better choice.

Comparing the four companies listed below indicates that Cisco was positioned to perform well with the highest free cash flow yield, based on enterprise value. Lastly, although Fluor had a low P/E ratio, it did look as attractive after taking into consideration its low FCF yield.

### Liability Adjusted Cash Flow Yield

Though not commonly used in company valuation, liability-adjusted cash flow yield (LACFY) is a variation. This fundamental analysis calculation compares a company's long-term free cash flow to its outstanding liabilities over the same period. Liability adjusted cash flow yield can be used to determine how long it will take for a buyout to become profitable or how a company is valued. The calculation is as follows:

Average Free Cash Flow

$10YAFCF / [(OS+O+W) \times PSPL](CAI)$  where: 10YAFCF=10-Year average free cash flow OS=Outstanding shares O=Options W=Warrants SP=Per share price L=Liabilities CA=Current assets I=Inventory

To see whether an investment is worthwhile, an analyst may look at ten years worth of data in a LACFY calculation and compare that to the yield on a 10-year Treasury note. The smaller the difference between LACFY and the Treasury yield, the less desirable an investment is.

### The Bottom Line

Free cash flow yield offers investors or stockholders a better measure of a company's fundamental performance than the widely used P/E ratio. Investors who wish to employ the best fundamental indicator should add free cash flow yield to their repertoire of financial measures. You should not depend on just one measure, of course. However, the free cash flow amount is one of the most accurate ways to gauge a company's financial condition.

For additional related reading, check out "Analyze Cash Flow the Easy Way" and "Free Cash Flow: Free Is Always Best."

## 6 Basic Financial Ratios And What They Reveal

Ratio—the term is enough to curl one's hair, conjuring up those complex problems we encountered in high school math that left many of us babbling and frustrated. But when it comes to investing, that need not be the case. In fact, there are ratios that, properly understood and applied, can help make you a more informed investor.

### Key Takeaways



There are six ratios that can be used to pick the best stocks for your investment portfolio. Price-earnings ratio affects investors' assessments of those future earnings. The working capital ratio is calculated by dividing current assets by current liabilities. Earnings per share measures net income earned on each share of a company's common stock.

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## **1. Working Capital Ratio**

Assessing the health of a company in which you want to invest involves understanding its liquidity—how easily that company can turn assets into cash to pay short-term obligations. The working capital ratio is calculated by dividing current assets by current liabilities.

So, if XYZ Corp. has current assets of \$8 million, and current liabilities of \$4 million, that's a 2:1 ratio—pretty sound. But if two similar companies each had 2:1 ratios, but one had more cash among its current assets, that firm would be better able to pay off its debts quicker than the other.

## **2. Quick Ratio**

Also called the acid test, this ratio subtracts inventories from current assets, before dividing that figure into liabilities. The idea is to show how well current liabilities are covered by cash and by items with a ready cash value. Inventory, on the other hand, takes time to sell and convert into liquid assets. If XYZ has \$8 million in current assets minus \$2 million in inventories over \$4 million in current liabilities, that's a 1.5:1 ratio. Companies like to have at least a 1:1 ratio here, but firms with less than that may be okay because it means they turn their inventories over quickly.

## **3. Earnings per Share**

When buying a stock, you participate in the future earnings (or risk of loss) of the company. Earnings per share (EPS) measures net income earned on each share of a company's common stock. The company's analysts divide its net income by the weighted average number of common shares outstanding during the year.

## **4. Price-Earnings Ratio**

Called P/E for short, this ratio reflects investors' assessments of those future earnings. You determine the share price of the company's stock and divide it by EPS to obtain the P/E ratio.

If, for example, a company closed trading at \$46.51 a share and EPS for the past 12 months averaged \$4.90, then the P/E ratio would be 9.49. Investors would have to spend \$9.49 for every generated dollar of annual earnings.

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### **Important**

When ratios are properly understood and applied, using any one of them can help improve your investing performance.

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Even so, investors have been willing to pay more than 20 times the EPS for certain stocks if hunch that future growth in earnings will give them an adequate return on their investment.

## **5. Debt-Equity Ratio**

What if your prospective investment target is borrowing too much? This can reduce the safety margins behind what it owes, jack up its fixed charges, reduce earnings available for dividends for folks like you and even cause a financial crisis.

The debt-to-equity is calculated by adding outstanding long and short-term debt, and dividing it by the book value of shareholders' equity. Let's say XYZ has about \$3.1 million worth of loans and had shareholders' equity of \$13.3 million. That works out to a modest ratio of 0.23, which is acceptable under most circumstances. However, like all other ratios, the metric has to be analyzed in terms of industry norms and company specific requirements.

## 6. Return on Equity

Common shareholders want to know how profitable their capital is in the businesses they invest in. Return on equity is calculated by taking the firm's net earnings (after taxes), subtracting preferred dividends, and dividing the result by common equity dollars in the company.

Let's say net earnings are \$1.3 million and preferred dividends are \$300,000. Take that and divide it by the \$8 million in common equity. That gives a ROE of 12.5%. The higher the ROE, the better the company is at generating profits.

## The Bottom Line

Applying formulae to the investment game may take some of the romance out of the process of getting rich slowly. But the above ratios could help you pick the best stocks for your portfolio, build your wealth and even have fun doing it.

## Basic Earnings Per Share (EPS)

### What is Basic Earnings Per Share?

Basic earnings per share (EPS) tells investors how much of a firm's net income was allotted to each share of common stock. It is reported in a company's income statement and is especially informative for businesses with only common stock in their capital structures.

## Understanding Basic Earnings Per Share

One of the first performance measures to check when analyzing a company's financial health is its ability to turn a profit. Earnings per share (EPS) is the industry standard that investors rely on to see how well a company has done.

Basic earnings per share is a rough measurement of the amount of a company's profit that can be allocated to one share of its common stock. Businesses with simple capital structures, where only common stock has been issued, need only release this ratio to reveal their profitability. Basic earnings per share does not factor in the dilutive effects of convertible securities.

Basic EPS = (Net income - preferred dividends) ÷ weighted average of common shares outstanding during the period.

Net income can be further broken down into 'continuing operations' P&L and 'total P&L' and preferred dividends should be removed as this income is not available to common stockholders.

If a company has a complex capital structure where the need to issue additional shares might arise then diluted EPS is considered to be a more precise metric than basic EPS. Diluted EPS takes into account all of the outstanding dilutive securities that could potentially be exercised (such as stock options and convertible preferred stock) and shows how such an action would affect earnings per share.

Companies with a complex capital structure must report both basic EPS and diluted EPS to provide a more accurate picture of their earnings. The main difference between basic EPS and diluted EPS is that the latter factors in the assumption that all convertible securities will be exercised. As such, basic EPS will always be the higher of the two since the denominator will always be bigger for the diluted EPS calculation.

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## Key Takeaways

Basic earnings per share (EPS) tells investors how much of a firm's net income was allotted to each share of common stock. Businesses with simple capital structures, where only common stock has been issued, need only release this ratio to reveal their profitability. Companies with a complex capital structure must report both basic EPS and diluted EPS to provide a more accurate picture of their earnings.

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## Basic Earnings Per Share Example

A company reports net income of \$100 million after expenses and taxes. The company issues preferred dividends to its preferred stockholders of \$23 million, leaving earnings available to common shareholders of \$77 million. The company had 100 million common shares outstanding at the beginning of the year and issued 20 million new common shares in the second half of the year. As a result, the weighted average number of common shares outstanding is 110 million: 100 million shares for the first half of the year and 120 million shares for the second half of the year  $(100 \times 0.5) + (120 \times 0.5) = 110$ . Dividing the earnings available to common shareholders of \$77 million by the weighted average number of common shares outstanding of 110 million gives a basic EPS of \$0.70.

## Impact of Basic Earnings Per Share

Stocks trade on multiples of earnings per share, so a rise in basic EPS can cause a stock's price to appreciate in line with the company's increasing earnings on a per share basis.

Increasing basic EPS, however, does not mean the company is generating greater earnings on a gross basis. Companies can repurchase shares, decreasing their share count as a result and spread net income less preferred dividends over fewer common shares. Basic EPS could increase even if absolute earnings decrease with a falling common share count.

Another consideration for basic EPS is its deviation from diluted EPS. If the two EPS measures are increasingly different, it may show that there is a high potential for current common shareholders to be diluted in the future.

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## **Capitalization of Earnings**

### **What is Capitalization of Earnings?**

Capitalization of earnings is a method of determining the value of an organization by calculating the worth of its anticipated profits based on current earnings and expected future performance. This method is accomplished by finding the net present value (NPV) of expected future profits or cash flows, and dividing them by the capitalization rate (cap rate). This is an income-valuation approach that determines the value of a business by looking at the current cash flow, the annual rate of return, and the expected value of the business.

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### **Key Takeaways**

Capitalization of Earnings is a method of establishing the value of a company. The formula is Net Present Value (NPV) divided by Capitalization rate. To properly apply the formula requires a strong understanding of the business being reviewed.

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### **Understanding Capitalization of Earnings**

Calculating the capitalization of earnings helps investors determine the potential risks and return of purchasing a company. However, the results of this calculation must be understood in light of the limitations of this method. It requires research and data about the business, which in turn, depending on the nature of the business, may require generalizations and assumptions along the way. The more structured the business is, and the more rigor applied to its accounting practices, the less impact any assumptions and generalizations may have.

### **Determining a Capitalization Rate**

Determining a capitalization rate for a business involves significant research and knowledge of the type of business and industry. Typically, rates used for small businesses are 20% to 25%, which is the return on investment (ROI) buyers typically look for when deciding which company to purchase.

Because the ROI does not include a salary for the new owner, that amount must be separate from the ROI calculation. For example, a small business bringing in \$500,000 annually and paying its owner a fair market value (FMV) of \$200,000 annually uses \$300,000 in income for valuation purposes.

When all variables are known, calculating the capitalization rate is achieved with a simple formula, operating income / purchase price. First, the annual gross income of the investment must be determined. Then, its operating expenses must be deducted to identify the net operating income. The net operating income is then divided by the investment's/property's purchase price to identify the capitalization rate.

### **Drawbacks of Capitalization of Earnings**

Evaluating a company based on future earnings has disadvantages. First, the method in which future earnings are projected may be inaccurate, resulting in less than expected yields. Extraordinary events can occur, compromising earnings and therefore affecting the investment's valuation. Also, a startup that has been in business for one or two years may lack sufficient data for determining an accurate valuation of the business.

Because the capitalization rate should reflect the buyer's risk tolerance, market characteristics, and the company's expected growth factor, the buyer needs to know the acceptable risks and the desired ROI. For example, if a buyer is unaware of a targeted rate, he may pay too much for a company or pass on a more suitable investment.

## Capitalization of Earnings Example

For the last 10 years, a local business has enjoyed annual cash flows of \$500,000; based on forecasts, these cash flows are expected to continue indefinitely. The business's annual expenses are a constant \$100,000. Therefore, the business earns \$400,000 annually (\$500,000 - \$100,000 = \$400,000). To determine the business's value, the investor examines other no-risk investments with similar cash flows. He identifies a \$4 million Treasury bond yielding 1% annually, or \$40,000. As a result, he determines the value of the company as \$4,000,000 because it is a similar investment in terms of risks and rewards.

## How Is a Company's Share Price Determined?

Generally speaking, the stock market is driven by supply and demand, much like any market. When a stock is sold, a buyer and seller exchange money for share ownership. The price for which the stock is purchased becomes the new market price. When a second share is sold, this price becomes the newest market price, etc.

The more demand for a stock, the higher it drives the price and vice versa. The more supply of a stock, the lower it drives the price and vice versa. So while in theory, a stock's initial public offering (IPO) is at a price equal to the value of its expected future dividend payments, the stock's price fluctuates based on supply and demand. Many market forces contribute to supply and demand, and thus to a company's stock price.

## Company Value and Company Share Price

Understanding the law of supply and demand is easy; understanding demand can be hard. The price movement of a stock indicates what investors feel a company is worth—but how do they determine what it's worth? One factor, certainly, is its current earnings: how much profit it makes. But investors often look beyond the numbers. That is to say, the price of a stock doesn't only reflect a company's current value—it also reflects the prospects for a company, the growth that investors expect of it in the future.

## Predicting a Company's Share Price

There are quantitative techniques and formulas used to predict the price of a company's shares. Called dividend discount models (DDMs), they are based on the concept that a stock's current price equals the sum total of all its future dividend payments when discounted back to their present value. By determining a company's share by the sum total of its expected future dividends, dividend discount models use the theory of the time value of money (TVM).

## The Gordon Growth Model

Several different types of dividend discount models exist. One of the most popular, due to its straightforwardness, is the Gordon growth model. Developed in the 1960s by U.S. economist Myron Gordon, the equation for the Gordon growth model is represented by the following:

Present value of stock = (dividend per share) / (discount rate - growth rate)

Or, as an equation:

$P = D_1 / r - g$  where:  $P$ =Current Stock Price  $g$ =Constant growth rate in perpetuity expected for the dividends  $r$ =Constant cost of equity capital for that company (or rate of return)  $D_1$ =Value of the next year's dividends

## Example of a Share Price Valuation

For example, say Alphabet Inc. stock is trading at \$100 per share. This company requires a 5% minimum rate of return ( $r$ ) and currently pays a \$2 dividend per share ( $D_1$ ), which is expected to increase by 3% annually ( $g$ ).

The intrinsic value ( $p$ ) of the stock is calculated as:  $\$2 / (0.05 - 0.03) = \$100$ .

According to the Gordon Growth Model, the shares are correctly valued at their intrinsic level. If they were trading at, say \$125 per share, they'd be overvalued by 25%; if they were trading at \$90, they'd be undervalued by \$10 (and a buying opportunity to value investors who seek out such stocks).

## The Bottom Line

The Gordon Growth Model equation above treats a stock's present value similarly to perpetuity, which refers to a constant stream of identical cash flows for an infinite amount of time with no end date. Of course, in real life, companies may not maintain the same growth rate year after year, and their stock dividends may not increase at a constant rate.

Also, while a stock price is conceptually determined by its expected future dividends, many companies do not distribute dividends.

## How is the Value of the S&P 500 Calculated?

The S&P 500 is a U.S. market index that serves as a barometer for the movement of the U.S. equity market. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization. The value of the S&P 500 constantly changes throughout the trading day based on its underlying constituents.

## The S&P 500 Deconstructed

Because the index includes multiple classes of stock of some constituent companies—for example, Alphabet's Class A (GOOGL) and Class C (GOOG)—there are actually 505 stocks in the gauge.

The S&P 500 Index's value is computed by a free-float market capitalization weighted methodology. The first step in this methodology is to compute the free-float market capitalization of each component in the index. This calculation takes the number of outstanding shares of each company and multiplies that number by the company's current share price, or market value. Since the S&P 500 is free-float market capitalization weighted, the market capitalizations only include the shares that are actively available in the market. As such, this excludes nominal shares allocated with exercise rights to executives and other interested parties.

## Calculating Market Weights

For example, Apple reported 4,801,589,000 basic common shares in its fourth quarter 2018 earnings report, and it has a current market price of \$148.26. This market price gives the company a free-float market capitalization of \$711.9 billion. Next, the market capitalizations for all 505 constituent stocks are summed to obtain the total market capitalization of the S&P 500. This value is used as the numerator in the index calculation.

Calculating the individual market weights shows how the underlying stocks affect the index. The individual market weights are calculated by dividing the free-float market capitalization of a company in the index by the total market capitalization of the index. As of January 2019, the S&P 500 total market cap was approximately \$23 trillion. This market cap Apple roughly a 3% market weight. Overall, the larger the market weight of a company, the more impact each 1% change in a stock's price will have on the index.



## Free-Float Market Capitalization Methodology

S&P details the mathematical calculations of its free-float market capitalization methodology to lend transparency to its reporting value.

The calculation for the S&P 500 is:

$$\text{Index Level} = \sum_i P_i \times Q_i / \text{Divisor}$$

where:  $P_i$ =Price  $Q_i$ =Free-float shares

This calculation is compared to the S&P 500 equally weighted index which uses the following calculation integrating an equal weighting factor:

$$\text{Index Level} = \sum_i P_i \times IWF_i \times \text{Shares} / \text{Divisor} \text{ where: } P_i = \text{Price } IWF_i = \text{The equal weighting percentage}$$

The S&P 500 and the S&P 500 Equal Weighted Index use an index divisor that scales the index down to a more manageable and reportable level. The divisor is a proprietary value that can change with stock splits, special dividends, spinoffs, and other variables that could affect the index's value.

## The Difference Between Return on Equity and Return on Capital

Return on equity (ROE) and return on capital (ROC) measure very similar concepts, but with a slight difference in the underlying formulas. Both measures are used to decipher the profitability of a company based on the money it had to work with.

### Return on Equity

Return on equity measures a company's profit as a percentage of the combined total worth of all ownership interests in the company. For example, if a company's profit equals \$10 million for a period, and the total value of the shareholders' equity interests in the company equals \$100 million, the return on equity would equal 10% (\$10 million divided by \$100 million).

The formula for calculating ROE is as follows:

$$\text{Return on equity} = \text{Net income} / \text{Average shareholders' equity}$$

There are a number of different figures from the income statement and balance sheet that a person could use to get a slightly different ROE. A common method is to take net income from the income statement and divide it by total shareholders equity on the balance sheet.

If a company had a net income of \$50,000 on the income statement in a given year and recorded total shareholders equity of \$100,000 on the balance sheet in that same year, then the ROE is 50%. Some top companies routinely have an ROE north of 30%.

### Return on Capital

Return on capital, in addition to using the value of ownership interests in a company, also includes the total value of debts owed by the company in the form of loans and bonds.

For example, if a company's profit equals \$10 million for a period, and the total value of the shareholders' equity interests in the company equals \$100 million, and debts equal \$100 million, the return on capital equals 5% (\$10 million divided by \$200 million).

The formula for calculating ROC is as follows:

$$\text{Return on capital} = \text{Net income} / \text{Debt} + \text{Equity}$$

As with ROE, an investor could use various figures from the balance sheet and income statement to get slightly different variations of ROC. Ultimately what matters is that the investor uses the same calculation over time, as this will reveal whether the company is improving, staying the same, or declining in performance over time.

If a company had a net income of 50,000 on the income statement in a given year, recorded total shareholders equity of 100,000 on the balance sheet in that same year, and had total debts of 65,000, then the ROC is 30% ( $50,000 / 165,000$ ). This is a very quick way to calculate ROC, but only for very simple companies. If a company has lease obligations this too needs to be factored in. If a company has one time gains which aren't useful for comparing the ratio year-to-year, then these would need to be deducted. For additional ways of calculating ROC, see Return on Invested Capital.

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### **Key Takeaways**

ROC and ROE are well-known and trusted benchmarks used by investors and institutions to decide between competing investment options. All other things being equal, most seasoned investors would choose to invest in a company with a higher ROE and ROC when compared to a company with lower ratios.

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### **How Do Gross Profit and EBITDA Differ?**

Gross profit and EBITDA (earnings before interest, taxes, depreciation and amortization) each show the earnings of a company. However, the two metrics calculate profit in different ways. Investors and analysts may want to look at both profit metrics to peer into the workings of a company.

### **What is Gross Profit?**

Gross profit is the income earned by a company after deducting the direct costs of producing its products. It measures how well a company generates profit from their direct labor and direct materials.

Gross profit does not include non-production costs such as costs for the corporate office. Only the revenue and costs of the production facility are included in gross profit.

### **The Formula for Gross Profit**

Gross Profit = Revenue - Cost of Goods Sold

Revenue is the total amount of income earned from sales in a period. Revenue can also be called net sales because discounts and deductions from returned merchandise may have been deducted from it. Revenue is considered the top-line earnings number for a company since it's located at the top of the income statement.

Cost of goods sold (COGS) is the direct costs associated with producing goods. Some of the costs included in gross profit include:

Direct materials Direct labor Equipment costs involved in production Utilities for the production facility

#### **Example of Gross Profit Calculation**

Below is a portion of the income statement for J.C. Penney Company Inc. (JCP) on May 5, 2018.

Total revenue was \$2.67 billion (highlighted in green). COGS was \$1.71 billion (highlighted in red).  
Gross profit was \$960 million for the period.

As we can see from the example, gross profit does not include operating expenses such as overhead. It also doesn't include interest, taxes, depreciation, and amortization. Because of this, gross profit is effective if an investor wants to analyze the financial performance of revenue from production and management's ability to manage the costs involved in production. However, if the goal is to analyze operating performance while including operating expenses, EBITDA is a better financial metric.

## What is EBITDA?

EBITDA is one indicator of a company's financial performance and is used as a proxy for the earning potential of a business. EBITDA strips out the cost of debt capital and its tax effects by adding back interest and taxes to earnings.

EBITDA also removes depreciation and amortization, a non-cash expense, from earnings. It also helps to show the operating performance of a company before taking into account the capital structure, such as debt financing.

EBITDA can be used to analyze and compare profitability among companies and industries, as it eliminates the effects of financing and accounting decisions.

## The Formula for EBITDA

$$\text{EBITDA} = \text{OI} + \text{Depreciation} + \text{Amortization}$$

where: OI = Operating Income

Operating income is a company's profit after subtracting operating expenses or the costs of running the daily business. Operating income helps investors separate out the earnings for the company's operating performance by excluding interest and taxes.

## Example of EBITDA Calculation

Let's use the same income statement from the gross profit example for JC Penney above:

Operating income was \$3 million. Depreciation was \$141 million, but the \$3 million in operating income includes subtracting the \$141 million in depreciation. As a result, depreciation and amortization need to be added back into the operating income number during the EBITDA calculation. EBITDA was \$144 million for the period (\$141 million + \$3 million).

We can see that interest expenses and taxes are not included in operating income, but instead are included in net income or the bottom line. Key Considerations

The above examples shows that the EBITDA figure of \$144 million was quite different from the \$970 million gross profit figure during the same period.

One metric is not better than the other. Instead, they both show the profit of the company in different ways by stripping out different items. Operating expenses are removed with gross profit. Non-cash items like depreciation, as well as taxes and the capital structure or financing, are stripped out with EBITDA.

EBITDA helps to strip out management decisions or possible manipulation by removing debt financing, for example, while gross profit can help analyze the production efficiency of a retailer that might have a lot of cost of goods sold, as in the case of JC Penney.

Since depreciation is not captured in EBITDA, it has some drawbacks when analyzing a company with a significant amount of fixed assets. For example, an oil company might have large investments in property, plant, and equipment. As a result, the depreciation expense would be quite large, and with depreciation expenses removed, the earnings of the company would be inflated.

## How Does Top-Down and Bottom-Up Investing Differ?

Top-down and bottom-up investing are vastly different ways to analyze and invest in stocks. There are advantages to both methodologies. However, both approaches have the same goal: to identify great stocks. Here's a review of the characteristics of both methods.

## **Top-Down**

The top-down approach to investing focuses on the “big picture” or how the overall economy and macroeconomic factors drive the markets and ultimately stock prices. They will also look at the performance of sectors or industries. These investors believe that if the sector is doing well, chances are, the stocks in those industries will also do well.

Top-down investment analysis includes:

Economic growth or gross domestic product (GDP) both in the U.S. and across the globe  
Monetary policy by the Federal Reserve Bank including the lowering or raising of interest rates  
Inflation and the price of commodities  
Bond prices and yields including U.S. Treasuries

### **Bank Stocks & Interest Rates**

Below is a chart showing a top-down approach with correlating the 10-year Treasury yield to the Financial Select Sector SPDR ETF (XLF) over the last couple of years.

A top-down investor might look at rising interest rates and bond yields as an opportunity to invest in bank stocks. Typically, not always, when long-term yields rise, and the economy is performing well, banks tend to earn more revenue since they can charge higher rates on their loans. However, the correlation of rates to bank stocks is not always positive. It's important that the overall economy is performing well while yields rise.

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## **Key Takeaways**

The top-down approach is easier for investors who are less experienced and for those who don't have the time to analyze a company's financials. Bottom-up investing can help investors pick quality stocks that outperform the market even during periods of decline.

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### **Commodities & Stocks**

If the price of a commodity such as oil rises, the top-down analysis might focus on buying stocks of oil companies like Exxon Mobil Corporation (XOM). Conversely, for companies that use large quantities of oil to make their product, a top-down investor might consider how rising oil prices might hurt the company's profits. At the onset, the top-down approach starts looking at the macroeconomy and then drills down to a particular sector and the stocks within that sector.

### **Countries & Regions**

Top-down investors might also choose to invest in one country or region if its economy is doing well. For example, if the European economy is doing well, an investor might invest in European ETFs, mutual funds, or stocks.

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## **Fast Facts**

The top-down approach examines various economic factors to see how those factors may affect the overall market, and therefore certain industries, and ultimately individual stocks within those industries.

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## Bottom-Up

The bottom-up investing approach, a money manager will examine the fundamentals of a stock regardless of market trends. They will focus less on market conditions, macroeconomic indicators, and industry fundamentals. Instead, the bottom-up approach focuses on how an individual company in a sector is performing compared to specific companies within the sector.

Bottom-up analysis focus includes:

Financial ratios including the price to earnings (P/E), current ratio, return on equity, and net profit margin  
Earnings growth including future expected earnings  
Revenue and sales growth  
Financial analysis of a company's financial statements including the balance sheet, income statement, and the cash flow statement  
Cash flow and free cash flow show how well a company generates cash and is able to fund its operations without adding more debt.  
Management's leadership and performance  
A company's products, market dominance, and market share

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## Key Takeaways

The bottom-up approach invests in stocks where the above factors are positive for the company, regardless of how the overall market may be doing.

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### Outperforming Stocks

Bottom-up investors also believe that just because one company in a sector is doing well, that does not mean that all companies in the sector will also perform well. These investors try to find the particular companies in a sector that will outperform the others. That's why bottom-up investors spend so much time analyzing a company. Bottom-up investors typically review research reports that analysts put out on a company since analysts often have an intimate knowledge of the companies they cover. The idea behind this approach is that individual stocks in a sector may perform well, regardless of poor performance by the industry or macroeconomic factors.

However, what constitutes a good prospect, is a matter of opinion. A bottom-up investor will compare companies and invest in them based on their fundamentals. The business cycle or broader industry conditions are of little concern.

## The Bottom Line

A top-down approach starts with the broader economy, analyzes the macroeconomic factors, and targets specific industries that perform well against the economic backdrop. From there, the top-down investor selects companies within the industry. A bottom-up approach looks at the fundamental and qualitative metrics of multiple companies and picks the company with the best prospects for the future. Both approaches are valid and should be considered when designing a balanced investment portfolio.

## Which Business Model Is Best? Depends on the Industry

A company's business model is an important representation of how a company does business. Despite the size of the business or the industry in which a business operates, a business model details how an organization creates and delivers products or services, specific business processes, infrastructure, customer acquisition strategies, and the intended customer base. Business models come in a variety of forms. Direct sales, franchise, freemium, and subscription models are among the common kinds.

## **Direct Sales**

Under a direct sales business model, sales of products or services generate revenue through a network of salespeople, who sell directly to customers. Typically, no fixed retail location exists under a direct sales business model. Instead, individual salespeople are connected with a large parent company and given the tools to become individual entrepreneurs.

Direct sales take place through presentations or demonstrations of the product or service in a one-on-one setting or during a hosted party at a prospect's home or business. Business owners in direct sales earn a portion of their sales, while the company providing the product retains the remaining revenue. Companies such as Avon, Arbonne and Herbalife are examples of the direct sales business model.

## **Franchise Model**

Under a franchise business model, business owners purchase another organization's business strategy. Instead of creating a new product and the distribution chain to deliver that product to consumers, the franchisee purchases an ownership stake in a business model that has already been successfully developed. The company offering its proprietary product or service, its business processes and its brand is known as the franchisor, and it benefits from a reduction in capital output used to build new locations.

Franchise owners earn a portion of the revenue generated by their locations, and the franchisor collects licensing fees in addition to a percentage of sales revenue from the franchisee. Popular companies that depend on the franchise business model for growth include McDonald's and Subway.

## **Freemium Model**

For companies that offer personal or business services via the internet, the freemium business model is common. Under a freemium model, a business gives away a service at no cost to the consumer as a way to establish the foundation for future transactions. By offering basic-level services for free, companies build relationships with customers, eventually offering them advanced services, add-ons, or an ad-free user experience for an extra cost. The freemium model tends to work well for Internet-based businesses with small customer acquisition costs, but high lifetime value. Spotify and Skype both operate under a freemium business model.

## **Subscription Model**

Businesses that operate in an industry with high customer acquisition costs may opt for a subscription or recurring revenue business model. The objective of a subscription business model is to retain customers under a long-term contract and secure recurring revenue from the repeat purchase of a product or service.

Online subscription business models usually require the customer to sign up for automatic payment plans. They may charge a cancellation fee for a contract that ends before the preset time frame. Credit monitoring organizations, such as Experian and Equifax, use a subscription business model, as do utility and phone companies.

## **What is the Difference between Revenue and Sales?**

### **What Is the Difference Between Sales and Revenue?**

Revenue is the total income generated by the sale of goods or services related to the company's core operations.

Revenue is often referred to as the "top line" because it sits at the top of the income statement. Revenue is the income a company generates before any expenses are subtracted from the calculation. Therefore, a company reporting "top-line growth" is experiencing an increase in gross sales or revenue.

Sales are the proceeds a company generates from selling goods or services to its customers.

In accounting terms, sales comprise one component of a company's revenue figure. On an income statement, sales is typically referred to as "gross sales." A company may also report "net sales," which is the result of subtracting any returned merchandise from gross sales. Retail companies tend to report net sales as well as revenue.

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### Key Takeaways

Revenue is the income a company generates before any expenses are subtracted from the calculation. Revenue is referred to as the "top line" number since it sits at the top of the income statement. Sales are the proceeds a company generates from selling goods or services to its customers. Companies may post revenue that's higher than the sales-only figures, given the supplementary income sources.

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### Understanding How Sales & Revenue Can Differ

Some companies inaccurately use the term "sales" and "revenue" interchangeably. However, while sales might be considered to be revenue, all revenue doesn't necessarily derive from sales. Consider the following financial data from Exxon Mobil Corporation's (XOM) income statement for the quarter ending June 30, 2019:

Sales and operating revenue were roughly \$67.5 billion for June 2019 versus \$71.5 billion for June 2018. We can see that total revenue was \$69 billion for the quarter ending June 2019 and \$73.5 billion for the same period in 2018. However, there were income sources other than sales proceeds—from equity affiliates and other income—totaling more than \$1.5 billion in 2019 and \$2 billion in 2018. As a result, companies may post revenue that's higher than the sales-only figures, given the supplementary income sources.

### Non-operating Revenue

Oil and gas companies commonly generate income from the sale of assets, during time periods when they're cash poor. Other non-operating revenue gains may come from occasional events, such as investment windfalls, money awarded through litigation, interest, royalties, fees, and donations. Regardless of the source, these sporadic gains indicate a company's total cash flow.

### Sales Can Exceed Revenue

Sales may be defined as prices paid by customers, while revenue signals the overall money a business generates during a given time period. Although revenue is nearly always the larger figure, it may occasionally be smaller than sales. Take, for example, a business that only sells hats, with no other inventory on its shelves. If the store's revenue formula deducts any discounted sales, returns or damaged merchandise, the company's gross sales could theoretically shake out to be larger than its revenue.

### Government Revenue

Revenue can also be used to describe money a government collects from taxes, fees, fines, and publicly-operated services. However, while government agencies may sell goods or services, the proceeds from these activities are seldom referred to as "government sales."



## **The Bottom Line**

Whether it's sales, gross sales, net sales, or revenue, it's critical to consider the industry in question, when analyzing a company's financial data. It's also important to distinguish between sales and revenue, because some revenue sources may be one-off events.

For more on this topic, please read "What Is the Difference Between Revenue and Income?" and "What Is the Difference Between Revenue and Profit?"

## **Qualitative Analysis**

### **What is Qualitative Analysis?**

Qualitative analysis uses subjective judgment based on non-quantifiable information, such as management expertise, industry cycles, strength of research and development and labor relations. Qualitative analysis contrasts with quantitative analysis, which focuses on numbers found in reports such as balance sheets. The two techniques, however, will often be used together to examine a company's operations and evaluate its potential as an investment opportunity.

### **Basics of Qualitative Analysis**

The distinction between qualitative and quantitative approaches is similar to the difference between human and artificial intelligence. Quantitative analysis uses exact inputs such as profit margins, debt ratios, earnings multiples, and the like. These can be plugged into a computerized model to yield an exact result, such as the fair value of a stock or a forecast for earnings growth. Of course, for the time being, a human has to write the program that crunches these numbers, and that involves a fair degree of subjective judgment. Once they are programmed, though, computers can perform quantitative analysis in fractions of a second, while it might take even the most gifted and highly-trained humans minutes or hours.

Qualitative analysis, on the other hand, deals with intangible, inexact concerns that belong to the social and experiential realm rather than the mathematical one. This approach depends on the kind of intelligence that machines (currently) lack, since things like positive associations with a brand, management trustworthiness, customer satisfaction, competitive advantage and cultural shifts are difficult, arguably impossible, to capture with numerical inputs.

### **Understanding People and Qualitative Analysis**

Qualitative analysis can sound almost like "listening to your gut," and indeed many qualitative analysts would argue that gut feelings have their place in the process. That does not mean, however, that it is not a rigorous approach. Indeed, it can consume much more time and energy than quantitative analysis.

People are central to qualitative analysis. An investor might start by getting to know a company's management, including their educational and professional backgrounds. One of the most important factors is their experience in the industry. More abstractly, do they have a record of hard work and prudent decision-making, or are they better at knowing – or being related to – the right people? Their reputations are also key: do their colleagues and peers respect them? Their relationships with business partners are also worth exploring since these can have a direct impact on operations.

### **Company Culture and Qualitative Analysis**

The way employees view the company and its management is important. Are they satisfied and motivated, or do they resent their bosses? The rate of employee turnover can indicate employees' loyalty or lack thereof. What does workplace culture say about the company? Overly hierarchical offices promote intrigue and competition and sap

productive energy; a sleepy, unmotivated environment can mean employees are mainly concerned with punching the clock. The ideal is a vibrant, creative culture that attracts top talent.

## Gathering Data for Qualitative Analysis

Admittedly, gathering data for qualitative analysis can be difficult. Fortune 500 CEOs are not known for sitting down with retail investors for a chat or showing them around the corporate headquarters. In part, Warren Buffett can use qualitative analysis so effectively because people are willing to give him access to their time and information. The rest of us have to sift through news reports and companies' filings to get a sense of managers' records, strategies and philosophies. The management discussion and analysis (MD&A) section of a company's 10-K filing and quarterly earnings conference calls provide a window into strategies and communication styles. Clear, transparent communication and coherent strategies are useful. Buzzwords, evasiveness and short-termism, not so much.

## Qualitative Analysis in Context

Customers are the only group more crucial to a company's success than management and employees since they are the source of its revenue. Ironically, if a company places customers' interests before shareholders, it may be a better long-term investment. If feasible, it's a good idea to try being a customer. Say you're considering investing in an airline that has reined in costs, beat earnings estimates in three consecutive quarters and plans to buy back shares. When you try to actually use the airline, however, you find the website bug-ridden, the customer service representatives cranky, the extra fees petty and your fellow passengers resentful. The negative experience tells you that the company has a lack of priority for its customers and to be careful making an investment in the airline.

A company's business model and competitive advantage are a vital component of qualitative analysis. What gives the firm an enduring leg up over its rivals? Has it invented a new technology that competitors will find hard to replicate, or that has intellectual property protection? Does it have a unique approach to solving a problem for its customers? Is its brand globally recognized—in a good way? Does its product have cultural resonance or an element of nostalgia? Will there still be a market for it in twenty years? If you can plausibly imagine another company stepping in and doing what this one does just a little bit better, then the barrier to entry may be too low. Why will an un-established company be the one to create or disrupt its chosen market, and why won't it then be replaced in turn?

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## Key Takeaways

Qualitative analysis uses subjective judgment based on unquantifiable information. Qualitative analysis deals with intangible and inexact information that can be difficult to collect and measure. Machines struggle to conduct qualitative analysis as intangibles can't be defined by numeric values. Understanding people and company cultures are central to qualitative analysis. Looking at a company through the eyes of a customer and understanding its competitive advantage assists with qualitative analysis.

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## Real World Example of Qualitative Analysis

The idea behind quantitative analysis is to measure things; the idea behind qualitative analysis is to understand them. The latter requires a holistic view and a fact-based overarching narrative. Context is key. For example, a CEO who dropped out of college would be a red flag in some cases, but Mark Zuckerberg and Steve Jobs are exceptions. Silicon Valley is, for better or worse, a different beast. A look at McDonald's Corp's (MCD) financials a few years ago would have told you nothing about a looming backlash against, cheap, unhealthy food. On the other hand, a purely qualitative approach is vulnerable to distortion by blind spots, and personal biases. Quantitative measures can act as a check on these tendencies.

## Marginal Analysis

### What Is Marginal Analysis?

Marginal analysis is an examination of the additional benefits of an activity compared to the additional costs incurred by that same activity. Companies use marginal analysis as a decision-making tool to help them maximize their potential profits. Marginal refers to the focus on the cost or benefit of the next unit or individual, for example, the cost to produce one more widget or the profit earned by adding one more worker.

### How Marginal Analysis Works

Marginal analysis is also widely used in microeconomics when analyzing how a complex system is affected by marginal manipulation of its comprising variables. In this sense, marginal analysis focuses on examining the results of small changes as the effects cascade across the business as a whole.

Marginal analysis is an examination of the associated costs and potential benefits of specific business activities or financial decisions. The goal is to determine if the costs associated with the change in activity will result in a benefit that is sufficient enough to offset them. Instead of focusing on business output as a whole, the impact on the cost of producing an individual unit is most often observed as a point of comparison.

Marginal analysis can also help in the decision-making process when two potential investments exist, but there are only enough available funds for one. By analyzing the associated costs and estimated benefits, it can be determined if one option will result in higher profits than another. Marginal Analysis and Observed Change

From a microeconomic standpoint, marginal analysis can also relate to observing the effects of small changes within the standard operating procedure or total outputs. For example, a business may attempt to increase output by 1% and analyze the positive and negative effects that occur because of the change, such as changes in overall product quality or how the change impacts the use of resources. If the results of the change are positive, the business may choose to raise production by 1% again, and reexamine the results. These small shifts and the associated changes can help a production facility determine an optimal production rate. Marginal Analysis and Opportunity Cost

Managers should also understand the concept of opportunity cost. Suppose a manager knows that there is room in the budget to hire an additional worker. Marginal analysis tells the manager that an additional factory worker provides net marginal benefit. This does not necessarily make the hire the right decision.

Suppose the manager also knows that hiring an additional salesperson yields an even larger net marginal benefit. In this case, hiring a factory worker is the wrong decision because it is sub-optimal.

Because marginal analysis is only interested in the effect of the very next instance, it pays little attention to fixed start-up costs. Including those costs in a marginal analysis is incorrect and produces the so-called 'sunk cost fallacy'

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### Key Takeaways

Marginal analysis is an examination of the additional benefits of an activity compared to the additional costs incurred by that same activity. Marginal refers to the focus on the cost or benefit of the next unit or individual, for example, the cost to produce one more widget or the profit earned by adding one more worker. Companies use marginal analysis as a decision-making tool to help them maximize their potential profits. When a manufacturer wishes to expand its operations, either by adding new product lines or increasing the volume of goods produced from the current product line, a marginal analysis of the costs and benefits is necessary.

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### Example of Marginal Analysis in the Manufacturing Field

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dropped out of college would be a red flag in some cases, but Mark Zuckerberg and Steve Jobs are exceptions. Silicon Valley is, for better or worse, a different beast. A look at McDonald's Corp's (MCD) financials a few years ago would have told you nothing about a looming backlash against, cheap, unhealthy food. On the other hand, a purely qualitative approach is vulnerable to distortion by blind spots, and personal biases. Quantitative measures can act as a check on these tendencies.

When a manufacturer wishes to expand its operations, either by adding new product lines or increasing the volume of goods produced from the current product line, a marginal analysis of the costs and benefits is necessary. Some of the costs to be examined include, but are not limited to, the cost of additional manufacturing equipment, any additional employees needed to support an increase in output, large facilities for manufacturing or storage of completed products, and as the cost of additional raw materials to produce the goods.

Once all of the costs are identified and estimated, these amounts are compared to the estimated increase in sales attributed to the additional production. This analysis takes the estimated increase in income and subtracts the estimated increase in costs. If the increase in income outweighs the increase in cost, the expansion may be a wise investment.

For example, consider a hat manufacturer. Each hat produced requires seventy-five cents of plastic and fabric. Your hat factory incurs \$100 dollars of fixed costs per month. If you make 50 hats per month, then each hat incurs \$2 of fixed costs. In this simple example, the total cost per hat, including the plastic and fabric, would be \$2.75 ( $\$2.75 = \$0.75 + (\$100/50)$ ). But, if you cranked up production volume and produced 100 hats per month, then each hat would incur \$1 dollar of fixed costs because fixed costs are spread out across units of output. The total cost per hat would then drop to \$1.75 ( $\$1.75 = \$0.75 + (\$100/100)$ ). In this situation, increasing production volume causes marginal costs to go down.

## Marginal Cost Versus Marginal Benefit

A marginal benefit (or marginal product) is an incremental increase in a consumer's benefit in using an additional unit of something. A marginal cost is an incremental increase in the expense a company incurs to produce one additional unit of something.

Marginal benefits normally decline as a consumer decides to consume more and more of a single good. For example, imagine a consumer decides that she needs a new piece of jewelry for her right hand, and she heads to the mall to purchase a ring. She spends \$100 for the perfect ring, and then she spots another. Since she has no need for two rings, she would be unwilling to spend another \$100 on a second one. She might, however, be convinced to purchase that second ring at \$50. Therefore, her marginal benefit reduces from \$100 to \$50 from the first to the second good.

If a company has captured economies of scale, the marginal costs decline as the company produces more and more of a good. For example, a company is making fancy widgets that are in high demand. Due to this demand, the company can afford machinery that reduces the average cost to produce each widget; the more they make, the cheaper they become. On average, it costs \$5 to produce a single widget, but because of the new machinery, producing the 101st widget only costs \$1. Therefore, the marginal cost of producing the 101st widget is \$1. Limitations of Marginal Analysis

Marginal analysis derives from the economic theory of marginalism—the idea that human actors make decisions on the margin. Underlying marginalism is another concept: the subjective theory of value. Marginalism is sometimes criticized as one of the “fuzzier” areas of economics, as much of what is proposed is hard to accurately measure, such as an individual consumers' marginal utility.

Also, marginalism relies on the assumption of (near) perfect markets, which do not exist in the practical world. Still, the core ideas of marginalism are generally accepted by most economic schools of thought and are still used by businesses and consumers to make choices and substitute goods.

Modern marginalism approaches now include the effects of psychology or those areas that now encompass behavioral economics. Reconciling neoclassic economic principles and marginalism with the evolving body of behavioral economics is one of the exciting emerging areas of contemporary economics.

Since marginalism implies subjectivity in valuation, economic actors make marginal decisions based on how valuable they are in the ex-ante sense. This means marginal decisions might later be deemed regrettable or mistaken ex-post.

This can be demonstrated in a cost-benefit scenario. A company might make the decision to build a new plant because it anticipates, ex-ante, the future revenues provided by the new plant to exceed the costs of building it. If the company later discovers that the plant operates at a loss, then it mistakenly calculated the cost-benefit analysis.

Economic models tell us that optimal output is where marginal benefit is equal to marginal cost, any other cost is irrelevant.

That said, inaccurate calculations reflect inaccuracies in cost-benefit assumptions and measurements. Predictive marginal analysis is limited to human understanding and reason. When marginal analysis is applied reflectively, however, it can be more reliable and accurate.

## **Revenue vs. Profit: What's the Difference?**

### **Revenue vs. Profit: An Overview**

Revenue is the total amount of income generated by the sale of goods or services related to the company's primary operations. Profit, typically called net profit or the bottom line, is the amount of income that remains after accounting for all expenses, debts, additional income streams and operating costs.

### **Revenue**

Revenue is often referred to as the top line because it sits at the top of the income statement. The revenue number is the income a company generates before any expenses are taken out.

For example, with a shoe retailer, the money it makes from selling shoes before accounting for any expenses is its revenue. If the company also has income from investments or a subsidiary company, that income is not considered revenue; it does not come from the sale of shoes. Additional income streams and various types of expenses are accounted for separately.

### **Profit**

Also referred to as the bottom line, profit is referred to as net income on the income statement. There are variations of profit on the income statement that are used to analyze the performance of a company.

However, there are other profit margins in between the top line (revenue) and bottom line (net profit); the term "profit" may emerge in the context of gross profit and operating profit. These are steps on the way to net profit.

Gross profit is revenue minus the cost of goods sold (COGS), which are the direct costs attributable to the production of the goods sold in a company. This amount includes the cost of the materials used in creating the good along with the direct labor costs used to produce the good.

Operating profit is gross profit minus all other fixed and variable expenses associated with operating the business, such as rent, utilities, and payroll.

### **Example: Revenue vs. Profit**

Below are the figures and the income statement portion for J.C. Penney for 2017. The numbers were reported on their 10K annual statement, page 46, closing on February 03, 2018.

Revenue or Total Net Sales = \$12.50 billion Gross Profit = \$4.33 billion (total revenue of \$12.50B - COGS of \$8.17B) Operating Profit = \$116 million (minus all other fixed and variable expenses associated with operating the business, such as rent, utilities, and payroll) Profit or Net income = -\$116 million (a loss)

## Key Differences

When most people refer to a company's profit, they are not referring to gross profit or operating profit, but rather net income, which is the remainder after expenses, or the net profit. It's possible for a company to generate revenue but have a net loss. We can see that J.C. Penney suffered a loss on the bottom line of \$116 million, despite earning \$12.5 billion in revenue. The loss occurs typically when debts or expenses outstrip earnings, as in the case of J.C. Penney.

## Special Considerations

Accrued revenue is the same as unrealized revenue. Accrued revenue is the revenue earned by a company for the delivery of goods or services that have yet to be paid by the customer.

For example, a company sells widgets for \$5 each on net-30 terms to all of its customers and sells 10 widgets in August. Since it invoices its customers on net-30 terms, the company's customers won't have to pay until 30 days later, or on September 30. As a result, the revenue for August will be considered accrued revenue until the company receives customer payment.

From an accounting standpoint, the company would recognize \$50 in revenue on its income statement and \$50 in accrued revenue as an asset on its balance sheet. When the company collects the \$50, the cash account on the income statement increases, the accrued revenue account decreases, and the \$50 on the income statement will remain unchanged.

It's important not to confuse accrued revenue with unearned revenue; unearned revenue can be thought of as the opposite of accrued revenue.

Unearned revenue accounts for money prepaid by a customer for goods or services that have not been delivered. If a company requires prepayment for its goods, it would recognize the revenue as unearned, and would not recognize the revenue on its income statement until the period for which the goods or services were delivered.

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## Key Takeaways

Revenue is the total amount of income generated by the sale of goods or services related to the company's primary operations. Profit is the amount of income that remains after accounting for all expenses, debts, additional income streams, and operating costs. While revenue and profit both refer to money a company earns, it's possible for a company to generate revenue but have a net loss.

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## Revenue vs. Income: What's the Difference?

### Revenue vs. Income: An Overview

Revenue is the total amount of income generated by the sale of goods or services related to the company's primary operations. Revenue is often referred to as the top line because it sits at the top of the income statement. The top line refers to a company's revenues or gross sales. The revenue number is the income a company generates before any expenses are taken out. Therefore, when a company has "top-line growth," the company is experiencing an increase in gross sales or revenue.

Income, or net income, is a company's total earnings or profit. When investors and analysts speak of a company's income, they're actually referring to net income or the profit for the company. Net income is calculated by taking revenues and subtracting the costs of doing business, such as depreciation, interest, taxes, and other expenses.

## **Revenue**

Both revenue and net income are useful in determining the financial strength of a company, but they are not interchangeable. Revenue only indicates how effective a company is at generating sales and revenue and does not take into consideration operating efficiencies which could have a dramatic impact on the bottom line.

## **Income**

The bottom line, or net income, describes how efficient a company is with its spending and managing its operating costs. Income is often considered a synonym for revenue since both terms refer to positive cash flow. However, in a financial context, the term income almost always refers to the bottom line or net income since it represents the total amount of earnings remaining after accounting for all expenses and additional income. Net income appears on a company's income statement and is an important measure of the profitability of a company.

Just as revenue is the top line, net income is the bottom line or the “bottom” figure on a company's income statement.

## **Revenue vs. Income: Example**

Apple Inc. (AAPL) posted a top-line revenue number of \$261.612 for the 12 months of 2018. The company's revenue number represented a 9.38 percent year-over-year increase. Apple posted \$59.43 billion in net income for the same period, which represented a 17.63 percent increase year-over-year.

We can see that Apple's net income is smaller than their total revenue since net income is the result of total revenue minus all of Apple's expenses for the period. The example above shows how different income is from revenue when referring to a company's financials.

Bottom line growth and revenue growth can be achieved in various ways. A company like Apple might experience top-line growth due to a new product launch like the new iPhone, a new service, or a new advertising campaign that lead to increased sales. Bottom-line growth might have occurred from the increase in revenues, but also from cutting expenses or finding a cheaper supplier.

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## **Key Takeaways**

Revenue is the total amount of income generated by the sale of goods or services related to the company's primary operations. Income or net income is a company's total earnings or profit. Both revenue and net income are useful in determining the financial strength of a company, but they are not interchangeable.

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## **Asset Valuation**

### **What is Asset Valuation?**

Asset valuation is the process of determining the fair market or present value of assets, using book values, absolute valuation models like discounted cash flow analysis, option pricing models or comparables. Such assets include investments in marketable securities such as stocks, bonds and options; tangible assets like buildings and equipment; or intangible assets such as brands, patents and trademarks.

### **Understanding Asset Valuation**

Asset valuation plays a key role in finance and often consists of both subjective and objective measurements. The value of a company's fixed assets – which are also known as capital assets or property plant and equipment – are straight-



forward to value, based on their book values and replacement costs. However, there's no number on the financial statements that tell investors exactly how much a company's brand and intellectual property are worth. Companies can overvalue goodwill in an acquisition as the valuation of intangible assets is subjective and can be difficult to measure.

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### Key Takeaways

Asset valuation is the process of determining the fair market value of an asset. Asset valuation often consists of both subjective and objective measurements. Net asset value is the book value of tangible assets, less intangible assets and liabilities. Absolute value models value assets based only on the characteristics of that asset, such as discounted dividend, discounted free cash flow, residual income and discounted asset models. Relative valuation ratios, such as the P/E ratio, help investors determine asset valuation by comparing similar assets.

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### Net Asset Value

The net asset value – also known as net tangible assets – is the book value of tangible assets on the balance sheet (their historical cost minus the accumulated depreciation) less intangible assets and liabilities – or the money that would be left over if the company was liquidated. This is the minimum a company is worth and can provide a useful floor for a company's asset value because it excludes intangible assets. A stock would be considered undervalued if its market value were below book value, which means the stock is trading at a deep discount to book value per share.

However, the market value for an asset is likely to differ significantly from book value – or shareholders' equity – which is based on historical cost. And some companies' greatest value is in their intangible assets, like the findings of a biomedical research company.

### Absolute Valuation Methods

Absolute value models value assets based only on the characteristics of that asset. These models are known as discounted cash flow (DCF) models, and value assets like stocks, bonds and real estate, based on their future cash flows and the opportunity cost of capital. They include:

Discounted dividend models, which value a stock's price by discounting predicted dividends to the present value. If the value obtained from the DDM is higher than the current trading price of shares, then the stock is undervalued. Discounted free cash flow models calculate the present value of future free cash flow projections, discounted by the weighted average cost of capital. Residual income valuation models consider all the cash flows that accrue to the firm post the payment to suppliers and other outside parties. The value of the company is the sum of book value and the present value of expected future residual income. Residual income is calculated as net income less a charge for the cost of capital. The charge is known as the equity charge and is calculated as the value of equity capital multiplied by the cost of equity or the required rate of return on equity. Given the opportunity cost of equity, a company can have positive net income but negative residual income. Discounted asset models value a company by calculating the present market value of the assets it owns. As this method does not take into account any synergies, it's only useful for valuing commodity businesses like mining companies.

### Relative Valuation & Comparable Transactions

Relative valuation models determine the value based on the observation of market prices of similar assets. For example, one way of determining the value of a property is to compare it with similar properties in the same area. Likewise, investors use the price multiples comparable public companies trade at to get an idea of relative market valuations. Stocks are often valued based on comparable valuation metrics such as the price-to-earnings ratio (P/E ratio), price-to-book ratio or the price-to-cash flow ratio.

This method is also used to value illiquid assets like private companies with no market price. Venture capitalists refer to valuing a company's stock before it goes public as pre-money valuation. By looking at the amounts paid for similar companies in past transactions, investors get an indication of an unlisted company's potential value. This is called precedent transaction analysis.

### **Real World Example of Asset Valuation**

Let's work out net asset value for Alphabet Inc. (GOOG), the parent company of search engine and advertising giant Google.

All figures are for the period ending Dec. 31, 2018.

Total assets: \$232.8 billion Total intangible assets: \$2.2 billion Total liabilities: \$55.2 billion

Total net asset value: \$175.4 billion (total assets \$232.8 billion – total intangible assets \$2.2 billion – total liabilities \$55.2 billion)

### **Debt/EBITDA Definition**

#### **What Is the Debt/EBITDA Ratio?**

Debt/EBITDA is a ratio measuring the amount of income generated and available to pay down debt before covering interest, taxes, depreciation and amortization expenses. Debt/EBITDA measures a company's ability to pay off its incurred debt, and a higher ratio result could indicate a company with a too-heavy debt load.

Banks often include a certain debt/EBITDA target in the covenants for business loans, and a company must maintain this agreed-upon level or else risk having the entire loan become due immediately. This metric is commonly used by credit rating agencies to assess a company's probability of defaulting on issued debt, and firms with a high Debt/EBITDA ratio may not be able to service their debt in an appropriate manner, leading to a lowered credit rating.

The Formula for the Debt/EBITDA Ratio Is

Debt to EBITDA = Debt / EBITDA

#### **What Does the Debt/EBITDA Ratio Tell You?**

The debt/EBITDA ratio compares a company's total obligations, including debt and other liabilities, to the actual cash the company brings in and reveals how capable the firm is of paying its debt and other liabilities.

When lenders and analysts look at a company's debt/EBITDA ratio, they want to know how well the firm can cover its debts. EBITDA represents a company's earnings or income, and it's an acronym for earnings before interest, taxes, depreciation, and amortization. It's calculated by adding back interest, taxes, depreciation and amortization expenses to net income.

Analysts often look at EBITDA as a more accurate measure of earnings from the firm's operations, rather than net income. Some analysts see interest, taxes, depreciation, and amortization as an impediment of real cash flows. In other words, they see EBITDA as a cleaner representation of the real cash flows available to pay off debt.

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### **Key Takeaways**

The debt/EBITDA ratio is used by lenders, valuation analysts and investors to gauge a company's liquidity position and financial health. The ratio shows how much actual cash flow the company has available to cover its debt and other liabilities. A debt/EBITDA ratio that declines over time indicates a company that is paying down debt or increasing its earnings or both.

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### Example of Debt/EBITDA and Interpretation

As an example, if company A has \$100 million in debt and \$10 million in EBITDA, the debt/EBITDA ratio is 10. If company A pays off 50% of that debt in the next five years, while increasing EBITDA to \$25 million, the debt to EBITDA ratio falls to two.

A declining debt/EBITDA ratio is better than an increasing one because it implies the company is paying off its debt and/or growing earnings. Likewise, an increasing debt/EBITDA ratio means the company is increasing debt more than earnings.

Some industries are more capital intensive than others, so a company's debt/EBITDA ratio should only be compared to the same ratio for other companies in the same industry. In some industries, a debt/EBITDA of 10 could be completely normal, while in other industries a ratio of 3 to 4 is more appropriate. Limitations of the Debt/EBITDA Ratio

Analysts like the debt/EBITDA ratio because it is easy to calculate. Debt can be found on the balance sheet and EBITDA can be calculated from the income statement. The issue, however, is that it may not provide the most accurate measure of earnings. More than earnings, analysts want to gauge the amount of actual cash available for debt repayment.

Depreciation and amortization are non-cash expenses that do not really impact cash flows, but interest on debt can be a significant expense for some companies. Banks and investors looking at the current debt/EBITDA ratio to gain insight on how well the company can pay for its debt may want to consider the impact of interest on debt-repayment ability, even if that debt will be included in a new issuance. For this reason, net income minus capital expenditures, plus depreciation and amortization may be the better measure of cash available for debt repayment.

### 1.5.3 Sectors & Industries Analysis

Learn how to analyze various securities and sectors to determine which companies or industries are best positioned for growth and disruption.

#### A History Of U.S. Monopolies

Monopolies came to the United States with the colonial administration. The large-scale public works needed to make the New World hospitable to Old World immigrants required large companies to carry them out. These companies were granted exclusive contracts for these works by the colonial administrators. Even after the American Revolution, many of these colonial holdovers still functioned due to the contracts and land they held.

#### Key Takeaways

The last great American monopolies were created a century apart, and one lasted over a century. Globalization and the maturity of the world economy have prompted calls for the retirement of antitrust laws. The Sherman Antitrust Act banned trusts and monopolistic combinations that lessened or otherwise hampered interstate and international trade.

A monopoly is characterized by a lack of competition, which can mean higher prices and inferior products. However, the great economic power that monopolies hold has also had positive consequences for the U.S. Read on to take a look at some of the most notorious monopolies, their effects on the economy, and the government's response to their rise to power.

#### Sherman's Hammer

In response to a large public outcry to check the price-fixing abuses of these monopolies, the Sherman Antitrust Act was passed in 1890. This act banned trusts and monopolistic combinations that lessened or otherwise hampered

interstate and international trade. The act acted like a hammer for the government, giving it the power to shatter big companies into smaller pieces to suit its own needs.

Despite this act's passage in 1890, the next 50 years saw the formation of many domestic monopolies. However, during this same period, the antitrust legislation was used to attack several monopolies with varying levels of success. The general trend with the use of the act seemed to have been to make a distinction between good monopolies and bad monopolies, as seen by the government.

One example is International Harvester, which produced cheap agricultural equipment for a largely agrarian nation and was thus considered untouchable, lest the voters rebel. American Tobacco, on the other hand, was suspected of charging more than a fair price for cigarettes—then touted as the cure for everything from asthma to menstrual cramps—and consequently became a victim of the legislator's wrath in 1907 and was broken up in 1911.

### **The Benefits of a Monopoly**

The oil industry was prone to what is called a natural monopoly because of the rarity of the products it produced. John D. Rockefeller, the Founder and Chairman of Standard Oil, and his partners took advantage of both the rarity of oil and the revenue produced from it to set up a monopoly without the help of the banks. The business practices and questionable tactics that Rockefeller used to create Standard Oil would make the Enron crowd blush, but the finished product was not near as damaging to the economy or the environment as the industry was before Rockefeller monopolized it.

Back when there were a lot of oil companies competing to make the most of their find, companies would often pump waste products into rivers or straight out on the ground rather than going to the cost of researching proper disposal. They also cut costs by using shoddy pipelines that were prone to leakage. By the time Standard Oil had cornered 90% of oil production and distribution in the United States, it had learned how to make money off of even its industrial waste—Vaseline being but one of the new products it launched.

The benefits of having a monopoly like Standard Oil in the country was only realized after it had built a nationwide infrastructure that no longer depended on trains and their notoriously fluctuating costs, a leap that would help reduce costs and the overall price of petroleum products after the company was dismantled.

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### **Fast Facts**

The size of Standard Oil allowed it to undertake projects that disparate companies could never agree on and, in that sense, it was as beneficial as state-regulated utilities for developing the U.S. into an industrial nation.

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Despite the eventual break up of Standard Oil in 1911, the government realized that a monopoly could build up a reliable infrastructure and deliver low-cost service to a broader base of consumers than competing firms, a lesson that influenced its decision to allow the AT&T monopoly to continue until 1982. The profits of Standard Oil and the generous dividends also encouraged investors, and thereby the market, to invest in monopolistic firms, providing them with the funds to grow larger.

### **The Limitations of a Monopoly**

Andrew Carnegie went a long way in creating a monopoly in the steel industry when J.P. Morgan bought his steel company and melded it into U.S. Steel. A monstrous corporation approaching the size of Standard Oil, U.S. Steel actually did very little with the resources in its grasp, which can point to the limitations of having only one owner with a single vision. The corporation survived its court battle with the Sherman Act and went on to lobby the government for protective tariffs to help it compete internationally, but it grew very little.

U.S. Steel controlled about 70% of steel production at the time, but competing firms were hungrier, more innovative, and more efficient with their 30% of the market. Eventually, U.S. Steel stagnated in innovation as smaller companies ate more and more of its market share.

## Clayton Improves Sherman's Aim

Following the break up of sugar, tobacco, oil, and meat-packing monopolies, big business didn't know where to turn because there were no clear guidelines about what constituted monopolistic business practices. The founders and management of so-called "bad monopolies" were also enraged by the hands-off approach taken with International Harvester. They justly argued that the Sherman Act didn't make any allowance for a specific business or product and that its execution should be universal rather than operate like a lightning bolt attacking select businesses at the government's behest.

In response, the Clayton Act was introduced in 1914. It set some specific examples of practices that would attract Sherman's hammer. Among these were interlocking directorships, tie-in sales, and certain mergers and acquisitions if they substantially lessened the competition in a market. This was followed by a succession of other acts demanding that businesses consult the government before any large mergers or acquisitions took place.

Although these innovations did give the business a slightly clearer picture of what not to do, it did little to curb the randomness of antitrust action. Major League Baseball even found itself under investigation in the 1920s but escaped by claiming to be a sport rather than a business and thus not classified as interstate commerce.

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### Important

Over the years, the Sherman Antitrust Act has been used to break up large companies.

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## End of a Monopoly Era?

The last great American monopolies were created a century apart, and one lasted over a century. Others were very short-lived or still continue operating today.

AT&T Inc. (T), a government-supported monopoly was a public utility—that would have to be considered a coercive monopoly. Like Standard Oil, the AT&T monopoly made the industry more efficient and wasn't guilty of fixing prices, but rather the potential to fix prices.

The break up of AT&T by President Reagan in the 1980s gave birth to the "baby bells." Since that time, many of the baby bells have begun to merge and increase in size to provide better service to a wider area. Very likely, the break up of AT&T caused a sharp reduction in service quality for many customers and, in some cases, higher prices, but the settling period has elapsed, and the baby bells are growing to find a natural balance in the market without calling down Sherman's hammer again.

Microsoft, Corp. (MSFT), on the other hand, was never actually broken up even though it lost its case. The case against it was centered on whether Microsoft was abusing its position as essentially a non-coercive monopoly. Microsoft has been challenged by many companies over time, including by Google, over its operating systems' continuing hostility to competitors' software.

Just as U.S. Steel couldn't dominate the market indefinitely because of innovative domestic and international competition, the same is true for Microsoft. A non-coercive monopoly only exists as long as brand loyalty and consumer apathy keep people from searching for a better alternative.

Even now, the Microsoft monopoly is looking chipped at the edges as rival operating systems are gaining ground and rival software, particularly open source software, is threatening the bundle business model upon which Microsoft was built. Because of this, the antitrust case seems premature and/or redundant.

## The Bottom Line

Globalization and the maturity of the world economy have prompted calls for the retirement of antitrust laws. In the early 1900s, anyone suggesting that the government didn't need to have a hammer to smash big business with would've

been eyed suspiciously, like a member of a lunatic fringe or one of Wall Street's big money cartel members.

Over the years, these calls have been coming from people like economist Milton Friedman, former Federal Reserve Chairman, Alan Greenspan, and everyday consumers. If the history of government and business is any indication, the government is more likely to increase the range and power of antitrust laws rather than relinquish such a useful weapon.

## **Consumer Staples**

### **What Are Consumer Staples?**

Consumer staples are essential products that include typical products such as food, beverage, household goods, and feminine hygiene products, but the category also includes such items as alcohol and tobacco. These goods are those products that people are unable—or unwilling—to cut out of their budgets regardless of their financial situation.

Consumer staples are considered to be non-cyclical, meaning that they are always in demand, year-round, no matter how well the economy is—or is not—performing. As such, consumer staples are impervious to business cycles. Also, people tend to demand consumer staples at a relatively constant level, regardless of their price.

### **The Basics of Consumer Staples**

Comprising nearly 70% of the nation's gross national product (GNP), consumer spending holds a lot of sway over the economy. Economic growth and decline are typically led by consumer spending, which is cyclical. Cyclical means there are ebbs and flows, or times when the consumer spends more and periods when they have more conservative spending habits.

However, spending on goods produced and sold by the consumer staples sector tends to be far less cyclical due to the lessened price elasticity of demand. Price elasticity is an economic concept that describes the change in consumer quantity demand as prices change. The demand for consumer staples goods remains fairly constant regardless of the state of the economy or the cost of the product.

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### **Key Takeaways**

Consumer staple company stocks are noncyclical because they produce or sell goods that are always in demand. Characterized by steady if unspectacular growth, the consumer staple sector is a haven in for investors in recessionary times. Consumer staples stocks can be a good option for investors seeking consistent growth, solid dividends, and low volatility.

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### **The Makeup of the Consumer Staples Sector**

Companies that sell pharmaceutical drugs, like drugstores, are included in the sector, as are companies that produce and grow crops. Within the S&P 500 Index, consumer staples are broken down into six industries:

Beverages Food and staples retailing Food products Household products Personal products Tobacco

Although there are no substitutes for consumer staples goods, consumers have a lot of options when shopping for the cheapest products. That makes the competition among suppliers very challenging in an environment where commodity prices are rising. To compete on price consumer staples producers must be able to keep their costs down by adopting new technologies and processes, or they must differentiate by introducing innovative products.

## Consumer Staples Financial Performance

The consumer staples sector has outperformed all but one sector since 1962. According to the S&P Dow Jones Indices, for most of the 10 years ended April 2019, the consumer staples sector has returned 12.97% annually. Compare this to the 15.53% return of the S&P 500 over the same period—a gap has occurred mainly in the last two years, but usually the two moves pretty much in lockstep.

More importantly, the consumer staples sector has outperformed the S&P 500 during the last three recessionary periods—or periods of negative growth in the gross domestic product (GDP). Due to their low volatility, consumer staples stocks are considered to play a key role in defensive strategies.

## Investing in Consumer Staples

Buoyed by the persistent demand of their products, consumer staples companies generate consistent revenues, even in recessionary periods. As a result, consumer staples stocks decline far less during bear markets than stocks in other sectors. With some products, such as food, alcohol, and tobacco, demand sometimes actually increases during economic downturns.

The consumer staples sector also often lures investors with its components' rich dividend yields, which tend to be larger than those generated in other sectors. Because of their slow and steady nature, consumer staples stocks can also not only continue to pay dividends through recessionary periods but often continue to increase their payouts. According to "Dividend.com," the annual dividend rate increased 8% over the 20 years ended in 2015. As of 2018 the sector as a whole was yielding 2.01%.

Further, consumer staples are important for portfolio diversification. Also, because these stocks tend to perform in a way counter to the consumer discretionary sector in market recessions, they can help bring balance to a portfolio. They tend to bring in consistent earnings that support their dividend yields unlike the boom and bust cycles of riskier high-growth stocks, though more growth is available for consumer staples as they expand globally.

### Pros

- Steady dividends, earnings
- Little volatility
- Low risk
- Safe haven in recessionary times

### Cons

- Slow growth
- Limited highs
- Underperformers when interest rates rise

Consumer staples stocks can be a good option for investors seeking steady growth, solid dividends, and low volatility. One can invest in consumer staples by purchasing the stocks of the individual consumer staples companies—industry leaders include Procter & Gamble (P&G), B&G Foods (BGS), Kimberly-Clark (KMB), and Phillip Morris (PM)—or by purchasing mutual funds or exchange-traded funds (ETFs) that specialize in the sector.

## Real World Example of Consumer Staples

Many of the major investment companies offer some consumer staples play. Vanguard, for example, offers VDC, a consumer staples ETF, and a Consumer Staples Index mutual fund. Invesco has PBJ, its dynamic food & beverage ETF, along with a more general S&P SmallCap Consumer Staples ETF.



Further, if you want to try investing internationally—after all, people need staples the world over—the WisdomTree Emerging Markets Consumer Growth ETF (EMCG) and the iShares Global Consumer Staples ETF (KXI) are two options.

## Duopoly

### What Is a Duopoly?

A duopoly is a situation where two companies own all, or nearly all, of the market for a given product or service. A duopoly is the most basic form of oligopoly, a market dominated by a small number of companies. A duopoly can have the same impact on the market as a monopoly if the two players collude on prices or output. Collusion results in consumers paying higher prices than they would in a truly competitive market, and it is illegal under U.S. Antitrust law. Duopolies in Today's Markets

In a duopoly, two competing businesses control the majority of the market sector for a particular product or service they provide. A business can be part of a duopoly even if it provides other services that do not fall into the market sector in question. For example, Amazon is a part of the duopoly in the e-book market but is not associated with a duopoly in its other product sectors, such as computer hardware.

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### Key Takeaways

A duopoly is a form of oligopoly, where only two companies dominate the market. Monopolies, oligopolies, and collusion are all examples of duopolies. Visa and Mastercard are a duopoly that dominates the payments industry in Europe and the United States.

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### Examples of Duopolies

Boeing and Airbus have been considered a duopoly for their command of the large passenger airplane manufacturing market. Similarly, Amazon and Apple dominate the e-book marketplace. While there are other companies in the business of producing passenger planes and e-books, the market share is highly concentrated between the two businesses identified in the duopoly.

#### Collusion Practices

Collusion involves an agreement between competing entities with the purpose of manipulating the market often by inflating prices. As described in this article from The Washington Post, in 2012, Apple was accused of colluding with publishers to artificially inflate the prices of e-books offered through the iBookstore service. The accusation included charges of a conspiracy between Apple and five publishers, suggesting that pricing was fixed creating an unfair situation within the consumer market.

#### Oligopoly Practices

An oligopoly exists when a few businesses control the vast majority of the market sector. While a duopoly qualifies as an oligopoly, not all oligopolies are duopolies. For example, the automobile industry is an oligopoly because there are a limited number of producers, but more than two, who must respond to worldwide demand.

#### Monopolies

A closely related concept is a monopoly, a situation in which a single company dominates the market. The United States Postal Service (USPS), which is by law the sole provider of first-class mail services, is an example of a monopoly; however, USPS does not hold a monopoly over other shipping services, such as parcels, because these services are not covered within the law.

## Real World Example

Visa (V) and Mastercard (MA) are considered duopoly. The two financial powerhouses own over 80% of all European Union card transactions. This dominance has led the European Central Bank (ECB) to try to find ways to break up the duopoly as outlined in an article by “FinExtra.com.” So far, the ECB has tried interchange fee caps, but a new scheme that would allow instant payments using national payment cards across European countries could be a game changer.

A European infrastructure for instant payments would eliminate the need for people to use the global services of Visa or Mastercard. Another suggestion is to allow instant payments at points of interaction or points of sale so that the need for the traditional cards would disappear altogether.

## Utilities Sector

### What Is the Utilities Sector?

The utilities sector refers to a category companies that provide basic amenities, such as water, sewage services, electricity, dams, and natural gas. Although utilities earn profits, they are part of the public service landscape, and are therefore heavily regulated. Investors typically treat utilities as long-term holdings, and use them to inject steady income in their portfolios. Utilities Sector Explained

Utilities typically offer investors stable and consistent dividends, coupled with less price volatility relative to the overall equity markets. Because of these facts, utilities tend to perform well during recessionary climates. Contrarily, utility stocks tend to fall out of favor with the market, during times of economic growth.

The many types of utilities available include large companies that offer multiple services such as electricity and natural gas. Other utility interest might specialize in just one type of service, such as water. Some utilities rely on clean and renewable energy sources like wind turbines and solar panels, to produce electricity. Investors may also purchase regional utilities or invest in exchange-traded funds (ETFs) containing baskets of utility stocks located throughout the U.S.

### Paradigm Shift

While electric utility companies used to be regionally monopolistic, broadly speaking, the industry is breaking down into the following four supplier segments:

**Generators:** These operators create electrical power. **Energy Network Operators:** Grid operators, regional network operators and distribution network operators sell access to their networks to retail service providers. **Energy Traders and Marketers:** By buying and selling energy futures and other derivatives and creating complex “structured products,” these companies usefully help utilities and power-hungry businesses secure a dependable supply of electricity at a stable, predictable price. **Energy Service Providers and Retailers:** In most U.S. states, consumers can now choose their own retail service providers.

### Key Takeaways

The utility sector is a category of company stocks that provide basic services including electricity, natural gas, and water. Utilities earn a profit but are a public service and, as a result, have substantial regulation. Typically, investors buy utilities as long-term holdings for their dividend income and stability. The utility sector tends to do well as a defensive play against macroeconomic downturns. As the economy improves and interest rates rise, investors can find higher-yielding alternatives to utilities.

## **Debt Levels of the Utilities Sector**

Utilities require a significant amount of expensive infrastructure and consequently carry large amounts of debt on their balance sheets. These debt loads make utilities hypersensitive to changes in the market interest rate. And because utilities are capital-intensive, they require a continuous inflow of funds to finance infrastructure upgrades and new asset purchases. The significant debt load also results in high utility debt-to-equity (D/E) ratios, which can impact companies' credit ratings, making it difficult to borrow funds, which ultimately increases their costs of operations.

Consumer Impact on Utilities Sector

Because many states let consumers move from one utility operator to another, consumers typically choose the least expensive local operator. Higher-cost producers are eventually eliminated from the market, unless they can cut their costs in time.

Long-term power purchase agreements between companies and consumers also impact profits. When utility generation costs increase, companies must continue to honor the contract agreements and sell utilities at the current agreed-upon rate, which decreases their profits.

## **How Investors Trade Utilities**

Because utility stocks pay reliable dividends, investors often favor them over lower-dividend paying equities. After the financial crisis of 2008, the Federal Reserve cut interest rates, in an effort to stimulate the economy. As a result, investors flocked to utilities, as safer investments. Simply put: utility companies are a viable defensive choice for investors during macroeconomic downturns.

However, as the economy improves and interest rates rise, investors can find higher-yielding alternatives than utilities. As rates rise, so do the yields of U.S. Treasury bills. For example, if a utility pays a dividend yield of 3%, but increasing interest rates spike bond yields to 4%, the utility company would have to increase its dividend payout in order to match the rising yields of Treasuries. Therefore, utilities do well when interest rates decrease, because their dividends are greater than Treasury yields. However, as the economy improves, utilities tend to sell off as interest rates rise back to normal levels and their dividends become once again lower than Treasuries.

## **Pros and Cons of the Utilities Sector**

Utilities are stable investments that provide a regular dividend to shareholders, making them a popular long-term buy-and-hold option. Dividends yields are usually higher than those paid by other stocks. During times of economic downturns or with low market interest rates, utilities provide a stable, haven investment. Investors may invest in utility company shares, industry sector ETFs, and in utility bonds or other debt securities.

Due to the utility sector's intense regulatory oversight, it's difficult for it raise rates to increase revenue. Utilities requires expensive infrastructure that needs routine updating and maintenance. To meet these infrastructure needs, utility companies often float debt products that, in turn, increase their debt loads. This debt also makes these services particularly sensitive to interest rate risk. Should rates rise, the company must offer higher yields to attract bond investors, driving up their costs.

### **Pros**

The utility sector offers stable, long-term investments with a regular and attractive dividend.

Utilities act as a haven investment during times of economic downturns.

Utilities offer many options for investment including bonds, ETFs, and individual company stocks

### **Cons**

Intense regulatory oversight causes difficulty in raising customer utility prices to increase revenue.

Expensive utility infrastructure requires continual upgrades and maintenance.

During times of high market interest rates, utilities become less attractive and must increase their bond yields.

### Real World Example of Utilities

Investors can buy into individual utility stocks or bonds, or they can invest in ETFs that comprise baskets of many utilities. For example, the Utilities Select Sector SPDR Fund (XLU) is one of the largest utility sector funds, with a whopping \$9 billion in assets under management. The ETF also is one of the most actively traded utility ETFs, with more than 10 million shares traded daily. The fund typically pays a dividend yield of around 3% with a low expense ratio of 0.13%.

In comparison, the XLU's dividend yield beats out the yield for the S&P 500 equity ETF—SPDR S&P 500 Trust ETF (SPY)—that pays around 1.86%.

Furthermore, if the benchmark 10-year Treasury yield trades below 3%, investors might consider buying the utility sector through the XLU or individual stocks. It's important to check with your broker for current market pricing since Treasury yields, and dividend yields for both utilities and equities change with market conditions.

### The Top 10 Technology Companies

If you keep track of these things, you'll note that the list of the world's top 10 technology companies continues to be dominated by American names. Then again, you'll note that two of the names on the list are Chinese and that the second company on the list is Korean.

The names on this roundup of the top 10 technology companies were extracted from the Forbes Global 2000 List for 2018. The top of that list is dominated by the big banks, with the biggest technology company, Apple, coming in at a mere number 8 on the list. The Forbes list is based on annual sales, profit, assets, market capitalization, and overall market valuation. (All market capitalization figures below are as of April 29, 2019.)

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### Fast Facts

American names lead the charge on the list of the world's top 10 technology companies, led by the Cupertino, Ca.-based Apple.

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## **Apple**

Market value: \$963.33 billion

Remember when Apple (AAPL) almost died? That was back in 1997 when the late Steve Jobs returned to take over the helm of the near-bankrupt company he co-founded. Apple's mobile communications and media devices are now augmented by a steady stream of revenue from third-party digital content and applications and cloud services.

## **Samsung**

Market value: \$221.6 billion

Samsung Electronics Co. Ltd. was incorporated in 1969 and runs three divisions: consumer electronics, information technology, and mobile communications and device solutions. Few outside South Korea realize that parent company Samsung is, in fact, a conglomerate with extensive interests in everything from shipbuilding to life insurance. As of this writing, it accounts for about one-fifth of all Korean exports. In much of the world, Samsung is best known for its electronics. In 2014, Samsung introduced the Galaxy S5 and the Samsung Gear devices in 125 countries.

## **Microsoft**

Market value: \$995.324 billion

After some years in the shadow of Apple, Microsoft Corporation (MSFT) has re-emerged with a drastically revised business plan and a whole new attitude. Although it shows up on the Forbes list as the third-best tech company, its run through early 2019 has put it on top in terms of market cap. It even briefly topped the \$1 trillion mark.

Microsoft has moved toward monthly payment plans for use of its ubiquitous Office software and greatly developed its cloud services business. It has entered the hardware business with some success with its Surface line of laptops, which is now marketed alongside the many brands that use the Microsoft Windows operating system. The company has, at least for now, pretty much ceded the smartphone market to Apple and the makers of Google Android devices. And, it has changed its mission statement to reflect a desire to lead the way toward productivity. As of this writing, Microsoft is known to be heavily investing in artificial intelligence applications development.

## **Alphabet**

Market value: \$885.97 billion

To this day it's better known as Google, but it was back in Oct. 2015 that Google restructured itself to create Alphabet, Inc. (GOOGL) as its parent company. In addition to the leading search engine, Alphabet owns all of Google's side projects, such as life-extension company Calico, innovative technology developer Google X, high-speed internet provider Fiber, and Google's smart home project Nest. Alphabet also is the owner of Google Venture, which invests in startups, and Google Capital, which invests in long-term projects.

## **Intel**

Market value: \$234.73 billion

Intel Corporation (INTC) seems to have settled into second place in revenue to Samsung as a maker of semiconductor chips, but its X86 series of microprocessors remains the one inside the most personal computers. Cloud expansion is also an area of interest for Intel. In a statement, the company indicated that the use of the cloud was a means of modernization for companies. In Nov. 2016, Intel announced that improvements it had made to its Intel Scalable System Framework would spread high-performance computing to more industries.

## IBM

Market value: \$124.08 billion

Founded in the 1880s to manufacture a patented “computing scale,” International Business Machines (IBM) is the oldest company on this list by a long shot. It remains one of the world’s most respected brands despite the fact that it sold its best-known business line, personal computers, to China’s Lenovo in 2005. IBM still makes hardware and software for business and has invested heavily in hosting, consulting, and cloud services businesses around the world.

## Facebook

Market value: \$546.606 billion

With a monthly average of 2.27 billion active users, Facebook, Inc. (FB) has grown at an exponential rate since its February 2004 founding. Now facing an obvious limit in growth globally, Facebook now aims to grow through acquisitions. Notably, these have included Instagram and WhatsApp.

## Hon Hai Precision

Market cap: \$6023.96 billion

Better known in the U.S. as Foxconn Technology Group is a multinational electronics manufacturer based in Taiwan. American customers for its manufacturing services include Apple, Amazon, and Microsoft. Hon Hai operates enormous factories in 12 Chinese cities and in countries stretching from Brazil to Malaysia.

## Tencent

Market value: \$462.116 billion

Technology products and internet-related services are a mere sideline for Tencent (TCEHY), a Chinese conglomerate. It is, among other things, one of the world’s largest gaming companies and among its largest venture capital outfits. Inside China, Tencent is known for its web portal and instant messaging services. It also holds the Chinese rights to some international franchises, notably purchasing the rights to the James Bond franchise from MGM and the Star Wars franchise from Disney.

## Oracle

Market value: \$189.37 billion

Oracle Corporation (ORCL) is a computer hardware and software developer based in California, specializing in database management systems. Oracle has made significant investments in the future of cloud computing for business.

## Fast Fashion

### What Is Fast Fashion?

Fast fashion is the term used to describe clothing designs that move quickly from the catwalk to stores to meet new trends. The collections are often based on designs presented at Fashion Week events. Fast fashion allows mainstream consumers to purchase trendy clothing at an affordable price.

Fast fashion became common because of cheaper clothing, an increase in the appetite for fashionable clothing, and the increase in purchasing power on the part of consumers. Because of all this, fast fashion is challenging new fashion

lines that are introduced on a seasonal basis by traditional fashion houses. In fact, it's not uncommon for fast-fashion retailers to introduce new products multiple times in one week to stay on trend. **Understanding Fast Fashion**

Shopping for clothing was once considered an event. Consumers would save up to buy clothing at certain times of the year. But that changed in the late 1990s, as shopping became a form of entertainment and demand for clothing increased. Enter fast fashion, the cheaper, trendier clothing that allowed consumers to feel as though they were wearing the same clothing that was on the runway at fashion shows.

Fast fashion is made possible by innovations in supply chain management (SCM) among fashion retailers. Its goal is to produce articles of clothing quickly that are cost-efficient. These clothes respond to fast-shifting consumer demands. The assumption is that consumers want high fashion at a low price.

Fast fashion follows the concept of category management, linking the manufacturer with the consumer in a mutually beneficial relationship. The speed at which fast fashion happens requires this kind of collaboration, as the need to refine and accelerate supply chain processes is paramount.

### **Fast Fashion Leaders**

Spanish chain Zara is all but synonymous with fast fashion, serving as an exemplar of how to cut the time between design, production, and delivery.

Other big names in fast fashion include H&M of Sweden, UNIQLO of Japan, GAP and Forever 21 of the United States, and Topshop of England.

More traditional department stores such as Macy's, J. C. Penney, and Kohl's in the U.S. have all taken a page from Zara's book, shortening design and production times to better compete in the market.

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### **Key Takeaways**

Fast fashion describes clothing designs that move from the catwalk to stores to meet new trends. Fast fashion competes with fashion houses that continue to introduce new fashion lines on a seasonal basis. Innovations in supply chain management among fashion retailers make fast fashion possible. Leaders in the fast fashion industry include Zara, H&M, UNIQLO, Gap, and Forever 21.

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### **The Advantages of Fast Fashion**

Fast fashion is a boon for retailers because of the constant introduction of new products encourages customers to frequent stores more often, which means they end up making more purchases. The speed at which fast fashion moves tends to help retailers avoid markdowns, which cut into margins. The company does not replenish its stock—instead, it replaces items that sell out with new items. Accordingly, consumers know to purchase an item they like when they see it no matter what the price because it's not likely to be available for long.

Fast fashion is also responsible for big profits, especially if a retailer is able to jump on a trend before the competition. And if there are any losses, fashion retailers are able to recover quickly by launching a new clothing line or product. And because the clothing is cheap (and cheaply made), it's easy to get consumers back into stores to purchase the new clothing and the latest styles. **Criticisms of Fast Fashion**

Despite the advantages for customers, fast fashion has also been criticized because it encourages a “throw-away” attitude. That's why it's also called disposable fashion—the clothing is cheaply made in a style that will change very quickly.

Critics contend that fast fashion contributes to pollution, poor workmanship, and poor working conditions in developing countries, where many of the clothing is manufactured. Because the clothing is made overseas, it's also seen as causing a decline in U.S. manufacturing.



The trend has also been criticized on intellectual property grounds, with some designers alleging that their designs have been illegally mass-produced by retailers.

## Fast-Moving Consumer Goods (FMCG)

### What Are Fast-Moving Consumer Goods (FMCG)?

Fast-moving consumer goods are products that sell quickly at relatively low cost. These goods are also called consumer packaged goods.

FMCGs have a short shelf life because of high consumer demand (e.g., soft drinks and confections) or because they are perishable (e.g., meat, dairy products, and baked goods). These goods are purchased frequently, are consumed rapidly, are priced low, and are sold in large quantities. They also have a high turnover when they're on the shelf at the store.

Slow-moving consumer goods, which have a longer shelf life and are purchased over time, include items like furniture and appliances.

### Understanding Fast-Moving Consumer Goods (FMCG)

Consumer goods are products purchased for consumption by the average consumer. They are divided into three different categories: durable, nondurable goods, and services. Durable goods have a shelf life of three years or more while nondurable goods have a shelf life of less than one year. Fast-moving consumer goods are the largest segment of consumer goods. They fall into the nondurable category, as they are consumed immediately and have a short shelf life.

Nearly everyone in the world uses fast-moving consumer goods (FMCG) every day. They are the small-scale consumer purchases we make at the produce stand, grocery store, supermarket, and warehouse outlet. Examples include milk, gum, fruit and vegetables, toilet paper, soda, beer, and over-the-counter drugs like aspirin.

FMCGs account for more than half of all consumer spending, but they tend to be low-involvement purchases. Consumers are more likely to show off a durable good such as a new car or beautifully designed smartphone than a new energy drink they picked up for \$2.50 at the convenience store.

As mentioned above, fast-moving consumer goods are nondurable goods, or goods that have a short lifespan, and are consumed at a rapid or fast pace.

FMCGs can be divided into several different categories including:

- Processed foods: Cheese products, cereals, and boxed pasta
- Prepared meals: Ready-to-eat meals
- Beverages: Bottled water, energy drinks, and juices
- Baked goods: Cookies, croissants, and bagels
- Fresh, frozen foods, and dry goods: Fruits, vegetables, frozen peas and carrots, and raisins and nuts
- Medicines: Aspirin, pain relievers, and other medication that can be purchased without a prescription
- Cleaning products: Baking soda, oven cleaner, and window and glass cleaner
- Cosmetics and toiletries: Hair care products, concealers, toothpaste, and soap
- Office supplies: Pens, pencils, and markers

### The Fast-Moving Consumer Goods Industry

Because fast-moving consumer goods have such a high turnover rate, the market is not only very large, it is also very competitive. Some of the world's largest companies compete for market share in this industry including Dole, Coca-Cola, Unilever, Procter & Gamble, Nestlé, Kellogg's, and General Mills. Companies like these need to focus their efforts on marketing fast-moving consumer goods to entice and attract consumers to buy their products.

That's why packaging is a very important factor in the production process. The logistics and distribution systems often require secondary and tertiary packaging to maximize efficiency. The unit pack or primary package is critical for product protection and shelf life, and also provides information and sales incentives to consumers.

FCMGs are sold in large quantities, so they are considered a reliable source of revenue. This high volume of sales also offsets the low profit margins on individual sales as well.

As investments, FMCG stocks generally promise low-growth but are safe bets with predictable margins, stable returns, and regular dividends.

## **Special Considerations**

### **Fast-Moving Consumer Goods and E-Commerce**

Shoppers across the globe increasingly purchase things they need online because it offers certain conveniences—from delivering orders right to the door to broad selection and low prices—that brick-and-mortar stores can't.

The most popular e-commerce categories, not surprisingly, are non-consumable goods—durables and entertainment-related products. The online market for buying groceries and other consumable products is growing, as companies redefine the efficiency of delivery logistics which shorten delivery times. While non-consumable categories may continue to lead consumable products in sheer volume, gains in logistics efficiency have increased the use of e-commerce channels for acquiring FMCGs.

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### **Key Takeaways**

Fast-moving consumers goods are nondurable products that sell quickly at relatively low cost. FMCGs have low profit margins, but they account for more than half of all consumer spending. Examples of FMDBs include milk, gum, fruit and vegetables, toilet paper, soda, beer, and over-the-counter drugs like aspirin.

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When shopping for non-consumable goods where consumers typically have something in mind, there is mostly a one-to-one correlation between online searching and shopping. Consumable products have lower online browse/buy intention than non-consumable ones, but they do boast just as strong browse-to-buy correlations, which may be a factor in their increasing online sales.

## **Vertical Market**

### **What Is a Vertical Market?**

A vertical market is a market encompassing a group of companies and customers that are all interconnected around a specific niche. Companies in a vertical market are attuned to that market's specialized needs and generally do not serve a broader market. As such, vertical markets typically have their own set of business standards. They may also have high barriers to entry for new companies. Vertical Market Explained

The global business market provides a multitude of opportunities for all types of businesses. Vertical market providers are focused on specific goods and services that meet the needs of a niche customer group. These markets are the opposite of horizontal markets which sell their products and services across multiple industries with broader association among a variety of businesses and business segments.

A company operating or seeking to work in a vertical market will generally need to take somewhat of a different strategic approach than a horizontal market company. Vertical market businesses may be industry-specific or demographic-specific. Regardless, they seek to target a narrow market that has its own idiosyncrasies. In some cases, business managers in a vertical market may find certain advantages over operating in a broader, horizontal market. Advantages of Vertical Markets

Operators in a vertical market can target a particular segment where they have a comparative advantage. As these operators grow within a specified vertical market environment, they also gain expertise in their market's trends, terminology, regulations and level of competitiveness.

Some of the most considerable advantages for vertical market businesses come in the savings from marketing expenses. Vertical market businesses have the benefit of targeting a narrower customer base. This narrow focus can lead to more streamlined and focused marketing campaigns which are less costly than those seeking to reach a wider mass audience.

Overall, a company that specializes in a vertical can provide targeted insight and specialized services to clients, becoming an integral component of their business over the long term. With specialized products and services, a vertical company can justify charging higher rates which can result in higher profits from a narrowed market focus. The Practicalities of Vertical Markets

While vertical markets concentrate on a specific industry or demographic, these concentrated markets can still have a wide customer base. A wide vertical market customer base is advantageous because the higher the demand for a specific product is, the greater the revenue opportunity becomes. In a vertical market, customers usually have a high level of spending power, which often leads to requiring more attention in each customer relationship. This relationship building is often crucial because of the market's narrow focus. Customers within a vertical market typically rely on a single service provider to meet their long-term needs. Vertical market companies are also usually better positioned to understand market trends and how events affect their clients.

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### Key Takeaways

Vertical markets are focused on a specific niche. Companies in a vertical market provide targeted insight and specialized services. Focusing on a specific market vertical may help a company realize higher profits through a narrower customer base and more cost-effective marketing campaigns.

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### Real World Example

In some cases, a particular market may be specific which leads to a unique vertical market in isolation. Generally, however, industries may include several market verticals comprehensively with some potential overlap.

Grocery stores provide an example of one industry. A company like Walmart (WMT) could be considered part of a horizontal market. Walmart serves nearly every market demographic and partners with a wide range of retailers. In comparison, a company like Whole Foods Market (WFM) focuses on organic grocery products. Whole Foods, therefore, has operations in the organic grocery vertical market, dealing primarily with organic grocery consumers and organic grocery wholesalers. Companies in the organic grocery vertical set their own business standards and create a specific market environment. Conversely, Walmart deals with a wide range of customers and suppliers, leading to more broadly varied business activities.

### Growth Industry

#### What is a Growth Industry?

A growth industry is that sector of an economy which experiences a higher-than-average growth rate as compared to other sectors. Growth industries are often new or pioneer industries that did not exist in the past. Their growth is a result of demand for new products or services offered by companies in the field. An example of a growth industry is the technology sector, whose products have become runaway hits with consumers and led to multibillion dollar valuations for tech companies in the stock market. Understanding Growth Industries

Several factors are responsible for catalyzing a growth industry.

One of them is the advent of new and innovative technologies which can drive entrepreneurs and startups to develop new products and services related to the industry. Given the constantly changing nature of technology, the rationale behind investing in such technologies is the promise of exponential future growth.

The smartphone industry, which packed multiple innovative technologies into a single phone, became a growth industry during the earlier part of this decade. In recent times, virtual reality (VR) and machine learning are two examples

of such an approach. VR is an immersive, computer-generated scenario that can simulate a real-life experience. It has applications across many industries, from VR headsets for gaming to simulations for driving tests and for learning in medical schools.

Big data involves the processing of large amounts of data for research or to identify trends and statistical probabilities. Companies in big data provide services to large corporations or industries, such as healthcare. Startups and companies in the sector have multiplied as the technology becomes popular. Investors typically value companies at a multiple of their current earnings and their future growth potential.

Change in regulations can also spur growth. For example, growth in the healthcare industry is mostly driven by changes in regulation relating to insurance. The deregulation of electricity markets and greater awareness about sustainable living has also led to investors putting their money into stocks for solar companies and renewable energy companies. Medical marijuana is another growth industry that came into being due to the relaxing of strict marijuana laws.

Tesla, Inc. (TSLA), which has among the highest valuations of car companies, is an example of a company that benefits from changing regulations and its technology chops. Investors have flocked to the company due to its promise of a greener future as well as its cars, which incorporates state-of-the-art technology.

A third factor driving growth industries is a change in lifestyle and consumer preferences. With more leisure time and availability of technology and transportation options, consumers have begun traveling more. Travel apps and websites have proliferated. Travel-related startups, such as Airbnb and Uber, have garnered record valuations in private markets and are considered hot commodities for public markets.

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### **Key Takeaways**

Growth industries are sectors of economies that experience higher-than-average growth due to new technologies or changes in societal preferences or government regulations. While they can be volatile and risky stocks, companies in growth industries are generally accompanied by press hype and steadily increasing sales figures. Analysts use CAGR to value growth industries.

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### **Characteristics of Growth Industries**

Particular characteristics of growth industries include companies across an industry exhibiting consistent and quickly growing sales figures and an influx of investments. This can often be accompanied by a lot of press hype. Growth industries tend to be composed of relatively volatile and risky stocks. Often investors are willing to accept increased risk in order to take part in the potentially large gains.

Additional risks that growth industries pose can include high rates of cash burn, lack of profitability despite consumer and investor excitement, bubbles, and technological setbacks that can obstruct progress. Growth Industries and CAGR

Many analysts use the compound annual growth rate (CAGR) when determining the present viability and future potential of an investment. The CAGR is the mean annual growth rate of an investment over a set period of time longer than one year and can apply to companies in both growth and regular industries.

To calculate compound annual growth rate, analysts divide the value of an investment at the end of the period by its value at the beginning of the period. The analyst then raises the result to the power of one, divided by the period length, and subtract one from the subsequent result:

CAGR is widely used to calculate the average growth of an investment. An investment may increase in value by 6% in one year, decrease in value by 3% the following year and increase again by 2% in the next. With inconsistent annual growth, CAGR may be used to give a broader picture of an investment's progress; however, it doesn't take into account external factors such as market volatility.

## Example of a Growth Industry

The marijuana industry has become an example of a growth industry in recent times. Marijuana had a bad reputation and its possession and use was heavily-regulated in the country. The situation has changed in the last decade as a groundswell of popular opinion has led to lawmakers changing their prohibitive stance on the plant. As of January 2019, 33 states have legalized medical marijuana and its use and possession is legal in 10 states. Universities are conducting research into its uses and applications to medical science. For example, New York University researchers are using it to treat incoming veterans with PTSD. Food entrepreneurs and beverage companies are infusing their products with marijuana chemicals. Investors have poured money into marijuana companies on growth expectations for the future.

## Industry vs. Sector: What's the Difference?

### Industry vs. Sector: An Overview

Although they may seem the same, the terms industry and sector have slightly different meanings. Industry refers to a much more specific group of companies or businesses, while the term sector describes a large segment of the economy.

The terms industry and sector are often used interchangeably to describe a group of companies that operate in the same segment of the economy or share a similar business type. The term sector often refers to a larger, general part of the economy, while the word industry is much more specific.

These two terms are sometimes reversed. But the general idea remains: one breaks the economy down into a few general segments while the other further categorizes those into more specific business activities. In the stock market, the generally accepted terminology cites a sector as a broad classification and an industry as a more specific one.

### Key Takeaways

The term industry refers to a series of companies that operate in a similar business sphere. Sector refers to a part of the economy in which a great number of companies can be categorized. Investors can easily compare companies within the same industry for investment opportunities.

## Industry

Industry refers to a specific group of companies that operate in a similar business sphere. Essentially, industries are created by breaking down sectors into more defined groupings. Therefore, these companies are divided into more specific groups than sectors. Each of the dozen or so sectors will have a varying number of industries, but it can be in the hundreds.

The financial sector can be broken down into several different industries such as banks, asset management, life insurance, or brokerages. The companies that fall into the same industry compete for customers by offering similar services. For instance, banks will compete with one another for customers opening up checking and savings accounts, while asset management firms seek investment clients.

But that's not all. These industries can be further categorized into more specific groups. For example, the insurance industry can be broken up into different, specialized divisions like home, auto, life, malpractice, and corporate insurance.

When choosing an investment opportunity, an investor may find it easier to compare different companies within the same industry. That's because they may share the same production processes, cater to the same customer base, or have similar financial statements.

The North American Industry Classification System (NAICS) allows for the easy comparison of statistics of business activity across North America.

The stocks of companies within the same industry will typically trade in the same direction. That's because the companies in the same industry are affected by the same (or similar) factors. So healthcare stocks may be affected in the same way when decisions about the Affordable Care Act (ACA) are made in Washington, D.C., for instance.

## **Sector**

A sector is one of a few general segments in the economy within which a large group of companies can be categorized. An economy can be broken down into about a dozen sectors, which can describe nearly all of the business activity in that economy. Economists can conduct a deeper analysis of the economy by looking at each individual sector.

There are four different sectors in an economy:

Primary Sector: This sector deals with the extraction and harvesting of natural resources such as agriculture and mining. Secondary Sector: This sector comprises construction, manufacturing, and processing. Basically, this sector comprises industries that relate to the production of finished goods from raw materials. Tertiary sector: Retailers, entertainment, and financial companies make up this sector. These companies provide services to consumers. Quaternary sector: The final sector deals with knowledge or intellectual pursuits including research and development (R&D), business, consulting services, and education.

For example, the economy's basic materials sector includes companies that deal with the exploration, processing, and selling of basic materials such as gold, silver, or aluminum. These materials are used by other sectors of the economy. Sectors often have specific exchange-traded funds (ETFs) that track the sector, such as the Energy Select Sector SPDR Fund. Transportation is another sector of the economy. This sector includes automobile manufacturing, train, trucking, and airlines industries.

Investors can use sectors as a way to categorize the stocks in which they invest, such as telecommunications, transport, healthcare, and financials. Each sector comes with its own characteristics and risks.

## **Cross-Sectional Analysis**

### **What is Cross-Sectional Analysis?**

Cross-sectional analysis is a type of analysis where an investor, analyst or portfolio manager compares a particular company to its industry peers. Cross-sectional analysis may focus on a single company for head-to-head analysis with its biggest competitors or it may approach it from an industry-wide lens to identify companies with a particular strength. Cross-sectional analysis is often deployed in an attempt to assess performance and investment opportunities using data points that are beyond the usual balance sheet numbers.

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### **Key Takeaways**

Cross-sectional analysis focuses on many companies over a focused time period. Cross-sectional analysis usually looks to find metrics outside the typical ratios to produce unique insights for that industry. Although cross-sectional analysis is seen as the opposite of time series analysis, the two are used together in practice.

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## **How Cross-Sectional Analysis Works**

When conducting a cross-sectional analysis, the analyst uses comparative metrics to identify the valuation, debt-load, future outlook and/or operational efficiency of a target company. This allows the analyst to evaluate the target company's efficiency in these areas, and to make the best investment choice among a group of competitors within the industry as a whole.

Analysts implement a cross-sectional analysis to identify special characteristics within a group of comparable organizations, rather than to establish relationships. Often cross-sectional analysis will emphasize a particular area, such as a company's war chest, to expose hidden areas of strength and weakness in the sector. This type of analysis is based on information-gathering and seeks to understand the "what" instead of the "why." Cross-sectional analysis allows a researcher to form assumptions, and then test their hypothesis using research methods.

## The Difference Between Cross-Sectional Analysis and Time Series Analysis

Cross-sectional analysis is one of the two overarching comparison methods for stock analysis. Cross-sectional analysis looks at data collected at a single point in time, rather than over a period of time. The analysis begins with the establishment of research goals and the definition of the variables that an analyst wants to measure. The next step is to identify the cross-section, such as a group of peers or an industry, and to set the specific point in time being assessed. The final step is to conduct analysis, based on the cross-section and the variables, and come to a conclusion on the performance of a company or organization. Essentially, cross-sectional analysis shows an investor which company is best given the metrics she cares about.

Time series analysis, also known as trend analysis, focuses in on a single company over time. In this case, the company is being judged in the context of its past performance. Time series analysis shows an investor whether the company is doing better or worse than before by the measures she cares about. Often these will be classics like earning per share (EPS), debt-to-equity, free cash flow and so on. In practice, investors will usually use a combination of time series analysis and cross-sectional analysis before making a decision. For example, looking at the EPS overtime and then also checking the industry benchmark EPS.

## Examples of Cross-Sectional Analysis

Cross-sectional analysis is not used solely for analyzing a company; it can be used to analyze many different aspects of business. For example, a study released on July 18, 2016, by the Tinbergen Institute Amsterdam (TIA) measured the factor timing ability of hedge fund managers. Factor timing is the ability for hedge fund managers to time the market correctly when investing, and to take advantage of market movements such as recessions or expansions.

The study used cross-sectional analysis and found that factor timing skills are better among fund managers who use leverage to their advantage, and who manage funds that are newer, smaller and more agile, with higher incentive fees and a smaller restriction period. The analysis can help investors select the best hedge funds and hedge fund managers.

The Fama and French Three Factor Model credited with identifying the value and small cap premiums is the result of cross-sectional analysis. In this case, the financial economists Eugene Fama and Kenneth French conducted a cross-sectional regression analysis of the universe of common stocks in the CRSP database.

## 10 Major Companies Tied to the Apple Supply Chain

Apple, Inc. (AAPL) has been a true innovator and millions of customers are willing to pay a high premium for the quality, design, and features of Apple devices like the iPhone, iPad, iPod, and Apple Watch. But Apple doesn't make all of its devices on its own. It procures components from a large number of suppliers and there are service-vendors responsible for assembling those different components into the final product.

## Apple's Efficient Supply Chain

Apple is one of the most valuable companies to date with over US\$912 billion market cap as of June 2019. Nearly two-thirds of its revenue comes from iPhone sales. This massive size is because the tech giant operates one of the most efficient supply-chain management systems on the market right now.



In this article, we take a look at a few of Apple's top supplies and explore the benefits and drawbacks of using this business model.

This list is not exhaustive and is arranged alphabetically. The locations of suppliers listed here are limited to the facilities that supply Apple. Suppliers may also have other facilities.

### **Analog Devices (ADI)**

NASDAQ-listed ADI is based in Norwood, MA and provides the capacitive touchscreen controllers for the iPhones and the Apple watch. The company supplies these components from facilities based in Ireland, the Philippines and the U.S. Back in March 2015, ADI stock soared after Barclays reported that Apple was considering using ADI to source its then-anticipated 3-D touch feature.

That report pushed ADI's stock price up 9.8% over the course of a day to the company's highest levels in a decade, which indicates the impact of Apple's business on its suppliers' valuations.

### **Glu Mobile (GLUU)**

NASDAQ-listed Glu Mobile doesn't supply Apple with hardware but is a major provider of iOS apps and mobile games. Valuwalk reports that "Glu Mobile makes 64% of revenue from Apple," implying its major dependency on Apple.

### **Jabil Circuit (JBL)**

Jabil's manufacturing facilities are based in China and it is listed on the NYSE. It supplies phone casings for Apple. Jabil also makes a wide variety of electronic and manufacturing devices like computer numerical control tools and medical device miniaturization and it also provides services such as product ideation, design, development, and creation. Despite this diversified set of products and service-lines, Jabil reportedly relies on Apple for approximately 20% of its business.

### **Micron Technology (MU)**

Micron and its subsidiary companies, like Elpida Memory, are based in multiple locations across the U.S., Taiwan, Singapore, China, and Japan. They supply various memory modules like DRAM, LPDDR3, and LPDDR2 for Apple devices. These modules are used by smartphones and electronic devices to efficiently multitask and run various applications. The recent iPhone 6 uses LPDDR3, while the company is currently testing the next version LPDDR4, which is expected to be up to 60% faster and low on power consumption.

### **Murata Manufacturing Ltd.**

Murata is based in Kyoto, Japan, and supplies to Apple from manufacturing facilities spread across China, Japan, Vietnam, Singapore, and Indonesia. Apple and Samsung are Murata's top two clients, procuring ceramic capacitors from the company. These electronic parts are used to control the flow of electricity in electronic devices and according to Reuters, they constitute 40% of Murata's overall sales towards smartphones and other electronic devices.

### **Nidec**

The much anticipated Apple Watch comes with a special device called a taptic engine, which produces a sensation of being tapped on the wrist. Japan-based Nidec has emerged as the key supplier of this technology. Nidec was

established in 1973 and is a global market leader in smartphone vibration motors.

### **Qualcomm (QCOM)**

NASDAQ-listed Qualcomm is the world leader in semiconductor, mobile and telecom products and services. It is known to supply multiple electronic components to Apple, including Envelope Power Tracker, Baseband Processor, Power Management module and GSM/CDMA Receiver and Transceiver.

These are various instruments used in the devices' power management systems and in mobile signaling. However, the most important component that is missing from Apple's own A-chip processor is the cellular baseband modem. Qualcomm has filled this important space for Apple devices, offering the needed modem technology.

### **Samsung**

With three different subsidiaries – Samsung Electro-Mechanics Co. Ltd., Samsung Electronics Co. Ltd., and Samsung SDI Co. Ltd. – which are located in four different countries (South Korea, China, the U.S., and the Philippines), Samsung is one of Apple's major suppliers. It supplies multiple components, including flash memory, which is used for storing data content; the mobile DRAM, used for multi-tasking various applications in devices and the application processors which are responsible for controlling and keeping the whole device running.

Despite being a competitor to Apple in the mobile phones market, Samsung uses its supplier status to reduce its own component manufacturing costs via bulk production.

### **STMicroelectronics (STM)**

STM is a Geneva, Switzerland-based electronics and semiconductor multinational company. It supplies a low-powered, three-axis gyroscope and accelerometer to Apple, used to detect the orientation and altitude of a mobile device. Along with Apple, STM's top clients include BlackBerry, Nokia, and Cisco. However, recent reports suggest that all may not be well between STM and Apple.

Apple has been sued by a patent troll for allegedly infringing seven STM patents after Apple decided to go with STM's competitor InvenSense to procure gyroscope and accelerometer parts for the iPhone 6.

### **Texas Instruments (TXN)**

TI serves Apple through its multiple facilities spread across Taiwan, the U.S., Malaysia, Japan, Mexico, the Philippines, the United Kingdom, Germany, and China. In the Apple Watch, TI is expected to provide the current operational amplification system, which in turn, contains 30 different components itself. For iPhones and iPads, it supplies the touchscreen controller, power management chip, and a control device. According to past reports, TI was "said to receive a significant number of orders from Apple," which generated "thousands of jobs" for this supplier.

### **How Does Apple Benefit?**

Apple is known to maintain one of the best-managed supply-chains in the world. Using its stature and global reach, the tech giant is able to demand high-quality products and impose stricter terms on its suppliers. When one of Apple's Chinese suppliers of "tactic engines" for the iPhone 7 proved unreliable, for example, the company quickly procured them from the Japanese firm Nidec Corp.

Apple has hundreds of such suppliers willing to abide by the terms Apple sets forth. What's more, by outsourcing its supply-chain and assembly operations, Apple can do what it does best — concentrate on designing great products that offer rich functionality and are easy-to-use. How Do Suppliers Benefit?

Being associated with a brand like Apple can be a remarkable boon for a supplier firm. Apart from the small novice firms, who may derive much of their business from Apple, even larger companies like Samsung use the relationship to their advantage. As we noted above, Samsung continues to compete with Apple in the mobile phone market, however, large orders from Apple allow Samsung to increase bulk production which reduces manufacturing costs for its own mobile phone components.

Another advantage for suppliers is that Apple has a reputation for innovation. Regardless of how specific products have performed and despite missteps that have occurred, people expect Apple to come out with something new on a regular basis and eagerly anticipate these products. To a certain extent, this shields Apple suppliers, who will continue to see new demands for their goods and services.

It should be noted, however, that failing to please Apple can spell doomsday for a small or medium-sized supplier that has built its business around iPhone sales. If suppliers do not maintain high-quality goods at the right price, Apple is likely to dispose of them for a competitor. **The Bottom Line**

Apple needs suppliers and suppliers need Apple – it's a streamlined relationship that is often mutually beneficial but not without tension. Suppliers have major exposure to Apple and its overall market performance. Financial reports of supplier companies are frequently used by market analysts to project sales for Apple products. For a supplier, this can quite literally be a “do-or-die” moment. Do it well, and you just might experience windfall gains. But fail Apple, and you should be prepared for the worst.

## **Industrial Production Index (IPI)**

### **What Does Industrial Production Index Mean?**

The industrial production index (IPI) is a monthly economic indicator measuring real output in the manufacturing, mining, electric and gas industries, relative to a base year.

### **Understanding Industrial Production Index (IPI)**

The Federal Reserve Board (FRB) publishes the industrial production index (IPI) at the middle of every month, and revisions to previous estimates are released at the end of every March. The IPI measures levels of production by the manufacturing sector, mining – including oil and gas field drilling services – and electrical and gas utilities. It also measures capacity, an estimate of the production levels that could be sustainably maintained; and capacity utilization, the ratio of actual output to capacity.

### **How IPI Is Calculated**

Industrial production and capacity levels are expressed as an index level relative to a base year (currently 2012). In other words, they do not express absolute production volumes or values, but the percentage change in production relative to 2012. The source data is varied, including physical inputs and outputs such as tons of steel; inflation-adjusted sales figures; and, when other these other data sources are not available, hours logged by production workers. The FRB obtains these data from industry associations and government agencies and aggregates them into an index using the Fisher-ideal formula.

Within the overall IPI there are a number of sub-indices providing a detailed look at the output of highly specific industries: residential gas sales, ice cream and frozen desert, carpet and rug mills, spring and wire product, pig iron, audio and video equipment, and paper are just a few of the dozens of industries for which monthly production data is available.

The indices are available in seasonally adjusted and unadjusted formats.

## How to Interpret IPI

Industry-level data are useful for managers and investors within specific lines of business, while the composite index is an important macroeconomic indicator for economists and investors. Fluctuations within the industrial sector account for most of the variation in overall economic growth, so a monthly metric helps keep investors apprised of shifts in output. At the same time, IPI differs from the most popular measure of economic output, gross domestic product (GDP): GDP measures the price paid by the end-user, so it includes value added in the retail sector, which IPI ignores. It is also important to note that the industrial sector makes up a low and falling share of the U.S. economy: less than 20% of GDP as of 2016.

Capacity utilization is a useful indicator of the strength of demand. Low capacity utilization – overcapacity, in other words – signals weak demand. Policymakers could read it as a signal that fiscal or monetary stimulus is needed. Investors could read it as a sign of a coming downturn, or – depending on the signals from Washington – as a sign of coming stimulus. High capacity utilization, on the other hand, can act as a warning that the economy is overheating, suggesting the risk of price rises and asset bubbles. Policymakers could react to those threats with interest rate rises or fiscal austerity, or they could let the business cycle take its course, likely resulting in a recession eventually.

## Historical Data

Below is the seasonally adjusted industrial production index for the 50 years to October 2017. Data is available going back to January 1919.

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## **Tertiary Industry**

### **What is the Tertiary Industry?**

The tertiary industry is the segment of the economy that provides services to its consumers, including a wide range of businesses such as financial institutions, schools and restaurants. It is also known as the tertiary sector or service industry/sector. The tertiary industry is one of three industry types in a developed economy, the other two being the primary, or raw materials, and secondary, or goods production, industries. As an economy becomes more developed, it shifts its focus from primary to secondary and tertiary industries.

### **Breaking Down Tertiary Industry**

The tertiary industry is split into two main categories. The first is made up of companies in the business of making money, such as those in the financial industry. The second comprises the nonprofit segment, which includes services such as state education. The tertiary industry sector, which makes up the vast majority of employment opportunities, is solely focused on providing services, not goods, to consumers and other organizations. Hence, it is also known as the service sector. This is in contrast to the primary industry, which produces raw materials, and the secondary industry, which takes raw materials and uses them to produce salable consumer goods. The term can be used to describe a single service-oriented organization or the industry segment as a whole.

## Examples of Tertiary Industry Organizations

The tertiary industry provides services, as well as operational frameworks for business operations. This can include organizations involved in the shipping and transportation industry, such as railroad or trucking, when their sole focus is the process of moving goods. It could also include the transportation of people, such as taxi services, city bus systems and subways.

Traditional hospitality industries, such as hotels and resorts, are a part of the tertiary industry, as well as food service providers, such as restaurants. All services received from financial institutions, such as banks and investment brokers, are tertiary in nature. Personal services, including everything from hair cutting to tattooing, can be included, along with services to animals, such as pet groomers, animal breeders and stray animal care facilities. Hospitals, clinics, veterinarians and other medical service facilities may also qualify.

## Pricing Challenges in the Tertiary Industry

Selling services can often be challenging compared to selling a specific product. Since goods are tangible, it's easy to peg a price to them. Conversely, being intangible, it can be difficult to put a value on a specific service. In these cases, the quality of service depends on the quality of the person providing it, and that can vary given people's skills and personalities. For example, when two different brokers provide seemingly identical services, how can a consumer choose between them?

## Transition From Tertiary to Quaternary

Certain technological services were previously considered tertiary, though some have determined it is appropriate to have them categorized into a new segment due to industry growth. These technological services include telecommunications providers, cable companies and internet providers. Even though these are all service-oriented, like the tertiary sector, the services have been separated and classified into the quaternary industry sector.

## Who Has the Highest Output of Tertiary Services?

According to the International Monetary Fund (IMF) and the CIA World Factbook, the following countries are considered to be the largest by service or tertiary output as of 2016:

United States: \$14.76 billion China: \$5.7 billion Japan: \$3.5 billion Germany: \$2.4 billion United Kingdom: \$2.1 billion France: \$1.9 billion Italy: \$1.4 billion Brazil: \$1.3 billion Canada: \$1.1 billion India: \$1.0 billion

## Sharing Economy

### What is the Sharing Economy?

The sharing economy is an economic model defined as a peer-to-peer (P2P) based activity of acquiring, providing, or sharing access to goods and services that is often facilitated by a community-based on-line platform.

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### Key Takeaways

The sharing economy involves short-term peer-to-peer transactions to share use of idle assets and services or to facilitate collaboration. The sharing economy often involves some type of online platform that connects buyers and seller. The sharing economy is rapidly growing and evolving but faces significant challenges in the form of regulatory uncertainty and concerns about abuses.

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## Understanding the Sharing Economy

Communities of people have shared the use of assets for thousands of years, but the advent of the Internet—and its use of big data—has made it easier for asset owners and those seeking to use those assets to find each other. This sort of dynamic can also be referred to as the shareconomy, collaborative consumption, collaborative economy, or peer economy.

Sharing economies allow individuals and groups to make money from underused assets. In a sharing economy, idle assets such as parked cars and spare bedrooms can be rented out when not in use. In this way, physical assets are shared as services.

For examples, car sharing services like Zipcar can help illustrate this idea. According to data provided by the Brookings Institute, private vehicles go unused for 95% of their lifetime. The same report detailed the lodging sharing service Airbnb's cost advantage over hotel space as homeowners make use of spare bedrooms. Airbnb rates were reported to be between 30-60% cheaper than hotel rates around the world.

## The Sharing Economy is Evolving

The sharing economy has evolved over the past few years where it now serves as an all-encompassing term that refers to a host of on-line economic transactions that may even include business to business (B2B) interactions. Other platforms that have joined the sharing economy include:

Co-working Platforms: Companies that provide shared open work spaces for freelancers, entrepreneurs, and work-from-home employees in major metropolitan areas. Peer-to-Peer Lending Platforms: Companies that allow for individuals to lend money to other individuals at rates cheaper than those offered through traditional credit lending entities. Fashion Platforms: Sites that allow for individuals to sell or rent their clothes. Freelancing Platforms: Sites that offer to match freelance workers across a wide spectrum ranging from traditional freelance work to services traditionally reserved to handymen.

Spurred primarily with the growth of Uber and Airbnb, it is expected that the sharing economy will grow from \$14 billion in 2014 to a forecasted \$335 billion by 2025.

## Current Criticisms of the Sharing Economy

Criticism of the sharing economy often involves regulatory uncertainty. Businesses offering rental services are often regulated by federal, state or local authorities; unlicensed individuals offering rental services may not be following these regulations or paying the associated costs. This could mean giving them an advantage that enables them to charge lower prices.

Another concern is that lack of government oversight will lead to serious abuses of both buyers and sellers in the sharing economy. This has been highlighted by numerous highly publicized cases of things like hidden cameras in rented rooms, lawsuits over unfair treatment of ridesharing contractors by the platforms that employ them, and even murders of customers by real or fraudulent rental and rideshare providers.

There is also a fear that the greater amount of information shared on an online platform can create racial and/or gender bias among users. This can happen when users are allowed to choose who they will share their homes or vehicles with, or because of implicit statistical discrimination by algorithms that select users with characteristics such as poor credit history or criminal records.

For example, Airbnb had to face racial discrimination complaints from African-American and Latino would-be renters due to widespread user preference not to rent to these customers. As more data is presented and the sharing economy evolves, companies within this economy have pledged to combat bias in both their users and algorithms often by deliberately limiting the availability of information to and about buyers and sellers.



## The Top 10 Biotechnology Companies (JNJ, ROG.VX)

In 1919, Hungarian agricultural engineer Karl Ereky coined the term “biotechnology” to describe the merging of biology and technology. Ereky’s vision has been realized by thousands of companies and research institutions that are developing a growing list of biotechnology products. While the big money in biotech is in pharmaceuticals, medical devices, and diagnostics, many advances are also being made to develop more-resilient crops, biofuels, biomaterials, and pollution controls.

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### Important

In general, any medicine made with or derived from living organisms is considered a biotech therapy or biologics.

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The industry is rapidly changing through ongoing mergers and acquisitions (M&A), and these multinational corporations are positioning themselves to capitalize on the growing health care needs of the world.

#### 1) Johnson & Johnson

Founded in 1886 and headquartered in New Brunswick, New Jersey, Johnson & Johnson (NYSE: JNJ) is a multinational pharmaceutical, medical devices, and consumer packaged goods manufacturer. Johnson & Johnson manufactures, markets or distributes more than 172 drugs in the United States, including brands such as Tylenol, Zyrtec, Motrin, and Sudafed. The company’s pharmaceutical segment focuses on immunology, neuroscience, infectious disease, and oncology.

As of 2017, the company employed 130,000 people, reported sales of \$76.5 billion, and had a market capitalization of \$373 billion. The company is a component of the Dow Jones Industrial Average.

#### 2) Roche

Founded in Switzerland in 1896, Roche (NASDAQ: ROG.VX) calls itself the largest biotech company in the world, with 17 biopharmaceuticals on the market. Roche has long been at the forefront of cancer research and treatment, creating medicines for breast, skin, colon, ovarian, lung, and other cancers. It is a leader in tissue-based cancer diagnostics, diabetes management, and in-vitro diagnostics, and it has developed breakthrough treatments in ophthalmology and neuroscience. As of 2017, Roche employed 97,734 people, reported sales of CHF 53,299 (\$53.4 billion), and had a market cap of \$208 billion.

#### 3) Novartis

Switzerland-based Novartis (NYSE: NVS) was founded in 1996 through a merger of Ciba-Geigy and Sandoz. Novartis focuses its business on pharmaceuticals, eye care, and generics. It is expanding its presence in the emerging markets of Asia, Africa, and Latin America where there is a high demand for medicines and health care. The company’s pharmaceutical division is among the world leaders at developing and commercializing oncology, primary care, and specialty medicines. As of 2017, Novartis had over 121,000 employees worldwide, sales of \$49.1 billion, and a market capitalization of \$198 billion as of October 2018.

#### 4) Pfizer

Pfizer Inc. (NYSE: PFE) is a research-based global biopharmaceutical company founded in 1849 and headquartered in New York City. In 2015, the company agreed to acquire Botox maker Allergan for \$160 billion in the largest inversion deal in history and the largest-ever acquisition in the health care sector. The merger created the largest biotech company in the world headquartered in Ireland, where Allergan is also headquartered. In 2017, Pfizer had revenues of \$52.5 billion and a market capitalization of \$256 billion as of October 2018.

#### 5) Merck

Founded in 1891 and headquartered in New Jersey, Merck & Co. Inc. (NYSE: MRK) is a global company that produces prescription medicines, vaccines, biologic therapies, and consumer and animal health products. Its core product categories include diabetes, cancer, vaccines, and hospital acute care. It specializes in creating treatments for cancer, hepatitis C, cardio-metabolic disease, antibiotic-resistant infection, and Alzheimer’s disease. Merck is also

investing heavily in the fight against emerging global pandemics such as Ebola. As of 2017, Merck employed 69,000 people worldwide and had sales of \$40.1 billion and a market capitalization of \$190 billion.

6) Gilead Sciences

Gilead Sciences Inc. (NASDAQ: GILD) is headquartered in California. Its primary areas of focus include HIV/AIDS, liver diseases such as hepatitis B virus and hepatitis C virus, and serious cardiovascular/metabolic and respiratory conditions. Gilead has produced a number of firsts, including complete treatment regimens for HIV infection in a once-daily pill and the first oral antiretroviral pill to reduce the risk of acquiring HIV in certain high-risk adults. As of 2017, Gilead employed 10,000 people worldwide, had sales of \$25.7 billion, and had a market capitalization of \$90 billion.

7) Novo Nordisk

Novo Nordisk (NYSE: NVO) is a multinational biotech company headquartered in Denmark with production facilities in seven countries and affiliates or offices in 75 countries. The company's primary focus is diabetes care, hemophilia care, growth hormone therapy, and hormone replacement therapy. The company makes several drugs under various brand names including Levemir, NovoLog, Novolin R, NovoSeven, NovoEight, and Victoza. As of 2018, the company employed 42,700 people, and sales in 2017 were \$16.9 billion. The company had a market capitalization of \$102 billion in 2018.

8) Amgen

Headquartered in Thousand Oaks, California, Amgen Inc. (NASDAQ: AMGN) focuses on human therapeutics and concentrates on new medicines based on advances in cellular and molecular biology. It markets recombinant protein therapeutics in supportive cancer care, nephrology, and inflammation. Amgen also develops treatments for kidney disease, rheumatoid arthritis, bone disease, and other serious illnesses. As of 2017, Amgen employed over 20,000 people worldwide and had revenues of \$22.8 billion and a market capitalization of \$125 billion.

9) Bristol

Based in New York City, Bristol-Myers Squibb Co. (NYSE: BMY) manufactures prescription pharmaceuticals for treating cancer, HIV/AIDS, cardiovascular disease, diabetes, hepatitis, rheumatoid arthritis, and psychiatric disorders. Some of its marketed medicines include Plavix, Abilify, and Opdivo, which treats advanced-stage cancer that has grown or spread.

Bristol-Myers Squibb was formed in 1989 with the merger of Bristol-Myers and the Squibb Corporation. M&A has led to recent company growth. Bristol-Myers Squibb acquired iPierian for \$725 million in 2015 and Flexus Biosciences for \$1.25 billion in 2015. As of 2017, Bristol-Myers Squibb employed 23,700 people and had sales of \$20.8 billion and a market capitalization of \$81.2 billion.

10) Sanofi

Sanofi (NYSE: SNY) is a French multinational pharmaceutical company headquartered in Paris. The company specializes in diabetes solutions, human vaccines, innovative drugs, consumer health care, emerging markets, and animal health. The company has a global presence in over 100 countries including the United States, with Sanofi U.S. headquartered in Bridgewater, New Jersey. As of 2017, Sanofi employed 100,000 people worldwide. The company reported sales of €35,055 million euro (\$40 billion) and a market capitalization of \$94 billion.

## **How Exactly Do Movies Make Money?**

From a distance, the movie business might look pretty glamorous. Celebrities and producers glide down red carpets, clutch their Oscars and vacation in St. Barts...just because they can. While there's a lot of money to be made in the film industry, the economics of movie making are far from simple.

Something you'll likely hear if you walk through the halls of any movie studio is "nobody knows anything." And it's true. The public can be fickle, the industry is in flux, and just about any movie is an extremely risky investment, even a film starring big name actors and actresses. According to the Motion Picture Association of America's (MPAA)

Theatrical Market Statistics Report for 2017, the U.S. and Canadian box office came in at \$11.1 billion. This was a 2% decline from 2016. Globally the box office for films hit \$40.6 billion in 2017.

This is nowhere as straightforward as the early days of cinema when a movie would come out in theaters, make the vast majority of its revenues via ticket sales and then disappear. Major studios and indie filmmakers alike now spend much of their days looking for new sources of revenue, because ticket sales are no longer the be-all and end-all for films.

## Movie Budgets and Costs

In general, major studios don't disclose the full budgets for their films (production, development, and marketing/advertising). This is in part because it costs far more to make and market a film than it seems. For example, the production budget for a summer blockbuster such as Marvel's "The Avengers" is recorded as \$220 million, but if you factor in marketing and advertising costs, that number spikes.

Indeed, for many films, the print and advertising (P&A) costs alone can be extremely high. A \$15 million film (which is considered a small-budget film in Hollywood) might have a promotional budget that's higher than its production budget. This is because many films that don't have a built-in audience (like those based on best-selling books like "The Hunger Games" or even "50 Shades of Grey") need to get people into the theater. Romantic comedies or some children's films need to promote themselves via TV commercials and media advertisements, and those costs add up quickly. For a film budgeted between \$40 and \$75 million, its P&A budget might be over \$20 million.

For any type of film, whether a blockbuster or an indie production, things like tax incentives and revenues from product placements can help pay down the budget. If they're given an incentive to shoot a film in Canada or Louisiana or Georgia, producers will usually hustle to do so.

Going back to the "nobody knows anything" mantra, occasionally there are surprise hits like the indie "Little Miss Sunshine," which is a Cinderella story when it comes to film finance. Its budget was around \$8 million and it sold to distributor Fox Searchlight for \$10.5 million at the Sundance Film Festival. The film made \$59.89 million in U.S. theaters, which is almost unheard-of for an indie. By contrast, you have the Walt Disney (DIS) movie "John Carter," which had an estimated budget of \$250 million, but only made \$73 million at the U.S. box office.

So there's no sure path for a film to turn a profit since factors like brand awareness, P&A budgets and the desires of a fickle public come into play. Still, there are a few tried and true ways that films can attempt to make money.

## Ticket Price Revenue

Theater attendance has been challenging over recent years, making it even harder for studios and distributors to profit from films. Usually, a portion of theater ticket sales goes to theater owners, with the studio and/or distributor getting the remaining percentage.

Traditionally, during the opening weekend of a film, the larger chunk went to the studio, while as the weeks went on, the theater operator's percentage rose. So a studio might make about 60% of a film's ticket sales in the U.S., and around 20% to 40% of that on overseas ticket sales.

The percentage of revenues an exhibitor gets depends on the contract for each film. Many contracts are intended to help a theater hedge against films that flop at the box office by giving theaters a larger cut of ticket sales for such films, so a deal may have the studio getting a smaller percentage of a poorly performing film and a larger percentage of a hit film's take. (You can see the securities filings for large theater chains to see how much of their ticket revenue goes back to the studios.)

Studios and distributors generally make more from domestic revenue than from overseas sales because they get a larger percentage. Still, overseas ticket sales are incredibly important, especially today. This may be partly why you're seeing more sci-fi, action and fantasy films, and why superhero movies are such a phenomenon. They're easy to understand, whether you're in Malaysia or Montana. It's much harder for an indie comedy to translate.

## Merchandising Dollars

It all started with “Star Wars.” Since the first George Lucas-helmed movie premiered back in 1977, the franchise has made tens of billions in revenue from toy licensing alone, not to mention licensing costs from third-party companies. In 2015, “Star Wars: The Force Awakens” brought in \$700 million in retail sales.

This strategy obviously doesn’t work for every film (action figures for a comedy like Amy Schumer’s “Trainwreck” probably wouldn’t bring in billions), but for big-budget films that appeal to kids and Comic-Con junkies alike, merchandising is a cash cow. See Disney’s “Toy Story” franchise, which has brought in billions of dollars in retail sales.

However, some analysts suggest remaining on the lookout for “movie fatigue,” as kids are increasingly attracted to other types of entertainment besides movies, such as YouTube and other social media outlets.

## Foreign Sales

When a producer cobbles together the budget for an independent film – modestly budgeted at, say, \$25 million – selling the distribution rights in foreign territories is crucial to cover the film’s budget and, hopefully, bring in revenue. Independent filmmakers can actually make money if they have a great foreign sales agent who can sell their film in key overseas markets.

Producers will often make their “wish list” when casting a film and the list will typically be full of well-known names that “travel” overseas. If you have Tom Cruise or Jennifer Lawrence as your star, you’re much more likely to sell the rights to China and France. This isn’t a guarantee that your film will make millions (or billions), but it’s about as safe a bet as you can get in this business.

## Television Rights, Streaming and VOD

Once upon a time, it was all about DVD sales. Now, it’s far more about television rights, video-on-demand (VOD) and streaming.

For some producers, selling pay-TV and international rights is a big source of profit because the producer doesn’t have to pay for marketing and P&A costs. Films have to leave the theater at some point, but they can remain evergreen on TV. How many times have you flipped through channels and come across “The Notebook” or “The Shawshank Redemption” yet again? There’s also money to be made 32,000 feet in the air, as airlines pay hefty sums for in-flight entertainment.

As for VOD, revenue from these deals should add hundreds of millions to a studio’s bottom line. For indie films, there are several VOD release strategies: day-and-date (movies released simultaneously in theaters and VOD), day-before-date (VOD before theatrical) and VOD-only. Many movies that don’t have the special effects and big-name stars to lure people to the theater often profit from this model.

And while the DVD market may have slowed dramatically, it’s not a lost cause yet – at least, for some films. “Moana” sold 4.12 million copies in 2017 on DVD, so if a property is branded or has a huge built-in audience, DVD/Blu-Ray sales still could be fairly robust.

## The Bottom Line

As the saying goes, nobody knows anything in Hollywood. The film industry is in flux, and ticket sales alone don’t drive revenue. There’s merchandising, VOD and streaming-on-demand sales, foreign sales and a plethora of other distribution channels that can help filmmakers, producers and studios turn a profit. So who knows, the little indie that you invest in could just be the next “Little Miss Sunshine.” Or not. In Hollywood, there are no guarantees.

## The 5 Industries Driving the U.S Economy

The U.S. economy is finally recovering from the 2008 Great Recession. Jobs are being created by the millions, wage growth is picking up and foreign exports accounted for only 11.9 percent of the nation's GDP in 2016, according to the latest data by Statista. These signs indicate a prosperous recovery and a healthy, self-sufficient economy.

What industries are propelling America's self-contained economy? This article looks at the respective sectors that are both sustaining and fueling the economy's continued growth in the wake of the latest economic downturn. The selection is based on data from the Bureau of Labor Statistics and industry perspectives.

### 1. Health Care

The health sector has helped the United States to recover from the financial crisis of 2007 to 2008. The sector added 2.8 million jobs between 2006 and 2016, which was a rate almost seven times faster than the overall economy. There has been a 20-percent growth in health care sector jobs since 2008 while the average rate for the economy was only 3 percent. According to the Bureau of Labor Statistics, health care jobs are expected to grow at a rate of 18 percent from 2016 to 2026, again, much faster than the rate of the rest of the economy.

According to Healthcare Management, a guide to healthcare degrees for prospective students, there are a few reasons for the booming health care sector. An increasing and aging population is creating a need for additional services and providers, chronic conditions suffered by the aging population are increasing the demand for health care workers, medical advances and improvements are expanding the type and number of jobs and Federal health care insurance reform (also called the Patient Protection and Affordable Care Act) has increased the number of people seeking routine medical care.

As a share of the nation's Gross Domestic Product, health spending accounted for 17.9 percent in 2017. Additionally, investor interest in healthcare and biotech stocks continues. According to Real Money, the first half of 2018 saw a rebound in the IPO market that had not been seen for 20 years, and it was driven partly by investor appetite for healthcare and technology stocks. From July 2017 to July 2018, over 60 percent of IPOs were for healthcare and tech stocks, according to data from Renaissance Capital.

### 2. Technology

The tech sector is a huge component of the U.S. economy, according to Cyberstates 2018, an annual analysis of the nation's industry published by CompTIA. Employment among computer and IT is projected to grow 13 percent from 2016 to 2026, faster than the average for all occupations. Demand for additional workers is stemming from cloud computing, the collection and storage of big data and information security.

The impact of the tech industry has affected nearly every state and, according to Cyberstates 2018, the industry is ranked in the top five of economic contributors in 22 states and in the top 10 of 42 states. Technology plays a role in almost all other sectors such as health care, advanced manufacturing, transportation, education and energy. The Internet of Things, artificial intelligence, machine learning, autonomous vehicles, and augmented and virtual reality are all changing society and industries.

### 3. Construction

Construction in all areas is a growing industry. This includes residential and nonresidential builders; contractors that install or service mechanical systems like electricity, water, elevators, and heating and cooling; and civil engineering construction. According to the Bureau of Labor Statistics, construction and extraction occupations are projected to grow by 11 percent from 2016 to 2026, which is a rate faster than the average for all occupations, and are expected to add nearly 750,000 new jobs. The growth is stemming from overall economic and population growth, which is increasing demand for new buildings, roads, and other structures.

Construction spending hit a seasonally adjusted annual rate of \$1.329 trillion during the first eight months of 2018, according to data from the Associated General Contractors of America.

#### **4. Retail**

The retail trade accounts for 6 percent of the nation's GDP with a GDP value added of \$905 billion. The retail industry is the largest employer in the United States, according to World Atlas, and 10 percent of total employment in the United States is in retail. According to the National Retail Federation (NRF), retail supports one in four U.S. jobs, or 42 million working Americans, and because the sector's employment rate has improved, retailers have less of a need to hire seasonal workers. The sector includes online retailers such as Amazon and eBay and brick-and-mortar establishments. The NRF reported an increase of 4 percent in retail sales in November and December of 2017 compared to the same period in 2016.

#### **5. Nondurable Manufacturing**

The non-durable manufacturing industry produces commodities that are defined as having a lifespan of less than three years such as gasoline, electricity, and clothing. Non-durable manufacturing is a predominant pillar in the United States with a GDP value added of \$821 billion or 6 percent of the national GDP, according to WorldAtlas. The non-durable manufacturing sector is less valuable than durable manufacturing; however, it employs more people and accounts for 4.4 million jobs compared to 349,000 jobs from durable manufacturing.

The MAPI Foundation projects that annual export growth will average 6 percent annually between 2018 and 2021 as a result of increased manufacturing productivity. The Foundation points to increasing capital spending, improved global economic conditions and business tax reform that are motivating businesses to invest in the manufacturing industry as factors that will boost manufacturing in the next few years.

#### **The Bottom Line**

Economic growth in the United States is flourishing and continuing upward. The IT industry has been key to the economy's recovery and has influenced most other industries with digitalization and advanced technologies such as artificial intelligence and machine learning. Health care has benefited from new technologies and a demand for increased products and services due to the growing and aging population.

#### **Prime Costs vs. Conversion Costs: What's the Difference?**

##### **Prime Costs vs. Conversion Costs: An Overview**

Prime costs and conversion costs are relied upon heavily in the manufacturing sector as a metric to determine efficiency in the production of a specific product. Prime costs are defined as the expenditures directly related to creating finished products, while conversion costs are the expenses incurred when turning raw materials into a product.

Prime costs and conversion costs include some of the same factors of production expenses, but each provides a different perspective of production efficiency.

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#### **Key Takeaways**

Prime costs include direct material and direct labor costs. Conversion costs include direct labor and overhead expenses. Both are a metric used to determine the efficiency of production.

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## Prime Costs

The calculation for prime costs includes the total amount spent on direct materials in addition to direct labor. Tangible components, such as raw materials, necessary to create a finished product, are included in direct materials. For instance, the engine of a car and the spokes of a bicycle are included in direct material costs because they are each necessary to complete production of that specific item.

Direct labor costs include the salary, wages, or benefits paid to an employee who works on the completion of finished products. Compensation paid to machinists, painters, or welders is common in calculating prime costs. Unlike conversion costs, prime costs do not include any indirect costs.

Prime costs are reviewed by operations managers to ensure the company has an efficient production process. The calculation of prime costs also helps organizations set prices at a level that produce an acceptable amount of profit.

## Example of How Prime Costs Work

Consider a professional furniture maker who is hired to construct a coffee table for a customer. The prime costs for creating the table include direct labor and raw materials such as lumber, hardware, and paint. The materials directly contributing to the table's production cost \$200. The furniture maker charges \$50/hour for labor, and this project takes three hours to complete. The prime cost to produce the table is \$350 (\$200 for the raw materials + \$150 in direct labor). To generate a profit, the table's price should be set above its prime cost.

The manufacturing sector relies on prime costs and conversion costs to measure the efficiency in the production of a product.

## Conversion Costs

Conversion costs include direct labor and overhead expenses incurred due to the transformation of raw materials into finished products. Overhead costs are defined as the expenses that cannot be directly attributed to the production process but are necessary for operations, such as electricity or other utilities required to keep a manufacturing plant functioning throughout the day. Direct labor costs are the same as those used in prime cost calculations.

Conversion costs are also used as a measure to gauge the efficiencies in production processes but take into account the overhead expenses left out of prime cost calculations. Operations managers also use conversion costs to determine where there may be waste within the manufacturing process.

## Example of How Conversion Costs Work

During April, Company A has a total cost of \$50,000 in direct labor and related expenses, as well as \$86,000 in factory overhead costs. Company A produced 20,000 units during April. The conversion cost per unit for the month was thus \$6.80 per unit (calculated as \$136,000 of total conversion costs divided by the 20,000 units produced).

## Evaluating Pharmaceutical Companies

There are many reasons why an investor may not feel comfortable investing in pharmaceutical companies, but if you want to get in on the "next big thing," the looming obstacle is just exactly how you should go about evaluating such companies. The main concern with investing in drug companies is whether or not their drugs will go to – and remain in – the market.



## **What Is the Pipeline and Why Does It Take So Long?**

The pipeline is a term that refers to how many products – vaccines, steroids, immune system suppressants, aphrodisiacs (all under the general heading of drugs) – are in various stages of research and development (R&D). It takes between 10 to 15 years for an average drug to make it to pharmacy counters from a scientist's notebook.

The main reason the pipeline fails to flow freely is that the Food and Drug Administration (FDA) has its own shut-off valve in order to protect consumers from drugs that may have unexpected side effects. The FDA has very strict guidelines and tests that a drug must pass before it reaches store shelves; even after passing the tests, the FDA reserves the right to pull the drug en masse at any time.

An investor or someone suffering from a fatal disease may bemoan that the FDA is an extra hindrance on an already complicated process. But, as consumers, we should appreciate the fact that it is because of the FDA that we can take an aspirin without having to worry about growing a third arm.

## **The Importance of Pending Drug Developments**

The health of the pipeline is vital to pharmaceutical companies of all sizes. This is the primary measure of whether a company is a good investment. A firm only has so many years of patent on a particular formula before the generic drugs swoop in and hammer down the price. As a result, companies, especially start-ups, are on very shaky ground if they depend on just one drug for all their profits (remember, the FDA could nix the drug at any time).

To counter this uncertainty, companies try to keep their pipelines flowing. Developing drugs in the pharmaceutical industry is a bit like throwing darts in the dark. The more darts you throw, the better your chances are of hitting the mark. You can check how many drugs a company has in the pipeline in The Value Line Investment Survey, Businessweek, The Wall Street Journal or within the company's financial statements.

## **A Troubling Symptom**

It is difficult to tell whether a certain drug will become financially successful even if it is chemically sound. Many people think that specific arthritis medications would be redundant in the face of aspirin and Tylenol, but they have increased in sales as the baby boomers age.

The attention of the FDA, however, is the equivalent of coughing up blood for a drug company. When a company is forced to pull a drug from the market, or even if it does so voluntarily, it is very difficult to bring that drug back—not because it will not be effective, but because the medical field will have already found a substitute drug to fill that niche. A quick look at the FDA's website will tell you what products are being scrutinized.

## **Considering Start-Up Pharma Opportunities**

Established companies are almost always safer than new ones. If there is an up-and-coming company with an unbeatable drug, a major firm will usually come along and partner with the smaller firm, or buy it outright. This is a safe move for the start-up company as well because the start-up will get access to the larger company's distribution channels. Additionally, if the FDA puts the brakes on the drug, a larger firm has the capital to take it back to the lab again.

However, small firms with a history of partnering to get drugs out of the lab and into the world are worth considering. Partnerships and acquisitions of start-ups account for between a quarter and a third of most large firms' pipelines. Some start-ups choose to go solo and market drugs directly to doctors in cities where the disease is most prevalent. These start-ups are often wildly successful in this endeavor, but these are exceptions. Most investors are hesitant to tackle new companies, called biotech companies, and in their fledgling stage are usually considered a gamble.

## The Long-Term Prognosis

To filter the large companies with huge pipelines, we have to look at the types of drugs that are coming up. Investing in a company that has a successful product is usually a safe practice, but with the patent limit in the pharmaceutical industry, it is like betting on a horse that has already won a race earlier in the day; it may come out ahead again, or it may be too tired.

The best products are the ones that are focused on a particular class of maladies. These can be diseases, cancers or viruses that attack the nervous system, skin, heart and so on, or it can be diseases that affect a demographic like children, the elderly or middle-aged men with a waning libido. By targeting specifics, these companies avoid head-to-head competition. This also gives investors an opportunity to diversify within the pharmaceutical industry.

## The Bottom Line

As investors, look for companies that have a healthy pipeline and a history of successfully bringing drugs to the market. If the company's products are free from FDA scrutiny and they have a cohesive target, a certain demographic or disease area, it is a good sign. If you are going to buy only one company, go with a large firm. But, if you are going to diversify within the industry, small companies with a history of partnering or R&D focusing on diseases that are an ongoing concern (Alzheimer's, heart disease, etc.) are solid additions to a pharmaceuticals portfolio.

## Blue Ocean

### What Is Blue Ocean?

Blue ocean is a slang term created in 2005. The idea behind it is the referral to the vast marketing options that occurs when an unknown industry or innovation occurs.

The term blue ocean was coined by professors W. Chan Kim and Renee Mauborgne in their book *Blue Ocean Strategy: How to Create Uncontested Market Space and Make the Competition Irrelevant* (2005). The authors define blue oceans as markets associated with high potential profits.

Business leaders with innovative products and services who can identify blue ocean markets have endless opportunities

### How Blue Ocean Works

In an established industry, companies compete with each other for every piece of available market share. The competition is often so intense that some firms cannot sustain themselves. This type of industry describes a red ocean, representing a saturated market share bloodied by competition. Blue oceans offer the opposite. Many firms choose to innovate or expand in the hopes of finding a blue ocean market with uncontested competition. Blue ocean markets are also of high interest to entrepreneurs.

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### Key Takeaways

Blue ocean is a slang term born in 2005 and continues to be used today. A blue ocean is considered (from a marketing standpoint) an unexplored territory in an uncontested market space. In their book, Kim and Mauborgne wrote about 150 blue ocean strategies that have been undertaken by companies over about 100 years.

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Overall, blue ocean markets have several characteristics that innovators and entrepreneurs love. A pure blue ocean market has no competitors. A blue ocean market business leader has first-mover advantages, cost advantages in marketing with no competition, the ability to set prices without competitive constraints, and the flexibility to take its offering in various directions.

## **Examples of Blue Ocean Strategies**

Ford (F) and Apple (AAPL) are two examples of leading companies that created their blue oceans by pursuing high product differentiation at a relatively low cost, which also raised the barriers for competition.

Ford Motor Co.

In 1908, Ford Motor Co. introduced the Model T as the car for the masses. It only came in one color and one model, but it was reliable, durable, and affordable. At the time, the automobile industry was still in its infancy with approximately 500 automakers producing custom-made cars that were more expensive and less reliable. Ford created a new manufacturing process for mass-producing standardized cars at a fraction of the price of its competitors. The Model T's market share jumped from 9% in 1908 to 61% in 1921, also officially replacing the horse-drawn carriage as the principal mode of transportation.

Apple Inc.

Apple Inc. found a blue ocean with its iTunes music download service. While billions of music files were being downloaded each month illegally, Apple created the first legal format for downloading music in 2003. It was easy to use, providing users with the ability to buy individual songs at a reasonable price. Apple won over millions of music listeners who had been pirating music by offering higher-quality sound along with search and navigation functions. Apple made iTunes a win-win-win for the music producers, music listeners, and Apple by creating a new stream of revenue from a new market while providing more convenient access to music.

## **The Top 10 Technology Companies**

If you keep track of these things, you'll note that the list of the world's top 10 technology companies continues to be dominated by American names. Then again, you'll note that two of the names on the list are Chinese and that the second company on the list is Korean.

The names on this roundup of the top 10 technology companies were extracted from the Forbes Global 2000 List for 2018. The top of that list is dominated by the big banks, with the biggest technology company, Apple, coming in at a mere number 8 on the list. The Forbes list is based on annual sales, profit, assets, market capitalization, and overall market valuation. (All market capitalization figures below are as of April 29, 2019.)

American names lead the charge on the list of the world's top 10 technology companies, led by the Cupertino, Ca.-based Apple.

Apple

Market value: \$963.33 billion

Remember when Apple (AAPL) almost died? That was back in 1997 when the late Steve Jobs returned to take over the helm of the near-bankrupt company he co-founded. Apple's mobile communications and media devices are now augmented by a steady stream of revenue from third-party digital content and applications and cloud services.

Samsung

Market value: \$221.6 billion

Samsung Electronics Co. Ltd. was incorporated in 1969 and runs three divisions: consumer electronics, information technology, and mobile communications and device solutions. Few outside South Korea realize that parent company Samsung is, in fact, a conglomerate with extensive interests in everything from shipbuilding to life insurance. As of this writing, it accounts for about one-fifth of all Korean exports. In much of the world, Samsung is best known for its electronics. In 2014, Samsung introduced the Galaxy S5 and the Samsung Gear devices in 125 countries.

Microsoft

Market value: \$995.324 billion

After some years in the shadow of Apple, Microsoft Corporation (MSFT) has re-emerged with a drastically revised business plan and a whole new attitude. Although it shows up on the Forbes list as the third-best tech company, its run through early 2019 has put it on top in terms of market cap. It even briefly topped the \$1 trillion mark.

Microsoft has moved toward monthly payment plans for use of its ubiquitous Office software and greatly developed its cloud services business. It has entered the hardware business with some success with its Surface line of laptops, which is now marketed alongside the many brands that use the Microsoft Windows operating system. The company has, at least for now, pretty much ceded the smartphone market to Apple and the makers of Google Android devices. And, it has changed its mission statement to reflect a desire to lead the way toward productivity. As of this writing, Microsoft is known to be heavily investing in artificial intelligence applications development.

#### Alphabet

Market value: \$885.97 billion

To this day it's better known as Google, but it was back in Oct. 2015 that Google restructured itself to create Alphabet, Inc. (GOOGL) as its parent company. In addition to the leading search engine, Alphabet owns all of Google's side projects, such as life-extension company Calico, innovative technology developer Google X, high-speed internet provider Fiber, and Google's smart home project Nest. Alphabet also is the owner of Google Venture, which invests in startups, and Google Capital, which invests in long-term projects.

#### Intel

Market value: \$234.73 billion

Intel Corporation (INTC) seems to have settled into second place in revenue to Samsung as a maker of semiconductor chips, but its X86 series of microprocessors remains the one inside the most personal computers. Cloud expansion is also an area of interest for Intel. In a statement, the company indicated that the use of the cloud was a means of modernization for companies. In Nov. 2016, Intel announced that improvements it had made to its Intel Scalable System Framework would spread high-performance computing to more industries.

#### IBM

Market value: \$124.08 billion

Founded in the 1880s to manufacture a patented "computing scale," International Business Machines (IBM) is the oldest company on this list by a long shot. It remains one of the world's most respected brands despite the fact that it sold its best-known business line, personal computers, to China's Lenovo in 2005. IBM still makes hardware and software for business and has invested heavily in hosting, consulting, and cloud services businesses around the world.

#### Facebook

Market value: \$546.606 billion

With a monthly average of 2.27 billion active users, Facebook, Inc. (FB) has grown at an exponential rate since its February 2004 founding. Now facing an obvious limit in growth globally, Facebook now aims to grow through acquisitions. Notably, these have included Instagram and WhatsApp.

#### Hon Hai Precision

Market cap: \$6023.96 billion

Better known in the U.S. as Foxconn Technology Group is a multinational electronics manufacturer based in Taiwan. American customers for its manufacturing services include Apple, Amazon, and Microsoft. Hon Hai operates enormous factories in 12 Chinese cities and in countries stretching from Brazil to Malaysia.

#### Tencent

Market value: \$462.116 billion

Technology products and internet-related services are a mere sideline for Tencent (TCEHY), a Chinese conglomerate. It is, among other things, one of the world's largest gaming companies and among its largest venture capital outfits. Inside China, Tencent is known for its web portal and instant messaging services. It also holds the Chinese rights

to some international franchises, notably purchasing the rights to the James Bond franchise from MGM and the Star Wars franchise from Disney.

Oracle

Market value: \$189.37 billion

Oracle Corporation (ORCL) is a computer hardware and software developer based in California, specializing in database management systems. Oracle has made significant investments in the future of cloud computing for business.

## **Consumer Discretionary**

### **What is Consumer Discretionary**

Consumer discretionary is the term given to goods and services that are considered non-essential by consumers, but desirable if their available income is sufficient to purchase them. Consumer discretionary goods include durable goods, apparel, entertainment and leisure, and automobiles. The purchase of consumer discretionary goods is also influenced by the state of the economy, which can affect consumer confidence.

### **BREAKING DOWN Consumer Discretionary**

In a poor economy, consumers are more likely to forego the purchase of consumer discretionary goods in favor of adding to their savings. The financial performance of companies that produce consumer discretionary goods is generally tied to the state of the economy as well. When measured as a sector of the economy, the performance of consumer discretionary companies can be an indicator of future economic conditions and stock market performance.

### **Consumer Discretionary as an Economic and Stock Market Predictor**

In a weakening economy, consumer confidence typically declines, causing consumers to tighten their belts by postponing vacations and the purchases of non-essential products such as new clothes, televisions and new cars. The reduced demand for consumer discretionary goods is usually a precursor to lower sales for the companies that produce them, which can lead to worsening economic conditions and a recession. The stocks of consumer discretionary companies tend to lead a general stock market decline at the beginning of a recession.

Conversely, when the economy begins to strengthen and consumer confidence increases, the demand for consumer discretionary goods increases, boosting sales and stock performance of consumer discretionary companies. When signs of an economic recovery appear, consumer discretionary stocks usually lead a stock market recovery. Consumer discretionary stocks tend to outperform the stock market during strong economies, but they generally underperform in weak economies. Companies such as Target Corporation, The Home Depot, Inc., Walt Disney Company, and Amazon.com, Inc. are big holdings for mutual funds and exchange traded funds that focus on consumer discretionary stocks.

A distinction is made between consumer discretionary, also referred to as consumer cyclical, and consumer staples, which consumers consider to be essential products they need regardless of their financial condition or the state of the economy. Consumer staples include food, beverages, drugs, hygiene products and medical supplies. Consumer staple stocks, such as Johnson & Johnson, Procter & Gamble, and Coca-Cola tend to perform better than consumer discretionary stocks during weak economies, but lag them during strong economies. Consumer staple stocks are often held in portfolios as a defensive investment to counter the volatility of consumer discretionary stocks in a weak stock market.

## Consumer Discretionary and Interest Rates

The consumer discretionary sector is highly sensitive to movements of interest rates. The early phase of an increasing environment for interest rates tends to bode well for the sector because it signals that the economy may be strong, unemployment may be down and consumers feel confident about spending money. Wage growth and increased lending also contribute positively to increased financial expenditures. For instance, as the U.S. economy gathered steam since the Great Recession of 2008, consumer discretionary stocks have posted positive returns. In the 10 years ended March 25, 2018, the consumer discretionary sector returned 224.82%, while the S&P 500 index gained 94.51%.

## In which industries is Average Collection Period most important?

The industries in which average collection period – the median amount of time necessary for a business to recover its receivables – is most important are those in which receivables make up the greatest portion of cash flows. These industries include banks and financial institutions, car dealerships, retail, construction and professional services. However, there are many other industries for which it is important.

## Average Collection Period

A company's average collection period reflects the efficiency of accounts receivable management practices. It can be calculated by taking total credit sales and dividing that by the multiple of average receivables and number of days in the time period.

For example, suppose a company had total net credit sales of \$250,000 in a year (represented as 365 days). Its average accounts receivable balance over that same period was \$75,000. The average collection period equation can be set up like this:

$$\text{Average Collection Period} = 365 \times 75,000 / 250,000 = 109.5$$

In this case, the average collection period is 109.5 days. The smaller this number, the more efficient an analyst could interpret their receivables management.

## Types of Industries and Accounts Receivable Management

All companies would like to have a reduced average collection period on their receivables. Not every company interacts with credit sales and receivables in the same way, however.

Take the agriculture and forestry industry, for example. The products that this industry produces tend to be sold in bulk to large retailers or governments. These companies tend to have established relationships and great contractual recourses. The average collection period can afford to be a little longer in these cases, even if it is just as important as any other industry.

Construction and real estate companies rely on sufficient cash flow to buy materials and deploy labor towards projects that don't immediately generate income. A property normally only generates income after the building is completed. This puts a lot of emphasis on correct and timely billing. Moreover, rental real estate tends to run into constant cash flow need; poor receivables management cannot be tolerated for long.

Medical and health care companies have a unique challenge, since a great number of medical payments are made through third parties. This creates a great moral hazard among the recipients of medical services, since their consumption does not bear the full cost of service provision. Providers of health care must be on top of collections to keep the doors open for non-paying customers.

The wholesale distribution sector is infamous for poor collection practices and delinquency among its customers. Even if average collection periods may be smaller than many other industries, the margins for wholesale distributors are so small that smaller periods may still be less efficient.

No industry considers collections more important than a bank, however. Banks generate much of their income through interest-generating loans. Poor collection practices would quickly spell doom for a bank (or another financial lender) with a huge portfolio of mortgages or car loans.



## CHAPTER 2

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### Indices and tables

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