PART IV

PLANNING FOR THE FUTURE

IN THIS SECTION:

Chapter 12 “Investing” presents basic information about investment instruments and markets and explains the classic relationships of risk and return developed in modern portfolio theory.

Chapter 13 “Owning Stocks” and Chapter 14 “Owning Bonds and Investing in Mutual Funds” look at investments commonly made by individual investors and their use in (and the risks of) building wealth as part of a diverse investment strategy.

Chapter 15 “Career Planning” brings the planning process full circle with a discussion on how to think about getting started—that is, deciding how to approach the process of selling your labour. The chapter introduces the idea of selling labour to employers in the labour market and explores how to search and apply for a job in light of its strategic as well as immediate potential.

12. Investing

INTRODUCTION

Saving to build wealth is investing. When people have too much money to spend immediately—that is, a surplus of disposable income—they become savers or investors. They transfer their surplus to individuals, companies, or governments that have a shortage or too little money to meet immediate needs. This is almost always done through an intermediary—a bank or broker—who can match up the surpluses and the shortages. If the capital markets work well, those who need money can get it, and those who can defer their need can try to profit from that. When you invest, you are transferring capital to those who need it on the assumption that they will be able to return your capital when you need or want it and that they will also pay you for its use in the meantime.

Investing happens over your lifetime. In your early adult years, you typically have little surplus to invest. Your first investments are in your home (although primarily financed with the debt of your mortgage) and then perhaps in planning for children's education or for your retirement.

After a period of just paying the bills, making the mortgage, and trying to put something away for retirement, you may have the chance to accumulate wealth. Your income increases as your career progresses. You have fewer dependents (as children leave home), so your expenses decrease. You begin to think about your investment options. You have already been investing—in your home and retirement—but those investments have been prescribed by their specific goals.

You may reach this stage earlier or later in your life, but at some point, you begin to think beyond your immediate situation and look to increase your real wealth to ensure your future financial health. Investing is about that future.

Investment also goes beyond simply contributing one's own individual wealth and financial health. The investments we make can contribute to the growth of businesses, organizations, and communities. The investment choices we make can have a significant economic and social impact in the world.

With regard to Indigenous communities in Canada, economic growth is fueled by investment. According to Chief Michael LeBourdais of the Whispering Pine/Clinton Indian Band, "investment can be generated from local residents through savings, through home equity or from outside sources. In Canada, private sector investment outweighs public sector investment by five to one. Three times as many jobs are created in the private sector as in the public sector" (Tulo

Centre of Indigenous Economics, 2014, p. 6). Thus, attracting private investment to Indigenous business and economic development projects is an important part of economic growth. Many Indigenous entrepreneurs lack access to capital and rely heavily on personal and family support to help finance their businesses; "there is a growing need for 'angel investors' " as well as other private investment options (Cooper, 2016). Furthermore, "investment creates jobs and business opportunities. This, in turn, builds the fiscal capacity of governments to support social improvements and build infrastructure. It also encourages a natural constituency for accountable, fiscally responsible government as the investment climate is enhanced. Indigenous governments must participate in federations and market systems to provide fiscal and economic opportunities for their governments and members" (Tulo Centre of Indigenous Economics, 2014, p. 7). Therefore, investing can help to increase your individual financial well-being, as well as the economic and social well-being of communities throughout the country.

Through the creation of the First Nations Fiscal and Statistical Management Act on March 23, 2005, the First Nations Finance Authority (FNFA), the First Nations Financial Management Board (FNFMB), and the First Nations Tax Commission (FNTC) were established. Canada's First Nations and the Government of Canada worked together to support the creation of these new institutions in order to assist First Nations to better access capital markets and more investment opportunities. The FNFMB helps First Nations to build stronger community management and accountability frameworks, including best practices, standard-setting, and capacity-building, that enhance First Nations' ability to participate in raising capital through the FNFA (Cooper, 2016). The FNTC, as mentioned in Chapter 6, helps First Nations use their property tax revenue to secure long-term borrowing and oversee the bylaw approval process, which provides greater investor certainty. As Cooper states, "the ability to successfully provide transparent, risk-related investment opportunities to private capital providers requires that First Nation communities undertake initiatives to enhance their ability to borrow. The practices and processes of the FNFA and the FNFMB are tools which can be of immediate assistance to the First Nations communities as they proceed to prepare themselves for dealing with private capital providers" (Cooper, 2016, p. 172).

How should you invest your money? This is a critical question that we must all ask ourselves as we reach that stage of our lives when we are ready to begin investing. Today, there are more and more options available to investors who wish to invest their money in socially responsible businesses. Furthermore, many businesses are focusing more on **corporate social responsibility (CSR)**, which is focused on economic, social, and environmentally sustainable activities—and not only because they know it is the right thing to do, but also because it is good business. More and more companies are sharing their CSR record, which makes it easier for investors to research and make informed decisions.

12.1 INVESTMENTS AND MARKETS: A BRIEF OVERVIEW

Learning Objectives

1. Identify the features and uses of issuing, owning, and trading bonds.
2. Identify the uses of issuing, owning, and trading stocks.
3. Identify the features and uses of issuing, owning, and trading commodities and derivatives.
4. Identify the features and uses of issuing, owning, and trading mutual funds, including exchange-traded funds and index funds.
5. Describe the reasons for using different instruments in different markets.

Before looking at investment planning and strategy, it is important to take a closer look at the galaxy of investments and markets where investing takes place. Understanding how markets work, how different investments work, and how different investors can use investments is critical to understanding how to plan your investment goals and strategies.

You have looked at using the money markets to save surplus cash for the short term. By contrast, investing is primarily about using the capital markets to invest surplus cash for the longer term. As in the money markets, when you invest in the capital markets, you are selling liquidity.

The capital markets developed as a way for buyers to buy liquidity (i.e., raise capital). The two primary methods that have evolved into modern times are the bond and stock markets. Both are discussed in greater detail in Chapter 13 "Owning Stocks" and Chapter 14 "Owning Bonds and Investing in Mutual Funds," but a brief introduction is provided here to give you a basic idea of what they are and how they can be used as investments.

Bonds and Bond Markets

Bonds are debt. The bond issuer borrows by selling a bond, promising the buyer regular interest payments and then repayment of the principal at maturity. If a company wants to borrow, it could just go to one lender and borrow. But if the company wants to borrow a lot, it may be difficult to find any one investor with the capital and the inclination to make that large a loan, taking a large risk on only one borrower. In this case, the company may need to find a lot of lenders who will each lend a little money, and this is done through selling bonds.

A bond is a formal contract to repay borrowed money with interest (often referred to as the coupon) at fixed intervals. Corporations and governments (e.g., federal, provincial, municipal,

and foreign) borrow by issuing bonds. The interest rate on the bond may be a **fixed interest rate** or a **floating interest rate** that changes as underlying interest rates—rates on debt of comparable companies—change. (Underlying interest rates include the prime rate: the annual interest rate Canada's major banks and financial institutions use to set interest rates for variable loans and lines of credit, including variable-rate mortgages. The Bank of Canada sets the prime rate.)

Bonds have many features other than the principal and interest; these include the **issue price** (the price you pay to buy the bond when it is first issued) and the **maturity date** (when the issuer of the bond has to repay you). Bonds may also be "callable"—that is, **redeemable** before **maturity** (paid off early). Bonds may also be issued with various **covenants** or conditions that the borrower must meet to protect the bondholders (the lenders). For example, the borrower (the bond issuer) may be required to keep a certain level of cash on hand, relative to his or her short-term debts, or may not be allowed to issue more debt until this bond is paid off.

Because of the diversity and flexibility of bond features, the bond markets are not as transparent as the stock markets—that is, the relationship between the bond and its price is harder to determine.

Stocks and Stock Markets

Stocks or equity securities are shares of ownership: when you buy a share of stock, you buy a share of the corporation. The size of your share of the corporation is proportional to the size of your stock holding. Since corporations exist to create profit for the owners, when you buy a share of the corporation, you buy a share of its future profits. You are literally sharing in the fortunes of the company.

Unlike bonds, however, shares do not promise you any returns at all. If the company does create a profit, some of that profit may be paid out to owners as a **dividend**, usually in cash but sometimes in additional shares of stock. The company may pay no dividend at all, however, in which case the value of your shares should rise as the company's profits rise. But even if the company is profitable, the value of its shares may not rise, for a variety of reasons having to do more with the markets or the larger economy than with the company itself. Likewise, when you invest in stocks, you share the company's losses, which may decrease the value of your shares.

Corporations issue shares to raise capital. When shares are issued and traded in a public market such as a stock exchange, the corporation is "publicly traded." There are many stock exchanges in Canada and around the world. Internationally, the best-known Canadian stock exchange is the Toronto Stock Exchange.

Only members of an exchange may trade on the exchange, so to buy or sell stocks you must go through a broker who is a member of the exchange. Brokers also manage your account and offer varying levels of advice and access to research. Most brokers have web-based trading systems. Some discount brokers offer minimal advice and research along with minimal trading commissions and fees.

Commodities and Derivatives

Commodities are resources or raw materials, including the following:

- agricultural products (food and fibres) such as soybeans, pork bellies, and cotton;
- energy resources such as oil, coal, and natural gas;
- precious metals such as gold, silver, and copper; and
- currencies, such as the dollar, yen, and euro.

Commodity trading was formalized because of the risks inherent in producing commodities—raising and harvesting agricultural products or natural resources—and the resulting volatility of commodity prices. As farming and food production became mechanized and required a larger investment of capital, commodity producers and users wanted a way to reduce volatility by locking in prices over the longer term.

The answer was futures and forward contracts. **Futures** and **forward contracts** (or forwards) are a form of **derivatives**, the term for any financial instrument whose value is derived from the value of another security. For example, suppose it is now July 2018. If you know that you will want to have wheat in May of 2019, you could wait until May 2019 and buy the wheat at the market price, which is unknown in July 2018. Or you could buy it now, paying today's price, and store the wheat until May 2019. Doing so would remove your future price uncertainty, but you would incur the cost of storing the wheat.

Alternatively, you could buy a futures contract for May 2019 wheat in July 2018. You would be buying May 2019 wheat at a price that is now known to you (as stated in the futures contract), but you will not take delivery of the wheat until May 2019. The value of the futures contract to you is that you are removing the future price uncertainty without incurring any storage costs. In July 2018, the value of a contract to buy May 2019 wheat depends on what the price of wheat actually turns out to be in May 2019.

Forward contracts are traded privately, as a direct deal made between the seller and the buyer, while futures contracts are traded publicly on an exchange such as the Chicago Mercantile Exchange or the New York Mercantile Exchange.

When you buy a forward contract for wheat, for example, you are literally buying future wheat, wheat that doesn't yet exist. Buying it now, you avoid any uncertainty about the price, which may change. Likewise, by writing a contract to sell future wheat, you lock in a price for your crop or a return for your investment in seed and fertilizer.

Futures and forward contracts proved so successful in shielding against some risk that they are now written for many more types of commodities, such as interest rates and stock market indices. More kinds of derivatives have been created as well, such as options. **Options** are the right, but not the obligation, to buy or sell at a specific price at a specific time in the future. Options are commonly written on shares of stock as well as on stock indices, interest rates, and commodities.

Derivatives such as forwards, futures, and options are used to hedge or protect against an existing risk or to speculate on a future price. For a number of reasons, commodities and derivatives are more risky than investing in stocks and bonds and are not the best choice for most individual investors.

Mutual Funds, Index Funds, and Exchange-Traded Funds

A **mutual fund** is an investment portfolio consisting of securities that an individual investor can invest in all at once without having to buy each investment individually. The fund thus allows you to own the performance of many investments while actually buying—and paying the transaction cost for buying—only one investment.

Mutual funds have become popular because they can provide diverse investments with a minimum of transaction costs. In theory, they also provide good returns through the performance of professional portfolio managers. Chapter 14 section 4 "Mutual Funds" provides more information on portfolio management fees.

An **index fund** is a mutual fund designed to mimic the performance of an index, a particular collection of stocks or bonds whose performance is tracked as an indicator of the performance of an entire class or type of security. For example, the Standard & Poor's (S&P) 500 is an index of the five hundred largest publicly traded corporations, and the famous Dow Jones Industrial Average is an index of thirty stocks of major industrial corporations. An index fund is invested in the same securities as the index and so requires minimal management and should have minimal management fees or costs.

Mutual funds are created and managed by mutual fund companies or by brokerages or even banks. To trade shares of a mutual fund you must have an account with the company, brokerage,

or bank. Mutual funds are a large component of individual retirement accounts and of defined contribution plans.

Mutual fund shares are valued at the close of trading each day and orders placed the next day are executed at that price until it closes. An **exchange-traded fund (ETF)** is a mutual fund that tracks an index or a commodity or a basket of assets, but is traded like stocks on a stock exchange. An ETF trades like a share of stock in that it is valued continuously throughout the day, and trades are executed at the market price.

The ways that capital can be bought and sold is limited only by the imagination. When corporations or governments need financing, they invent ways to entice investors and promise them a return. The last thirty years have seen an explosion in **financial engineering**, the innovation of new financial instruments through mathematical pricing models. This explosion has coincided with the ever-expanding powers of the computer, allowing professional investors to run the millions of calculations involved in sophisticated pricing models. The Internet also gives amateurs instantaneous access to information and accounts.

Much of the modern portfolio theory that spawned these innovations (i.e., the idea of using the predictability of returns to manage portfolios of investments) is based on an infinite time horizon, looking at performance over very long periods of time. This has been very valuable for institutional investors (e.g., pension funds, insurance companies, endowments, foundations, and trusts) as it gives them the chance to magnify returns over their infinite horizons.

For most individual investors, however, most portfolio theory may present too much risk or just be impractical. Individual investors don't have an infinite time horizon, but rather a comparatively small amount of time to create wealth and to enjoy it. For individual investors, investing is a process of balancing the demands and desires of returns with the costs of risk, before time runs out.

Key Takeaways

1. Bonds are:
   - a way to raise capital through borrowing, used by corporations and governments;
   - an investment for the bondholder that creates return through regular, fixed, or floating interest payments on the debt and the repayment of principal at maturity; and
   - traded on bond exchanges through brokers.

2. Stocks are:
   • a way to raise capital through selling ownership or equity;
   • an investment for shareholders that creates return through the distribution of corporate profits as dividends or through gains (losses) in corporate value; and
   • traded on stock exchanges through member brokers.
3. Commodities are:
   • natural or cultivated resources;
   • traded to hedge revenue or production needs or to speculate on resources' prices; and
   • traded on commodities exchanges through brokers.
4. Derivatives are instruments based on the future, and therefore uncertain, price of another security, such as a share of stock, a government bond, a currency, or a commodity.
5. Mutual funds are portfolios of investments designed to achieve maximum diversification with minimal cost through economies of scale.
6. An index fund is a mutual fund designed to replicate the performance of an asset class or selection of investments listed on an index.
7. An exchange-traded fund is a mutual fund whose shares are traded on an exchange.
8. Institutional and individual investors differ in the use of different investment instruments and in using them to create appropriate portfolios.

Exercises

1. In your personal finance journal, record your experiences with investing. What investments have you made, and how much do you have invested? What stocks, bonds, funds, or other instruments described in this section do you have now (or have had in the past)? How were the decisions about your investments made, and who made them? If you have had no personal experience with investing, explain your reasons. What reasons might you have for investing (or not) in the future?
2. Please review the article "Stock Exchanges Around the World" found on Investopedia's website. Roughly how many stock exchanges exist in the world? Which geographic region has the greatest number of exchanges?
3. Visit the Chicago Mercantile Exchange. What are some examples of commodities on the CME that theoretically could be part of your investment portfolio?

REFERENCES

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12.2 INVESTMENT PLANNING

Learning Objectives

1. Describe the advantages of the investment policy statement as a useful framework for investment planning.
2. Identify the process of defining investor return objectives.
3. Identify the process of defining investor risk tolerance.
4. Identify investor constraints or restrictions on an investment strategy.

Allison has a few hours to kill while her flight home is delayed. She loves her job as an analyst for a management consulting firm, but the travel is getting old. As she gazes at the many investment magazines and paperbacks on display and the several screens all tuned to financial news networks and watches people hurriedly checking their stocks on their mobile phones, she begins to think about her own investments. She has been paying her bills, paying back student loans, and trying to save some money for a while. Her uncle just died and left her a bequest of $50,000. She is thinking of investing it since she is getting by on her salary and has no immediate plans for this windfall.

Allison is wondering how to get into some serious investing. There is no lack of information or advice about investing, but Allison isn't sure how to get started.

Allison may not realize that there are as many different investment strategies as there are investors. The planning process is similar to planning a budget or savings plan. You determine where you are, where you want to be, and how to get there. One way to get started is to draw up an individual investment policy statement.

Investment policy statements are outlines of the investor's goals and constraints, and they are popular with institutional investors such as pension plans, insurance companies, or non-profit endowments. Institutional investment decisions are typically made by professional managers operating on instructions from a higher authority, usually a board of directors or trustees. The directors or trustees may approve the investment policy statement and then leave the specific investment decisions up to the professional investment managers. The managers use the policy statement as their guide to the directors' wishes and concerns.

This idea of a policy statement has been adapted for individual use, providing a helpful, structured framework for investment planning—and thinking. The advantages of drawing up an investment policy to use as a planning framework include the following:

- The process of creating the policy requires thinking through your goals and expectations and adjusting those to what is possible.
- The policy statement gives you an active role in your investment planning, even if the more specific details and implementation are left to a professional investment adviser.
- Your policy statement is portable, so even if you change advisers, your plan can go with you.
- Your policy statement is flexible; it can and should be updated at least once a year.

A policy statement is written in two parts. The first part lists your return objectives and risk preferences as an investor. The second part lists your constraints on investment. It is sometimes difficult to reconcile the two parts, so you may need to adjust your statement to improve your chances of achieving your return objectives within your risk preferences without violating your constraints.

Defining Return Objectives and Risk Tolerance

Defining **return objectives** is the process of quantifying the required annual return (e.g., 5 per cent, 10 per cent, etc.) necessary to meet your investment goals. If your investment goals are vague (e.g., to "increase wealth"), then any positive return will do. Usually, however, you have some specific goals—for example, to finance a child's or grandchild's education, to have a certain amount of wealth at retirement, to buy a sailboat on your fiftieth birthday, and so on.

Once you have defined goals, you must determine when they will happen and how much they will cost, or how much you will have to have invested to make your dreams come true. As explained in Chapter 4 "Evaluating Choices: Time, Risk, and Value," the rate of return that your

investments must achieve to reach your goals depends on how much you have to invest to start with, how long you have to invest it, and how much you need to fulfill your goals.

As in Allison's case, your goals may not be so specific. Your thinking may be more along the lines of, "I want my money to grow and not lose value," or, "I want the investment to provide a little extra spending money until my salary rises as my career advances." In that case, your return objective can be calculated based on the role that these funds play in your life: safety net, emergency fund, extra spending money, or nest egg for the future.

However specific (or not) your goals may be, the quantified return objective defines the annual performance that you demand from your investments. Your portfolio can then be structured—you can choose your investments—such that it can be expected to provide that performance.

If your return objective is more than can be achieved given your investment and expected market conditions, then you know to scale down your goals, or perhaps find a different way to fund them. For example, if Allison wanted to stop working in ten years and start her own business, she probably would not be able to achieve this goal solely by investing her $50,000 inheritance, even in a bull (up) market earning higher rates of return.

As you saw in Chapter 10 "Personal Risk Management: Insurance" and Chapter 11 "Personal Risk Management: Retirement and Estate Planning," in investing there is a direct relationship between risk and return, and risk is costly. The nature of these relationships has fascinated and frustrated investors since the origin of capital markets, and it remains a subject of investigation, exploration, and debate. To invest is to take risk. To invest is to separate yourself from your money through actual distance—you literally give it to someone else—or through time. There is always some risk that what you get back is worth less (or costs more) than what you invested (a loss), or is less than what you might have had if you had done something else with your money (opportunity cost). The more risk you are willing to take, the more potential return you can make, but the higher the risk, the more potential losses and opportunity costs you may incur.

Individuals have different risk tolerances. Your **risk tolerance** is your ability and willingness to assume risk. Your ability to assume risk is based on your asset base, your time horizon, and your liquidity needs. In other words, your ability to take investment risks is limited by how much you have to invest, how long you have to invest it, and your need for your portfolio to provide cash—for use rather than reinvestment—in the meantime.

Your willingness to take risk is shaped by your "personality," your experiences, and your knowledge and education. Attitudes are shaped by life experiences, and attitudes toward risk are no different. Chart 12.2.1 shows how your level of risk tolerance develops.

Chart 12.2.1 Risk Tolerance

Investment advisers may try to gauge your attitude toward risk by having you answer a series of questions on a formal questionnaire or by just talking with you about your investment approach. For example, an investor who says, "It's more important to me to preserve what I have than to make big gains in the markets," is relatively **risk averse**. The investor who says, "I just want to make a quick profit," is probably more of a risk seeker.

Once you have determined your return objective and risk tolerance (i.e., what it will take to reach your goals and what you are willing and able to risk to get there) you may have to reconcile the two. You may find that your goals are not realistic unless you are willing to take on more risk. If you are unwilling or unable to take on more risk, you may have to scale down your goals.

Defining Constraints

Defining constraints is a process of recognizing any limitation that may impede or slow or divert progress toward your goals. The more you can anticipate and include constraints in your planning, the less likely they will throw you off course. Constraints include the following:

- Liquidity needs,

- Time available,
- Tax obligations,
- Legal requirements, and
- Unique circumstances.

Liquidity needs, or the need to use cash, can slow your progress from investing because you have to divert cash from your investment portfolio in order to spend it. In addition, you will have ongoing expenses from investing. For example, you will have to use some liquidity to cover your transaction costs such as brokerage fees and management fees. You may also wish to use your portfolio as a source of regular income or to finance asset purchases, such as the down payment on a home or a new car or new appliances.

While these may be happy transactions for you, for your portfolio they are negative events, because they take away value from your investment portfolio. Since your portfolio's ability to earn returns is based on its value, whenever you take away from that value, you are reducing its ability to earn.

Time is another determinant of your portfolio's earning power. The more time you have to let your investments earn, the more earnings you can amass. Or, the more time you have to reach your goals, the more slowly you can afford to get there, earning less return each year but taking less risk as you do. Your time horizon will depend on your age and life stage and on your goals and their specific liquidity needs.

Tax obligations are another constraint, because paying taxes takes value away from your investments. Investment value may be taxed in many ways (as income tax, capital gains tax, property tax, estate tax, or gift tax) depending on how it is invested, how its returns are earned, and how ownership is transferred if it is bought or sold.

Investors typically want to avoid, defer, or minimize paying taxes, and some investment strategies will do that better than others. In any case, your individual tax liabilities may become a constraint in determining how the portfolio earns to best avoid, defer, or minimize taxes.

Legalities also can be a constraint if the portfolio is not owned by you as an individual investor but by a personal trust or a family foundation. Trusts and foundations have legal constraints defined by their structure.

"Unique circumstances" refer to your individual preferences, beliefs, and values as an investor. For example, some investors believe in socially responsible investing (SRI), so they want their funds to be invested in companies that practise good corporate governance, responsible citizenship, fair trade practices, or environmental stewardship.

Some investors don't want to finance companies that make objectionable products or by-products or have labour or trade practices reflecting objectionable political views. **Divestment** is the term for taking money out of investments. Grassroots political movements often include divestiture campaigns, such as student demands that their universities stop investing in companies that do business with nondemocratic or oppressive governments.

Socially responsible investment is the term for investments based on ideas about products or businesses that are desirable or objectionable. These qualities exist in the eye of the beholder, however, and vary among investors. Your beliefs and values are unique to you and to your circumstances in investing, and they may change over time. For more information on socially responsible investing in Canada, please go to the following websites:

- US SIF: The Forum for Sustainable and Responsible Investment
- Rocky Mountain Humane Investing
- Responsible Investment Association (RIA)
- *The Globe and Mail* article "Confused by ethical investing? Here's a primer"

Having mapped out your goals and determined the risks you are willing to take, and having recognized the limitations you must work with, you and/or your investment advisers can now choose the best investments. Different advisers may have different suggestions based on your investment policy statement. The process of choosing involves knowing what returns and risks investments have produced in the past, what returns and risks they are likely to have in the future, and how the returns and risks are related—or not—to each other.

Key Takeaways

1. The investment policy statement provides a useful framework for investment planning because:
   • the process of creating the policy requires thinking through goals and expectations and adjusting those to the possible;
   • the statement gives the investor an active role in investment planning, even if the more specific details and implementation are left to a professional investment adviser;
   • the statement is portable, so that even if you change advisers your plans can go with you; and
   • the statement is flexible; it can and should be updated at least once per year.
2. Return objectives are defined by the investor's goals, time horizon, and value of the asset base.
3. Risk tolerance is defined by the investor's ability and willingness to assume risk; comfort with risk-taking relates to personality, experience, and knowledge.

4. Constraints or restrictions to an investment strategy are the investor's
   • liquidity needs,
   • time horizon,
   • tax circumstances and obligations,
   • legal restrictions, and
   • unique preferences or circumstances.
5. Socially responsible investment and divestment are unique preferences based on beliefs and values about desirable or objectionable industries, products, or companies.
6. Your investment policy statement guides the selection of investments and development of your investment portfolio.

Exercises

1. Brainstorm with classmates expressions relating to investing, such as, "you gotta pay to play"; "you gotta play to win"; "no pain, no gain"; "it takes money to make money," and so on. What does each of these expressions really mean? How do they relate to the concepts of investment risk and return on investment? In what ways are risks and returns in a reciprocal relationship?
2. Draft an individual investment policy statement as a guide to your future investment planning. What will be the advantages of having an investment policy statement? In your personal finance journal, record your general return objectives and specific goals at this time. What is a return objective?
3. What is your level of risk tolerance? How would you rate your risk tolerance on a five-point scale (with one indicating "most risk averse")? In your personal finance journal, record how your asset base, time horizon, and liquidity needs define your ability to undertake investment risk. Then describe the personality characteristics, past experiences, and knowledge base that you feel help shape your degree of willingness to undertake risk. Now check your beliefs by using Sun Life Financial's investment risk profiler on the webpage Calculate your risk profile. How do the results compare with your estimate? What conclusions do you draw from this test? What percentage of your investments do you now think you could put into stocks? What factor could you change that might enable you to tolerate more risk?
4. In your personal finance journal, record the constraints you face when it comes to reaching your investment goals. With what types of constraints must you reconcile with your investment planning? The more you need to use your money to live and the less time you have to achieve your goals, the greater the constraints in your investment planning. Revise your statement of goals and return objectives as needed to ensure it is realistic in light of your constraints.
5. In collaboration with classmates, conduct an online investigation into socially responsible investing. Review the websites noted in the section above on socially responsible investment. On the

basis of your investigation, outline and discuss the different forms and purposes of SRI. Which form and purpose appeal most to you and why? What investments might you make, and what investments might you specifically avoid, to express your beliefs and values? Do you think investment planning could ever have a role in bringing about social change?

12.3 MEASURING RETURN AND RISK

Learning Objectives

1. Characterize the relationship between risk and return.
2. Describe the differences between actual and expected returns.
3. Explain how actual and expected returns are calculated.
4. Define investment risk and explain how it is measured.
5. Define the different kinds of investment risk.

You want to choose investments that will combine to achieve the return objectives and level of risk that's right for you, but how do you know what the right combination will be? You can't predict the future, but you can make an educated guess based on an investment's past history. To do this, you need to know how to read or use the information available. Perhaps the most critical information to have about an investment is its potential return and susceptibility to types of risk.

Return

Returns are always calculated as annual rates of return, or the percentage of return created for each unit (dollar) of original value. If an investment earns 5 per cent, for example, that means that for every $100 invested, you would earn $5 per year (because $5 = 5% of $100).

Returns are created in two ways: the investment creates income or the investment gains (or loses) value. To calculate the annual rate of return for an investment, you need to know the income created, the gain (loss) in value, and the original value at the beginning of the year. The percentage return can be calculated as in Table 12.3.1.

Table 12.3.1 Calculating Percentage Return

[Income + Gain] / Original value = percentage rate of return [Income + (Ending value – Original value)] / Original value = percentage rate of return

Note that if the ending value is greater than the original value, then ending value – (minus) original value > 0 (is greater than zero), and you have a gain that adds to your return. If the ending value is less, then ending value – (minus) original value < 0 (is less than zero), and you have a loss that detracts from your return. If there is no gain or loss, if ending value – (minus) original value = 0 (is the same), then your return is simply the income that the investment created.

For example, if you buy a share of stock for $100, and it pays no dividend, and a year later the market price is $105, then your return = [0 + (105 – 100)] / 100 = 5 / 100 = 5%. If the same stock paid a dividend of $2, then your return = [2 + (105 – 100)] / 100 = 7 / 100 = 7%.

If the information you have shows more than one year's results, you can calculate the annual return using what you learned in Chapter 4 "Evaluating Choices: Time, Risk, and Value" about the relationships of time and value. For example, if an investment was worth $10,000 five years ago and is worth $14,026 today, then $10,000 × $(1 + r)^5$ = $14,026. Solving for r, the annual rate of return, you get 7 per cent. So, other factors being equal, the $10,000 investment must have earned at a rate of 7 per cent per year to be worth $14,026 five years later.

While information about current and past returns is useful, investment professionals are more concerned with the **expected return** for the investment—that is, how much it may be expected to earn in the future. Estimating the expected return is complicated because many factors (e.g., current economic conditions, industry conditions, and market conditions) may affect that estimate.

For investments with a long history, a strong indicator of future performance may be past performance. Economic cycles fluctuate, and industry and firm conditions vary, but over the long run, an investment that has survived has weathered all those storms. So, you could look at the average of the returns for each year. There are several ways to do the math, but if you look at the average return for different investments of the same asset class or type (e.g., stocks of large companies) you could compare what they have returned, on average, over time.

If the time period you are looking at is long enough, you can reasonably assume that an investment's average return over time is the return you can expect in the next year. For example, if a

company's stock has returned, on average, 9 per cent per year over the last twenty years, then if next year is an average year, that investment should return 9 per cent again. Over the eighteen-year span from 1990 to 2008, for example, the average return for the S&P 500 was 9.16 per cent. Unless you have some reason to believe that next year will *not* be an average year, the average return can be your expected return. The longer the time period you consider, the less volatility there will be in the returns, and the more accurate your prediction of expected returns will be.

Returns are the value created by an investment, through either income or gains. Returns are also your compensation for investing, for taking on some or all of the risk of the investment, whether it is a corporation, government, parcel of real estate, or work of art. Even if there is no risk, you must be paid for the use of liquidity that you give up to the investment (by investing).

Returns are the benefits from investing, but they must be larger than its costs. There are at least two costs to investing: the opportunity cost of giving up cash and giving up all your other uses of that cash until you get it back in the future, and the cost of the risk you take—the risk that you won't get it all back.

Risk

Investment risk is the idea that an investment will not perform as expected, that its actual return will deviate from the expected return. Risk is measured by the amount of volatility—that is, the difference between actual returns and average (expected) returns. This difference is referred to as the **standard deviation**. Returns with a large standard deviation (showing the greatest variance from the average) have higher volatility and are the riskier investments.

An investment may do better or worse than its average. Standard deviation can therefore be used to define the expected range of investment returns. For the S&P 500, for example, the standard deviation from 1990 to 2008 was 19.54 per cent. So, in any given year, the S&P 500 is expected to return 9.16 per cent, but its return could be as high as 67.78 per cent or as low as –49.46 per cent, based on its performance during that specific period.

What risks are there? What would cause an investment to unexpectedly over or underperform? Starting from the top (the big picture) and working down, there are

- economic risks,
- industry risks,
- company risks,
- asset class risks, and
- market risks.

Economic risks are risks that something will upset the economy as a whole. The economic cycle may swing from expansion to recession, for example; inflation or deflation may increase, unemployment may increase, or interest rates may fluctuate. These macroeconomic factors affect everyone doing business in the economy. Most businesses are cyclical, growing when the economy grows and contracting when the economy contracts.

Consumers tend to spend more disposable income when they are more confident about economic growth and the stability of their jobs and incomes. They also tend to be more willing and able to finance purchases with debt or with credit, expanding their ability to purchase durable goods. So, demand for most goods and services increases as an economy expands, and businesses expand too. An exception is businesses that are countercyclical. Their growth accelerates when the economy is in a downturn and slows when the economy expands. For example, low-priced fast food chains typically have increased sales in an economic downturn because people substitute fast food for more expensive restaurant meals as they worry more about losing their jobs and incomes.

Industry risks usually involve economic factors that affect an entire industry or developments in technology that affect an industry's markets. An example is the effect of a sudden increase in the price of oil (a macroeconomic event) on the airline industry. Every airline is affected by such an event, as an increase in the price of airplane fuel increases airline costs and reduces profits. An industry such as real estate is vulnerable to changes in interest rates. A rise in interest rates, for example, makes it harder for people to borrow money to finance purchases, which depresses the value of real estate.

Company risk refers to the characteristics of specific businesses or firms that affect their performance, making them more or less vulnerable to economic and industry risks. These characteristics include how much debt financing the company uses, how well it creates economies of scale, how efficient its inventory management is, how flexible its labour relationships are, and so on.

The **asset class** that an investment belongs to can also bear on its performance and risk. Investments (assets) are categorized in terms of the markets they trade in. Broadly defined, asset classes include:

- corporate stock or equities (shares in public corporations, either domestic or foreign);
- bonds or the public debts of corporations or governments;
- commodities or resources (e.g., oil, coffee, or gold);
- derivatives or contracts based on the performance of other underlying assets;
- real estate (both residential and commercial); and

- fine art and collectibles (e.g., stamps, coins, baseball cards, or vintage cars).

Within those broad categories, there are finer distinctions. For example, corporate stock is classified as large cap, mid cap, or small cap, depending on the size of the corporation as measured by its market capitalization (the aggregate value of its stock). Bonds are distinguished as corporate or government and as short-, intermediate-, or long-term, depending on the maturity date.

Risks can affect entire asset classes. Changes in the inflation rate can make corporate bonds more or less valuable, for example, or more or less able to create valuable returns. In addition, changes in a market can affect an investment's value. When the stock market fell unexpectedly and significantly, as it did in 1929, 1987, and 2008, all stocks were affected, regardless of relative exposure to other kinds of risk. After such an event, the market is usually less efficient or less liquid—that is, there is less trading and less efficient pricing of assets (stocks) because there is less information flowing between buyers and sellers. The loss in market efficiency further affects the value of assets traded.

As you can see, the link between risk and return is reciprocal. The question for investors and their advisers is: How can you get higher returns with less risk?

Key Takeaways

1. There is a direct relationship between risk and return because investors will demand more compensation for sharing more investment risk.
2. Actual return includes any gain or loss of asset value plus any income produced by the asset during a period.
3. Actual return can be calculated using the beginning and ending asset values for the period and any investment income earned during the period.
4. Expected return is the average return the asset has generated based on historical data of actual returns.
5. Investment risk is the possibility that an investment's actual return will not be its expected return.
6. The standard deviation is a statistical measure used to calculate how often and how far the average actual return differs from the expected return.
7. Investment risk is exposure to:
   - economic risk,
   - industry risk,
   - company- or firm-specific risk,
   - asset class risk, or
   - market risk.

Exercises

1. Selecting a security to invest in, such as a stock or fund, requires analyzing its returns. You can view the annual returns as well as average returns over a five-, ten-, fifteen-, or twenty-year period. Charts of returns can show the amount of volatility in the short term and over the longer term. What do you need to know to calculate the annual rate of return for an investment?
2. The standard deviation on the rate of return on an investment is a measure of its volatility or risk. What would a standard deviation of zero mean? What would a standard deviation of 10 per cent mean?
3. What kinds of risk are included in investment risk? Go online to survey current or recent financial news. Find and present a specific example of the impact of each type of investment risk. In each case, how did the type of risk affect investment performance?

12.4 DIVERSIFICATION: RETURN WITH LESS RISK

Learning Objectives

1. Explain the use of diversification in a portfolio strategy.
2. List the steps in creating a portfolio strategy, explaining the importance of each step.
3. Compare and contrast active and passive portfolio strategies.

Every investor wants to maximize return, the earnings or gains from giving up surplus cash. And every investor wants to minimize risk, because it is costly. To invest is to assume risk, and you assume risk expecting to be compensated through return. The more risk assumed, the more the promised return. So, to increase return you must increase risk, and to lessen risk, you must expect less return. But another way to lessen risk is to **diversify**: to spread out your investments among a number of different asset classes. Investing in different asset classes reduces your exposure to economic, asset class, and market risks.

Concentrating investment concentrates risk. Diversifying investments spreads risk by having more than one kind of investment and thus more than one kind of risk. To truly diversify, you

need to invest in assets that are not vulnerable to one or more kinds of risk. For example, you may want to diversify:

- between cyclical and countercyclical investments, reducing economic risk;
- among different sectors of the economy, reducing industry risks;
- among different kinds of investments, reducing asset class risk; and
- among different kinds of firms, reducing company risks.

To diversify well, you have to look at your collection of investments as a whole—that is, as a portfolio rather than as a gathering of separate investments. If you choose the investments well, if they are truly different from each other, the whole can actually be more valuable than the sum of its parts.

Steps to Diversification

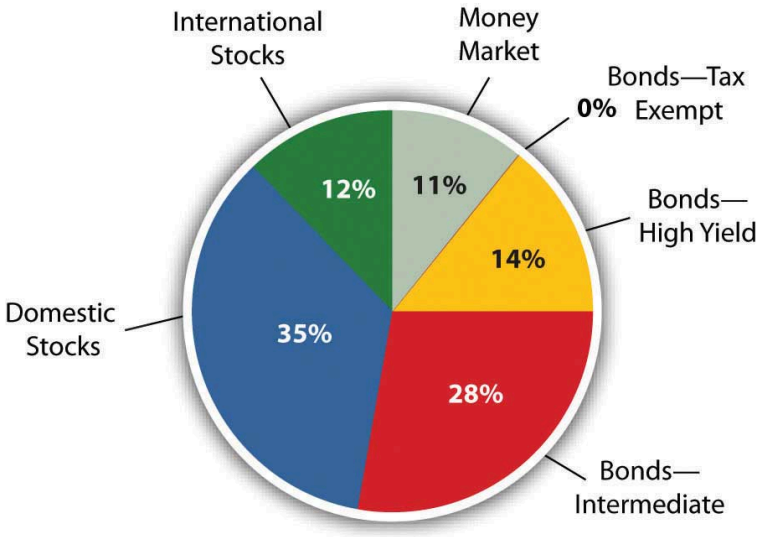
In traditional portfolio theory, there are three levels or steps to diversifying: capital allocation, asset allocation, and security selection.

Capital allocation is diversifying your capital between risky and riskless investments. A "riskless" asset is a short-term (less than ninety-day) government treasury bill. Because it has such a short time to maturity, it won't be much affected by interest rate changes, and it is probably impossible for the Canadian government to become insolvent—go bankrupt—and have to default on its debt within such a short time.

The capital allocation decision is the first diversification decision. It determines the portfolio's overall exposure to risk, or the proportion of the portfolio that is invested in risky assets. That, in turn, will determine the portfolio's level of return.

The second diversification decision is **asset allocation**: deciding which asset classes, and therefore which risks and which markets, to invest in. Asset allocations are specified in terms of the percentage of the portfolio's total value that will be invested in each asset class. To maintain the desired allocation, the percentages are adjusted periodically as asset values change. Chart 12.4.1 shows an asset allocation for an investor's portfolio.

Chart 12.4.1 Proposed Asset Allocation



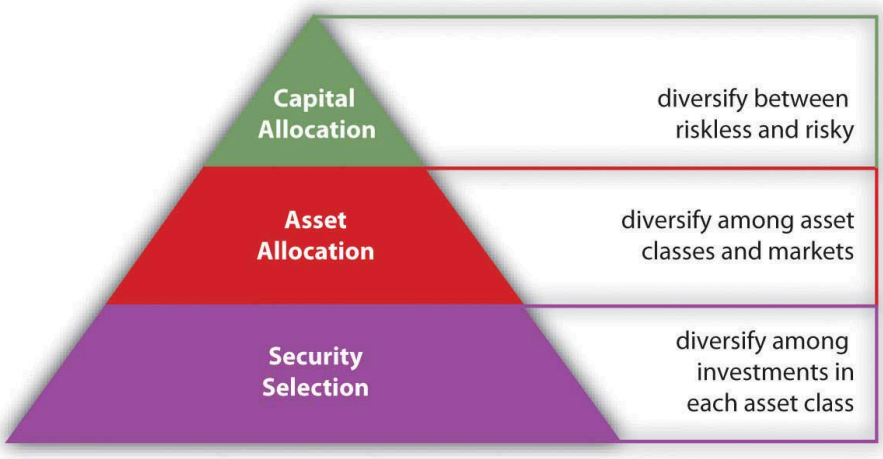
Asset allocation is based on the expected returns and relative risk of each asset class and how it will contribute to the return and risk of the portfolio as a whole. If the asset classes you choose are truly diverse, then the portfolio's risk can be lower than the sum of the assets' risks.

One example of an asset allocation strategy is **life cycle investing**–changing your asset allocation as you age. When you retire, for example, and forgo income from working, you become dependent on income from your investments. As you approach retirement age, therefore, you typically shift your asset allocation to less risky asset classes to protect the value of your investments.

Security selection is the third step in diversification: choosing individual investments within each asset class. Here is the chance to achieve industry or sector and company diversification. For example, if you decided to include corporate stock in your portfolio (asset allocation), you decide which corporation's stock to invest in. Choosing corporations in different industries, or companies of different sizes or ages, will diversify your stock holdings. You will have less risk than if you invested in just one corporation's stock. Diversification is not defined by the number of investments but by their different characteristics and performance.

Capital allocation decides the amount of overall risk in the portfolio; asset allocation tries to maximize the return you can get for that amount of risk. Security selection further diversifies within each asset class. Chart 12.4.2 demonstrates the three levels of diversification.

Chart 12.4.2 Levels of Diversification



Just as life cycle investing is a strategy for asset allocation, investing in index funds is a strategy for security selection. Indexes are a way of measuring the performance of an entire asset class by measuring returns for a portfolio containing all the investments in that asset class. Essentially, the index becomes a **benchmark** for the asset class, a standard against which any specific investment in that asset class can be measured. An index fund is an investment that holds the same securities as the index, so it provides a way for you to invest in an entire asset class without having to select particular securities.

There are indexes and index funds for most asset classes. By investing in an index, you are achieving the most diversification possible for that asset class without having to make individual investments—that is, without having to make any security selection decisions. This strategy of bypassing the security selection decision is called **passive management**. It also has the advantage of saving transaction costs (broker's fees) because you can invest in the entire index through only one transaction rather than the many transactions that picking investments would require.

In contrast, making security selection decisions to maximize returns and minimize risks is called **active management**. Investors who favour active management feel that the advantages of pick-

ing specific investments, after careful research and analysis, are worth the added transaction costs. Actively managed portfolios may achieve diversification based on the quality, rather than the quantity, of securities selected.

Also, asset allocation can be actively managed through the strategy of **market timing**—shifting the asset allocation in anticipation of economic shifts or market volatility. For example, if you forecast a period of higher inflation, you would reduce allocation in fixed-rate bonds or debt instruments, because inflation erodes the value of the fixed repayments. Until the inflation passes, you would shift your allocation so that more of your portfolio is in stocks, say, and less in bonds.

It is rare, however, for active investors or investment managers to achieve superior results over time. More commonly, an investment manager is unable to achieve consistently better returns within an asset class than the returns of the passively managed index (Malkiel, 2007).

Key Takeaways

1. Diversification can decrease portfolio risk by allowing you to choose investments with different risk characteristics and exposures.
2. A portfolio strategy involves:
   • capital allocation decisions,
   • asset allocation decisions, and
   • security selection decisions.
3. Active management is a portfolio strategy including security selection decisions and market timing.
4. Passive management is a portfolio strategy omitting security selection decisions and relying on index funds to represent asset classes, while maintaining a long-term asset allocation.

Exercises

1. What is the meaning of the following expressions: “Don’t count your chickens before they hatch,” and “Don’t put all your eggs in one basket”? How do they relate to the challenge of reducing exposure to investment risks and building a high-performance investment portfolio?

2. Do you favour an active or a passive investment management strategy? Why? Identify all the pros and cons of these investment strategies and debate them with classmates. What factors favour an active approach? What factors favour a passive approach? Which strategy might prove more beneficial for first-time investors?

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13. Owning Stocks

INTRODUCTION

By 1976, computers had been around for decades, but they were typically the size of a large room and just as expensive. To use one, you had to learn a programming language. On April 1, 1976, Steve Jobs, Steve Wozniak, and Ron Wayne started a company to make personal computers. On January 3, 1977, Jobs and Wozniak incorporated without Wayne, buying his 10 per cent share of the company for $800 (Linzmayer, 1999).

On December 12, 1980, Apple Computer, Inc. went public; its stock sold for $22 per share (FundingUniverse, 2009). Had you bought Apple's stock when the company went public and held it until today, you would have earned an annual return of about 14.5 per cent.

Typically, an inventor has a great idea, then teams up with—or becomes—an entrepreneur. The entrepreneur's job is to build a company that can make the invention a reality. The company needs to find the resources to make the product and sell it widely enough to pay for those resources and to create a profit, making the whole effort worthwhile. No matter how great the idea is, if it can't be done profitably, it can't be done. The personal computer had to be produced and sold to be widely used and useful.

As an investor, you buy stocks hoping to share in corporate profits, benefiting directly from the inventive vitality of the economy and participating in economic growth. Understanding what stocks are, where they come from, what they do, and how they have value will help you decide how to include stocks in your investment portfolio and how to use them to reach your investment goals.

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13.1 STOCKS AND STOCK MARKETS

Learning Objectives

1. Explain the role of stock issuance and ownership in economic growth.
2. Contrast and compare the roles of the primary and secondary stock markets.
3. Identify the steps of stock issuance.
4. Contrast and compare the important characteristics of common and preferred stock.

Resources have costs, so a company needs money, or capital, which is also a resource. To get that start-up capital, the company could borrow or it could offer a share of ownership, or equity, to those who chip in capital.

If the costs of debt (interest payments) are affordable, the company may choose to borrow, which limits the company's commitment to its capital contributor. When the loan matures and is paid off, the relationship is over.

If the costs of debt are too high, however, or the company is unable to borrow, it seeks equity investors willing to contribute capital in exchange for an unspecified share of the company's profits at some time in the future. In exchange for taking the risk of no exact return on their investment, equity investors get a say in how the company is run.

Stock represents those shares in the company's future and the right to a say in how the company is run. The original owners—the inventor(s) and entrepreneur(s)—choose equity investors who share their ideals and vision for the company. Usually, the first equity investors are friends, family, or colleagues; this allows the original owners freedom of management. At that point, the corporation is privately held, and the company's stock may be traded privately between owners. There may be restrictions on selling the stock, as is often the case for a family business, so that control stays within the family.

If successful, however, eventually the company needs more capital to grow and remain competitive. If debt is not desirable, then the company issues more equity, or stock, to raise capital. The company may seek out an **angel investor**, **venture capital firm**, or **private equity firm**. Such investors finance companies in the early stages in exchange for a large ownership and management stake in the company. Their strategy is to buy a significant stake when the company is still "private" and then realize a large gain, typically when the company goes public. The company may also seek a buyer, perhaps a competitive or complementary business.

Alternatively, the company may choose to **go public**, selling shares of ownership to investors in the public markets. Theoretically, this means sharing control with random strangers because anyone can purchase shares traded in the stock market. It may even mean losing control of the company. Founders can be fired, as Steve Jobs was from Apple in 1985 (although he returned as CEO in 1996).

Going public requires a profound shift in corporate structure and management. Once a company is publicly traded, it falls under the regulatory scrutiny of federal and provincial governments, and must regularly file financial reports and analysis. It must broaden participation on the board of directors and allow more oversight of management. Companies go public to raise large amounts of capital to expand products, operations, markets, or to improve or create competitive advantages. To raise public equity capital, companies need to sell stock, and to sell stock they need a market. That's where the stock markets come in.

Primary and Secondary Markets

The private corporation's board of directors—shareholders elected by the shareholders—must authorize the number of shares that can be issued. Since issuing shares means opening the company up to more owners, or sharing it among more people, only the existing owners have the authority to do so.

Those **authorized shares** are then issued through an **initial public offering (IPO)**. At that point the company goes public. The IPO is a **primary market** transaction, which occurs when the stock is initially sold and the proceeds go to the company issuing the stock. After that, the company is publicly traded; its stock is outstanding, or publicly available. Then, whenever the stock changes hands, it is a **secondary market** transaction. The owner of the stock may sell shares and realize the proceeds. When most people think of "the stock market," they are thinking of the secondary markets.

The existence of secondary markets makes the stock a liquid or tradable asset, which reduces its risk for both the issuing company and the investor buying it. The investor is giving up capital in exchange for a share of the company's profit, with the risk that there will be no profit or not enough to compensate for the opportunity cost of sacrificing the capital. The secondary markets reduce that risk to the shareholder because the stock can be resold, allowing the shareholder to recover at least some of the invested capital and to make new choices with it.

Meanwhile, the company issuing the stock must pay the investor for assuming some of its risk. The less that risk is, because of the liquidity provided by the secondary markets, the less the company has to pay. The secondary markets decrease the company's cost of equity capital.

A company hires an investment bank to manage its initial public offering of stock. For efficiency, the bank usually sells the IPO stock to institutional investors. Usually, the original owners of the corporation keep large amounts of stock as well.

What does this mean for individual investors? Some investors believe that after an initial public offering of stock, the share price will rise because the investment bank will have initially underpriced the stock in order to sell it. This is not always the case, however. Share price is typically more volatile after an initial public offering than it is after the shares have been outstanding for a while. The longer the company has been public, the more information is known about the company, and the more predictable its earnings, and thus its share price, are (Lowery, Officer, and Schwert, 2009).

When a company goes public, it may issue a relatively small number of shares. Its **market capitalization**—the total dollar value of its outstanding shares—may therefore be small. The number of individual shareholders, mostly institutional investors and the original owners, also may be small. As a result, the shares may be "thinly traded"—that is, traded infrequently or in small amounts.

Thinly traded shares may add to the volatility of the share price. One large shareholder deciding to sell could cause a decrease in the stock price, for example, whereas for a company with many shares and shareholders, the actions of any one shareholder would not be significant. As always, diversification—in this case, of shareholders—decreases risk. Thinly traded shares are less liquid and more risky than shares that trade more frequently.

Common, Preferred, and Foreign Stocks

A company may issue **common stock** or **preferred stock**. Common stock is more prevalent. All companies issue common stock, whereas not all issue preferred stock. The differences between common and preferred have to do with the investor's voting rights, risk, and dividends.

Common stock allows each shareholder voting rights—one vote for each share owned. The more shares you own, the more you can influence the company's management. Shareholders vote for the company's directors, who provide policy guidance for and hire the management team that directly operates the corporation. After several corporate scandals in the early twenty-first century, some shareholders have assumed a more active voting role.

Common stockholders assume the most risk of any corporate investor. If the company encounters financial distress, its first responsibility is to satisfy creditors, then the preferred shareholders, and then the common shareholders. Thus, common stocks provide only residual claims on

the value of the company. In the event of bankruptcy, in other words, common shareholders get only the residue—whatever is left after all other claimants have been compensated.

Common shareholders share the company's profit after interest has been paid to creditors and a specified share of the profit has been paid to preferred shareholders. Common shareholders may receive all or part of the profit in cash—the dividend. The company is under no obligation to pay common stock dividends, however. The management may decide that the profit is better used to expand the company, to invest in new products or technologies, or to grow by acquiring a competitor. As a result, the company may pay a cash dividend only in certain years or not at all.

Shareholders investing in preferred stock, on the other hand, give up voting rights but get less risk and more dividends. Preferred stock typically does not convey voting rights to the shareholder. As noted above, preferred shareholders have a superior claim on the company's assets in the event of bankruptcy. They get their original investment back before common shareholders, but after creditors.

Preferred dividends are more of an obligation than common dividends. Most preferred shares are issued with a fixed dividend as **cumulative preferred shares**. This means that if the company does not create enough profit to pay its preferred dividends, those dividends ultimately must be paid before any common stock dividend.

For the individual investor, preferred stock may have two additional advantages over common stock:

1. Less volatile prices
2. More reliable dividends

As the company goes through its ups and downs, the preferred stock price will fluctuate less than the common stock price. If the company does poorly, preferred stockholders are more likely to be able to recoup more of their original investment than common shareholders because of their superior claim. If the company does well, however, preferred stockholders are less likely to share more in its success because their dividend is fixed. Preferred shareholders are thus exposed to less risk, protected by their superior claim and fixed dividend. The preferred stock price reflects less of the company's volatility.

Because the preferred dividend is more of an obligation than the common dividend, it provides more predictable dividend income for shareholders. This makes the preferred stock less risky and attractive to an investor looking for less volatility and more regular dividend income.

The following table summarizes the differences between common stock and preferred stock.

Table 13.1.1 Stock Comparisons

Common versus Preferred Stock	Common Stock	Preferred Stock
Voting Rights	Yes	Usually not
Downside Risk	More	Less
Upside Risk	More	Less or None
Reliability of Investment Income	Less	More
Price Volatility	More	Less

As an investment choice, preferred stock is more comparable to bonds than to common stock. Bonds also offer less volatility and more reliable income than common stock (see Chapter 14 "Owning Bonds and Investing Mutual Funds"). If there is a difference in the tax rate between dividend income (from preferred stock) and interest income (from bonds), you may find a tax advantage to investing in preferred stock instead of bonds.

Corporations often issue and trade their stocks on exchanges or in markets outside their home country, especially if the foreign market has more liquidity and will attract more buyers. For example, many foreign corporations issue and trade stock on the Toronto Stock Exchange (TSX), New York Stock Exchange (NYSE), or on the National Association of Securities Dealers Automated Quotations (NASDAQ).

Key Takeaways

1. Companies go public to raise capital to finance growth by selling equity shares in the public markets.
2. A primary market transaction happens between the original issuer and buyer.
3. Secondary market transactions are between all subsequent sellers and buyers.
4. The secondary market lowers risk and transaction costs by increasing liquidity.
5. Shares are authorized and issued and then become outstanding or publicly available.
6. Equity securities may be common or preferred stock, differing by:
   - the assignment of voting rights,
   - dividend obligations,
   - claims in case of bankruptcy, and
   - risk.
7. Common stocks have less predictable income, whereas most preferred stocks have fixed-rate cumulative dividends.

Exercises

1. What is a venture capitalist? Watch the video "Guy Kawasaki on Venture Capital – Part 1" (7:45). What top three pieces of advice does he give to new ventures seeking equity investment?
2. According to WebFinance's Investorwords.com, what is an angel investor?

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13.2 STOCK VALUE

Learning Objectives

1. Explain the basis of stock value.
2. Identify the factors that affect earnings expectations.
3. Analyze how market capitalization affects stock value.
4. Discuss how market popularity or perception of value affects stock value.
5. Explain how stocks can be characterized by their expected performance relative to the market.

The value of a stock is in its ability to create a return, to create income or a gain in value for the investor. With common stock, the income is in the form of a dividend, which the company is not obligated to pay. The potential gain is determined by estimations of the future value of the stock.

If you knew that the future value would likely be more than the current market price—over your transaction costs, tax consequences, and opportunity cost—then you would buy the stock.

If you thought the future value would be less, you would short the stock (borrow shares and sell them with the intent of buying it back when the price of the stock falls), or you would just look for another investment.

Every investor wants to know what a stock will be worth, which is why so many stock analysts spend so much time estimating future value. Equity analysis is the process of gathering as much information as possible and making the most educated guesses.

Corporations exist to make profit for the owners. The better a corporation is at doing that, the more valuable it is, and the more valuable are its shares. A company also needs to increase earnings, or grow, because the global economy is competitive. A corporation's future value depends on its ability to create and grow earnings.

That ability depends on many factors. Some factors are company-specific, some are specific to the industry or sector, and some are macroeconomic forces. Chapter 12 "Investing" discusses these factors in terms of the risk that a stock creates for the investor. The risk is that the company will not be able to earn the expected profit.

A company's size is an indicator of its earnings and growth potential. Size may correlate with age. A large company typically is more mature than a smaller one, for example. A larger company may have achieved economies of scale or may have gotten large by eliminating competitors or dominating its market. Size in itself is not an indicator of success, but similarly sized companies tend to have similar earnings growth (Fama and French, 1992).

Companies are usually referred to by the size of their market capitalization, or **market cap**—that is, the current market value of the debt and equity they use to finance their assets. Common market cap categories are based on the following sizes: micro, small, mid (medium), and large, or:

- micro cap, with a market capitalization between $50 million and $300 million;
- small cap, with a market capitalization between $300 million and $2 billion;
- mid cap, with a market capitalization between $2 billion and $10 billion; and
- large cap, with a market capitalization of more than $10 billion.

The market capitalization of a company—along with industry and economic indicators—is a valuable indicator of earnings potential.

In the stock market, the forces of supply and demand determine stock prices. The more demand or popularity there is for a company's stock, the higher its price will go (unless the company issues more shares). A stock is popular, and thus in greater demand, if it is thought to be more valuable—that is, if it has more earnings and growth potential.

Sometimes a company is under- or overpriced relative to the going price for similar companies. If the market recognizes this "error," the stock price should rise or fall as it "corrects" itself.

A **growth stock** is a stock that promises a higher rate of return because the market has underestimated its growth potential. It is a stock that has been underpriced for some reason. For example, investors may be wary of the outlook for its industry. Because it is underpriced, a value stock is expected to provide a higher-than-average return.

Stocks may be characterized by the role that they play in a diversified portfolio—and some by their colorful names—as shown in Table 13.2.1.

Table 13.2.1 Definitions of Stocks and their Roles in a Portfolio

Stock	Definition	Role
Growth stock	Underestimated potential for growth.	Expect a higher rate of return.
Value stock	Undervalued by the market; underpriced.	Expect a higher-than-average return.
Defensive stock	Less volatility than the overall market and less sensitive to market changes.	Expect the value to fall less than the market's during a market decline.
Cyclical stock	More volatility than the overall market and more sensitive to market changes.	When the market rises, expect the price to rise at a higher rate. When the market falls, expect the price to fall at a higher rate.
Speculative stock	Overvalued by the market; overpriced.	Expect the price to continue rising for a time before it falls.
Blue chip stock	Stock of a stable, well-established, large cap company.	Expect stable returns.
Widow-and-orphan stock	A blue chip defensive stock.	Expect a steady dividend.
Wallflower stock	Overlooked and therefore underpriced.	Expect the value to rise when the stock is "discovered."
Penny stock	Low-priced stock of a small or micro-cap company.	Expect the value to rise if and when the company succeeds.

Each of these terms names a stock's relationship to the market and to investors. For example, an investor who wants to invest in stocks but wants to minimize economic risk would include

defensive stocks along with some blue chips. Implicit is its potential for price growth, risk, or role in a diversified portfolio.

Key Takeaways

1. A stock's value is based on the corporation's ability to create and grow profits.
2. Earnings expectations are based on industry- and company-specific factors.
3. The size of the market capitalization affects stock value.
4. A stock's market popularity or perception of value affects its value.
5. Stocks can be characterized by their expected behaviour relative to the market as:
   - growth stocks,
   - value stocks,
   - cyclical stocks,
   - defensive stocks, or
   - other named types (e.g., blue chip stocks, penny stocks).

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13.3 COMMON MEASURES OF VALUE

Learning Objectives

1. Identify common return ratios and evaluate their usefulness.
2. Explain how to interpret dividend yield.
3. Explain the significance of growth ratios.
4. Explain the significance of market value ratios.

A corporation creates a return for investors by creating earnings. Those earnings may be paid out in cash as a dividend or retained as capital by the company. A company's ability to create earnings is watched closely by investors because the company's earnings are the investor's return.

A company's earnings potential can be tracked and measured, and several measurements are expressed as ratios. Mathematically, as discussed in Chapter 3 "Financial Statements," a ratio is simply a fraction. In investment analysis, a ratio provides a clear means of comparing values. Three kinds of ratios important to investors are return ratios, growth ratios, and market value ratios.

The ratios described here are commonly presented in news outlets and websites where stocks are discussed (e.g., the Toronto Stock Exchange and the NASDAQ Stock Market), so chances are you won't have to calculate them yourself. Nevertheless, it is important to understand what they mean and how to use them in your investment thinking.

Return Ratios

One of the most useful ratios in looking at stocks is the **earnings per share (EPS)**: the dollar value of the earnings per each share of common stock. It calculates the company's earnings, or the portion of a company's profit allocated to each outstanding share of common stock. The calculation lets you see how much you benefit from holding each share. Here is the formula for calculating EPS:

$$\text{EPS} = \frac{\text{(net income – preferred stock dividends)}}{\text{average number of common shares outstanding}}$$

The company's earnings are reported on its income statement as net income, so a shareholder could easily track earnings growth. However, the EPS allows you to make a direct comparison to other stocks by putting the earnings on a per-share basis, creating a common denominator. Earnings per share should be compared over time and also compared to the EPS of other companies.

When a stock pays a dividend, that dividend is income for the shareholder. Investors concerned with the cash flows provided by an equity investment look at **dividends per share (DPS)** as a measure of the company's ability and willingness to pay a dividend.

$$\text{DPS} = \frac{\text{common stock dividends}}{\text{average number of common shares outstanding}}$$

Another measure of the stock's usefulness in providing dividends is the **dividend yield**, which calculates the dividend as a percentage of the stock price. It is a measure of the dividend's role as a return on investment: for every dollar invested in the stock, how much is returned as a dividend, or actual cash payback? An investor concerned about cash flow returns can compare companies' dividend yields.

$$\text{dividend yield} = \frac{\text{dividend per share (in dollars)}}{\text{price per share (in dollars)}}$$

Earnings are either paid out as dividends or are retained by the company as capital. That capital is used by the company to finance operations, capital investments such as new assets for expansion and growth, or repayment of debt.

The **dividend** is the return on investment that comes as cash while you own the stock. Some investors see the dividend as a more valuable form of return than the earnings that are retained as capital by the company. It is more liquid, since it comes in cash and comes sooner than the gain that may be realized when the stock is sold (more valuable because time affects value). It is the "bird in the hand," perhaps less risky than waiting for the eventual gain from the company's **retained earnings**.

Some investors see a high dividend as a sign of the company's strength, indicative of its ability to raise ample capital through earnings. Dividends are a sign that the company can earn more capital than it needs to finance operations, make capital investments, or repay debt. Thus, dividends are capital that can be spared from use by the company and given back to investors.

Other investors see a high dividend as a sign of weakness, indicative of a company that cannot grow because it is not putting enough capital into expansion and growth or into satisfying creditors. This may be because it is a mature company operating in saturated markets, a company stifled by competition, or a company without the creative resources to explore new ventures.

As an investor, you need to look at dividends in the context of the company and your own income needs.

Growth Ratios

The more earnings are paid out to shareholders as dividends, the less earnings are retained by the company as capital.

$$\text{earnings} = \text{dividends} + \text{capital retained}$$

Since retained capital finances growth, the more earnings are used to pay dividends, the less earnings are used to create growth. Two ratios that measure a company's choice in handling its earnings are the dividend payout rate and the retention rate. The **dividend payout rate** compares dividends to earnings, while the **retention rate** compares the amount of capital retained to earnings.

The dividend payout rate equals the dividend as a percentage of earnings.

dividend payout rate = dividends / earnings

The retention rate equals the retained capital as a percentage of earnings.

retention rate = capital retained / earnings

Because earnings = dividends + capital retained, then 100 per cent of earnings = dividend payout + retention rate.

If a company's dividend payout rate is 40 per cent, then its retention rate is 60 per cent; if it pays out 40 per cent of its earnings in dividends, then it retains 60 per cent of them.

Since Microsoft has earnings of $15.3 billion and dividends of $4.68 billion, it must retain $10.62 billion of its earnings. So, for Microsoft,

dividend payout rate = 4.68 billion/15.3 billion = 30.59%

retention rate = 10.62 billion/15.3 billion = 69.41%

There is no benchmark dividend payout or retention ratio for every company; they vary depending on the age and size of the company, industry, and economic climate. These numbers are useful, however, to get a sense of the company's strategy and to compare it to competitors.

A company's value lies in its ability to grow and to increase earnings. The rate at which it can retain capital—that is, earn it and not pay it out as dividends—is a factor in determining how fast it can grow. This rate is measured by the internal growth rate and the sustainable growth rate. The **internal growth rate** answers the question, "How fast could the company grow (increase earnings) without any new capital, without borrowing or issuing more stock?" Given how good the company is at taking capital and turning it into assets and using those assets to create earnings, the internal growth rate looks at how fast the company can grow without any new borrowing or new shares issued.

The **sustainable growth rate** answers the question, "How fast could the company grow without changing the balance between using debt and using equity for capital?" Given how good the

company is at taking capital and turning it into assets and using those assets to create earnings, the sustainable growth rate looks at how fast the company can grow if it uses some new borrowing, but keeps the balance between debt and equity capital stable.

Both growth rates use the retention rate as a factor in allowing growth. The fastest rate of growth could be achieved by having a 100 per cent retention rate—that is, by paying no dividends and retaining all earnings as capital.

An investor who is not using stocks as a source of income, but rather for their potential gain, may look for higher growth rates (evidenced by a higher retention rate and a lower dividend payout rate). An investor looking for income from stocks would instead be attracted to companies offering a higher dividend payout rate and a lower retention rate (despite lower growth rates).

Market Value Ratios

While return and growth ratios are measures of a company's fundamental value, and therefore the value of its stocks, the actual stock price is affected by the market. Investors' demand can result in the under- or overpricing of a stock, depending on its attractiveness in relation to other investment choices or opportunity cost.

A stock's market value can be compared with that of other stocks. The most common measure for doing so is the **price-to-earnings ratio (P/E)**. The price-to-earnings ratio is calculated by dividing the price per share (in dollars) by the earnings per share (in dollars). The result shows the investment needed for every dollar of return that the stock creates.

P/E = price per share / earnings per share

For Microsoft, for example, the price per share is around $24 and the EPS is $1.70, so the P/E = 24.00/1.70 = $14.12. This means that the price per share is around fourteen times bigger than the earnings per share.

The larger the P/E ratio, the more expensive the stock is and the more you have to invest to get one dollar's worth of earnings in return. To get $1 of Microsoft's earnings, you have to invest around $14. By comparing the P/E ratio of different companies, you can see how expensive they are relative to each other.

A low P/E ratio could be a sign of weakness. Perhaps the company has problems that make it riskier going forward, even if it has earnings now, so the future expectations and thus the price of the stock is now low. Or it could be a sign of a buying opportunity for a stock that is currently underpriced.

A high P/E ratio could be a sign of a company with great prospects for growth and so a higher price than would be indicted by its earnings alone. On the other hand, a high P/E could indicate a stock that is overpriced and has nowhere to go but down. In that case, a high P/E ratio would be a signal to sell your stock.

How do you know if the P/E ratio is "high" or "low"? You can compare it to other companies in the same industry or to the average P/E ratio for a stock index of similar-type companies based on company size, age, debt levels, and so on. As with any of the ratios discussed here, this one is useful in comparison.

Another indicator of market value is the **price-to-book ratio (P/B)**. Price-to-book ratio compares the price per share to the book value of each share. The **book value** is the value of the company that is reported "on the books"—the company's balance sheet—using the intrinsic or original values of assets, liabilities, and equity. The balance sheet does not show the market value of the company's assets, for example, or what they could be sold for today; it shows what they were worth when the company acquired them. The book value of a company should be less than its market value, which should have appreciated over time. The company should be worth more as times goes on.

$$\text{P/B} = \frac{\text{price per share}}{\begin{array}{c}\text{book value of} \\ \text{equity per share}\end{array}}$$

Since the price per share is the market value of equity per share, the P/B ratio compares the current market value of the company's equity to its book value. If that ratio is greater than one, then the company's equity is worth more than its original value, and the company has been increasing its value. If that ratio is less than one, then the company's current value is less than its original value, so the value has been decreasing. A P/B of one would indicate that a company has just been breaking even in terms of value over the years.

The higher the P/B ratio, the better the company has done in increasing its value over time. You can calculate the ratio for different companies and compare them by their ability to increase value.

Table 13.3.1 provides a summary of the return, growth, and market value ratios.

Table 13.3.1 Ratios and Their Uses

Ratio	What It Measures
Earnings per Share (EPS)	Earning (in dollars) for every outstanding share of stock
Dividends per Share (DPS)	Dividend (in dollars) for every outstanding share of stock
Dividends Yield	Dividend (in dollars) returned for every dollar invested in the stock
Dividends Payout	Percentage of earnings retained as capital
Internal Growth Rate	The fastest rate of growth without using more debt or issuing more equity
Sustainable Growth Rate	The fastest rate of growth using more debt but without changing the balance of debt and equity
Price-to-Earnings Ratio (P/E)	The market value of each dollar's worth of earnings
Price-to-Book Ratio (P/B)	The market value of the company's equity compared to its book value

Ratios can be used to compare a company with its past performance, with its competitors, or with competitive investments. They can be used to project a stock's future value based on the company's ability to earn, grow, and be a popular investment. A company has to have fundamental value to be an investment choice, but it also has to have market value to have its fundamental value appreciated in the market and to have its price reflect its fundamental value.

Key Takeaways

1. Earnings per share (EPS) and dividends per share (DPS) indicate stock returns on investment.
2. Dividend yield measures a shareholder's cash return relative to investment.
3. Growth ratios such as the internal and sustainable growth rates indicate the company's ability to grow given earnings and dividend expectations.
4. Market value ratios, most commonly price-to-earnings and price-to-book, indicate a stock's market popularity and its effects on its price.

13.4 EQUITY STRATEGIES

Learning Objectives

1. Identify and explain the rationales behind common long-term strategies.
2. Identify and explain the rationales behind common short-term strategies.

The best stock strategy is to know what you are looking for (i.e., what kind of stock will fulfill the role you want it to play in your portfolio) and to do the analyses you need to find it. That is easier said than done, however, and it requires that you have the knowledge, skill, and data for stock analysis. Commonly used general stock strategies may be long term (returns achieved in more than one year) or short term (returns achieved in less than one year), but the strategies you choose should fit your investing horizon, risk tolerance, and needs. An important part of that strategy, as with financial planning in general, is to check your stock investments and re-evaluate your holdings regularly. How regularly depends on the long- or short-term horizon of your investing strategies.

Long-Term Strategies

Long-term strategies favour choosing a long-term approach to avoid the volatility and risk of market timing. For individual investors, a **buy-and-hold strategy** can be effective over the long run. The strategy is just what it sounds like: you choose the stocks for your equity investments, and you hold them for the long term. The idea is that if you choose wisely and your stocks are well diversified, over time you will do at least as well as the stock market itself. Though it suffers through economic cycles, the economy's long-term trend is growth.

By minimizing the number of transactions, you can minimize transaction costs. Since you are holding your stocks, you are not realizing gains and are not paying gains tax. Thus, even if your gross returns are not spectacular, you are minimizing your costs and maximizing net returns. This strategy is optimal for investors with a long horizon, low risk tolerance, and little need for liquidity in the short term.

Another long-term strategy is **dollar-cost averaging**. The idea of dollar-cost averaging is that you invest in a stock gradually by buying the same dollar amount of the same stock at regular intervals. This is a way of negating the effects of market timing. By buying at regular intervals,

you will buy at times when the price is low and when it is high, but over time your price will average out. Dollar-cost averaging is a way of avoiding a stock's price volatility because the net effect is that you buy the stock at its average price.

An investor uses dollar-cost averaging when regular payroll deductions are made to fund defined contribution retirement plans. The same amount is contributed to the plan in regular intervals and is typically used to purchase the same set of specified assets.

A buy-and-hold or dollar-cost averaging strategy only makes sense over time because both assume a long time horizon in order to "average out" volatility, making them better than other investment choices. If you have a long-term horizon—as with a retirement plan, for example—those strategies can be quite effective. However, market or economic cycles can be long too, so you need to think about whether your "long-term" horizon is likely to outlast or be surpassed by the market's cycle, especially as you near your investment goals.

Direct investment and dividend reinvestment are ways of buying shares directly from a company without going through a broker. This allows you to avoid brokerage commissions. **Direct investment** means purchasing shares from the company, while **dividend reinvestment** means having your dividends automatically invested in more shares (rather than being sent to you as cash). Dividend reinvestment is also a way of building up your equity in the stock by reinvesting cash that you might otherwise spend.

The advantage of direct investment and dividend reinvestment is primarily the savings on brokers' commissions. You can also buy fractional shares—that is, less than a whole share—and there is no minimum amount to invest, as there can be with brokerage transactions. The disadvantage is that by having funds automatically reinvested, you are not actively deciding how they should be invested and thus may be missing better opportunities.

Indexing is a passive long-term investment strategy to invest in index funds as a diversified asset rather than select stocks. Instead of choosing individual large cap companies, for example, you could invest in the S&P 500's index fund, which would provide more diversification for only one transaction cost than you could get picking individual securities. The disadvantage to indexing is that you do not enjoy the potential of individual stocks producing above-average returns.

Table 13.4.1 summarizes long-term stock strategies.

Table 13.4.1 Long-Term Stock Strategies

Strategy	Avoids Market Timing	Avoids Stock Selection	Lowers Transaction Costs	Schedules Investment (Savings)
Buy and Hold	✓		✓	
Dollar-Cost Averaging	✓		✓	✓
Direct Investment			✓	
Dividend Reinvestment	✓		✓	✓
Indexing		✓	✓	

Short-Term Strategies

Short-term stock strategies rely on market timing to earn above-average returns. Some advisers believe that the stock market fluctuates between favouring value stocks and favouring growth stocks. That is, the market will go through cycles when value stocks that are temporarily underpriced outperform stocks of companies poised for higher growth, and vice versa. If true, you would want to weight your portfolio with growth stocks when they are favoured and with value stocks when they are favoured.

This value-growth weighting strategy relies on market timing, which is difficult for the individual investor to harness. It also relies on correctly identifying growth and value stocks and market trends in their favour, complicating the process of market timing even further.

Day trading is a very short-term strategy of taking and closing a position in a day or two. Literally, it means buying in the morning and selling in the afternoon. Day trading became popular in the 1990s when stock prices were riding the tide of the tech stock bubble. At that time, it was possible to hold a stock for just a few hours and earn a gain. Technology, especially the Internet, also made real-time quotes and other market data available to individual investors at a reasonable cost. At the same time, Internet and discount brokers drove down the costs of trading.

Day trading declined, but did not die, after the tech bubble burst. It turns out that in a bubble, any strategy can make money, but when market volatility is more closely related to earnings potential and fundamental value, there is no alternative to doing your homework, knowing as much as possible about your investments, and making appropriate strategic choices.

Key Takeaways

1. Common long-term strategies try to maximize returns by
   • minimizing transaction costs, or
   • minimizing the effects of market timing.
2. Long-term stock strategies include buy and hold, dollar-cost averaging, direct investment, dividend reinvestment, and indexing.
3. Common short-term strategies try to maximize return by taking advantage of market timing.

Exercises

1. Review your investing horizon, risk tolerance, and needs. In your personal finance journal, record your ideas about the effects of your horizon, risk profile, and personal circumstances on your decisions about investing in stocks. Rank the long- and short-term investment strategies in order of their appropriateness for you. Explain why your top-ranked strategies seem best for you at this time.
2. Survey (but do not join) websites for day traders online. Then read the article "Day trading strategies for beginners" from Investopedia.com. What information in this article might discourage you from getting involved in day trading?

14. Owning Bonds and Investing in Mutual Funds

INTRODUCTION

One definition of a bond is an affinity between people. In science, that affinity is physically held together by an attraction of atoms. In finance, a bond is a debt agreement holding lender and borrower together in a shared financial fate.

Investors buy bonds to participate in economic growth as lenders rather than as shareholders, with less risk and a firmer claim on assets. Bonds are issued by different kinds of organizations—by governments as well as by corporations—giving investors different kinds of partners in growth.

Since bonds are a different form of capital than stocks, and since bond investments are made by different kinds of borrowers, bonds offer diversification from the stocks in your portfolio. Your use of bonds may change over time, as your risk tolerance or liquidity needs change.

Mutual funds are not another kind of asset, but another way of investing in any kind of asset. The fund is a pool capable of much greater diversification than an individual's investment portfolio, given transaction costs. A mutual fund can also provide security selection, expertise, liquidity, and convenience. Some funds are even designed to perform the asset allocation task for the investor. Mutual funds are fast becoming the dominant investment vehicle for individual investors, changing the role of the broker and financial adviser.

Mutual funds may be purchased by parents and/or grandparents to help provide for their future. Elder Margaret Reynolds said that one reason she and her husband "buy mutual funds and trust funds [is] because I don't know what it's going to be like in 20 years for my grandchildren, so those are the things that we do now" (Elder Reynolds, Video 7). Elder Reynolds and her husband look after their grandchildren to make sure that they are cared for in the future. This is good financial planning.

14.1 BONDS AND BOND MARKETS

Learning Objectives

1. Identify bond features that can determine risk and return.
2. Identify various Canadian federal, provincial, and municipal bonds.
3. Compare and contrast features of the corporate bond markets, the markets for corporate stock, and the markets for government bonds.
4. Explain the role of rating agencies and the process of bond rating.

Bonds are a relatively old form of financing. Formalized debt arrangements long preceded corporate structure and the idea of equity (stock) as we know it. Venice issued the first known government bonds of the modern era in 1157 (Barmash, 2003), while private bonds are cited in British records going back to the thirteenth century (Adams, 1921).

Bonds

In addition to financing government projects, bonds are used by corporations to capitalize growth. Bonds are also a legal arrangement, and as such are subject to various conditions, obligations, and consequences. As a result of their legal and financial roles, bonds carry a quaint and particular vocabulary. Bonds come in all shapes and sizes to suit the needs of the borrowers and the demands of lenders. Table 14.1.1 lists the descriptive terms for basic bond features.

Table 14.1.1 Basic Bond Features

Bond Term	Meaning
Issuer	Borrower
Investor	Lender or Creditor
Principal, Face Value, Par Value	Amount Borrowed
Coupon Rate	Interest Rate
Coupon	Interest Payment
Maturity	Due Date
Term	Time until Maturity
Yield to Maturity	Annualized Return on Bond Investment
Market Value	Current Price

The **coupon** is usually paid to the investor twice yearly. It is calculated as a percentage of the **face value**—amount borrowed—so that the annual coupon = coupon rate × face value. By convention, each individual bond has a face value of $1,000. A corporation issuing a bond to raise $100 million would have to issue 100,000 individual bonds (100,000,000 divided by 1,000). If those bonds pay a 4 per cent coupon, a bondholder who owns one of those bonds would receive a coupon of $40 per year (1,000 × 4%), or $20 every six months.

The **coupon rate** of interest on the bond may be fixed or floating and may change. A floating rate is usually based on another interest benchmark, such as the **prime rate**, a widely recognized benchmark of prevailing interest rates.

A **zero-coupon bond** has a coupon rate of zero: it pays no interest and repays only the principal at maturity. A "zero" may be attractive to investors, however, because it can be purchased for much less than its face value. A **registered coupon bond** is registered for principal only and not for interest. A **registered bond** is issued by the issuing company and is registered in the owner's name. A **bearer bond** does not register the bond in the investor's name (Kapoor et al., 2015). There are **deferred coupon bonds** (also called **split-coupon bonds** and issued below par), which pay no interest for a specified period, followed by higher-than-normal interest payments until maturity. There are also **step-up bonds** that have coupons that increase over time.

The face value—the principal amount borrowed—is paid back at maturity. If the bond is **callable**, it may be redeemed after a specified date, but before maturity. A borrower typically "calls" its bonds after prevailing interest rates have fallen, making lower-cost debt available. Borrowers can

borrow new, cheaper debt and pay off the older, more expensive debt. As an investor (lender), you would be paid back early, which sounds great, but because interest rates have fallen, you would have trouble finding another bond investment that would pay as high a rate of return.

A **convertible bond** is a corporate bond that may be converted into common equity at maturity or after some specified time. If a bond were converted into stock, the bondholder would become a shareholder, assuming more of the company's risk.

The bond may be secured by collateral, such as property or equipment, sometimes called a **mortgage bond**. If unsecured, or secured only by the "full faith and credit" of the borrower (the borrower's unconditional commitment to pay principal and interest on the debt), the bond is a **debenture**. In other words, a debenture "is a bond that is backed only by the reputation of the issuing corporation" (Kapoor et al., 2015, p. 366). Most bonds are issued as debentures. The First Nations Finance Authority "is a not-for-profit finance authority formed in 1995 to provide member First Nations with the opportunity to use debentures to access long-term affordable financing. Its primary purpose is to raise long-term private capital at preferred rates for public works, such as roads, water and sewer, and buildings" (Cooper, 2016, p. 171). These debentures are secured through property-taxes or long-term revenue sources (Cooper, 2016).

A bond specifies if the borrower has more than one bond issue outstanding or more than one set of lenders to repay, which establishes the bond's seniority in relation to previously issued debt. This "pecking order" determines which lenders will be paid back first in case of default on the debt or bankruptcy. Thus, when the borrower does not meet its coupon obligations, investors holding **senior debt** as opposed to **subordinated debt** have less risk of default. In case of bankruptcy, senior debt will be paid first and subordinate debt second.

Bonds may also come with **covenants** or conditions on the borrower. Covenants are usually attached to corporate bonds and require the company to maintain certain performance goals during the term of the loan. Those goals are designed to lower **default risk** for the lender. Examples of typical covenants are:

- dividend limits,
- debt limits,
- limits on sales of assets, and
- maintenance of certain liquidity ratios or minimum cash balances.

Corporations issue corporate bonds, usually with maturities of ten, twenty, or thirty years. Corporate bonds tend to be the most "customized," with features such as callability, conversion, and covenants.

The Canadian government issues two types of bonds: marketable bonds and T-Bills.

Canada Treasury bills, also known as T-Bills, are investments fully guaranteed by the Government of Canada, which means the principal and rate of interest are guaranteed. T-Bills are considered the safest Canadian investment you can hold with a term of one year or less. They are offered for terms of one month to one year. Interest is paid at maturity. T-Bills can be purchased from most financial institutions and can be sold at market value at any time. The minimum investment for a T-Bill having a term of three months to one year is $5,000. The minimum investment for a T-Bill having a term of one or two months is $25,000 (Canadian Bank Rates, 2013).

Marketable bonds not only have a specific maturity date and interest rate, but they are also transferable and can thus be traded in the bond market. All Canadian-dollar marketable bonds are non-callable, which means they cannot be called in by the government to be redeemed before maturity. Marketable bonds also pay a fixed rate of interest semi-annually (Kapoor et al., 2015).

Real Return Bonds are Canadian government bonds that pay a fixed rate of interest semi-annually that is adjusted by inflation. This ensures your purchasing power remains constant regardless of the future inflation rate.

The sale of **Canada Savings Bonds** ended November 1, 2017. It was the third type of bond issued by the Canadian government.

Provincial and municipal governments issue bonds in order to raise funds for program spending and to fund deficits. Provincial bonds or debentures are primarily used by provincial governments and are secured by the province through its ability to levy taxes. A **general obligation bond** is a bond backed by a municipal government. Canadian municipalities often issue two forms of general obligation debt: the **serial bond**, in which the principal and interest mature on different dates or are paid in installments; and the **bullet bond**, in which the entire principal is repaid on the bond's maturity date while regular interest payments are made on the investors' shares during the term of the fund (Hanniman, 2015). Municipal bullet bonds are often offset by **sinking funds** "to which annual or semi-annual deposits are made for the purpose of redeeming a bond issue" (Kapoor et al., 2015, p. 368). A **revenue bond** is repaid out of the revenue generated by the project that the debt is financing. For example, toll revenue may secure a debt that finances a highway. Revenue bonds are not common in Canada and are currently only used in Toronto (Hanniman, 2015).

Foreign corporations and governments also issue bonds. You should keep in mind, however, that foreign government defaults are not uncommon. Mexico in 1994, Russia in 1998, and Argentina in

2001 are all recent examples. Foreign corporate or sovereign debt also exposes the bondholder to currency risk, as coupons and principal will be paid in the foreign currency.

Bond Markets

The volume of capital traded in the bond markets is far greater than what is traded in the stock markets. All sorts of borrowers issue bonds: corporations; national, provincial, and municipal governments. Even small towns issue bonds to finance capital expenditures such as schools, fire stations, and roads. Each kind of bond has its own market.

Private placement refers to bonds that are issued in a private sale rather than through the public markets. The investors in privately placed bonds are institutional investors such as insurance companies, endowments, and pension funds.

Corporate bonds are traded in over-the-counter transactions through brokers and dealers. Because the details of each bond issue may vary—maturity, coupon rate, callability, convertibility, covenants, and so on—it is hard to directly compare bond values the way stock values are compared. As a result, the corporate bond markets are less transparent to the individual investor.

To provide guidance, **rating agencies** provide bond ratings; that is, they "grade" individual bond issues based on the likelihood of default and thus the risk to the investor. Rating agencies are comprised of independent agents that base their ratings on the financial stability of the company, its business strategy, competitive environment, and its outlook for the industry and the economy—any factors that may affect the company's ability to meet coupon obligations and pay back debt at maturity.

Ratings agencies such as DBRS, Fitch Ratings, A. M. Best, Moody's, and Standard & Poor's are hired by large borrowers to analyze the company and rate its debt. Moody's also rates government debt. Ratings agencies use an alphabetical system to grade bonds (shown in Table 14.1.2) based on the highest-to-lowest rankings of two well-known agencies.

Table 14.1.2 Bond Ratings

Standard & Poor's	Moody's	Grade	Meaning
AAA	Aaa	Investment	Risk is almost zero
AA	Aa	Investment	Low risk
A	A	Investment	Risk if economy declines
BBB	Baa	Investment	Some risk; more if economy declines
BB	Ba	Speculative	Risky
B	B	Speculative	Risky; expected to get worse
CCC	Caa	Speculative	Probable bankruptcy
C	Ca	Speculative	Probable bankruptcy
C	C	Speculative	In bankruptcy or default
D		Speculative	In bankruptcy or default

A plus sign (+) following a rating indicates that it is likely to be upgraded, while a minus sign (–) following a rating indicates that it is likely to be downgraded.

Bonds rated BBB or Baa and above are considered **investment grade bonds**: relatively low risk and "safe" for both individual and institutional investors. Bonds rated below BBB or Baa are speculative in that they carry some default risk. These are called **speculative grade bonds**, **junk bonds**, or **high-yield bonds**. Because they are riskier, speculative grade bonds need to offer investors a higher return or yield in order to be "priced to sell."

Although the term "junk bonds" sounds derogatory, not all speculative grade bonds are "worthless" or are issued by "bad" companies. Bonds may receive a speculative rating if their issuers are young companies, in a highly competitive market, or capital intensive, requiring lots of operating capital. Any of those features would make it harder for a company to meet its bond obligations, thus earning its bonds a speculative rating. In the 1980s, for example, companies such as CNN and MCI Communications issued high-yield bonds, which became lucrative investments as the companies grew into successful corporations.

Default risk is the risk that a company won't have enough cash to meet its interest payments and principal payment at maturity. That risk depends, in turn, on the company's ability to generate cash, profit, and grow to remain competitive. Bond-rating agencies analyze an issuer's default risk by studying its economic, industry, and firm-specific environments in order to estimate its current and future ability to satisfy its debts. The default risk analysis is similar to equity analysis,

but bondholders are more concerned with cash flows—cash to pay back the bondholders—and profits, rather than profits alone.

Bond ratings can determine the coupon rate the issuer must offer investors to compensate them for default risk: the higher the risk, the higher the coupon must be. Ratings agencies have been criticized recently for not being objective enough in their ratings of the corporations that hire them. Nevertheless, over the years, bond ratings have proven to be a reliable guide for bond investors.

Key Takeaways

1. Bond features that can determine risk and return include:
   • coupon and coupon structure,
   • maturity, callablility, and convertibility,
   • security or debenture,
   • seniority or subordination, and
   • covenants.
2. Provincial and municipal governments issue
   • revenue bonds secured by project revenues, or
   • general obligation bonds secured by the government issuer.
3. Corporate bonds may be issued through the public bond markets or through private placement.
4. The secondary bond market offers little transparency because of the differences among bonds and the lower volume of trades.
5. To help provide transparency, rating agencies analyze default risk and rate specific bonds.

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14.2 BOND VALUE

Learning Objectives

1. Explain how bond returns are measured.
2. Define and describe the relationships between interest rates, bond yields, and bond prices.
3. Define and describe the risks that bond investors are exposed to.
4. Explain the implications of the three types of yield curves.
5. Assess the role of the yield curve in bond investing.

Bond rating does not replace bond analysis, which focuses on bond value. Like any investment, a bond is worth the value of its expected return. That value depends on the amount expected and the certainty of that expectation. To understand bond values, then, is to understand the value of its return and the costs of its risks.

Bonds return two cash flows to their investors: 1) the coupon, or the interest paid at regular intervals, usually twice yearly or yearly, and 2) the repayment of the principal at maturity. The amounts are spelled out in the bond itself. The coupon rate is specified (for a fixed-rate bond) and the face value is the principal to be returned at the stated maturity.

Unlike a stock, for which the cash flows—both the amount and the timing—are "to be determined," in a bond everything about the cash flows is established at the outset. Any bond feature that makes those cash flows less certain increases the risk to the investor and thus the investor's return. If the bond has a floating-rate coupon, for example, then there is uncertainty about the amount of the coupon payments. If the bond is callable, there is uncertainty about the number of coupon payments.

Whatever the particular features of a bond, as debt instruments, bonds expose investors to specific risks. What are those risks, and what is their role in defining expectations of returns?

Bond Returns

Unlike a stock, a bond's future cash returns are known with certainty. You know what the coupon will be (for a fixed-rate bond) and you know that at maturity the bond will return its face value. For example, if a bond pays a 4 per cent coupon and matures in 2028, you know that every year you will receive $20 twice per year (20 = 4% × 1,000 × ½) until 2028, when you will also receive the $1,000 face value at maturity. You know what you will get and when you will get it. However, you can't be sure what that will be worth to you when you do. You don't know what your opportunity cost will be at the time.

Investment returns are quoted as an annual percentage of the amount invested, the rate of return. For a bond, that rate is the yield. Yield is expressed in two ways: the current yield and the yield to maturity. The **current yield** is a measure of your bond's rate of return in the short term, if you buy the bond today and keep it for one year. You can calculate the current yield by looking at the coupon for the year as a percentage of your investment or the current price, which is the market price of the bond.

current yield = annual coupon (interest received, or cash flows) / market value = (coupon rate × face value) / market value

So, if you bought a 4 per cent coupon bond, which is selling for $960 today (its market value), and kept it for one year, the current yield would be 40 (annual coupon) / 960 (market value) = 4.1667%. The idea of the current yield is to give you a quick look at your immediate returns (your return for the next year).

In contrast, the **yield to maturity (YTM)** is a measure of your return if you bought the bond and held it until maturity, waiting to claim the face value. That calculation is a bit more complicated, because it involves the relationship between time and value (as we saw in Chapter 4 "Evaluating Choices: Time, Risk, and Value"), since the yield is over the long term until the bond matures. You will find bond yield-to-maturity calculators online, and many financial calculators have the formulas preprogrammed.

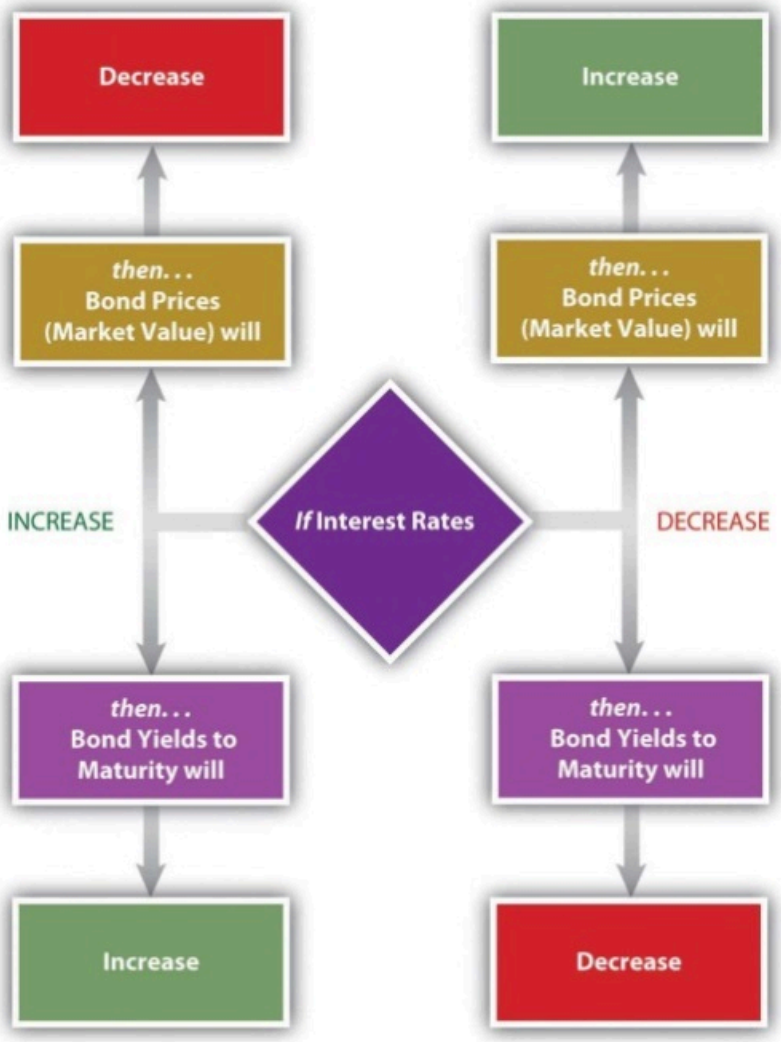
To continue the example, if you buy a bond for $960 today (2018), you will get $20 every six months until 2028, when you will also get $1,000. Because you are buying the bond for less than its face value, your return will include all the coupon payments ($400 over ten years) plus a gain

of $40 (1,000 – 960 = 40). Over the time until maturity, the bond returns coupons plus a gain. Its yield to maturity is close to 4.5 per cent.

Bond prices—their market values—have an inverse relationship to the yield to maturity. As the price goes down, the yield goes up, and as the price goes up, the yield goes down. This makes sense because the payout at maturity is fixed as the face value of the bond ($1,000). Thus, the only way a bond can have a higher rate of return is to have a lower price in the first place.

The yield to maturity is directly related to interest rates in general, so as interest rates increase, bond yields increase and bond prices fall. As interest rates fall, bond yields fall and bond prices increase. Chart 14.2.1 shows these relationships.

Chart 14.2.1 Bond Prices, Bond Yields, and Interest Rates



You can use the yield to maturity to compare bonds to see how good they are at creating returns. This yield holds if you hold the bond until maturity, but you may sell the bond at any time. When you sell the bond before maturity, you may have a gain or a loss, since the market value of the bond may have increased or decreased since you bought it. That gain or loss would be part of your return along with the coupons you have received over the holding period, or the period of time that you held the bond.

Your **holding period yield** is the annualized rate of return that you receive depending on how long you have held the bond, its gain or loss in market value, and the coupons you received in that period. For example, if you bought the bond for $960 and sold it again for $980 after two years, your return in dollars would be the coupons of $80 ($40 per year × 2 years) plus your gain of $20 ($980 – $960), relative to your original investment of $960. Your holding period yield would be close to 5.2 per cent.

Bond Risks

The basic risk of bond investing is that the returns—the coupon and the principal repayment (face value)—will not be repaid, or that when they are repaid, they won't be worth as much as you thought they would be. The risk that the company will be unable to make its payments is default risk—the risk that it will default on the bond. You can estimate default risk by looking at the bond rating as well as the economic and sector- and firm-specific factors that define the company's soundness.

Part of a bond's value is that you can expect regular coupon payments in cash, which you could spend or reinvest. There is a risk, however, that when you go to reinvest the coupon, you will not find another investment opportunity that will pay as high a return because interest rates and yields have fallen. This is called **reinvestment risk**. Your coupons are the amount you thought they would be, but they are not worth as much as you expected because you cannot earn as much from them.

If interest rates and bond yields have dropped, your fixed-rate bond, which is paying a coupon that is now higher than other bonds, has become more valuable. Its market price has risen. But the only way to realize the gain from the higher price is to sell the bond, and then you won't have any place to invest the proceeds in other bonds to earn as much return.

Reinvestment risk is one facet of interest rate risk, which arises from the fundamental relationship between bond values and interest rates. **Interest rate risk** is the risk that a change in prevailing interest rates will change bond value—that interest rates will rise and the market value of

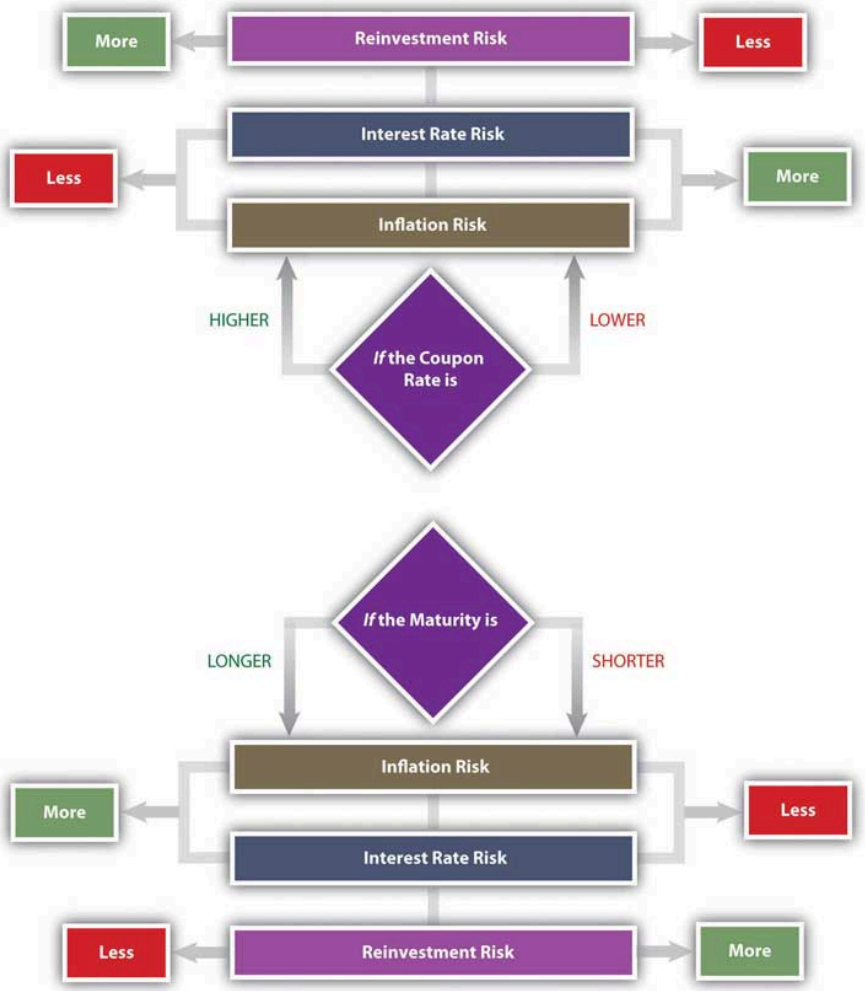
the bond will fall. (If interest rates fell, the bond value would increase, which the investor would not see as a risk.)

Another threat to the value of your coupons and principal repayment is inflation. **Inflation risk** is the risk that your coupons and principal repayment will not be worth as much as you thought, because inflation has decreased the purchasing power or the value of the dollars you receive.

A bond's features can make it more or less vulnerable to these risks. In general, the longer the term to maturity, the riskier the bond. The longer the term is, the greater the probability that the bond will be affected by a change in interest rates, a period of inflation, or a damaging business cycle.

In general, the lower the coupon rate and the smaller the coupon, the more sensitive the bond will be to a change in interest rates. The lower the coupon rate and the smaller the coupon, the more of the bond's return comes from the repayment of principal, which only happens at maturity. More of your return is deferred until maturity, which also makes it more sensitive to interest rate risk. A bond with a larger coupon provides more liquidity, over the term of the bond, and less exposure to risk. Chart 14.2.2 shows the relationship between bond characteristics and risks.

Chart 14.2.2 Bond Characteristics and Risks



A zero-coupon bond offers the lowest coupon rate possible: zero. Investors avoid reinvestment risk since the only return—and reinvestment opportunity—comes when the principal is returned at maturity. However, a "zero" is exposed to the maximum interest rate risk, because interest rates will always be higher than its coupon rate of zero. The attraction of a zero is that it can be bought for a very low price.

As a bond investor, you can make better decisions if you understand how the characteristics of bonds affect their risks and yields as you use those yields to compare and choose bonds.

Yield Curve

Interest rates affect bond risks and bond returns. If you plan to hold a bond until maturity, interest rates also affect reinvestment risk. If you plan to sell the bond before maturity, you face interest rate risk or the risk of a loss of market value. When you invest in bonds, then, you want to be able to forecast future interest rates.

Investors can get a sense of how interest rates are expected to change in the future by studying the **yield curve**, a graph that compares the terms of the yields for bonds of different maturities.

The yield curve illustrates the **term structure of interest rates**, or the relationship of interest rates to time. Usually, the yield curve is upward sloping—that is, long-term rates are higher than short-term rates. Long-term rates indicate expected future rates. If the economy is expanding, future interest rates are expected to be higher than current interest rates, because capital is expected to be more productive in the future. Future interest rates will also be higher if there is inflation because lenders will want more interest to make up for the fact that the currency has lost some of its purchasing power.

A flat yield curve indicates that future interest rates are expected to be about the same as current interest rates or that capital will be about as productive in the economy as it is now. A downward-sloping yield curve shows that future interest rates are expected to be lower than current rates. This is often interpreted as a signal of a recession, because capital would be less productive in the future if the economy were less productive then.

The yield curve is not perfectly smooth; it changes every day as bonds trade and new prices and new yields are established in the bond markets. It is a widely used indicator of interest rate trends, however. It can be useful to know the broad trends in interest rates that the market sees.

For your bond investments, an upward-sloping yield curve indicates that interest rates will go up, which means that bond yields will go up but bond prices will go down. If you are planning to sell your bond in that period of rising interest rates, you may be selling at a loss.

Because of their known coupon and face value, many investors use bonds to invest funds for a specific purpose. For example, suppose you have a child who is eight years old and you want her to be able to go to university in ten years. You might invest in bonds that have ten years until maturity. However, if you invest in bonds that have twenty years until maturity, they will have a higher yield (all else being equal), so you could invest less now.

You could buy the twenty-year bonds but plan to sell them before maturity for a price determined by what interest rates are in ten years (when you sell them). If the yield curve indicates

that interest rates will rise over the next ten years, then you could expect your bond price to fall, and you would have a loss when you sell the bond, which would take away from your returns.

In general, rising interest rates mean losses for bondholders who sell before maturity, and falling interest rates mean gains for bondholders who sell before maturity. Unless you are planning to hold bonds until maturity, the yield curve can give you a sense of whether you are more likely to have a gain or loss.

Key Takeaways

1. All bonds expose investors to:
   • default risk (the risk that coupon and principal payments won't be made),
   • reinvestment risk (the risk that coupon payments will be reinvested at lower rates),
   • interest rate risk (the risk that changing interest rates will affect bond values), and
   • inflation risk (the risk that inflation will devalue bond coupons and principal repayment).
2. Bond returns can be measured by yields.
   • The current yield measures short-term return on investment.
   • The yield to maturity measures return on investment until maturity.
   • The holding period yield measures return on investment over the term that the bond is held.
3. There is a direct relationship between interest rates and bond yields.
4. There is an inverse relationship between bond yields and bond prices (market values).
5. There is an inverse relationship between bond prices (market values) and interest rates.
6. The yield curve illustrates the term structure of interest rates, showing yields of bonds with differing maturities and the same default risk. The purpose of a yield curve is to show expectations of future interest rates.
7. The yield curve may be:
   • upward sloping, indicating higher future interest rates;
   • flat, indicating similar future interest rates; or
   • downward sloping, indicating lower future interest rates.

Exercises

1. How do you buy bonds? Read Investopedia's primer "Bond Basics: How to Trade Bonds."

2. Read Investopedia's explanation of how to read a bond table, "Bond Basics: How To Read A Bond Table." In the example of a bond table, suppose you invested $5,000 in Avco's bond issue. What coupon rate were you getting? When was the maturity date, and how much did you get then? What was the current value of the bond at that time? What does it mean for a bond to be trading above par? What was the bond's annual return during the time you held it? If you held the bond for ten years, what cash flows did you receive? Would you have reinvested in the bond when it matured, or would you have sold it and why? Study the other corporate bonds listed in the Investopedia example of a bond table.
3. To find out more about how to use bond tables when making investment decisions, read the article "Reading Bond Prices in the Newspaper" by the Securities Industry and Financial Markets Association. Where will you find bond tables? What will you compare in bond tables? At the top of this Securities Industry and Financial Markets Association page, click on one of the bond markets "at-a-glance" under "Bond Markets & Prices." Then enter the name of an issuer on the form and choose the data you want to see. For example, enter your province's name and ask to see all the bonds by yield or by maturity date or by some other search factor. What do these data tell you? For each search factor, how would the information assist you in making decisions about including bonds in your investment portfolio?
4. Experiment with Investopedia's Yield to Maturity calculator. Why should you know the yield to maturity (indicated as "YTM" on the calculator) before investing in bonds?

14.3 BOND STRATEGIES

Learning Objectives

1. Discuss diversification as a strategic use of bonds.
2. Summarize strategies to achieve bond diversification.
3. Define and compare matching strategies.
4. Explain life cycle investing and bond strategy.

Bonds provide more secure income for an investment portfolio, while stocks provide more growth potential. When you include bonds in your portfolio, you do so to have more income and less risk than you would have with just stocks. Bonds also diversify the portfolio. Because debt is so fundamentally different from equity, debt markets and equity markets respond differently to changing economic conditions.

Diversification Strategies

If your main strategic goal of including bonds is diversification, you can choose an active or passive bond selection strategy. As with equities, an active strategy requires individual bond selection, while a passive strategy involves the use of indexing, or investing through a broadly diversified bond index fund or mutual fund in which bonds have already been selected.

The advantage of the passive strategy is its greater diversification and relatively low cost. The advantage of an active strategy is the chance to create gains by finding and taking advantage of market mispricings. An active strategy is difficult for individual investors in bonds, however, because the bond market is less transparent and less liquid (this applies mostly to corporate bonds, not government bonds) than the stock market.

If your main strategic goal of including bonds is to lower the risk of your portfolio, you should keep in mind that bond risk varies.

Another way to look at the effect of default risk on bond prices is to look at spreads. A **spread** is the difference between one rate and another. With bonds, the spread generally refers to the difference between one yield to maturity and another. Spreads are measured and quoted in basis points. A **basis point** is one one-hundredth of a per cent, or 0.0001 or 0.01 per cent.

The most commonly quoted spread is the difference between the yield to maturity for a Treasury bond and a corporate bond with the same term to maturity. Treasury bonds are considered to have no default risk because it is unlikely that the Canadian government will default. Treasuries are exposed to reinvestment, interest rate, and inflation risks, however.

Corporate bonds are exposed to all four types of risk. So, the difference between a twenty-year corporate bond and a twenty-year Treasury bond is the difference between a bond with and without default risk. The difference between their yields—the spread—is the additional yield for the investor for taking on default risk. The riskier the corporate bond, the greater the spread.

Spreads generally fluctuate with market trends and with confidence in the economy or expectations of economic cycles. When spreads narrow, the yields on corporate bonds are closer to the yields on Treasury bonds, indicating that there is less concern with default risk. When spreads widen, corporate bondholders worry more about default risk.

As the spread widens, corporate yields rise and/or Treasury yields fall. This means that corporate bond prices (market values) are falling and/or Treasury bond values are rising. This is sometimes referred to as the "flight to quality." In uncertain times, investors would rather invest in

Treasuries than corporate bonds, because of the increased default risk of corporate bonds. As a result, Treasury prices rise (and yields fall) and corporate prices fall (and yields rise).

Longer-term bonds are more exposed to reinvestment, interest rate, and inflation risk than shorter-term bonds. If you are using bonds to achieve diversification, you want to be sure to be diversified among bond maturities. For example, you would want to have some short-term (less than one year until maturity), intermediate-term (two to ten years until maturity), and long-term (more than ten years until maturity) bonds, in addition to diversifying on the basis of industries and company and perhaps even countries.

Matching Strategies

Matching strategies are used to create a bond portfolio that will finance specific funding needs, such as education, a down payment on a second home, or retirement. If the timing and cash flow amounts of these needs can be predicted, then a matching strategy can be used to support them. This strategy involves matching a "liability" (to yourself, because you "owe" yourself the chance to reach that goal) with an "asset" (a bond investment). The two most commonly used matching strategies are immunization and cash flow matching.

Immunization is designing a bond portfolio that will achieve a certain rate of return over a specific period of time, based on the idea of balancing interest rate risk and reinvestment risk.

Recall that as interest rates rise, bond values decrease, but reinvested income from bond coupons earns more. As interest rates fall, bond values increase, but reinvested income from bond coupons decreases. Immunization is the idea of choosing a portfolio of bonds such that the exposure to interest rate risk is exactly offset by the exposure to reinvestment risk for a certain period of time, thus guaranteeing a minimum return over that period (Maginn, Tuttle, Pinto, and McLeavey, 2007).

In other words, the interest rate risk and the reinvestment risk cancel each other out, and the investor is left with a guaranteed return. You would use this kind of strategy when you had a liquidity need with a deadline—for example, to fund a child's higher education.

Cash flow matching, also called a dedication strategy, is an alternative to immunization. It involves choosing bonds that match your anticipated cash flow needs by having maturities that coincide with the timing of those needs. For example, if you will need $50,000 for travel in twenty years, you could buy bonds with a face value of $50,000 and a maturity of twenty years. If you hold the bonds to maturity, their face value provides the amount of cash flow you need, and

you don't have to worry about interest rate or reinvestment risk. You can plan on having $50,000 in twenty years, barring any default.

If you had the $50,000 now, you could just stuff it under your mattress or save it in a savings account. But buying a bond has two advantages: 1) you may be able to buy the bond for less than $50,000 now, requiring less upfront investment; and 2) over the next twenty years, the bond will also pay coupons at a higher rate than you could earn with a savings account or under your mattress.

If you will need different cash flows at different times, you can use cash flow matching for each one. When cash flow matching is used to create a steady stream of regular cash flows, it is called **bond laddering**. You invest in bonds of different maturities, such that you would have one bond maturing and providing cash flow in each period (like the GIC laddering discussed in Chapter 7 "Financial Management").

Strategies such as immunization and cash flow matching are designed to manage interest rate and reinvestment risk to minimize their effects on your portfolio's goals. Since you are pursuing an active strategy by selecting individual bonds, you must also consider transaction costs and the tax consequences of your gain (or loss) at maturity and their effects on your target cash flows.

Life Cycle Investing

Bonds are most commonly used to reduce portfolio risk. Typically, as your risk tolerance decreases with age, you will include more bonds in your portfolio, shifting its weight from stocks, which have more growth potential, to bonds, which have more income and less risk. This change in the weighting of portfolio assets usually begins as you get closer to retirement.

For years, the conventional wisdom was that you should have the same percentage of your portfolio invested in bonds as your age, so that you have 30 per cent of your portfolio in bonds when you are thirty, 50 per cent when you are fifty, and so on. That wisdom is now being questioned, however, because while bonds are lower risk, they also have lower growth potential. Today, since more people can expect to live much longer past retirement age, they run a real risk of outliving their funds if they invest as conservatively as the conventional wisdom suggests.

It is still true nevertheless that for most people, risk tolerance changes with age, and your investment in bonds should reflect that change.

Key Takeaways

1. One strategic use of bonds in a portfolio is to increase diversification.
2. Diversification can be achieved by: an active strategy, using individual bond selection; or a passive strategy, using indexing.
3. Spreads indicate the "price" or the yield on default risk.
4. Matching strategies to minimize interest rate and reinvestment risks can include: immunization, cash flow matching, and bond laddering.
5. Life cycle investing considers the relationship of age and risk tolerance to the strategic use of bonds in a portfolio.

Exercises

In your personal finance journal, record your bond strategy. What will be your purpose in including bonds in your portfolio? What types of bonds will you include and why? Will you take an active or passive approach and why? How will spreads inform your investment decisions? Which bond strategies described in this section will you plan to use and why? How will your bond strategies reflect your needs to diversify, reduce risk, and maximize liquidity at the right times? How will your bond strategies reflect your age and risk tolerance?

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14.4 MUTUAL FUNDS

Learning Objectives

1. Identify the general purposes of using mutual funds in individual investment portfolios.
2. Analyze the advantages of an index fund or a fund of funds.
3. List and define the structures of mutual funds.
4. Describe the strategic goals of lifestyle funds, leveraged funds, and inverse funds.
5. Identify the costs and differences in costs of mutual fund investing.
6. Calculate returns from mutual fund investing.
7. Summarize the information found in a mutual fund prospectus.

As defined in the Chapter 12 "Investing," a mutual fund is a portfolio of securities consisting of one type of security or a combination of several different types. A fund serves as a convenient way for an investor to have a diversified portfolio of investments in just about any investable asset. The oldest mutual fund is believed to have been founded by Adriaan van Ketwich in 1774. Ketwich invited investors to contribute to a trust fund to spread the risk of investing in foreign bonds. The idea moved from the Netherlands to Scotland to the United States, where the Boston Personal Property Trust established the first mutual fund in 1893 (Investment Funds Institute of Canada, 2017).

Mutual funds play a significant role in individual investment decisions. A mutual fund provides an investor with cheaper and simpler diversification and security selection, requiring only one transaction to own a diversified portfolio (the mutual fund). By buying shares in the fund rather than individual securities, you achieve extensive diversification for a much lower transaction cost than by investing in individual securities and making individual transactions. You also receive the benefit of professional security selection, which theoretically minimizes the opportunity costs of lesser choices. So, by using a mutual fund, you get more and better security selection and diversification.

A mutual fund also provides stock and bond issuers with a mass market. Rather than selling shares to investors individually (and incurring the costs of doing so), issuers can more easily find a market for their shares in mutual funds.

Structures and Types of Mutual Funds

Like stocks and bonds, mutual funds may be actively or passively managed. As you read in Chapter 13 "Owning Stocks" and Chapter 14 "Owning Bonds and Investing in Mutual Funds," actively managed funds provide investors with professional management and the expected research, analysis, and watchfulness that goes with it. Passively managed **index funds**, on the other hand, are designed to mirror the performance of a specific index constructed to be representative of an asset class.

Mutual funds are structured in three ways:

1. Closed-end funds
2. Open-end funds
3. Exchange-traded funds

Closed-end funds are funds for which a limited number of shares are issued. Once all shares have been issued, the fund is "closed" so a new investor can only buy shares from an existing investor. Since the shares are traded on an exchange, the limited supply of shares and the demand for them in that market directly determines the value of the shares for a closed-end fund.

Most mutual funds are **open-end funds** in which investors buy shares directly from the fund and redeem or sell shares back to the fund. The price of a share is its **net asset value (NAV)**, or the market value of each share as determined by the fund's assets and liabilities and the number of shares that exist. Here is the basic formula for calculating NAV:

$$\text{NAV} = \frac{\text{(market value of fund securities – fund liabilities)}}{\text{number of shares outstanding}}$$

Demand for shares is reflected in the number of shares outstanding, because the fund can create new shares for new investors. NAV calculations are usually done once per day at the close of trading, when mutual fund transactions are recorded.

The NAV is the price that the fund will pay you when you redeem your shares, so it is a gauge of the shares' value. It will increase if the market value of the securities in the fund increases faster than the number of new shares.

Exchange-traded funds (ETFs) are structured like closed-end funds, but are traded like stocks. Shares are traded and priced continuously throughout the day's trading session, rather than

once per day at the end of trading. ETFs trade more like individual securities; that is, if you are trying to time a market, they are a nimbler asset to trade than open- or closed-end funds.

Originally designed as index funds, exchange-traded funds now target just about every asset, sector, and economic region imaginable.

Table 14.4.1 compares the features of closed-end funds, open-end funds, and ETFs.

Table 14.4.1 Fund Features

	Closed-End	**Open-End**	**ETF**
Number of Shares	Limited	Unlimited	Limited
Trades	End of the trading day	Fund sponsor	Continuously
Traded with	Other shareholders (after the fund closes)	End of the trading day	Other shareholders

Shares of closed-end funds and exchange-traded funds are bought and sold on exchanges, much like shares of stock. You would go through a broker to make those transactions. Shares of open-end funds may be bought and sold directly from the fund sponsor, a mutual fund company, or investment manager. You can make those transactions at any of the company's offices, by telephone, or online. About 40 per cent of all mutual fund transactions are done directly (without a broker) through a retirement plan contribution or a mutual fund company (The Investment Company Institute, 2009).

Some other types of mutual funds are shown in Table 14.4.2. Some research companies, such as Morningstar, track as many as forty-eight different categories of mutual funds.

Table 14.4.2 Other Types of Mutual Funds

Mutual Funds	Definition
Funds of funds	Mutual funds that own shares in other mutual funds rather than in specific securities. If you decide to use mutual funds rather than select securities, a fund of funds will provide expertise in choosing funds. Funds of stocks and bonds that manage portfolio risk based on age or the time horizon for liquidity needs.
Lifestyle funds	Lifestyle funds perform both security selection and asset allocation for investors, determined by the target date. For example, if you were now thirty years old, you might choose a lifestyle fund with a target date of thirty-five years from now for your retirement savings. As the fund approaches its target date, its allocation of investments in stocks and bonds will shift to carry less risk as the target nears. Lifestyle funds are used primarily in saving for retirement; many are created as funds of funds.
Leveraged funds	Funds that invest both investors' money and money that the fund borrows to augment the investable assets and thus potential returns. Because they use borrowing, leveraged funds are riskier than funds that do not use leverage.
Inverse funds	Funds that aim to increase in value when the market declines, to be countercyclical to index funds, which aim to increase in value when the market rises. Inverse funds, also called "bear funds," are set up to perform contrary to the index. Since most economies become more productive over time, however, you can expect indexes to rise over time, so an inverse fund would make sense only as a very short-term investment.

Mutual Fund Fees and Returns

All funds must disclose their fees to potential investors: sales fees, management fees, and expenses. A **load fund** charges a sales commission on each share purchase. That sales charge (also called a **front-end load**) is a percentage of the purchase price. A **no-load fund**, in contrast, does not charge a sales commission, because shares may be purchased directly from the fund or through a discount broker. The front-end load can be as much as 8.5 per cent, so if you plan to invest often or in large amounts, that can be a substantial charge. For example, a $5,000 investment may cost you $425, reducing the amount you have to invest and earn a return.

A fund may charge a **back-end load**, actually a deferred sales charge, paid when you sell your shares instead of when you buy them. The charge may be phased out if you own the shares for a specified length of time, however, usually five to seven years.

A fund may charge a management fee on an annual basis. The management fee is stated as a fixed percentage of the fund's asset value per share. Management fees can range from 0.1 per cent to 2.0 per cent annually. Typically, a more actively managed fund can be expected to charge

a higher management fee, while a passively managed fund such as an index fund should charge a minimal management fee.

A fund may charge an annual distribution fee, also calculated as not more than 1.0 per cent per year of the fund's asset value. Some mutual funds charge other extra fees as well, passing on fund expenses to shareholders. You should consider fee structure and rate when choosing mutual funds, and this can be done through calculations of the expense ratio.

Taken together, the annual management, distribution, and expense fees are measured by the **management expense ratio (MER)**—the total annual fees expressed as a percentage of your total investment. MER costs "are deducted before the fund's performance returns are calculated" (Kapoor et al., 2015, p. 356). Therefore, if your return is 15 per cent and your MER is 2 per cent, you will receive a return of 13 per cent. That may not sound like much, but it means that if the fund earns a 5 per cent return, your net return may be less than 3 per cent (and after taxes, it's even less). When choosing a fund, you should be aware of all charges—especially annual or ongoing charges—that can affect your investment return.

Owning shares of a mutual fund means owning shares in a pool of assets. The returns of the fund are the returns of those assets: interest, dividends, or gains (losses). Income may come from **interest distribution** if the fund invests in bonds or interest-producing assets or as **dividend distribution** if the fund invests in stocks.

Mutual funds buy and sell or "turn over" the fund assets. Even passively managed funds need to rebalance to keep pace with their benchmarks as market values change. The **turnover ratio** is the percentage of fund assets that have been turned over or replaced in the past year, a measure of the fund's trading activity.

Turnover can create capital gains or losses. Periodically, usually once per year, the fund's net capital gains (or losses) are distributed on a per share basis as a **capital gains distribution**. You would expect turnover to produce more gains than losses. The more turnover, or the higher the turnover ratio, the greater the capital gains distributions you may expect.

Unless you have invested in a tax-exempt savings plan such as an RRSP, interest and dividend distributions are taxable as personal income, as are capital gains, including capital gains distributions. A higher turnover ratio may mean a higher tax expense for capital gains distributions. Most open-end mutual funds allow you the option of having your income and gains distributions automatically reinvested rather than paid out, which means that you may be paying taxes on earnings without ever "seeing" the money.

Mutual Fund Information and Strategies

All mutual fund companies must offer a prospectus, a published statement detailing the fund's assets, liabilities, management personnel, and performance record. You should always take the time to read it and to take a closer look at the fund's investments to make sure that the fund will be compatible and appropriate to your investment goals.

For example, suppose you have an investment in a TSX Index fund and now are looking for a global stock fund to complement and diversify your holdings in domestic (Canadian) equities. You go to the website of a large mutual fund company offering hundreds of funds. You find a stock fund called "Global Stock Fund": it sounds like it's just what you are looking for. Looking closer, however, you can see that this fund is invested in the stocks of companies in Germany, Japan, and the United Kingdom. While they are not Canadian stocks, those economies are similar to the US economy—perhaps too similar to provide the diversity you are looking for.

Or suppose you are looking for a bond fund to create income and security. You find a fund called the "Investment Grade Fixed Income Fund." On closer inspection, however, you find that the fund does not invest only in investment grade bonds but that the *average* rating of its bonds is investment grade. This means that the fund invests in many investment grade bonds, but also in some speculative grade bonds, to achieve higher income. While this fund may suit your need for income, it may not be appropriate for your risk tolerance.

Mutual fund companies make this information readily available online and in prospectuses. You should always make the extra effort to be sure you know what's in your fund. In addition, mutual funds are widely followed by many performance analysts. Ratings agencies such as Morningstar and investment publications such as *Barron's* and *Forbes* track, analyze, and report the performance of mutual funds. That information is available online or in print and provides comparisons of mutual funds that you may find helpful in choosing your fund. For more information on Canadian mutual funds, please see the FUNDATA website.

In print and online newspapers, mutual fund performance is reported daily in the form of tables that compare the average returns of funds from week to week. Reported average returns are based on the net asset value per share (NAVPS). Investors can use this information to choose or compare funds and track the performance of funds they own.

In conclusion, since a mutual fund may be made up of any kind or many kinds of securities (e.g., stocks, bonds, real estate, and commodities), it is not really another kind of investment. Rather, it is a way to invest without specifically selecting securities, a way of achieving a desired asset allocation without choosing individual assets.

The advantages of investing in a mutual fund are the diversification available with minimal transaction costs and the professional management or security selection that you buy when you buy into the fund.

Compared to actively managed funds, passively managed or index funds offer similar diversification, but with lower management fees and expense ratios because you aren't paying for market timing or security selection skills. The turnover ratio shows how passive or active the fund management is.

Performance history has shown that actively managed funds, on average, do not necessarily outperform passively managed funds (Malkiel, 2007).

Since they usually have higher fees, any advantage created by active management is usually cancelled out by their higher costs. Still, there are investors who believe that some mutual funds and mutual fund managers can, on average, outperform the markets or the indexes that provide the benchmarks for passively managed funds.

Key Takeaways

1. Mutual funds provide investors with:
   - diversification,
   - security selection, and
   - asset allocation.
2. Funds may be actively or passively managed.
3. Index funds mirror an index of securities, providing diversification without security selection.
4. Funds of funds provide the investor with pre-selected funds.
5. Mutual funds may be structured as:
   - closed-end funds,
   - open-end funds, or
   - exchange-traded funds.
6. Some funds are structured to achieve specific investment goals:
   - lifestyle funds with target dates to minimize liquidity risk through asset allocation,
   - leveraged funds to increase return through using debt, and
   - inverse funds to increase return through active management with the expectation of a down market.
7. Mutual fund costs may include:
   - a sales charge when shares are purchased, or front-end load,
   - a sales charge when shares are sold, or back-end load,
   - a management fee while shares are owned, or

- a distribution fee while shares are owned.

8. The management expense ratio is the total mutual fund cost expressed as a percentage of the funds invested.
9. Fees vary by:
   - fund sponsor,
   - fund strategy (active or passive), and
   - fund sales (direct or through a broker).
10. Returns from a mutual fund include returns on the securities it owns, including:
    - interest distributions,
    - dividend distributions, and
    - capital gains distributions.
11. A fund prospectus details the fund's investment holdings, historic returns, and costs. Mutual fund ratings in the financial media are another source of information.

Exercises

1. Read Investopedia's article "Mutual Funds: The Costs." What is your management expense ratio (MER)? Do mutual funds with higher expenses generally earn higher returns?
2. Review Investopedia's article on "Mutual Funds: How To Read A Mutual Fund Table." What do the columns mean? What is being compared? What can you learn from mutual fund tables that may help you choose funds or track the performance of funds you own? Share your ideas with classmates.
3. In your personal finance journal, record your study of a fund you choose to track. Read the prospectus, check its ratings, and compare its week-to-week performance with that of similar funds in the mutual funds table in the financial section of a newspaper. Record your observations, questions, and commentary as you go about deciding hypothetically whether or not to invest in that fund.

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