12.1 Investments and Markets: A Brief Overview

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 begin to plan your investment goals and strategies.

The capital markets developed as a way for buyers to buy liquidity. In the United States, 47% of the adult population owns stocks or bonds, most through retirement accounts.

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 a single investor with the capital and the inclination to make a large loan (taking on a large risk for 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, state, 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 that banks charge their most trustworthy borrowers and the target rates set by the Federal Reserve Bank.)

There are many features of bonds other than the principal and interest, such as 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”: 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 its short-term debts, or may not be allowed to issue more debt until this bond is paid off.

U.S. Treasury bonds are auctioned regularly to banks and large institutional investors by the Treasury Department, but individuals can buy U.S. Treasury bonds directly from the U.S. government (http://www.treasurydirect.gov). To trade any other kind of bond, you have to go through a broker. The brokerage firm acts as a principal or dealer, buying from or selling to investors, or as an agent for another buyer or seller.

Stocks and Stock Markets

Stocks, or equity securities, are shares of ownership. Corporations issue shares to raise capital. 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.

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 the United States and around the world. The two best known in the United States are the New York Stock Exchange (now NYSE Euronext), founded in 1792, and the NASDAQ, a computerized trading system managed by the National Association of Securities Dealers (the "AQ" stands for "Automated Quotations").

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 fibers), such as soybeans, pork bellies, and cotton
- Energy resources such as oil, coal, and natural gas
- Precious metals such as gold, silver, and copper
- 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 2010. If you know that you will want to have wheat in May of 2011, you could wait until May 2011 and buy the wheat at the market price, which is unknown in July 2010. Or you could buy it now, paying today's price, and store the wheat until May 2011. 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 2011 wheat in July 2010. You would be buying May 2011 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 2011. The value of the futures contract to you is that you are removing the future price uncertainty without incurring any storage costs. In July 2010 the value of a contract to buy May 2011 wheat depends on what the price of wheat actually turns out to be in May 2011.

Back to the wheat example…when you buy a forward contract for wheat, 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

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.

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 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 has 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.

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. You have only 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.

12.2 Investment Planning

There are as many different investment strategies as there are investors. The planning process is similar to planning a budget plan or savings plan. You figure out 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, outlines of the investor's goals and constraints, are popular with institutional investors such as pension plans, insurance companies, or nonprofit endowments. Institutional investment decisions typically are 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.

Defining Return Objective and Risk

Defining return objectives is the process of quantifying the required annual return (e.g., 5 percent, 10 percent) 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. 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.

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 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. Figure 12.7 "Risk Tolerance" **shows how your level of risk tolerance develops.**

Figure 12.7 Risk Tolerance

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
- 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.

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 investment advisors can now choose the best investments. Different advisors 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.

12.3 Measuring Return and 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.

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. 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,
- 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 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 labor 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, domestic, or foreign);
- bonds or the public debts of corporation 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);
- 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-term, intermediate-term, 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 October of 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.