**Chapter 2**

**The Investment Process**

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**Selected Web Sites**

### [www.msn.com/en-us/money/investing](http://www.msn.com/en-us/money/investing) (reference for risk aversion)

### [www.fool.com](http://www.fool.com) (risk tolerance questionnaire from motley fool)

### Individual.ml.com (risk tolerance questionnaire from Merrill Lynch)

### [www.schwab.com](http://www.schwab.com) (risk tolerance questionnaire)

### [www.cfainstitute.org](http://www.cfainstitute.org) (career advice)

### [www.cfp.net](http://www.cfp.net) (career advice)

### [www.sipc.org](http://www.sipc.org) (referenced in text for investor protection)

### [www.finra.org](http://www.finra.org) (referenced in text for dispute resolution)

### [www.brightscope.com](http://www.brightscope.com) (information on quality of 401(k) plans)

### [www.bearmarketcentral.com](http://www.bearmarketcentral.com) (reference for short selling)

### [www.nasdaq.com](http://www.nasdaq.com) (reference for short interest)

### [www.aaii.com](http://www.aaii.com) (sample asset allocations)

### [individual.ml.com](http://www.buyandhold.com) (reference for opening a brokerage account)

### [finance.yahoo.com](http://finance.yahoo.com) (reference for short sales on particular stocks)

### www.bankrate.com/rates (reference for current broker call money rate)

### [www.TDAmeritrade.com](http://www.TDAmeritrade.com) (margin rates)



**Annotated Chapter Outline**

1. **The Investment Policy Statement**

Investing is deferred compensation. We invest to have more to spend later. So investing and saving are very similar.

The first step in the investment process is to form an Investment Policy Statement (IPS). This document serves as the roadmap for your investments, providing details on objectives and constraints.

**A. Objectives: Risk and Return**

Investors must decide how much risk they are willing to bear. Since most investors are risk-averse, they want to be compensated fairly for any risk they take on. Determining their risk tolerance will help investors to define the available investments and strategies.

**B. Investor Constraints**

An investor's investment strategy is affected by several constraints, including resources, horizon, liquidity, taxes, and special circumstances.

* Resources relate to how much the investor has to invest.
* The investment horizon refers to the planned life of the investment, which relates to when the money is needed. The investment horizon will help determine the riskiness of the investment.
* Liquidity refers to how easy it is to sell an asset without much loss in value. If an investor needs to sell an investment quickly, its liquidity becomes very important.
* The relevant return on an investment is its after-tax return. Since different types of investments are taxed differently, an investor must be concerned with the tax effects. For high tax bracket individuals, tax deferral or avoidance may be very important. For example, these investors may be more interested in tax-exempt investments, IRAs, 401(k)s, or long-term capital gains.
* There are an endless number of special circumstances that may affect investment decisions. For example: employer investment matches, number of dependents, politically or socially conscious investors, or corporate insiders.

1. **Strategies and Policies**

***Investment Management***: Hiring a professional manager to manage your investments.

***Market Timing***:Buying and selling in anticipation of the overall direction of the market.

***Asset Allocation***: The distribution of investment funds among broad classes of assets.

***Security Selection***: Selection of specific securities within a particular class.

When formulating an investment strategy, an investor must consider investment management, market timing, asset allocation, and security selection.

* There are pros and cons to using a professional investment manager. Even though an investment manager charges management fees, there still may be savings in commissions, fees, and time when using a manager.
* An investor that practices market timing buys and sells investments in an attempt to actively time the market movements. A passive strategy makes no attempt to time the market. Later, we discuss how difficult it is to time the market.
* When forming an investment strategy, an investor must allocate investments between different asset classes, including large cap stocks, small cap stocks, international stocks, bonds, etc. This allocation will determine the investor's expected risk and return.
* After deciding on asset classes, an investor must select specific securities for investment. Investigating specific securities within a broad asset class to find superior performers is called security analysis. This can be active (select specific securities) or passive (select mutual funds).

We can think of asset allocation as a macro activity, and security selection as a micro activity. An investor can vary his/her strategy between active and passive asset allocation, and active and passive security selection for a full range of involvement and risk/return profiles. According to some experts, about 90% of a portfolio’s return is driven by allocation, so it is, by far, the more important activity.

1. **Investment Professionals**

To get started, set up a trading account with a broker. You will supply basic information and sign a customer's agreement. You then give your broker a check (or electronic deposit) and instructions on how to invest your money. When you purchase (or sell) a stock you will pay a commission to the broker and you will instruct the broker whether to hold the shares or deliver them to you.

* 1. **Choosing a Broker/Advisor**

To open an account, you must choose a broker. There are typically three groups: full service brokers, discount brokers, and deep-discount brokers.

Full service brokers provide many services, including investment advice, research services, account management, and personal service. In addition to telephone and web access, you can usually visit full service brokerage offices. Full service brokers charge the highest fees. These professionals have generally moved to an advisory-based relationship, where you pay a fee (say 1%) based on asset value. This covers all costs associated with advice and trading.

Discount brokers typically provide more services than the deep-discount brokers but fewer than the full service brokers. Their fee is usually in between the fees of the full service and the deep discount brokers.

A deep-discount broker provides minimal services, normally just account maintenance and order execution (buying and selling). You usually contact the deep-discount broker on the telephone or over the web. The brokerage commissions are lowest for deep discount brokers.

With increased competition, the lines are beginning to blur between the three types of brokers. Discount and deep-discount brokers are beginning to offer more services and full service brokers are offering discounts for some types of accounts.

**Lecture Tip**:It is important to point out to students the differences between the types of brokers, the services you receive, and the difference in brokerage costs. Students are quickly becoming very astute investors and are aware of the advertising by discount brokers and web-based trading firms. We should also ensure that they are aware of the differences in services provided, as well as the differences in order execution efficiency. The least expensive commission may not be the lowest overall cost if the order is executed at a higher stock price because of less efficient execution. This becomes much more apparent when the market is moving very quickly. Also, investors can purchase extra services from a discount or web-based broker on an as-needed basis. You may also want to show students any smartphone apps that brokers offer to allow for “trading on the go.”

* 1. **Online Brokers and Robo-Advisors**

The most dramatic change in the brokerage industry is the growth of online or web-based brokers. With online brokers you place orders over the internet using a web browser. Before 1995, online trading barely existed, but currently, growth in online trading is exponential.   
  
The commissions are usually much lower, generally less than $20 per trade, and sometimes as low as $5-7 per trade. Online brokers are able to charge less because it is less expensive and more efficient to handle orders electronically. Services provided vary, usually related to cost, from "no-frills" to many services, including: research, account management, banking services, credit cards, etc. Online brokerages will probably become the dominant form of trading because of the low commissions and convenience.

* 1. **Investor Protection**

***Federal Deposit Insurance Corporation (FDIC):*** Government agency that protects money deposited into bank accounts (up to $100,000 per account). It was created in 1933 and since the start of FDIC insurance on January 1, 1934, no depositor has lost insured funds due to bank failure.

***Investment Fraud:*** Two examples include someone selling you shares in a fictitious company or someone selling you shares in a real company without transferring ownership to you. Losses due to investment fraud in the U.S. range from $10 to $40 billion per year. There is no “insurance” against investment fraud in the U.S., although there are state and federal agencies in place to help investors deal with investment fraud.

***Securities Investor Protection Corporation (SIPC)***: Insurance fund covering investors' brokerage accounts with member firms.

The SIPC was created in 1970 and is not a government agency. The SIPC insures your account up to $500,000 in cash and securities, with a $250,000 cash maximum. Because of government regulation, most brokerage firms belong to the SIPC. Note that the SIPC only ensures that you will receive the value of the cash and securities held by the broker in the event of fraud or failure. It does not guarantee against losing money on your investment.

* 1. **Broker-Customer Relations**

You must remember that advice from a broker is not guaranteed—you purchase securities at your own risk. Your broker is your agent and is legally required to work in your best interest. But you still need to check your account statement and notify your broker in the event of any problems or irregularities, such as account churning. If there is a significant problem, your account agreement specifies that you waive your right to sue and you must settle the dispute by binding arbitration. This is not a legal proceeding and the panel is appointed by a self-regulatory body of the securities industry. The findings normally cannot be appealed.

1. **Types of Accounts**

The account agreement has important provisions about the types of trades that can be made, who can make them, and whether credit can be extended.

* 1. **Cash Accounts**

***Cash Account:*** A brokerage account in which all transactions are made on a cash basis. Securities can only be purchased if there are sufficient funds in the account.

* 1. **Margin Accounts**

***Margin Account***: A brokerage account in which securities can be bought and sold on credit.

***Call Money Rate***: The interest rate that is charged on funds borrowed in a margin account. A spread is also charged on the loan above the call money rate.

***Margin***: The portion of the value of the investment that is not borrowed.

***Initial Margin***: The minimum margin that must be supplied on a securities purchase.

***Maintenance Margin***: The minimum margin that must be present at all times in a margin account. Maintenance margin is sometimes called the “house” margin requirement.

***Margin Call***: A demand for more funds that occurs when the margin in an account drops below the maintenance margin.

Under a margin account, you are purchasing securities on credit using money loaned by the broker. This is a margin purchase and the interest rate is the call money rate plus a spread. When you purchase on credit, you supply some of the money—the margin—and the rest is borrowed. You calculate the margin as a percentage of the total investment. For example, if you supply $7,000 to purchase $10,000 in securities, your margin is 70%.

The minimum margin that you must supply when you first purchase the security is the initial margin. The minimum is set by the Federal Reserve, although brokerage firms may require more. Since 1974, the minimum has been 50%. So, for example, if you purchase $50,000 in securities, you must supply $25,000 of the investment. Note that this is for stocks; there is little initial margin for bonds, and margin is not allowed for some other types of securities.

Brokerage firms and the exchanges also require maintenance margin, the minimum amount that must always be present in the account. The NYSE requires 25% and a typical maintenance margin is 30%. If your margin falls below 30%, you are subject to a margin call from your broker. This is a demand by your broker to bring the account back up to the 30% level, pay off part of the loan, or sell enough securities to maintain the 30%. If you don't comply, your securities may be sold to repay the loan, with remaining amounts credited to your account.

Why do investors use margin for financial leverage? When you borrow for an investment, you magnify your gains or losses. For example, assume you have $10,000 to invest in a $100 stock. You can purchase 100 shares for cash or 200 shares using a margin loan. Assume the stock price goes to $120. You have now made 20% on your cash investment, but 40% on your margin investment. But if the price goes down to $80, you have lost 20% on your cash investment and lost 40% on your margin investment. The joys of leverage!

**Lecture Tip**: Students seem to grasp the concept of margin very quickly, but get lost in the details of maintenance margin. The problem seems to relate to the calculation of percent margin, where the numerator and denominator both change as the stock price varies. It helps to go through several examples emphasizing how the margin changes as the stock price changes, and that the only number that stays constant is the amount borrowed. The investor always owes this amount to the broker until the loan is repaid.

It is important to note that we have examined margin positions for individual securities, but it is typically done at the portfolio level.

* 1. **Annualizing Returns on a Margin Purchase**

In Chapter 1, we talked about the need to compute percentage returns, but so far we’ve only considered annual returns. Of course, the actual length of time you own an investment will almost never be exactly one year. To compare investments, however, we will usually need to express returns on a per-year or “annualized” basis, so we need to do a little bit more work.

For example, suppose you bought 200 shares of Visa at a price of $80 per share. In three months, you sell your stock for $85. You didn’t receive any dividends. What is your return for the three months? What is your annualized return? In this case, we say that your holding period, which is the length of time you own the stock, is three months. From our discussion in Chapter 1, with a zero dividend, you know that the percentage return can be calculated as:

Percentage return = (Pt+1 − Pt)/Pt = ($85 − $80)/$80 = .0625, or 6.25%

This 6.25 percent is your return for the three-month holding period, but what does this return amount to on a per-year basis? To find out, we need to convert this to an annualized return, meaning a return expressed on a per-year basis. Such a return is often called an effective annual return, or EAR for short.

The general formula is:

1 + EAR = (1 + holding period percentage return)*m*

where m is the number of holding periods in a year.

In this example, the holding period percentage return is 6.25 percent, or .0625. The holding period is three months, so there are four (= 12 months/3 months) periods in a year. The annualized return, or EAR, is thus:

1 + EAR = (1 + holding period percentage return)m

= (1 + .0625)4

= 1.2744

So, your annualized return is 27.44 percent.

**D. Hypothecation and Street Name Registration**

***Hypothecation***: Pledging securities as collateral against a loan.

***Street Name***: An arrangement where the broker is the registered owner of the security.

As part of your margin account agreement you must agree to hypothecation of your securities and street name registration. Hypothecation allows the broker to hold your securities as collateral against your loan. This is essential in the case of a margin call. Since the security is held in street name, the broker is the registered owner and is allowed to sell the security in order to meet a margin call. Advantages of a street name account include: protection against theft or loss of the security, dividends or interest payments are automatically credited to your account, and the broker provides regular account statements, which are beneficial for record-keeping and tax purposes. A disadvantage arises when you want to sell the security through another broker—you must request the stock certificate be sent to the new broker. There will also normally be a charge for the service of issuing stock certificates.

1. **Retirement Accounts**

Although tax laws change quickly (and it is important to stress this), there are essentially two types of individual retirement savings accounts:

* A “Roth” Individual Retirement Account (IRA): Here, you invest after-tax dollars, and pay no taxes at all when you take the money out later. That is, you pay no taxes on dividends, interest, or capital gains.
* “Tax-Deferred” 401(k) plans or a traditional IRA: Here you invest “pre-tax” dollars, but must pay taxes on dividends, interest, and capital gains when money is withdrawn from the account.

So, either: 1) you pay taxes today, but not later, or 2) you pay taxes later, but not today.

With 401(k) and 403(b) plans, you generally have a tax-deferred account where you have a menu of investing choices and some type of company matching contribution.

**2.4 Types of Positions**

***Short Sale:*** A sale in which the seller does not actually own the security that is sold.

***Short Interest***: The amount of common stock held in short positions.

* 1. **Basics of a Short Sale**

When an investor buys a stock, the investor is long in the stock. The investor makes money when the price goes up, as in "buy low, sell high." When an investor sells short or shorts the stock, the investor is selling the stock with the intent of repurchasing it in the future. When the stock is repurchased, the investor is covering the short position. The short investor profits when the price of the stock goes down. They are thinking the reverse of the long investor, as in, "sell high, buy low."

The stock that is sold in a short sale is borrowed from another investor's margin account. They agreed to loan the stock when they signed the margin agreement. The investor that loaned the stock still receives all dividends or distributions and can still sell the stock any time they wish.

* 1. **Short Sales: Some Details**

When you short sell a stock, you borrow the stock from the broker. You incur initial margin, must meet the maintenance margin requirements, and must pay any dividends that are paid during the short position. ***Important***: Even though you have sold the stock, you do not have access to the proceeds from the sale.

Notice that the account balance sheet differs for short sales because the sales price is locked in. In fact, the asset side (left side) of the balance sheet is constant and the total for liabilities and equity (right side) is also constant. The short position varies with the fluctuating stock price and the account equity changes to reflect the difference between the total and the short position. With these changes, the calculation of maintenance margin is similar to a typical margin account.

Short selling is a common practice and generates a high volume of stock sales. This is reflected by short interest, the amount of stock held in short positions. As shown in the text, the level of short interest in major corporations can be in tens of millions of shares.

**Lecture Tip**: Short selling is a topic that is sometimes difficult for students to understand because they have to reverse the typical logic of investing. It may help to give examples in terms of a normal purchase and sale of a stock, and then just reverse the procedure with the same numbers for a short sale. It also helps to reflect on the "buy low, sell high" logic of stock purchases versus the "sell high, buy low" of short sales. Discussing the logic that an investor sells short when they think the price of the stock will decrease reinforces the process.

Finally, students should be reminded of the risk involved in short sales. Asking the question, "How much is the most you can lose when purchasing a stock?" brings the seemingly simple response, "the full value of the stock." When you ask the same question for short sales, they have to think for a moment before they realize there is no upward limit to a stock price, so your losses are unlimited, theoretically. Of course, short sellers can avail themselves to stop-loss orders that prevent this from happening. Further, an infinite increase in a stock price in a short period of time is quite unlikely!

* 1. **Short-Sale Constraints**

The uptick rule prevented shorting stocks except after an uptick. It was eliminated in 2007; however, after the crash of 2008, it was reinstated in 2010 in a modified form. Under the new version, the uptick rule is triggered when a stock falls 10 percent in a single day. Also related to the crash, the SEC temporarily banned short selling in financial stocks; however, there is debate over the effectiveness of this ban.

* 1. **Forming an Investment Portfolio**
  2. ***Some Risk Tolerance Scores***

We administered the risk tolerance quiz to 10 students, staff, and faculty at a well-known university. The scores range from 13 to 40. The average score for males and females was roughly the same. However, the average score for investors with little to no investment experience is 24 while those with at least some investment experience have an average score of 32. What does this mean?

* 1. ***Risk and Return***

Risk tolerance is the first thing to assess in evaluating the suitability of an investment strategy.

* 1. ***Investor Constraints***

It is important to consider investor constraints in establishing brokerage accounts for investment portfolios.

* 1. ***Strategies and Policies***

In investment portfolios, the investor must consider investment management, market timing, security selection, and asset allocation.

* 1. **More on Asset Allocation**

Strategic allocation sets the longer-term asset allocation, while tactical allocation looks for short-term deviations to the allocation to take advantage of perceived opportunities.

**2.6 Summary and Conclusions**