

HOFSTRA UNIVERSITY
FRANK G. ZARB SCHOOL OF BUSINESS

*“to provide students with a perspective on the integration of the functional areas of business,
while maximizing the use of analytical skills and knowledge for decision making in a
contemporary global business environment”*

DEPARTMENT OF FINANCE

FINANCE 101
INTRODUCTION TO FINANCE,
FINANCIAL MARKETS AND INSTITUTIONS
(undergraduate course)

COURSE SUPPLEMENT

CHAPTER 1

GLOBAL FINANCIAL MARKETS AND INSTITUTIONS

The globalization phenomenon has impacted all aspects of business and financial management. Financial management is increasingly conducted on a global basis. Financial decisions both at the level of the firm and at the level of the individual have become more complex. At the same time, the opportunities available to the decision maker have also significantly increased with the globalization of financial management.

A. THE GLOBALIZATION PROCESS

Globalization process is the movement toward the linkage of national economies into one global market. Usually this process includes a number of countries that decide to integrate their economies. Other countries prefer to have restricted and controlled economic relationships with the rest of the world. The process toward internationalization (and ultimately globalization) starts with the removal of restrictions in imports and exports. This is called liberalization of the country's **trade account**. Next countries remove restrictions in the flow of capital, that is, they allow their citizens and firms to take or send their home currency abroad or bring or receive foreign currency at home. This is called liberalization of the country's **capital account**.

When two or more economies are linked so that goods and capital can flow across these economies with little or no impediments, we say these economies are financially integrated. Depending on the degree of economic integration, we can talk of **fully integrated** markets (e.g., U.S. with Western Europe and Japan), **mildly segmented** markets (e.g., U.S. with Russia and Singapore), and **segmented** markets (e.g., U.S. with Egypt and China). As of today this process is still going on, that is, we have not achieved a fully integrated global economy nor do we have fully integrated global markets.

Methods of Foreign (Cross-Border) Investments

There are two methods to invest abroad: through a foreign portfolio investment or a foreign direct investment.

Foreign portfolio investment is the purchase of foreign financial assets. Example: Fidelity creates a mutual fund that buys stocks of firms from emerging markets.

Foreign direct investment is the purchase of an ownership interest in a foreign enterprise or the establishment of a business in a foreign country. Example: Toyota (a Japanese firm) has built and operates factories in the U.S. Intel builds a semiconductor factory in, say, Singapore.

B. INTRODUCTION TO EXCHANGE RATES

International investments involve the use of foreign currencies. It is important that one understands how currencies are related to each other in terms of value. This introduces the term of **foreign exchange rate**. International investors must also be aware of the risks they assume due to the fact that foreign exchange rates (value of one currency relative to another) fluctuate over time. This introduces the term of **foreign exchange risk or currency risk**.

An **exchange rate** is the ratio of conversion of one currency to another. It is also the price of a currency expressed in terms of another currency. Since not all countries use the same currency for settling transactions and since the exchange rates between currencies tend to change from minute to minute, a thorough understanding of exchange rates and factors affecting exchange rates is essential for any one or any firm involved in international business activity.

When referring to currencies, it is useful to use such terms of reference as the "home" and the "foreign" currency, respectively.

Exchange rates between currencies may be quoted in direct or indirect terms.

Direct Quote: A direct quote of the home currency with respect to a given foreign currency is the number of units of the

home currency per one unit of the foreign currency. That is, a direct quote indicates the units of home currency that one unit of the foreign currency buys at a point of time. For example, \$1.1250/EU is a direct quote **of the US\$** for the Euro (EU) in the U.S. An exchange rate of \$1.1250/EU indicates that \$1.1250 can be converted into one Euro. Alternatively, one Euro can be converted into \$1.1250.

Similarly, ¥118.50/\$ is a direct quote for the dollar in Japan, and C\$1.5600/US\$ is a direct quote for the US dollar in Canada.

Indirect Quote: An indirect quote of the home currency with respect to a foreign currency is the number of units of the foreign currency per one unit of the home currency. That is, an indirect quote indicates the units of foreign currency that one unit of home currency buys at a given point of time. For example, EU0.8889/\$ is an indirect quote **of the US\$** for the Euro in the U.S., \$0.0088439/¥ is an indirect quote for the dollar in Japan, and US\$0.6410/C\$ is an indirect quote for the US dollar in Canada.

Given how direct and indirect quotes are defined, it is easy to understand that one is the reciprocal of the other. Hence, a direct quote of the dollar of \$1.1250/EU translates into an indirect quote of the dollar of EU0.8889/\$, i.e., $EU0.8889/\$ = 1/\$1.1250/EU$.

Currency Appreciation and Depreciation. Currency values, i.e., the foreign exchange of currencies, can move up, which is referred to as **currency appreciation**, or down, which is referred to as **currency depreciation**. A currency appreciates or depreciates against a given other currency. For example, the dollar may appreciate against the Euro and depreciate against the Yen.

Converting from one currency to another currency:

Currency conversion using direct quotes: To convert a cash flow expressed, say in Euro, into a cash flow expressed, say in US\$, we divide the cash flow in Euro by the direct quote of the Euro with respect to the \$.

Example: The exchange rate between the US\$ and the Euro is EU0.8889/\$, which is a direct quote of the Euro with respect to the \$. To convert EU200,000 into US\$, we divide EU200,000 by EU0.8889/\$, and get \$224,997.

Currency conversion using indirect quotes: Alternatively, to convert a cash flow expressed as above in EU into a cash flow expressed in US\$, we multiply the cash flow in EU by the indirect quote of EU with respect to the \$.

Example: The exchange rate between the US\$ and the EU is \$1.1250/EU, which is an indirect quote of the EU with respect to the \$. In this case, to convert EU200,000 into US\$, we multiply EU200,000 by \$1.1250/EU, and get \$225,000.

Foreign Exchange Risk: Foreign exchange risk is the uncertainty in cash flows and returns for firms and individuals resulting from a change in the exchange rates. Exchange rates may not be fixed and can change frequently resulting in uncertain cash flows when transacting in foreign currencies. Exchange rates may be affected by a number of factors, including macroeconomic factors such as inflation, interest rates, budget deficits, economic growth, money supply and trade deficits, and political factors such as stability of governments, regulation of markets and legal environments. These factors affect the demand and supply of currencies in the foreign exchange markets, which in turn determines the exchange rates. In general, any factor that creates a positive image of a country will make that country's currency appreciate in value, and any factor that reflects negatively will result in the depreciation of that country's currency.

Since exchange rates change from minute to minute, an adverse change in exchange rates can cause a financial loss for the firm or decision maker. At the same time, a favorable change in exchange rates can result in a financial gain. The impact of foreign exchange risk can be understood when we convert cash flows denominated in one currency into cash flows denominated in another currency.

Consider the case of General Electric (GE), a US firm, that sells equipment worth EU25 million to Lufthansa of Germany to be paid in one year. At the current exchange rate of \$1.1250/EU, the EU25 million converted into US\$ would result in \$28.125 million. The foreign exchange risk that GE faces is that the exchange rate in one year may be different from the current exchange rate. Suppose the exchange rate in one year turns out to be \$1.0800/EU. At this exchange rate, EU25 million would convert into only \$27 million. This is \$1,125,000 less than what GE would have received if the exchange rates had not changed. On the other hand, if the exchange rate in one year turns out to be \$1.1500/EU, then GE would receive \$28.75 million, \$625,000 more than it would have received at the current exchange rates. Depending on whether the exchange rate changes adversely or favorably, GE's cash flows from the sale may be less than or more than what it would receive at the current exchange rate. This uncertainty in future expected cash flows contributes to the foreign

exchange risk faced by GE.

Foreign exchange risk can be managed by using derivatives such as currency options, currency forwards and currency futures, and by implementing certain operational strategies that are designed to reduce the exchange risk.

IMPACT OF GLOBALIZATION ON FINANCIAL MARKETS AND INSTITUTIONS

Freedom of capital flows is an important determinant of capital market integration because it is capital that allows investors and firms to buy financial assets and claims, such as deposits, bonds, stocks, firms, real estate, etc. (i.e., to make financial investments) across national markets.

Financial globalization has given rise to various **international financial markets** that operate across international borders. It has also created various **international financial instruments**. Forms of internalization in financial markets and institutions include: the listing of a stock or bond in a foreign stock exchange; the issuance of securities, like shares, abroad; the lending of a foreign firm; the purchase of foreign financial assets;

In the past, financial markets and institutions were viewed within national boundaries. Intermediation involved transfer of funds from lenders (savers) to borrowers in the same market or country. Investors with surplus funds predominantly used domestic investment vehicles to save them. Similarly, firms wanting to borrow funds through the financial markets were predominantly using the financial services sectors in their home countries. This is no longer the case. National financial markets are integrating into one global marketplace. The financial markets in different countries are increasingly linked to one another through financial transactions such as investments abroad and cross-border acquisitions, through financial product development geared towards foreign investors such as eurobonds, and through trading linkages. It is common for funds from lenders of a country to be transferred to borrowers of another country. Intermediaries obtain funds from investors all over the world, and make loans to borrowers all over the world. Financial institutions offer their services to customers worldwide and compete with one another on a global basis.

International Bank Loan Market:

A number of banks in various financial centers throughout the world accept deposits in different currencies from individuals and from firms. They also make loans to firms and governments in different currencies and for different maturities. Frequently, firms needing funds for a short period of time use the services of these depository institutions.

International Bond Markets:

International bond markets have become a popular source of funds for governments and corporations. The popularity of the bond markets can be attributed to some unique features of the instruments that attract both investors and issuers to the markets. The international bond markets are comprised mainly of two types of bond issues -- eurobonds and foreign bonds. The characteristic that differentiates a eurobond from a foreign bond is based on the currency of denomination of the bond and the market in which the bond is issued.

A eurobond is an underwritten bond offered through an international syndicate of investment banks in countries other than the country in whose currency the issue is denominated. Examples of eurobond issues include a U.S. based firm issuing dollar denominated bonds in Europe and Asia, a German firm issuing yen denominated bonds in Europe and North America, and Latin American government issuing dollar denominated bonds in Europe. Most eurobonds are in bearer form and have call provisions and sinking funds.

A foreign bond is an underwritten bond offered by a foreign issuer in a country, and denominated in the currency of that country. Examples of foreign bonds include a German firm issuing pound denominated bonds in U.K. (called "bulldogs"), a French firm issuing dollar denominated bonds in U.S. (called "yankees"), and a U.S. firm issuing yen denominated bonds in Japan (called "samurai bonds").

There have been a number of innovations in the structure of bonds and the way they are issued in the international bond markets. Such innovations are a direct consequence of the ever-changing needs of both the issuers and the investors in the markets.

Investment in international debt securities involves additional risk factors that have to be taken into consideration. The default risk of the issue becomes important, especially if the issuer is a foreign entity. Debt securities denominated in foreign currencies are subject to exchange rate risk, and investors and portfolio managers have to consider the effects of exchange rate changes on the return of the investment. At the same time, these securities offer potential international diversification, and, in many cases, offer higher yields compared to domestic securities.

International Equity Markets:

A recent trend in the international equity markets is the increasing use of euroequity markets by firms. These are equity issues specifically designed for distribution among foreign markets, underwritten by a group of investment banks and purchased mainly by institutional investors. Alternatively, firms can raise equity in foreign markets by listing the stock in one or more exchanges and issuing the stocks in those markets. A firm desiring to enhance its reputation and improve its stock's liquidity might decide to list and trade the stock on one or more foreign exchanges. On the other hand, a firm that is more concerned about avoiding the direct and indirect costs of listing rather than enhancing its reputation would choose to use the euroequity market to raise funds in the international equity markets.

An example of international equity: The American Depositary Receipts (ADRs). ADRs are a good example of an instrument that allows investors (in this case US investors) to invest in foreign equities, i.e., stocks. Each ADR is a certificate that represents ownership of a number of shares of a foreign firm. ADRs are traded on U.S. markets like the New York Stock Exchange, the American Stock Exchange, and Nasdaq. Besides the opportunity to earn attractive returns on foreign stocks, the benefit for a US investor is that by trading ADRs the investor avoids any risk with the clearance and settlement process since the trade is executed and handled in the U.S. For the foreign firm, the benefit of having its ADRs traded in the U.S. is the additional pool of investors attracted to the stock, which can result in a higher price.

Trading on organized exchanges accounts for most of the trading in equities throughout the world. Other than the U.S., Japan, the U.K. and the Eurozone countries are also at the top of the rankings in terms of market capitalization and total value traded. These markets have traditionally been the principal equity markets of the world. However, the market capitalization and value of equities traded in a number of other countries has also been impressive. This is true of some of the emerging market countries such as Malaysia, Mexico, South Africa, Taiwan, Korea, Thailand and Brazil, to name a few. The number of listed domestic companies in emerging markets has also been increasing, allowing larger participation in the equity markets by foreign investors.

D. IMPACT OF GLOBALIZATION ON INVESTMENTS

Individual investors and institutional investors have discovered the benefits of including foreign financial assets in their portfolios. Individual and institutional investors are constantly seeking ways to improve the risk-adjusted returns on their investment portfolios. One approach that investors have been taking in recent years is to diversify across international markets, especially since there are several more investment opportunities in foreign markets, compared to domestic markets. Investors who confine themselves to only domestic securities are missing out on the opportunity to earn high returns while facing relatively lower risk. International investment also allows investors to construct portfolios that are more efficient than those constructed from purely domestic securities. The relatively lower correlation coefficient between securities in different countries results in the elimination of some of the risk in purely domestic portfolios. Empirical research shows that the risk adjusted returns of international portfolios are significantly higher than those of domestic portfolios. Another reason for including foreign securities in a portfolio is that the equity market performance of many foreign countries have been far superior to the performance of U.S. equity markets in recent years. Despite the increased volatility in these foreign markets, their risk adjusted returns have exceeded that of U.S. markets. U.S. investors avoiding foreign securities in their portfolios would be missing the opportunity to earn large returns on their investments.

Trading in securities in foreign markets has become easier and more cost-effective in recent years. Almost all countries in the world have organized exchanges where securities are traded. The exchanges are strictly regulated to improve operational and informational efficiency. The lack of liquidity in many of the newly formed markets is becoming less of a concern for U.S. investors as more investors participate in those markets. Regulatory and technological changes have

helped reduce the various costs and risks facing U.S. investors in foreign markets.

Investors in international markets have the opportunity to invest in a wide variety of securities in different markets. The international equity markets offer equity investment opportunities in firms across the world. International diversification can be achieved through one of three ways -- (i) direct portfolio investment in the stocks traded on foreign exchanges, (ii) investing in foreign securities that are traded on domestic exchanges, and, (iii) investing in investment companies that invest in foreign securities. International bond markets offer a wide variety of securities in different currencies and with different innovative features that are attractive to investors. International money markets cater primarily to the needs of institutional and large individual investors, by providing opportunities to invest in high quality investments with varying maturities.

Investors in the international markets should be aware of the additional default and exchange rate risks they face due to the nature of the securities that are offered and the structure of the markets. Exchange rate fluctuations can either dampen or amplify the return on a foreign investment.

E. IMPACT OF GLOBALIZATION ON CORPORATE FINANCE

International business activity at the corporate level has been a growing source of returns for firms. Firms are finding it increasingly profitable to globalize their business. They face several opportunities to enhance their value when they increase their presence in foreign markets. At the same time, they may also face political, social and economic hurdles when increasing their international business activity. International business activity can take many forms such as exporting and importing, operating subsidiaries in foreign markets, selling in foreign markets and financing from foreign sources.

Investing in Foreign Markets by Firms: Firms may find investing in projects in foreign markets to be more profitable than just investing in projects in the home market. The benefits include diversification of risk across markets, lower costs of operating in foreign markets, cheaper resources in foreign markets, larger market for firm's products and services, and higher returns for the firm. There are some problems that firms would face, such as exchange rate risk, political and economic uncertainty in foreign markets, and restrictions on transfer of funds from the foreign market to the home country. Despite these risks, the benefits of investing in foreign markets may outweigh the risks, and value of the firm may be enhanced.

Borrowing in Foreign Markets by Firms: Firms may find it to be cheaper to borrow in foreign markets, rather than in the domestic market. This may be due to

- lower rates of borrowing in foreign markets
- favorable exchange rate change can reduce the cost of borrowing even further; however, an adverse change in exchange rate can increase the cost of borrowing
- favorable tax implications of borrowing in foreign markets
- larger global market from which to borrow
- option to borrow in the preferred currency
- issuing stocks and bonds in foreign markets where the cost of financing may be lower due to demand for the firm's securities

The above factors may reduce the cost of capital for the firm and increase the value added to the firm.

Foreign Markets as Source of Supply of Resources and as Destination for Firm's Products: With improvements in communication technology and transportation facilities, firms may find cheaper sources of raw materials in foreign markets, thereby reducing their costs of manufacturing and improving their profit margins. They might also be able to increase their market share by selling to foreign customers, especially if the domestic market is saturated. This may also improve their profit margins, provide stability to their earnings and maximize the values of the firms.

WEBSITES WITH RELEVANT INFORMATION

Current and historical exchange rates can be found at:

[<http://www.oanda.com/convert/classic>],

[<http://www.bloomberg.com>]

[<http://quote.yahoo.com/m3?u>]

Information on American depository receipts can be obtained from:

[<http://www.adr-dmg.com/adr-dmg/welcome.html>]

Information about country debt ratings can be found at:

[<http://www.ratings.com/criteria/sovereigns.index/>] and

[<http://www.moodys.com/repldata/ratings/ratsov.htm>]

Information on foreign branches of US banks and US branches of foreign banks can be found at:

[<http://www.ffiec.gov/nic/>]

CHAPTER 2

OPTIONS AND OPTIONS MARKETS

INTRODUCTION

Imagine you are at a car dealership considering the merits of leasing a car. After making a \$1,000 down payment, you can lease a luxury car for \$399 monthly for 39 months. According to the lease, thirty-nine months from now, the dealer will give you the opportunity to purchase the car for \$10,000. When the lease expires, you can choose to purchase the car for \$10,000 or return it. If you choose to buy the car, the dealer is obligated to sell it for \$10,000 even if the car turns out to be a classic model worth \$50,000. On the other hand, if you choose to return the car, the dealer must take it back.

By letting you choose whether to buy the car for \$10,000 thirty-nine months from now, the car dealer has granted (sold) you a call option—the right to buy an asset at a pre-specified price and time. The right is not free: in exchange for the right to buy the car, your lease payments and perhaps your down payment will be higher than if you did not have that opportunity. Also, the call's value depends on how long you can keep the car before you make your decision, how valuable you think the car will be in 39 months, and the price the dealer is charging for the car when you buy it.

After you read this chapter, you might realize that you frequently encounter options in every day life. This chapter focuses on equity options that are traded in financial markets, but the concepts in the chapter apply to all types of options, including the call option embedded in the car lease described above.

A. OPTION TERMINOLOGY

Options are an example of a *derivative asset*. A derivative is a security whose value depends on the anticipated value of a second asset. In the case of the car lease, the right to buy the car is a derivative asset whose value depends upon the car's anticipated value thirty-nine months in the future. The car's value “underlies” the option's value and is called the option's *underlying asset*.

Options are a contract between two parties: a buyer and a seller. The buyer holds a *long* position in the option, while the seller's position is *short*. When purchasing an option the buyer pays a *premium* to the seller to acquire a right. In exchange for receiving premium, the seller assumes the obligation to grant the right. In the car lease example, the car renter can choose whether to buy the car but the car dealer is obligated to honor the renter's decision by selling the car for \$10,000.

There are two basic types of options: *calls* and *puts*. *Call options* give the buyer the right to buy the underlying asset at a pre-specified price. In the car lease example, this price is \$10,000. *Put options* give the buyer the right to sell an asset at a pre-specified price. The pre-specified price at which the option holder buys or sells is the option's *exercise price* or its *strike*.

Options are assets with limited lives; most options expire within one year of their initial trading date. Their *maturity* or *expiration* dates are generally expressed as months. Exchange traded equity options, which are the focus of this chapter, expire on the third Friday in the expiration month. For example, in June 2000, all June equity options expired on June 16. Some options can be exercised only on their maturity dates; these are *European options*. Options that can be exercised any time prior to the expiration are *American options*. Note: the terms American and European are unrelated to where the options are traded.

In the rest of this chapter only equity options will be discussed, but these options comprise only a segment of the options markets. Common stock is the underlying asset that gives equity options value. Other assets on which options are written include market indexes, bonds, currency, and futures contracts.

B. CALL OPTIONS

1. *The Buyer's Position*

A call option gives the holder the right to buy common stock at the exercise price prior to the option's maturity. For example, on May 11, 2000, AOL's common stock closed at \$53.8125. A call option expiring in June, with a strike of \$60 (June60 call) had a premium of \$1.75. Therefore, on May 11, 2000 an investor was willing to pay \$1.75 for the right to buy one share of AOL's common stock at \$60 (with the inclusion of the premium, this investor's total cost per optioned share would be \$61.75.) The investor could exercise his/her right any time prior to the option's expiration on the third Friday in June.

Why would an investor be willing to pay \$1.75 for the right to buy AOL common at \$60 when its market price is clearly less than that? One reason is that the investor expects AOL's stock price to rise above \$60 before June 16. The call buyer is said to be optimistic or "bullish" about the underlying stock's future prospects. Purchasing the option will let the buyer acquire the stock at a bargain price. A second reason an investor might buy the call is to profit from changes in the premium. The value of the right to buy AOL for \$60 per share will increase if the price of AOL rises. Options purchased on organized exchanges can be sold prior to maturity, so investors can earn profits by selling options for more than the purchase price. Investors could also buy call options as one component of a trading strategy.

Assume that the AOL call buyer holds his/her position until June 16. On that date the buyer can elect to exercise the option or let it expire. In this example, it makes sense to exercise if AOL's June 16 stock price is higher than \$60. For example, if AOL's June 16 market price is \$65, the investor will exercise his/her right to buy AOL at \$60. This investor would earn a gross payoff of \$5.00 per optioned share and a net payoff of \$3.25 per share. (\$5.00-\$1.75). On the other hand, if AOL stock had fallen to \$45.00 by June 16, the call buyer would let his/her right lapse, earning a gross payoff of \$0, but losing only the \$1.75 per share premium.. Figure 1 shows the range of profits/losses for an investor who paid \$1.75 for the AOL June 60 call and holds it until the option expires.

When options are held to maturity, the buyer's gross payoff will be the difference between the price paid per share (the option's strike) and the stock's market price OR zero. The payoff will be zero whenever the difference between the stock's market price and the exercise price is negative.

At maturity, the buyer's payoff can be written with mathematical notation as:

$$C_T = \text{Max}(S_T - X, 0)$$

where:

T is the option's expiration date

C_T is the call's value on the option's expiration day

S_T is the price of the underlying stock on the option's expiration day

X is the option's strike or exercise price

The option is said to be "in-the-money" when $S_T > X$, "out-of-the money" when $S_T < X$ and "at-the-money" when $S_T = X$. Gross payoffs to the option buyer are shown on Figure 1.

2. *The Seller's Position*

Many students want to know who would be willing to sell AOL for \$60 per share when the market price is \$65. The answer is that the call writer has a contract with the buyer and is obligated to deliver shares and accept the exercise price as payment. Assume that on May 11 a call writer (seller) was paid \$1.75 per share for granting a buyer the right to purchase AOL shares at \$60 at any time prior to June 16. If on June 16, AOL's stock price is \$65, the seller might be called upon to deliver AOL shares and be paid \$60 per share. His/her gross loss of \$5.00 per share would be reduced by the \$1.75 premium received in May, for a net loss of \$3.25 per share. When summed, the buyer's profit and seller's loss equals zero. Potential profits to the call seller in the AOL example are shown on Figure 2. The seller's gross payoffs are also shown on Figure 2.

It's likely that both the call buyer and writer entered the market with the intention of earning a profit from their option position. Earlier, we noted that the call buyer is optimistic about the stock's future prospects. The call seller will have a

different viewpoint, believing that AOL's price will decline, or at least not rise above \$60 before June 16. A short call could also be one component of a trading strategy. Like the call buyer, the call seller is not required to hold his/her position until the option expires. A short position can be bought back and cancelled.

B. PUT OPTIONS

1. *The Buyer's Position*

A put option gives the buyer the right to sell shares of stock at the exercise price prior to the option's maturity. On May 11, 2000, a put option on AOL expiring in June had an exercise price of \$60, and a premium of \$7.50 per optioned share. As was noted earlier, on May 11 AOL's common stock price was \$53.8125 per share. Investors buying the June60 put were willing to pay \$7.50 for the right to sell AOL for \$60 per share prior to June 16 (the third Friday in the expiration month). After considering the option's premium, this investor's net selling price would be \$52.50 if the option is held to maturity.

Who would buy put options? Buying a put option with a strike of \$60 puts a floor on the holder's selling price. Therefore, investors anticipating a decline in stock prices might establish this position. The put option guarantees the holder will be able to sell AOL for \$60 per share no matter how low AOL's stock price might fall. Moreover, if AOL's stock price falls below its current price of \$53.8125, the right to sell AOL at \$60 per share will become increasingly valuable. On the other hand, if AOL's price rises above \$60, the ability to sell the shares at this price is worthless and the buyer forfeits the premium. As can the call buyer, the put buyer can choose to hold the option to maturity or can sell the position to another investor.

Assume that the put option described above is held to maturity. On that date, if AOL's price is below \$60 per share, the buyer will exercise; otherwise the option will lapse and the buyer will lose his/her premium. For example, if AOL's price on June 16 is \$50, the put buyer will exercise his/her right to sell the shares at \$60, earning a gross payoff of \$10 per share (the exercise price of \$60 less the stock's market value of \$50). The investor's net payoff will equal \$2.50 (\$10.00 less the \$7.50 premium). In order to exercise, the put buyer must deliver shares to the put seller who is obligated to buy them. In mathematical notation, the put buyer's gross payoff on the option's expiration date is:

$$P_T = \text{Max}(X - S_T, 0)$$

where:

T is the option's expiration date

P_T is the option's value on the expiration date

S_T is the underlying stock's value on the expiration date

X is the option's strike or exercise price

A profit loss graph for the AOL June 60 put and put payoffs on the maturity date for all possible stock prices are shown on Figure 3.

2. *The Seller's Position*

On the opposite side of the put contract, is a put seller. The put seller is paid a premium in exchange for granting the buyer the right to sell shares of stock at a pre-specified price. The put seller then assumes the obligation to buy shares of stock at the exercise price if the buyer chooses to exercise his/her right. In any case, the seller keeps the premium which will offset any losses incurred if the put is exercised. Assume that a put seller was paid \$7.50 per optioned share on May 11 for granting the buyer the right to sell AOL at \$60 per share. If on June 16, AOL's market price is \$50, the seller will buy the shares for \$60 each, losing \$10 per share. The loss will be offset by the premium of \$7.50, so the seller's net loss per share will be \$2.50. Again, if the buyer's gain and the seller's loss are summed, the total is zero.

The put seller's payoffs and profits on the maturity date for all possible stock prices are shown on Figure 4.

Figure 1
 Profits/Payoffs to AOL June 60 Call Buyer

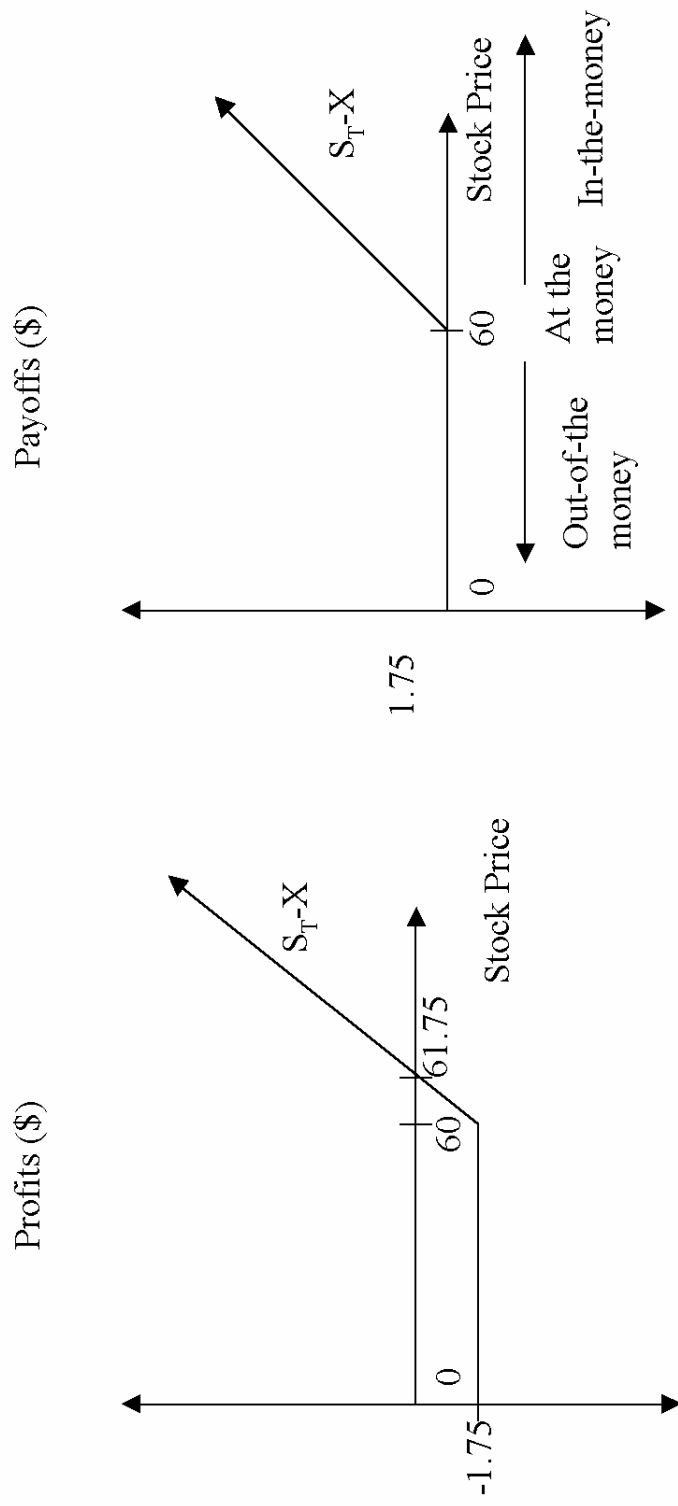


Figure 2
Profits/Payoffs to AOL June 60 Call Seller (Writer)

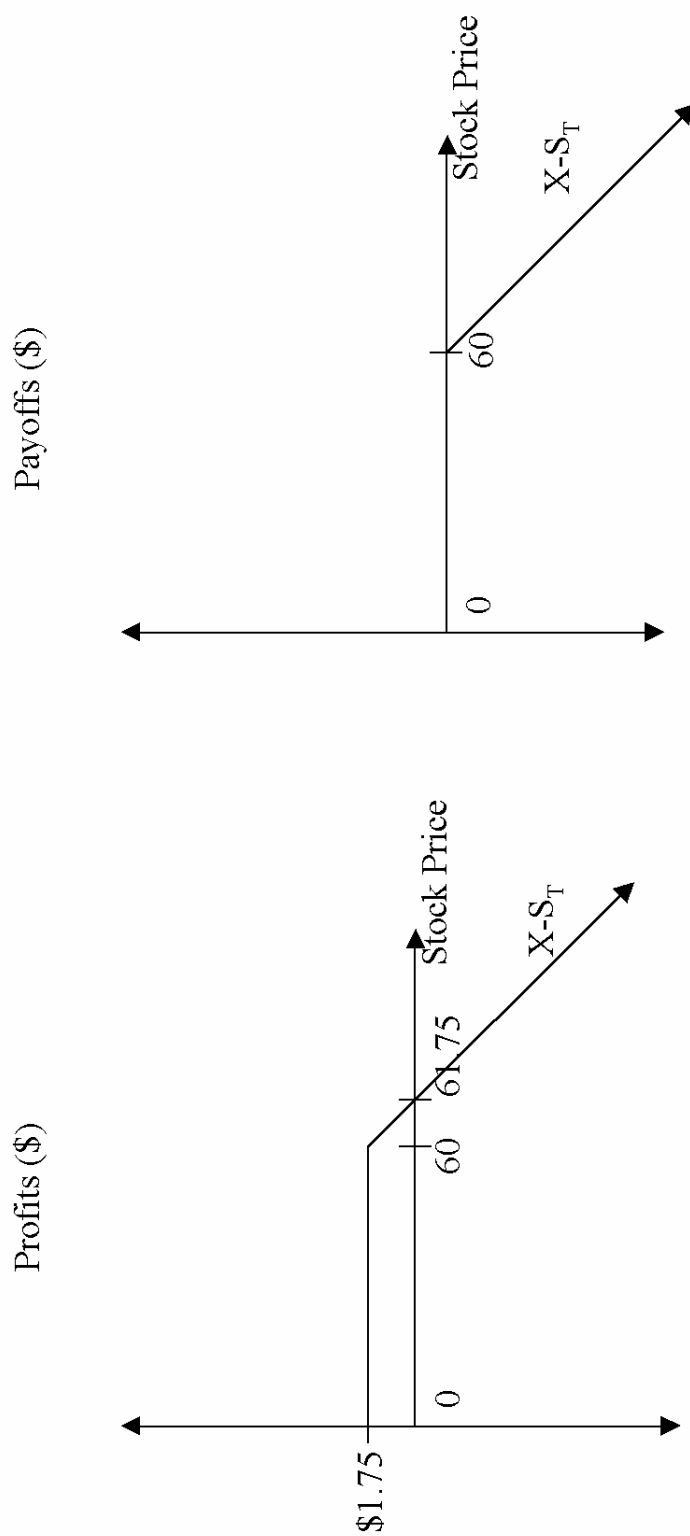


Figure 3
 Profits/Payoffs to AOL June 60 Put Buyer

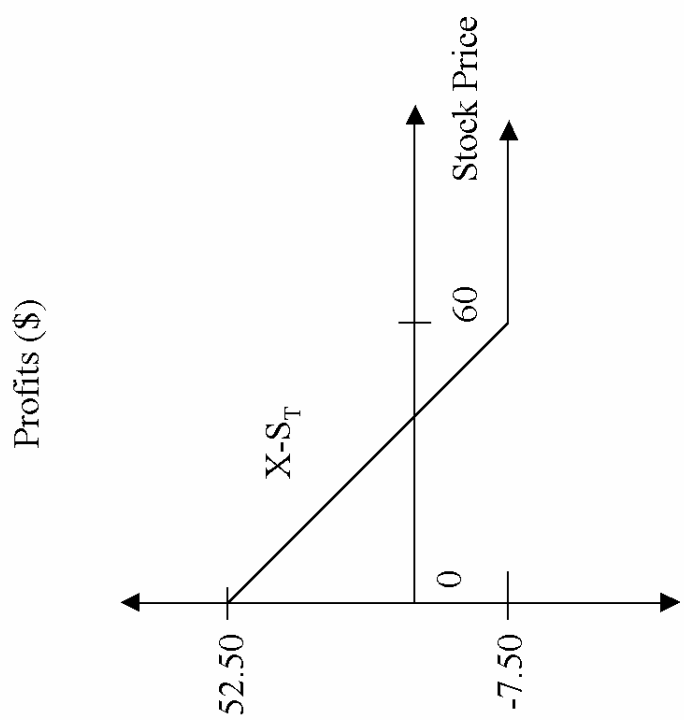
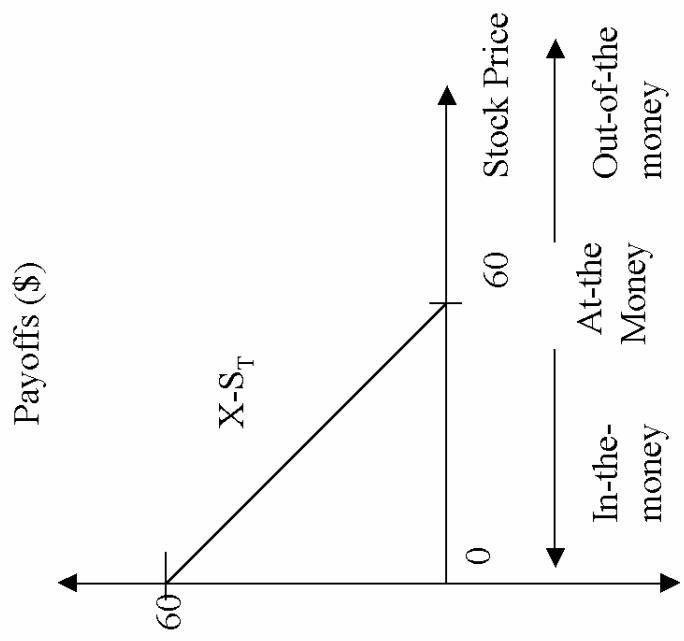
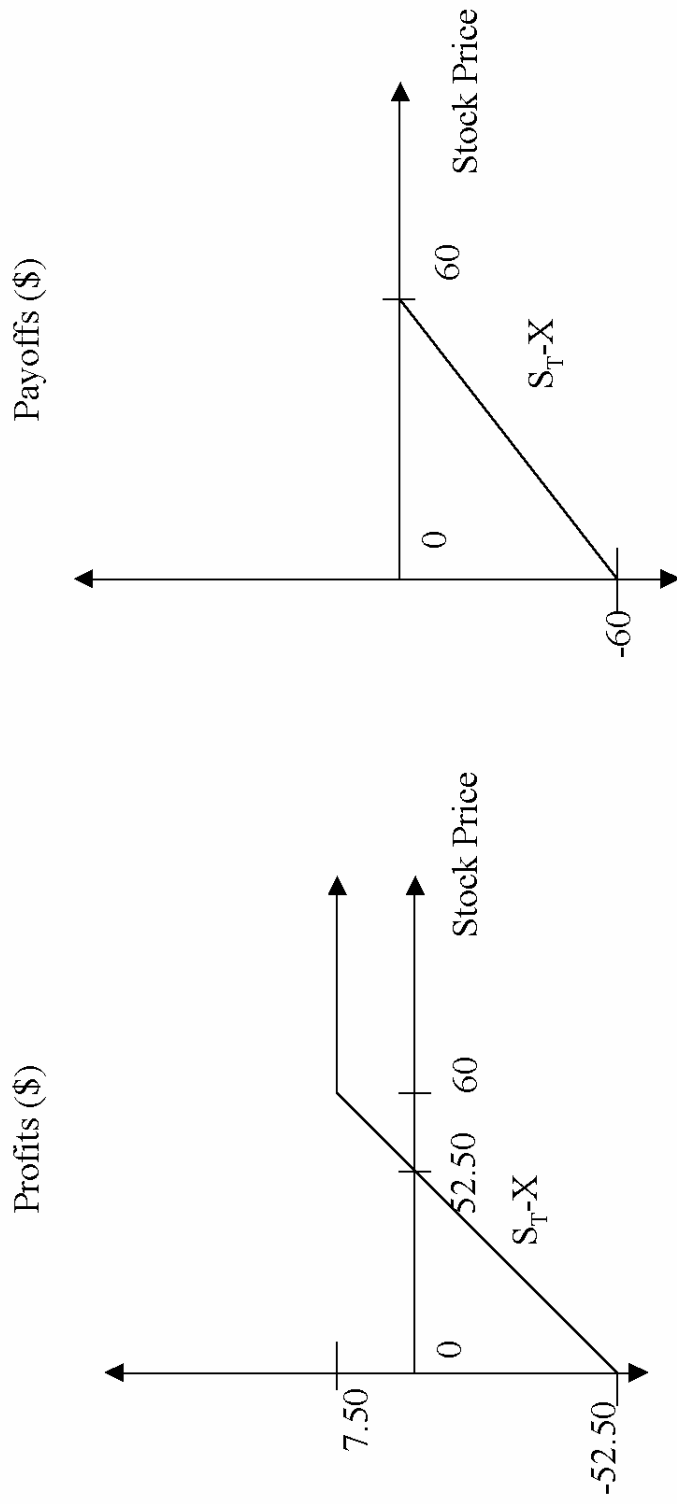


Figure 4
 Profits/Payoffs to AOL June 60 Put Seller (Writer)



3. *Obtaining Option Prices from the Wall Street Journal*

Table 2 shows some option prices as they are reported in the *Wall Street Journal (WSJ)*. Daily prices are listed in the Journal's "Money and Investing" section. The *WSJ* lists prices only for options that have fairly active trading. For a complete listing of available options, check the option exchange's home page. The CBOE, for example, provides a complete listing of all options available on a given stock and price quotes with 20 minute delays.

In the *WSJ*, each option is listed alphabetically, according to the name of the company on which the options are written. Beneath the company identifier is the previous day's closing stock price. Options are then grouped by strike, with the lowest strike listed first, then by maturity (earliest to latest) Note that the expiration year is not shown because the options are short term instruments. The four columns after the strike prices show the last trading price and trading volume (number of contracts) for calls and puts, respectively. Keep in mind there is a one-day lag between the time the price occurred and the date the table is published. Current quotes can easily be obtained on the Internet.

D. OPTIONS MARKETS

Although some options, particularly options where foreign currency is the underlying asset are written by financial institutions, many options are traded on organized exchanges. The first organized options exchange The Chicago Board Options Exchange (CBOE) opened in 1973. At about the same time, Fischer Black and Myron Scholes developed a mathematical model that could reliably price options: the Black-Scholes Option Pricing Model. Since 1973 the types of options available and the number of options exchanges has grown tremendously. Table 1 lists some options exchanges as well as their web site addresses.

1. *Institutional Characteristics of Equity Options*

Although in the earlier part of the chapter, we referred to one option written on one share, each option contract is written on 100 shares. The newspaper price is quoted on a per share basis; to obtain the price per contract, this price must be multiplied by 100. Broker's fees must also be considered to determine the actual cost of establishing a position in the options market.

When options are traded on an organized exchange such as the CBOE the exchange, not the buyers and sellers determine a contract's maturity and strike price. On the CBOE, options trade on three different cycles. In any given month, options expiring in the current and following month are available. Beyond that, available expiration dates vary. For example, in January, options trading according to the "January sequential cycle" have maturities of January, February and April and July; options trading according to the "February sequential cycle" have maturities of January, February, May and August; options trading according to the "March sequential cycle" have maturities of January, February, March and June.

In exchange for accepting the standardization required by exchange trading, the CBOE provides some important benefits. One benefit is protection against default risk. If an option seller is unable to honor its commitment to the buyer, the exchange will ensure the contract's terms are met. Option contracts traded on the CBOE are insured by the Options Clearing Corporation (OCC). Financial institutions whose trades clear through the OCC pay insurance premiums to the OCC to protect against defaults. According to the CBOE's web site the OCC is a triple A rated institution with more than enough funds to protect investors in the option's market.

A second advantage of trading on an organized exchange is liquidity. Investors that want to establish or close an option position will be able to accomplish this more easily on an organized exchange.

2. *Regulation of the Option's Market*

In the US, the Security Exchange Commission regulates the options market. In addition, the markets are self-regulating. For example, the CBOE monitors trading activities through its Market Regulation and Compliance Division. This division enforces SEC and Exchange Rules regarding, margins, position limits, trading practices and the management of

customer accounts.¹ Furthermore, all brokers are required to inform potential investors, in writing, of the risks associated with investing in the options markets.

SUMMARY

In this chapter, a derivative asset: options were described. Put and call options are contracts between two parties: a buyer and a seller. Call options entitle the holder to buy shares at a pre-specified price; put options entitle the buyer to sell shares at a pre-specified price. It is the buyer's right to choose whether to exercise. Put and call sellers assume an obligation to buy shares (put seller) or to sell shares (call seller) and are required to honor their commitment if the buyer chooses to exercise. Options markets have grown tremendously since 1973 and are an important segment of global financial markets.

CHAPTER 2: QUESTIONS AND PROBLEMS

1. What is a derivative? Why are options considered to be derivative assets?
2. Check the web site of one of the exchanges listed on Table 1. What types of options contracts are traded on the exchange?
3. In July 2000, Ms. A is anticipating that the price of Cisco will rise above its current price of 67.25 before the end of the year. She doesn't want to buy the stock, but would like to benefit from the increase in stock price. What would you tell her to do?
4. In July 2000, Mr. X paid a premium of $5 \frac{3}{8}$ per optioned share for an October 60 put on America Online's stock. On the date he made this purchase, American Online was selling at 60.25. What does Mr. X think will happen to America Olin's stock in the near future?
5. Refer to question 2. Assume that Mr. X holds the option until its expiration date in October 2000. Assume that the price of America Online is \$50. What is his per share profit?
6. In July 2000, Ms ABC paid \$7.625 per optioned share for September 75 call options written on Oracle's common stock. She bought a total of 5 contracts. How much did it cost to establish her position?
7. Refer to question 4. Assume that on the day Ms. ABC's options expired, Oracle's price was \$70. Compute Ms. ABC's profit/loss per optioned share and for her entire position.
8. Refer to question 4. Assume that Oracle's price on the date the option expired was \$80 per share. Compute the option writer's profit/loss per optioned share.
9. Look at the listed option prices in the WSJ. What maturities and strike prices are listed for options on IBM? For each exercise price, compare the prices of the options expiring in the near future to those that are expiring later. Why are the premiums higher for options expiring later?
10. What benefits do organized exchanges offer options market participants?

¹ See CBOE Homepage, "A guide for the individual investor."

Table 1
List of Selected Options Exchanges

Country	Exchange	Web Site/Address
Argentina	Merfox (Mercados de Futuros y Opciones SA)	Samiento 299,4/460 Buenos Aires
Australia	Sydney Futures Exchange (SFE)	www.sfe.com.au
Belgium	Belgian Futures and Options Exchange (BELFOX)	www.belfox.be
Finland	Finnish Options Market (SOM)	www.som.fi
France	Marche a Terme International De France (MATIF)	www.matif.fr
France	Marche des Options Negociables de Paris (MONEP)	www.monep.fr
Greece	Athens Derivatives Exchange (ADEX)	www.adex/ase/gr
Ireland	Irish Futures and Options Exchange (IFOX)	Segrave House, Earlsfort Terrace, Dublin 2
Italy	Italy Derivatives Market (IDEM)	www.borsaitalia.it
Japan	Tokyo International Financial Futures Exchange (TIFFE)	www.tiffe.or.jp
Malaysia	Kuala Lumpur Options and Financial Futures Exchange	www.kloffe.com.my
Netherlands	AEX-Options Exchange	www.aex-optiebeurs.ase.nl
New Zealand	New Zealand Futures and Options Exchange Ltd. (NZFOE)	www.nzfoe.co.nz
Philippines	Manila International Futures Exchange (MIFE)	7/F Producer's Bank Centre, Paseo de Roxas, Makati
Portugal	Oporto Derivatives Exchange (Bolsa de Derivados do Oporto) BDP	Av. da Boavista 3433, Oporto
Romania	Sibiu Monetary-Financial and Commodities Exchange (Bursa Monetar-Financiara si de Marfuri Sibiu) (SMCFE)	www.bmfms.ro
Singapore	Singapore International Monetary Exchange Ltd. (SIMEX)	www.simex.com.sg
South Africa	South African Futures Exchange (SAFEX)	www.safex.co.za
Spain	Spanish Options Exchange (MEFF Renta Variable) (MEFF RV)	www.meffrv.es
Sweden	Swedish Futures and Options Market (OM Stockholm AB) (OMS)	www.omgrroup.com
Switzerland	Swiss Options and Financial Futures Exchange AG (SOFFEX)	www.bourse.ch
United Kingdom	London International Futures and Options Exchange (LIFFE)	www.liffe.com
United States	Chicago Board Options Exchange (CBOE)	www.cboe.com

Table 2
Option Prices as Reported in the Wall Street Journal July 22, 2000

Complete equity option listings and data are available in the online Journal at WSJ.com

COMPANY NAME	UNDERLYING STOCK PRICE	Call		Put		STRIKE PRICE	MATURITY MONTH	NUMBER OF CALL CONTRACTS TRADED	CALL PREMIUM	NUMBER OF PUT CONTRACTS TRADED	PUT PREMIUM
		Vol.	Last	Vol.	Last						
ADC Tel	35	Aug	38	6	547	11 1/4	3	705	2 1/2	700	1 3/4
AMR	38 3/4	37 1/2	Jul	272	458	3/4	3	423	3/4	28	2 1/4
AT&T	38 3/4	40	Aug	392	1 1/4	680	1 3/4	2128	2 1/2	33	7 1/2
AT&T	38 3/4	40	Aug	557	3 1/4	18	3 3/4	...	...	450	1 1/4
AT&T	38 3/4	45	Aug	677	1 1/4	...	...	829	5/8	55	1 1/4
AT&T	38 3/4	30	Aug	718	3 1/4	25	3/4	1143	1 1/4	22	3/4
AT&T	38 3/4	30	Aug	339	4 1/2	420	1 1/4	14	3 1/4	519	2 1/4
AT&T	38 3/4	30	Aug	4084	1 1/2	1858	1 1/4	402	1 1/4	40	3
AT&T	38 3/4	35	Aug	4242	1 1/2	600	2 3/4	1065	8 1/2	184	9
AT&T	38 3/4	35	Aug	3206	1 1/2	409	6	523	4 1/2	10	25
AT&T	38 3/4	40	Jul	175	7 1/4	409	6	1000	7	...	...
AT&T	38 3/4	40	Aug	733	7 1/4	164	6 1/4	1000	7	...	...
AT&T	38 3/4	45	Nov	408	2 1/4	39	4 1/2	400	1 1/4	...	...
AT&T	38 3/4	35	Jul	921	2 1/4	510	3 1/4	695	3 1/2	...	...
AT&T	38 3/4	20	Jul	801	4 3/4	15	1 1/4	927	21	28	12 1/2
AT&T	38 3/4	20	Jul	409	3 1/4	45	1 1/4	354	1 1/4	23	16 1/2
AT&T	38 3/4	22 1/2	Aug	364	3 1/4	516	1 1/4	632	21	...	...
AT&T	38 3/4	20	Jul	505	5	...	...	925	17 1/2	...	...
AT&T	38 3/4	20	Jul	524	1 1/4	...	...	531	20	...	...
AT&T	38 3/4	50	Jul	365	2 1/4	437	1 1/4	500	17 1/4	...	...
AT&T	38 3/4	50	Aug	1466	1 1/4	106	5	550	17 1/4	...	...
AT&T	38 3/4	55	Jul	1882	1 1/4	415	3 1/4	383	12 1/2	...	...
AT&T	38 3/4	55	Aug	550	5	153	7 1/4	2296	7 1/2	...	...
AT&T	38 3/4	60	Jul	1161	5 1/4	588	1 1/4	396	5	...	...
AT&T	38 3/4	75	Jul	47	13 1/4	...	...	129	9 1/2	...	...
AT&T	38 3/4	80	Jul	910	9 1/4	217	1 1/4	3119	2 1/2	...	...
AT&T	38 3/4	80	Aug	733	14 1/4	282	5 1/2	1471	5 1/2	...	...
AT&T	38 3/4	85	Jul	662	6 1/4	447	3 1/4	1981	1 1/4	...	...
AT&T	38 3/4	85	Aug	182	11 1/2	392	7 1/4	5098	3	...	...
AT&T	38 3/4	85	Aug	1830	3 1/2	689	5 1/4	1931	2 1/2	...	...
AT&T	38 3/4	90	Jul	1026	8 1/4	134	10 1/2	638	5 1/2	...	...
AT&T	38 3/4	90	Aug	14	15 1/4	750	5 1/4	469	9 1/4	...	...
AT&T	38 3/4	95	Aug	502	0 1/4	5	9 1/4	536	1 1/4	...	...
AT&T	38 3/4	95	Aug	502	0 1/4	42	13 1/4	396	3 1/4	...	...
AT&T	38 3/4	100	Aug	612	5 1/4	1	15 1/4	3280	3 1/2	...	...
AT&T	38 3/4	115	Jul	619	5 1/4	...	...	389	2 1/4	...	...
AT&T	38 3/4	120	Jul	1085	1 1/4	...	...	20	1 1/4	...	...
AT&T	38 3/4	120	Aug	417	1 1/4	...	...	67	2 1/4	...	...
AT&T	38 3/4	45	Jul	...	...	950	1 1/4	405	5 1/4	...	...
AT&T	38 3/4	50	Jul	...	...	600	1 1/4	1429	1 1/4	...	...
AT&T	38 3/4	55	Jul	175	3 1/4	422	1 1/4	465	5 1/2	...	...
AT&T	38 3/4	55	Oct	1190	8 1/4	175	3 1/4	60	Aug	...	...
AT&T	38 3/4	60	Jul	2360	1 1/2	289	2	94	16 1/2	...	...
AT&T	38 3/4	60	Aug	948	3 1/2	310	3 1/4	1374	12 1/2	...	...
AT&T	38 3/4	65	Jul	1133	5 1/4	123	7 1/4	85	8	...	...
AT&T	38 3/4	65	Jul	600	5 1/4	54	8 1/2	377	5 1/4	...	...
AT&T	38 3/4	65	Aug	1033	3 1/4	136	9 1/2	292	2 1/2	...	...
AT&T	38 3/4	65	Aug	1033	3 1/4	136	9 1/2	292	2 1/2	...	...

CHAPTER 3

FUTURES CONTRACTS AND MARKETS

INTRODUCTION

The development of every financial market is stimulated by an economic need. Futures markets are no exception to this rule. In the US, in the 1840's, the city of Chicago became a central meeting point for buying and selling agricultural commodities. Although the centralized location facilitated trade, problems arose on both sides of the market. At harvest time, farmers would simultaneously bring their wheat, corn or other product to Chicago, glutting the market and causing prices to plummet. Between harvests, commodities became scarce, forcing users to pay exorbitant prices. The futures markets developed to alleviate the price risk faced by both the providers and users of agricultural commodities bought and sold in Chicago. Through the futures markets, farmers were able to fix a selling price for their crops before bringing their crops to market, protecting themselves against price drops that would occur if the market were glutted. On the other side of the agreement were commodity users who were able to establish buying prices and protection against price increases if commodities became scarce. Therefore, buyers and sellers gained protection against price swings, (also called price risk), by agreeing on future buying and selling prices prior to delivery. These prices are called *futures prices*. Both parties agreed upon a futures price without knowing whether the actual market price for the commodity would be higher or lower than the futures price when the commodity was delivered.

FUTURES CONTRACTS

There are two parties to a futures contract: a *seller* and a *buyer*. The seller agrees to deliver a specific commodity to a pre-determined location and accept a pre-established price as payment, i.e. the *futures price*. The buyer agrees to accept delivery of the same commodity and pay the previously agreed upon price. The seller is said to be "short" the futures contract, the buyer holds a "long" position. In the futures market both the buyer and seller have an obligation. Neither party can let their position lapse without consequence.

There are many types of futures contracts including contracts on agricultural commodities (e.g. corn, oats, soybeans,); energy (e.g. oil, gas, and electricity) metals (e.g., copper, gold, silver); food and fiber (e.g. sugar, coffee, cocoa and cotton); and financial contracts (e.g. T-Bills, T-Bonds, Eurobonds, agency bonds, and market indexes). Futures markets are an important component of global financial markets. Table 1 lists some futures markets and their web sites.

Each of the assets on which futures contracts can be bought and sold can be purchased on any given day in the cash market. The futures price is linked to an asset's current market price. Consequently, futures contracts are derivative assets whose value depends upon the cash (or spot) price of the commodity to be bought or sold in the future. The difference between the cash price and the futures price is called the *basis*. Generally, the basis (Cash price - futures price) is negative.

USING THE FUTURES MARKET: AN EXAMPLE

Soybean futures trade on the Chicago Board of Trade (CBOT) which is one of the largest futures markets in the world. Suppose a farmer who produces soybeans wants to establish a selling price for his/her harvest. The farmer could sell soybean futures contracts. By doing so, the farmer has promised to deliver soybeans and accept the futures price as payment upon delivery. Each futures contract that the farmer sells obligates him/her to deliver 5000 bushels of soybeans. The futures contract specifies the grade of soybeans that must be delivered as well as the delivery location and dates for delivery.

Hedging in the Soybean Futures Market

Assume that on August 14, 2000, the farmer sells 10,000 bushels of soybeans in the futures market. To accomplish this, the farmer must sell 2 futures contracts. Soybeans futures contracts mature in September, November, January, March, May, July, August. Assume the farmer sold 2 November futures contracts. On August 14, 2000, the November futures price was 183 3/4 cents per bushel. By selling the two futures contracts the farmer agreed to deliver 10,000 bushels of soybeans in November 2000 and accept payment of 183 3/4 cents per bushel (\$1.8375). The cash price of soybeans and the November futures price will fluctuate daily. For example, on August 15 the November futures price could be 180.00 cents per bushel. Regardless, the farmer's original selling price of 183 3/4 cents is guaranteed. By using the futures market to fix a selling price, the farmer is said to be *hedging* his risk and because s/he is selling the hedge is *short*.

The farmer can only sell his/her crop in the futures market if a demand for the crop exists. Cargill is a company that uses soybeans as input for production. Assume that in August 2000, Cargill wants to fix the purchase price of soybeans that it will need for production later in the year. Cargill's financial officer might buy soybeans futures contracts. Suppose that on August 14, 2000, Cargill buys 2 November soybeans futures contracts at a price of 183 3/4 cents per bushel. By establishing the position, the firm is agreeing to accept delivery of 10,000 bushels of soybeans in November 2000 and pay \$1.8375 per bushel upon delivery. Cargill now knows that if soybean prices rise, the company can still acquire the beans for \$1.8375 per bushel. Cargill is also hedging in the futures market, but because the firm is buying soybeans, the hedge is a *long* hedge.

Frequently, long and short hedgers do not hold their contracts to maturity. For example, the delivery location might be inconvenient for the farmer or the quality of soybeans might not be exactly the type that Cargill needs. Hedgers have the ability to reverse their positions and cancel them. A short hedger can cancel his/her position by buying the contracts back at the prevailing futures price. Similarly, a long hedger can cancel his/her position by selling any contracts held at the futures price. Although it is possible for a hedger to earn profits in the futures market, hedgers are in the market to reduce price risk, not to make money.

Speculators

Hedgers participate in the futures market to reduce price risk. However, a second group of market participants, called *speculators* participates in the futures markets in order to profit from price changes. A speculator does not care whether s/he is long or short in the market, but will take a position based on what s/he expects will happen to the futures price. If a speculator expects the futures price to rise, then s/he will buy futures contracts that can be sold at a higher price. If prices are expected to fall, the speculator will sell futures contracts that s/he hopes can be repurchased at a lower price.

Speculators play an important role in the futures market. First, they provide liquidity. Without speculators, it would not be possible for hedgers to reverse their positions. Second, by their willingness to continually trade, speculators permit *price discovery*. Without trading, futures prices would not change to reflect new information about the value of the asset to be bought/sold in the future.

Reading Futures Prices in the Wall Street Journal

Table 2 shows a segment from the Futures Prices table in the *Wall Street Journal* (WSJ). The tables are located in the *Journal's Money and Investing* section. Prices are organized by asset type. Agricultural commodities, metals, energy sources, financial contracts and so on are grouped.

As noted above, prices for each commodity are listed together. Corn contracts are listed first on Table 2. On the line above corn futures prices, information about the contract is provided. First, the commodity is identified. In the parentheses next to the commodity name, the exchange on which the asset is traded is given. CBT refers to the Chicago Board of Trade. Next, is the number of units per contract; for corn, each contract obligates the seller to deliver 5000 bushels of corn. The last item refers to the units in which prices are quoted. For corn, prices are quoted in cents per bushel. The contract price is 5000* the price per bushel.

Contracts are listed in order of maturity, with the nearest maturity shown first. Four prices are presented in the four columns after the maturity month: the open, high, low, and settle. These refer to the daily opening price and the daily high and low prices per unit, respectively. The settle price generally refers to the day's last trading price. The change equals the difference between the current day's and the previous day's settle price. Lifetime high and low pertains to prices during the life of the contract and open interest represents the number of outstanding contracts on which delivery is promised.

For example: on August 14, 2000, September corn futures opened at 174 1/2 cents per bushel. The day's settle price was 175 3/4, up 1 cent from the previous day. At the beginning of the day there were 104,567 outstanding contracts.

FUTURES MARKETS

The Chicago Board of Trade

The Chicago Board of Trade is one of the oldest and largest futures exchanges in the world. On the Chicago Board of Trade and other futures exchanges as well, trading takes place through "open outcry." This means that buyers and sellers shout out the number of contracts they want to buy/sell and price at which they are willing to transact. Each commodity traded on the CBOT is traded in a different location which is called a *trading pit*. For example, in the soybean pit, brokers and traders buy and sell soybean contracts of various maturities. Corn contracts are traded in a separate pit. Each pit is sunk into the trading floor and brokers and traders stand on stairs built from the pit's center to floor level in order to communicate with each other. Since buyers and sellers simultaneously shout at each other, the trading floor is noisy. Therefore, traders not only shout out their orders, but they use hand signals to communicate. When a trade occurs, buyers and sellers record the name of the person with whom they traded, the number of contracts traded, and the price at which the transaction took place. These are time stamped and matched at the end of the day.

Although electronic trading systems are becoming increasingly popular, the open outcry system has not yet been supplanted.

Margin Requirements

Although payment on futures contracts is not made/received prior to the delivery of the good, participants in organized futures markets are required to post margin, or collateral to protect against default. In addition to posting *initial margin*, investors are required to bring their contracts to market value on a daily basis. This is called *marking to market*. Suppose the farmer in the example earlier agreed to sell soybeans in the futures market at 183 3/4 cents per bushel. If the futures price rose to 184 3/4, the farmer has essentially lost 1 cent per bushel by agreeing to sell at the lower price. If the farmer decided to close the position by repurchasing the futures contracts, s/he would have to pay 1 cent per bushel to cancel his/her position. On the other side of the market, Cargill would have gained 1 cent per bushel by locking in a purchase price that is lower than the current futures price. Cargill would profit by 1 cent per bushel by closing its futures position. Regardless of whether the farmer or Cargill closed their positions, the 1 cent per bushel price change would be added or subtracted from their margin accounts. If the amount of money in the margin account falls too low, an investor will be given a margin call and asked to put additional funds into their account. For a one cent change, the dollar amount per soybean contract would be \$50. If an investor has a large position substantial amounts of money can be required to participate in the futures market.

Futures Contracts vs Forward Contracts

Forward contracts and futures contracts are identical with one exception: margin must be posted by futures markets participants. However, because futures contracts are traded on organized exchanges, their terms, such as contract size, maturity, and delivery location are standardized. In exchange for accepting contract standardization, participants in the futures markets gain the ability to liquidate their position. In the futures markets, buyers do not have to worry about locating sellers and vice versa. In addition, a clearinghouse protects futures markets participants against default by the party on the opposite side of their contract

Forward contracts are private agreements that might be arranged through a financial institution. Forward contracts are

customized to meet the buyer's or seller's specific needs. This can be important for a company that needs a fixed amount of foreign currency, to pay a supplier. In exchange for customization, participants in the forward market lose the ability to reverse their position easily. They also bear "counterparty risk" which is the risk that the person/institution on the other side of the contract will default.

Regulation of Futures Markets

In the United States, futures markets are regulated by the Commodity Futures Trading Commission (CFTC) which is part of the Executive Branch in the Federal government. The CFTC's chair is appointed by the President and approved by Congress. The CFTC approves new contracts and conducts regulatory surveillance of the futures markets. The CFTC gathers information about trading practices as well as position sizes. The CFTC has imposed limits on the number of contracts that can be held by a single trader, with hedgers and speculators having different limits. This prevents one trader from cornering the market. Exchanges are also self-regulating and have internal monitoring systems to ensure that regulations are observed. In addition, the National Futures Association, an industry wide, industry supported organization imposes standards on traders and brokers participating in the futures market.

SUMMARY

In this chapter, futures contracts, which are a type of derivative asset, were described. There are two parties to futures contracts: a buyer and a seller. The seller assumes the obligation to deliver a commodity, the buyer assumes the obligation to accept delivery and make a pre-agreed upon payment for the good. Futures markets are important for two reasons: first, they enable producers and users of various commodities to reduce their price risks. Second, by providing a forum for trading, futures markets permit "price discovery," that is, trading permits new information about an asset's value be reflected in its price. There are two types of participants in the futures markets: hedgers and speculators. Hedgers participate in the market to reduce risk. Speculators contribute to market liquidity by participating in the futures market to profit from price changes. The futures markets meet an important economic need in our society and are growing rapidly as new contracts are continuously being devised.

Table 1
List of Selected Futures Exchanges

Country	Exchange	Web Site/Address
Argentina	Rosario Board of Trade (ROFEX)	www.rofex.com.ar
Argentina	Buenos Aires Futures Market	Bouchard 454 5to Piso, Buenos Aires
Australia	Sydney Futures Exchange (SFE)	www.sfe.com.au
Belgium	Belgian Futures and Options Exchange (BELFOX)	www.belfox.be
Brazil	Brazilian Futures Exchange	Praca XV de Novembro,20, 5th Floor, Rio de Janeiro
Brazil	The Commodity and Futures Exchange	www.bmf.com.br
Canada	Toronto Futures Exchange	The Exchange Tower, 2 First Canadian Place, Toronto
China	China-Commodity Futures Exchange, Inc of Hainan (CCFE)	Huaneng Building, 36 Datong Road, Haikou, Hainan Province
China	Guandong United Futures Exchange	JingXing Hotel, 9 ¹ LinHe West Road, Guzngzhou
Hong Kong	Hong Kong Futures Exchange, Ltd. (HKFE)	www.sehk.com.hk
Italy	Italian Financial Futures Market (MIF)	Piazza Affari 6 Milan
Japan	Tokyo International Financial Futures Exchange (TIFFE)	www.tiffe.or.jp
Malaysia	Kuala Lumpur Options and Financial Futures Exchange (KLOFFE)	www.kloff.com.my
Netherlands	AEX Agricultural Futures Exchange	Beursplein 5 PO Box 19163, Amsterdam
New Zealand	New Zealand Futures and Options Exchange. Ltd. (NZSE)	www.nzse.co.nz
Russia	St. Petersburg Futures Exchange (SPBFE)	274 Ligovski Ave. St. Petersburg
South Africa	South African Futures Exchange (SAFEX)	www.safex.co.za
Spain	Spanish Financial Futures Market (MEFF RF)	www.meff.es
United Kingdom	London International Futures and Options Exchange (LIFFE)	www.liffe.com
United States	Chicago Board of Trade	www.cbot.com
United States	Chicago Mercantile Exchange	www.cme.com

Table 2
Futures Prices as Reported in the Wall Street Journal August 15, 2000

Monday, August 14, 2000									
Open Interest Reflects Previous Trading Day.									
GRAINS AND OILSEEDS									
	Open	High	Low	Settle	Change	Lifetime		Open Interest	
						High	Low		
CORN (CBT) 5,000 bu.; cents per bu.									
Sept	174 1/4	176 1/4	174	175 3/4	+ 1/4	265 3/8	174	105,657	1,410
Nov	183 1/2	184 1/2	183 1/2	183 3/4	+ 1/4	268 3/8	182	1,410	1,410
Jan	192 1/2	193 1/2	192 1/2	192 3/4	+ 1/4	271 1/8	191	195,459	1,410
Mar	198 1/2	199 1/2	198 1/2	198 3/4	+ 1/4	273 1/8	198 1/2	185,459	1,410
May	206 1/2	207 1/2	206 1/2	206 3/4	+ 1/4	275 1/8	206 1/2	47,666	1,410
July	214 1/2	215 1/2	214	214 3/4	+ 1/4	282 1/2	214	12,912	1,410
Sept	221	221 1/4	221	221 1/4	+ 1/4	287 1/2	221	18,363	1,410
Dec	231 1/4	232 1/4	231	231 3/4	+ 1/4	276 1/2	230 1/2	1,994	1,410
Dec02	231 1/4	232 1/4	231	231 3/4	+ 1/4	275	230 1/2	11,862	1,410
Dec02	231 1/4	232 1/4	231	231 3/4	+ 1/4	272	245	334	1,410
EST vol 38,000; vol Fri 180,088; open int 395,949; +9,363.									
COATS (CBT) 5,000 bu.; cents per bu.									
Sept	97 1/4	99 1/4	97 1/4	97 3/4	+ 1/4	132 1/2	98 1/2	6,032	1,410
Dec	108	109 1/4	107 3/4	108	+ 1/4	137	107	8,311	1,410
Mr01	117 1/4	118 1/4	117 1/4	118	+ 1/4	142	116	1,145	1,410
EST vol 2,500; vol Fri 940; open int 15,584; --59.									
SOYBEANS (CBT) 5,000 bu.; cents per bu.									
Aug	47 1/4	48 1/4	47 1/4	47 3/4	+ 1/4	584 1/2	47 1/4	535	1,410
Sept	45 1/2	46 1/2	45 1/2	45 3/4	+ 1/4	587 1/2	45 1/2	430 1/2	1,410
Nov	46 1/2	47 1/2	46 1/2	46 3/4	+ 1/4	631	46 1/2	16,377	1,410
Jan	47 1/2	48 1/2	47 1/2	47 3/4	+ 1/4	600	47 1/2	71,363	1,410
Mar	48 1/2	49 1/2	48 1/2	48 3/4	+ 1/4	604 1/2	48 1/2	9,354	1,410
May	49 1/2	50 1/2	49 1/2	49 3/4	+ 1/4	604 1/2	49 1/2	8,675	1,410
July	50 1/2	51 1/2	50 1/2	50 3/4	+ 1/4	609	50 1/2	6,865	1,410
Nov	51 1/2	52 1/2	51 1/2	51 3/4	+ 1/4	605	51 1/2	6,111	1,410
Nov	51 1/2	52 1/2	51 1/2	51 3/4	+ 1/4	605	493	1,907	1,410
EST vol 25,000; vol Fri 47,364; open int 127,361; +2,782.									
SOYBEAN MEAL (CBT) 100 tons; \$ per ton.									
Aug	150.30	153.90	150.10	153.40	+ 2.80	188.40	131.00	1,297	1,410
Sept	151.00	152.40	150.70	152.20	+ 1.00	188.00	132.00	16,700	1,410
Oct	151.20	152.10	150.80	151.80	+ .60	187.80	135.00	13,930	1,410
Dec	153.20	154.20	152.50	154.10	+ .90	189.50	135.50	39,093	1,410
Jan	154.40	155.30	153.90	155.00	+ 1.00	189.50	146.70	8,155	1,410
Mar	155.70	157.00	155.70	157.00	+ 1.30	189.50	148.10	7,027	1,410
May	158.00	158.80	157.60	158.80	+ .80	189.50	149.80	4,140	1,410
July	160.40	161.00	160.00	160.80	+ .80	190.00	152.00	1,900	1,410
Aug	160.40	161.00	160.00	160.80	+ .80	190.40	152.00	273	1,410
EST vol 15,000; vol Fri 22,695; open int 92,863; --2,624.									
SOYBEAN OIL (CBT) 60,000 lbs.; cents per lb.									
Aug	15.15	15.18	15.13	15.13	+ .02	21.00	15.01	320	1,410
Sept	15.22	15.31	15.20	15.29	+ .05	21.70	15.13	23,178	1,410
Oct	15.41	15.50	15.41	15.49	+ .05	22.25	15.35	16,223	1,410
Dec	15.80	15.89	15.78	15.87	+ .05	20.62	15.67	57,419	1,410
Jan	16.10	16.17	16.08	16.16	+ .08	20.10	16.08	15,801	1,410
Mar	16.45	16.55	16.45	16.53	+ .08	20.38	16.45	7,429	1,410
May	16.82	16.90	16.82	16.84	+ .03	20.68	16.82	4,137	1,410
July	17.20	17.23	17.15	17.21	+ .03	20.95	17.15	4,583	1,410
Aug	17.40	17.40	17.31	17.31	+ .03	20.98	17.30	594	1,410
Sept	17.60	17.60	17.52	17.52	+ .03	21.15	17.51	402	1,410
Oct	17.60	17.60	17.52	17.52	+ .03	20.35	17.61	618	1,410
EST vol 15,000; vol Fri 22,695; open int 92,863; --2,624.									

	Open	High	Low	Settle	Change	Lifetime		Open Interest	
						High	Low		
WHEAT (CBT) 5,000 bu.; cents per bu.									
Dec	237	239	236	238 1/2	+ 1 3/4	335	232 1/2	41,760	969
Sept	259 1/4	257 1/2	254 1/4	256 1/4	+ 1 3/4	345	251	73,095	969
Nov	271 1/4	271 1/4	271 1/4	271 1/4	+ 1 3/4	327	268	21,109	969
Jan	285 1/4	285 1/4	282 1/4	284 1/4	+ 1 3/4	326	279 1/4	1,381	969
Mar	292	294	292	293 1/2	+ 2	350	288	9,158	969
May	312	312	312	312	+ 1 1/2	343	307	477	969
EST vol 11,000; vol Fri 21,849; open int 147,004; +1,280.									
WHEAT (KCBT) 5,000 bu.; cents per bu.									
Sept	273 1/2	278 1/2	273 1/2	276 1/2	+ 2 1/4	346	271	21,826	969
Nov	289 1/2	292 1/2	289 1/2	291 1/4	+ 1 3/4	354	286 1/2	45,559	969
Jan	304	307	304	306 1/4	+ 1 3/4	349	301	9,410	969
Mar	314	315 1/4	313 1/4	315	+ 1 3/4	352 1/2	310	1,727	969
May	322	323	321 1/4	322 1/4	+ 3/4	355	317	858	969
EST vol 7,598; vol Fri 10,181; open int 78,863; +2,294.									
WHEAT (IMPL) 5,000 bu.; cents per bu.									
Sept	287	289 1/4	287 1/2	288 1/4	+ 3/4	385	286 1/2	10,085	969
Dec	302 1/4	305 1/4	302 1/4	303 1/2	+ 1 1/4	390	302 1/2	10,397	969
Mr01	317 1/4	320	317 1/4	318 1/2	+ 1 1/4	375 1/2	317 1/4	2,997	969
May	326 1/2	326 1/2	326 1/2	326 1/2	+ 3/4	379	327	359	969
EST vol 505; vol Fri 2,990; open int 24,045; --214.									
CANOLA (WPG) 20 metric tons; Can. \$ per ton.									
Aug	247.50	248.20	246.70	248.10	+ 1.30	295.90	244.50	3,584	969
Sept	252.90	254.40	252.70	254.10	+ 1.40	315.90	250.70	37,269	969
Nov	259.30	260.40	258.80	260.30	+ 1.30	303.20	256.50	6,195	969
Jan	266.10	266.10	266.10	266.10	+ 1.40	305.50	263.00	1,127	969
EST vol na; vol Fri 3,847; open int 48,193; --612.									
WHEAT (WPG) 20 metric tons; Can. \$ per ton.									
Oct	135.60	135.90	135.10	135.80	+ 0.70	151.30	135.10	3,046	969
Dec	138.70	138.80	138.40	138.80	+ 0.10	153.50	138.40	3,851	969
Mr01	143.30	143.30	143.30	143.30	+ 0.80	157.50	142.50	1,069	969
May	146.00	146.30	146.00	146.30	+ 0.80	158.00	145.70	147	969
EST vol na; vol Fri 360; open int 8,113; +26.									
BARLEY-WESTERN (WPG) 20 metric tons; Can. \$ per ton.									
Oct	112.50	112.50	111.60	112.00	+ 0.20	127.90	111.00	6,372	969
Dec	116.30	116.30	115.60	115.80	+ 0.20	129.80	114.00	5,046	969
Jan	120.10	120.10	119.90	120.00	+ 0.30	132.90	118.40	3,170	969
Mar	122.50	122.50	122.20	122.20	+ 0.20	129.50	121.80	325	969
EST vol na; vol Fri 349; open int 14,913; --194.									

LIVESTOCK AND MEAT									
CATTLE-FEEDER (CME) 50,000 lbs.; cents per lb.									
Aug	86.52	86.75	86.50	86.57	+ .20	88.40	79.25	5,307	969
Sept	86.60	86.95	86.60	86.65	+ .42	88.90	83.50	3,395	969
Oct	87.47	87.87	87.45	87.77	+ .42	88.90	84.35	5,250	969
Nov	87.80	88.20	87.80	88.15	+ .25	89.45	85.52	2,833	969
Jan	88.20	88.45	88.20	88.40	+ .25	90.00	86.60	2,210	969
Mar	87.95	88.15	87.95	88.15	+ .25	89.60	86.30	1,000	969
Apr	87.95	88.02	87.95	87.95	+ .35	89.60	86.75	217	969
May	87.60	87.70	87.60	87.70	+ .16	89.60	86.70	657	969
EST vol 2,578; vol Fri 2,314; open int 20,869; --164.									
CATTLE-LIVE (CME) 40,000 lbs.; cents per lb.									
Aug	64.55	64.70	64.50	64.55	+ .20	71.37	65.57	9,094	969

CONTRACT SIZE PER UNIT PRICE

GRAINS AND OILSEEDS

MONTHLY CONTRACT EXCHANGE

CHAPTER 4

ETHICS IN FINANCE AND INVESTMENTS

In an effort to help practitioners in the field of finance and investment, the Association for Investment Management and Research (AIMR) has published a thorough document on the codes of ethics and standards for professional conduct. These codes are documented in the *Standard of Practice Handbook* published by the AIMR. The handout is revised annually. The purpose of this summary presentation is to highlight the AIMR codes of ethics and provide some hypothetical examples to illustrate the application of those codes.

Finance and investment, prior to its formation as a business profession, was conducted in an environment where qualified and honest practitioners had difficulty to separate themselves from those who were conducting unethical behavior. The history of media on investment and finance is replete of the cases of collusion, conflict of interest, trust violations, nondisclosure, inconsistency, and scandals. In such environment, where the spirit of fairness was often suppressed, distribution and transfer of wealth could be distorted for the benefit of special groups. It took practitioners and policy makers many decades (one may argue many centuries) to recognize that ETHICAL INTEGRITY was an absolute prerequisite for maintaining an optimal system of wealth creation. In the absence of ethical integrity, when public trust is at margin, even the best system of wealth creation will either cease to function or continue working at a sub-optimal level with a chance of collapse at any time.

The earlier promoters of ethical integrity in investment started with two general principles as follows:

- A. Investment practice must be turned into investment profession with full adherence to professional conducts.
- B. Self-organization along with self-regulation is the best way to bring public trust in the arena of finance and investment.

In fact, AIMR is among the earlier self-regulatory organizations that has fully believed in and prompted those two principles since its inception almost forty years ago. Some also argued that ethics is a good business, and cultivating trust in the form of capital yields an excellent rate of return outperforming every alternative practice in the long run. Regardless of which viewpoint one may subscribe to (ethics as a good investment, ethics as a social value, ethics as a natural human value) it is important to note that **ethical integrity is a necessity** (not a choice) for the on-going principle and sustainability of any dynamic entity including a firm, a state, and a country.

In the context of investment practice, AIMR has identified four general components for the code of ethics:

- a. Competence
- b. Honor
- c. Integrity
- d. Independent Judgement

Competence: It is your obligation (not just an expectation), according to AIMR, that an investment analyst demonstrates his/her competence. This concept has implications for finance/business students who might be ambitious to be a financial analyst and plan to join a prestigious self-regulatory organization in the industry such as AIMR. The concept of competence has two dimensions: the existing knowledge, and the obligation to continue learning and making efforts to improve. In other words, a financial analyst must satisfy the “competence” criterion by showing that he/she has the mastery of the subject as well as demonstrating that on an ongoing basis he/she strives to improve. Therefore, merely having a bachelor degree in business or finance from an accredited school will not satisfy the competence criterion; you must demonstrate that you are proactive in the process of learning. In short, **competency is more of work in progress (constant learning) than the completion of an assignment, program, or a degree.**

Example: Joey got his bachelor degree, with a dual major in finance and mathematics, from Hofstra University in 1996 with an impressive G.P.A. of 3.95. He joined Merrill Lynch in September 1995. He goes to work

everyday, finishes his job on time, and in fact he also goes to his office on some weekends. He is in charge of a select group of clients' portfolio. Due to the volume of work and family matters, Joey does not get a chance to remain updated. He does not subscribe to any professional newsletter, and he does not attend any continuing education forum. With such credentials, if he decides to join AIMR, does Joey satisfy the competence criterion?

Answer: No, Joey does not satisfy the competence criterion. His impressive undergraduate background may help him become "competent" if he strives to improve; however, the fact that he is out of touch with the world of finance will disqualify him from the competence criterion of an industry organization like AIMR. It is important to note that his employer, Merrill Lynch, cannot legally fire him because of this disqualification. Joey is doing his job well. However, he is violating one of the ethical principles of a well-respected self-regulatory professional organization in his industry. This disqualification may affect his job mobility, peers respect, and ultimately the clients' trust.

Honor: It is an obligation (not just an expectation) that a financial analyst bring and maintain respect and honor to the profession and also the sector in which he or she is engaged.

Integrity: It is an obligation (not just an expectation) that a financial analyst practice integrity and encourage others to abide by integrity in a way to bring and reflect credit on him/her and other peers. Note this criterion has two dimensions: responsibility to self and responsibility toward peers.

Independent Judgement: This is one of the most important principles of ethical behavior and perhaps a difficult one to implement. It needs practice.

Example: Mary is a research analyst with Focus Portfolio, Inc. Based on her analysis, she has given a "strong buy" recommendation to Mars stock. Over lunch with other analysts and supervisors, she noticed that her recommendation was not in line with the interest of many loyal and powerful institutional clients of the firm. After she returns to her office,

- a. Mary does not consider any conversation she heard over lunch so that she does not change her "strong buy" recommendation.
- b. Mary reflects upon what she heard and decides to hold on to her recommendation until she verifies some of the comments she heard from other peers.
- c. Since the goal of finance is to maximize the value of shareholders and the "strong buy" recommendation may hurt the position of the firm's clients, she downgrades her recommendation from "strong buy" to "buy".
- d. She decides not discuss business over lunch with peers in future.

Answer: The correct answer is b. Why? Some of you may have guessed "a" as the correct answer. It is not the best answer. Why?

FIVE STANDARDS OF PROFESSIONAL CONDUCT

In line with the above four components of codes of ethics, AIMR has developed five major standards for professional conduct which are mostly intertwined:

Standard 1: Fundamental Responsibilities:

- A. Comply with all applicable laws, rules, and regulations.
- B. Do not participate knowingly or assist any one or any organization in violation of laws, rules, and regulations.

Standard II: Your Responsibility towards Your Profession

A. Use of Professional Designation

As an example, if you are a member of AIMR you may use your designation in a responsible and judicious manner only. For example, if you decide to sit for the first exam to be a Chartered Financial Analyst (CFA) you are not allowed to refer to yourself as “James Tobin, CFA Candidate.” Reason: This may confuse your clients that you have accumulated a body of knowledge in investment; whereas, in reality you may have not taken any course in finance at any college. In other words, do not confuse the public by misrepresentation of any designation you may have.

B. Professional Misconduct

C. Prohibition against Plagiarism

Be honest, brave, and generous in giving credit to the sources you may use either in the form of print or electronically. When you are not sure to give reference, don't use it or give reference, or consult your supervisor/professor.

Standard III. Relationship with and Responsibilities to the Employer

A. Obligation to Inform Employer of Code and Standards

If you become a member of AIMR, you have an obligation to inform your employers that you are bound by certain ethical codes and standards.

B. Disclosure of Conflicts to Employer

If you are involved in a practice that may have conflict with your job at your employer, you must inform your employer about that situation.

C. Disclosure of Additional Compensation

As a financial analyst, if you have a monetary compensation from internal or external clients, you must disclose it to your employer.

D. Responsibilities to Supervisors

If you have subordinates to supervise, you are obligated to exercise “reasonable supervision” over them; any violation committed by your subordinates may make you liable as well. A mere acknowledgment that you were not aware will not waive your liability/responsibility.

Standard IV. Relationship with and Responsibilities to Clients and Prospects

A. Investment Process

You are responsible to demonstrate reasonable basis and representation before making a recommendation or a decision. You must be able to show that you have exercised diligence and thoroughness in making any decision. Maintain adequate record (either hard copy or electronically) to support your position. Note that in the world of business, the logic of “good intention” is not sufficient to justify your decision. It is not enough that your investment decision is understandable; **it must be justified.**

B. Interaction with Clients

a. Fiduciary duties

In all situations, without exception, your clients' interest come first and it must override the interest of all other constituencies including your employer, stockholders, and members of your family. In general, violating fiduciary responsibilities is extremely costly with extremely unpleasant consequences.

- b. Fair Dealing
- c. Preservation of confidentiality
- d. Prohibition against misrepresentation
- e. Disclosure to your clients if anything has conflict of interest on your part and/or your employer vis-à-vis the client. Be honest and keep your employer honest.

Standard V. Responsibilities with and Responsibilities to the Investment Public

This is directly related to the very sensitive issue of “inside trading.” Note that

- a. You are not allowed to get involved in any transaction and/or have others do any transaction (either investment or finance) based on non-public information if that would breach a responsibility or if that transaction is related to a tender offer.
- b. However, if you disseminate that information or if you can document that the information was not misappropriate for use then you may get involved in those transactions. The rule of thumb, if you have a slight hesitation that the use of those information may create ethical or legal problems you have an obligation not to use it before you make reasonable effort to disseminate those information. You have an ethical obligation to help (not stifle) the spirit of market efficiency in your practice.

A MOST FREQUENTLY ASKED QUESTION: What is “inside trading”?

In general, any trade executed (or facilitated for execution) based on material non-public information is considered inside trading. Since this definition, like any other definition, is subject to interpretation, let’s identify possible cases of inside trading. The list is not exhaustive.

- 1 The use of any non-public information on dividends (announcements, declarations, revisions, omissions, etc.)
- 2 The use of any non-public information on the sale or purchase of a firm’s assets, unit, subdivision, etc.
- 3 The use of any non-public information on takeovers and reorganizations
- 4 The use of any non-public information about a firm’s cash flow, profitability, and default
- 5 The use of any non-public information about the gain or loss of a major contract
- 6 The use of any non-public information about company news, favorable or non-favorable
- 7 The use of any non-public information about a firm vis-a-vis any regulatory agency
- 8 The use of any non-public information about the intellectual assets/liabilities of a firm including patents goodwill, etc.
- 9 The use of any non-public information about key personnel
- 10 The use of any non-public information about corporate downsizing/rightsizing.
- 11 The use of any non-public information about client basis

CHAPTER 4: QUESTION AND ANSWERS

1. In an analyst's report it is mentioned that, "This report is prepared based on selected leading sources in the industry and the information is verified objectively and thoroughly." Is any standard of ethics violated?

Correct answer: Yes, The analyst must give specific references to those sources.

2. Short Case: Jack is a trust officer of ABC Company. This company trades all securities through the company owned by Jack's father-in-law, XYZ. This company changes ABC the lowest rate among other competitors. XYZ has informed Jack that effective the following January 1, 2001, they would also give a 5% discount for Jack's personal transactions and any other employees that Jack approves.

- Jack must immediately discontinue his relation with XYZ
- Jack has the choice to accept or deny the offer.
- Jack must transmit this information to his employer/supervisor. He will not accept the offer.
- Jack ignores this offer and continues the practice.

Correct answer: c, Why?

3. You are asked by your boss to increase ABC Company's estimate of earnings by 5%.
- You will not change your estimate under any circumstances. You think the boss wants to influence you.
 - You change your estimate because ABC Company is going to be a possible client for underwriting. Clients' interests come first.
 - You change your estimate because you have verified that your estimate was too conservative.
 - Tell you boss, "You do it."
 - You must get the approval of your CPA firm.

Correct answer: c. Why? If you choose a or d, that may make you stubborn, which is totally different than being ethical. If you change your estimate based on objectivity you are ethical, fair, and reasonable.

4. You are working for Global Pension, Inc which manages different pension portfolios. Your main fiduciary duty is to
- Employees of Global Pension, Inc.
 - The management of Global Pension, Inc
 - Shareholders of Global Pension, Inc.
 - All of the above
 - None of the above

Correct Answer: e, "none of the above." why? Your fiduciary duty is first with the employees of other firms (not Global Pension, Inc.) who hired your firm to manage their assets.

5. As an analyst working at Financial on Line, you are assigned to write a report on ABC Company in Toronto, Canada. For this assignment, you must travel to Toronto. The ABC Company has sent you a letter about their company, history, how-to-get-there, along with an offer to pay for your air line and hotel expenses. What is your course of action?

- You accept the offer and you don't have to disclose that ABC Company paid for the trip.
- You inform your supervisor, you accept the offer, you write an objective report, and you disclose the fact that travel expenses were paid by ABC.
- You pay for all travel expenses.
- You ask your supervisor and you follow his advice.
- You postpone your trip until you verify the legal practice in Canada.

Correct answer, and the only ethical choice, is C. You must not act in a way to give any indication or appearance that you may have violated the standard of being objective and independent in judgment.

CHAPTER 5

NON-BANK FINANCIAL INSTITUTIONS: FINANCE COMPANIES, INSURANCE COMPANIES, PENSION FUNDS, MUTUAL FUNDS, AND REAL ESTATE INVESTMENT TRUSTS

INTRODUCTION

In this chapter will examine five special categories of non-bank financial institutions: Finance Companies, Insurance Companies, Pension Funds, Mutual Funds, and Real Estate Investment Trusts. In each case, we will consider the nature of these institutions, their specialized role in the world of finance, and the general outline of their balance sheets. For those who would like to learn more by surfing the internet, a list of some popular websites related to these institutions is presented at the end.

A. FINANCE COMPANIES

Similar to banks, finance companies generate most of their revenues by making loans. The primary difference between finance companies and banks, however, is that finance companies do not accept deposits. Finance companies are often characterized as money market intermediaries because they normally obtain most of their loanable funds by issuing commercial paper. Commercial paper, the reader will recall, is short-term, unsecured debt which carries a very low rate of interest because of its low level of risk. Small companies and individual consumers cannot issue commercial paper because they cannot generate a sufficient volume of demand to satisfy the requirements of the large investors who provide liquidity to the money market, and because the riskiness of their debt would be too difficult for purchasers to evaluate. By pooling loan demand over many customers, finance companies are able to generate a large volume of short-term debt, and diversify risk, reducing the cost of borrowing.

Finance companies are usually categorized either as consumer lenders or as small business lenders, although many originate both kinds of loans. Important categories of consumer loans include debt consolidation, automobile purchase, and home improvement loans. Many finance companies specialize in making second mortgages to homeowners. Some consumer finance companies are wholly owned by a manufacturer who uses the company to make loans to consumers interested in purchasing the manufacturer's products. The General Motors Acceptance Corporation is an example.

Because finance companies do not accept deposits from the public, they are not regulated by government in the way that commercial banks are. As a result, finance companies making small business loans are generally acknowledged to be more flexible and innovative in their relationships with borrowers. Three special kinds of loans associated with finance companies are: 1) Factoring, 2) Leasing, and 3) Floor Plan Loans. When factoring, the finance company purchases its customer's receivables at a discount, and then takes responsibility itself for collection. When leasing, the finance company purchases a capital asset for its customer, and then leases it back to this customer. Floor plan loans are loans that are secured by high-priced inventory such as boats, heavy machinery, or automobiles. As each item of inventory is sold, a portion of the floor plan loan is retired.

A summary of the primary balance sheet categories for finance companies is presented below.

FINANCE COMPANIES: CONSOLIDATED BALANCE SHEET SUMMARY	
Assets	Liabilities
Business Loans	Commercial Paper
Consumer Loans	Capital
Mortgages	
Cash	

B. INSURANCE COMPANIES

Insurance companies are financial institutions that exist for the purpose of transforming risk. Insurance companies normally specialize either in casualty insurance or life insurance, although many underwrite both. In either case, the principle is the same: by spreading the costs over a large number of policyholders, each customer of the insurance company is able to obtain protection from a potentially devastating loss. In the case of casualty insurance, the potential loss is the cost of damage from a disaster such as fire or flood. In the case of life insurance, it is the potential cost of a family member's loss of life.

Life insurance companies usually offer two different types of policies: term life, and whole life. In a term policy, no payment is made unless the insured person dies during the term of the policy. In a whole life policy, premiums paid over a period of years serve the dual purpose of insuring the customer's life, and building up a defined balance in the customer's name that will be paid out upon death, but that also may be borrowed upon before death.

Good portfolio management is extremely important to insurance companies. The money customers pay for insurance is called the premium. Insurance companies make their profits by investing these premiums in a portfolio of securities, and earning more money than they have to pay out in claims. If the return on this portfolio is not high enough, the company will lose out to its competition. However, the riskiness of the firm's portfolio is rated by various investor services, and is public knowledge. Therefore, if the company acquires very risky investments in order to achieve a high return, its income from premiums will be reduced because its customers will fear that the company may not be able to make good on the policy.

Because insurance companies need a high rate of return on their assets, they are not very active in the money market, preferring the higher return available in capital markets. The biggest asset class for most insurance companies is bonds, especially corporate bonds. However, they also invest heavily in common and preferred corporate stock. Life insurance companies in particular are important providers of funds to the commercial real estate market. The cash flows required to satisfy claims are more predictable for life insurance companies than they are for casualty insurance companies. Commercial real estate mortgages offer these firms secured, level cash flows from instruments with longer terms than are available from corporate bonds, and higher returns than are available from government bonds. The table below presents the most important assets and liabilities of the insurance industry.

INSURANCE COMPANIES: CONSOLIDATED BALANCE SHEET	
Assets	Liabilities
Corporate Bonds	Insurance Policies
Government Bonds	Capital
Corporate Stocks	
Commercial Mortgages	
Cash	

C. PENSION FUNDS

Pension funds exist in order to pay contractual retirement and death benefits to their members. Usually, pension funds are created by large employers or by employer groups in order to provide retirement benefits to employees. In this case, the employer who creates and manages the plan is called the sponsor. Until it's time to return the money, with interest, to its members, the sponsor tries to earn the best return consistent with the risks that its employees are willing to take, and consistent with federal regulation.

Taxes play a key role in the operation of pension funds. It is generally the case that contributions to the pension fund are not subject to income tax. Thus income taxes are not paid until the benefits of the plan are paid out upon the employees' death or retirement, at which time the employee's marginal income tax rate will usually be lower. In the meantime, interest is being earned upon money that would otherwise have been paid out to the government in taxes. The income and capital gains for the pension fund are also tax-deferred. Often, both the employer and the employee make payments into the pension plan. By doing so, employees are able to shelter part of their income from taxes, and employers are able

to compensate employees with tax-deferred dollars.

Pension plans are often categorized either as defined-benefit plans, or defined-contribution plans. In defined-benefit plans, the employer guarantees a certain retirement benefit to employees, often based upon rank and years of service. If the firm has more money than it needs to make retirement payments, it doesn't have to pay that money out; but if there is a shortfall, then the firm must make up the difference. In a defined-contribution plan, all contributions to the plan are pooled and invested, and each employee receives his or her share of the earnings or losses from these investments.

The sponsor of the pension plan may manage the fund itself, usually by hiring a group of professional managers, or it may engage the services of an external manager. Many commercial banks and insurance companies are in the business of managing pension funds. In either case, the largest asset class for pension funds is common stock. These funds also invest heavily in government and corporate bonds. Some pension funds also invest directly in commercial real estate.

PENSION FUNDS: CONSOLIDATED BALANCE SHEET	
Assets	Liabilities
Stocks	Reserves
Bonds	
Real Estate	
Cash	

D. MUTUAL FUNDS

Mutual funds sell shares to investors, then use the money to purchase securities in accordance with the fund's prospectus. Earnings or losses from the mutual fund's investments are reflected in the value of each share. Mutual funds offer their shareholders three big advantages: 1) professional management, 2) diversification, and 3) low transaction fees. These advantages are especially valuable to small investors who cannot obtain them on their own.

Unlike corporations, mutual funds are "open-ended", which means that new shares are issued every time a new investor buys in, and investors may "sell out" by tendering their shares directly to the fund, which will then pay the investor and retire those shares.

Because shares are purchased and redeemed daily, it is important for the mutual fund to accurately set the purchase and acquisition price. This price, which is the same whether shares are bought or sold, equals the Net Asset Value (NAV) of the fund divided by the number of shares prior to the changes. The fund's NAV equals the value of the fund's assets, minus debts and other obligations the fund would be required to pay were it to liquidate.

For example, let's say that we have a stock fund with \$10,000 of common stock, \$5,000 in margin obligations, and \$2,000 in cash and money market assets. The NAV for this fund is \$7,000 ($\$10,000 - \$5,000 + \$2,000$). If the fund has 1000 shares outstanding on a given day, the share value is \$7 ($\$7,000 / 1000$). If new shares are purchased, they will cost the new investor \$7 per share. Let's say that at the end of a given day, 100 new shares are purchased. These shares will add \$700 to the fund's cash, increasing the total NAV to \$7,700. However, now there are 1100 shares rather than 1000, so the per-share NAV is unchanged at \$7. The same process happens in reverse when shares are redeemed. To keep from going crazy, most mutual funds process all purchases and redemptions only at the end of each day.

Two important players in mutual funds must be distinguished from each other: the advisor, and the sponsor. The advisor, sometimes called the manager, is an individual or a firm that contracts to make the investment decisions for the fund. The sponsor, on the other hand, is an investment company such as Dreyfus or Vanguard, that publishes the prospectus, markets the fund, and does the required accounting and financial reporting. Each sponsor usually sponsors several mutual funds with different investment objectives. The sponsor need not use the same advisor for all of its funds, and usually does not. Many sponsors offer a "family" of funds, and allow shareholders to swap shares between the various funds in the family without charge.

Mutual funds themselves do not pay taxes, but each year the shareholders must pay taxes on their share of earnings and

realized capital gains.

Every week, Barron's lists pages of price quotations for mutual funds in the same way that it lists stock prices. Many mutual funds invest in diversified portfolios, but funds are available that allow investors to focus on just about any specialized class of investment that can be imagined. Some funds specialize in safe investments such as government bonds or money-market instruments. Others specialize in very risky investments such as options, futures, or precious metals. Some risky mutual funds are highly leveraged. In every case, however, the purpose of the fund is specified in its prospectus, and the fund must follow its announced and published investment strategy.

Most funds pay management and advisor expenses by charging an annual fee to shareholders of about 1% or less. Some funds managed by advisors who consider their services to be especially valuable, charge shareholders an additional fee as high as 5% or more at the time of purchase, called a load. Others charge a special fee only when the shares are redeemed, called a rear-end load.

Because mutual funds are so diverse with regard to the nature of their assets, it's difficult to list the assets for a "typical" fund. On the Assets side of the balance sheet below I have listed several of the assets most popularly held by mutual funds.

MUTUAL FUND ASSETS AND LIABILITIES	
Assets	Liabilities
Stock	Shares
Gov't-Secured Home Mortgage Pools	
Gov't Bonds	
Corporate Bonds	
Money Market Instruments	

E. REAL ESTATE INVESTMENT TRUSTS

Real Estate Investment Trusts, called "REITs" (pronounced "REETs"), were established by an act of Congress in 1960, as a special class of closed-end investment companies that could be either finite-life or infinite-life. Similar to a corporation, in a closed-end investment company there is a fixed number of shares outstanding at any time, so that to buy into the fund an investor must purchase shares from a current owner, and to sell out he or she must find a buyer to purchase the shares. Because they have status as investment companies, REITs do not pay corporate taxes, so their investors are protected from double taxation. However, REITs are required to distribute at least 90% of their earnings in the form of dividends so that they are taxed at the investor level. Another restriction on REITs is that they have little choice about the composition of their assets: 95% of their earnings must come from real estate, or government securities.

From the beginning, there have been two primary classes of REITs: Mortgage REITs and Equity REITs. Mortgage REITs invest primarily in mortgages secured by real property; Equity REITs invest directly in the real estate itself.

During the 1990s, the number of Mortgage REITs declined, but the number of Equity REITs increased dramatically, so that most REITs today are Equity REITs. Currently Equity REITs have corporate status, so the old name of Trust is misleading. In fact, to the untrained eye Equity REITs appear to be very similar to other corporations indeed. They are managed by professionals, have highly-paid corporate officers, and in most cases their shares are sold on major stock exchanges. The differences, however, remain and are important: REITs do not pay corporate taxes, and they must distribute essentially all of their earnings to shareholders each year. Thus Equity REITs offer investors a very high dividend payout, and protect them from double taxation. Mortgage REITs offer small investors an opportunity to buy into large, diversified commercial mortgage portfolios that are professionally managed. Because their shares are sold in efficient capital markets, both kinds of REITs offer the public the opportunity to invest in large and very illiquid assets, and still enjoy a high level of liquidity.

Because of the way they operate, the balance sheets of Mortgage REITs and Equity REITs must be presented separately. Mortgages are assets for Mortgage REITs, but are liabilities for Equity REITs.

SUMMARY BALANCE SHEET FOR MORTGAGE REITs	
Assets	Liabilities
Mortgages	Capital
Government Securities	

SUMMARY BALANCE SHEET FOR EQUITY REITs	
Assets	Liabilities
Real Estate	Mortgages
	Capital

WEBSITE SUGGESTIONS BY TOPIC

FINANCE COMPANIES

www.toolkit.cch.com
www.cbanet.org
www.youdecide.com
www.globalsourcenetwork.com

INSURANCE COMPANIES

www.insurance.yahoo.com
www.term.com
www.4termlifeinsurance.com
www.mib.com

PENSION FUNDS

www.ft.com
www.cyberhaven.com/investors/mutual
www.oecd.org
www.cboe.com

MUTUAL FUNDS

www.ici.org
www.1800mutuals.com
www.mutualfunds.about.com
www.brill.com
www.sec.gov/edaux/mutual.htm
www.fundx.com
www.valueline.com

REAL ESTATE INVESTMENT TRUSTS

www.reitanalyst.com
www.nareit.com
www.inrealty.com
www.greenmagazine.com

EXAMINATION QUESTIONS

- 1) When a finance company enters into a factoring agreement with a corporate customer, it is generally the case that:
 - a) it makes a loan secured by real estate
 - b) it makes a loan secured by inventory
 - c) it purchases receivables at a discount
 - d) it leases equipment
 - e) it makes an unsecured loan

- 2) When a finance company makes a floor plan loan, it is generally the case that the loan is:
 - a) unsecured
 - b) secured by accounts receivable
 - c) secured by real estate
 - d) secured by government bonds
 - e) secured by inventory

- 3) Of the asset categories listed below, which one comprises the largest proportion of life insurance company assets?
 - a) Common Stock
 - b) Preferred Stock
 - c) Bonds
 - d) Money Market Instruments
 - e) Cash

- 4) Of the liabilities listed below, which one is the most heavily-used source of funds for finance companies?
 - a) savings deposits
 - b) mortgage bonds
 - c) certificates of deposit
 - d) commercial paper
 - e) short-term bank loans

- 5) When an employer conveys money to a defined-contribution pension plan in the name of an employee, which of the following best describes the most probable tax consequences?
 - a) the employee must pay income taxes on the contribution in the year it is made
 - b) the employee never pays income taxes on the contribution itself, but must pay taxes each year on the earnings and capital gains of the fund
 - c) the employees will not pay income taxes on the contribution or on annual earnings of the fund, but will pay income taxes on all retirement benefits when they are received
 - d) the employee will never pay income taxes on the contribution itself, but will pay taxes on the earnings and capital gains of the fund when these earnings are received as retirement benefits
 - e) the employee will never pay income taxes on employer contributions or on the fund's earnings

- 6) Which of the following is NOT one of the advantages normally associated with mutual fund investment?
 - a) ability to time the realization of capital gains
 - b) portfolio diversification
 - c) professional management
 - d) low transaction costs when buying and selling securities

- 7) Most Equity Real Estate Investment Trusts sell shares on major exchanges, yet there are important differences between REITs and other firms. Of the choices below, which one is the most important difference between Equity REITs and other firms?
 - a) REITs are not permitted to be corporations at all; instead, they are trusts
 - b) REITs do not distribute their earnings
 - c) REITs do not elect their own directors, but are controlled by the government
 - d) REITs do not pay corporate taxes

CHAPTER 6

DEPOSITORY INSTITUTIONS: COMMERCIAL BANKS, SAVINGS INSTITUTIONS AND CREDIT UNIONS

INTRODUCTION

Financial institutions in the U.S. are broadly classified into two categories, depository and non-depository institutions.

Depository institutions are financial institutions whose major source of funds are deposits. Deposits represent borrowings by banks in return for periodic interest payments (with the exception of certain demand deposits that pay no interest). They differ from traditional debt of non-depository institutions and non-financial firms in one important manner. The **Federal Deposit Insurance Corporation (FDIC)**, a federal agency, insures deposits of up to \$100,000 (per account). The FDIC was formed in 1934 to insure deposits and promote safe and sound banking practices, in response to numerous bank failures in the aftermath of the Great Depression. Deposit insurance provides a comparative advantage to non-depository institutions because they can offer low interest rates for the nearly risk-free deposits.

Non-depository institutions vary significantly in form and include insurance companies, mutual funds, pension funds, securities firms, leasing companies and specialized finance companies. The composition of assets and liabilities of these institutions differ based on the type of financial intermediation services they provide. See the chapter on **Non-Bank Financial Institutions** for further details.

This chapter focuses on three major forms of depository institutions, **commercial banks, savings institutions and credit unions**, collectively hereafter referred to as **banks**. The major activities of banks are to accept deposits and make loans.

Banks offer three types of deposits: **demand, savings and time deposits**. Although deposits make up a major portion of liabilities, banks also issue other forms of debt. These include **certificates of deposit, federal funds and long-term debt**. In general, smaller banks, credit unions and savings institutions rely on deposits for their sources of funds while larger banks rely on deposits and other forms of debt.

Bank assets are primarily composed of loans. The three major categories of loans are **commercial loans, consumer loans and mortgages**²

In the following section, we describe some of the assets and liabilities of a traditional bank.

DEPOSITORY LIABILITIES

Demand deposits pay no interest but allow customers to write checks against the deposits with few limitations. A somewhat different form is the **negotiable order of withdrawal (NOW)** account that pays some interest, although it requires some minimum balances. Both deposits are considered **transaction deposits** because they are used primarily for transaction services. From a bank's perspective, transaction deposits are a source of inexpensive debt. However, their balances are difficult to forecast because funds can be withdrawn without advance notice. In addition, transaction deposits are more likely to be withdrawn when interest rates are high. This forces banks to seek alternative sources of funding in a high interest rate environment.

Non-transaction deposits make up the rest of the deposits and include savings and time deposits. **Savings accounts,**

² Banks also provide other services such as foreign exchange, cash management and trust services. Large banks also provide off-balance sheet services that include options, futures, forwards, swaps, and loan guarantees. Off-balance sheet activities appear only in the footnotes of financial statements. However, they have the potential of creating a future liability. For example, if a client defaults on a forward contract, the bank has to record the loss as a liability.

traditionally referred to as passbook accounts, are popular among small savers. Savings accounts pay low interest rates and require no minimum balances. Prior to 1986, Regulation Q placed ceilings on interest rates and required depositors to notify the banks of large withdrawals in advance. Today, banks have more flexibility in setting interest rates and withdrawal policies.

Time deposits have fixed maturities that range from 3 months to 5 years. **Certificates of deposit** are the common form of time deposits issued by banks. Banks find it easier to plan their funding requirements using time deposits. However, they pay higher interest rates than savings or interest-bearing checking accounts. Banks also offer **money market deposit accounts** that allow customers to invest in certificates of deposit indirectly. They pay less interest than investing in CDs directly but have the advantage of limited check-writing facilities.

NON-DEPOSITORY LIABILITIES

Commercial banks also issue other forms of debt to finance their assets. The percentage of non-deposit liabilities varies among banks. Smaller banks rely more heavily on traditional deposits than larger banks. The FDIC does not insure non-depository liabilities. The following is a list of some common non-depository liabilities.

Federal funds are short-term funds borrowed between banks on an unsecured basis. The most popular fed funds are one-day or overnight funds. **Repurchase Agreements** (repos) are also popular for overnight borrowing among banks and corporations. The difference between fed funds and repos is that the latter require collateral. The most common collateral used in repo transactions are U.S. government securities (T-Bills).

Subordinated debt is medium and long-term unsecured debt and similar to that issued by non-financial firms. Subordinated debt ranges in maturity from 5 to 30 years. Although interest rates are higher than those of other liabilities, they provide banks with stable financing for long periods.

Large banks are also able to borrow from overseas markets. **Eurodollar deposits** are the most popular source of foreign deposits. Eurodollars are U.S. dollars that are traded (borrowed and invested) outside the United States. Eurodollar deposits are bought and sold in the wholesale market mainly by foreign banks or overseas branches of domestic banks.

ASSETS

The bulk of the assets of most commercial banks are loans. There are three major categories of loans, **commercial loans**, **consumer loans** and **mortgages**. The following is a brief description of each category.

Loans made to business enterprises are classified as **commercial loans**. Banks offers several different types of commercial loans. **Term loans** have fixed maturities of between 2 to 10 years and are generally used to purchase assets. Loan rates are reduced if the loan is secured by specific assets of the borrower. Assets used this way are called **collateral**. Term loans may be **amortized** or **non-amortized**. Amortized loans are when payments include both interest and some principal repayment. Payments of non-amortized loans are interest only and the principal is paid at maturity.

Revolving lines of credits are another popular form of commercial loans. These allow firms to borrow on an as-needed basis, providing some degree of certainty regarding the availability of funds. Banks usually charge an **up-front commitment fee**, that range between 1/2% and 1%. Some banks also charge a **back-end fee** for the unused portions of the credit.

Consumer loans consist of **credit card loans** and **installment loans**. Interest rates and credit limits on credit cards are usually based on the individual risk characteristics of the borrower. Installment loans, such as car loans, usually have maturities of 1-5 years and require amortized monthly payments over the life of the loan.

Mortgages are loans provided for the purchase of real estate. Residential mortgages usually have maturities of 15 or 30 years, and the property is used as collateral.

Leases are another form of financing provided by banks. Leases allow banks to maintain ownership of the physical assets. They provide flexibility to the borrower because the leased machine or equipment can be replaced without incurring the burden of disposing of the old assets.

Banks also invest in **securities**, usually short-term. They are held for both liquidity and speculative purposes. Securities can range from U.S. bonds, preferred stock and short-term instruments.

A simplified balance sheet of a commercial bank is as follows:

Cash	| Deposits:
Securities	| Demand Deposits
Commercial Loans	| Savings Deposits
Consumer Loans	| Time Deposits
Mortgages	| Long Term Debt and other borrowings
<u>Fixed Assets</u>	<u>| Equity</u>

We next describe some key features of commercial banks, savings institutions and credit unions.

COMMERCIAL BANKS

Commercial banks are the largest depository institution by assets. They are chartered at either the national or state level. The **Comptroller of the Currency (OCC)** charters national banks and are responsible for their supervision. If banks are state-chartered, the regulatory authorities of the state supervise them. When the OCC was established in 1863, banks held approximately 75% of total assets of all financial intermediaries. Today, they hold only about 25%, reflecting the growing importance of non-depository institutions. All nationally chartered banks are members of the **Federal Reserve System**. State banks may choose to be members of the Federal Reserve System. As of March 31, 2003, there were approximately 8,500 commercial banks. In contrast, there were over 14,000 commercial banks in 1984. Among the 8,500 banks, about 2,300 were nationally chartered and 6,200 state-chartered. Of the 6,200 state-chartered banks, only about 1000 were members of the Federal Reserve System. All depository institutions in the US are regulated by the Federal Reserve, The OCC, and the FDIC. The most important of these is the Fed. Larger US banks (and all that are involved in international transactions) are also regulated by the Bank for International Settlements (BIS) which imposes capital requirements for all global banks in an effort to maintain the safety and soundness of the global banking system. These are put forth under the Basel Accords.

Competition and deregulation has transformed the business of banking significantly in the last two decades. For nearly six decades, two major laws have governed the scope of banking activities in the U.S. The McFadden Act passed in 1927 prevented nationally chartered banks from expanding across state borders so as to not compete against state-chartered banks. The 1933 Glass-Steagall Act prevented banks from engaging in the securities business. Both laws have now been effectively repealed with the enactment of two recent legislations. The 1994 Riegle-Neil Interstate banking and Branching Act allows banks to operate across state lines beginning 1997. The 1999 Gramm-Leach-Bliley Act, also called The Financial Services Modernization Act, ended the separation of banking with securities and insurance business (Glass-Steagall repealed). In fact, the Act allows any activity that can be characterized as 'financial in nature' to be housed under the umbrella of the Financial Services Holding Company. It is still not clear what the future lies for the banking industry. One likely scenario is for the banking industry to coalesce into a few giant super-banks with an extensive branching network across the country. This is currently the structure in most countries around the world. Alternatively, the large banks may coexist with small boutique banks that specialize in selected services and cater to niche markets.

The figure below shows the balance sheet of all commercial bank in the U.S. as of August 6, 2003. Source: Federal Reserve Board. (Seasonally adjusted in billions of dollars)

Cash Assets	336.8	| Transaction deposits	655.4
Interbank Loans	335.9	| Non-transaction deposits	4,147.2
Securities	1,794.5	| Borrow from banks in US	425.7

Commercial Loans	919.4	| Borrow from banks overseas	1,142.2
Consumer Loans	592.8	| Other Liabilities	574.6
Mortgages	2,242.2	|	
Other loans/Leases	690.	| Equity (Assets minus Liabilities)	<u>560.4</u>
Other Assets	<u>593.9</u>	|	
Total	7,505.5	|	7,505.5

SAVINGS INSTITUTIONS

Savings institutions comprise of two separate thrift organizations, savings and loans associations and savings banks. Both groups primarily make residential mortgage loans and accept deposits from small savers. Savings banks differ from savings and loans institutions in that they also make commercial loans, leases and other forms of financing.

The savings institutions industry has undergone a significant transformation in recent years. The industry faced a severe crisis when interest rates rose dramatically in the late 1970s. Since most held long-term mortgages paying low interest rates, it became difficult to attract savings and passbook deposits because Regulation Q imposed ceilings on interest rates. Legislations in 1980 (Depository Institutions Deregulation and Monetary Control Act) and 1982 (Garn-St. Germain Depository Act) finally allowed savings institutions to offer higher interest rates and expand their banking services. However, it failed to prevent many institutions from failing. New legislations in 1989 (Financial Institutions Reform Recovery and enforcement Act) and 1991 (Federal deposit Insurance Corporation Improvement Act) finally closed many of the failing institutions including the **Federal Savings and Loans Insurance Corporation**, the counterpart to FDIC for savings institutions. The FDIC now provides deposit insurance to thrifts. Supervisory responsibility belongs to two agencies, the **FDIC** and the **Office of thrift Supervision (OTS)**. The total number of savings institutions at the end of 2002 was around 1,500, down from a high of 3,677 in 1986.

CREDIT UNIONS

Credit Unions are depository institutions owned by members of a common group such as teachers, employees or associations. For example, the National Educators Federal Credit Union, based in Valley Stream, New York, accepts teachers of schools and universities as their members. The IBM Mid America Employees Federal Credit Union based in Minnesota primarily has employees of IBM Corporation as their members.

Credit Unions perform the same banking functions of accepting deposits and making loans. However, their activities are restricted to their members. This restriction qualifies them to be treated as non-profit organizations and therefore exempt from income taxes. In recent years, the commercial banking establishment has been lobbying hard with Congress to repeal this status, citing an unfair advantage. There are currently over 10,000 credit unions in the United States with assets of over \$400 billion.

Credit unions primarily make small loans, such as car loans and overdraft lines of credit, to their members. Although some provide residential mortgages, they do yet make up a large percentage of total assets. Credit Unions are chartered both at the federal and state levels. Like commercial banks, they provide deposit insurance of up to \$100,000, administered by the **National Credit Union Share Insurance Fund (NCUSIF)**. They are supervised by the **National Credit Union Administration (NCUA)** that comprises of three board members appointed by the President and confirmed by the Senate.

CHAPTER 6: QUESTIONS

1. What is the primary distinction between depository and non-depository institutions?
2. What is the difference between demand deposit and negotiable order of withdrawal accounts?
3. From a bank's perspective, what are the advantages and disadvantages of offering savings and time deposits?
4. Why did savings institutions face a crisis in the 1980s?
5. What special benefits are enjoyed by credit unions and why?

Some useful sites related to depository institutions

1. www.federalreserve.gov for information on the Federal Reserve Board.
2. www.fdic.gov for information on the Federal Deposit Insurance Corporation.
3. www.ncua.gov for information on credit unions.
4. www.ots.treas.gov for information on savings institutions.
5. www.aba.com for information on commercial banks
6. www.occ.trea.gov for information on Office of the Comptroller of the Currency

Top 12 US Banks By Total Assets As Of 03/31/2003

Rank	Name	City	State	Total Assets(K)
1	JPMORGAN CHASE BANK	NEW YORK	NY	621,696,000
2	BANK OF AMERICA	CHARLOTTE	NC	574,410,000
3	CITIBANK, N.A.	NEW YORK	NY	514,803,000
4	WACHOVIA BANK	CHARLOTTE	NC	323,783,000
5	BANK ONE	CHICAGO	IL	226,331,000
6	WELLS FARGO BANK, NATIONAL ASSOCIATION	SAN FRANCISCO	CA	196,378,000
7	FLEET NATIONAL BANK	PROVIDENCE	RI	192,100,000
8	U S BANK	CINCINNATI	OH	177,979,000
9	SUNTRUST BANK	ATLANTA	GA	118,315,000
10	HSBC BANK USA	BUFFALO	NY	85,936,000
11	BANK OF NY	NEW YORK	NY	76,683,000
12	KEYBANK NATIONAL ASSOCIATION	CLEVELAND	OH	76,669,000

Source: Federal Reserve Board

CHAPTER 7

MONEY MARKET INSTRUMENTS

INTRODUCTION

The money markets play a very important role in the global financial markets. In a very general sense, money market instruments may be defined as debt instruments with a maturity of one year or less. These instruments allow many different types of borrowers – banks, governments, corporations – to raise money on a short term basis to fund their operations. The money markets are especially important because:

- 1) banks, important financial intermediaries, are the dominant participants. One of the major functions of a bank is to supply “credit” or funds to borrowers. This transfer of funds in our economy – redistributing money from those who have surplus cash (savers) to those who are in need of cash (borrowers) – is instrumental in maintaining a healthy economy. The ability of banks to borrow money quickly and cost-effectively in the money markets facilitates this important process.
- 2) The United States Treasury raises money in the money markets on a regular basis. The United States Treasury is the most important borrower in the global financial markets not only because of its size (it is currently the largest borrower) but also because it serves as a pricing benchmark for other borrowers in the market.
- 3) The Federal Reserve, our nation’s Central Bank, conducts open-market operations to control inflation and the health of our economy chiefly through the purchase and sale of money market instruments.
- 4) The money markets are truly one global market. Many of the first examples of financial market globalization occurred in these short-term markets.

TYPES OF INSTRUMENTS

As in the longer-term bond market, there are different methods that may be used to categorize money market instruments. The money markets may be broken down by:

- Method of payment of interest – Interest bearing vs. Discount Instruments
- Currency Denomination – U.S. Dollar vs. Non-Dollar Instruments
- Issuance Market – United States vs. the “Euro” Markets
- Structure – Fixed-Rate vs. Floating-Rate
- Nationality of Borrower – Domestic vs. Foreign

We will look at all of these breakdowns in an effort to better understand the composition of the money markets.

INTEREST-BEARING VS. DISCOUNT INSTRUMENTS

Money market instruments that pay interest at the end of a set period (in “arrear”) are interest-bearing instruments. They may also be referred to as coupon-bearing. The cash flow pattern of these securities are as follows: the investor pays the face value at issuance. At the maturity of the instrument, the investor receives the full face value plus the interest earned for the period. (For longer-maturity money market instruments there may be a coupon payment prior to maturity.) In contrast, money market instruments that are issued on a discount basis are purchased at issuance at a discount from their face value. They do not pay interest; rather, they pay the investor the full face value at maturity.

TYPES OF INTEREST-BEARING INSTRUMENTS

- ***Negotiable Certificates of Deposit (CDs)*** – These instruments are issued by banks to raise short-term money. Fixed-rate CDs (we will discuss another structure, floating-rate CDs later) are typically issued in maturities ranging from one to twelve months. It is important to differentiate this type of CD from a CD that is sold at a retail bank branch and is not a security but rather is a deposit. Negotiable CDs are issued as securities in the money markets in large denominations, typically by large banking institutions. As their name implies, these securities may be bought and

sold after issuance and prior to maturity. Thus, a secondary market exists for these CDs. Because they are a security and not a deposit, deposit insurance does not apply.

The market for negotiable CDs blossomed in the 1970s. It significantly expanded the ability of banks to raise money. With the introduction of this market, banks were no longer dependent on their deposit base for funds. They could issue a CD which could potentially be purchased by investors throughout the United States and even globally.

Today, there are many types of CDs outstanding in the money markets. CDs are issued around the globe, in a variety of currencies. The U.S. dollar-denominated CD constitutes the largest sector of this market. There are three types of CDs that may be issued in U.S. dollars. A *domestic CD* is issued by a U.S. bank in the United States, its domestic market. A *foreign or Yankee CD* is issued by a foreign bank in the United States. A *Eurodollar CD* may be issued by a large U.S. or foreign bank in the “Euro” market, which is an off-shore market primarily based in London. A CD market, like the US dollar-denominated market, exists in all of the industrialized countries and in some converging and emerging markets.

A floating-rate CD is a variation of the CD structure. These securities are issued with longer maturities, typically 3 to 5 years. However, their coupon changes, or “floats”, at regular intervals with interest rates. The coupon is determined by a preset spread over a benchmark or reference rate. Because their coupons change with market rates, these instruments perform like money market instruments.

- **Federal Funds Market**

Another important way that a bank borrows short-term money is through the Federal Funds Market. The federal funds market is controlled by the Federal Reserve, our nation’s central bank. In order to control monetary policy and, thus, the health of the economy, the Federal Reserve requires all depository institutions to keep “reserves” in their Federal Reserve Account. These reserves equal a certain percentage of the demand deposits that they hold. In a Federal Funds transaction, a bank borrows reserves from another bank through the Federal Reserve system. These transactions are typically done on an overnight basis and, thus, the bank is borrowing money for one day.

- **Repurchase Agreements**

Banks also borrow short-term money in the repurchase agreement, or “repo” market. This market is very similar to the federal funds market: repo transactions are also typically done on an overnight basis. There are differences between the two markets, however. In a repo agreement, the bank is not necessarily borrowing money from another bank. Very often, it may be borrowing money from a non-financial corporation. Repos are also used by other institutions, such as investment banks, to raise short-term funds. The other major difference between the federal funds and repo market is that repo transactions are collateralized, typically by U.S. Treasury securities.

- **Interbank Markets**

Banks also borrow money from other banks through a highly-developed interbank market that exists in what is known as the “Euro” market. The largest sector of this market is the Eurodollar market, where large multinational banks borrow dollar deposits from other banks off shore. The reference rate of the Eurodollar market is LIBOR, the London interbank offered rate. LIBOR is an important reference rate in global capital markets. There exists an interbank market for all of the major currencies and also for the new currency of the European Union, the Euro. Thus, this market is the Euro Euro market. The interbank market is similar to the federal funds market in that it is a system where banks borrow from other banks. However, these transactions are considerably longer in duration, typically ranging from one month to one year. Also, because this market is off shore, it is unregulated.

TYPES OF DISCOUNT INSTRUMENTS

- **Treasury Bills**

The United States government is an active issuer of securities in the money market. Each week, it issues three- and six-month Treasury bills. Once a month, it issues 12-month Treasury bills. These securities are issued on a discount basis as described earlier. Treasury bills are very important to the structure of the money and capital markets. In particular, the three-month bill is known as the “risk-free” rate and is utilized for pricing and analysis purposes. It is called the risk-free rate because default/credit risk has been eliminated and maturity risk has been reduced.

Treasury bills, as well as all Treasury securities, are issued in a unique manner. They are issued through an auction process where bidders submit either **competitive** (indicating the price they are willing to pay) or **non-competitive bids** (indicating the average price they are willing to accept).

- **Commercial Paper**

Commercial paper is a short-term debt instrument issued by a corporation. The largest issuers of commercial paper are financial corporations such as the consumer finance companies, GMAC or General Electric Credit Corporation. Investment banks, insurance companies and bank holding companies also issue commercial paper. Non-financial corporations, such as retailers, also use the commercial paper market as a source of funds. Commercial paper is issued on a discount basis in maturities ranging from one to 270 days. Securities in this maturity range are exempt from SEC (Securities and Exchange Commission) registration requirements. Because of this exemption, companies are able to finance themselves quickly and cost-effectively in the commercial paper market.

The commercial paper market is truly global. Commercial paper markets, styled after their very successful U.S. counterpart, exist in most of the major industrialized countries of the world, denominated in many different currencies. There is also a Eurocommercial paper market.

- **Bankers Acceptances**

Bankers Acceptances are another way that banks borrow money short term. This instrument is created through a rather complex process involving the facilitation of import/export transactions. In a very simple sense, a bank provides a letter of credit to an exporter, guaranteeing payment at the end of a set period for goods that they have exported. When the bank sells this commitment in the money market, in other words, securitizes it, a bankers acceptance is created.