Fundamentals of Investing 13th edition Smart Solutions Manual

SKU: 9780134083308-SOLUTIONS

Chapter 2
Securities Markets and Transactions

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■ Key Concepts

2.1 The types of securities markets in which transactions are made

2.2 Explain public offering process.

2.3 The operations, function, and nature of broker (organized securities exchanges) and dealer (the over-the-counter) market

2.4 The importance of international securities markets and a discussion on the performance and risk involved in these investments

2.5 General market conditions and extended hours trading and regulation of the securities markets

2.6 The basic long transaction

2.7 The motives for margin transactions and the procedures for making them

2.8 Margin requirements, formulas for initial and maintenance margin, and the uses of margin trading

2.9 The short sale transaction, why one shorts securities, and the uses of short selling

■ Overview

2.1 The text divides securities markets into *money markets* and *capital markets*. The instructor should explain the difference.

2.2 Both *primary* and *secondary transactions* are carried out in capital markets. The instructor should define these transactions for students and explain the role of the investment banker in the selling of new securities (primary transactions).

2.3 Initial public offerings (IPOs) are the most important transactions in the primary market. The sequence of events includes filing a prospectus with SEC, a quiet period, the distribution of the "red herring" preliminary prospectus, and finally the first day of trading. First day returns and the number of IPOs vary greatly over time with market conditions. Most IPOs take place with the assistance of an investment banking firm. In the underwriting process, the investment bankers buy all of the stock from the issuing firm and bear the risk of reselling at a profit.

2.4 The secondary markets include various *broker markets* and *dealer markets*. Broker markets include the *organized securities exchanges,* while *dealer markets* include the *Nasdaq* (the National Association of Securities Dealers Automated Quotation System) and *over-the-counter (OTC) markets*. The instructor should emphasize the importance of the NYSE Amex among all these markets. The instructor might also discuss these aspects of organized security exchanges: the membership of an exchange; its listing policies; the role of the brokers, traders, and specialists; trading activity; and the auctioning process. Instructors may also wish to mention the roll of the Amex and regional exchanges in trading ETFs and options contracts. It is probably important to mention the diminishing share of trading volume at the NYSE and other organized exchanges

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2.5 The dealer markets are described next. The instructor should point out that the Nasdaq and OTC markets are not physical institutions like the organized securities exchanges. The instructor should also mention that while there is only one specialist for each stock on an exchange, there may be several or even many dealers for large companies traded on Nasdaq. The distinctions between broker and dealer markets are blurring as more and more trades are executed electronically. Nasdaq includes larger companies than the over-the-counter market, with companies listed on the *OTC Bulletin Board* being larger than those included in the *OTC Pink Sheets*. The instructor should also point out that shares normally traded in the broker markets may trade in the dealer market, in what is known as the *third market,* while *fourth market* trades between institutions are completed using *electronic communications networks.* Instructors should explain that dealers make their profit by buying securities at a *bid* price and selling at a higher *ask* price. Competition tends to keep the spreads between bid and ask prices fairly narrow.

2.6 The chapter then discusses the globalization of international securities markets, including a description of investing in the foreign securities marketplace, how to buy foreign securities, and the risks of international investment. Related issues are the existence of after-hours trading and the mergers of stock markets foreshadowing the creation of a worldwide stock exchange, the NYSE Euronext which now includes the Paris, Brussels, Amsterdam and Lisbon exchanges. The chapter outlines the various options available for international investing including multinational corporations, global and country mutual funds, and ADRs.

2.7 In the next section, various regulations applicable to brokers, investment advisers, and stock exchanges are described. If they were not already discussed in chapter 1, the instructor might want to bring in any recent litigation or securities market trial (e.g., the 2012 conviction of former Goldman Sachs trader Rajat Gupta, currently serving a two year sentence for insider trading violations.) that is being widely covered by the press. Widespread allegations of malfeasance on the part of financial firms leading up to the crisis of 2007–2008 have perhaps added to the importance of this topic. Ethical issues and insider trading are interesting and serve to make a point about the challenges facing those attempting to regulate the exchanges.

2.8 The text now moves to the different types of transactions, beginning with long purchases. The next section deals extensively with *margin trading,* including the magnification of profits and losses, initial and maintenance margin, and the formulas for their calculation. A number of review problems and a case at the end of the chapter will aid students in understanding the concept of margin.

2.9 The final section of the chapter deals with *short selling,* including the mechanics and uses of short sales. The text explains initial and maintenance margin requirements and the calculation of profit and loss on short sale transactions.

■ Answers to Concepts in Review

2.1 a. In the *money market,* short-term securities such as CDs, T-bills, and bankers' acceptances are traded. Long-term securities such as stocks and bonds are traded in the *capital markets*.

b. A new security is issued in the *primary market*. Once a security has been issued, it can be bought and sold in the *secondary market*.

c. *Broker markets* are organized securities exchanges that are centralized institutions where securities listed on a particular exchange are traded. The *dealer market* is a complex system of buyers and sellers linked by a sophisticated telecommunication network. Dealer markets include Nasdaq and OTC markets.

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2.2 The *investment banker* is a financial intermediary who specializes in selling new security issues in what is known as an *initial public offering (IPO)*. Underwriting involves the purchase of the security issue from the issuing firm at an agreed-on price and bearing the risk of reselling it to the public at a profit. For very large issues, an investment banker brings in other bankers as partners to form the underwriting syndicate and thus spread the financial risk. The investment banker also provides the issuer with advice about pricing and other important aspects of the issue.

In a *public offering,* a firm offers its shares for sale to the general public after registering the shares with the SEC. Rather than issue shares publicly, a firm can make a *rights offering,* in which it offers shares to existing stockholders on a pro rata basis. In a *private placement* of its shares, a firm sells directly to groups of investors, such as insurance companies and pension funds, and does not register with the SEC.

2.3 a. 5. The prospectus describes the key aspects of a security offering..

b. 2. Underwriting is buying securities from firms and reselling them to investors.

c. 6. The NYSE is the largest stock exchange in the world.

d. 4. The Nasdaq OMX BX is a regional stock exchange.

e. 3. Listing requirements are the onditions a firm must meet before its stock can be traded on an exchange.

f. 1. The OTC trades unlisted securities.

2.4 The dealer market is really a system of markets spread all over the country and linked together by a sophisticated telecommunication system. It accounts for about 40% of the total dollar volume of all shares traded. These markets are made up of traders known as dealers, who offer to buy or sell stocks at specific prices. The "bid" price is the highest price offered by the dealer to purchase a security; the "ask" price is the lowest price at which the dealer is willing to sell the security. The dealers are linked together through Nasdaq. In order to create a continuous market for unlisted securities, IPOs, both listed and unlisted, are sold in the dealer market. About 3000 Nasdaq stocks are included in the *Nasdaq/National Market System,* which lists, carefully tracks, and provides detailed quotations on these actively traded stocks. The Nasdaq Global Select Market contains the 1450 biggest and most actively traded companies. An additional 1,000 firms are included in the Nasdaq National Market listing. Another 700 firms that are generally smaller can be found on the Nasdaq Capital Markets list. Companies that do not make the Nasdaq listing standards are traded on the OTC market's Bulletin Board or "Pink Sheets."

Trading in large blocks of outstanding securities, known as *secondary distributions,* also takes place in the OTC market in order to reduce potential negative effects of such transactions on the price of listed securities. *Third markets* are over-the-counter transactions made in securities listed on the NYSE, the Amex, or any other organized exchange. Mutual funds, pension funds, and life insurance companies use third markets to make large transactions at a reduced cost. *Fourth markets* include transactions made directly between large institutional investors. Unlike the third market, this market bypasses the dealer; however, sometimes an institution will hire a firm to find a suitable buyer or seller and facilitate the transaction.

2.5 The third market consists of over-the-counter transactions made in securities listed on the NYSE or one of the other exchanges. The fourth market consists of transactions using a computer network, rather than an organized exchange, between large institutional buyers and sellers of securities.

2.6 A *bull market* is a favorable market normally associated with rising prices, investor optimism, economic recovery, and governmental stimulus. In contrast, *bear markets* are associated with falling prices, investor pessimism, economic downturn, and government restraint.

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2.7 The *globalization* of securities markets is important because today investors seek out securities with high returns in markets other than their home country. They may invest in companies based in countries with rapidly growing economies or choose international investments to diversify their portfolios. The U.S. securities markets, while still the world's largest, no longer dominate the investment scene. In recent years, foreign exchanges have provided investors with high returns. Only once since 1980 has the United States finished number one among the major stock markets of the world. In 2005, investors could have earned higher returns from investing in markets in India, Egypt, Indonesia and Turkey.

2.8 To achieve some degree of international diversification, an investor can make foreign security investments either indirectly or directly. An investor can diversify indirectly by investing in shares of U.S.-based multinational companies with large overseas operations that receive more than 50% of their revenues from overseas operations. Investors can make these transactions conventionally through their stockbrokers; the procedure is similar to buying a domestic security. An investor can also purchase foreign securities indirectly by purchasing shares in a mutual fund that primarily invests in these securities. The investor can also purchase foreign stocks and bonds directly on foreign exchanges, buy shares of foreign companies that are traded on organized or over-the-counter U.S. exchanges, or buy *American depositary receipts (ADRs)* and *Yankee bonds.*

2.9 The investor must be aware of the additional risks involved in buying foreign securities: country risk, government policies, market regulation (or lack thereof), and foreign currency fluctuations. Investors must consider risks beyond those in making any security transaction. In particular, investors in foreign markets must bear risks associated with doing business in the foreign country, such as trade policies, labor laws, taxes, and political instability.

Because investing internationally involves purchasing securities in foreign currencies, trading profits and losses are affected not only by security price changes, but by *foreign exchange risk*. This risk is caused by the varying exchange rates between two countries. Profits in a foreign security may translate into losses once the foreign currency has been exchanged for dollars. Similarly, transaction losses can result in gains. The bottom line is that investors must be aware that the value of the foreign currency relative to the dollar can have profound effects on returns from foreign security transactions.

2.10 The exchanges, Nasdaq, and *electronic communications networks (ECNs)* offer extended trading sessions before and after regular hours. Most of the after-hours markets are crossing markets, in which orders are only filled if they can be matched with identical opposing orders at the desired price.. Many large brokerage firms, both traditional and online, offer their clients after-hours trading services .

ECNs handle after-hours trading for their client brokerages. Obviously, the two investors would have to have different expectations about subsequent share price performance. The development of securities markets around the globe has essentially created the situation where we have continuous trading in stocks. After-hours trading sessions carry more risk. Price changes tend to be more volatile than regular sessions, and the markets are generally less liquid than day-trading sessions. On the other hand, recent research suggests that ETF prices are less likely to overreact and then overcorrect in relation to news announcements during after-hours trading than during regular trading hours.

2.11 a. The *Securities Act of 1933* requires companies to disclose all information relevant to new security issues. The company must file a registration statement with the Securities and Exchange Commission (SEC) giving required and accurate information about the new issue. No new securities can be sold publicly unless the SEC approves the registration statement.

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b. The *Investment Company Act of 1940* set certain rules and regulations for investment companies. It also empowered the SEC to regulate their practices and procedures. Investment companies were required to register with the SEC and fulfill certain disclosure requirements. The act was amended in 1970 to prohibit investment companies from paying excessive fees to advisers and charging excessive commissions to purchasers of shares.

c. The *Investment Advisers Act of 1940* was passed to protect the public from potential abuses by investment advisers. Advisers were required to register and file regular reports with the SEC. In a 1960 amendment, the SEC was authorized to inspect the records of advisers and to revoke their registration if they violated the provisions of this act.

d. The *Insider Trading and Fraud Act of 1988* established penalties for using nonpublic information to make personal gain. An insider, which originally referred only to a company's employees, directors, and their relatives, was expanded to include anyone who obtains private information about a company. To allow the SEC to monitor insider trades, the SEC requires corporate insiders to file monthly reports detailing all transactions made in the company stock.

e. Reg FD requires companies to disclose material information to all investors at the same time.

f. The *Sarbanes-Oxley Act of 2002* attempts to eliminate fraudulent accounting and regulate information releases. Heavy penalties are applied to CEOs and financial officers who release deliberately misleading information. The law also establishes guidelines minimizing analyst conflicts of interest, increases SEC authority, and requires instant disclosure of stock sales by corporate executives.

g. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 was passed to promote financial stability, accountability and transparency in the U.S.. It created the *Bureau of Consumer Financial Protection* and other agencies.

2.12 When an investor purchases a security in the hope that it will increase in value and can be sold later for a profit, the investor is making a *long purchase*. The long purchase, the most common type of transaction, derives its returns from dividends or interest received during ownership, plus capital gains or losses—the difference between the purchase price and the sale price.

Margin trading involves buying securities in part with borrowed funds. Therefore, investors can use margin to reduce their money and use borrowed money to make a long purchase. Once the investment increases in value, the investor will pay off the loan (with fixed interest charges) and keep the rest as profits. Of course, buying on margin is quite risky, as the investors can lose their whole capital if the investment decreases in value.

2.13 When buying on margin, the investor puts up part of the required capital (perhaps 50% to 70% of the total); this is the *equity* portion of the investment and represents the investor's margin. The investor's broker (or banker) then lends the rest of the money required to make the transaction. Magnification of profits (and losses) is the main advantage of margin trading. This is called *financial leverage* and is created when the investor purchases stocks or other securities on margin. Only the equity portion is financed by the investor, but if the stock goes up, the investor gets all the capital gains, so leverage magnifies the return.

Through leverage, an investor can (1) increase the size of his or her total investment, or (2) purchase the same investment with less of his or her own funds. Either way, the investor increases the potential rate of return (or potential loss). If the margin requirement is, say, 50%, the investor puts up only half the funds and borrows the other half. Suppose the security goes up 10%. If the investor bought the stock without using margin, he or she would earn 10%. However, if the investor used 50% margin, ignoring margin interest, he or she *would earn the same dollar return with only half the funds, so the rate of return would double* to 20%. On the other hand, suppose the stock fell by 10%. Without margin trading, he or she has a 10% loss. With margin trading, *the loss is also doubled*. Both profits

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and losses are magnified using leverage. ***Note:*** Table 2.3 provides an excellent illustration of this point.

Margin trading has both advantages and disadvantages. *Advantages:* Margin trading provides the investor leverage and the ability to magnify potential profits. It can also be used to improve current dividend income. Through margin trading, an investor can gain greater diversification or be able to take larger positions in the securities he or she finds attractive. *Disadvantages:* With greater leverage comes greater risk, and this is a disadvantage of margin trading. Interest rates on the debit balance can be high, a further disadvantage since these costs can significantly lower returns.

2.14 In order to execute a margin transaction, an investor first must establish a margin account. Although the Federal Reserve Board sets the minimum amount of equity for margin transactions, it is not unusual for brokerage houses and exchanges to establish their own, more restrictive, requirements.

Once a margin account has been established, the investor must provide the minimum amount of required equity at the time of purchase. This is called the *initial margin,* and it is required to prevent excessive trading and speculation. If the value of the investor's account drops below this initial margin requirement, the investor will have a *restricted account*. The *maintenance margin* is the absolute minimum amount of equity that an investor must maintain in the margin account. If the value of the account drops below the maintenance margin, the investor receives a *margin call,* in which case the investor has limited time to replenish the equity up to the initial margin. If the investor cannot meet the margin call, the broker is authorized to sell the investor's holdings to bring the account up to the required initial margin.

The size of the margin loan is called the *debit balance* and is used along with the value of the securities being margined (the collateral) to calculate the amount of the investor's margin.

Typically, margin is used to magnify the returns to a long purchase. However, when a margin account has more equity than is required by the initial margin, an investor can use this "paper" equity to purchase more securities. This tactic is called *pyramiding* and takes the concept of magnifying returns to the limit.

2.15 An investor attempting to profit by selling short intends to "sell high and buy low," the reverse of the usual (long purchase) order of the transaction. The investor borrows shares and sells them, hoping to buy them back later (at a lower price) and return them to the lender. Short sales are regulated by the SEC and can be executed only after a transaction where the price of the security rises; in other words, short sales are feasible only when there is an uptick.

Equity capital must be put up by a short seller; the amount is defined by an initial *margin requirement* that designates the amount of cash (or equity) the investor must deposit with a broker. For example, if an investor wishes to sell (short) $4,000 worth of stock when the prevailing short sale margin requirement is 50%, he or she must deposit $2,000 with the broker. This margin and the proceeds of the short sale provide the broker with assurance that the securities can be repurchased at a later date, even if their price increases.

2.16 In order to make a short sale, the investor must make a deposit with the broker that is equal to the initial margin requirement. Maintenance margins are still the lowest allowed percentage of equity in a position. Short seller margins decline if the share price rises because some of the deposit (plus the initial proceeds) will be necessary to buy back the shares. If the stock price rises by an amount sufficient to reduce short seller margins to the maintenance levels, they will receive a margin call. The short sellers can either deposit initial margin (and bet on a share price decline) or close out their position by buying back the shares (and take the loss).

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2.17 The major *advantage* of short selling is the chance to convert a price decline into a profit-making situation. The technique can also be used to protect profits already earned and to defer taxes on those profits. The major *disadvantage* of short selling is the high risk exposure in the face of limited return opportunities. Also, short sellers never earn dividends but must pay them (back to the lender) as long as the transaction is outstanding.

Short sales can earn speculative profits because the investor is betting against the market, which involves considerable risk exposure. If the market moves up instead of down, the investor could lose all (or more) of the short sale proceeds and margin.

■ Suggested Answers to Discussion Questions

2.1 One reason for the large initial returns is the significant amount of hype surrounding new issues. This was especially true in the late 1990s, during what is now described as the "tech-stock bubble." Investor demand for shares of these firms far exceeded the supply.

Underwriters may intentionally underprice issues to increase their own profits and make it easier to sell the shares. In addition to serving their clients who are issuing shares in an IPO, underwriters also serve clients who buy those shares, and those clients (whom underwriters transact with frequently) benefit if IPO shares are underpriced. Issuing firms may be willing to accept a lower price if it draws attention to their firm, making it easier to sell additional shares at a later date. Institutional investors tend to receive most of the shares in IPOs, particularly for those issues in great demand. Since they do not want to overpay for the shares, this is yet another factor contributing to underpricing.

2.2 The main advantage of listing on the NYSE is the perception of greater prestige and public awareness of the firm. The main disadvantage is that the NYSE has the strictest listing requirements of any securities market in the United States. For large tech firms, listing on Nasdaq is a part of their public image as innovative, technology-oriented companies.

2.3 Due to global time differences, not all securities markets are open simultaneously, although the possibility exists of trading in after-hour markets. This assumes the markets are equivalent when it comes to liquidity and information ability. There is talk of a market that could trade any share in the world, with the many mergers and cooperative arrangements among securities exchanges enhancing the likelihood of a worldwide stock exchange. Large companies headquartered in North America, Europe, or Japan already trade on many national markets. However, major impediments to such trading still exist especially in listing and trading requirements. Many developing economies place foreign ownership restrictions on their listed stocks and do not insist on the level of disclosure required on the NYSE or other major exchanges. Another stumbling block still prevails related to currency conversion. At present, there are still many foreign currencies that are not acceptable internationally. These restrictions prevent many foreign stocks from trading in one market place. It is not hard to imagine the emergence of 24 hour trading in a unified market consisting of North American, Western European and major Asian exchanges such as Tokyo.

2.4 The argument in favor of expanded trading sessions is that they would facilitate additional trading, especially for international investors, and increase liquidity. On the other hand, some market participants feel that increasing opportunities to trade encourages a short-term focus rather than a long-term one, and the additional trading will increase market volatility. A "breathing period" gives investors time to process new information before they react to it. Larger brokerages and ECNs are the biggest proponents of expanding trading because they are equipped to handle it and stand to increase their profits significantly.

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2.5 a. Long purchases are typically used by conservative investors so that they receive their expected returns over time.

b. Margin trading is typically used by aggressive investors seeking short-term capital appreciation.

c. Short selling is typically used by aggressive investors seeking short-term profits from falling security prices.

■ Solutions to Problems

2.1 The $/yen exchange rate is the inverse of the yen/$ exchange rate. If an investor could get 120 yen per dollar, then 1,000 yen buys (¥1,000/120) dollars, or $8.33.

2.2 The investor will receive 1.30 dollars for each euro or 20,000 × 1.30 = $26,000.

2.3

	Share Price in Foreign Currency	÷	Exchange Rate per US$	=	Share Price in US$
a.	103.2 euro		0.93 €/US$		$110.97
b.	93.3 Sf		.96Sf/US$		$97.19
c.	1,350.0 yen		110 ¥/US$		$ 12.27

2.4 a. The euro *depreciated* relative to the US$, as each US$ is worth more euros. Stated another way, it takes a larger fraction of a euro to obtain one US$. At an exchange rate of €0.67 /US$, it took 1.49 ($1/0.67) dollars to buy 1 euro. Today, it only takes only $1.33 ($1/0.75) dollars to buy 1 euro.

	Date	Transaction	Number of Shares	Price/ Share (€)	Transaction Value (€)	Exchange Rate/	Value in US$
b.	1 yr. ago	Buy	50	64.5	3,225	0.67 €/US$	4,813.43
c.	Today	Sell	50	71.8	3,590	..75 €/US$	4786.67
Profits/(Losses):					365		–26.76
d.	Sale price		$4786.67				
	Purchase price		$4,813.43				
	LOSS		$(26.73)				

2.5. Money spent to acquire the shares (in $): 100 x £260 x $1.50/£ = $39,000

Money received when selling the shares (in $): 100 x £280 x $1.25/£ = $35,000

Loss in dollars: $35,000 - $39,000 = $(4,000).

2.6 No. If the value of the dollar goes up, then the investor will receive fewer dollars for the yen received from the sale of the investment. Therefore, the investor should purchase the U.S. dollar investment.

2.7 a. $1,000 loss. This is because her short sale would have realized $6,000, while the replacement of the shares would cost Courtney Schinke $7,000.

b. A profit of $1,500. The long position would initially cost Courtney Schinke $6,000. When she sells the stock at $75 per share, she is realizing $15 per share ($75 – $60) in profit for a total of $1,500 (100 shares at $15 per share).

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c. $1,500 profit. The short sale brings in $6,000, while the return of the shares to the owner costs only $4,500.

d. A breakeven situation. The long position costs Courtney Schinke $6,000, and the sale of the stock brings in $6,000, thereby providing neither a profit nor a loss.

2.8 a. Debit balance is transaction amount minus margin: (100 × $50) – 0.60 × (100 × $50) = $2,000.

b. Equity is the margin amount, or 0.60 × (100 × $50) = $3,000.

2.9 Margin = (Value – Debit balance)/Value = [(100 × $60) – $2,000] ÷ (100 × $60) = 66.67%.

2.10 If an individual purchases 100 shares of stock at $35 per share with a 75% margin:

a. The debit balance (or the amount borrowed in the transaction) would be:

Market value of securities	=	$35 × 100 shares	= $3500
Debit balance	=	(1 – 0.75) × $3500	= $875

b. Equity portion = $3500 – $875 = $2625

c. If the stock rises to $55, we would use the formula provided in the book to find the new margin:

$$\begin{aligned}\text{Margin (\%)} &= \frac{\text{Value of securities} - \text{ Debit balance}}{\text{Value of securities}} \\ &= \frac{\$55 \times 100 - \$875}{\$55 \times 100} \\ &= \frac{\$4{,}625}{\$5{,}500} \\ &= 0.84\end{aligned}$$

2.11 When he initially purchased the shares, Miguel put up $2,500 in margin (50% of the value of shares purchased), and he borrowed $2,500. Now, Miguel needs to cover a margin call. After the stock price falls to $30, his margin is just $500, or ($3,000 – $2,500) ÷ $3,000 = 16.7%, which is below the 30% maintenance requirement. If the maintenance margin is 30%, then Miguel needs margin in this account of at least 30% X $3,000 = $900, so he needs to add at least $400 in cash to his margin account.

2.12 Market value of securities at purchase = 100 × $80 = $8,000

Debit balance in the transaction = 0.50 × $8,000 = $4,000

Given a maintenance margin of 25%, the stock has to fall to *$53.33 per share* in order to justify a margin call; that is:

$$\begin{aligned}.25 &= \frac{\text{Value of Securities } (V) - \$4{,}000}{\text{Value of Securities } (V)} \\ .25V &= V - \$4{,}000 \\ .75V &= \$4{,}000 = \$5{,}333\end{aligned}$$

On a per share basis, this translates to: $5,333/100 = $53.33.

Note: This problem could also be solved by using a "hit-and-miss" approach or the Excel Solver add-in, which finds a value for V in the margin (%) formula that results in a margin of 25%:

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2.13 Market value of securities at purchase	= 200 × \$80	= \$16,000
Market value of securities at sale	= 200 × \$104	= \$20,800
Total current dividend income received	= 200 × \$1 × (6/12)	= \$100
(6/12 is used since the stock will be held for only six months.)		
Equity in investment	= 0.60 × \$16,000	= \$9,600
Margin loan (or debit balance)	= \$16,000 – \$9,600	= \$6,400
Interest paid on loan	= 0.08 × \$6,400 × (6/12)	= \$256
(6/12 is used since the margin loan will be outstanding for only half a year.)		

Return on invested capital:

$$\frac{\text{Total current income received} - \text{Total interest paid on margin loan} + \text{Market value of securities at sale} - \text{Market value of securities at purchase}}{\text{Amount of equity invested}}$$

Return on invested capital:

$$\frac{\$100 - \$256 + \$20{,}800 - \$16{,}000}{\$9{,}600}$$

$$= \frac{\$4{,}644}{\$9{,}600}$$

$$= 48.38\% \text{ (for the six-month period)}$$

The annualized rate of return is found in the following manner:

Computed return × (12/Number of months in holding period)

$$\text{Annualized rate of return} = 48.38\% \times (12/6)$$

$$= 48.38\% \times 2 = 96.76\%$$

2.14 a. Initial value: 300 shares × \$55 per share = \$16,500

Debit balance: \$16,500 × 0.50 margin = \$8,250

Equity position: \$16,500 × 0.50 margin = \$8,250

b. $\text{Margin \%} = \dfrac{\text{V} - \text{Debit balance}}{\text{V}}$

1. $\text{Margin \%} = \dfrac{(\$45 \times \$300) - \$8{,}250}{\$45 \times 300}$

$$= \frac{\$13{,}500 - \$8{,}250}{\$13{,}500} = \frac{\$5{,}250}{\$13{,}500} = 38.89\%$$

Account is *restricted;* margin is below required initial margin (50%).

2. $\text{Margin \%} = \dfrac{(\$70 \times \$300) - \$8{,}250}{\$70 \times 300}$

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$$= \frac{\$21,000 - \$8,250}{\$21,000} = \frac{\$12,750}{\$21,000} = 60.71\%$$

Account has *excess equity;* margin is above 50%.

3. $$\text{Margin \%} = \frac{(\$35 \times \$300) - \$8,250}{\$35 \times 300}$$

$$= \frac{\$10,500 - \$8,250}{\$10,500} = \frac{\$2,250}{\$10,500} = 21.43\%$$

Account is *below minimum maintenance margin* (25%) and subject to a call.

c. 1. Dividends received: 300 shares × \$1.50 = \$450

2. Interest paid: \$8,250 × 0.09 × 4/12 = \$247.50

d. Return on invested capital =

$$\frac{\text{Total current income received} - \text{Total interest paid on margin loan} + \text{Market value of securities at sale} - \text{Market value of securities at purchase}}{\text{Amount of equity invested}}$$

1. $$\text{Return on invested capital} = \frac{\$450 - \$247.50 + 300(\$50) - \$16,500}{\$8,250}$$

$$= \frac{\$1,297.50}{\$8,250.00}$$

= –15.7% (for the four month period)

= –47.1% annual rate of return

2. $$\text{Return on invested capital} = \frac{\$450 - \$247.50 + 300(\$60) - \$16,500}{\$8,250}$$

$$= \frac{\$1,702.50}{\$8,250.00}$$

= 20.6% (for the four month period)

= 61.91% annual rate of return

3. $$\text{Return on invested capital} = \frac{\$450 - \$247.50 + 300(\$70) - \$16,500}{\$8,250}$$

$$= \frac{\$4,702.50}{\$8,250.00}$$

= 57% (for the four month period)

= 171% annual rate of return

15. First transaction: Buy 200 shares at \$45 per share, using 60% margin.

Cost of transaction = 200 × \$45 = \$9,000

Debit balance = \$9,000 × 0.40 = \$3,600

Second transaction: Buy another 300 shares at \$60 per share.

Cost of transaction = 300 × \$60 = \$18,000

Total value of securities held *after* second transaction:

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$$(200 \text{ shares} \times \$60) + (300 \text{ shares} \times \$60) = \$12{,}000 + \$18{,}000 = \$30{,}000$$

Maximum amount of money that can be borrowed under the new 50% margin requirement:

$$\$30{,}000 \times 0.50 = \$15{,}000 \text{ (new debit balance)}$$

Amount of unused credit in new debit balance:

$$\$15{,}000 - \$3{,}600 = \$11{,}400$$

Thus, since $11,400 is the amount that can be borrowed in the second transaction, the balance of the investment must be provided by Mr. Edwards in the form of equity; that is:

$$\$18{,}000 - \$11{,}400 = \$6{,}600 \text{ new equity}$$

2.16 $2,000 × 0.5 = $1,000

2.17 The investor will deposit the margin requirement of 50% × $2,000 = $1,000, and the proceeds of the sale of $2,000 will be deposited by the broker. The account balance will be $1,000 + $2,000 = $3,000.

2.18 Margin is the account equity divided by the cost to cover. The account equity would be the initial amount with the broker from the margin deposit of $1,000, plus the proceeds from the short sale of $2,000, less the cost to cover the short sale ($12 × 100 = $1,200). $1,000 + $2,000 – $1,200 = $1,800 account equity. The margin is the account equity divided by the cost to cover, or 1,800/1,200 = 150%. Since the margin of 150% is far above the maintenance margin of 30%, there is no margin call.

2.19 Margin is the account equity divided by the cost to cover. The account equity would be the initial amount with the broker from the margin deposit of $1,000, plus the proceeds from the short sale of $2,000, less the cost to cover the short sale ($28 × 100 = $2,800). $1,000 + $2,000 – $2,800 = $200 account equity. The margin is the account equity divided by the cost to cover, or 200/2,800 = 7%. Because the margin of 7% is below the maintenance margin of 30%, there is a margin call.

2.20 **Intuition:** If the stock price falls subsequent to a short sale, the transaction results in a profit. If the stock price rises subsequent to a short sale, the transaction results in a loss.

Transaction	Stock Sold Short at Price/Share	Stock Purchased to Cover Short at Price/Shares	Profit/Loss per Share on Each Transaction (in $)
A	75	83	= 75 – 83 = –8 (Loss)
B	30	24	= 30 – 24 = 6 (Profit)
C	18	15	= 18 – 15 = 3 (Profit)
D	27	32	= 27 – 32 = –5 (Loss)
E	53	45	= 53 – 45 = 8 (Profit)

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2.21 Number of Bio International shares short sold by Charlene Hickman: 200 short-selling price/share = $27.50.

Intuition: If the stock price falls below $27.50 in four months, the transaction results in a profit. If the stock price rises above $27.50 in four months, the transaction results in a loss.

Transaction	Stock Sold Short at Price/Share	Stock Purchased to Cover Short at Price/Shares	Profit/Loss per Share on Each Transaction (in $)	Total Profit/Loss on Each Transaction (in $)
A	27.50	24.75	= 27.50 – 24.75 = 2.75	= 2.75 × 200 = 550
B	27.50	25.13	= 27.50 – 25.13 = 2.37	= 2.37 × 200 = 474
C	27.50	31.25	= 27.50 – 31.25 = – 3.75	= –3.75 × 200 = –750
D	27.50	27.00	= 27.50 – 27.00 = 0.50	= 0.5 × 200 = 100

■ Solutions to Case Problems

Case 2.1 Dara's Dilemma: What to Buy?

In this case, the student has to evaluate several alternatives, given a limited amount of information. The instructor can expect a variety of answers for each question, which should provide for lively discussion and high student interest.

a. In evaluating the four alternatives, one must consider: the volatility of the stock price (large swings in the price); Dara's attitude toward risk , and how the new purchases would affect the diversification of her portfolio; we know that she has invested previously, but nothing about the extent or nature of those investments except that they are relatively conservative.. Since a case can be made for any alternative, each is listed below with its advantages and disadvantages.

Alternative 1— It appears that Dara is willing to tolerate more risk in an effort to increase the returns on her fairly conservative portfolio. The NewestHighTech IPO will certainly accomplish this goal. The stock, by definition, has no track record and the company is only 1 year old. It could turn out to be the next Apple or Google, or the next Research in Motion, maker of the once successful, but now largely obsolete Blackberry phones. By leveraging the risk of an IPO with the risk of a startup tech, the investment could be hugely profitable or result in major losses. It is worth noting, however, that the most she could lose would be her $20,000 investment.

Alternative 2— Buying say 400 shares of Casino International now at $54 and monitoring closely is a lower risk alternative than the tech IPO purchase. Dara might decide now how much loss she is willing to tolerate (10% or 20%) before she sells. She might also try to track the progress of the company's application to open a floating casino and sell if it appears that the bid will be unsuccessful. Later chapters will discuss some excellent strategies using options and stop loss orders to limit risk or leverage gains.

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Alternative 3— Short selling Casinos provides a profitable opportunity if things start to look bad for the company and its floating casino project. Dara really needs to decide which outcome she considers more likely. If she cannot decide, then perhaps she should avoid this company altogether. The short selling option is perhaps the riskiest alternative of all because losses are potentially unlimited. If the floating casino project is approved against expectations, she would need to react very quickly to avoid major losses.

Alternative 4— If Dara waits to see what happens with the casino permit, it will probably be too late to earn exceptional profits from either a long or short position because the stock price will have already moved up or down based on the news. Again, there are ways to exploit the uncertainty with options, but they will be studied later.

Alternative 1may be the best choice if Dara really wants to accept more risk in exchange for the possibility of higher returns. If she monitors the investment closely, she might be able to avoid catastrophic losses and the company just may turn out to be the next Google or Apple. If she can purchase the IPO at the offer price, underpricing could lead to a quick gain. The Casino alternatives might be more attractive if there were any indication which outcome Dara considered more likely.

b. If the stock price rises to $60, under Alternative 2, Dara would have a gain of $6.00 per share or $2,400 if she bought 400 shares. Under alternative 3, she would lose the $2,400. Which of the alternatives is preferable depends entirely on the probability of a favorable or unfavorable outcome, and even Dara seems unable to decide about that.

c. If the price falls to $45, under alternative 2 Dara would likely sell the stock, accept her loss and move on. The lower price would most likely have resulted from denial of the floating casino permit or failure of the project. With a pessimistic economic outlook for the casino industry, the stock is unlikely to recover any time soon. Under alternative 3, Dara should probably cover her short and celebrate her $9.00 per share profit. There would be no particular reason to expect the price to go lower because the price would have quickly reflected the bad news.

Case 2.2 Ravi Dumar's High-Flying Margin Account

This case requires the student to review the concept of pyramiding. It also requires the student to review the mechanics of margin trading and to evaluate the risk-return characteristics of a specific pyramiding example.

a. Pyramiding is a margin trading technique in which the investor uses the paper profits in his or her margin account to acquire additional securities. Here, Ravi has a margin account with a margin of 60% [($75,000 – $30,000)/$75,000 = 0.60]. Since the initial margin requirement is only 50%, he has excess margin and can use it to acquire additional shares of RS. The trick with pyramiding is to add as many stocks as possible to the account without putting up any additional money and without violating the initial margin required *in the account*.

b. Ravi currently has an account with a market value of $75,000 and a debit balance of $30,000. His margin position is:

$$\text{Margin (\%)} = \frac{V - D}{V} = \frac{\$75,000 - \$30,000}{\$75,000} = 60\%$$

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c. If Ravi purchases 1,000 shares of RS (a $20,000 transaction):

1. Using $10,000 cash and $10,000 from a margin loan:

	Initial	+	New Purchase	=	Total Account
Value of securities	$75,000		$20,000		$95,000
Debit balance	$30,000		$10,000		$40,000
Equity	$45,000		$10,000		$55,000

Thus, new margin in account = $55,000/$95,000 = 57.90%.

2. Using $2,500 cash and $17,500 in a margin loan:

	Initial	+	New Purchase	=	Total Account
Value of securities	$75,000		$20,000		$95,000
Debit balance	$30,000		$17,500		$47,500
Equity	$45,000		$2,500		$47,500

Therefore, new margin in the account = $47,500/$95,000 = 50%.

3. Ravi can purchase the stock, in question (b) above, with only 12.5% margin ($2,500/$20,000) because the margin requirements are on the account, not on the transaction. As long as he has excess margin in the account, new purchases can be made with transaction margin percentages below the initial requirement; the key is that *after* the transaction, the margin in the account be equal to or greater than the required initial margin.

d. If Ravi purchases 1,000 shares using $2,500 cash and $17,500 in a margin loan and the stock then goes to $40 per share, he will earn:

1. Return on invested capital:

$$= \frac{\$0 - (\$17,500 \times .10) + (\$40 \times 1,000) - (\$20 \times 1,000)}{\$2,500}$$

$$= \frac{\$0 - \$1,750 + \$40,000 - \$20,000}{\$2,500} = 730\%$$

2. If he had purchased the 1,000 shares using $20,000 cash, then return on invested capital

$$= \frac{\$0 - \$0 + (\$40 \times 1,000) - (\$20 \times 1,000)}{\$20,000} = 100\%$$

e. Ravi's idea to pyramid appears to be a good one since he can make use of his paper profits to gain additional leverage and magnify his potential profit. If he is right about RS, he will increase his return even more by pyramiding. The disadvantage is that he has to make interest payments on the margin loan, and the stock appreciation must be sufficient to compensate him for these interest payments. Also, given the low margin Ravi will be using (12.5%), it will not take much of a price decline for Ravi to lose money in a big way.

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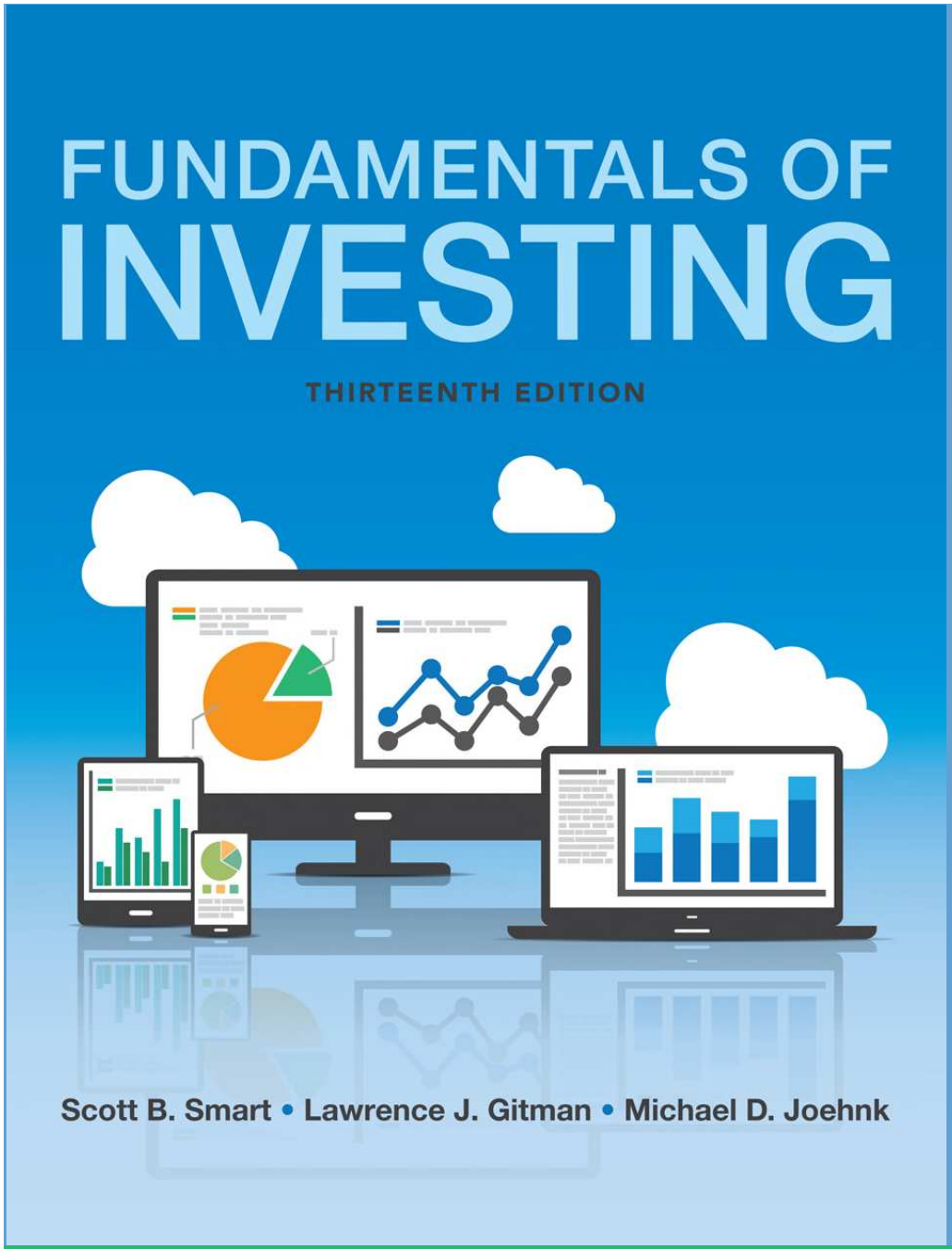

Chapter 2

Securities Markets and Transactions

ALWAYS LEARNING

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Securities Markets and Transactions

Learning Goals

1. Identify the basic types of securities markets and describe their characteristics.
2. Explain the initial public offering (IPO) process.
3. Describe broker markets and dealer markets, and discuss how they differ from alternative trading systems.
4. Review the key aspects of the globalization of securities markets and discuss the importance of international markets.
5. Discuss trading hours and the regulation of securities markets.
6. Explain long purchases, margin transactions, and short sales.

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Securities Markets

The goal of securities markets is to permit financial transactions to be made quickly and at a fair price.

- **Securities Markets**: markets that allow buyers and sellers of securities to make financial transactions.

- Types of Securities Markets
- Broker Markets and Dealer Markets
- Alternative Trading Systems
- General Market Conditions: Bull or Bear

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Securities Markets

- Types of Securities Markets
  - **Money market:** the market where short-term debt securities are bought and sold.
  - **Capital Market:** the market where long-term securities, such as stocks and bonds, are bought and sold; classified as primary or secondary.
  - **Securities and Exchange Commission (SEC):** Federal agency that regulates the securities markets.
- The Primary Market
  - **Primary market:** the market in which new issues of securities are sold to investors.
  - **Initial Public Offering (IPO):** the first public sale of a company's stock

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Table 2.1 U.S. Annual IPO Data, 1999-2014

Year	Number of IPOs	Average First-Day Return	Aggregate Gross Proceeds (billions)	Aggregate Money Left on the Table (billions)
1999	477	71.1%	$65.0	$37.1
2000	381	56.3%	$64.9	$29.8
2001	79	14.2%	$34.2	$ 3.0
2002	66	9.1%	$22.0	$ 1.1
2003	63	11.7%	$ 9.5	$ 1.0
2004	173	12.3%	$31.2	$ 3.9
2005	159	10.3%	$28.2	$ 2.6
2006	157	12.1%	$30.5	$ 4.0
2007	159	14.0%	$35.7	$ 5.0
2008	21	6.4%	$22.8	$ 5.7
2009	41	9.8%	$13.2	$ 1.5
2010	91	9.4%	$29.8	$ 1.8
2011	81	13.3%	$ 27.0	$ 3.2
2012	93	17.9%	$31.1	$ 2.8
2013	157	21.1%	$38.8	$ 8.6
2014	206	15.5%	$42.2	$ 5.4

(Source: "Initial Public Offerings: Updated Statistics," **http://bear.warrington.ufl.edu/ritter/IPOs2014Statistics.pdf**, Table 1, accessed February 26, 2015.)

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Securities Markets

- Types of Securities Markets
  - The Primary Market
    - Three choices to market securities in the primary market:
      - **Public offering:** securities offered for sale to public investors.
      - **Rights offering:** shares are offered to existing shareholders on a pro rata basis
      - **Private placement:** securities sold directly to select groups of private investors

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Securities Markets

- Types of Securities Markets
  - The Primary Market
    - Going Public: The IPO Process
      - **Underwriting:** promoting the stock and facilitating the sale of the company's shares.
      - **Prospectus:** registration statement describing the issue and the issuer.
      - **Quiet period:** time period after prospectus is filed when company must restrict what is said about the company.
      - **Red Herring:** preliminary prospectus available during the waiting period.
      - **Road show:** series of presentations to potential investors

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Figure 2.1 Cover of a Preliminary Prospectus for a Stock Issue

The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to completion, dated December 29, 2014

PRELIMINARY PROSPECTUS

Shares

SHAKE SHACK®

Class A Common Stock

This is an initial public offering of Shake Shack Inc. We anticipate that the initial public offering price will be between $ and $ per share of our Class A common stock.

Prior to this offering, there has been no public market for our Class A common stock. We have applied to have our Class A common stock listed on the New York Stock Exchange under the symbol "SHAK."

We will use the net proceeds that we receive from this offering to purchase from SSE Holdings, LLC, which we refer to as "SSE Holdings," newly-issued common membership interests of SSE Holdings, which we refer to as the "LLC Interests." There is no public market for the LLC Interests. The purchase price for the newly-issued LLC Interests will be equal to the public offering price of our Class A common stock, less the underwriting discount referred to below. We intend to cause SSE Holdings to use the net proceeds it receives from us in connection with this offering as described in "Use of Proceeds." In connection with the closing of this offering, certain of the holders of LLC Interests received in exchange for existing membership interests in SSE Holdings, whom we refer to as "Former SSE Equity Owners," will exchange their indirect ownership of LLC Interests for shares of Class A common stock and certain other holders of LLC Interests received in exchange for existing membership interests in SSE Holdings, whom we refer to as "Continuing SSE Equity Owners," will continue to own their LLC Interests. In addition, certain individuals who hold existing awards under our Unit Appreciation Rights Plan, whom we refer to as the "Former UAR Plan Participants," will receive shares of Class A common stock in settlement of their awards.

We will have two classes of common stock outstanding after this offering: Class A common stock and Class B common stock. Each share of Class A common stock and Class B common stock entitles its holder to one vote on all matters presented to our stockholders generally. All of our Class B common stock will be held by the Continuing SSE Equity Owners, on a one-to-one basis with the number of LLC Interests they own. Immediately following this offering, the holders of our Class A common stock issued in this offering collectively will hold % of the economic interests in us and % of the voting power in us, the Former SSE Equity Owners and the Former UAR Plan Participants, through their ownership of Class A common stock, collectively will hold % of the economic interests in us and % of the voting power in us, and the Continuing SSE Equity Owners, through their ownership of all of the outstanding Class B common stock, collectively will hold no economic interest in us and the remaining % of the voting power in us. We will be a holding company, and upon consummation of this offering and the application of proceeds therefrom, our principal asset will be the LLC Interests we purchase from SSE Holdings and acquire from the Former SSE Equity Owners, representing an aggregate % economic interest in SSE Holdings. The remaining % economic interest in SSE Holdings will be owned by the Continuing SSE Equity Owners through their ownership of LLC Interests.

Although we will have a minority economic interest in SSE Holdings, because we will be the sole managing member of SSE Holdings, we will operate and control all of the business and affairs of SSE Holdings and, through SSE Holdings and its subsidiaries, conduct our business.

Following this offering, we will be a "controlled company" within the meaning of the corporate governance rules of the New York Stock Exchange. See "The Transactions" and "Management—Corporate Governance."

We are an "emerging growth company," as defined in Section 2(a) of the Securities Act of 1933, as amended, and will be subject to reduced public reporting requirements. This prospectus complies with the requirements that apply to an issuer that is an emerging growth company.

Investing in our Class A common stock involves risks. See "Risk Factors" beginning on page 22.

	Per Share	Total
Initial public offering price	$	$
Underwriting discounts and commissions(1)	$	$
Proceeds to us, before expenses	$	$

(1) See "Underwriting (Conflicts of Interest)" for additional information regarding underwriting compensation.

We have granted the underwriters an option for a period of 30 days to purchase up to an additional shares of Class A common stock solely to cover over-allotments.

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

Delivery of the shares will be made on or about

J.P. Morgan **Morgan Stanley**

Barclays **Goldman, Sachs & Co.** **Jefferies**
William Blair **Stifel**

The date of this prospectus is , 2015.

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Securities Markets

- Types of Securities Markets
  - The Primary Market
    - The Investment Banker's Role
      - **Investment Banker:** financial intermediary that specializes in assisting companies in issuing new securities and advising firms with regard to major financial transactions.
      - For IPOs, their main role is underwriting.
        - » **Underwriting:** purchases the security at agreed-upon price and bears risk of selling it to the public.
      - For large security issues, forms an underwriting syndicate.
        - » **Underwriting Syndicate:** group formed to share the financial risk of underwriting.
        - » **Selling group:** other brokerage firms that help the underwriting syndicate sell the issue to the public.
      - Compensation typically in the form of a discount on the sale price of the securities.

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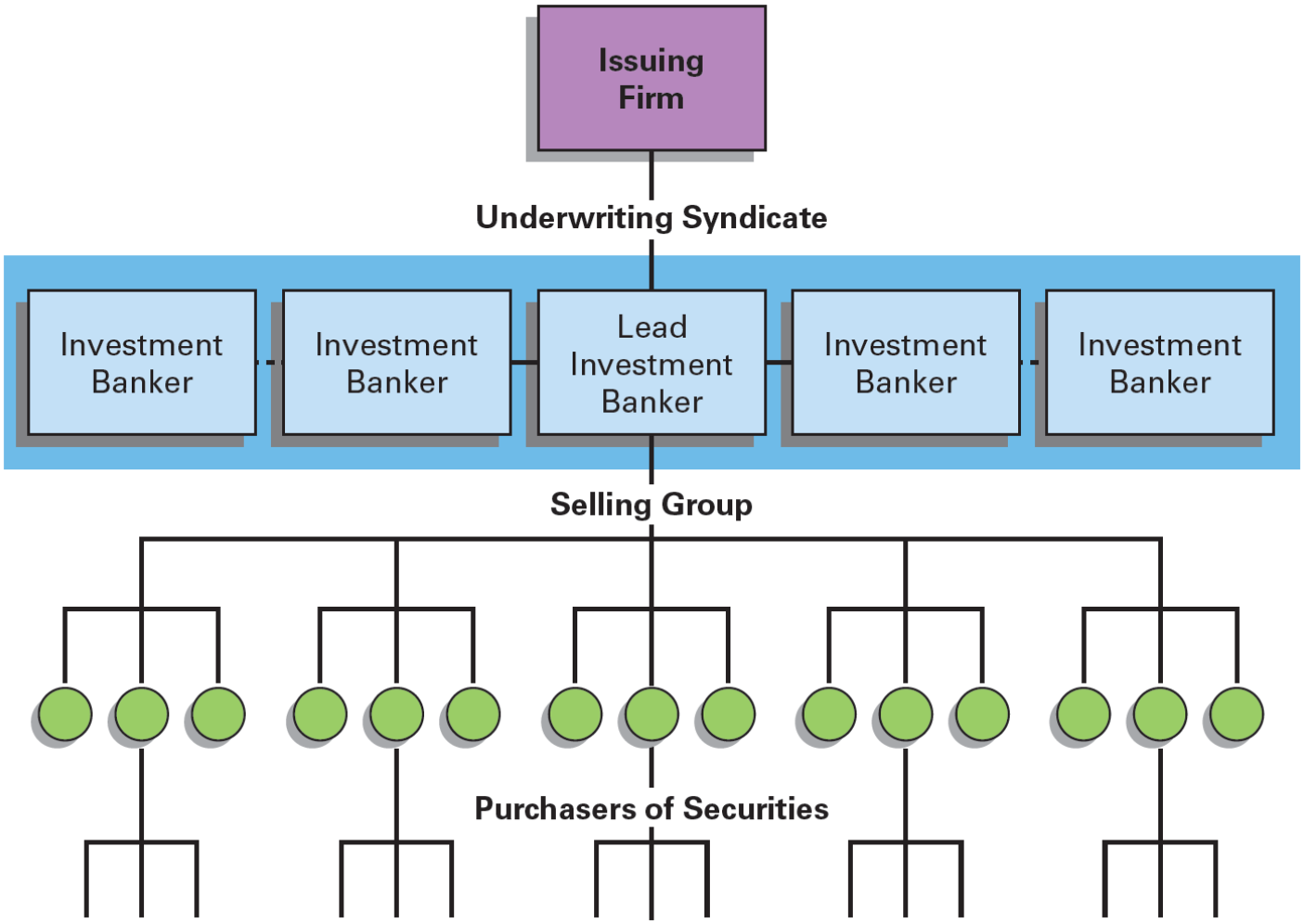
Figure 2.2 The Selling Process for a Large Security Issue



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Securities Markets

- Types of Securities Markets
  - The Secondary Market
    - **Secondary market (aftermarket):** the market in which securities are traded after they have been issued.
    - Role:
      - Provides liquidity to security purchasers
      - Provides continuous pricing mechanism
    - Major segments:
      - **National Securities Exchanges:** markets in which the buyers and sellers of listed securities come together to execute trades.
      - **Over-the-counter (OTC) Market:** involves trading in smaller, unlisted securities.

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Securities Markets

- Broker Markets and Dealer Markets
  - **Broker Market:** consists of national and regional securities exchanges. Trades are executed when a buyer and a seller are brought together by a **broker** and the trade takes place directly between the buyer and seller.
  - **Dealer Market:** made up of the Nasdaq OMX and OTC trading venues. Trades are executed with a dealer (**market maker**) in the middle. Sellers sell to a market maker at a stated price. The market maker then offers the securities to a buyer.

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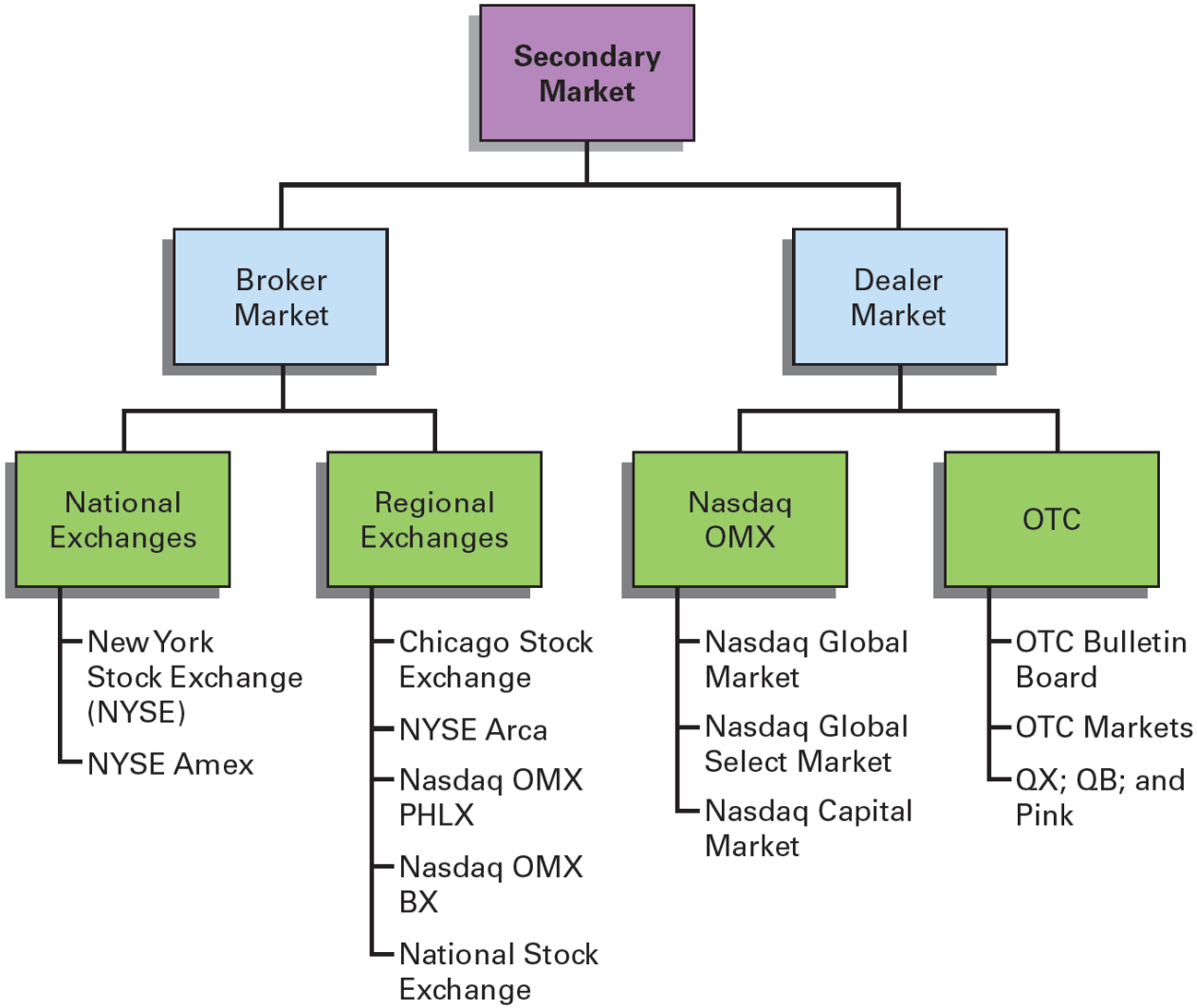
Figure 2.3 Broker and Dealer Markets



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Securities Markets

- Broker Markets and Dealer Markets
  - Broker Markets:
    - New York Stock Exchange (NYSE) is the largest stock exchange in the world.
      - In 2015, more than 2,400 firms with an aggregate market value of greater than $19 trillion were listed on the NYSE.
      - **Designated market maker (DMM):** an exchange member who specializes in making transactions in one or more stocks ; job is to manage the auction process.
      - Listing requirements are a minimum stock price of $2-$3 and a value of shares available to trade greater than $15 million.
    - Regional Stock Exchanges
      - Modeled after the NYSE, but membership and listing requirements are more lenient.
      - Majority of securities listed here are also listed on NYSE

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Securities Markets

- Broker Markets and Dealer Markets
  - Broker Markets:
    - Options Exchanges
      - Allows trading of options
      - Dominant exchange is Chicago Board Options Exchange (CBOE)
    - Futures Exchanges
      - Allows trading of futures
      - Dominant exchange is the CME Group

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Securities Markets

- Broker Markets and Dealer Markets
  - Dealer Markets:
  - No centralized trading floor; comprised of market makers linked via a mass electronic network.
  - **Bid price:** the highest price offered to purchase a given security
  - **Ask price:** the lowest price offered to sell a given security.
    - Nasdaq:
      - Largest dealer market
      - Listed companies include Microsoft, Intel, Cisco Systems, eBay, Google, Yahoo!, Apple, Starbucks, and Staples.

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Securities Markets

- Broker Markets and Dealer Markets
  - Dealer Markets:
    - The Over-the-Counter Market
      - Includes mostly smaller companies that either cannot or do not wish to comply with Nasdaq's listing requirements.
      - Companies traded on the OTC Bulletin Board (OTCBB) are regulated and required to file audited financial statements and comply with federal securities law.
      - Companies traded on the OTC Markets Group are not required to file with the SEC. There are three tiers.
        - » OTC Pink: unregulated; small, risky companies
        - » OTC QB: companies must provide SEC, bank, or insurance reporting and be current in their disclosures.
        - » OTC QX: reserved for companies that choose to provide audited financial statements and other required information.

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Securities Markets

- Alternative Trading Systems
  - Third market: consists of over-the-counter transactions made in securities listed on the NYSE or one of the other exchanges.
    - Large institutional investors go through market makers that are not members of a securities exchange
    - Institutional investors (mutual funds, life insurance companies, pension funds) receive reduced trading costs due to large size of transactions
  - Fourth Market: consists of transactions made through a computer network, rather than on an exchange, directly between large institutional buyers and sellers of securities.
    - Electronic communications networks (ECNs) allow direct trading.
      - Most effective for high-volume, actively traded securities and play a key role in after-hours trading.
      - Can save money because they only charge a transaction fee, per share or based on order size.

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Securities Markets

- General Market Conditions: Bull or Bear
  - **Bull market:** Conditions in security markets normally associated with rising prices, investor optimism, economic recovery, and government stimulus.
  - **Bear Market:** Conditions in security markets normally associated with falling prices, investor pessimism, economic slowdown, and government restraint.

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Globalization of Securities Markets

Diversification: the inclusion of a number of different securities in a portfolio to increase returns and reduce risk.

An investor can greatly increase the potential for diversification by holding 1) a wider range of industries and securities, 2) securities traded in a larger number of markets, and 3) securities denominated in different currencies

- Growing importance of International Markets
- International Investment Performance
- Ways to Invest in Foreign Securities
- Risks of Investing Internationally

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Globalization of Securities Markets

- Growing Importance of International Markets
  - Securities exchanges now operate in over 100 countries worldwide.
  - Top four securities markets (based on dollar volume) worldwide:
    - NYSE
    - Nasdaq
    - London Stock Exchange
    - Tokyo Stock Exchange
  - Increasing number of mergers and cooperative arrangements between securities exchanges worldwide represent steps toward a worldwide stock exchange.
  - Bond markets too have become global: Investors regularly purchase government and corporate fixed-income securities in foreign markets

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Globalization of Securities Markets

- International Investment Performance
  - Opportunities for high returns
  - Foreign securities markets do not necessarily move with the U.S. securities market
  - Foreign securities markets tend to be more risky than U.S. markets

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Globalization of Securities Markets

- Ways to Invest in Foreign Securities
  - Indirect Ways to Invest in Foreign Securities
    - Purchase shares of U.S.-based multinational with substantial foreign operations
  - Direct Ways to Invest in Foreign Securities
    - Purchase securities on foreign stock exchanges
    - Buy securities of foreign companies that trade on U.S. stock exchanges
    - Buy **American Depositary Shares (ADSs):** foreign stocks trading on U.S. exchanges, created to permit U.S. investors to hold shares of non-U.S. companies and trade them on U.S. stock exchanges. Backed by:
      - **American Depositary Receipts (ADRs):** U.S. dollar-denominated receipts for stocks of foreign companies held in vaults of banks in the companies' home countries

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Globalization of Securities Markets

- Risks of Investing Internationally
  - Usual Investment Risks Still Apply
  - Government Policies Risks
    - Unstable foreign governments
    - Different laws in trade, labor or taxation
    - Different economic and political conditions
    - Less stringent regulation of foreign securities markets
  - Currency exchange risk: risk caused by the varying exchange rates between the currencies of two countries.
    - Currency exchange rate: the price of one currency in terms of another.
    - The value of foreign currency fluctuates compared to U.S. dollar
    - The value of foreign investments can go up and down with exchange rate fluctuations

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Trading Hours and Regulation of Securities Markets

Understanding the structure of domestic and international securities markets is an important foundation for developing a sound investment program.

- Trading Hours of Securities Markets
- Regulation of Securities Markets

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Trading Hours and Regulation of Securities Markets

- Trading Hours of Securities Markets
  - Regular Trading Session for U.S. Exchanges and Nasdaq:
    - 9:30 A.M. to 4:00 P.M. Eastern time
  - Extended-Hours Electronic-Trading Sessions
    - Most securities exchanges and ECNs offer extended trading sessions before and after regular hours.
    - Extended hours allow U.S. securities markets to compete more effectively with foreign securities markets
    - Most of the after-hours markets are **crossing markets:** orders are only filled if matched with identical opposing orders

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Trading Hours and Regulation of Securities Markets

- Regulation of Securities Markets
  - U.S. securities laws protect investors and participants in the financial marketplace
    - Sarbanes-Oxley Act of 2002: focuses on eliminating corporate fraud related to accounting and other information releases.
    - Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010: aims to promote the financial stability of the U.S. by improving accountability and transparency; Created the Bureau of Consumer Financial Protection.
    - Ethics: standards of conduct or moral judgement
  - Blue sky laws:
    - Laws imposed by individual states to regulate sellers of securities
    - Intended to prevent investors from being sold nothing but "blue sky"

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Trading Hours and Regulation of Securities Markets

- Regulation of Securities Markets
  - Securities Act of 1933
    - Required full disclosure of information by companies
  - Securities Exchange Act of 1934
    - Established SEC as government regulatory body
  - Maloney Act of 1938
    - Allowed self-regulation of securities industry through trade associations such as the National Association of Securities Dealers (NASD)
  - Investment Company Act of 1940
    - Created & regulated mutual funds
  - Investment Advisors Act of 1940
    - Required investment advisers to make full disclosure about their backgrounds and their investments, as well as register with the SEC

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Trading Hours and Regulation of Securities Markets

- Regulation of Securities Markets
  - Securities Acts Amendments of 1975
    - Abolished fixed-commissions and established an electronic communications network to make stock pricing more competitive
  - Insider Trading and Fraud Act of 1988
    - Prohibited insider trading on nonpublic information
  - Regulation Fair Disclosure (2000)
    - Required companies to disclose material information to all investors at the same time
  - Sarbanes-Oxley Act of 2002
    - Tightened accounting and audit guidelines to reduce corporate fraud
  - Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010
    - aims to promote the financial stability of the U.S. by improving accountability and transparency; Created the Bureau of Consumer Financial Protection.

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Table 2.2 Important Federal Securities Laws

Act	Brief Description
Securities Act of 1933	Passed to ensure full disclosure of information about new security issues. Requires the issuer of a new security to file a registration statement with the Securities and Exchange Commission (SEC) containing information about the new issue. The firm cannot sell the security until the SEC approves the registration statement, which usually takes about 20 days. Approval of the registration statement by the SEC merely indicates that the facts presented in the statement appear to reflect the firm's true position.
Securities Exchange Act of 1934	Formally established the SEC as the agency in charge of administering federal securities laws. The act gave the SEC the power to regulate the organized exchanges and the OTC market; their members, brokers, and dealers; and the securities traded in these markets.
Maloney Act of 1938	An amendment to the Securities Exchange Act of 1934, it provided for the establishment of trade associations to self-regulate the securities industry and led to the creation of the National Association of Securities Dealers (NASD). Today the Financial Industry Regulatory Authority (FINRA) has replaced the NASD as the industry's only self-regulatory body.
Investment Company Act of 1940	Established rules and regulations for investment companies (e.g., mutual funds) and authorized the SEC to regulate their practices. It required investment companies to register with the SEC and to fulfill certain disclosure requirements.
Investment Advisors Act of 1940	Requires investment advisors, persons hired by investors to advise them about security investments, to disclose all relevant information about their backgrounds, conflicts of interest, and any investments they recommend. Advisors must register and file periodic reports with the SEC.
Securities Acts Amendments of 1975	Requires the SEC and the securities industry to develop a competitive national system for trading securities. First, the SEC abolished fixed-commission schedules, thereby providing for negotiated commissions. Second, it established the Intermarket Trading System (ITS), an electronic communications network linking 9 markets and trading over 4,000 eligible issues, which allowed trades to be made across these markets wherever the network shows a better price for a given issue.
Insider Trading and Act of 1988	Established penalties for insider trading. Insiders include anyone who obtains nonpublic information, typically a company's directors, officers, major shareholders, bankers, investment bankers, accountants, and attorneys. The SEC requires corporate insiders to file monthly reports detailing all transactions made in the company's stock. Recent legislation substantially increased the penalties for insider trading and gave the SEC greater power to investigate and prosecute claims of illegal insider-trading activity.
Regulation Fair Disclosure (2000)	Reg FD required companies to disclosure material information to all investors at the same time.
Sarbanes-Oxley Act of 2002	Passed to protect investors against corporate fraud, particularly accounting fraud. It created an oversight board to monitor the accounting industry, tightened audit regulations and controls, toughened penalties against executives who commit corporate fraud, strengthened accounting disclosure requirements and ethical guidelines for financial officers, established corporate board structure and membership guidelines, established guidelines for analyst conflicts of interest, and increased the SEC's authority and budgets for auditors and investigators. The act also mandated instant disclosure of stock sales by corporate executives.
Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010	Passed in the wake of the 2007–2008 financial crisis. Its stated aim was to promote the financial stability of the United States by improving accountability and transparency. It created the Bureau of Consumer Financial Protection and other new agencies.

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Basic Types of Securities Transactions

An investor can make a number of basic types of securities transactions. Each type is available to those who meet the requirements established by government agencies as well as by brokerage firms.

- Long Purchase
- Margin Trading
- Short Selling

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Basic Types of Securities Transactions

- Long purchase
  - **Long purchase:** transaction in which investors buy securities, usually in the hope they will increase in value and can be sold at a later date for profit.
  - Object is to "buy low and sell high"
  - Most common type of transaction
  - Return comes from any dividends or interest received during the ownership period, plus the difference (capital gain or loss) between the purchase and selling prices.
    - Reduced by transaction costs

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Basic Types of Securities Transactions

- Margin Trading
  - **Margin trading:** Investors use funds borrowed from brokerage firms to make securities purchases.
  - **Margin requirement:** the minimum amount of equity that must be in the margin investor's own funds. The margin requirement for stocks has been 50% for some time; set by the Federal Reserve Board.
  - Essentials of Margin trading
    - The idea of margin trading is to employ financial leverage.
      - **Financial leverage:** the use of debt financing to magnify investment returns
    - **Margin loan:** official vehicle through which the borrowed funds are made available in a margin transaction.

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Table 2.3 The Effect of Margin Trading on Security Returns

	Without Margin (100% Equity)	With Margins of 80%	65%	50%
Number of $50 shares purchased	100	100	100	100
Cost of investment	$5,000	$5,000	$5,000	$5,000
Less: Borrowed money	–$ 0	–$1,000	–$1,750	–$2,500
Equity in investment	$5,000	$4,000	$3,250	$2,500
A. Investor's position if price rises by $30 to $80/share				
Value of stock	$8,000	$8,000	$8,000	$8,000
Less: Cost of investment	–$5,000	–$5,000	–$5,000	–$5,000
Capital gain	$3,000	$3,000	$3,000	$3,000
Return on investor's equity (capital gain/equity in investment)	60%	75%	92.3%	120%
B. Investor's position if price falls by $30 to $20/share				
Value of stock	$2,000	$2,000	$2,000	$2,000
Less: Cost of investment	–$5,000	–$5,000	–$5,000	–$5,000
Capital loss*	–$3,000	–$3,000	–$3,000	–$3,000
Return on investor's equity (capital loss/equity in investment)*	(60%)	(75%)	(92.3%)	(120%)

*Both the capital loss and the return on investor's equity are negative, as noted by the parentheses.

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Basic Types of Securities Transactions

- Margin Trading
  - Essentials of Margin trading
    - Advantages:
      - Magnifies returns
      - Allows investors to spread their limited capital over a larger number of investments which promotes diversification
    - Disadvantages:
      - Magnifies losses
      - Cost of margin loan: the vehicle through which the borrowed funds are made available
        - » Interest rate usually 1% to 3% above the **prime rate:** the interest rate charged to creditworthy business borrowers.

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Basic Types of Securities Transactions

- Margin Trading
  - Making Margin Transactions
    - **Margin account:** established to execute a margin transaction, an investor must contribute a minimum of $2,000 in equity or 100% of the purchase price, whichever is less, in the form of cash or securities.
    - **Initial margin:** minimum amount of equity that must be provided by the investor
    - **Restricted account:** account with equity less than the initial margin requirement
    - **Maintenance margin:** absolute minimum amount of margin (equity) that an investor must maintain in the margin account at all times
      - **Margin call:** Investor receives this when an insufficient amount of maintenance margin exists and then has a short period of time (few hour to few days) to bring equity up above the maintenance margin.
    - **Debit balance:** amount of money being borrowed in the margin loan

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Table 2.4 Initial Margin Requirements for Various Types of Securities

Security	Minimum Initial Margin (Equity) Required
Listed common and preferred stock	50%
Nasdaq OMX stocks	50%
Convertible bonds	50%
Corporate bonds	30%
U.S. government bills, notes, and bonds	10% of principal
U.S. government agencies	24% of principal
Options	Option premium plus 20% of market value of underlying stock
Futures	2% to 10% of the value of the contract

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Basic Types of Securities Transactions

- Margin Trading
  - The Basic Margin Formula

$$\text{Margin} = \frac{\text{Value of securities} - \text{Debit balance}}{\text{Value of securities}}$$

$$= \frac{V - D}{V}$$

- Example of Using Margin

$$\text{Margin} = \frac{V - D}{V} = \frac{\$6{,}500 - \$1{,}200}{\$6{,}500} = 0.815 = \underline{\underline{81.5\%}}$$

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Basic Types of Securities Transactions

- Margin Trading
  - Return on Invested Capital

$$\text{Return on invested capital from a margin transaction} = \frac{\text{Total current income received} - \text{Total interest paid on margin loan} + \text{Market value of securities at sale} - \text{Market value of securities at purchase}}{\text{Amount of equity at purchase}}$$

- Example of Return on Invested Capital

$$\text{Return on invested capital from a margin transaction} = \frac{\$100 - \$125 + \$7{,}500 - \$5{,}000}{\$2{,}500} = \frac{\$2{,}475}{\$2{,}500} = 0.99 = \underline{\underline{99\%}}$$

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Basic Types of Securities Transactions

- Margin Trading
  - Uses of Margin Trading
    - Magnify returns
    - **Pyramiding**: uses the paper profits in margin accounts to partly or fully finance the acquisition of additional securities.
      - **Excess margin**: more equity in the account than required
      - Constraint: when additional securities are purchased your margin account must be at or above the required initial margin level.
      - Risk associated with possible price declines in the margined securities

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Basic Types of Securities Transactions

- Short Selling
  - Essentials of Short Selling
    - **Short selling:** practice of selling borrowed securities
    - Investor borrows securities from a broker
    - Broker lends securities owned by other investors that are held in "street name"
    - Investor must make a deposit with the broker equal to the initial margin requirement applied to short-sale proceeds; broker retains proceeds from the short sale.
    - "Sell high and buy low"
    - Investors make money when stock prices go down

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Table 2.5 The Mechanics of a Short Sale

Step 1. Short sale initiated	
100 shares of borrowed stock are sold at $50/share:	
Proceeds from sale to investor	$5,000
Step 2. Short sale covered	
Later, 100 shares of the stock are purchased at $30/share and returned to broker from whom stock was borrowed:	
Cost to investor	–$3,000
Net profit	$2,000

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Table 2.6 Margin Positions on Short Sales

		A	B	C
Line	Item	Initial Short Sale Price	Subsequent Share Prices	
1	Price per share	$ 50	$ 30	$ 70
2	Proceeds from initial short sale [(1) × 100 shares]	$5,000		
3	Initial margin deposit [0.50 × (2)]	$2,500		
4	Total deposit with broker [(2) + (3)]	$7,500	$ 7,500	$ 7,500
5	Current cost of buying back stock [(1) × 100 shares]	$5,000	$3,000	$7,000
6	Account equity [(4) − (5)]	$2,500	$4,500	$ 500
7	Actual margin [(6) ÷ (5)]	50%	150%	7.14%
8	Maintenance margin position [(7) > 30%?]	OK	OK	Margin call*

*Investor must either (a) deposit at least an additional $1,600 with the broker to bring the total deposit to $9,100 (i.e., $7,500 + $1,600), which would equal the current value of the 100 shares of $7,000 plus a 30% maintenance margin deposit of $2,100 (i.e., 0.30 × $7,000) or (b) buy back the 100 shares of stock and return them to the broker.

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Basic Types of Securities Transactions

- Short Selling
  - Advantages
    - Chance to profit when stock price declines
  - Disadvantages
    - Limited return opportunities: stock price cannot go below $0.00
    - Unlimited risks: stock price can go up an unlimited amount
    - If stock price goes up, short seller still needs to buy shares to pay back the "borrowed" shares to the broker
    - Short sellers never earn dividend income and must pay to the lender any dividends paid out during the short-sale transaction

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Chapter 2 Review: Learning Goals

1. Identify the basic types of securities markets and describe their characteristics.
2. Explain the initial public offering (IPO) process.
3. Describe broker markets and dealer markets, and discuss how they differ from alternative trading systems.
4. Review the key aspects of the globalization of securities markets and discuss the importance of international markets.
5. Discuss trading hours and the regulation of securities markets.
6. Explain long purchases, margin transactions, and short sales.

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