

# CHAPTER 4

# Equity Securities, Markets, and Trading

## Introduction

Major corporations can be viewed as perpetual investment machines: constantly developing new products and technologies, regularly expanding their markets, and from time to time acquiring other companies. To finance these investments, corporations obtain funds both internally and externally. With *internal financing*, companies retain part of their earnings that otherwise would go to existing shareholders in the form of dividends, whereas with *external financing*, companies generate funds from outside by selling new shares of stock, selling debt instruments, or borrowing from financial institutions. From the corporation's perspective, decisions on internal versus external financing depend on the dividend policy it wants to maintain and the cost of raising funds from the outside.<sup>1</sup>

When firms need capital to grow and acquire additional assets, they usually finance their capital formation with the following equity and debt sources or instruments:

- Retained earnings
- Common stock
- Preferred stock
- Straight debt
- Medium-term notes
- Commercial paper
- Leases
- Direct financing
- Limited partnerships
- Debt and stock with options

At a given point in time, a company's core operations and its past investments are reflected in its current balance sheet. [Exhibit 4.1](#) provides a financial snapshot of Kraft Foods Group from several Bloomberg screens accessed on September 12, 2013: description (DES) screen, key financials (FA), and supply chain (SPLC). Some other screens that were used to gather information on Kraft but that are not shown here include Kraft's 10-K corporate filing report found on the CF screen, debt and equity breakdowns on the ISSD screen, outstanding equity holders on HDS, bondholders on AGGD, and corporate actions (CACs). From these compiled screens, we find that in 2012 Kraft Foods Group was one of the largest packaged food and beverage companies in North America with net revenues of over \$18.3 billion and operating earnings of \$2.8 billion (10-K from CF screen and FA screen). Of its \$18.3 billion in revenue, 24.8 percent came from grocery sales and 21.3 percent from Canadian and North American Food service (FA, Segment tab, By Measure tab), with Wal-Mart and Kroger being its biggest customers (SPLC). In 2012, the company had 23,000 employees, sold products in 14 countries, operated 37 manufacturing and processing

plants (10-K), and owned 29 major subsidiaries (RELS). As of December 29, 2012, Kraft's gross assets were \$23.3 billion and its total liabilities were \$19.75 billion, of which \$16.1 billion were long-term liabilities (FA, B/S tab), with 76 percent in bonds and 23 percent in loans (ISSD, Debt Summary page). On September 12, 2013, Kraft had 595.6 million shares outstanding and a market cap of \$31.856 billion (DES), with its principal equity holders being Blackrock (6.28 percent), Capital Group (5.26 percent), State Street (5.15 percent), Vanguard (4.85 percent), and Wellington Management (4.67 percent) (HDS) and its principal bondholders being Vanguard (2.11 percent), Prudential (2.04 percent), and Capital Research and Management (2.03 percent) (AGGD).



(a)



(b)

**Kraft Foods Group Inc.**

**Financial Analysis**

In Millions (except Per-Share)

	FY 2012	FY 2011	FY 2010
12 Months Ending	2012-12-29	2011-12-31	2010-12-31
<b>Total Assets</b>	<b>23,329.00</b>	<b>21,539.00</b>	<b>21,598.00</b>
Liabilities & Shareholders' Equity			
+ Accounts Payable	1,556.00	1,447.00	1,285.00
+ Short-Term Borrowings	5.00	8.00	8.00
+ Other Short-Term Liabilities	2,045.00	1,117.00	1,073.00
<b>Total Current Liabilities</b>	<b>3,606.00</b>	<b>2,572.00</b>	<b>2,366.00</b>
+ Long-Term Borrowings	9,956.00	27.00	31.00
+ Other Long-Term Liabilities	6,189.00	2,352.00	2,162.00
<b>Total Long-Term Liabilities</b>	<b>16,151.00</b>	<b>2,379.00</b>	<b>2,193.00</b>
<b>Total Liabilities</b>	<b>19,757.00</b>	<b>4,951.00</b>	<b>4,559.00</b>
+ Total Preferred Equity	0.00	0.00	0.00
+ Minority Interest	0.00	0.00	0.00
+ Share Capital & APIC	4,240.00	0.00	n/a
+ Retained Earnings & Other Equity	-668.00	16,588.00	17,039.00
<b>Total Equity</b>	<b>3,572.00</b>	<b>16,588.00</b>	<b>17,039.00</b>

Australia 61 2 9777 0000 Brazil 3511 3049 4500 Europe 44 20 7320 7500 Germany 49 49 9204 1210 Hong Kong 852 2877 4000 Japan 81 3 3001 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P. 89 107545 6219 URN=4 06 H196-1288+0 12-Sep-2013 08:05:32

(c)



(d)

#### **EXHIBIT 4.1** Kraft: Bloomberg Screens: DES, CF, and SPLC

Like many large companies, Kraft is an investment machine. Set up as Kraft Foods Global, Inc. (Delaware Company) in 1980, Kraft grew over the years into a global conglomerate, becoming a wholly owned sub-

sidiary of Mondelez International Inc. In 2011, the company had total assets of \$93.8 billion, employed 126,000 workers, operated in 75 countries, and had 220 manufacturing and processing plants (10-K, 2011; CF). On March 8, 2010, the conglomerate acquired Cadbury PLD for 13.5 billion British pounds (CACS). To finance part of that acquisition and to meet antitrust compliance they were active in divesting some of their other holdings, including the sale of North American frozen pizza business to Nestle USA (information on the Cadbury and other deal can be found on Kraft's "Company Research" screen [BRC]). On October 11, 2011, however, Mondelez International spun off Kraft Food Groups with a series of transactions that separated the assets and entities: Mondelez owning the snack food business and Kraft Food Group owning the North American grocery business. To complete the spin-off, on September 29, 2011, Mondelez distributed all of its shares of Kraft Foods Group to its holders (holders of Mondelez International received one share of Kraft for three shares of Mondelez International). As a result, Kraft Foods Group became an independent publicly traded company.

When corporations such as Kraft decide to finance their investments, they may do so internally by retaining earnings, using their cash position, or selling a division, or externally by issuing common stock or preferred stock, forming a limited partnership, borrowing directly from a financial institution, or issuing bonds. In this chapter, we examine the types of equity securities issued by businesses such as Kraft and the primary and secondary markets in which investors buy and sell such securities.

## Types of Equity Securities

### Common Stock

Common stock is the most popular form of equity. As defined in Chapter 1, common stock is an equity or ownership claim entitling the holder to dividends and ownership rights (*registered claim*) in which the holder's name is recorded on the company's books to determine dividend payments and voting privileges.

Issued shares include outstanding shares held by investors and used for per share calculations and treasury shares held by the firm often via a repurchase of stock by the firm. The ownership rights of common stock can be classified into four categories: collective rights, specific rights, cumulative voting rights, and preemptive rights.

*Collective rights* often include the right to vote on the adoption of amendments to the company's bylaws, elect directors, authorize asset sales, approve mergers, change the amount of outstanding stock, and approve new security offerings. Although all stockholders are entitled to vote on such matters, most relinquish such rights to a proxy. A *proxy* is a legal instrument giving an agent the right to vote in the name of the shareholder. Usually the management of a company obtains the proxies of shareholders who cannot attend the annual or special meetings. There are special circumstances, such as the poor performance of the company, when some shareholders come together and try to take control of management or stop a management action by engaging in a *proxy fight* in which they try to obtain the proxies of other shareholders.

*Specific rights* give each holder the right to sell stock, inspect the books, share in earnings, and establish claims upon dissolution. *Cumulative voting rights*, in turn, provide for multiple voting for a single director. For example, with cumulative voting rights, the owner of 100 shares could cast either 100 votes for each of, say, six directors or 600 votes for one, or some other combination.

The *preemptive right* gives the common stockholders the first option to purchase additional shares. This right is usually required of corporations in accordance with state laws. However, many state laws allow the shareholders of a corporation to waive their right by voting to amend the preemptive right in their bylaws. The objective of the preemptive provision is to ensure a stockholder's right to maintain her share of ownership. The preemptive right means that when a company issues new shares, the existing shareholders must be given the first right of refusal. Companies whose shareholders have not waived their

preemptive right often comply with this law by issuing each stockholder a certificate, known as a *right* (or *subscription warrant*). This right gives the existing shareholders the right to buy new issues of the company's stock at a specified price, known as the *subscription price*, for a specified period of time before the stock is sold to the general public. Rights are usually issued just before a company sells new stock and often can be sold in the secondary market.

In addition to collective, specific, and preemptive rights, the laws governing corporations provide two other features important to common stock—limited liability and double taxation. As noted in Chapter 1, *limited liability* means that the most one shareholder of a company can lose if the company goes bankrupt is his original investment. Thus, unlike proprietorships and partnerships in which the business ownership is defined in terms of the individuals and not a legal entity, the extent of the liability for an individual shareholder of a corporation is limited to his shares, with no risk of personal liability. *Double taxation* means that earnings of a company are taxed twice. First, before the payments to shareholders, the earnings of the company are subject to a corporate tax, and then the dividend payments to shareholders are subject to personal taxes.

Two other features of common stock should also be noted. First, some companies issue two classes of common stock—A and B. *Class A* common stock has voting rights, whereas *Class B* does not. Several firms have also issued one or more classes of common stock with dividend tied to the performance of a particular subsidiary, known as *targeted common stock*. General Motors was one of the first to do this when it issued GM Class E in 1984 when it acquired EDS. Targeted common stocks enable investors to invest in a specific business of the corporation. Second, some companies attach a par value on their common stock. The par value is an arbitrary value assigned by the company. However, some companies do define provisions in their charter in terms of the par value of their stock. For example, there may be a provision prohibiting a company from issuing new stock that would cause the company's value to go below its par value. Similarly, in some states, there may be laws that prohibit companies from issuing new shares at

prices below their par value. As a result, companies required to specify par values often make the values very small. If not required, companies often will issue stock without a par value.

### ***Stock Dividends, Stock Splits, and Reinvestment Plans***

Although most dividends that are paid to shareholders are paid in cash, some companies from time to time pay their shareholders a *stock dividend* in addition to, or instead of, a cash dividend. A stock dividend pays the shareholder in shares of stock instead of cash. For example, a company declaring a 3 percent stock dividend would give each shareholder a dividend equal to 3 percent of each share they have. Thus, an investor with 100 shares would now have 103 shares. A company could declare a stock dividend instead of a cash dividend to conserve on cash. This would represent a way of financing.

Companies will occasionally declare a *stock split* or *reverse split* when they find their stock at a price that is too high or low. If a stock is trading for \$100, a 2-for-1 split would mean that for each share a shareholder would now have two shares, each worth \$50. If a stock is trading at \$10, a 1-for-2 reverse split would mean that for every two shares, the shareholder would now have one share worth \$20. Note: Stock dividends and stock split are equivalent. For example, take a company with one million shares outstanding priced at \$30/share. If it has a 100 percent stock dividend, it would create one million new shares. This would lead to a new stock price of \$15, which would be the same impact as a 2:1 split. Also note that a company can have a split and then keep its dividends the same. This would be the equivalent of an increase in dividends per share. Similar to a stock dividend is a *dividend reinvestment plan* (DRP). This plan allows shareholders to use their dividends to purchase shares of the firm's stock. In a newly issued DRP, the firm often sells newly issued shares to shareholders as part of a DRP at prices below market.

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#### BLOOMBERG CORPORATE ACTION CALENDARS, CACS AND CACT

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**CACS:** Stock dividends, stock splits, divestures, merger and acquisitions, and other information on corporate actions are found for each company by accessing CACS on the company's equity menu (or Ticker <Equity> CACS).

**CACT:** To search for corporate actions, you can use CACT. You can set your searches for dividends, splits, M&A, and IPO/ADDL (divestures), for different time periods, and for different groups of securities.

See Bloomberg Web [Exhibit 4.1](#).

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#### ***Dividend Mechanics: Dividend Payments and the Ex-Dividend Date***

Dividends, as well as stock splits and stock dividends, must be declared by the firm's board of directors. When a firm's board declares a dividend it specifies a *record date* and a *payment date*. The record date is established to determine who will get the dividends, and the payment date is the date when payments are made to the shareholders of record (owners determined on the record date).

By exchange rules, stock transactions must be settled by the third business day after the transaction. As a result, the major exchanges and the over-the-counter (OTC) market establish ex-dividend dates at least two business days prior to the record date. On that date, shares begin to trade ex-dividend (without a dividend). Investors who purchase shares of stock before the ex-dividend date are entitled to receive the dividend—*cum-dividend*—while those who buy on or after the ex-dividend date are not. For example, suppose Kraft established the following dates on its first quarter dividend payment:

<b>Declaration Date</b>	<b>Ex-Dividend Date</b>	<b>Record Date</b>	<b>Payment Date</b>
2/25/Y1	3/29/Y1	3/31/Y1	4/14/Y1

On the ex-dividend date, the stock will open at the previous day's closing price minus the dividend (or the present value of the dividend); that is, the price of the stock will decrease by an amount approximately equal to the dividend, since those who buy the stock at such time do not receive the dividend. For example, suppose investors expected ABC stock to sell for  $E(S) = \$54$  at the end of the period and to pay a \$1 dividend. If investors required a 10 percent expected rate of return for the period from buying the stock, then just prior to the ex-dividend date they would pay  $S_0 = \$50$  for ABC stock and at the ex-dividend date they would pay \$49.09. Thus, on the ex-dividend date the price of the stock would have to fall by an amount approximately equal to the dividend to yield investors the same rate:

$$\text{Cum-Dividend: } E(r) = \frac{Div + E(S) - S_0}{S_0} = \frac{\$1 + \$54 - \$50}{\$50} = 0.10$$

$$\text{Ex-Dividend: } E(r) = \frac{E(S) - S_0}{S_0} = \frac{\$54 - \$49.09}{\$49.09} = 0.10$$

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**BLOOMBERG DIVIDEND CALENDAR, DVD**

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DVD: Bloomberg dividend information such as past and expected dividends, dividend splits, and dividend record, ex div, and payment dates can be found on the stock DVD screen.

See Bloomberg Web [Exhibit 4.2](#).

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PACIFIC GAS&ELEC (PCG)		6.0000% Series A		[EXCH]	
PCG 6.12/31/49 PFD		Feedback		Page 1/11 Description Preferred	
JB Preferred Description		JB Issuer Description			
Prefer	Name	PACIFIC GAS&ELEC	Identifiers	CUSIP ID#	694308206
1) Bond Info	Industry	Utilities	EXCH SYM	PCG A	
2) Add'l Info	Cumulative Preferred Information		CUST#	694308206	
3) Covenants	Mkt of Issue	Public	Bond Ratings		
4) Guarantees	Country	US	Moody's	Baa2	
5) Bond Ratings	Rank	Preferred	S&P	BB+	
6) Identifiers	DIV	Series	Fitch	BBB-	
7) Exchanges	Div Freq	A	Composite	BBB-	
8) Div. Payments	Div Cnt	Quarterly	Issuance & Trading		
9) Fees, Restrict.	Maturity	30/360	Amt Issued/Outstanding		
10) Morteinures	PERPETUAL		4,211,662 SHR /		
11) Coupons			4,211,662 SHR		
Quick Links	Issue Spread				
12) All Price PFD	Calc Type	(57)% TYPE PFD	Min Pricew/Increment		
13) QRD Quote Recs	Announcement Date	07/29/2013	25.00 / 25.00		
14) DVD-Div History	Ex-Div Date				
15) CAC Corp Actions	1st Settle Date	11/18/1992	Par Amount	25.00	
16) Prospective	Div Pay Date	08/15/2013	Book Runner		
17) CN See News			Exchange	Multiple	
18) HDS Holders					
19) UPR Underlyng St					
20) Send Email					
Australia 41 2 9777 4000 Brazil 3511 2040 4500 Europe 44 20 7220 7500 Germany 49 69 9204 1210 Hong Kong 852 2077 4000 Japan 81 3 3501 3800 Singapore 65 4212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.					

(a)



(b)

**EXHIBIT 4.2** Pacific Gas & Electric Preferred Description

## Preferred Stock

As noted in Chapter 1, preferred stock can be thought of as a limited ownership share. It provides its own-

ers with only limited income potential in the form of a stipulated dividend (*preferred dividend*), which is usually expressed as a percentage of a stipulated par value. Preferred stock also gives its holders fewer voting privileges and less control over the business than common stock does. To make preferred stock more attractive, companies frequently sell preferred with special rights. Among the most common of these special rights is the priority over common stockholders over earnings and assets upon dissolution and the right to cumulative dividends—if preferred dividends are not paid, then all past dividends must be paid before any common dividends are paid. A variation of a preferred stock is a *preference stock*. Preference stock is a preferred stock that is subordinate in claims to preferred. Other possible rights and features of preferred are as follows:

1. The right to vote on new stock issues.
2. The right to vote on the levels of retained earnings the company can maintain before dividends are declared.
3. The election of directors under certain circumstances.
4. The conversion of the preferred stock to common stock or another security of the company.
5. The payment of a variable dividend rate in which the dividend is tied to the rate on another security.
6. A call feature or optional redemption provision giving the company the right to buy the preferred stock from the holder.
7. A sinking fund clause used by the issuer to buy back the issue.

To the investor, preferred stock is similar to a bond in its priority of claims and its fixed income feature, and it is similar to common stock in that there is no maturity and no corporate default if preferred dividends are not paid by the company. Hence, preferred is commonly referred to as a *hybrid security*. [Exhibit 4.2](#) shows a Bloomberg description and price graph screens of a preferred stock issue of Pacific Gas & Electric. The preferred is a perpetual, pays a fixed dividend of \$6.00 per quarter, is noncallable, and from 9/12/2008 to 9/12/2013 traded between \$23.30 and \$31.98. Like common stock, one of the disadvan-

tages of preferred is that it has the double taxation feature. For corporate investors, this feature is minimized to some extent by the *70 percent dividend exclusion rule*. Based on federal tax laws, other corporations who buy the equity of domestic companies can exclude 70 percent of the dividends they receive from corporate taxes. From a corporate perspective, if a firm does not have taxable income to take advantage of debt financing, it may consider preferred as an alternative to debt financing. Preferred stock tends to be offered by financial institutions and utilities.

## Limited Partnership Shares

The third type of equity instrument is a *limited partnership share*. As defined in Chapter 1, a limited partnership is a business structure consisting of a general partner who usually initiates, organizes, and manages a business venture, and limited partners who provide the investment funds by buying limited partnership shares. The limited partnership share, in turn, represents an equity position with limited participation in the management of the company. An important feature of limited partnership is that in accordance with current tax and corporate laws all tax obligations and deductions flow directly to the partners and not to the corporation. Thus, \$100 in business earnings goes directly to the partners, with no corporate taxes applied; the partners do, in turn, pay personal taxes on the income received. In addition, the usual corporate deductions for depreciation, interest paid on debt, and the like are also used by the individuals as part of their personal income tax deductions. Thus, a limited partnership share is similar to proprietorship or partnership in the way taxes are applied. However, limited partnerships do not subject their holders to personal liabilities in the case of a bankruptcy or an adverse legal judgment; that is, by law, limited partner shares have a limited liability feature like a common stock. Thus, limited partnership shares have the limited liability benefit of common stock without the disadvantage of double taxation. In addition, limited partnerships are exempt from many of the burdensome Securities and Exchange Commission (SEC) disclosure regulations. One of the disadvantages of limited partnerships is that they

usually do not have a wide distribution of ownership and therefore lack marketability. Companies that do not have wide ownership distribution are often referred to as a *closely held firm*.

Limited partnerships are used extensively in real estate development projects (malls, office buildings, etc.), sports franchises, film making, research and development (R&D) projects, and gas- and oil-drilling ventures. Limited partnerships are also used as the organization structure by private equity firms for venture capital and capital buyouts (discussed in the next section). Unlike leasing and project financing with debt, limited partnership represents a form of equity financing for a corporation. A limited partnership is a particularly good form of equity investment for a firm that plans a tax-intensive investment where there are depreciation deductions, depletion allowances, and interest deductions and where the project is expected to have sufficient taxable income to use the deductions. Limited partnerships can take different forms in their structure. For example, a structure could take the following form:

1. The general partners contributed 10 percent of the partnership's capital and the limited partners contribute 90 percent.
2. The limited partners are promised 98 percent of the profits, losses, tax credits, and cash distributions until they recover their investment. Thereafter they are promised 80 percent until they receive cash representing in the aggregate 200 percent of the investment.
3. General partners receive a management fee equal to 4 percent of the limited partnership's net worth and 100 percent of the profits, tax credits, and cash distributions after the limited partnership agreement has been met.

## **Private Equity Investments**

Limited partnerships are often used as the organization structure for *private equity investment*. In contrast to public equity financing where companies sell stocks and bonds in the open market with SEC oversight,

private equity investment raises funds from a limited number of investors, often by forming a limited partnership firm. Two investment areas that private equity firms tend to focus are in venture capital and capital buyout. Some large private equity firms, such as KKR (Kohlberg, Kravis, and Roberts & Co.), Blackstone Group, and Bain Capital, are active in both (see [Exhibit 4.3](#) for description and corporate action KKR).



(a)

**<HELP> for explanation.**

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**KKR US Equity** **Templates** **Actions** - **19 results** **Corporate Actions**

Actions for Company **Date** **Records** **01/01/13** **09/12/13** **Assets** **Asset types**

Filter Actions **Dividends** **Splits** **H & A** **IPO / ADOL** **Listings** **Action types (5)**

Date	Action Type	Ticker / ID	Summary
08/20/13	Acquisition	KKR US	Target: RigNet Inc, Sought: 27.00%
07/31/13	Acquisition	KKR US	Target: Gardner Denver Inc, Sought: 100.00%
07/22/13	Acquisition	KKR US	Target: Tiga Pilar Sejahtera Food Tok, Sought: 9.50%
06/06/13	Acquisition	KKR US	Target: Retail park portfolio, Sought: 100.00%
05/09/13	Acquisition	KKR US	Target: Staffs Staffordshire PLC, Sought: 100.00%
04/26/13	Divestiture	KKR US	Unit: Intelligence Holdings Ltd, Seller: KKR & Co LP
04/18/13	Acquisition	KKR US	Target: Groupe SMCP SAS, Sought: 65.00%
04/12/13	Acquisition	KKR US	Target: Alliance Tire Co 1992 Ltd, Sought: 88.00%
04/11/13	Acquisition	KKR US	Target: Colonia Center, Sought: 100.00%
04/02/13	Divestiture	KKR US	Unit: BMG Rights Management GmbH, Seller: KKR & Co LP
04/01/13	Acquisition	KKR US	Target: Cogniza Ltd
03/31/13	Acquisition	KKR US	Target: United Envirotech Ltd
03/14/13	Acquisition	Multiple	Target: Legends Outlets Kansas City, Sought: 100.00
03/06/13	Acquisition	KKR US	Target: Sento Healthcare Properties Inc
02/27/13	Divestiture	SKZ US	Unit: Management Co Burnes, Seller: Sunrise Senior
02/15/13	Acquisition	KKR US	Target: 3 solar photovoltaic projects, Sought: 100.00%
02/08/13	Acquisition	KKR US	Target: GEOL Pty Ltd, Sought: 100.00%
01/23/13	Acquisition	KKR US	Target: Nephila Capital Ltd, Sought: 24.90%
01/09/13	Acquisition	KKR US	Target: Masan Consumer Corp, Sought: 8.70%

Australia 41 2 3077 0400 Brazil 8511 3040 4850 Europe 44 20 7330 7500 Germany 49 49 9004 1210 Hong Kong 452 2097 2000  
Japan 82 8 8001 8900 Singapore 45 4212 1000 U.S. 1 212 318 2000 Copyright 2013 Bloomberg Finance L.P.  
SH 10545 621 SHW 4 20 HSGO-E0814 12-Dec-2013 11:24:47

(b)

**EXHIBIT 4.3** Private Equity Firm KKR

## Venture Capital

Venture capital firms provide funds for start-up companies. In the 1970s, many of these firms were orga-

nized as closed-end mutual funds. Since the 1980s, more venture capital firms have been set up as limited partnerships, partly to avoid disclosure requirements of the Investment Securities Act of 1940. As limited partnership, funds are raised from limited partners and invested by the general partner in fledgling businesses. Venture capital firms have provided the start-up funding for such companies as Apple, Microsoft, Cisco, Starbucks, Staples, and Genentech. The source of funding (i.e., those with limited partnership shares) often comes from other corporations or institutional investors, notably pension funds.<sup>2</sup> For corporations, investing in a venture capital firm as a limited partner or managing one as a general partner represents an alternative financing option for its research and development.

Funds raised by venture capital firms are often made in the form of commitments by investors/limited partners to provide funds over a period of time for seed money, early-stage funding, and later-stage funding. With such commitments, the venture capital firm/general partners will call for funds as needed. Such calls are referred to as *takedowns* or *paid-in-capital*. Most venture capital firms are set up to take a business idea and nurture it from its early stage of development to a mature stage where the business is an attractive acquisition for another corporation or where the business is in a position to go public. When that stage is reached, the venture capital firm will take the company public through an *initial public offering, IPO* (a stock sold to the public for the first time) or it will arrange for a merger with another company, profiting, in turn, from the sale. At that point, the venture capital firm is dissolved.

### ***Private-Equity Buyouts***

In contrast to venture capital firms who often take a fledgling private company public, capital buyout firms often take public companies private. In a private equity capital buyout, a limited partnership is often formed to raise funds to buy the shares of a publicly traded company. Once the shares are acquired, they are retired, and the private equity company takes control. Once the formerly public company goes private, it is often able to pursue changes that require less scrutiny than when it was public.<sup>3</sup> Often pri-

vate equity buyout companies purchase poorly performing public companies that they try to turn around. As part of their strategy, they may bring in a CEO to revise the company. If successful, the private equity buyout firm may then take the company public again through an IPO or sell it to another company.

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#### BLOOMBERG: BLOOMBERG CORPORATE ACTION CALENDARS: CACS, CACT, EVTS, AND FLNG; ACQUISITIONS, PRIVATE EQUITY, AND IPOS

Bloomberg information on corporate actions such as acquisitions and limited partnership deals by company can be accessed on the CACS screen found on the company's equity menu (or Ticker <Equity> CACS). To search for corporate actions related to acquisitions and IPOs, use CACT and set your search for M&A or IPO. For pending corporate deals, use EVTS and set search for M&A (found in "More" tab). Another information screen to note is FLNG. This screen reports 13F filings and it can be used to search for investment activities of venture capital and private equity holdings.

#### BLOOMBERG IPO SCREEN: IPO <ENTER>

Information on an IPO can be found on the IPO screen: IPO <Enter>. On the screen, one can access pending IPOs by clicking "IPO" and the deal.

#### BLOOMBERG PRIVATE EQUITY MENU: PE <ENTER>

Bloomberg's Private Equity screen displays a menu of links that provide access to specific Bloomberg private equity analysis functions.

#### BLOOMBERG PHDC: PHDC <ENTER>

PHDC searches for institutional and insider holders whose trading activity may influence the price of a selected security: PHDC <Enter>.

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## How Stocks and other Securities are Traded—Primary Market

Markets are conduits through which buyers and sellers exchange goods, services, and resources. The financial market, in turn, channels the savings of households, businesses, and governments to those economic units needing to borrow. As noted in Chapter 1, financial markets can be classified in terms of whether the market is for new or existing claims—primary or secondary market. In this section and the next, we examine the primary and secondary market for securities in the United States, with emphasis on stock, and describe the types of transactions that investors make and their costs. In Chapter 5, we look at the global markets for stocks.

Billions of dollars of corporate bonds and stock are sold each year in the primary market. New corporate bonds are either sold in the open market or are privately placed to a limited number of investors, whereas stocks issued in the primary market are either initial public offerings or seasoned issues. As noted, an IPO is a stock sold to the public for the first time by a previously privately owned company. In contrast, a new seasoned issue is an issue of a company that has sold stock to the public before.

### Open-Market Sales

Many new stocks and bonds issued in the open market (*open-market sales*) are handled through investment banks such as Goldman Sachs, Citi, J.P. Morgan, and Bank of America Merrill Lynch (see [Exhibit 4.4](#) for a listing of top underwriters). Investment bankers may underwrite the issue themselves or with other investment banks as a syndicate, or they may use their best effort: selling the security on commission at the best prevailing price. The way a company chooses to offer an issue to the public depends, in part, on the size of the issue and the risk of a price decrease during the time the issue is being sold. For relatively strong companies, the investment banker often underwrites the issue: buying the issue at an agreed-upon price and then selling it in the market at, it is hoped, a higher price. Such an agreement is referred

to as a *firm commitment*. The issuer may choose the investment banker or syndicate, either individually or by a bid process, selecting the underwriting group with the highest price. With an underwriting arrangement, the selected investment banker will try to profit from the spread between the selling price (retail) and the price paid to the issuer. The spread represents the *floatation cost* to the issuer.

U.S. Equity 2013			
Underwriter	Rank	Market Share (%)	Amount (Mln of \$)
Goldman Sachs & Co.	1	14.1	21,858.52
Citi	2	12.7	19,749.05
JP Morgan	3	11.4	17,720.46
Bank of America Merrill Lynch	4	9.9	15,429.95
Barclays	5	9.8	15,269.41
Morgan Stanley	6	8.7	13,497.18
Credit Suisse	7	6.8	10,501.86
Deutsche Bank AG	8	6	9,336.55
Wells Fargo & Co.	9	4.7	7,294.90
UBS	10	3.1	4,831.58
Jefferies LLC	11	2.1	3,333.52

### **U.S. Equity 2013**

<b>Underwriter</b>	<b>Rank</b>	<b>Market Share (%)</b>	<b>Amount (Mln of \$)</b>
RBC Capital Markets	12	1.8	2,843.82
Robert W Baird & Co.	13	0.8	1,226.48
Raymond James & Associates	14	0.8	1,226.21
Stifel	15	0.6	955.78

### **U.S. Bond 2013**

<b>Underwriter</b>	<b>Rank</b>	<b>Market Share (%)</b>	<b>Amount (Mln of \$)</b>
JP Morgan	1	12.2	177,111.71
Citi	2	9.5	138,146.87
Bank of America Merrill Lynch	3	8.8	128,402.63
Barclays	4	8.4	122,327.13
Goldman Sachs & Co.	5	8.1	118,627.80

U.S. Equity 2013			
Underwriter	Rank	Market Share (%)	Amount (Mln of \$)
Deutsche Bank AG	6	7.8	113,299.81
Morgan Stanley	7	7.7	112,562.12
Wells Fargo & Co.	8	4.8	69,689.72
Credit Suisse	9	4.1	59,385.43
HSBC Bank PLC	10	3.4	49,991.51
BNP Paribas Group	11	3.3	48,027.30
RBC Capital Markets	12	3	43,027.27
RBS	13	2.5	36,855.00
UBS	14	1.6	22,982.27
Nomura Holdings Inc.	15	1.1	15,882.06

Source: Bloomberg, LTOP Screen

**EXHIBIT 4.4** Top Underwriters: U.S. Equity and Bonds, 2013

When a new issue is underwritten, the investment banker underwriting the issue bears the risk that the price of the issue could decrease during the time the stocks or bonds are being sold. One way investment banks try to minimize such risk is to solicit offers (often from the regional offices of the investment bank) to buy the security prior to its sale. A successful solicitation occurs when the issue is *fully subscribed*: All securities being offered are met prior to the issue date. However, it may be that the issue is *undersubscribed* or *oversubscribed*. An undersubscribed issue may be the result of the underwriter setting the price of the security too high, whereas an oversubscribed issue may be the result of him setting the price too low. Alternatively, the investment banker may elect to sell the issue on a best-effort basis or use a combination of underwriting and best effort by using a *standby underwriting agreement*. In this latter agreement, the investment banker sells the issue on a commission, but agrees to buy all unsold securities at a specified price.

Before the issue is sold to the public, the issuer must comply with the SEC Acts of 1933 and 1934 governing disclosure by filing registration statements with the Securities and Exchange Commission. All open market issues of \$1.5 million or more and with maturities greater than 270 days must file registration statements. These statements include the relevant business and financial information of the firm, information about the use of the funds, and a risk assessment. Once the company has registered, it must then wait until the SEC verifies the information before it can sell the security issue (usually 20 days). Typically, the investment banker uses this period to advertise the offering and to distribute to potential buyers a preliminary prospectus called a *red-herring*, which details all the pertinent information the official *prospectus* will have except the price. Investment bankers handling the sale often advertise the future offering with a large ad called a *tombstone*. Finally, after the SEC confirms the registration statements or 20 days have passed, the indenture and prospectus become official and the investment banker offers the issue for sale. The SEC requires that most primary issues be accompanied by a prospectus (see [Exhibit 4.5](#)).

for a listing of disclosure information required by the SEC). For bond issues, the investment banker must also obtain a credit rating from Standard and Poor's, Moody's, or Fitch and select a bond trustee for the bondholder to ensure the issuer meets the obligations specified in the indenture. For an equity issue, the investment bankers may have to arrange for the security to be listed on an exchange or for a market maker to deal the security in the over-the-counter market.

1. Article of incorporation.
2. Use of proceeds.
3. Offering price to the public.
4. Offering price to special groups.
5. Underwriter's fee.
6. Information on the issuer: business, history, and location.
7. Indentures associated with the offerings.
8. Officers.
9. Detailed statement of capitalization.
10. Detailed balance sheet.
11. Detailed income and expense statements.
12. Identification of anyone owning more than 10 percent of any class of stock.
13. Copy of underwriting agreement.
14. Copy of the legal opinions on matters related to the issue.

**EXHIBIT 4.5** Disclosure Information Required by SEC for New Issues

In selling the stock issue, the investment banker often forms a selling group. This group consists of the investment banker who, as an underwriter, acts as a wholesaler (or initial distributor if best-effort is being used) by selling the issue to a number of dealers who, in turn, sell to their clients. The arrangements between the investment banker and the selling group are specified in a *selling group agreement* (described in the prospectus). The agreement defines the period of time the members of the group have to sell their portion of the issue, commissions that they can charge, and restrictions such as prohibiting

members from selling below a certain price. Also, the selling group may also include an *e-underwriter* or electronic investment banker. Since the late 1990s, there has been an emergence of e-underwriters, such as DLJdirect. They often operate as part of the syndicate where they distribute part of the issue via the Internet.

[Exhibit 4.6](#) shows several Bloomberg screens describing a 121.43 million shares stock issue by Fifth-Third Bankcorp in January 2011. The major underwriter on the deal was Credit Suisse, with other syndicate members consisting of Deutsche Bank, Goldman Sachs, and J.P. Morgan. The stock was underwritten at an offer price of \$14/share, and as specified in the prospectus, the proceeds were used to redeem 136,320 shares of preferred stock sold to the government as part of the Troubled Asset Relief Program (TARP).

FTTB US \$	18.5806	+ .001	At 12:01 d	Vol 2,781,911	0 18.500 II 18.540 L 18.500	VaL 51.67M
<b>96 Functions - 96 Send 96 Output - 96 Feedback</b> <b>Equity Offering Details</b>						
233 Overview	233 Standard Portfolio & Tools	240 Financial Analysis	241 News			
Company	Fifth Third Bancorp	Ticker	FTTB US	Industry	Banks	Action ID
Country	UNITED STATES	ISIN	US16773100	Sub-Group	Super-Regional	Market Cap
Exchange	NASDAQ GLOBAL SELECT M	SEIDM	00090000000000000000	Security Type	Common	Stage
Offering News	W Source Date	CUSIP	316773100			Trading
Long Term						
Announced Date	01/19/11	Pricing Date	01/26/11	Offer Type	ADOL, Primary Share offering	
Amount	USD 1.7700B	Amount	USD 1.77B			
Shares		Shares	121,429,000			
Exp. Price Range		Offer Price	USD 14			
Shelf Registration	03/26/10	Trade Date	01/26/11			
Number of Shares		Settlement Date	01/26/11			
Primary Shares	121,429,000					
Secondary Shares						
Shares Outstanding	929,844,000					
Book Building						
No Book Building Info Available						
Australia 01 2 9777 0000 Brazil 0511 2040 4000 Canada 44 26 7326 7500 Germany 49 49 3204 1210 Hong Kong 852 2877 4000 Japan 03 5 0001 6900 Singapore 65 4333 1000 U.S. 1 212 318 2000 Copyright 2011 Bloomberg Finance L.P. 98 107545 601 001-4-06 1010-1281-1 12-Sep-2011 12 16 46						

(a)

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**Document Display**

Export to Launchpad  
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Options : Fifth Third Bancorp

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stainless steel - received in other noninterest income, and a 222 million pre-tax provision reserve account received in other noninterest expense for litigation associated with bank card association membership.

#### Repurchase of outstanding TARP preferred stock

On December 31, 2008, we issued 136,320 shares of Fixed Rate Cumulative Perpetual Preferred Stock, Series F ("Series F Preferred Stock") to the U.S. Department of the Treasury ("the Treasury") pursuant to a Letter Agreement dated December 31, 2008 and the Securities Purchase Agreement—Standard Terms attached thereto for an aggregate purchase price of approximately \$3.4 billion pursuant to the Treasury's Capital Purchase Program ("CPP") as part of its Troubled Asset Relief Program ("TARP"). In connection with purchasing the Series F Preferred Stock, the Treasury also received warrants to purchase 43,617,747 shares of our common stock at an initial per share exercise price of \$11.72, subject to adjustment, which expires ten years from the issuance date, and we agreed to provide the Treasury with registration rights covering the warrants and the underlying shares of common stock.

As announced on January 19, 2011, subject to approval by the Treasury, we intend to redeem all 136,320 shares of our Series F Preferred Stock issued to the Treasury. We will use the net proceeds from this offering together with the proceeds described below under "Proposed senior notes offering" and other funds for the redemption of the Series F Preferred Stock. In connection with the redemption of the Series F Preferred Stock if and as approved by the Treasury, we have agreed to undertake the common stock offering. If the repurchase of the Series F Preferred Stock is completed, we may seek at a future date to repurchase the common stock warrants issued to the Treasury in connection with the Series F Preferred Stock issuance.

In the period in which we repurchase the Series F Preferred Stock, we will accelerate the accrual of the

Australia 01 2 9777 0000 Brazil 0511 2040 4000 Canada 44 26 7326 7500 Germany 49 49 3204 1210 Hong Kong 852 2877 4000  
Japan 03 5 0001 6900 Singapore 65 4333 1000 U.S. 1 212 318 2000 Copyright 2011 Bloomberg Finance L.P.  
98 107545 601 001-4-06 1010-1281-1 12-Sep-2011 12 16 46

(b)

#### EXHIBIT 4.6 5/3 Stock Issue

In summary, the floating of a stock or bond issue can be quite complex, involving the preparation of registration documents, the selection of an underwriter, and the formation of a selling group. Since 1983,

some corporations have been able to shorten this process, as well as reduce the floatation costs of issuing stocks or bonds, by taking advantage of the Securities and Exchange Commission's *Rule 415*. Known as the *shelf registration rule*, Rule 415 allows a firm to register an inventory of securities of a particular type for up to two years. The firm can then sell the securities whenever it wishes during that time—the securities remain on the shelf. To minimize costs, a company planning to finance a number of projects over a period of time could register a large issue, and then sell parts of the issue at different times.

## Private Placement

An alternative to selling securities to the public is to sell them directly to institutional investors through a private placement. One of the attractions of privately placed bonds is that they are exempt from SEC registration because they do not involve a public offering. During the 1980s, an increasing proportion of new corporate bonds were sold through *private placement*. Because they are sold through direct negotiation with the buyer, privately placed bonds usually have fewer restrictive covenants than publicly issued ones, and they are more tailor-made to both the buyer's and seller's particular needs.<sup>4</sup> Historically, one of the disadvantages of privately placed bonds was their lack of marketability due to the absence of an active secondary market. Under the SEC Act of 1933, firms could offer securities privately (which did not require SEC registration) only to investors deemed sophisticated—insurance companies, pension funds, banks, and endowments. In 1991, the SEC adopted Rule 144A under SEC Act 1933. Under this rule, issuer could sell unregistered securities to one or more investment bankers who could resell the securities to *qualified investment buyers* (QIBs). QIBs could then sell freely with each other in securities that have not been registered. The adoption of *SEC Rule 144A* eliminated some of the restrictions on the secondary trading of privately placed bonds by institutional investors. As such, it opened up the secondary market for privately placed bonds.

Another reason for the growth in privately placed bonds during the 1980s was their use in financing many of the corporate mergers and takeovers. During this period, many corporations and investment groups sold bonds and borrowed from financial institutions to finance their corporate acquisitions. Because privately placed bonds had less restrictive covenants, they were frequently used to finance these leveraged buyout acquisitions. Moreover, many of these bonds were non-investment grade bonds. By the late 1980s, these bonds accounted for approximately one-third of the new corporate bonds offered, with two-thirds of those bonds being used to finance mergers or corporate restructurings aimed at stopping a corporate takeover.<sup>5</sup> The economic recession of the late 1980s and early 1990s, however, depressed the earning of many leveraged companies to levels that were not sufficient to pay their high interest obligations. Over 250 companies defaulted between 1989 and 1991.

## Rights Offering

When a seasonal stock is issued, it may sometimes be sold through a *rights offering* so that the company can adhere to its preemptive rights. As noted previously, a right is a certificate issued to shareholders giving them the right to buy new shares at a subscription price. To maintain ownership proportionality, each share of stock receives one right, and to facilitate the new stock sale, the subscription price is often set below the current stock price. After the company issues rights to its shareholders, the existing shares of stock sell *cum rights* (buyers of the stock are entitled to the right) to a specified ex-rights date, after which the stock sells without the right.

To illustrate, suppose the ABC Corporation is planning to raise \$10 million in equity to finance the construction of a new plant. Also, suppose the company currently is worth \$100 million, has no debt, and has one million shares of stock outstanding, with each share trading at \$100. If ABC uses a rights offering to raise the \$10 million, each existing shareholder would be given the opportunity to buy new shares of stock at a subscription price and would be given one right for each share they own. If the subscription

price is set at \$80 per share, the ABC Corporation would need to sell 125,000 new shares to raise \$10 million: Number of New Shares =  $\$10,000,000/\$80 = 125,000$ . Since one right is given for each existing share, eight rights would be needed to purchase one new share: Number of Rights to Buy One Share =  $1,000,000/125,000 = 8$  Rights. Thus, for this rights offering, shareholders would have to surrender eight rights and \$80 to buy one new share. This rights offering, in turn, would provide the ABC company \$10 million cash to finance its investment and would create 125,000 additional shares.

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#### **BLOOMBERG LTOP SCREENS: LTOP <ENTER>**

LTOP displays top underwriters for the major fixed income, equity, equity-linked securities, and syndicated loan securities markets.

#### **BLOOMBERG NIM SCREENS: NIM <ENTER>**

The Bloomberg NIM identifies new security offerings by security type, period, and region. The NIM screen can be customized to identify certain types of securities and news about announced offerings. Using the screen, you can set alerts for when new issues are announced.

#### **BLOOMBERG IPO SCREEN: IPO <ENTER>**

The IPO screen displays IPOs and seasoned issues in different stages of the underwriting process. Using the screen, you can select type, time period, area, stage, and sector. Clicking the name of the company brings up a screen providing details of the offering.

See Bloomberg Web [Exhibit 4.3](#).

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## The Markets for Existing Securities

Although a substantial amount of new securities are issued each year to finance corporate investments, most of the trading of these securities still consists of buying and selling existing shares. As noted in Chapter 1, the trading of existing stock in the United States takes place on the organized exchanges (NYSE Euronext and regional exchanges), the OTC, or through an electronic communications network (ECN) or electronic exchange. For a corporation to have its stock traded on an organized exchange or the OTC market, it must be listed. Many companies also have dual listings on several exchanges.

Much of the trading of existing corporate bonds takes place on the OTC market, where the trading is handled by brokers and dealers specializing in certain types of issues. In the OTC market, a core of large dealers dominates the corporate bond market. These dealers buy and sell existing corporate bonds to and from life insurance companies, pension funds, and other institutional investors. They also provide an important wholesale market in which they trade with other dealers and brokers who are executing buy and sell orders from the customers. Although the amount of corporate bonds outstanding is large, the secondary market activity of corporate bonds is less than the activity in the secondary markets for stocks. This is due to the passive investment practices of some large institutions that tend to buy and hold their corporate bonds to maturity.

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#### BLOOMBERG BOND PRICES, TRACE: TRADE RECAP, QR

In 2002, the National Association of Security Dealers, NASD, established mandatory reporting requirement of OTC market transactions to make the secondary market for bonds more transparent. The reporting system that was established was the Trading Reporting and Compliance Engine—TRACE. For a loaded bond, TRACE can be accessed from QR. It can also be accessed from the bond's description page.

#### BLOOMBERG EQUITY PRICES: HP AND BQ

In addition to each stock's price graph, GP, and intraday price information, GIP, other useful price screens accessible from a stock's equity menu include **HP**, which displays historical price and volume, and **BQ**, which provides a composite overview of key price and trade data, fundamental information, and news for a selected equity.

See Bloomberg Web [Exhibit 4.4](#).

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## Brokers and Dealers

In the secondary market, the key participants are brokers and dealers. Eighty percent of the secondary market security trades, however, are handled by brokers and dealers of the major investment firms. Some of these companies can be characterized as department stores offering financial services. They act as dealers in some securities, investment bankers for their corporate and government clients, and as brokers.

As brokers, brokerage firms or the brokerage division of large investment firms can buy or sell most securities sold in the world or make arrangements for correspondent firms to do so. They also provide credit to their customers to finance their security acquisitions. In addition to arranging for security purchases, most investment firms also offer their customers safekeeping of their securities. They do this by either providing safe-deposit facilities for their customer's stock and bond certificates, or they hold their securities in *street name*. This means the security will be in the name of the brokerage firm. Accordingly, all dividends and interest and all proxy statements are sent to the brokerage firm, which, in turn, forwards them to the customer/owner. Some *full-service brokerage firms* provide security research, which they communicate to their customers through newsletters, stock recommendation releases, and access to data, information, and analytical retrieval systems. Some firms also buy and sell for their customers by establishing *discretionary accounts*. On the other hand, there are *discount brokerage firms* like Charles Schwab and Company, Fidelity, and Vanguard Brokerage Services who, as part of their discount service, buy and sell securities, maintain records, and provide loans, but who do not provide research or recommendations. Most brokerage firms provide their customers with cash accounts through which any interest, dividends, or gains from their security investments are immediately invested in a money market fund. Finally, there are *electronic brokers* such as E\*Trade and Ameritrade who take buy and sell orders over the Internet. Some of these electronic brokers and platforms are associated with the larger investment houses.

Brokers and dealers, combined with the electronic and physical exchanges, create a network whereby investors in almost any part of the world can be linked so that they can buy and sell securities. It is a sophisticated system. However, for most investors the procedures for buying and selling securities is quite simple. It usually takes a phone call to a local broker or a local division of a national brokerage firm or setting up an electronic account on one's computer. The investor is then usually assigned an account executive who sets up an account in which the investor can deposit cash for purchasing the securities and for later receiving cash from the income of the securities that are purchased or when they are sold. After

this account is set up, then all an investor has to do to buy or sell a security is to call her account executive or electronically submit an order from her computer.

The investor can instruct her broker to buy or sell the security either at the best prevailing price or at a price she determines. The former instruction is a *market order* and the latter is a *price limit order* to buy or sell. With a market order, the investor simply instructs her broker to buy (or sell) so many shares at the market. The broker will try to execute the order as fast as possible at the best price he can obtain. With a limit order to buy, the investor specifies the maximum price she will pay for the stock. The order then can only be carried out at that price or lower. With a limit order to sell, the investor specifies the minimum price she will accept and the order will then be carried out only at that price or higher.

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#### BLOOMBERG INFORMATION ON BROKERS/DEALERS: RANK AND IBRA

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The **RANK** screen displays broker and dealer rankings by volume for a loaded security.

**IBRA** is similar to Rank. On IBRA, you select securities from the screen.

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## Organized Exchanges and the OTC Market

Brokers and dealers serve the function of bringing buyers and sellers together by finding opposite positions or by taking temporary positions in a security. Exchanges and the OTC market, in turn, serve the function of linking brokers and dealers together to buy and sell existing securities that are listed. Exchanges and the OTC market can be described in terms of their listing requirements, the types of trading systems they provide, and whether they are call or continuous markets.

## ***Listing***

On the organized exchanges, a corporation that wants to be listed must meet the *listing requirements*, and once listed, it must adhere to its continuous listing requirements. These requirements relate to the company's ability to satisfy sufficient size and ownership distribution requisites and its willingness to divulge its income and balance sheet information. If a listed company fails to maintain these requirements (for example, if the trading of its stock declines below the minimum or if the company merges with another company), then the company may be *delisted* by the exchange, meaning its shares can no longer be traded. The NYSE Euronext listing requirements, for example, are designed to attract large firms based on their market size. Minimum requirements include \$100 million market value, earnings of at least \$10 million for the last three years, 2,200 shareholders, and monthly trading volume of 100,000 shares. As of 2010, there were over 2,500 companies worldwide that listed their shares on the NYSE.

In contrast, some regional exchanges have less restrictive listing requirements. As such, their lists often include small-cap and microcap companies.<sup>6</sup> Historically, regional exchanges such as Chicago and the Philadelphia-Baltimore-Washington exchange (PBW) began by listing the securities of companies with only a regional interest, making such securities more marketable. However, over time, regional exchanges also provided listings of some popular NYSE stocks (especially those of corporations based in the area). This latter function made it possible for local brokers who were not members of the exchange to broker securities at lower commission costs than member brokers.

Securities not listed on one of the exchanges could be traded in the over-the-counter market. The over-the-counter market is an informal exchange for the trading of stocks, corporate and municipal bonds, investment fund shares, asset-backed securities, and Treasury and federal agency securities. As described in Chapter 1, it is a fragmented market of brokers and dealers linked to each other by computer, telephone, and telex communication systems. The most publicized OTC system is the *National Association of*

*Security Dealers Automatic Quotation System, NASDAQ.* NASDAQ is an information system in which current bid-ask quotes of dealers are offered, and also a system that sends brokers' quotes to dealers, enabling them to close trades. There are over 60,000 NASDAQ computer terminals connected to the NASDAQ mainframe computer. The terminals receive bid-and-ask quotes from dealers making a market in a listed security—a *market maker*. Once an investor's broker identifies a deal, the trade is then executed directly with the dealer. Like the NYSE Euronext, for a company to have its stock listed on the NASDAQ system, it must satisfy requirements related to its net worth and shares outstanding, and it must have at least two dealers/market makers dealing in the security. See [Exhibit 4.7](#) for a brief history of NASDAQ.

NASDAQ was founded in 1971 by the National Association of Securities Dealers. When it began trading operations, it was the world's first electronic stock market. NASDAQ was also the successor to the OTC system of trading and is still commonly referred to as the OTC.

Over the years, NASDAQ became more of a stock market by adding trade and volume reporting and automated trading systems. NASDAQ was also the first stock market in the United States to start trading online, highlighting NASDAQ-traded companies (usually in technology). Until 1987, most trading occurred via the telephone. The Small Order Execution System (SOES) was established in the late 1980s as one of the first electronic methods for dealers to enter their trades. NASDAQ requires market makers to honor trades over SOES. In 1992, NASDAQ joined with the London Stock Exchange to form the first intercontinental linkage of security markets.

In 2000, NASDAQ went public, forming the NASDAQ Stock Market, Inc. Today, NASDAQ is owned and operated by the NASDAQ OMX Group and listed on its own stock exchange (NDAQ). It is regulated by the Financial Industry Regulatory Authority (FINRA), the successor to the NASD. In 2005, NASDAQ purchased Instinet, and in 2007, it acquired the Philadelphia Stock Exchange (PHLX)—the oldest stock exchange in America (1790).

**EXHIBIT 4.7** Brief History of NASDAQ

For most corporations, listing on the organized exchange or NASDAQ is advantageous, if not imperative: To raise money via stock sales, a corporation needs to provide its investors with assurances that a secondary market for the trading of its stock exists. In addition to providing marketability to a corporation's financial claims, listing also provides advertising (e.g., stock quotes in the newspapers or discussions on financial news shows on radio and TV), and it provides the company with information on how it is doing

as reflected by the price investors are willing to pay for its stock. It should be noted that there are companies that qualify for listing on the NYSE Euronext or other exchanges, but choose not to be listed. The reasons for such a decision vary from a desire to control the distribution of the stock to concerns over the disclosure of information.<sup>7</sup> On the other hand, there are those companies who want to be listed on more than one exchange—*dual listing*. Some companies, for example, are listed on the NYSE Euronext, as well as security exchanges in other countries and some of the regional exchanges.

### ***Trading Systems—Auction and Dealer Systems***

Exchanges are similar in that they provide trading for listed securities. They differ, however, in the types of trading systems they offer. Trading systems can be classified as being an auction system, a dealers system, or a hybrid of each.

In an auction system, security buyers and sellers submit bid and ask prices to a central location where the orders are matched by brokers (or electronically by a computer system). Many auction systems use what is referred to as a *price-driven system*. Here the shares of a security offered by a seller with the lowest ask price is sold to buyers with shares to buy with the highest bid price. For example, suppose on the buy side, Investor A has a bid to buy XYZ stock at \$5 or less and Investor B has a bid to buy XYZ at \$6 or less, whereas on the sell side, Investor C has an offer to sell XYZ stock at \$6 or more and Investor D has an order to sell at \$5 or more. In a price-driven system, A's bid to buy at \$5 would be matched with D's offer to sell at \$5, and B's bid to buy at \$6 would be matched with D's offer to sell at \$6.

A dealer trading system is one in which dealers take a temporary position in the security. Under a dealer system, an exchange typically assigns a specific stock or security for a dealer to deal, and in the OTC market, dealer requirements are used to set up dealers on a security. Dealers, in turn, act as market makers, buying a security from a seller at a low bid price and selling to a buyer at (they hope!) a higher ask price.

Dealers quote a bid price (the maximum price they would be willing to pay) to investors interested in selling the stock and an ask price (price at which they would sell) to investors interested in buying.

### ***Call and Continuous Markets***

Security markets can be described as either being a *call market* or a *continuous market*. A call market can be set up so that those investors wishing to trade in a particular security can do so only at that time when the exchange "calls" the security for trading. Once called, sufficient time is usually allowed to accommodate enough buyers and sellers, and market clearing is accomplished through an auction—prices are quoted until the amount demanded is equal to the amount supplied. Call markets can also be set up electronically. Investors wishing to buy or sell a security can submit prices, which are entered into a computer system. They are then allowed to change their order and price until a specified call time, when a price matching the buy and sell order is determined. In such a system, market orders in which investors request that a security be purchased or sold at the best prevailing price are filled at the market-clearing price. Call markets are common on many new exchanges and electronic trading systems. Organized exchanges, like the NYSE Euronext, also use a call market for some stocks at their opening whenever there is an overnight buildup of buy and sell orders that could potentially lead to a significant difference between the previous day's closing price and the opening price. Dealers on the exchange may also use a call market after there is a suspension of trade. For example, suppose ABC stock closed trading at \$50 and then overnight significant negative news information was released. If the overnight sell orders were four times greater than the buy orders, then a dealer on the stock might open the market with a call auction on the stock in order to determine a market-clearing price. The motive for implementing a temporary call auction is to minimize potential price volatility in the stock.

In contrast to the call market, in which the time a security is traded is discontinuous, a *continuous market* attempts to have constant trading in a security. To have such a feature, time discrepancies caused by dif-

ferent times when investors want to sell and when others want to buy must be eliminated, or at least minimized. Continuous trading is accomplished with an auction system by having sufficient number of buyers and sellers to ensure that when one wants to buy (sell), there is another investor wanting to sell (buy). Continuous trading is accomplished with a dealer system by having dealers, who are part of the exchange, take temporary positions in a security. On the organized exchanges, these dealers act as either specialists or market makers.

Under a specialist system, the exchange assigns a specific stock or security to a specialist to deal. As dealers, the specialists quote a bid price to investors when selling the stock and an ask price to investors interested in buying, hoping to profit from the bid-ask spread. In addition to dealing, the NYSE Euronext and other exchanges using a specialist system may also require that the specialists maintain the *limit order book* (which appears on their computer screens) on the securities they are assigned. As noted, a limit order is an investor's request to his broker to buy or sell a stock at a given price or better. On the NYSE Euronext, such orders are taken by commission brokers and left with the specialist in that stock for execution. The specialist, in turn, records the order in a limits book with entries. In her role as a dealer, the specialist is constantly being approached at her trading desk by commission and floor brokers wanting to buy and sell. Accordingly, she will use the quotes in the limit books as a reference to establishing her own bid and ask quotes.

As an example, suppose that a commission broker approaches the specialist at the trading post with an order to buy 3,000 shares of the specialist's stock. As is the custom, the commission broker would ask the specialist "How's the Market?" The specialist might then use the limit order prices as a reference if she wanted to trade in her own inventory or she may quote the best figure from the limit book. Suppose, for example, she responds by saying 40 and 41. The commission broker would see that the specialist is offering to buy at 40 and sell at 41. At this point, the commission broker may look around to see if there are any other commission brokers in the area to implement a trade. If he finds one looking to sell, then he

and the other broker will approach the trading desk, and after discussing the specialist spread, they will negotiate a price. This type of two-way trading is known as the *double-auction method*. (It should be noted that by the rules of the exchange, the specialist cannot interfere with commission brokers' trading.) Now if the commission broker cannot find an opposite position, then, based on the quoted spread, he will notify the specialist by saying "3,000 bought." The specialist and commission broker will exchange pertinent information. After purchasing 3,000 shares, the specialist will either add to her inventory, which she hopes to sell later at least at 41, or she will use the stock to satisfy one of her limit orders to buy. More importantly, the specialist has made it possible for the commission broker to buy 3,000 shares almost immediately, and by so doing, she has achieved her primary function of ensuring a continuous market.

It should be noted that other security exchanges, as well as some futures and options exchanges, do not use specialists. Instead they use designated market makers (DMMs) and *order book officials*. Similar to specialists, designated market makers are required by the exchange to deal in an assigned security if someone cannot find someone with whom to trade. They do not, however, maintain a limit book; this is the responsibility of the order book official.

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#### BLOOMBERG SITES WITH EXCHANGE INFORMATION

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- **EPR or WEXC:** The EPR or WEXC screens can be used to find information on exchanges, including Web sites.
- **MMTK:** MMTK displays a list of market makers and their corresponding codes. You can use MMTK to search for market makers by their name, code, or alternate code. You can also search for a market maker by their registered exchange.
- **HALT:** HALT displays a list of securities or derivatives in which there is a halt or delay in trading. See HELP on HALT screen for more explanation.
- **IMAP:** The IMAP screen can be used to identify stocks that are traded on exchange. On the IMAP screen, select "All Securities," click region and country, and then an exchange (e.g., New York, OTC, or Hong Kong).

See Bloomberg Web [Exhibit 4.5](#).

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## Convergences of Organized Exchanges, the OTC Market, and the Electronic Communications Networks

### Brief History

For many years, stocks were discussed as trading on the organized exchanges, such as the New York Stock Exchange, the Nikkei in Tokyo, the London Stock Exchange, or the DAX in Germany, or as trading over the counter—the OTC market. Since 1990, electronic trading offered by *electronic communications networks (ECNs)* such as NASDAQ, Instinet, Wunsch Auction System (later to become the Arizona Stock

Exchange), Tradebook, Archipelago, POSIT, Barclay's Stockbrokers, and Tradepoint have transformed the core structure of the organized exchanges and the OTC market.

By definition, an ECN is an electronic network (computer system) that provides a security trading system that brings brokerage firms and traders together so that they can trade among themselves. ECNs are set up to compete with security exchanges, the OTC market, and other ECNs. Many of the early ECNs were created by regional exchanges. Regional exchanges have had a long history of being innovative. For example, in 1981 the Philadelphia Exchange (acquired by NASDAQ) became the first exchange to offer trading in foreign currency options. The Cincinnati Exchange (which discontinued operation in 1995), developed the *National Securities Trading System* (NSTS), which allowed automated purchases and sales from the offices of member brokers and from the floor of the regional exchange. In 1990, the *Arizona Stock Exchange* (AZX) was established as a stock exchange based on a computer system (formerly the Wunsch Auction System).

Operationally, AZX was set up as an automated auction market process that matched the supply and demand for an extensive list of stocks several times during the course of a day. Similarly, the Archipelago Exchange was an electronic exchange that started in Chicago as a system that routed orders to other systems. It was later structured as a holding company owned by a large number of financial institutions, and in 2000, it merged with the Pacific Stock Exchange. Other ECNs were set up through alliances formed with large investment firms and financial information companies. REDBOOK, for example, was an ECN formed from a partnership of Donaldson, Lufkin, and Jenrette; Bank of America; Fidelity; Charles Schwab; and Spear, Leeds, & Kellogg (a large NYSE specialist firms). In Europe, Barclay's, Merrill Lynch, and a number of mutual funds and banks formed E-Crossnet, which was an ECN for institutional investors in Europe. Reuters, the news and information firm, helped form Instinet, one of the biggest ECNs, providing electronic trading between institutional investors. Bloomberg formed Tradebook for electronic trading of OTC stocks and also later formed an alliance with Investment Technology Group to run POSIT—an

ECN that conducted electronic auctions and trades for stocks in the United States, United Kingdom, and Australia.

As ECNs were beginning to emerge in the 1990s, the SEC ruled that such *alternative trading systems* (called *Reg ATS*) could register as stock exchanges. As a result, ECNs such the Wunsch Auction System and Archipelago (after merging with the registered Pacific Stock Exchange), became competing electronic stock exchanges. In 1995, Tradepoint was formed in the United Kingdom as an electronic exchange with a transparent order book showing orders for U. K. stocks. In 2000, *Jiway* launched its electronic platform in which 6,000 European and American stocks were dealt among brokers. In addition to SEC's *Reg ATS*, the growth in electronic trading systems was also aided by the SEC mandate that the *Consolidated Quotation System* (CQS), which managed the reporting of NYSE information, report current transactions not only from the NYSE, but also the OTC market, American Stock Exchange (AMEX), regional exchanges, and the third market (discussed in the next section) and further that the NYSE create an intermarket trading system (ITS)—an electronic trading network linking markets and facilitating trades. As the NYSE established the ITS, NASDAQ also created an ECN called Primex. The ITS and the Primex system, in turn, were accessible to any registered electronic exchanges—a benefit that turned a number of electronic networks into competing exchanges very quickly.

In response to the emergence of ECNs and electronic stock exchanges, the NYSE began to demutualize—going from owner/member associations to public companies; that is, historically, organized exchanges were structured as mutual or owner/member associations, consisting of member brokers. By exchange rules, only members traded on the exchange. To obtain a membership, also referred to as a seat on the exchange, an investment company or individual purchased it from an existing member. By demutualizing and becoming public companies, however, an organized exchange such as the NYSE could issue securities to raise the funds needed to finance the necessary expansion and acquisitions needed to move them into the competing electronic trading market. In 2006, the NYSE merged with Archipelago. It also stopped

selling seats representing membership and became a publically traded company with shares traded on the NYSE. Finally, as noted in Chapter 1, in April of 2007 the NYSE became part of NYSE Euronext, a holding company created by combining the NYSE Group, Inc. and Euronext NV. The NYSE Euronext includes six equities exchanges and six derivatives exchanges, providing physical and electronic trading in stocks, bonds, and derivatives. Today, the NYSE is a hybrid physical and electronic exchange, consisting of a physical exchange and also a SuperECN and Electronic Stock Exchange. NASDAQ, in turn, has also become a super ECN with internal order execution capabilities and a centralized order book.

## **Third Market**

The third market is one in which exchange-listed securities are traded on the OTC and regional markets. Before the advent of electronic trading and multiple listings, this market was popular for the trading of a large number of shares of a security, known as a *block trade*. Originally, the market provided institutional investors with a means of avoiding the higher commission cost on their large trades of listed stocks that would have resulted if they had traded through brokers who were members of the exchanges; such brokers, at one time, were required by the rules of the exchange to trade listed securities on the exchange and to charge the relatively high fixed commissions set by the exchange. Thus, brokers who were not members of the exchange, and therefore not bound by exchange rules, found it advantageous to act as block traders, trading blocks of listed stocks on the OTC market. The third market grew until the mid-1970s. In 1975, the elimination of high fixed commission costs, however, served to reduce the activities of the third market, and in 1976 the NYSE began to allow its members to execute orders on NYSE-listed securities on the third market (although it continued to prohibit them from acting as dealers by Rule 390). Finally, in 1979 the SEC ruled that members could act as dealers on securities listed after April 29, 1979.

Today, the third market consists of the OTC market and regional exchanges that offer listed stocks with competitive bid-ask quotes. They, in turn, use the intermarket trading system and the electronic communication network to execute third-market trades. For example, in 1999 the Chicago Stock Exchange (CHX) traded over 90 percent of the NYSE-listed stocks, providing dual listing for those stocks.

## Fourth Markets

The fourth market is a market absent of brokers and dealers. It consists of financial institutions, block traders, and market makers who trade listed securities among themselves, dealing directly with each other on price and quantity. Many of the trades making up the fourth market were facilitated by *Instinet* (Institutional Network). Currently, the Instinet system allows participants to input and receive quotations and close trades anonymously. For example, a subscriber to Instinet can enter an order to sell that would be seen by other subscribers. If someone wanted to buy the stock at the seller's quote, he would enter a limit order to buy at that price and the computer would cross both orders and verify the trade. If the buyer wanted to negotiate, however, he could input his own quote and wait for a response. Instinet allows institutional investors to cross-order, matching buy and sell orders directly via computers without using brokers or dealers.

## Block Trades

Typically, a block trade is initiated when a financial institution asks a block trader or *block house* to sell or buy a large number of shares (e.g., 100,000 shares of ABC stock). The block trader then acts as a "block positioner" by seeking out other traders interested in taking a position. The custom usually is one of calling other block traders and indicating he is putting together a block on the ABC stock (note that he would not divulge whether the block is to be bought or sold). Once all trading parties had been assembled and

their positions identified, the block positioner then matches positions; the block trader might also purchase all or part of the block, hoping to resell the shares at a higher price.

Block positioners often trade in what is referred to as the *upstairs market*—a name used to refer to trading from offices and not on the exchange. Many block trades are also handled electronically via the Instinet system.

## National Market System

The 1974 Securities Act Amendment mandated that the security industry move to a national market system in which all investors would have easy access to information and the ability to transact security trading quickly and efficiently. Over the last 30 years, the financial markets have seen the expansion of NASDAQ, the development of the intermarket trading system, the emergence of Electronic Communication Networks and registered electronic exchanges, and the transformation of the NYSE as a physical exchange into the NYSE Euronext—a hybrid physical and electronic exchange providing trading in stocks, bonds, and derivatives. These developments have made it possible for investors to obtain current information on security prices and to buy and sell thousands of securities at the best prices. These developments have also created competition among the exchanges, the OTC, and the third and fourth markets, which has served to reduce commission costs and improve efficiency. As a result, we are much closer today to the goal set forth by the 1974 Securities Act Amendment to establish a national market system.

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#### BLOOMBERG EQUITY PRICES: BID-ASK, BLOCK TRADES: QMC, MBTR, AND SIDE

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In addition to the Bloomberg stock price graph, GP, and intraday price information (GIP), other useful price screens accessible from a stock's equity menu include the following:

- **QR:** The QR screen displays individual trades with bid-ask quotes in chronological order for a selected stock and time period.
- **IOIA:** IOIA displays all indications of interest in trades for a select stock (i.e., a broker's announcement that a trade was executed by the respective broker) and ranks all trade advertisements sent from broker-dealers for a selected equity.
- **QMC:** The Bloomberg QMC screen displays all active quotes from all of the exchanges on which a selected equity trades. You can also view volume, historical trends, and arbitrage opportunities.
- **MBTR:** The MBTR monitor screen displays institutional equity transactions of 10,000 shares/lots or more (block trades) on exchanges worldwide. MBTR allows you to monitor block trades based on exchange and to filter them by volume or by using a security list that one defines.
- **SIDE** is used to determine whether an advertising broker/dealer for a specific security was likely a buyer or seller.

See Bloomberg Web [Exhibit 4.6](#).

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## Trading Securities in the Market

Today existing stocks are traded by individual investors, institutional investors, brokers, dealers, and block traders in the following ways:

- Physically on the organized exchanges (brokers and dealers meeting fact-to-face).
- Through an OTC electronic system consisting of dealers and market makers that make up the over-the-counter market.
- Electronically through electronic matching or order working system (smart systems) on the Electronic Communications Network provided either by an exchange, the OTC market, or an off-exchange company.
- Physically or electronically through ECNs by institutional investors, brokers, dealers, and block traders in the third and fourth markets.

## **Organized Exchanges—Physical Exchange**

Trading in the physical exchange can be described in two ways. For one, it is a physical exchange, a building where brokers and dealers still go to buy and sell securities on behalf of their investors/clients. Physically, the trading floor of the NYSE exchange is approximately 100 yards long and 50 yards wide, with an annex. On the main floor, there are U-shaped counters, each with windows, known as trading posts. Here exchange specialists and other brokers go to trade securities. Encircling the floor are telephone and communication areas where brokers receive orders from their retail brokerage firms and institutional investors across the country.

A physical exchange can also be described by the functions of its brokers and dealers. Most brokerage firms that have a physical presence on an organized exchange function as commission brokers.

*Commission brokers* execute buy and sell orders on behalf of their clients. Before the rise in electronic trading, many exchanges were also populated by *floor brokers*, sometimes referred to as broker's brokers or freelance brokers. They functioned by accepting orders from other brokers (usually commission brokers) and then executing them in return for a share in the commission. The second type of participant is the floor trader. *Floor traders* buy and sell securities only for themselves and not for others. Finally, there

are the *specialists* and *market makers* who specialize in the trading of a specific security, and as noted previously, keep trading continuous.

## **OTC Trading**

The OTC market can also be described as a continuous market that functions through market makers. The stocks and other securities traded on the OTC market are those listed ones for which a dealer wishing to make a market decides to take a position. Dealers on the OTC market range from regional brokerage houses making a market in a local corporation's stocks or bonds, to large financial companies, such as Bank of America Merrill Lynch, making markets in Treasury securities, to investment bankers dealing in the securities they had previously underwritten, to dealers in federal agency securities and municipal bonds. Each dealer maintains an inventory in a security and quotes a bid and an ask price at which she is willing to buy and sell.

The *Financial Industry Regulatory Authority* (FINRA) regulates the OTC trading. As noted, communications among brokers and dealers for stocks takes place through the NASDAQ system. This system provides current bid-ask quotes of dealers or sends brokers' quotes to dealers, enabling them to close trades. Price information on NASDAQ that has at least two market makers and a wide trading interest are published on NASDAQ's national daily list, whereas stocks and bonds that are thinly traded are listed with the *National Quotations Bureau* (NQB). NQB's listing included small- or microcap stocks, ADRs for foreign stocks (discussed in Chapter 5) that do not meet U.S. accounting standards, high-yield bonds, and convertible bonds.

## Electronic Trading

In the 1980s, the NYSE developed the *Super Designated Order Turnaround System* (SuperDOT or simply DOT, which was an earlier system) to facilitate both small and large orders, as well as multiple-stock orders.<sup>8</sup> Brokers would send orders via a computer directly to this system. The SuperDot was one of the early electronic trading systems and a precursor to today's ECNs. In 2009, SuperDOT was replaced by the NYSE *Super Display Book System* (SDBK) for processing orders. In 2012, NYSE, in turn, replaced Display Book with the *Universal Trade Platform* (UTP).<sup>9</sup>

The NYSE Euronext also expanded its *NYSE Arca* platform, previously known as *ArcaEx*, an abbreviation of *Archipelago Exchange*. Today, the fully electronic NYSE Arca trades more than 8,000 exchange-listed equity securities, including NASDAQ listings. Traders who use this open, direct, anonymous platform are able to make speedy executions in multiple U.S. market centers. As of March 2007, NYSE Arca was the second largest ECN, with approximately one out of every six shares traded on the American financial markets traded on the system.<sup>10</sup>

In the late 1980s, NASDAQ established its electronic system, the *Small Order Execution System* (SOES) for dealers to enter their trades. In 2005, NASDAQ acquired the Instinet platform from Reuters, which had previously merged its platform with Island ECN and renamed it Island technology platform, or Inet (see [Exhibit 4.8](#) for a brief history of Instinet).

Today, individual investors through their brokers, institutional investors, dealers, and block traders can execute trade electronically through electronic trading systems provided by organized exchanges, NASDAQ, or an ECN. Electronic trading systems can be grouped into *order-crossing networks* and *electronic order-working systems* (or smart systems). As noted, such networks can be provided by an elec-

tronic exchange that is either separate or part of an organized physical exchange (like NYSE Euronext), or they can be provided by a company or alliance, such as Instinet.

Instinet was founded by Jerome M. Pustilnik and Herbert R. Behrens and was incorporated in 1967 as Institutional Networks Corp. The founders aimed to compete with the NYSE by means of computer links between major institutions, such as banks, mutual funds, and insurance companies, with no delays or intervening specialists. Through its Instinet system, the company provided computer services and a communications network for the automated buying and selling of equity securities on an anonymous and confidential basis.

In 1983, Instinet, under the direction of William Lupien, began marketing their system to the broker community, rather than focus exclusively on institutions. Together, they successfully introduced many innovations which made Instinet an integral tool for traders on both the "buy" and "sell" sides of the market.

As a result of Lupien's refocusing of Instinet, the firm grew rapidly in the mid-1980s. In 1987, Reuters acquired the company. Under Reuters, the Instinet platform continued to grow through the late 1980s and into the early 1990s. By the time that the SEC introduced the Order Handling Rules and Alternative Trading Systems (ATS) regulation, Instinet was the dominant ECS. However, these rules also gave rise to new competitors, some of whom employed new pricing schemes. By the early 2000s, these competitors had managed to erode the firm's market share. In 2002, Instinet merged with Island ECN and renamed the platform Island technology platform, Inet. Reuters went on to IPO Instinet in 2001, keeping a 62% ownership stake. In 2005, Instinet was purchased by NASDAQ. NASDAQ retained INET ECN and subsequently sold the agency brokerage business to Silver Lake. In February 2007, Nomura purchased the firm from Silver Lake for a reported \$1.2 billion.

Instinet is today operated as an independent subsidiary of Nomura. In May 2012, Nomura announced that it would transfer electronic trading in the United States to Instinet, with the goal of eventually

making it the electronic trading arm for all of Nomura. However, in September 2012, Nomura announced that it would instead make Instinet its execution services (cash, program and electronic trading) for all of markets except for Japan.

**EXHIBIT 4.8** Brief History of Instinet

### ***Order-Crossing Networks***

Order-crossing networks match buy and sell orders. Such networks provide traders anonymity, but not continuous trading (i.e., it is a call market system devoid of its own market makers). They may do this by an electronic automated auction process or by matching orders rapidly. In an automated call auction system, traders submit orders to buy and sell. The auction system then computes the supply and demand curves for each stock being auctioned, with the intersection of the curve determining the stock's market clearing price. Such systems may also have a reserve book that holds orders back until some part of the open book is met (e.g., a volume or price condition is met). In an auction system, traders are often allowed to change their orders until a specified execution time when the price that best matches the buy and sell orders is determined. Electronic order-crossing systems are often characterized by an allocation system set to address when buy and sell orders do not match. For example, a *first come-first served system* that starts by matching the oldest order to buy with the oldest order to sell. It is possible that one side of a trade may fail to materialize when an order is sent through an order-crossing network, leading to time discrepancy between the time when the order was sent and when it is finally executed. On the other hand, an order-crossing system can have a speedy transaction if the other side of the transaction is already in the system. For example, an order-crossing system may have a reserve book that holds orders back until some part of the open book is met. Rapid trading is also enhanced when there are a number of users of the system, such as block traders, institutional traders, corporations, and market makers from the OTC market or the exchanges.

One of the biggest ECNs operating as an order-crossing network is Instinet (or Inet), which, as noted earlier, initially provided electronic trading for the fourth market. Bloomberg Tradebook system also was set up as a matching system for primarily OTC stocks, and E-Crossnet was set as a cross-ordering ECN for institutional investors.

### ***Electronic Order-Working Systems***

Electronic order-working systems are so-called *smart systems* designed to "work an order." These systems work an order by gathering price information from many markets, breaking orders into smaller sizes, simultaneously buying and selling a large number of stocks composing a portfolio, linking global markets, slicing orders to be traded at different times of the day, and evaluating different market maker tendencies. Order-working systems are set up with data inputs about the securities that are traded, such as customer orders, brokerage firm orders, limit orders, and inputs about the markets where the securities are traded. With this information, the order-working system then searches markets where the whole transaction or parts of it can be executed. Often, the system passes the order or parts of it to market makers, order-crossing networks such as Instinet, and other electronic order-working systems. The system takes the information from these systems and markets and uses it to decide whether to execute all or part of trade. If only part is executed, then the order-working system may send the rest of the order to the NYSE's Universal Trade Platform or NASDAQ's order system.

NYSE Universal Trade Platform and NYSE Arca can be best described as order working systems. The Universal Trade Platform accepts market orders, pairs the buy and sell requests, and then sends the net imbalances to the appropriate specialists. The system typically carries out such transactions within a minute. As noted, NYSE Arca is a fully electronic stock exchange, trading more than 8,000 exchange- and NASDAQ-listed securities. NYSE Arca's functions are based on price-time priority system. The

system's trading platform electronically links traders to multiple market centers and provides customers with fast electronic execution and open, direct and anonymous market access.

## Trade Execution—Example

To see how trades are executed in today's market system consider a simple case in which an investor places a buy market order to purchase 500 shares of P&G stock with her broker. The broker can submit the order either to the brokerage firm's floor broker on the exchange or enter the order into the Universal Trade Platform (based on a prearranged agreement) or to the NYSE Arca platform. If the order goes to the firm's desk, then the firm's broker for P&G will receive the order and go to the trading post for P&G and join the "group" of other brokers with P&G trade orders and also the P&G specialist. The investor's order could be executed in whole or parts with the other traders and the specialist, or with trades against the limit order books.

As a rule, smaller orders such as 500 shares go directly to the specialist display book through the Universal Trade Platform or to Arca. Medium-size orders (under 10,000 shares) are often sent to the firm's booth or possibly "upstairs," where they are traded as part of block trades. Medium-size trades may also be traded over time. Referred to as "working the crowd," trades could be made in increments of, say, 1,000 shares to hide the size of the order.

For large block trades, typically made by institutional investors, execution through the order books by specialists and the trading by the crowd generally cannot be done without significant movement in price. As a result, large trades are often negotiated in the "upstairs market" among block traders. These traders often work via Instinet to match institutional investors interested in taking the other side of the large order. Depending on the activity and interests in the trade, the order may end up being met by some block traders, specialists, and the crowd, and sold over a discrete period of time. A 200,000 order to sell P&G

may end up being executed with a block trader setting up 150,000 shares to be purchased by institutional investors, 30,000 traded on the exchange, and 20,000 held by the block trader.

## **Note on the Secondary Market for Bonds**

The secondary market for bonds in the United States and throughout the world is not centralized, but rather it is part of the OTC market. In the OTC market for bonds, market makers provide bid and offer quotes for each issue in which they participate. There are some corporate bonds that are listed on physical exchanges. Such bonds are sometimes said to be trading in the "Bond Room." Although they may be listed, they are more likely to be traded through dealers on the OTC market than on the exchange. There is also a transition to electronic trading. For example, NYSE Euronext recently began offering an all-electronic platform for trading NYSE bonds based on price-time priority system. There are also developing multidealer systems that allow customers to execute bond trades from multiple quotes. The systems display the best bid or offer prices of those posted by all dealers. The participating dealers usually act as the principal in the transaction. There are also developing single-dealer systems that allow investors to execute transaction directly with the specific dealers desired.

## **Clearinghouse**

Once a buyer and seller have agreed on a security trade, the transaction must be settled: cash and security certificates (or other ownership claims such as computer listings) must be properly transferred. Most trades require that settlement be made within five days. Investment firms are engaged in trades with a number of other investment firms. To facilitate settlement, clearing corporations receive all records of the trade; they then notify the investment firm of the net amount of securities to be delivered or received and the net amount of money to be paid or received.

The *National Securities Clearing Corporation* (NSCC), a subsidiary of the Depository Trust Corporation, is the principal clearinghouse for settling security transactions occurring on the exchanges and the OTC market. Members of these exchanges and markets subscribe to this service or use members who do. Those belonging to the exchanges have their daily records of transactions sent to the NSCC, which in turn nets them out. Each member then receives a list of the net amount of security certificates they must deliver, as well as a list of those to be received and the net amount of money to be paid or received. The members then settle with the clearinghouse instead of other brokers and dealers.

In addition to the NSCC, many brokers and dealers also belong to the *Depository Trust Corporation* (DTC). The DTC maintains a record of security ownership of its members and holds all security certificates. Accordingly, if a trade occurs among members, then the transfer is recorded by simply changing the names in the book. Thus, no certificate exchange is necessary.

Finally, to ensure against negligence resulting in a failure to properly transfer ownership after a trade, there exists the *Securities Investor Protection Corporation* (SIPC). Created out of the 1970 Securities Investor Protection Act, SIPC is a government agency that ensures brokers and dealers against any losses resulting in a failure to deliver securities or funds.

## Types of Transactions

A security trade usually takes the form of either an order to buy (*long position*) or an order to sell (*short position*). There are, however, other positions to take, such as buying on margin and short sales, and other trade considerations, such as the size of the order and the instructions to the broker regarding the execution of the orders.

## Margin Purchases

To purchase securities on margin means that part of the purchase is financed by borrowing, often from the brokerage firm. Accordingly, such a purchase is known as a *margin purchase* or a leveraged position. A margin purchase increases the investor's return-risk opportunities. For example, if an investor buys 100 shares of stock for \$100 per share (\$10,000), her investment would be worth \$20,000 if the stock's price increases to \$200, yielding her a 100 percent rate of return if she sold the stock  $[(\$20,000 - \$10,000)/\$10,000]$ , and it would be worth only \$5,000, if the stock declines to \$50, yielding a 50 percent loss on her investment  $[(\$5,000 - \$10,000)/\$10,000]$ . Suppose the investor, however, borrows \$10,000 and buys 200 shares instead of 100. In this case, her investment would be worth \$30,000 if the stock is at \$200 [stock value – loan =  $(\$200)(200) - \$10,000$ ], and her rate of return from her \$10,000 investment would be 200 percent. However, if the stock were at \$50, the investor's investment value would be zero [stock value – loan =  $(\$50)(200) - \$10,000$ ], and the percentage loss on her investment would be 100 percent. Thus, leveraged or margin purchases, although increasing the potential rate of return that an investor can earn, also increases an investor's risk.

When a margin purchase is handled through a brokerage firm, the firm usually sets up a *margin account* for the investor. In contrast to a *cash account* whereby the investor deposits cash with the brokerage firm in an amount equal to the full cost of the security, a margin account requires only a portion of cash to be deposited in order to cover the acquisition. When such accounts are set up, the customer usually signs a contract known as a *hypothecation agreement*. In this agreement, the customer gives the broker the right to use the securities to be acquired as its collateral for a bank (or other financial institution) loan to the broker that is the source of the loan money. The bank rate to the broker is referred to as the *call money rate*. In addition to the hypothecation agreement, the brokerage firm may also request that the securities purchased be left with the broker or registered in street name so that the brokerage firm can lend out the securities if a short sale opportunity arises (short sales are discussed in the next section).

Given the risk involved in margin purchases, as well as some past abuses, the maximum loan amount a broker can advance toward the purchase of a security is governed by the FRS. Specifically, by *Regulation T* (initiated as part of the 1934 SEC Act) the Fed has the right to limit the initial amount of loans brokers can provide, and by *Regulation U*, they have the power to control the loan amounts of commercial banks to brokers and dealers. The Fed regulations are stated in terms of *initial margin requirements*. A margin ( $M_0$ ) is defined as the proportion of an investor's equity (cash) to the value of the security:

$$M_0 = \frac{\text{Investor's Cash}}{\text{Market Value of Securities}} = \frac{\text{Market Value} - \text{Loan}}{\text{Market Value of Securities}}$$

Since 1934, the Fed has varied margin requirements from 40 to 100 percent. Usually they change the percentage to control credit in the economy as part of their monetary policy tools.

In addition to initial margin requirements, most brokerage firms also require that the investor adhere to a *maintenance margin requirement* and to rules governing restrictive accounts if the security's price decreases.<sup>11</sup> If a decline in the security's price leads to an actual margin that is lower than the initial margin requirement but higher than the broker-stipulated maintenance margin, then the investor is said to have a *restricted account*. With a restricted account, the investor would be prohibited from acquiring any more shares on margin, but she would not be required to deposit any more cash in her account. However, if the security's price decreases to a level in which the actual margin is below the maintenance margin requirement, then the investor will receive a *margin call* from the brokerage firm instructing her to adjust the margin position to meet the maintenance requirement. The investor could meet the deficiency by either depositing more cash in her cash account, by selling some shares, or both. If the investor did not respond to the margin call, then the brokerage firm could sell the securities and return the proceeds to the investor after loan and commission cost deductions. It should be noted that brokerage firms calculate the customer's actual margin each day based on the previous day's closing prices to see if a margin call is in order. This practice is known as determining which customer is *marked to market*.

To see more specifically how margin requirements work, consider the case of an investor who acquires 100 shares of a stock for \$100 per share. Furthermore, suppose that the initial margin requirement is 60 percent and that the maintenance margin is 40 percent. If the investor borrows the maximum amount permitted, she would be able to borrow \$4,000 and her initial and actual margin at the time of the purchase would be 60 percent:

$$M_0 = \frac{\text{Investor's Cash}}{\text{Market Value of Securities}}$$

$$M_0 = \frac{\text{Market Value} - \text{Loan}}{\text{Market Value of Securities}}$$

$$M_0 = \frac{(\$100)(100) - \$4,000}{(\$100)(100)} = 0.60$$

The price at which the investor could receive a maintenance margin call ( $P_C$ ) would be \$66.67:

$$0.40 = \frac{P_C(100) - \$4,000}{P_C(100)}$$

$$-0.40P_C(100) + P_C(100) = \$4,000$$

$$P_C(100)(1 - 0.4) = \$4,000$$

$$P_C = \frac{\$4,000}{(100)(1 - 0.4)}$$

$$P_C = \$66.67$$

Thus, if the stock increased to \$120, then the investor's actual margin would rise to 66.67 percent,  $\left[(\$120)(100) - \$4,000\right]/(\$120)(100) = 0.6667$ . At this price, the investor could either liquidate, withdraw the excess margin of 6.67 percent, or purchase more shares on margin until the actual margin

equaled the initial requirement. This latter alternative is known as *pyramiding*. In contrast, if the stock declines to a value between \$100 and \$66.67, then the investor would have a restricted account; finally, if it declines to a value below \$66.67, then she would receive a margin call. In the latter case, the investor would have to either put up cash or sell some of the shares for cash in order to maintain her actual margin at 40 percent.

## **Short Sale**

In contrast to the typical investment strategy in which you buy a security now and sell it later, a short sale (also known as *selling short* or *selling under*) involves selling a security now and buying it later. As noted in Chapter 1, to implement this strategy, the investor borrows the security, sells it in the market, and then repays her debt obligation by buying the security later and returning the borrowed share. To profit from a short sale, the security's price must decrease. For example, suppose an investor sells ABC stock short by borrowing one share and selling it in the market for \$100. If the price of ABC stock declines to \$50, then the short seller could repay her obligation (also known as covering the position) by buying back the stock in the market at \$50 and returning the borrowed share, netting a profit of \$50. However, if the price of ABC stock increases to \$150 and the short seller has to cover, then she would lose \$50.

The process involved in executing a short sale for an individual investor involves several steps. First, the investor informs her broker that she wants him to execute a short sale. For example, suppose again an investor wants 100 shares of ABC stock sold short when the market price of ABC is \$100. To find a lender of 100 shares of ABC stock, the short seller's broker may use one of the brokerage firm's customers who has the stock held in street name (possibly one who has a margin account), or he may have to contact another brokerage firm. In either case, the *share lender*, also known as the lender of shares, is often unaware of the loan. With the borrowed shares, the broker then will find a buyer of the stock and sell the

shares at \$100, delivering the 100 shares and receiving \$10,000. Once settled, the broker then will hold the short seller's \$10,000 as security with no interest paid (known as a flat hold). The short seller also must post collateral in cash or equity.

Both the short seller and the share lender have the right to close their positions at any time. Technically, no time limit exists on a short sale. By definition, it is a *call loan* that is cancelable at any time by either party. If the share lender orders his broker to sell his shares, then the short seller's broker will have to either find another share lender or ask the short seller to cover by buying the shares in the market. If the short seller wants to close because the stock price decreases or because she is fearful of a call, or she has to close because she has been instructed to do so by the share lender's broker, then she simply instructs her broker to buy the 100 shares. If the market price of the stock in our example were \$50, then the short seller's broker will use \$5,000 of the \$10,000 he is holding to buy the shares, then return the 100 shares to the lender and give the short seller both her \$5,000 profit and collateral. Of course, if the stock price increases, the broker would have to use \$10,000 plus part of the collateral to cover the short sale.

In addition to the mechanics of a short sale, one should also be aware of several other points. First, the SEC has at times required that short sales be executed only on an *up-tick* (when the price at which the borrowed shares are sold exceeds the previous trading day's close) or a *zero-plus-tick* (when the price is equal to the previous trade but higher than the last trade at a different price). Underlying this rule is the hope it will slow down or stop a possible "bear run" on a security. Second, a short seller is expected to cover any dividends that are paid. After the execution of a short sale, the new security buyer is the shareholder of record and thus will receive all dividends from the corporation. The share lender also is entitled to dividends. Accordingly, he will be paid by the short seller.<sup>12</sup> Finally, margin requirements, as noted above, are required on short sales. The short seller's initial margin is the total amount of cash or

"investor's assets" that is required. For a short sale, the initial margin requirement ( $M^{SS}_0$ ) is stated as a proportion of the value of the securities loaned:

$$M^{SS}_0 = \frac{\text{Investor's Assets} - \text{Loan}}{\text{Loan}}$$

where:

- Investor's Assets = cash from short sale and cash (or security) deposited with the broker.
- Loan = market value of securities that were borrowed.

If the initial margin requirement is 0.60, then an investor who sold 100 shares of ABC stock short at \$100 would need to add \$6,000 to the \$10,000 cash obtained from the sale of the borrowed shares to make his margin equal 0.60:

$$M^{SS}_0 = \frac{\text{Investor's Assets} - \text{Loan}}{\text{Loan}}$$

$$M^{SS}_0 = \frac{(\$10,000 + \text{Cash}) - \$10,000}{\$10,000}$$

$$\text{Cash} = (0.60)(\$10,000) = \$6,000$$

As with margins on long positions, the brokerage house also will require a maintenance margin to protect itself in case the security price increases. In the above example, if the maintenance margin is 40 percent, then the short seller would receive a margin call, asking her to put more cash or securities in her account if the price of the stock increased to \$140, causing the actual margin ( $M^A$ ) to be 0.40:

$$M^A = 0.40 = \frac{P_C(100) - \$10,000}{\$10,000}$$

$$P_C = \frac{(1 + 0.40)(\$10,000)}{100} = \$140$$

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#### BLOOMBERG INFORMATION ON SHORT SALES

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**Short Interest, SI:** Short Interest is the total amount of shares of stock that are sold short and have not been repurchased to close out the position. High levels of short interest indicate that numerous sellers have sold the stock short and are expecting a downturn in the share price.

**The Bloomberg SI Screen** displays monthly short interest information for a selected equity security that trades on certain exchanges.

**SSR:** The SSR Screen indicates where there are restrictions on short sales.

See Bloomberg Web [Exhibit 4.7](#).

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## Types of Orders

In addition to the types of transactions (long positions, short positions, and margin positions), an investor also must instruct his broker on the types of orders (unless he wants to give his broker a discretionary order allowing the broker to decide the price and time). The usual instructions involve specifying the size of the order and the price at which the security can be bought or sold.

## **Size of the Order**

The trading on most exchanges occurs as either a *round-lot* or an *odd-lot* order. When an order is a round lot, it is for the standard unit of trading. On the NYSE Euronext and other exchanges, the standard unit for most stocks is 100 shares (referred to as one lot) or a multiple of it, 200, 300, etc. (two, three, etc. lots). An order for less than the standard is defined as an odd lot; thus 3, 50, 75 would be odd lots.

Finally, such orders as 162 would be considered as both round (100) and odd (62) lots.<sup>13</sup>

## **Price Limits of the Order**

The investor can instruct her broker to either buy or sell the security at either the best prevailing price—market order—or at a price she determines—limit order. With a market order, the broker will try to execute the order as fast as possible at the best price he can obtain. The advantage of this type of order is the speed at which the trade is executed; the disadvantage is that the investor is unsure of the price she will obtain. The uncertainty over price can be overcome by the investor instructing the broker to execute a limit order to buy or sell the stock. With a limit order to buy, the investor specifies the maximum price he will pay for the stock. The order then can only be carried out at that price or lower. For a limit order to sell, the investor specifies the minimum price he will accept, and the order will then only be carried out at that price or higher. In contrast to market orders, limit orders have the disadvantage of taking time before they can be executed and possibly not being executed if the price limit is not reached.

## **Time Limits of the Order**

In addition to specifying the price limits of an order, the investor must also indicate the *time limit* of the order. Accordingly, she can specify a day order, in which the order remains active only for the trading day during which it is entered, a week order, which expires at the end of the calendar week (Friday), a month

order, and so on. Also, there can be either open or specific orders. Often with limit orders, the investors request an *open order* or *good-till-canceled (GTC) order*, which is open until it is executed or the investor withdraws it. Alternatively, the investor may ask that the order be executed immediately at a limit price or better, or canceled. This order is sometimes referred to as a *fill-or-kill (FOK)* order.

## Stop Order

Finally, on the list of investor instructions are *stop orders*. A stop order to sell or *stop loss order* is a market order to sell when the stock hits the specified stop price or below. Stop loss orders are typically used to lock in a gain. For example, if you had bought 100 shares of ABC at \$50 and it was presently trading at \$100, you would have an unrealized profit of \$5,000. To protect some of this profit and at the same time benefit from any further price increase, you could instruct your broker to enter a stop order to sell at \$95. If ABC stock hits \$95, then the broker would execute a market order to sell. Note that the disadvantage of this order is that a price change could be temporary. For example, the price of ABC might hit \$95, then turn around and increase. A stop order to buy or *stop buy* is a market order to buy when the stock hits the stop price. A stop buy order is sometimes used with a short sale. For example, if you had shorted 100 shares of ABC at \$50 and it was presently trading at \$25, you would have an unrealized profit of \$2,500. To protect some of this profit and at the same time benefit from any further price decrease, you could instruct your broker to enter a stop order to buy at \$30. If ABC stock were to increase to \$30, then the broker would execute a market order to buy 100 shares, allowing you to close your short sale and lock in a profit from the short sale of \$2,000.

In addition to a stop order in which a market order is executed when the stop price is reached, an investor can also enter a *stop-limit order*. Like a stop order, this order will be executed when the stop price is reached, but the order also carries the additional instruction that the security must be bought or sold at a price limit. In the above example, if you had requested a stop-limit order to sell at \$95, then if the stock

hits \$95, the broker would enter a limit order to sell at \$95. The potential disadvantage of this is that the order might not be executed.

## Cost of Trading

Through the exchanges, brokers, dealers, market makers, and specialists have created a network whereby an investor can buy and sell a security in a matter of minutes simply by calling his broker or submitting a request from his computer. The cost of maintaining this complex system is paid for by investors through the commission costs they pay to their brokers, the bid-ask spread investors pay to market makers or specialists when they set up and then later close their positions, and the fees charged by the clearing firms that are usually included in the brokerage commission and paid by their brokers.

## Commissions

In accordance with the Securities Act Amendment of 1975, commissions on all security transactions are negotiable between the investor and the broker. However, prior to the enactment of this act on May 1, 1975 (known as *May Day*), the commissions charged by brokers had been fixed. Commission costs differ for discount brokerage firms and full brokerage firms. For institutional investors who trade in blocks, the rates are lower. Note that many brokerage firms require stock buyers to pay a commission when they buy the stock and also when they sell it. Thus, the total *round trip cost* (cost of purchase and sale) would be twice the rate.

## Bid-Ask Spread

The primary function of specialists, market makers, and dealers is to ensure a continuous market. To do this, they stand ready to buy and sell securities at their bid and ask prices. The bid-ask spread thus repre-

sents their compensation for providing liquidity. To the investor, however, the bid-ask spread represents another transaction cost involved in trading securities. For example, if a dealer's bid price is \$4 and her ask price is \$4.50, a stock buyer who paid \$4.50 for the stock, then immediately sold it for \$4.00, would be paying the dealer \$0.50 for the services of providing a continuous market. On average, the spread for a typical stock is less than 1 percent per share price. This cost varies depending on the stock's trading price and volume. Interestingly, one change in security market trading that has served to reduce the bid-ask spread is the decimalization that occurred on the NYSE and NASDAQ in 2000. The minimum share price allowed on an exchange is referred to as a tick. The NYSE used to have a tick size of one-eighth and one-sixteenth of a dollar. In 2000, the NYSE and NASDAQ changed the tick to one cent, and by so doing, they helped to reduce the bid-ask spread and therefore the cost of trading.

## Conclusion

Brokers and dealers operating through organized exchanges, the OTC market, and ECNs have created a sophisticated system in which investors can buy and sell securities easily and quickly. In this chapter, we have examined equity securities, how this trading system operates, and how stocks and corporate bonds are traded in the system. This sophisticated system is global in breadth. In the next chapter, we continue our analysis of security trading by examining investment funds formed with such securities. Since the 1980s, there has also been a globalization of security markets with the openings or expansion of exchanges in Europe, the Middle East, and Asia. In Chapter 5, we will also examine the global trading of securities.

## Web Site Information

**NYSE Euronext**

- For information on NYSE Euronext, go to [www.nyse.com](http://www.nyse.com).

## OTC Information

- For information on OTC market, go to [www.finra.org/index.htm](http://www.finra.org/index.htm) and [www.nasdaq.com](http://www.nasdaq.com).

## SEC

- For information on the laws, regulations, and litigations of the SEC go to [www.sec.gov](http://www.sec.gov).
- For financial information on securities, market trends, and analysis, see:
  - [www.Finance.Yahoo.com](http://www.Finance.Yahoo.com)
  - <http://www.hoovers.com>
  - <http://www.bloomberg.com>
  - <http://www.businessweek.com>
  - <http://www.ici.org>
  - <http://seekingalpha.com>
  - <http://bigcharts.marketwatch.com>
  - <http://www.morningstar.com>
  - <http://free.stocksmart.com>
  - <http://online.wsj.com/public/us>

## Notes

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1. The company's choice of financing with debt or equity, in turn, depends on the return-risk opportunities management wants to provide its shareholders. Because debt instruments have provisions that give creditors legal protection in the case of default, the rate corporations are required to pay creditors for their investments is typically smaller than the rate their shareholders require. As a result, a firm that

tends to finance its projects with relatively more debt than equity (i.e., a *leveraged firm*) benefits its shareholders with the relatively lower rates it pays to creditors. In addition, debt financing also has a major tax advantage to corporations: The interest payments on debt are treated as an expense by the Internal Revenue Service (IRS) and are therefore tax deductible, whereas the dividends a corporation pays its shareholders are not tax deductible. The relatively lower rates required by creditors and the tax advantage of debt make debt financing cheaper than equity financing for a corporation, all other things being equal. The lower rates on debt, however, are not without costs. Unlike equity financing, in which funds are paid to shareholders only if they are earned, the obligations of debt instruments are required to be made. Thus, if a company has a period with poor sales or unexpected high costs, it still has to make payments to the bondholders, leaving fewer earnings available for shareholders. Moreover, very low sales or very high costs could lead to the company being unable to meet its interest and/or principal payments. In this case, the creditors can sue the company, forcing them to sell company assets to meet their obligations, or the company can petition the courts to reorganize.

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2. Pension fund investments in venture capital firm stated in 1979, after the U.S. Department of Labor clarified the Prudent Man's Rule, making it possible for pensions to make such investments.

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3. A number of public companies went private following the passage of the Sarbanes-Oxley Act in 2002.

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4. Investment banking firms often assist firms in privately placing securities, often using best effort.

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5.

With stock prices relatively low and yielding poor returns during the 1970s, Michael Milken of the investment banking firm of Drexel Burnham Lambert was one who saw the potential of selling high-yielding corporate bonds created from financing mergers to institutional investors as a substitute for stock.

During the 1980s, some 1,800 corporations issued low-quality, high-yielding junk bonds to finance their acquisitions and to change their capital structure. In underwriting a number of these issues, Drexel Burnham Lambert earned fees as high as 2 percent to 3 percent. In addition, to facilitate the marketability of these bonds, Milken and Drexel Burnham Lambert also improved the credit worthiness of the bonds

by standing ready to renegotiate the debt or to loan funds if the company were in jeopardy of default. The investment company also acted as market maker, providing a secondary market for junk bonds.

Unfortunately, the economic recession of the late 1980s and early 1990s depressed the earning of many leveraged companies. Over 250 companies defaulted between 1989 and 1991, including Drexel Burnham Lambert, who filed for bankruptcy in 1990 due to losses on its holdings of junk bonds. As for Michael Milken, he was convicted of insider trading, resulting from feeding information on target companies to Ivan Boesky, a Wall Street hedge fund player, and others. He was sentenced to three years in prison; his net worth, however, was reported by *Fortune* to be over \$400 million in 1993.

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6. Until its acquisition by NASDAQ in 2004 (and later the NYSE in 2008), the *American Stock Exchange* (AMEX) represented the other national exchange. AMEX was once called the *curb exchange* (until 1953 when it was named the American Stock Exchange) because its brokers would assemble outside on the curb of Wall Street to take orders phoned into a nearby office. The AMEX historically tended to be more innovative than the NYSE. For example, not only were its listing requirements less stringent than the NYSE, allowing it to attract smaller and usually younger companies, it was also one of the first exchanges to offer a market for warrants and listed options, and it initiated trading in American Depository Receipts (ADR) and exchange-traded funds.
7. For example, for many years commercial banks and life insurance companies had a tradition of not listing on the NYSE (although they were listed on the OTC). In their cases, they did not list out of a concern that a decrease in stock prices, due perhaps to general economic factors, might cause a panic and lead to a deposit withdrawal. In 1965, Chase Manhattan broke that tradition by listing itself on the NYSE, and several other large banks, or their holding companies, followed Chase.
8. SuperDot was the electronic system used by the NYSE to route orders from investors to specialists located on the floor of the exchange. SuperDot was the upgraded form of the previous electronic system used to route orders, known as the Designated Order Turnaround (DOT) system. Since 1976, most of the

orders in NYSE had been transmitting electronically to specialists' screens over the DOT or via the upgraded SuperDot.

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9. The user, either an investor or a broker, used to enter the order into the system, which immediately reached the specialist and was executed. The users received a confirmation report of the transaction once the order was executed. Most individual investors, however, never had direct access to the SuperDot system. However, they indirectly used the system through software or online services offered by brokerages that in turn placed the client orders into the SuperDot.

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10. In late 2006, NYSE Arca was the first one to offer NASDAQ-style fees on NYSE-listed securities, a move that was soon adopted by NASDAQ and other ECNs. NYSE Arca charges traders who remove liquidity from the Arca-book \$3.00 per 1,000 shares. Traders who add liquidity receive a \$2.00 rebate per 1,000 shares. Traders who route orders out of the NYSE Arca system are charged \$1.00 per 1,000 shares.

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11. Maintenance margins are set by brokerage firms and not the Fed.

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12. Note: Except for commission cost, the payment of dividends should not be a major concern to the short seller, since on the day dividends are paid, the stock price must fall in the market (or abnormal profits would result). The short seller, if she wanted, would therefore be able to buy the stock back, or a percentage of it, at a price low enough to compensate for the dividends she must pay.

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13. Up until the 1980s, the distinction between round and odd was important because, by the rules of the exchange, odd lots could only be bought or sold by odd-lot brokers. As a result, the commission per share was higher on odd lots than on round ones.

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## Bloomberg Exercises

1. Select a company of interest and study its size, capital structure (debt/equity ratio), geographical distribution of its products, outstanding bonds, and major equity holders. Screens to examine from its equity menu are as follows:

- DES Description; Tabs: Report, Profile, Issue Info, Revenue & EPS, and Ratios
- RELS Related securities (e.g., debt, preferred stocks)
- CF Company Filings (10-K)
- HDS Majors holders of the stock
- OWN Equity Ownership
- SPLC Supply Chain
- FA Tabs: Segments/By Geography, Segments/By Measures, and B/S
- ISSD Issuer Description
- DDIS Debt Distribution
- AGGD Debt Holders
- BRC Research on Company
- RSKC Risk
- DRSK Credit Risk

- LITI      Litigation

2. Select a stock of interest or the one you selected in Exercise 1 and use its CACS screen to find if it has taken any of the following actions over the last few years:
  1. Stock split
  2. Stock dividend
  3. Acquisitions
  4. Divestures
  5. New stock offerings
3. Select a stock of interest or the one you selected in Exercise 1 or 2 and use its DVD screen to find when its next ex-dividend and payment dates are.
4. Bloomberg information on corporate actions such as acquisitions and limited partnership deals can be accessed on the CACS screen found on the company's equity menu. Select a company of interest that you know has been active in acquisitions and divestures and use CACS to search for its previous activities.
5. Select a preferred stock of a company of interest (use SECF to find the preferred: SECF <Enter>; FI tab, and Pfd tab; or search by entering: <Pfd> tk <Enter>; if you know the company's ticker, bring up its screen by entering: Ticker <Pfd>). Study the preferred stock using the stock's menu screen. Possible screens to examine from the menus are DES, DVD, and GP.
6. Identify several past acquisitions, IPOs, or divestures using the CACT screen. Set your search for M&A and IPO.
7. Identify several current or recent investment activities of venture capital and private equity holdings companies by using the FLNG screen (click "Venture Capital" and "Private Equity" in "Institution Type" dropdown).
8. Using the FLNG screen, study the past activities of a venture capital and a private equity firm: FLNG <Enter>. On the uploaded screen, select "Venture Capital" or "Private Equity" from the "Institution"

- dropdown menu. Identify activities to view and activities by sector.
9. Identify several pending corporate deals using EVTS. You can use EVTS for a loaded company: Ticker <Equity>; EVTS. You can also search for events using EVTS and then select an industry or all stocks.
  10. Identify and study an IPO using the IPO screen: IPO <Enter>. On the screen, you can access pending IPOs and the deal. To get more information on the company, use its ticker (found on the deal page) and then go to its equity screen: Ticker <Equity>.
  11. The LTOP screen displays top underwriters for the major fixed income, equity, equity-linked securities, and syndicated loan securities markets. Using the screen, identify the top underwriters over the past year for U.S. equity and fixed-income issues. Using the dropdown menu, study some of the recent deals for several of the top equity and bond underwriters. To access: LTOP <Enter>. On the LTOP screen, press left click to access a dropdown menu showing descriptions and the underwriter's deals for that period.
  12. The Bloomberg NIM screens identify new security offerings by security type, period, and region. The NIM screen can be customized to identify certain types of bonds and securities and news about announced offerings. Using the NIM screen (Selection dropdown), identify some new or expected offerings in the following security categories:
    1. U.S. Bonds
    2. Equity-Linked Securities (Convertibles)
    3. U.S. Corporate/144A
    4. Preferred
    5. Eurobond
  13. The IPO screen displays IPO and seasoned issues in different stages in the underwriting process. Use the screen to select several IPOs in the following stages: Announced, Upcoming, Priced, Withdrawn, Postponed, and Lock-Up Expiring. Using the dropdown, get a description of the deal. For a company that has just issued its IPO, get more information on the company by going to its equity screen.

14. Identify and study private equity activities by going to the "Private Equity" menu: PE <Enter>.

Bloomberg's Private Equity screen displays a menu of links that provide access to specific Bloomberg private equity analysis functions.

15. Use EPR or WEXC to find the Web site of an exchange of interest.

16. Study the different prices quotes of a stock of interest using the following screens: BQ, QR, QM, and QMC. Determine the interest in the stock using the IOIA screen.

17. Study the different prices quotes of a corporate bond of interest using TRACE: QR and TDH.

Determine the interest in the bond using ALLQ.

18. Short Interest is the total amount of shares of stock that are sold short and have not been repurchased to close out the position. High levels of short interest indicate that numerous sellers have sold the stock short and are expecting a downturn in the share price. The SI screen displays monthly short interest information for a selected equity security that trades on the exchanges. Use the SI screen for several stocks of interest to determine whether or not there is a bullish or bearish sentiment regarding the stocks.

19. The MBTR monitor screen displays institutional equity transactions of 10,000 shares/lots or more (block trades) on exchanges worldwide. Set up the screen to monitor the stocks in an index, for example, Russell 3000 (RAY) and the minimum volume (e.g., 100,000 or 500,000). Select one of the stocks that is trading on heavy volume and try to determine if there is an explanation for the size of the trade. Screens to consider from the stock's menu screen: Company News (CN), intraday price graph (GIP), bid and asked spreads and quotes (QR, BQ, and QMC), short interest (SI), dealers' interest (SIDE), and brokers' reported volume (IOIA).

20. The last decade has seen the emergence of electronic trading, exchange consolidation, and global trading. Some of the companies that have been part of this change are NYSE Euronext (NYX <Equity>), NASDAQ OMX Group (NDAQ <Equity>), and Instinet (INNE <Equity>). Study the news, analyst views, and trends of these companies using some of the screens from each company's menu

screen: DES, Company News (CN), Company Filings (CF), Supply Chain (SPLC), and Company Research (BRC).