

Securities & Markets

Lecture 4

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MGM 237

Introduction to Finance



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

LEARNING OBJECTIVES

After studying this chapter, you should be able to do the following:

LO 11.1 Describe the processes and institutions used by businesses to distribute new securities to the investing public in the primary market, including the use of underwriting and best efforts agreements.

LO 11.2 Summarize activities of a well-known public offering.

LO 11.3 Explain various ways that investment banks can assist security offerings in addition to traditional underwriting efforts.

LO 11.4 Describe the costs of “going public” when issuing securities in the primary market.

LO 11.5 Describe other functions of investment bankers.

LO 11.6 Explain the role of secondary markets in securities trading.

LO 11.7 Summarize the types of orders used in securities trading and when they might be used by traders.

LO 11.8 Describe the various types of over-the-counter markets for securities trading.

LO 11.9 Explain factors that make for a good market for trading securities and the role of brokerage commissions in securities trading.

LO 11.10 Define market indexes.

LO 11.11 Define main derivative contracts

Newly created securities are sold in the **primary market** while existing securities are traded in the **secondary market**. The initial sale of equity to the public is called an **initial public offering (IPO)**. To raise money, corporations usually use the services of firms called **investment bankers (underwriters)**, whose main activity is marketing securities and dealing with the securities markets. Investment bankers act as intermediaries between corporations and the general public when corporations want to raise capital.

Originating: Most of the larger investment banking firms engage in originating securities. As an originator, the investment bank seeks to identify firms that may benefit from a public offering, which is a sale of securities to the investing public, or a private placement, which is a sale of securities to a small group of private investors. Most of this section will focus on the role of an investment bank in a public offering.

Once the investment bank identifies a firm that may want to sell securities, the investment bank attempts to sell itself to the issuer as the best investment bank to handle the offering.¹ Once an agreement is reached, the investment bank makes a detailed study (called **due diligence**) of the corporation. The investment bank uses this information to determine the best means of raising the needed funds. The investment banker will recommend the types, terms, and offering price of securities that should be sold. He or she aids the corporation in preparing the registration and informational materials required by the SEC.

A piece of advice the investment bank gives firms who want to have an IPO is when to go public. At times, the investing public is particularly interested in firms operating in certain industries or that develop certain technologies. Firms that go public in “hot” IPO markets, meaning when investors are anxious to buy new issues and prices are bid up, sometimes, to twice or three times their initial offering price, are likely to receive better prices for their shares than if they go public in a “cold” market, when investors are less receptive to newstock issues.

Underwriting: Investment bankers not only help to sell securities to the investing public, they also sometimes assume the risk arising from the possibility that such securities may not be purchased by investors. This occurs when the investment banker enters into an underwriting agreement with the issuing corporation. As shown in Figure 11.1, with an underwriting agreement, securities are purchased at a predetermined or “firm commitment” price by the underwriters, who then sell them to investors at the offer price. The difference between the offer price and the price paid by the investment bank is called a **spread**. The spread is revenue to the investment bank, which is used to cover its expenses and to provide a profit from its underwriting activities.

When underwriting securities, **the investment bank is carrying the risk of a failed offering.** Once it purchases the securities from the issuers, the risk of any security price declines are carried solely by the investment banker. The spread represents a small cushion against a price decline as well as the potential profit the investment banker can earn from the risky underwriting activities. **The issuer has almost no price risk in a firm commitment offering once the offer price is set.**

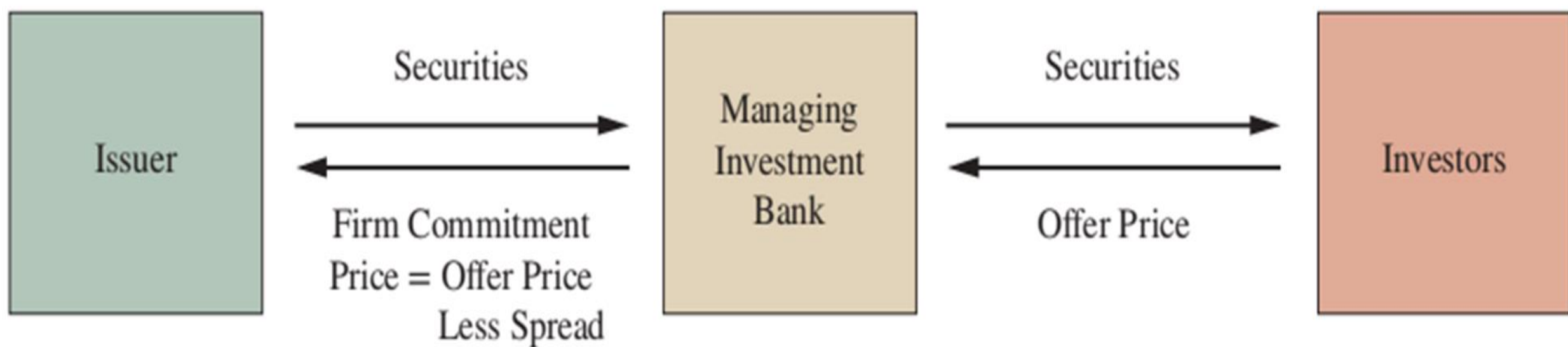


FIGURE 11.1 Diagram of a Firm Commitment Underwriting

Another means of offering securities is called **best-effort selling**. Under a **best-effort agreement**, investment bankers try to sell the securities of the issuing corporation, but they assume no risk for a possible failure of the flotation. The investment bankers are paid a fee or commission for those securities they sell.

The best-effort agreement is typically used when the investment bankers anticipate there may be some difficulty in selling the securities and they are unwilling to assume the underwriting risk. From the perspective of investors, an investment bank putting its money at risk with a firm commitment underwriting agreement would be preferable. Investors should view a best-effort offering with some concern. **If the investment banker is not willing to support the firm's security sale, why should other investors?**

Other Ways to Assist Issuing Firms

Firms that are already public and wish to raise additional funds have several choices. They can sell additional securities by using the underwriting process as discussed above. They can also choose to use shelf registration, sell securities to a private party, have a rights offering, or seek competitive bids. We discuss each of these below.

1- Shelf Registration

The SEC's Rule 415 allows firms to register security issues (debt and equity) and “put them on the shelf” for sale any time over the succeeding two years. Once registered, the securities can be offered for sale by submitting a short statement to the SEC whenever the firm needs the funds or market conditions are attractive.

The [shelf registration](#) process saves issuers time and money. There is no cost or penalty for registering shelf securities and not issuing them. Filing fees are low, and the firm can take some securities from the shelf, sell them immediately through one underwriter, and later sell more with another underwriter. Not every firm can use shelf registration. Firms must meet four size, credit quality, and ethics requirements:

1. The market value of the firm's common stock must be at least \$150 million.
2. It must have made no defaults on its debt in the previous three years.
3. The firm's debt must be investment grade (rated BBB or better).
4. The firm must not have been found guilty of violating the Securities Exchange Act of 1934 in the previous three years.

2. Sell Securities to a Private Party

A publicly held firm can choose to sell securities in a private placement. Privately placed equity is, typically, sold at a slight premium to the stock's current market price. Private equity sales may occur if the firm is the rumored or actual target of a hostile takeover. Management may try to stall the takeover or stop it by selling a large block of voting stock to an investor or syndicate that seems friendlier.

Private placements of equity may fulfill a need for an emergency infusion of equity. Since the shares are not being sold in a public offering, the private placement avoids SEC registration and subsequent publicity. The private sale must follow other SEC regulations, however; the firm must disclose the sale after it occurs, and the private investors must meet SEC requirements as “accredited investors.” Basically, accredited investors are those who are considered knowledgeable enough or sufficiently strong financially to invest without the protection provided by the SEC's registration process. Accredited investors can include wealthy individuals with investment experience as well as financial institutions, such as insurance companies and pension funds.

3. Rights Offerings

Under the charters of some corporations, if additional shares of common stock (or any security that may be converted to common stock) are to be issued, the securities must be offered for sale first to the existing common stockholders. That is, the existing shareholders have **preemptive rights** to purchase newly issued securities. The purpose of this regulation is to permit existing stockholders to maintain their proportional share of ownership.

4. Competitive Bidding

State, local, and federal government bond issues, as well as those of governmental agencies, usually require competitive bidding by investment bankers before awarding underwriting agreements. This is the case for debt and equity securities issued by some public utilities. Large, financially strong firms will occasionally announce they are seeking competitive bids on a new security offering. Under these circumstances, there may be little initial negotiation between the investment houses and the issuer. In these cases, the issuer decides upon the size of issue and the type of security that it wishes to sell. Then, it invites the investment banking houses to offer bids for handling the securities. The investment banking group offering the highest price for the securities, and also providing information showing it will be able to carry through a successful flotation, will usually be awarded the contract.

Cost of Going Public

One of the drawbacks of going public is its cost. The issuing firm faces direct out-of-pocket costs for accountants' and lawyers' fees, printing expenses, and filing fees.

In addition, the firm faces two additional costs, which together represent the difference between the market value of the firm's shares in the aftermarket and the actual proceeds the firm receives from the underwriters. The first of these costs is the spread, as discussed earlier. The second cost, underpricing, represents the difference between the aftermarket stock price and the offering price. Underpricing represents money left on the table or money the firm could have received had the offer price better approximated the aftermarket value of the stock.

For example, suppose a firm raises \$15 million by selling one million shares at an offer price of \$15. By the close of trading on the first day, the firm's stock price is \$20. The firm's market value rose $(20 - 15) \times 1$ million shares, or \$5 million. Had the securities originally been offered at \$20, the firm might have received an additional \$5 million for the stock. Some would argue that the firm left \$5 million “on the table,” financing it could have received had the stock been priced better. To view it another way, if the offer price had been \$20, the firm could have raised \$15 million by selling only 750,000 shares.

Together, three costs (direct costs, the spread, and underpricing) make up an IPO's flotation costs.

The flotation costs of an issue depend upon a number of factors, including the size of the offering, the issuing firm's earnings, its industry, and the condition of the stock market.

The flotation costs, relative to the amount raised, are usually lower for a firm commitment offering than a best-effort offering. Best-effort offerings have higher costs for two reasons:

First, it is typically higher-risk firms that utilize best-effort offerings, so the banker charges higher fees to compensate for his or her extra efforts. **Second**, on average, best-effort offerings raise smaller amounts of money, so the fixed costs of preparing the offering are spread over fewer shares sold.

Investment Banking Firms: Other Functions:

In recent years, merger and acquisition (M&A) activities have increased in importance for many investment banking firms. Firms with strong M&A departments compete intensely for the highly profitable activity of corporate mergers or acquisitions. Investment banking firms act on behalf of corporate clients in identifying firms that may be suitable for merger or acquisition . Large fees are charged for this service.

Other activities of investment bankers include the management of pension and endowment funds for businesses, colleges, hospitals, and other institutions. In many cases, officers of investment banking firms are on the boards of directors of major corporations. In this capacity, they can offer financial advice and participate in the financial planning of the firm. Investment bankers also provide financial counseling on a fee basis.

Not all investment bankers engage in every one of these activities. The size of the firm largely dictates the various services it provides. Some firms, known as boutiques, specialize in a few activities, such as mergers or underwriting IPOs for high-tech firms.

The Securities Exchange Act of 1934 established the SEC and gave it authority over the securities markets. In addition, attempts to manipulate securities prices were declared illegal. All brokers and dealers doing business in the organized markets must register with the SEC.

A **broker** assists the trading process by buying or selling securities in the market for an investor. They help to match buyers and sellers to facilitate trades at current market prices. They get paid a commission, typically a percentage of the value of the transaction or a flat fee for smaller trades. Most of the time, you will use a broker if you trade stocks.

A **dealer** satisfies investors' trades by buying and selling securities from his or her own inventory. Unlike a broker, a dealer is trading with their own capital, or money. They buy securities from those wishing to sell and they sell to those investors who want to buy. Rather than earning a commission, dealers make a profit on the spread—the difference between the price they pay and the price at which they sell securities.

Trading Securities—Secondary Securities Markets

The primary market, we have learned, is where securities are first issued; the issuer sells the securities in an offering to investors. Any trading of the securities, thereafter, occurs in the secondary market. The secondary markets provide liquidity to investors who wish to sell securities.

The secondary market for securities has two components: organized security exchanges, which have physical trading floors, and the over-the-counter (OTC) market, a network of independent dealers and agents who communicate and trade electronically rather than on a trading floor.

	Over-the-Counter Market	Exchange-Traded Market
Contract terms	Separately negotiated	Standardized
Size of a trade	Parties to the transaction agree on the size.	Set by the exchange, depends on the product and standardized specifications. May need to purchase multiple contracts, depending on how much of the product is required.
Price	Parties determined price through negotiation.	Generally reflects the value market participants trade at. Price is disseminated by price-reporting services.
Legal requirements	Separately agreed and documented between the parties, although form “master agreements” are usually set forth in general terms with annexes used to customize the agreement.	Parties agree to abide by the rules of the exchange, which are legally binding.
Transparency	Little if any transparency	Highly transparent
Counterparty risk	Each party determines the risk of its counterparty and limits its transactions according to its own risk appetite for that counterparty.	Exchange clearinghouses guarantee the transaction, eliminating the need to consider the counterparty’s risk profile. However, should look at exchange guarantee system to ensure comfort with exchange clearinghouse guarantee system and risk.
Collateral	Individually negotiated and held by the party demanding the collateral.	Broker requires collateral from its customer, which is calculated on the exchange’s margin requirements, although the broker may ask for more from the customer than the exchange may require. The broker transfers the margin to the exchange to cover all its customer positions at that exchange. The broker’s margin requirement is tied directly to the exchange’s margin requirements.

FIGURE 6.10 A General Comparison between OTC and Exchange Markets

Third and Fourth Security Markets

It should not be surprising that an activity as broad as the security market would give rise to special arrangements. Despite their names, the third and fourth markets are two additional types of secondary markets that have evolved over time.

The **third market** is a market for large blocks of listed shares that operates outside the confines of the organized exchanges. In the third market, blocks of stock (units of 10,000 shares) are traded OTC. The participants are large institutions (such as mutual funds, insurance companies, and pension funds) that often need to trade large blocks of shares. Brokers assist the institutions in the third market by bringing buyers and sellers together and, in return, they receive a fee.

The [fourth market](#) is even further removed from the world of organized securities trading. Electronic communications networks (ECNs) are computerized trading systems that automatically match buy and sell orders at specified prices. Certain large institutional investors arrange purchases and sales of securities among themselves without the benefit of a broker or dealer. They subscribe to an electronic network in which offers to buy or sell are made known to other subscribers. The offers are made in code, and institutions wishing to accept a buy or sell offer know the identity of the other party only upon acceptance of the offer. A fee is paid to the network provider when the trade is completed. Those who support fourth market trading argue that transfers are often quicker and more economical, but confidentiality is an important feature to many firms.

What Makes a Good Market?

A good market will have four characteristics: liquidity, quick and accurate trade execution, reasonable listing requirements, and low costs. Let's discuss each of these in turn.

First, a market is liquid if trades are executed quickly at a price close to fair market value. Generally, a market needs to have breadth and depth to be liquid. A market has depth if it can absorb large buy and sell orders without disrupting prices. This may mean there are investors with deep pockets willing to take the opposite side of a large trade or there are many traders, each of whom is willing to help execute the trade. A broad market, or one with breadth, attracts many traders. In general, having many traders makes a market more competitive; a few large traders may be able to set prices in their own favor rather than allow competitive forces determine price levels. Generally, trading is more liquid if the difference between the bidder's buy and the seller's ask price is small. Otherwise, large price jumps can occur, depending on how anxious a trader is to execute his buy or sell order.

The **second** characteristic, the quick and accurate execution of trades, is reasonably self-explanatory. The quicker the sale or purchase is executed, the quicker the investor can receive confirmation and know the transaction price. Studies have indicated that small stock transactions done electronically average one-tenth of a second to execute, whereas larger transactions can take up to ten seconds. The size of the trade, the liquidity of the stock, and the venue affect the transaction time.

Third, reasonable listing requirements allow investors to know the quality of the listed firm. The NYSE has the highest standards, in terms of stock ownership, earnings, and cash flow. But many firms that could meet the NYSE standards decide to list their shares elsewhere, believing costs may be cheaper and investor trade execution faster on another exchange.

Finally, a good market will offer reasonable listing fees to issuers (lest they price themselves out of the market for listings) and low cost to investors. Costs to investors include the commissions paid for stock or bond purchases but also “hidden” costs. Hidden costs include the lack of breadth (i.e., few traders), so the buyer must pay the higher ask price of the security (or the seller must accept the lower bid price). Another hidden cost is price pressure, which is another indicator of a market that lacks good liquidity. Price pressure occurs when a large trade moves the market (i.e., it causes the market price to change) before it can be fully executed. Professional traders learn to parcel out large trades into smaller trades and to work with several dealers or market makers to minimize price changes that occur because of the large size of the transaction. A market that can absorb such trades is a benefit to investors.

Security Transactions

Buying and selling securities is similar to buying and selling other items in a negotiated market. Whether you want to sell a house or a car, you have a price you are asking potential buyers to pay. Buyers of your house or car may not want to pay your price but will offer their own price, a bid, to see if you will agree to sell for a lower price. In security transactions, potential buyers place bid prices, as in an auction, and sellers have their ask prices.

A bid-ask spread is the difference between the highest price that a buyer is willing to pay for an asset and the lowest price that a seller is willing to accept. The narrower the spread, the more liquid the market and the quicker a transaction can be made.

Investors can place a number of different types of orders to buy or sell securities. To execute a trade, they need to contact a stock brokerage firm where they can set up an account. The investor can then specify the type of order to be placed as well as the number of shares to be traded in specific firms. Securities orders to buy and sell can be market, limit, or stop-loss orders.

1. Market Order

An order for immediate purchase or sale at the best possible price is a **market order**. A market **buy** order may **execute at a high price** or a market **sell** order may **execute at a low price**

2. Limit Order

In a limit order, the maximum buying price (limit buy) or the minimum selling price (limit sell) is specified by the investor. For example, if a commission broker has a limit buy order at 50 from an investor and other brokers have ask prices higher than 50, the order would not be filled at that moment. The broker will wait until a price of 50 or less becomes available. Of course, if the price of the stock progresses upward rather than downward, the order will not be completed. Limit orders may be placed to expire at the end of one day, one week, one month, or on a good-until-canceled basis.

Please note: A good 'til canceled (GTC) order is a buy or sell order that remains active until it is either executed or until the investor cancels it.

3. Stop-Loss Order

A stop-loss order is an order to sell stock at the market price when the price of the stock falls to a specified level. The stockholder may protect gains or limit losses due to a fall in the price of the stock by placing a stop-loss order at a price a few points below the current market price. For example, an investor paying \$50 for shares of stock may place a stop-loss order at a price of

\$45. If the price does fall to \$45, the commission broker sells the shares for as high a price as possible. This order does not guarantee a price of \$45 to the seller since by the time the stock is actually sold a rapidly declining stock price may have fallen to well below \$45. On the other hand, if the stock price does not reach the specified price, the order will not be executed.

These orders can be used to protect profits. If the stock increases in price after its purchase, the investor can cancel the old stop-loss order and issue a new one at a higher price. There is risk in placing a stop order. At times, security prices can be very volatile, with sharp price declines followed by quick price increases, and vice versa.

Other execution instructions concern the volume of the trade

All-or-nothing orders execute only if the whole order can be filled. Orders can specify the minimum size of a trade, which is beneficial when trading costs depend on the number of executed trades rather than the size of the order.

Trade visibility can also be specified. **Hidden orders** are those for which only the broker or exchange knows the trade size. These are useful for investors that have a large amount to trade and do not want to reveal their intentions

Traders can also specify display size, where some of the trade is visible to the market, but the rest is not. These are also referred to as **iceberg orders** because part of most of the order is hidden from view. They allow the investor to advertise some of the trade, with the rest of the trade potentially executed once the visible part has executed. **For the purpose of hiding the actual order quantity.**

Short Sale

A short sale is a sale of securities that the seller does not own. An investor will want to short a stock if she or he feels the price will decline in the future. Shares of the stock are borrowed by the broker and sold in the stock market. In the event that a price decline does occur, the short seller covers the resulting short position by buying enough stock to repay the lender. If any dividends are paid during the time the stock is shorted, the short seller must pay the dividends owed on the borrowed shares.

As an example, suppose Amy thinks AT&T's stock price will fall in the future because of intense competition in the telecommunications industry. She contacts her broker—for example, Merrill Lynch—and gives instructions to sell 100 shares of AT&T short. The broker, in turn, arranges to borrow the necessary stock, probably from another Merrill Lynch investor who has their stock in [street name](#), meaning they keep their stock certificates at the brokerage firm rather than taking personal possession of them. Having sold the borrowed stock, the brokerage house keeps the proceeds of the sale as collateral.

In our example, if the securities were sold at \$40, Merrill Lynch will keep the proceeds from the 100 shares, \$4,000, in Amy's account. Let's say the stock drops to a price of \$36 and Amy wants to cover her short position. She tells her broker to buy 100 shares, which costs her \$3,600. Merrill Lynch returns the newly purchased shares to the account from which they were borrowed. Amy sold \$4,000 worth of stock and purchased \$3,600 worth of stock after it fell in price; the difference, \$400, is Amy's profit, ignoring brokerage commissions. The person from whose account the shares were borrowed will never know that they were borrowed; Merrill Lynch's internal record keeping will keep track of all such transactions.

If the price of AT&T stock rises, the short seller must still cover her short position at some future time. If the price rises to \$45 a share and the position is closed, Amy will pay \$4,500 to purchase 100 shares to cover her position. Amy will suffer a loss of \$500 ($\$4,000 - \$4,500$) from her short sale.

Buying on Margin

Buying on margin means the investors borrow money and invest it along with their own funds in securities. The securities purchased in this way become collateral for the loan. The margin is the minimum percentage of the purchase price that investors must pay in cash. In other words, margin is the ratio of the investor's equity (own money) to the market value of the security. In order to buy on margin, the investor must have a margin account with the broker- age firm, which, in turn, arranges the necessary financing with banks. Margin trading is risky; it magnifies the profits as well as the losses from investment positions.

For example, suppose an investor borrows \$20,000 and combines it with \$30,000 of his own money to purchase \$50,000 worth of stocks. His initial margin is 60 percent (\$30,000 of his own money divided by the \$50,000 value of the securities). Should the market value of his stock rise 10 percent to \$55,000, the value of his equity rises to \$35,000:

Market value of securities:	\$55,000
Less: borrowed funds	\$20,000
Value of investor's position:	\$35,000

This increase in value to \$35,000 represents a gain of 16.7 percent (\$5,000/\$30,000). A 10 percent rise in the stock's value increased the value of the investor's position by 16.7 percent because of the use of margin.

Margin also magnifies losses. If the value of the securities falls by 10 percent to \$45,000, the value of the investor's equity would fall to \$25,000:

Market value of securities:	\$45,000
Less: borrowed funds	\$20,000
Value of investor's position:	\$25,000

This loss in value to \$25,000 represents a loss of 16.7 percent. A 10 percent fall in the stock's value decreased the value of the investor's position by 16.7 percent because of the use of margin. Should the value of the securities used as collateral in a margin trade begin to decline, the investor may receive a margin call from the brokerage firm. The investor will face a choice of either closing out the position or investing additional cash to increase the position's equity, or margin. If the market price of the pledged securities continues to decline and the investor fails to provide the new margin amount, the brokerage house will sell the securities. Under current Fed regulations, investors must have an initial margin of at least 50 percent when entering into a margined trade. The minimum maintenance margin to which the position can fall is 25 percent before the broker will have to close out the position. Depending upon the individual investor's creditworthiness, a brokerage firm can impose more stringent margin requirements.

The stock price which results in a margin call can be calculated by using the following formula

$$\text{margin call price} = P_0 \left(\frac{1 - \text{initial margin}}{1 - \text{maintenance margin}} \right)$$

where:

P_0 = initial purchase price

EXAMPLE 20

Margin Call Price

A trader buys stock on margin posting 40 percent of the initial stock price of \$20 as equity. The maintenance margin requirement for the position is 25 percent. Below what price will a margin call occur?

What Is a Market Index?

A market index tracks the performance of a certain group of stocks, bonds or other investments. These investments are often grouped around a particular industry, like tech stocks, or even the stock market overall, as is the case with the [S&P 500](#).

The **Standard and Poor's 500**, or simply the **S&P 500**, is a [stock market index](#) tracking the stock performance of 500 large companies listed on [stock exchanges](#) in the United States.

The EGX 30 Index is a **major stock market index which tracks the performance of 30 most liquid stocks traded on the Egyptian Exchange**.

6. Derivatives

Over the past 20 years, derivatives have emerged as an integral part of the financial markets. Derivatives are financial instruments whose value changes in response to changes in the value of related underlying assets that can also be bought, sold, and traded. Examples of derivative contracts include futures, options, and forward agreements, among others. There are derivatives on currencies, interest rates, equities, commodities, and the price of credit. The types of derivatives are the following:

- A **forward contract** is a nontransferable contract that defines the delivery of assets such as commodities, currencies, bonds or stocks at a specified price, at a specified quantity, on a specified future date. An example of a forward is discussed in Section 6.4.5. Forwards are traded in the over-the-counter (OTC) market.
- A **futures contract** is a standardized and transferable contract that defines the delivery of assets such as commodities, currencies, bonds, or stocks at a specified price, at a specified quantity, on a specified future date. Futures are traded on recognized exchanges.

■ **Options** convey certain rights to the buyer of an option. The two main types of options are a call option and a put option:

-A **call option** gives the buyer the right, but not the obligation, to buy a financial instrument from the seller of the option on or before a specified time (expiration date) for a specified price, called the strike price.

-A **put option** gives the buyer the right, but not the obligation, to sell a financial instrument to the seller of the option at a specified time (expiration date) for a specified price, called the strike price.

■ **Swaps** allow two parties to exchange cash flows with each other at a future date.

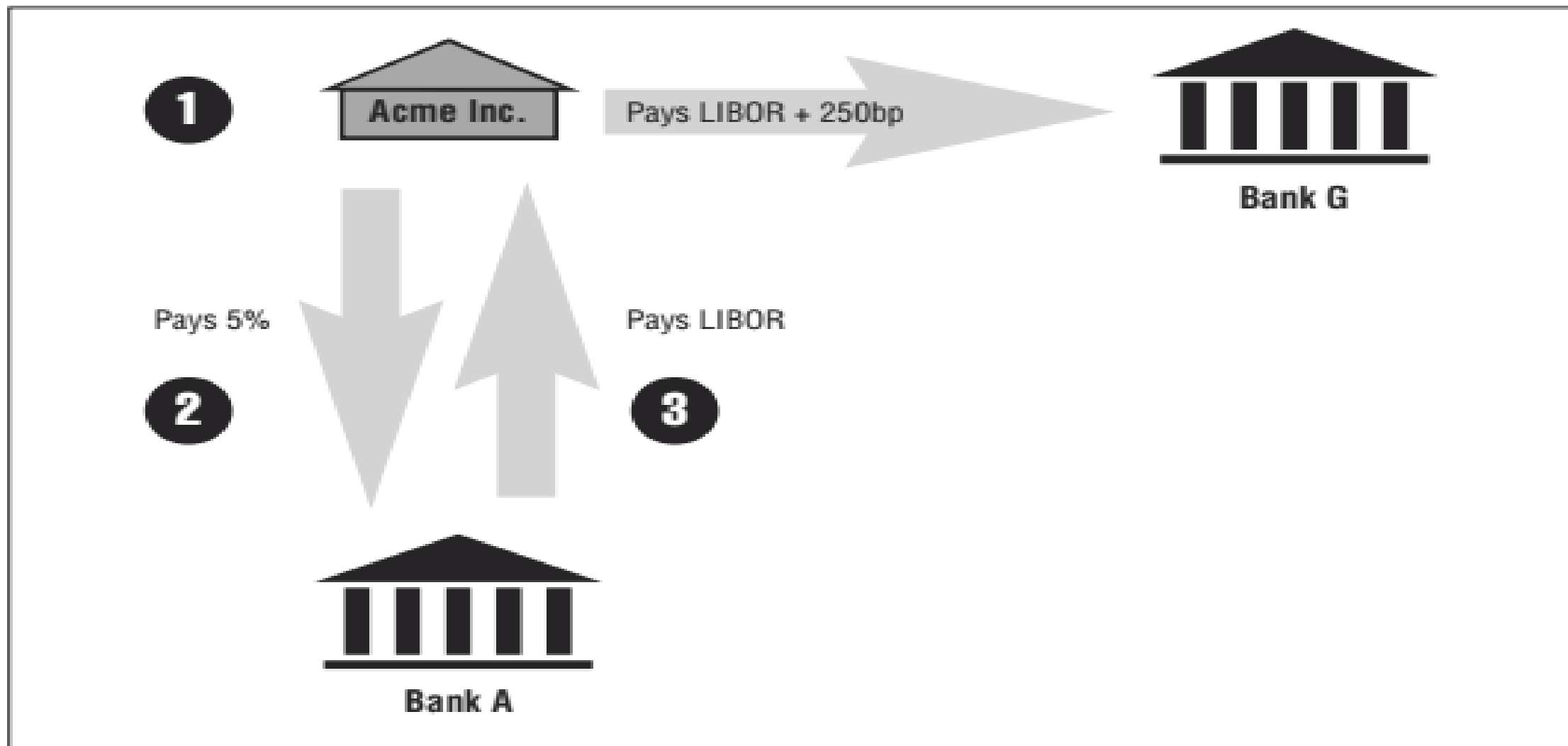


FIGURE 6.7 Payment Flows in a Swap