

CIFA SECTION 4

EQUITY INVESTMENTS ANALYSIS

STUDY NOTES

SECTION 4

PAPER NO. 10 EQUITY INVESTMENTS ANALYSIS

GENERAL OBJECTIVE

This paper is intended to equip the candidate with the knowledge, skills and attitude that will enable him/her to value and analyze equity investments

10.0 LEARNING OUTCOMES

A candidate who passes this paper should be able to:

- Undertake industry and company analysis
- Determine the value of equity securities
- Apply various models in valuing equity investments
- Calculate and interpret equity valuation multiples
- Undertake valuation of private companies

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CHAPTER ONE

OVERVIEW OF EQUITY MARKET AND STRUCTURE

Introduction

Equity market is one of the key sectors of financial markets where long-term financial instruments are traded. The purpose of equity instruments issued by corporations is to raise funds for the firms. The provider of the funds is granted a residual claim on the company's income, and becomes one of the owners of the firm.

For market participants equity securities mean holding wealth as well as a source of new finance, and are of great significance for savings and investment process in a market economy.

The **purpose of equity** is the following:

- A new issue of equity shares is an important source of external corporate financing;
- Equity shares perform a financing role from internally generated funds (retained earnings);
- Equity shares perform an institutional role as a means of ownership.

Within the savings-investment process magnitude of retained earnings exceeds that of the new stock issues and constitutes the main source of funds for the firms. Equity instruments can be traded publicly and privately.

External financing through equity instruments is determined by the following financial factors:

- The degree of availability of internal financing within total financing needs of the firm;
- The cost of available alternative financing sources;
- Current market price of the firm's equity shares, which determines the return of equity investments.

Internal equity financing of companies is provided through retained earnings. When internally generated financing is scarce due to low levels of profitability and retained earnings, and also due to low depreciation, but the need for long-term investments is high, companies turn to look for external financing sources. Firms may raise funds by issuing equity that grants the investor a residual claim on the company's income.

Low interest rates provide incentives for use of debt instruments, thus lowering demand for

new equity issues. High equity issuance costs force companies to look for other sources of financing as well. However, during the period of stock market growth high market prices of equity shares encourage companies to issue new equity, providing with the possibility to attract larger magnitude of funds from the market players.

Equity markets are markets which organize trading nationally and internationally in such instruments, as common equity, preferred shares, as well as derivatives on equity instruments

THE FUNCTIONS OF THE FINANCIAL SYSTEM

Helping People Achieve Their Purposes in Using the Financial System The financial system helps people:

1. Save money for the future.

Saving here means buying notes, CDs, bonds, stocks, mutual funds or real estate assets

2. Borrow money for current use.

This is the opposite of the first purpose above. Individuals, companies and governments may need money to spend now (consumption, investment, paying taxes, expenses etc).

3. Raise equity capital.

Companies can sell ownership rights to raise equity capital they need.

4. Manage risks.

People can use financial contracts to offset risks.

5. Exchange assets for immediate (in spot markets) and future (in the futures markets) deliveries.

6. Trade on information.

Information-motivated traders can (or they believe they can) use the financial system to earn a return in excess of the fair rate of return because they have information whose value declines over time (as it becomes recognized by other market participants).

FINANCIAL INTERMEDIARIES

Financial intermediaries are institutions that function as the line of communication between buyers and sellers in the financial system. Functioning as a middleman, a financial intermediary seeks to match investors who have specific financial goals with investments opportunities that can aid in the achievement of those goals.

A broker executes trade orders on behalf of a customer. A block broker helps fill larger orders. Investment banks help their corporate clients raise capital by issuing shares or bonds. They also help their corporate identify and acquire other companies. An exchange is like a market where stocks, bonds, options and futures, and commodities are traded. Most exchanges offer different categories of membership and regulate their members' behavior when trading on the exchange. They also regulate the issuers that list their securities on the exchange. Alternative trading systems (ATSs) are non-exchange trading venues that bring together buyers and sellers of securities. ATSs do not exercise regulatory authority over their subscribers and do not discipline subscribers other than exclusion from trading. For example, an electronic communication network (ECN) connects major brokerages and individual traders so that they can trade directly between themselves without having to go through a middleman. Dark pools are ATSs that don't display the orders which are usually very large.

Dealers

a dealer trades for its own accounts. Individual dealers provide liquidity to investors by trading the securities for themselves. They buy or sell with one client and hope to do the offsetting transaction later with another client.

In practice, most brokerages are in fact broker-dealer firms. That is, as a broker, the brokerage conducts transactions on behalf of clients, and, as a dealer, it trades on its own account.

Securitizers

Securitization is a structured finance process that distributes risk by aggregating assets in a pool (often by selling assets to a special purpose entity), then issuing new securities backed by the assets and their cash flows. The securities are sold to investors who share the risk and reward from those assets.

In most securitized investment structures, the investors' rights to receive cash flows are divided into "tranches": senior tranche investors lower their risk of default in return for lower interest payments, while junior tranche investors assume a higher risk in return for higher interest.

Financial intermediaries securitize many assets such as mortgages, car loans, credit card receivables, and banks loans.

Depository Institutions and Other Financial Corporations

They accept monetary deposits from savers and investors, and then lend these deposits to borrowers. Both the depositors and borrowers benefit from the services they provide. Depository institutions also provide other services such as transactions services, credit services, etc.

Insurance Companies

Insurance involves pooling funds from many insured entities (e.g. policyholders) in order to pay for relatively uncommon but severely devastating losses which can occur to these entities. The insured entities are therefore protected from risk for a fee. In other words, risks are transferred from these entities to the insurance company. The insurance company

connects customers who want to insure risks with investors who are willing to bear those risks. Insurance companies make money in two ways: Through underwriting, the process by which insurers select the risks to insure and decide how much in premiums to charge for accepting those risks; By investing the premiums they collect from insured parties.

Arbitrageurs

Arbitrage is the practice of taking advantage of a price difference between two or more markets (The law of one price). Simply put, it is the possibility of a risk-free profit at zero cost. Arbitrage is not simply the act of buying a product in one market and selling it in another for a higher

price at some later time. The transactions must occur simultaneously to avoid exposure to market risk, or the risk that prices may change on one market before both transactions are complete.

Arbitrage has the effect of causing prices in different markets to converge.

Settlement and Custodial Services

A clearinghouse is a financial institution that provides clearing and settlement services for financial and commodities derivatives and securities transactions. A clearinghouse stands between two clearing firms (also known as member firms) and its purpose is to reduce the risk of one (or more) clearing firm failing to honor its trade settlement obligations. A clearinghouse reduces the settlement risks by netting offsetting transactions between multiple counterparties, by requiring collateral deposits (a.k.a. margin deposits), by providing independent valuation of trades and collateral, by monitoring the credit worthiness of the clearing firms, and in many cases, by providing a guarantee fund that can be used to cover losses that exceed a defaulting clearing firm's collateral on deposit. Depositories or custodians hold securities on behalf of their clients.

Equity market transactions

Bid-ask spread

When a security is traded, a dealer, operating as a market-maker, quotes a price at which he/she is prepared to sell – the offer price – and a price at which he/she is willing to buy – the bid price. In the transaction the buyer pays the ask price and the seller receives the bid price. The ask price is always above the bid price.

The difference is called the bid–ask spread and is the profit of the dealer:

Spread = ask price – bid price.

The market bid-ask spread is the excess of the lowest ask price over the highest bid price and is normally smaller than the spreads of individual market-makers.

The bid-ask spread of dealer can be seen as the price to be paid by investors for his services. On the other hand, from the perspective of the dealer the spread can be seen as a compensation for his costs and risks. The dealer typically holds an inventory of securities during the day to be able to sell (and buy) immediately. From his return (i.e., the bid–ask

spread), the dealer has to cover the costs of holding his inventory (e.g., interest costs of financing the securities inventory) and the risks (e.g., prices may move while the securities are in the inventory).

From the perspective of investors, dealers (in their role as market-makers) provide two important services:

- possibility to execute a trade immediately from inventory, without having to wait for a counterparty to emerge.
- maintenance of price stability in the absence of corresponding sell or buy orders. By trading from their own stockholdings, dealers reduce price fluctuations.

The dealer costs include the administrative costs of transferring shares.

The dealer risks arise from price fluctuations and information-based investors.

For shares that are infrequently traded, such as shares in smaller companies, the risks are greater, because positions are held for longer periods between trades. If shares are held for a long time, the risk of losses from price falls is greater. As a result the bid-offer spreads for such shares tend to be relatively high.

Dealer risk is also related to the possibility of investors possessing information that the dealer does not. Such investors are able to make profit at the expense of the dealer. Investor can sell shares to the dealer at a high price, while he is informed about a possible fall of share price. As a result the dealer may suffer the loss from a fall in the share price. The bid-offer spread is to provide the dealer with compensation for bearing this kind of information risk.

Dealers have a possibility to negotiate special prices for large transactions. The spread can be broader for particularly large transactions (i.e., block trades) to cover the price risk of such block trades before the dealer can sell on (or buy) the bought (sold) securities to (from) other dealers in the market.

Thus the spread is influenced by the following factors:

- order costs – costs of processing orders, including clearing costs and costs of recording transactions;
- inventory costs – include the costs of maintaining an inventory of particular shares;
- competition – the larger the number of market makers, the greater their competition, and the narrower is the spread;
- volume – the larger the trading volume, the more liquid are the shares, the less risk of share price change;
- risk – the more risky are company operations, the more volatile are its shares, the higher spread is set.

Several research studies showed that bid-ask spreads on specific large stock exchanges are wider as they should be. Due to specific trading practice, market makers kept their profits margins wide. Some analysts called this phenomenon “under-the-table-payment” for **order flow** or the right to execute customers’ trades. Therefore it abuses small investors, who do not receive the best price for their quotes.

Placing order

An investor who wants to buy shares on a stock exchange has a possibility to submit different types of orders through a broker.

Market order is the simplest and most common. It requires that the shares should be traded at the most favorable price available. The most favorable price is the lowest obtainable price for a purchase, and the highest available price for a sale shares. The trade then takes place at a price that is currently available in the market.

Limit order places a limit on the price at which shares can be bought or sold. Thus it specifies purchase or sale of shares at maximum buying price or minimum selling price, respectively.

The outstanding limit-orders are generally listed in a limit-order book, which allows automatic trade matching. However in practice some possibility in setting the priority of orders remains. Limit orders remain on the limit order book until they are withdrawn by the investors, or until they can be executed as a result of new orders arriving.

Specific types of orders include:

- **Buy limit order (stop buy order)**, which specifies that the purchase should take place only if the price is at, or below, a specified level.
- **Sell limit order (stop loss order)**, which specifies a minimum selling price such that the trade should not take place unless that price, or more, can be obtained.
- **Market-if-touched order** becomes a market order if the share price reaches a particular level. It is different from a limit order as there is no upper limit to the purchase price, or lower limit to the selling price. As soon as trade in the market happens at the specified price, the order becomes a market order. However, the specified price is not necessarily obtained.
- **Stop order** is also an order that becomes a market order if there is a trade in the market at a particular price. However it involves selling of shares after the price has fallen to a specified level, or buying after the price has risen to a level. Stop orders are aimed at protecting market participants’ profits, or limiting their losses. They seek to ensure that a selling price is not too low, or that a buying price is not too high.
- **Fill-or-kill order** is to be cancelled if it cannot be executed immediately.
- **Open order, or good-till-cancelled order**, remains in force until it is specifically cancelled by the investor.

Investors can also specify the period of time for which the order should remain open, e.g. a day, a week, or a month.

Margin trading

Investors can borrow cash to buy securities and use the securities themselves as collateral. A transaction in which an investor borrows to buy shares using the shares themselves as collateral is called **margin trading** or **buying on margin**.

The funds borrowed to buy the additional stock are provided by the broker, who in his turn borrows from a bank. The interest rate that bank charges broker for funds for this purpose is called the **broker call rate** or **call money rate**. The broker charges the borrowing investor the call money rate plus a service charge.

Stock exchange regulations set **margin requirement**, which does not allow brokers to lend more than a specified percentage of the market value of the securities. The aim of margin requirement is to discourage excessive speculation and ensure greater stability in the markets. Margin requirement has to ensure that investors can cover their position in case the value of their investments into shares reduces. In such a way the possibility of default on broker loans should be reduced.

In order to purchase shares on margin investors have to create an account with a broker, which is called a margin account. The initial deposit of cash is called **initial margin**.

Stock exchange regulations set **initial margin requirement**, which is the proportion of the total market value of the securities that the investor must pay as an equity share, and the remainder is borrowed from the broker.

As time passes, the market value of the shares is changing. The investor's equity position then represents the value of shares, which is left to the investor after the loan from the broker is paid back. In order to reduce the possibility of default, the stock exchange regulation rules establish a **maintenance margin requirement**. This is the minimum proportion of the equity in the investor's margin account to the total market value.

The use of borrowed funds for investments into shares can magnify the returns on the investment. However, when borrowed funds are used, any losses are also magnified.

The return from the investment into securities is influenced by the proportion of the investment that comes from borrowed funds.

The return on stock purchased on margin is defined:

$$r = (SP - INV - L + D) / INV$$

where SP – is the selling price of securities, INV – is initial investment by investor not including borrowed funds, L – loan payments on borrowed funds including principal and interest payments, D – dividend payments on the security.

If the investor's margin account falls below the minimum maintenance margin (which would happen if the share's price fell), the investor is required to transfer additional cash. The investor receives a **margin call** from the broker specifying the additional cash to be put into the investor's margin account. If the investor fails to put up the additional cash, the broker has the authority to sell the securities for the investor's account. Because of potential margin calls, a large volume of margin lending exposes the stock market to potential crisis. When a sudden huge downturn in the market happens, many margin calls are submitted. This may force investors to sell their share holdings, if they do not have sufficient cash to transfer in order to reach required maintenance margin. Such sales place additional downward pressure on share prices and magnify the negative effect in the market.

Short selling

In a short selling, investor place an order to sell a security that is not owned by the investor at the time of sale. Investors sell the stock short (or short the stock) when they expect decline of the stock price.

They arrange to have their broker borrow the stock from other investor, and the borrowed stock is delivered to implement the sale. To cover their short position, investors must subsequently purchase the stock and return it to the party that lent the stock. Thus investor, who owns the stock is unaffected when his shares are borrowed, are not aware about the fact that their shares were borrowed.

If the stock price declines by the time the short-seller purchases it in the market in order to return to the investor, from whom he has borrowed, the short seller earns a profit from the difference between the initial selling price and the subsequent purchase price of the stock. However, his profit will be less, if he has to pay to the investor, from whom he has borrowed the stock, dividends which the investor would have received if he had not borrowed the stock.

The risk of a short sale is that the stock price may increase over time, which forces the short-seller to pay a higher price for the stock than the price at which it was initially sold.

Stock markets and financial analysts provide information on level of short sale. Several indicators are used to measure the short position on stock:

- **a degree of short positions.** It is a ratio of the number of shares that are currently sold short, divided by the total number of shares outstanding. Statistics shows, that most often this measure is in the range of 0,5-2%. A high measure of 3% shows a large number of short positions in the market, which may indicate that a large number of investors expect the stock price to decline.
- **Short interest ratio** for specific shares. It is the number of shares which are currently sold short, divided by the average daily trading volume over the recent period. The higher the ratio, the higher the level of short sales. The ratio of 20 or more reflects an unusually high level of short sales, indicating that many investors believe that the stock price is currently overvalued. For some stock this ratio may exceed 100 at particular points in time.
- **Short interest ratio** for the market. The higher the ratio, the higher the level of short selling activity in the market overall.

FOR FULLNOTES

Investors, who have established a short position, quite often request a stop-buy order to limit their losses.

Margin buying

This is an arrangement where a broker borrows money from the bank to buy securities on behalf of an investor. The interest rate the bank charges the broker is known as call money rate/broker loan rate.

The broker charges the investor the call money rate plus a service charge. The broker is not free to lend as much as he wishes to the investor so as to purchase securities.

Calculating Margins

Placing trades can feel overwhelming if you don't understand **the importance of calculating margin**. A margin allows you to buy securities by borrowing money. The margin is the difference between the market value of a stock and the loan amount.

Calculating Margin Requirements

To calculate the margin required for a long stock purchase, multiply the number of shares X the price X the margin rate. The margin requirement for a short sale is the regular margin requirement plus 100% of the value of the security.

$$\textit{Margin Requirement} = \textit{shares} \times \textit{price} \times \textit{margin rate percentage}$$

Examples:

Long Stock

Purchase 1,000 shares of a stock at \$50 with margin rate of 30%. The margin requirement would be:

$$1,000 \textit{ shares} \times \$50 \times 30\% \textit{ margin rate} = \$15,000$$

This is the minimum required amount of cash or excess margin that must be in the account before a buy order can be entered.

Since 30% is the margin rate, TD Direct Investing is lending the account holder 70% of the trade value.

$$\textit{Maximum loan value is } 1,000 \textit{ shares} \times \$50 \times 70\% = \$35,000$$

Short Stock

Short sell 500 shares of a 50% marginable stock priced at \$10.00. The margin requirement is 150%. Note: 100% of the margin requirement is generated from the sale of the security. Therefore, the additional initial margin requirement is 50%, the same amount required in order to accept the trade if you were purchasing the stock.

$$500 \textit{ shares} \times \$10.00 \times 50\% = \$2,500$$

The total margin requirement to hold the position, including the 100% of the proceeds from the short sell, is calculated as follows:

$$500 \textit{ share} \times 10.00 \times 150\% = \$7,500$$

Buying on Margin and Maintenance Margin:

The Process of Buying Stock on Margin

buying a stock on margin is essentially using credit to purchase stock shares, much like using a credit card. A brokerage firm lends money to an investor to buy stocks. The brokerage firm

will charge interest on the money it lends. The Federal Reserve Board has placed limits on margin buying. Currently the initial margin requirement (the required equity position to enter into a margin transaction) is 50%, meaning the investor must provide at least 50% of the amount of funds needed to enter into the trade. The brokerage firm will provide the remainder of the funds. The brokerage firm will then hold the securities that are bought as collateral.

If the stock goes up after it is purchased, the investor's profit will be magnified given the stocks purchased on margin. However, if the stock goes down, the losses are then magnified.

Example 1:

Determine the return on a margin trade

Assume that an investor purchased 500 shares of Newco's stock. The shares were trading at \$50 when the transaction was executed. Assume the investor was able to sell the shares for \$100. To determine the effect of the leverage with purchasing the shares on margin, compute the return on the transaction if

- (1) No margin was used and
- (2) 70% initial margin requirement was used.

Assume no transaction costs.

Answer:

1) No margin was used

If no margin was used, the initial cash outlay for the shares was \$25,000 (500 shares at \$50). The investor then sold the shares for \$50,000 (500 shares at \$100).

The return on the trade was thus $(\$50,000/\$25,000) - 1 = 100\%$.

2) 70% initial margin requirement

given the initial margin requirement of 70%, the investor would need an initial cash outlay of \$17,500 ($\$25,000 \times 70\%$). The investor borrowed \$7,500 ($\$25,000 \times 25\%$) from the brokerage firm to complete the transaction.

The investor was then able to sell the shares for \$50,000 (500 shares at \$100). The investor then repays the amount borrowed of \$7,500 and the remaining position would be equal to \$42,500 ($\$50,000 - \$7,500$).

The return on the trade was thus $(\$42,500/\$17,500) - 1 = 142.9\%$.

As shown in the examples above, the investor was able to magnify his returns by buying stock on margin.

Calculating return on investment (ROI)

Buying stock on margin gets you more bang for your buck on your investment. You put up only a portion of the purchase price and your broker lends you the rest. Because you acquire more stock without paying the full cost, your gains and losses are magnified. You can calculate your return on investment to analyze the effects of using margin. ROI measures your total profit or loss as a percentage of your initial investment. Using margin increases your ROI if your stock rises, but causes a lower negative ROI if your stock drops.

Step 1

Multiply the number of shares you bought by the price you paid per share to figure the total cost. For example, Assume you bought 100 shares of a \$10 stock.

Multiply 100 by \$10 to get a \$1,000 cost.

Step 2

Multiply the percentage of the cost you paid for with your own money by the amount of the cost to determine your cash investment. In this example, assume you paid 50 percent toward the cost.

Multiply 50 percent, or 0.5, by \$1,000 to get a \$500 cash investment.

Step 3

Multiply the number of shares by the price for which you sold the stock to determine the total sale amount. In this example, Assume you sold the stock for \$12 per share.

Multiply \$12 by 100 to get a \$1,200 sale amount.

Step 4

Subtract the total cost from the total sale amount. Continuing the example,

subtract \$1,000 from \$1,200 to get \$200.

Step 5

Subtract the interest and commissions you paid your broker from your result and add any dividends you received to calculate your profit or loss. A negative result represents a loss. In this example, assume you paid \$25 in interest on the borrowed money, paid \$20 in commissions and received \$3 in dividends.

Subtract \$25 and \$20 from \$200 to get \$155. Add \$3 to \$155 for \$158 in profit.

Step 6

Divide your profit or loss by your cash investment and multiply your result by 100 to calculate your return on investment as a percentage. Concluding the example,

Divide \$158 by \$500 and multiply by 100 to get a 31.6 % ROI.

This means you generated profit equal to 31.6 percent of your \$500 cash investment. Without margin, your ROI would've been only 15.8 percent, or \$158 divided by the full \$1,000 cost.

NOTE:

If stock purchased on margin drops, you might lose more money than you initially invested. If your stock drops to a certain price, your broker might require you to deposit more cash into your account, or it might automatically sell your stock without notice.

What is Maintenance Margin?

A maintenance margin is the required amount of securities an investor must hold in his account if he either purchases shares on margin, or if he sells shares short. If an investor's margin balance falls below the set maintenance margin, the investor would then need to contribute additional funds to the account or liquidate stocks in the account to bring the account back to the initial margin requirement. This request is known as a margin call.

As discussed previously, the Federal Reserve Board sets the initial margin requirement (currently at 50%). The Federal Reserve Board also sets the maintenance margin. The maintenance margin, the amount of equity an investor needs to hold in his account if he buys stock on margin or sells shares short, is 25%. Keep in mind, however, that this 25% level is the minimum level set, brokerage firms can increase, but not decrease this level as they desire.

Example: Determining when a margin call would occur.

Assume that an investor had purchased 500 shares of Newco's stock. The shares were trading at \$50 when the transaction was executed. The initial margin requirement on the account was 70% and the maintenance margin is 30%. Assume no transaction costs. Determine the price at which the investor will receive a margin call.

Answer:

Calculate the price as follows:

$$\frac{50 (1 - 0.70)}{1 - 0.30} = 21.43$$

A margin call would be received when the price of Newco's stock fell below \$21.43 per share. At that time, the investor would either need to deposit additional funds or liquidate shares to satisfy the initial margin requirement.

Primary equity market

When equity shares are initially issued, they are said to be sold in the **primary market**. Equity can be issued either privately (unquoted shares) or publicly via shares that are listed on a stock exchange (quoted shares).

Public market offering of new issues typically involves the use of an investment bank in a process, which is referred to as the *underwriting of securities*.

Private placement market includes securities which are sold directly to investors and are not registered with the securities exchange commission. There are different regulatory requirements for such securities.

In the private equity market, venture capital is often provided by investors as 'start-up' money to finance new, high-risk companies in return for obtaining equity in the company.

In general private placement market is viewed as illiquid. Such a lack of liquidity means that buyers of shares may demand a premium to compensate for this unappealing feature of a security.

Primary public market

Initial public offering (IPO) means issuing public equity, i.e. when a company is engaged in offering of shares and is included in a listing on a stock exchange for the first time. It allows the company to raise funds from the public.

If a company is already listed and issues additional shares, it is called **seasoned equity offering (SEO)** or **secondary public offering (SPO)**. When a firm issues equity at a stock exchange, it may decide to change existing unquoted shares for quoted ones. In this case the proceeds from sale of shares are received by initial investors. However, when a company issues newly created shares, the raised funds are received by the company.

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Process of going public. The issuing company has to develop a prospectus with detailed information about the company operations, investments, financing, financial statements and notes, discussion on the risks involved. This information is provided to potential investors for making decision in buying large blocks of shares. The prospectus is registered within and approved by the securities exchange commission. Afterwards the prospectus is sent to institutional investors, meetings and road shows are organized in order to present the company.

Share issues are often underwritten by banks. A bank, which is underwriting a share issue agrees, for a fee, to buy any shares not acquired by investors. This guarantees that the issuing company receives the funding that it expects. In the case of rights issues, firms sometimes avoid paying a fee to underwriters by using the deep discount route. In a rights issue, failure to sell the new shares would result from the share price (prior to the issue) falling below the sale price of the new shares.

The deep discount method prices the new shares at such a low level that the market price is extremely unlikely to fall so far.

The share offer price is determined by the lead underwriter, which takes into account the prevailing market and industry conditions. During the road show the lead underwriter is engaged in **bookbuilding**, i.e. a process of collecting indications of demanded number of shares by investors at various possible offer prices.

IPO factors. Public equity markets play a limited role as a source of new funds for listed corporations. Because of information asymmetry, companies prefer internal financing (i.e., retained earnings) to external financing. Myers and Majluf (1984) have introduced the pecking-order theory, which states that companies adopt a hierarchy of financial preferences. If external financing is needed, firstly, companies prefer debt funding. Equity is issued only as a last resort. Statistics on company sources of financing support this view. On the other hand, during equity markets growth and share price increase periods IPO market tend to increase dramatically, while the drop in share prices is followed by decrease in net issuance of public equity. A large number of the issues in the late 1990s were ‘new economy’ offerings, like the technology, media, and telecommunications sector.

It is to be expected that the rights issue would cause the
share price to fall by
 $200 \text{ Euro} - 192 \text{ Euro} = 8 \text{ Euro}.$

Among other factors the economic cycle is considered to play a significant role in a company’s decision to issue public equity. Equity is often used to finance long-term investments, which fluctuate over the business cycle. Shiller (2003) has related the timing of equity issuance with investor sentiment. Developments in investor optimism over time may have an impact on the cost of equity, thus influencing the amount of equity issued. E.g., excessive increases in risk aversion resulting in falling stock market prices could

raise the cost of equity, preventing companies from new equity issues. Companies also issue equity in order to finance the acquisition of other companies, either by using the cash proceeds of public offerings or by issuing shares, which are subsequently exchanged for the shares of a target company. Therefore merger and acquisition (M&A) cycles can also be expected to correlate with equity issuance activity.

There are important **advantages and disadvantages of initial public offerings (IPOs)**.

Advantages of IPOs:

- Possibility to obtain funds to finance investment.
- The price of a company's shares acts as a measure of the company's value.
- Increases of company financial independence (e.g. from banks) due to listing of a company's shares on a stock exchange.
- Possibility to diversify investments of current company owners by selling stakes in the company in a liquid market.
- Increased recognition of the company name.
- Improved company transparency.
- A disciplining mechanism for managers.

Disadvantages of IPOs:

- High issuance costs due to underwriters' commission, legal fees, and other charges.
- High costs due to disclosure requirements.
- Risk of wider dispersed ownership.
- Separation of ownership and control which causes 'agency problems'.
- Divergence of managers' and outside investors' interests.
- Information asymmetry problems between old and new shareholders.
- Risk of new shareholders focusing on short-term results.

1 right each 40 Euro equals to 40 Euro

Thus, 2 shares cost 240 Euro (120 Euro each)

Therefore, instead of exercising the right to buy at the discounted price an investor could sell the rights. In the one for one case, the rights might be sold for

$120 \text{ Euro} - 40 \text{ Euro} = 80 \text{ Euro}$

Note that the one for four rights issue at 160 Euro would raise the same amount of money as the one for one rights issue at 40 Euro (the latter involves selling four times the number of shares at a quarter of the price).

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IPO market has received negative publicity due to several problems:

Spinning. Spinning occurs, when investment bank allocates shares from an IPO to corporate executives. Bankers' expectations are to get future contracts from the same company.

Laddering. When there is a substantial demand for an IPO, brokers encourage investors to place the first day bids for the shares that are above the offer price. This helps to build the price upwards. Some investors are willing to participate to ensure that the brokers will reserve some shares of the next hot IPO for them.

Excessive commissions. These are charged by some brokers when the demand for an IPO is high. Investors are willing to pay the commissions if they can recover the costs from the return on the very first day, especially when the offer price of the share is set significantly below the market value.

The literature contains strong evidence that IPOs on average perform poorly over a period of a year or more. Thus from a long term perspective many IPOs are overpriced. Since introduction of Sarbanes-Oxley Act in US, which aimed at improving company reporting processes and transparency, initially returns from IPOs in general have been lower.

Secondary equity market

Equity instruments are traded among investors in a **secondary market**, in which no new capital is raised and the issuer of the security does not benefit directly from the sale.

Secondary markets are also classified into **organized stock exchanges** and **over-the-counter (OTC) markets**.

Apart from legal structure, numerous historical differences are found in the operations of national stock markets. The most important differences are in the trading procedures.

The trading on secondary markets takes place among investors, however most often through specialised intermediaries - stock brokers (dealers), who buy or sell securities for their clients.

Securities' trading in the secondary market form the means by which stocks or bonds bought in the primary market can be converted into cash. The knowledge that assets purchased in the primary market can easily and cheaply be resold in the secondary market makes investors more prepared to provide borrowers with funds by buying in the primary market. Effective secondary market is an important basis of successful primary market.

If transaction costs are high in the secondary market the proceeds from the sale of securities will be reduced, and the incentive to buy in the primary market would be lower. Also high transaction costs in the secondary market might tend to reduce the volume of trading and thereby reduce the ease with which secondary market sales can be executed. Therefore high transaction costs in the secondary market could reduce primary market asset liquidity. In consequence there can be adverse effects on the level of activity in the primary market and hence on the total level of investment in the economy.

Organized exchanges

Stock exchanges are central trading locations, in which securities of corporations are traded. These securities may include not only equity, but also debt instruments as well as derivatives.

Equity instruments can be traded if they are listed by the organized exchange, i.e. included in a stock exchange **trading list**. The list is formed of instruments that satisfy the requirements set by the exchange, including minimum earnings requirements, net tangible assets, market capitalization, and number and distribution of shares publicly held. Each stock exchange specifies the set of requirements.

Advantages of listing on the stock exchange to the corporation and its shareholders are:

- The ability to sell shares on the stock exchange makes people more willing to invest in the company.
- Investors may accept a lower return on the shares and the company can raise capital more cheaply.
- Stock exchange provides a market price for the shares, and forms basis for valuation of a company.
- The information aids corporate governance, allows monitoring the management of the company.
- Listing makes takeover bids easier, since the predator company is able to buy shares on the stock market.
- The increased transparency may reduce the cost of capital.

However there are several **disadvantages of listing**, which include:

- Listing on the stock exchange is costly for the company.
- It requires a substantial amount of documentation to be prepared, e.g. audited and prepared according to IFRS financial statements.
- It increases transparency, which may cause problems in terms of market competition and in takeover cases.

Stock market **dealers and brokers** fulfill specific functions at the equity market. Dealers make market in securities, maintain securities inventories and risk their own funds. In contrast to dealers, who risk their own funds, brokers do not own securities, but execute matching of buyers and sellers for a specific fee.

Dealers stand ready to buy at the bid price and to sell at the ask price, and making profit from the average spread. However, when the stock prices are going down, dealers experience loss of value of stock inventory. This forms the primary risk for the dealer.

In order to profit from different price movements directions dealers make **positioning**.

- If the dealer expects the stock prices to increase, it buys the stock and takes a **long position**. Profit is earned, if the stock is sold at a higher price.

- If a dealer expects the stock price to decline, he tries to benefit from a **short position**. In a short sale the security is borrowed and sold in the expectation of buying this security back later at a lower price. The investor tries to sell high and buy low, profiting from the difference. Proceeds from a short sale cannot be used by the shortseller, and must be deposited at the broker. The shortseller must pay any cash dividends to the lender of the security. This rule is related to the amount of drop in stock prices by approximately the after-tax amount of a cash dividend after the dividend payment date. Stock exchanges apply downstick restrictions on short sales in order to prevent from panic selling and driving stock prices sharply down.

If the dealer's forecast is wrong, the dealer must close the position at unfavorable price and absorb the loss. This creates the risk of dealer bankruptcy, and forces stock exchanges as well as securities exchange commissions to impose the specific regulations in order to prevent this type of price manipulations.

Security dealers are heavily **levered**. Typically the dealer's equity forms a small percentage of the market value of his inventory. Most dealers financing is in the form of debt (e.g. bank loan). Majority of dealer debt financing is in the form of repurchase agreements (REPO, see chapter on Money markets).

There are several types of **stock exchange members**:

- **Commission brokers** – who execute buy and sell orders for the public for the fee. This is the largest group of market participants, acting as agents of lenders or buyers of financial securities. They may find the best price for someone who wishes to buy or sell securities.
- **Odd-lot brokers** – a group of brokers, who execute transactions of fewer than 100 shares. These brokers break round lots (a multiple of 100 shares) into odd-lots and vice versa for a fee.
- **Registered trader** – who owns a seat on a stock exchange and trades on his own account. Large volume of trades, along with the possibility of speedy execution of orders, allow the traders to cover their large investments into the seat of a stock exchange.
- **Specialists** – who are market makers for individual securities listed on an organized stock exchange. Their purpose is to reduce variability of the securities prices. When there are too many sell orders, the specialists have to perform a role of buyers to keep the prices from falling for a period. When there are too many buy orders, the specialists have to perform a role of sellers to prevent the temporary rise in prices.
- **Issuing intermediary** - who undertakes to issue new securities on behalf of a borrower. An issuing house acts as an agent for the borrower in financial markets. This task is usually carried out by investment banks
- **Market-maker** is an intermediary who holds stock of securities and quotes a price at which each of the securities may be bought and sold. Market-making is usually performed by the securities divisions of the major banks
- **Arbitrageur** - who buys and sells financial assets in order to make a profit from

pricing anomalies. Anomalies occur when the same asset is priced differently in two markets at the same time. Since financial markets are well informed and highly competitive, usually these anomalies are very small and do not last long. Anomalies are usually known, thus there is no risk of arbitrage, which makes it different from speculation.

- **Hedger** - who buys or sells a financial asset to avoid risk of devaluation of currency, change of interest rates or prices of the securities in the market.

Stock exchanges set quite high **commissions** for all member firms. The competition from other types of markets, e.g. OTC or third market (direct trading transactions), force stock exchanges to move to negotiated commission schedule, where lower fees can be applied to larger transactions.

Majority of transactions at the stock exchanges are fully automated. Small buy and sell orders are matched by computers.

Over-the-counter (OTC) market

Over-the-counter (OTC) market is the marketplace for trading financial instruments, which are generally unlisted financial instruments. These markets are networks of dealers, who make markets in individual securities. Common equity shares that are traded on it can be listed and unlisted shares.

Two large **segments of OTC markets** can be distinguished:

- **Unorganized OTC markets** with unregulated trading taking place between individuals. Typically these markets do not restrict possibilities to buy and sell outside of organized exchanges.
- **Highly organized and sophisticated OTC markets**, often specializing in trading specific company shares. Examples of organized over-the-counter markets are the NASDAQ and upstairs markets in the United States. Trading takes place via a computer network. Market makers display the prices at which they are prepared to buy and sell, while investors trade with the market makers, usually through brokers. *The upstairs market* is mainly used by institutional investors and handles large buy and sell orders (block trades). Institutions place orders through brokers, who attempt to find a transaction counterparty. In the absence of such a counterparty, the broker attempts to execute the order with market makers.

Electronic stock markets

Since the middle of 1990s a number of electronic stock markets were created for disclosing and executing to all transactions electronically. While publicly displaying buy

and sell orders of stock, they are adapted mainly to serve execution of orders institutional investors mainly. Registered and regulated electronic stock exchanges developed from electronic communication networks (ECN). Some **electronic communication networks (ECNs)** exist along with official exchanges.

The popularity of ECNs stems from the possibility to execute security trade orders efficiently. They may allow complete access to orders placed on other organized or electronic exchanges, and thus eliminate the practice of providing more favourable quotes exclusively to most important clients. As a result quote spreads between the bid and ask prices are reduced.

Since ECNs can execute orders of stocks listed and traded on organized or other electronic exchanges, they form the increasing competition among the stock exchanges. Examples of well known electronic trading systems include Instinet (acquired by NASDAQ), Archipelago (merged into NYSE), SETS (London Stock Exchange's premier electronic trading system).

As an alternative to organized stock exchanges the so called **alternative trading systems (ATS)** have developed, based on the idea there is no necessity to use an intermediary in order to conduct a transaction between two parties. In fact the services of a broker or a dealer are not required to execute a trade. The direct trading of stocks between two customers without the use of a broker or an exchange is called an ATS.

There are two types of **alternative trading systems (ATS)**:

- crossing networks;
- Dark pools.

Electronic crossing networks do not display quotes but match large buy and sell orders of a pool of clients (dealers, brokers, institutional investors) anonymously. These networks are batch processors that aggregate orders for execution. Market orders are crossed once or a few times per day at prices, which are determined in the primary market for a security.

The trade price is formed as a midpoint between bid and ask prices, observed in the primary market at a certain time. There is a variety of ECNs, depending upon the type of order information that can be entered by the subscriber and the amount of pretrade transparency that is available to participants. An example of an electronic crossing network is POSIT.

Electronic crossing networks provide low transaction costs and anonymity, which are important advantages for large orders of institutional investors. They are specifically designed to minimize market impact trading costs.

However, there is no trading immediacy, since the traders have to wait until the crossing session time to execute the orders and an offsetting order entered by other market participant. Thus their execution rates tend to be low. Besides, if they draw too much order

flow away from the main market, they can reduce the quality of the prices on which they are basing their trades.

Dark pools are private crossing networks, which perform the traditional role of a stock exchange and provide for a neutral gathering place at the same time. Their participants submit orders to cross trades at prices, which are determined externally. Thus they provide anonymous (“dark”) source of liquidity.

Dark pools are electronic execution systems that do not display quotes but execute transactions at externally provided prices. Buyers and sellers must submit a willingness to transact at this externally provided price in order to complete a trade.

The key advantage of dark pools systems is that they are designed to prevent information leakage and offer access to undisclosed liquidity.

A separate form of computerized trading is **program trading**, which is defined as simultaneous buying and selling of a large portfolio of high rated stocks with a significant aggregate value. Another understanding of programme trading refers to the use of computer system (Designated order turnaround (DOT)), which allows traders to send orders to many trading posts at the exchange. Program trading is used to reduce the susceptibility of stock portfolio to stock market movements, e.g. by selling a number of stocks which become overpriced, or by purchasing of stocks which become underpriced.

The critics of program trading state that it is one of the major reasons for decline or rise in the stock market and increases market volatility. Due to these concerns, stock exchanges implement *collars*, which restrict program trading when a wide stock index changes (e.g. by 2 percent) from the closing index on the previous trading day. When the collars are imposed, program trading for the sell orders becomes allowed when the last movement in the stock price was up (or “uptick”). Conversely, when program trading is for the buy orders, it becomes allowed when the last movement in the stock price was down (or “downtick”). Such restrictions are supposed to half stabilizing effect on the market.

Secondary equity market structure

Secondary markets are characterized based on the trading procedures.

Cash vs forward markets

Cash markets are markets where stocks are traded on a cash basis and transactions have to be settled within a specified few days period. Typical period is three days after the transaction.

In order to increase the number of trades most cash markets allow **margin trading**. Margin trading allows the investor to borrow money or shares from a broker to finance the transaction.

Forward markets are markets in which in order to simplify the clearing operations, all transactions are settled at a predetermined day, or at the end of a period (month). This is

a periodic settlement system, in which a price is fixed at the time of the transaction and remains at this value in spite of market price changes by the settlement time. In order to guarantee a position, a deposit is required. Such a system does not prevent short-term speculation. Some cash markets provide institutionalized procedures to allow investors to trade forward, if they desire.

Continuous markets and auction markets

Continuous markets are markets where transactions take place all day and market makers are ensuring market liquidity at moment.

Dealer market is the market in which dealers publicly post bid and ask prices simultaneously, and these become firm commitments to make transaction at the prices for a specific transaction volume. Investors are addressing the dealers offering the best price (quote).

Auction market is a market in which the supply and demand of securities are matched directly and the price is formed as an equilibrium price.

An **open outcry** system allows brokers to negotiate loudly until price, which is equilibrium of buy and sell orders, is determined.

In a **call auction** market all orders are put into an order book until an auction and are executed at a single price. Liquidity requires that such trades take place one or several times during a day. Such trading procedures are aimed at defining the auction price that maximizes the trading volume.

Order-driven markets and quote-driven markets

The mechanism by which buyers and sellers interact to determine price and quantity of securities in the trade is called **market structure**.

There are two overall market structures for trading financial instruments:

- order driven and
- Quote driven.

Order-driven market structure allows buyers and seller orders submit their orders through their broker. The latter sends these orders to a centralized location, where orders are matched and the transaction is executed.

There are different forms of order-driven markets. In *call markets*, the price is determined several times at specified moments. In that way, orders can be collected and the auction takes place at the specified time. This type of auction is widely used for initial public offerings of equity (and new issues of government debt). The call market mechanism has disappeared in secondary markets for bonds and equity, and has been replaced by continuous trading systems. In *continuous auction markets*, public investors send their instructions ('orders') to buy or sell to brokers.

Typically order-driven trading systems are computerized. If not all orders at a price can be executed, a priority is given to the oldest order. Order driven markets are highly formalised as the auction rules for matching trades have to be specified in great detail to ensure an orderly and fair trading process.

Advances in information technologies have supported the development of order-driven markets, in particular for equity trading. The combination of smart trading rules (software) with fast computers (hardware) allows an almost instantaneous matching of orders.

A group of stock exchanges worldwide (e.g. Paris, Frankfurt stock exchanges) use electronic order-driven systems, which allow all limit orders to be stored in the central order book. A new arriving order is immediately matched with the previously submitted orders from the order book. The trader can view all submitted orders and foresee what trades will be executed if a new order is entered. The highest limit order and the lowest limit order are in fact the bid and ask prices of the market. One of the examples of trading platform of the order-driven system is XETRA, used by Frankfurt stock exchange.

Quote-driven market structure is the one, in which market makers or dealers quote the prices at which the public market participants are trading. Market makers provide a *bid quote* (to buy) and an *ask quote* (to sell). Market makers or dealers earn profit from the spread between the two quotes and the turnover of the shares.

Anyone who wants to trade in a quote-driven market must trade with a dealer. Either the investors negotiate with the dealers themselves or their brokers negotiate with the dealers.

Quote-driven markets require little formal organisation, however require mechanisms for publishing the dealers' price quotations and for regulating the conduct of dealers. Stock exchanges usually provide the dealers or market makers with privileged access to certain administrative procedures or market information. In return for these privileges, dealers have particular obligations, i.e. to quote 'firm' bid and ask prices at which they guarantee to make trades of up to specified volumes.

A typical quote-driven system is applied by NASDAQ, in which an automated system posts firm stock quotes of the dealers, who place equivalent buy limit orders and sell limit orders. However, when posting the quotes, the dealers do not know, which trades will be generated.

Hybrid markets

Hybrid market structures are the ones, which have elements of, for example, quote-driven and order-driven market structures.

A market that integrates traditional floor trading with electronic auction trading has been developed by NYSE (US). Another example is Euronext, which uses an order-driven trading system with a centralised electronic order book. Euronext also enables small and medium-sized listed companies to hire a designated market maker to act as 'liquidity provider' in their stock. London Stock Exchange combines electronic order-driven trading with liquidity provision by market makers.

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Market structures are often compared from the point of view of their **transparency and liquidity**. In spite of expectations of the same market prices both in quote-driven and order-driven markets, in reality quote-driven markets tend to be more fragmented. Dealers quote different bid and ask prices, information on executed orders can be made available with some delay (to allow dealers some time to off-load large trades in the market). As a result, order-driven markets tend to be more transparent than quote-driven markets.

Liquidity can be also different. Investors can trade immediately in continuous order-driven markets, but have to wait for the next price fixing in a call market. The price, however, depends on the availability of sufficient number of orders, i.e. liquidity. Thus investors may prefer to negotiate price individually with dealers in quote-driven markets.

Equity instruments

Common shares

Common (ordinary) shares represent partial ownership of the company and provide their holders claims to future streams of income, paid out of company profits and commonly referred to as dividends. Common shareholders are residual claimants, i.e. they are entitled to a share only in those profits which remain after bondholders and preference shareholders have been paid. If the company is liquidated, shareholders have a claim on any remaining assets only after prior claimants have been paid. Therefore common shareholders face larger risks than other stakeholders of the company (e.g. bondholders and owners of preferred shares). On the other hand, if the value of the company increases, the shareholders are entitled to larger potential benefits, which may well exceed the guaranteed interest of bondholders.

The **variability of returns to shareholders** is affected by the proportion of debt to equity financing (called the debt to equity ratio) of the company. The higher the proportion of debt financing, the larger the fixed interest payments and the lower is the number of shares over which the net profit is to be distributed. When earned profits exceed the level necessary to pay the interest, all the excess profit accrues to the smaller number of shareholders. On the other hand, if profits decrease below interest payments, the whole reduction in payments is borne by the company shareholders. The higher is the debt to equity ratio, the greater is the variability in dividend payments to shareholders. Thus common shares in 'highly leveraged' companies are usually regarded as riskier than those in 'low leveraged' companies.

The law requires that the company provides the owners with specified **information** in the annual report and accounts and that the firm must hold an annual general meeting at which management conduct is subject to approval by common (ordinary) shareholders, each of whom has a number of votes matching the size of his shareholding.

The **decision to issue equity** against debt is based on several factors:

- **Tax incentives.** In many countries interest payments are tax deductible, however dividends are taxed. Thus the tax shield of debt forms incentives to finance company by debt.

- **Cost of distress.** Increase of company leverage, increases the risk of financial insolvency and may cause distress as well as lead to bankruptcy. Thus companies tend to minimise their credit risk and increase the portion of equity in the capital structure.
- **Agency conflicts.** When a company is financed by debt, an inherent conflict arises between debt holders and equity holders. Shareholders have incentives to undertake a riskier operating and investment decisions, hoping for higher profits in case of optimistic outcomes. Their incentives are mainly based by limited liability of their investments. In case of worst outcome debt holders may suffer more, in spite of their priority claims towards company assets.
- **Signaling effect.** The companies, which issue equity to finance operations, provide signals to the market, that current share selling price is high and company is overvalued.

Preferred shares

Preferred shares is a financial instrument, which represents an equity interest in a firm and which usually does not allow for voting rights of its owners. Typically the investor into it is only entitled to receive a fixed contractual amount of dividends and this make this instrument similar to debt. However, it is similar to an equity instrument because the payment is only made after payments to the investors in the firm's debt instruments are satisfied. Therefore it is call a hybrid instrument.

Technically preferred shareholders share ownership of the firm with common shareholders and are compensated when company generates earnings. Therefore, if the company does not earn sufficient net profit, from which to pay the preferred share dividends it may not pay dividends without the risk of bankruptcy. Because preferred stockholders typically are entitled to a fixed contractual amount, preferred stock is referred to as a **fixed income instrument**.

Preferred stock investments may have **tax advantage** to institutional investors.

Majority of preferred shares have **cumulative dividend provision**, which entitles to preferred share dividend payments (current and from previous periods) dividend payments on common shares. Usually owners of preferred shares do not participate in the net profit of the company in excess to the stated fixed annual dividend.

Due to the fact that preferred dividends can be omitted, the company **risk** is less compared to risk in case of company debt. However in this case, company may find it difficult to raise new capital before all preferred dividends are paid. Investors may be unwilling to make new investments before the company is able to compensate its existing equity investors.

Preferred stock is an attractive source of financing for highly leveraged companies. Equity market offers a variety of innovations in preferred shares issues.

These varieties include:

- cumulative preference shares
- non-cumulative preference shares
- irredeemable
- redeemable preference shares
- convertible preference shares
- participating preference shares
- Stepped preference shares.

With the exception of the first two, these characteristics are not excluding each other. For example it is possible to issue non-cumulative, redeemable, convertible preferred shares.

Non-cumulative preferred shares do not have an obligation to pay any missed past dividends, with the effect that missed dividends may be lost forever.

A **redeemable preferred share** has a maturity date on which the original sum invested is repaid, whereas most preference shares have no maturity date (the issuer may pay the dividends forever and never repay the principal sum). Some redeemable preference shares provide the issuer with the right to redeem at a predetermined price without the obligation to do so; in effect such preference shares provide the issuer with a call option, which would be paid for by means of a higher dividend for the investors.

Convertible preferred shares give the holder the right to convert preference shares into ordinary shares at a predetermined rate; the investor pays nothing to convert apart from surrendering the convertible preference shares. In some cases the right to convert arises only in the event of a failure to pay dividends.

Participating preferred shares allow the issuing company to increase the dividends if profits are particularly high; the preference share dividend can exceed the fixed level if the dividend on ordinary shares is greater than a specified amount.

Stepped preferred shares pay a dividend that increases in a predetermined way.

Specific **adjustable rate preferred shares** are attractive in increasing interest environment. If the dividend is reset each quarter according to a pre-established formula based on Treasury bill rate, these issues can be considered as company capital.

Auction rate preferred shares (ARPS) or **Single point adjustable rate shares (ARPS)** reset dividend periodically using Dutch auction method. The reset date can be as frequent as 49 days. Because of characteristics close to money market securities, they have significantly lower yields.

Preferred equity redemption cumulative stocks (PERCS) are shares that pay dividends and are automatically converted into common stock at a conversion price and date. These can be callable at any date after the issuance for price above the issue price (e.g. by 40%) and gradually declines as the conversion date approaches.

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