Security Market Indexes

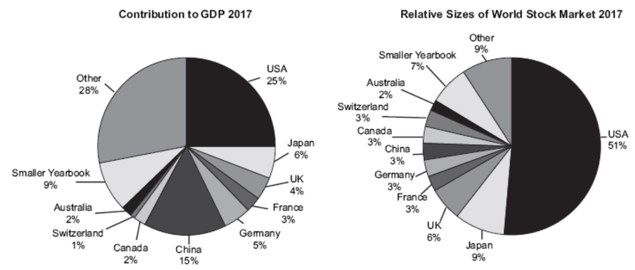
Abstract

12a	Calculate and interpret price, income and cross-price elasticities of demand and describe factors that affect each measure
12b	Compare substitution and income effects
12c	Distinguish between normal goods and inferior goods
12d	Describe the phenomenon of diminishing marginal returns
12e	Determine and interpret breakeven and shutdown points of production
12f	Describe how economies of scale and diseconomies of scale affect costs

Contents

- What distinguishes common shares from preference shares and what purposes do these securities serve in financing a company’s operations?
- What are convertible preference shares and why are they often used to raise equity for unseasoned or highly risky companies?
- What are private equity securities and how do they differ from public equity securities?
- What are depository receipts and their various types and what is the rationale for investing in them?
- What are the risk factors involved in investing in equity securities?
- How do equity securities create company value?
- What is the relationship between a company’s cost of equity, return on equity and investors required rate of return?

1. Equity Securities in Global Financial Markets



Source: The WorldBank Databank *2017*, and Dimson, Marsh, and Staunton (2018).

Figure 1. Country and regional contributions to global GDP and equity market capitalization

Rank	Name of Market	Total US Dollar Market Capitalization	Total US Dollar Trading Volume	Number of Listed Companies
1	NYSE Euronext (US)	$22,081.4	$16,140.1	2,286
2	NASDAQ OMX	$10,039.4	$33,407.1	2,949
3	Japan Exchange Group[a]	$6,220.0	$6,612.1	3,604

Figure 2

Rank	Name of Market	Total US Dollar Market Capitalization	Total US Dollar Trading Volume	Number of Listed Companies
4	Shanghai Stock Exchange	$5,084.4	$7,589.3	1,396
5	Euronext[b]	$4,393.0	$1,981.6	1,255
6	Hong Kong Exchanges	$4,350.5	$1,958.8	2,118
7	Shenzhen Stock Exchanges	$3,617.9	$9,219.7	2,089
8	National Stock Exchange of India	$2,351.5	$1,013.3	1,897
9	BSE Limited[c]	$2,331.6	$183.0	5,616
10	Deutsche Börse	$2,262.2	$1,497.9	499

Figure 3. Equity markets ranked by total capitalization at the end of 2017

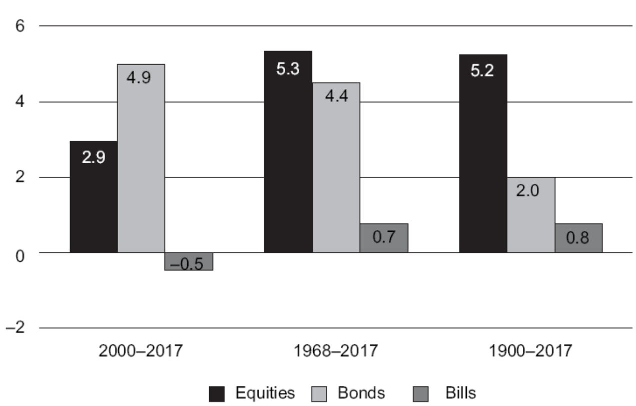


Figure 4. Annualized real returns on assets classes in world index (1900-2017)

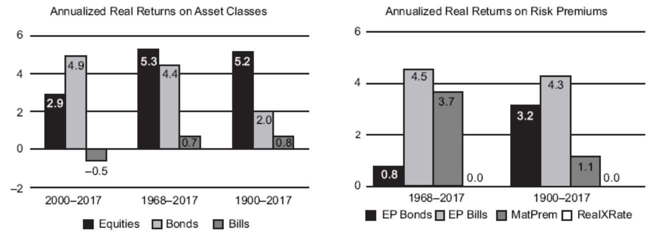


Figure 5. Annualized real returns on assets classes and risk premiums in world index (1900-2017)

This shows the annualized risk premia for equity relative to bonds (*EP Bonds*) and equity risk premium relative to bills (*EP bills*). Maturity premium for government bond returns relative to treasury bill returns (*Mat Premium*) is also shown.

2. Types and Characteristics of Equity Securities

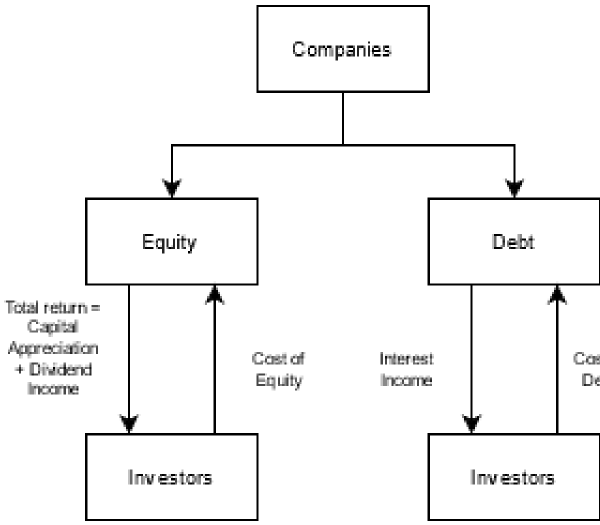


Figure 6

Companies can fund their operations either by issuing debt or equity securities. A key difference is that debt is a liability of the issuing company, whereas equity is a claim on residual assets. This means companies that issue debt are contractually obligated to repay the amount it borrows - the *principal* or *face value* of debt. The cost of using this funds is called *interest*.
When a company issues equity, it is not obligated to contractualized payments. Instead the equity owners because owners of the company.
Equity investors are interested in **total return** (capital appreciation plus dividend income) whereas investors who purchase debt securities are seeking **interest income**.

2.1 Common Shares

Common shares are the predominant type of equity securities and represent an *ownership interest* in a company. Investors share the operating performance of the company (*1*), participate in the government process through voting rights (*2*) and have a residual claim on company's net asset in the case of liquidation (*3*). Within common shares, there can be several classes of shares.

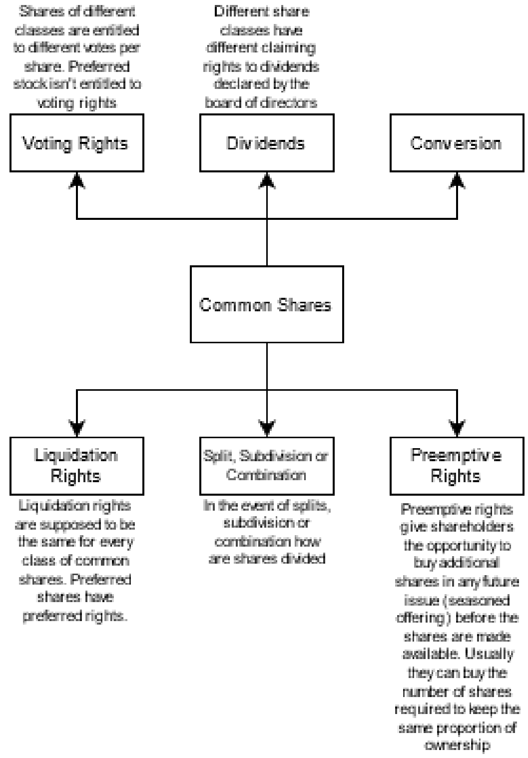


Figure 7. Shares arrangements

2.1.1 Voting Process

Shareholder voting generally takes place during a company's annual meeting. Naturally, it is not feasible for all shareholders to be present and for this reason shareholders may **vote by proxy** which allows another designated party to vote on the shareholder's behalf (a representative).
There are two types of voting: the **statutory voting** and the **cumulative voting**. The first is the common method of voting, where each share represents one vote. The cumulative voting entitles votes per share on a higher basis such as 4 votes per share, which can benefit shareholders with fewer shares.
For example, under cumulative voting, a shareholder who owns 100 shares is entitled to 400 votes which can cast it all on a single candidate or distribute among several candidates. This gives some leverage and more meaning to small shareholders votes (higher representation).

2.2 Preference Shares

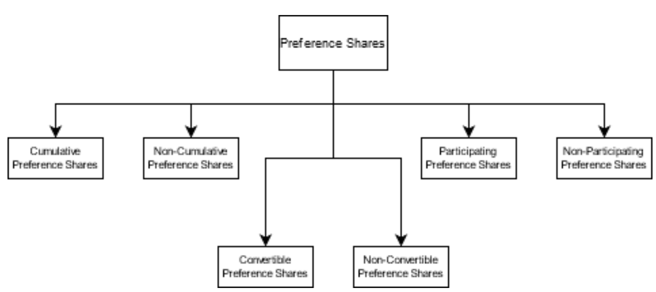


Figure 8

Preferred shares rank above common shares with respect to the payment of dividends and the distribution of company's net assets upon liquidation. Preferred shares do not share the operating performance of the company (because their dividends are fixed) and do not have any voting rights, unless specifically allowed for at issuance.
Preferred shares have thus both debt and equity security characteristics. The dividends are similar to debt instruments because they are fixed and generally higher than the dividends on common shares. However, unlike interest payments, preference dividends are not contractual obligations.
Dividends on preference shares can be *cumulative*, *non-cumulative*, *participating*, *non-participating* and *convertible* and some combinations thereof.

2.2.1 Cumulative preference shares

Cumulative preference shares accrue so that if the company decides not to pay dividends in one or more periods, the unpaid dividends accrue as a liability (provision) and must be reimbursed in full before any dividends on common shares be paid.
In contrast, **non-cumulative preference** shares have no such provision.

2.2.2 Participating preference shares

Participating preference shares entitle the shareholders to receive the standard fixed dividend plus any additional dividends if the profits exceed a pre-specified level. They can also contain provisions that entitle shareholders to an additional distribution of the company's assets upon liquidation above the par value of the preference shares.
Non-participating preference shares do not allow shareholders to share in profits of the company. Instead they are entitled to a fixed dividends and the par value of their shares in the event of liquidation.

2.2.3 Convertible preference shares

Convertible preference shares entitle shareholders the option to convert their shares into a specified number of common shares. The ratio of conversion is determined at issuance.
Convertible preference shares have the following advantages:

- They allow investors to earn a higher dividend than if they invested in the company's common shares
- They allow investors the opportunity to share in the profits of the company
- They allow investors to benefit from a capital appreciation (appreciation of common stock)

Convertible preference shares is a popular financing option in venture capital and private equity transactions.

3. Private Versus Public Equity Securities

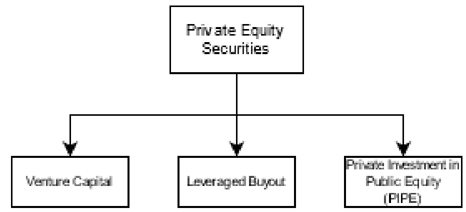


Figure 9

Private equity securities are issued primarily to institutional and credited investors via non-public offerings such as private placements. Because they are not listed on public exchanges there is no active secondary market and as result, private equity securities do not have a market determined quoted price and are highly iliquid (private investors can only "exit" their positions when selling them to other investors or via the company's IPO)
The three primary types of private equity investments are: *venture capital*, *leveraged buyouts* and *private investment in public equity* (PIPE).

Venture Capital

Venture capital investments provide the "seed" or start-up capital and early stage financing to companies that are in the early stages of development. Venture capitalists range from family and friends to wealthy individuals and private funds.

Leveraged Buyout

A **leveraged buyout** (LBO) occurs when a group of investors uses a large amount of debt to purchase all of the outstanding common shares of a publicly traded company (in the case where that group of investors is primarily comprised by the company's existing management, the transaction is referred to as a **management buyout** (MBO)).
The ultimate objetive of a buyout is to restructure the acquired company and later take it public again by issuing new shares in the primary market.

Private Investment in Public Equity

This type of investment consists on the sale of a sizeable ownership position of a company to a private investor or investor group in order to raise additional capital quickly. This is usually a last resort alternative, when a company facing high levels of indebtedness or debt covenants is trying to expand or prevent further deterioration in operations.

4. Investing in Non-Domestic Equity Securities

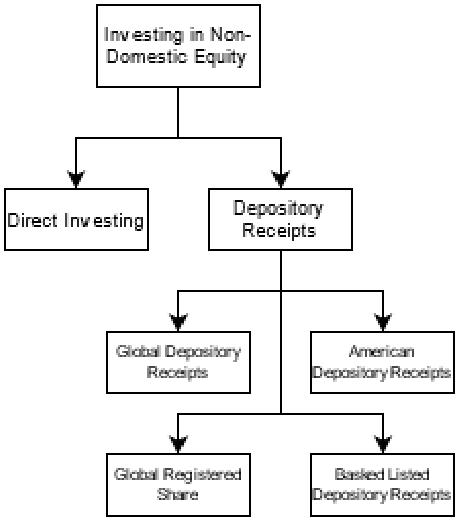


Figure 10

Technological innovations and the growth of eletronic information systems have accelerated the integration and growth of global financial markets. However, there are also three primary reasons on why many countries still imposed foreign restrictions:

- (i) Limiting the amount of control foreign investors can exert on domestic companies
- (ii) Give domestic investors the opportunity to own shares in foreign companies that are conducting business in their countries
- (iii) reduce the volatility of capital flows into and out of domestic equity markets

Over the past decades, three trends have emerged:

- an increasing number of companies have issued shares in markets outside of their home countries
- the number of companies whose shares are traded in markets outside of their home have increased
- and increased number of companies are *dual listed*, which means that their shares are simultaneously traded in two or more markets

Because of this increased globalization, companies have benefited from accessing to global funds and do not have to be concerned with capital constraints or lack of liqudity/market structure in their domestic markets.

Direct Investing

This is the method of buy and selling securities directly in foreign markets. This means all transactions - including dividends and capital gains - are in the companies domestic currency. In addition, investors must be familiar with the trading, clearing and settlement regulations and procedures of that market.

Depository Receipts

A **depository receipt** (DR) is a security that trades like an ordinary share on a local exchange and represents an economic interest in a foreign company. This allows foreign publicly traded companies to be traded on an exchange outside its domestic market.
A depository receipt is created when the equity shares of a foreign company are deposited in a bank (the depository) in the country on whose exchange the shares will trade (country outside of company's domestic market). The depository then issues receipts that represent the underlying deposited shares, at a specified ratio.
Consequently, a depository receipt can represent one share of the underlying stock (1-to-1 ratio), many shares or a fraction of the shares. The depository that issues the receipts is responsible by distributind dividends, taxes and arrange stock splits and other events.
Examples of such depository banks are the *Bank of New York Mellon*, *Deutsche Bank*, *JPMorgan* and *Citibank*.

Sponsored Depository Receipts are receipts issued with direct involvement of the foreign company. Investors in sponsored DR have the same rights as direct owners of the shares, such as voting rights and dividends.

Unsponsored Depository Receipts are receipts issued where the foreign company has no involvement in the issuance of the receipts. Instead, the depository purchases shares in the domestic market of the company and then issues the receipts through brokerage firms in foreign markets (namely, the domestic market of the depository firm).

4.0.1 Global Depository Receipts

A **global depository receipt** (GDR) is issued outside of the company's home country and outside of the United States. A key advantage of GDR is that they are not subject to the capital flow restrictions of the domestic country because they are sold abroad.

4.0.2 American Depository Receipts

An **American Depository Receipt** (ADR) or **American Depository Share** (ADS) is a US dollar-denominated security that trades like a common share on US exchanges. They enable foreign companies to raise capital from US investors (ADR is one form of GDR; GDR cannot be traded in the US). There are four primary types of ADR's, each having different levels of corporate governance and filling requirements:

- Level I Sponsored ADR's trade in OTC markets and do not require registration with the SEC.

- Level II and Level III can trade in NYSE, NASDAQ and AMEX and allow companies to raise capital and make acquisitions using these funds

4.0.3 Global Registered Share

A global registered share (GRS) is a common share that is traded on different stock exchanges around the world in different currencies. The main advantage is that currency conversions are not required as identical shares are quoted in different currencies. Consequently, the same share can be bought in swiss francs and then sold in japanese yen.

4.0.4 Basked of Listed Depository Receipts

The basked of listed depository receipts (BLDR) is a global security which is an exchange-traded fund (ETF) that represents a portfolio of depository receipts. An BLDR is a specific class of ETF security that consist of an underlying portfolio of DR's and is designed to track the performance of the underlying DR index.

5. Risk and Return Characteristics of Equity Securities

5.1 Return Characteristeris of Equity Securities

There are two main sources of *equity securities'total return*: price appraisal (capital gains) and dividend income.

$$R_t = \frac{P_t - P_{t-1} + D_t}{P_{t-1}}) \tag{1}$$

For investors who purchase depository receipts or foreign shares directly there is a third source of return (or losses) - *foreign exchange volatility*.

5.2 Risk of Equity Securities

The risk of any security is based on the uncertainty of its future cash flows. The greater the uncertainty, the greater the risk and the more volatile the security's yields (either dividends and capital gains).
Because of this aspect, preference shares are less risky than common shares.

- Dividends are known and fixed and therefore, there is less uncertainty about future cash flows
- Preference shareholders receive their dividends before common shareholders
- The amount preference shareholders will receive if the company is liquidated is know and fixed as the par value of their shares (however this amount can't be guaranteed)

6. Equity Securities and Company Value

Companies issue equity securities on primary markets to raise capital and increase liquidity. This additional liquidity also provides the corporation an additional "currency" (its equity), which it can use to make acquisitions and provide stock option-based incentives to employees.

The primary goal of raising capital is to finance the company's revenue-generating activities in order to increase its net income and maximize the wealth of its shareholders. In most cases, the capital that is raised is used to finance the purchase of long-lived assets, capital expansion projects, research and development, the entry into new product or geographic regions, and the acquisition of other companies.

Alternatively, a company may be forced to raise capital to ensure that it continues to operate as a going concern. In these cases, capital is raised to fulfill regulatory requirements, improve capital adequacy ratios, or to ensure that debt covenants are met.

The ultimate goal of the management, however, is to increase the book value (shareholders'equity) and maximize the market value of its equity. A key measure of the effectiveness of management in increasing the book value is the **accounting return on equity**.

6.1 Accounting Return on Equity

Return on Equity (ROE) is computed as the net income available to ordinary shareholders (after preferred dividends) divided by the average total book value of equity (BVE).

$$ROE_t = \frac{NI_t}{AverageBVE_t} = \frac{NI_t}{\frac{(BVE_t - BVE_{t-1})}{2}} \quad (2)$$

References

[cfa, 2019] 2019. *CFA program curriculum*. CFA Institute.