

VALUATION OF INVESTMENTS

Timeframe:	Minimum of 40 hours
Learning outcomes:	<ul style="list-style-type: none">• Explain valuation terminology, concepts, and inputs.• Determine the worth of investments (debentures, preference shares, and ordinary shares) using valuation models.
Recommended reading:	<ul style="list-style-type: none">• Marx, J., de Swardt, C., Beaumont Smith, M., and Erasmus, P. 2009, <i>Financial Management in Southern Africa</i>, Cape Town: Pearson Education South Africa (Chapter 8)• Stoltz, A., Viljoen, M., Gool, S., Meyer, C. and Cronje, R. 2007, <i>Financial Management: Fresh Perspectives</i>. Cape Town: Pearson Education (Chapter 7)
Section overview:	<p>In our opening section we look at 'valuation' – the process that links risk and return to help us determine the worth, or value, of investments.</p> <p>In terms of finance, the 'price' is what an investor pays for his/her investment (e.g. shares), whereas the 'cost' is what the company has to pay the investor for the use of his/her money. In this section we concentrate on the valuation of investments from the investor's perspective, whereas Section 7.2 will focus on the cost of capital from the company's perspective.</p>

Defining 'Value'

Before we consider the different types of securities, let us review your understanding of four important terms:

- Par value (or face value)
- Market value
- Book value
- Economic value

Par value (Face value)

Par value is the nominal value at which the asset is issued in the primary market. The par value is important for accounting purposes, since the shareholders' interests in the company appear in the balance sheet at par value. Today, most stocks (shares) are issued with either a very low par value (such as \$0.01 per share) or no par value at all.



"Corporations issue shares with no par value because it helps them avoid a liability to stockholders should the stock price take a turn for the worse. For example, if a stock was trading at \$5 per share and the par value of the stock was \$10, theoretically the company would have a \$5 per share liability." (Investopedia 2013e)

Par value has no relation to the market value of a stock – a no par value stock can still trade for a significant amount – it all depends on what the market feels the company is worth.



The common stock, par value of Facebook shares is \$0.000006 per share (the company's liability). However, the stock is currently trading in the market at \$27 per share (as at 20 March 2013).

It is also useful to note the following in the use of the terms 'shares' and 'stocks':



Generally the terms 'shares' and 'stocks' are used interchangeably – it has more to do with syntax than financial or legal accuracy. However, 'stock' is typically used to describe the ownership of certificates of any company and in general 'shares' refers to the ownership of certificates of a particular company. So if you say you own stocks, you are generally referring to your overall ownership in one or more companies. Technically, then if you say you own shares, the question then becomes, shares in what company? (Investopedia, 2013a)

Market value

Market value is the value at which the shares trade in the marketplace (e.g. on a securities exchange such as the New York Stock Exchange, Johannesburg Stock Exchange, or over-the-counter securities market such as the National Association of Securities Dealers Automated Quotations System – Nasdaq). The shift in the market value is attributed to investor expectations – if investors expect a firm to generate a higher income in the future they will be prepared to pay more for the firm's shares (i.e. they will expect to receive higher dividends/returns on their investment). Market value added is the amount by which the firm's ordinary shares increase in market value over a certain period.



The **Primary Market** is the market for new issues. When the firm is issuing, for example, shares for the first time it is called Initial Public Offering (IPO). After the initial sale, the securities trading will be conducted on the Secondary Market.

On a **Secondary Market**, investors buy securities from other investors instead of the issuer.

Market capitalisation

Market capitalisation is the number of shares that have been issued by the business multiplied by the market value per share. That is, it is the total market value of the business.



For example, if a company has 1.5 million shares outstanding at a share price of \$25, its market capitalisation is \$27.5 million (1.5 million x \$25). Companies can be categorised based upon the size of the market capitalisation (Mega-cap market cap over \$200 billion; Large-cap \$10-\$200 billion; Mid-cap \$2-\$10 billion; Small-cap \$300 million to \$2 billion; and Micro-cap \$50-\$300 million).

Apple Inc. has 939.06 million shares in issue, which are currently trading at \$431.99 per share (as at 4 April 2013).

$$939\,060\,000 \text{ shares} \times \$431.99 = \$405\,660\,000\,000$$

Therefore Apple Inc. has a Market Capitalisation of \$405.66 billion (a Mega-cap).

Book value

We use the term 'book value' for both fixed assets and ordinary shares.



"The **book value of fixed assets** is the value of the assets such as land, buildings, and plant and equipment indicated in the Statement of Financial Position (formerly the Balance Sheet). The book value of fixed assets is the cost of buying and installing these assets minus accumulated depreciation.

The **book value of ordinary shares** is the amount per share to be received if all assets are sold (liquidated) for the book value and if the proceeds remaining after paying all liabilities (including preference shares) are divided among the ordinary shareholders." (Marx *et al*, 2009:166)

A relatively high book value per share in relation to stock price often occurs when a stock is undervalued (and vice versa).



Apple Inc.'s book value as at 31 December 2012 was \$135.64 per share. As we saw, the share is currently trading (as at 4 April 2013) at \$431.99 per share. This suggests that the share may be overvalued in relation to its assets.

Economic value (Intrinsic value)

Economic value is based on the investor's required rate of return, which depends on the cash flows the investment is likely to provide and its level of risk (Stoltz *et al*, 2007:155-156). This is the primary focus of this section of the study guide.



Intrinsic value: “Underlying value of a firm separate from its market value or share price and based on both quantitative factors (capital, earnings, revenue) and qualitative factors (management quality, intellectual capital, past record). The intrinsic value of a firm may be higher or lower than its stock market value, indicating that the firm is overvalued or undervalued.”

(Business Dictionary, 2013a)

As we can see with the Apple Inc. example above, the intrinsic value may be higher than the book value due to future expected earnings potential.



If the securities market is working efficiently the market value and the intrinsic value of a security will be equal.

For a market to be ‘efficient’ all information must be available – all investors work with the same complete information. Consider that if the markets are truly efficient it is extremely difficult for an investor to make extra profits.

Types of Securities (Investments)

Companies raise finance through equity and/or debt. Therefore, investors have two different options – to be shareholders or to be lenders.

Table 1 distinguishes between these forms of financing, known as equity or debt securities:

TABLE 1: EQUITY VERSUS DEBT SECURITIES

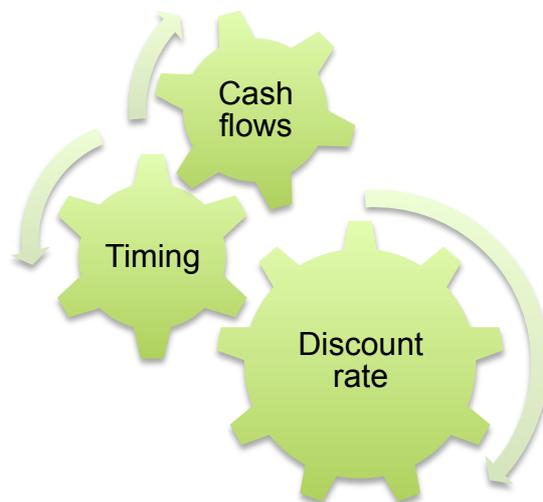
Equity (Shareholders)	Ordinary shares	<ul style="list-style-type: none"> • Shareholders expect to be rewarded appropriately for risk when investing in shares • If the company's board of directors declare a dividend, every ordinary shareholder has the right to receive dividends • Shareholders expect dividends and an increase in the share price (capital gain) • These shares have a stated "par value", but this is more of a technicality – the true value of an ordinary share is based on the price obtained through market forces, the value of the underlying business and investor sentiment toward the company • To maximise wealth, shareholders buy undervalued shares (i.e. economic value is greater than the market price), and sell them once they become overvalued (i.e. market price is greater than the economic value)
	Preference shares	<ul style="list-style-type: none"> • Preference shareholders typically earn a fixed dividend • Preference dividends are paid before ordinary dividends • There are various types of preference shares (i.e. cumulative and non-cumulative, participating preferred, and convertible)
Debt Securities (Lenders)	Bonds	<ul style="list-style-type: none"> • The investor loans money to an entity (corporate or government) for a defined period of time (maturity date) at a fixed interest rate (coupon) • Categories of bonds include: corporate bonds and municipal bonds • The company is legally obliged to pay the interest and repay the principal as agreed • Two important features include credit quality and duration, which together determine the bond's interest rate • Bond maturities range from 90 days to 30 years • The cash flows from debt securities are more certain than the cash flows from either preference or ordinary shares (debt securities carry a lower risk than shares)
	Debentures	<ul style="list-style-type: none"> • A type of debt instrument that is not secured by physical assets or collateral – backed only by the general creditworthiness and reputation of the issuer; • Interest bearing securities • Include government issued treasury bonds (T-bond) or treasury bills (T-bill) • Typically considered to be risk-free because government, at worst, can print off more money or raise taxes to pay these types of debts • Can take the form of convertible debentures although in this case the interest may be lower

(Stoltz *et al*, 2007:153-155; Investopedia, 2013a-d)

Key Inputs to Valuation

The key inputs to the valuation process are shown in **Figure 1** below.

FIGURE 1: KEY INPUTS TO VALUATION



(Stoltz *et al.*, 2007)

The value of any asset depends on **cash flow (returns)**, which may be regular, intermittent, or there might only be a single cash flow during ownership. Because of the **time-value-of-money** (as we saw in module one), we prefer to receive cash flows earlier rather than later. And, as you know (also from module one), the **required rate of return** of an asset tells us about the relationship between risk and return.

When the risk is high, an investor will require a high rate of return (and vice versa). The required rate of return is determined by the **discount rate** (to find the present value of the expected future cash flows).



If the risk is high, your required rate of return will be high. This means your discount rate will be high which will lower the value (and vice versa).

(Stoltz *et al.*, 2007:158)