

# Global Economic Downturn fact sheet

## Discount rates

### Series 1 – Issue 9

As part of the Institute's ongoing efforts to provide members with guidance and information on key issues affecting the current business environment, the Institute has developed a practical factsheet series, which presents guidance for members written by members.

#### What is Beta( $\beta$ )?

Beta( $\beta$ ) measures the fluctuations of a company's share price against the market as a whole.

- > A  $\beta$  of 1 indicates that the company moves in line with the market.
- > A  $\beta$  of greater than 1, reflects a share that exaggerates the market's movements whether declining or increasing in value
- > A  $\beta$  of less than 1 imputes a share that is more stable.
- > A company may have a negative  $\beta$  (eg. an insolvency company), which would mean the share price moves in inversely to the market.

## Use of beta and discount rates in Discounted Cash-Flow analysis

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Factsheet 3 in this series *Discounted Cash Flows (DCF) analysis* highlights the importance of Beta ( $\beta$ )<sup>1</sup> and discount rates in calculating the DCF. This factsheet will look at  $\beta$  and discount rates in more detail.

#### What is the discount rate?

The DCF is a calculation of the value of future cash-flows in today's dollars. In order to complete this calculation, a discount rate needs to be derived to represent the time value of money, taking into account the riskiness of the investment and investors' earning expectations.

A company obtains funds from either a financier (debt) or an investor (equity), or a combination thereof. The investor expects a regular return in the form of dividends and eventual positive growth in the value of the underlying asset base in which they have invested. The investors take a higher risk, in that they rank last in any asset acquittal, and therefore have an expectation of higher returns to mitigate that risk.

#### Weighted average cost of capital (WACC)

WACC is the average of the costs of these sources of financing (debt and equity), each of which is weighted by its respective utilisation within an organisation.

$$WACC = (E/V) * C_e + (D/V) * C_d * (1 - T_c)$$

where:

$C_e$  = cost of equity

$C_d$  = cost of debt

$E$  = market value of the firm's equity

$D$  = market value of the firm's debt  
(market efficient level of debt not actual)

$V$  =  $E + D$

$E/V$  = percentage of financing that is equity

$D/V$  = percentage of financing that is debt

$T_c$  = corporate tax rate

The WACC can then be used to determine the discount rate for the DCF analysis. The WACC will need to be adjusted to reflect the specific risk of the individual business unit or asset being analysed relative to the organisation as a whole. It is important to note that adjustments to the WACC are not to reflect the individual funding of the business unit or asset.

The cost of debt can be derived from the average interest rate on the company's debt. As interest is tax deductible, the cost of debt is tax affected. For impairment calculations under AASB136, pre-tax discount rate and pre-tax cash flows are required. Therefore, additional work is needed to convert the result obtained by using the WACC. A way of estimating the cost of equity is by utilising the Capital Asset Pricing Model (CAPM).

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The expected return on equity according to the capital asset pricing model is:

$$E_s = R_f + \beta_s(R_m - R_f)$$

$E_s$  = The expected return for a security

$R_f$  = The expected risk-free return in that market (government bond yield)

$\beta_s$  = The sensitivity to market risk for the security

$R_m$  = The historical return of the stock market/ equity market

$(R_m - R_f)$  = The risk premium of market assets over risk free assets

If  $(R_m - R_f)$  equates to zero, does that mean that expected return on equity is simply the risk free rate and  $\beta$  is irrelevant?

### Key points

- > Relative debt to equity position
- > Relevance of historic  $\beta$  values to present conditions
- > Test results against appropriate alternative valuation methods.

### Calculating the CAPM (cost of equity)

The cost of equity is the risk free rate +  $\beta$  x (risk premium), where the risk premium is the difference between market return over a specific period and the relevant risk free rate, for the same time period (refer to formula on the left).

- > Variability in the equity risk premium can be attributed to changes in investors' attitude to risk, changes in the risk free rate, or a combination of both factors
- > In the current economic climate the inherent problem with utilising a  $\beta$  is that it tends to be based on past events and rather than being forward looking.

So the closer the market returns are to the risk free rate of return, the less the impact of risk or  $\beta$  will be on the valuation. Therefore a long period of observations is typically used in setting the market risk premium. One or two years of poor equity returns will not impact the longer term view of what a sustainable equity return should be. Hence beta will continue to have an impact on cost of equity calculations.

### The impact of the global economic downturn on the cost of equity

Many investors have become risk adverse, demonstrated by a significant flight of capital from the equities market to the safe haven of bank deposits (at declining interest rates). The standard Cost of Equity calculation may also need to be adjusted for issues like size, marketability and other company specific risk factors.

### The impact of the global economic downturn on the cost of debt

The Reserve Bank has significantly reduced the base rate in recent months, for many businesses this has been partly offset by higher premiums from financiers. The higher premiums reflect the financiers expecting higher returns for the perceived increase in risk in lending in the current environment.

### Impact on the WACC

According to a recent McKinsey Quarterly article, the cost of capital has not changed significantly in the last 60 years. The singular conclusion from the above is that there must be other changes in the WACC factors to offset this decline in the cost of equity.

Businesses have been changing their capital structure as a result of the current economic climate, reducing their debt levels by raising additional equity. This changes the weighting between the cost of equity and cost of debt within the WACC calculation.

The ability (or lack thereof) of a company to grow, coupled with systemic-market wide risks (eg. business cycles and interest rates) as well as unexpected or unique risks (such as government policy) need to be reflected in the adjusted WACC used in the DCF.

It may be appropriate to consider comparative valuations using Return on Investment (ROI) models, future maintainable earnings or hurdle rates to test results.

For more information, guidance and tools on the global economic downturn refer to [charteredaccountants.com.au/news\\_issues/global\\_economic\\_downturn](http://charteredaccountants.com.au/news_issues/global_economic_downturn)

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