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TOPIC 3 – DETERMINATION OF EQUITY DISCOUNT RATE, K_e

1. INTRODUCTION AND OBJECTIVE

This article attempts to discuss on some basic principles that should be considered when determining the cost of equity, which is the discount rate used when using the FCFE method (discussed in Topic 2). There are a few methods that can be used to determine the cost of equity, and this article shall attempt to discuss the potential pros and cons of the various methods.

Method	Explanation
Free Cash Flow to Equity (FCFE)	FCFE derives the equity value attributable to the equity project sponsors. The Internal Rate of Return (IRR), as determined using the net cash flow from FCFE is known as the equity IRR.

Cost of equity = **Risk free rate** + **Beta** x **Risk premium**

Risk free rate

Characteristics of risk free rate

1. No default risk

2. No reinvestment risk

What happens if government securities are not really risk free ?

A recent example is the Greek crisis, and to address this situation, add the default spread to the risk free rate

Beta

METHOD 1

Beta is a relative risk measurement. The conventional way is to run a regression of the stock against a market index. This can be obtained from Bloomberg for listed companies.

Pitfalls:-

1. Backward looking

2. Has an estimated error and if measured at 99% confidence level, may result in a wide range for the beta.

3. Beta is only available for public companies and is affected by the time period, return interval and market index used as a benchmark.

Method 2

1. Unlevered average beta for the independent power plant sector operating using similar source of energy, e.g. hydro, solar, coal, wind etc. and similar external economic environment, then adjusted for the financial leverage

Risk premium

Risk premium is made up of excess risk compensation for investing in a power plant project over risk free rate instruments plus country risk premium

METHOD 1

1. Historical risk premium based on excess reported returns of stocks over risk free instruments. Similar to beta measurement using the historical approach, it is subjected to variation due to standard errors.

Method 2

Determination of estimated forward looking premium using current stock prices and expected future cash flows.

Adapted from " Risk Taking - A Corporate Governance Perspective " by Oliviero Roggi, Maxine Garvey and Aswath Damodaran (June 2012) "

THANKS FOR READING.

This article is prepared by Ong Tee Chin, CFA, FRM, and represents the view of the author. He can be contacted at ong@atlantiscapital.org for any further enquiries on the contents of this article.