Contemporary Methods to Estimate Cost of Capital in A Firm

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Abstract- Estimating cost of capital is a complicated task as there are many methods to calculate it. However, among the present set of methods, the most contemporary and widely accepted methods are CAPM for estimating cost of equity and synthetic rating method for cost of debt. Both need to be combined using either book value weights or market value weights. The target capital structure provides most futuristic approach to look at the cost of capital. If the purpose of the calculating cost of capital is for the future like for valuation or capital budgeting, the target capital structure may provide better estimate of cost of capital than market value weights.

Indexed Terms- Cost of capital; CAPM, Synthetic Rating; WACC; Valuation

I. INTRODUCTION

Brodset Pvt. Limited, an investment firm offers management consultancy to firms in India and abroad. Broadset was exploring cost of capital for three firms for a client from Europe to acquire a firm in India for vertical forward integration in the automobile components industry. The firms were given code name as A, B and C. Before doing the valuation of targeted firms, Boadset decided to estimate their cost of capital. They started with estimating their cost of equity. Details were taken from their database which were some recent estimate of market return and risk-free rate (.85% per month and 6.50% per annum were the average monthly market return and risk-free rate respectively).

Further, Brodset pulled out more data to calculate cost of debt for all the three companies. Following table was assembled with the additional information on operating profit (Earnings/Profit Before Interest and Taxes; EBIT or PBIT) and annual interest outgo was collected. (Assume Tax rate at 33% per annum).

Firm	Beta	EBIT (Rs Million)	Interest (Rs Million)	Debt % in Capital (Book Value)	Debt % in Capital (Market Value)	Debt % in Capital (Target Capital Structure)
A	2.23	1250	250	55%	40%	35%
B	1.1	1300	650	60%	50%	45%
C	.85	1285	380	45%	55%	40%

Having estimated CoE and CoD, Brodset, calculated their CoC. They believed that CoE estimated by them using their own beta is more appropriate to calculate CoC.

II. LITERATURE REVIEW

The cost of equity is measured with the help of CAPM method. In CAPM method, market and its return provide an important input. The market return is provided with the help of stock market return [as it is the closest proxy for the CAPM's concept of the market. A good market is also known through market efficiency [43]-[44]-[37]-[38]-[39]. An efficient market is the correct characteristics for a market appropriate for CAPM application. The efficient market is measured through EMH which is later on supported by AMH as well [17]-[18]-[19].

Derivatives market, though, not directly linked to the stock market has indirect association with the market and should be efficient [23]-[26]-[27]-[30]-[31]-[34]. Volatility also is an important characteristic for an efficient market. A market which is too volatility may not be a good example of the efficient market [25]-[36]-[39]-[42]-[41]-[24]-[25]-[28]-[29]-[32]-[33]-[35]-[36].

In addition to this, the varied features of the market like dividends [1]-[20]-[21]-[22] valuation [2]-[3]-[4]-[5]-[6]-[7]-[8]-[9]-[10]-[11]-[12]-[13]-[14]-[15]-[16] and shareholder activism [40]-[41]-[44]-[45]-[46]-[47]-[48]-[49]-[50]-[51]-[52]-[53]-[54] also play vital role in ensuring that the market is efficient.

III. ISSUES TO BE SOLVED

Data for both CPI and WPI are used for inflation forecasting using variables which can be considered as the determinant of the inflation. Gold prices, crude oil price, G-sec bond yield and exchange rates are used for multivariate inflation forecasting purpose. The monthly data is collected from Feb 2011 to Jan 2022 (all prices are in USD; Exchange rate is Rs/$; bond yield is in percentages).

a) Beta of the three firms (A, B and C) are 2.23, 1.1 and .85 respectively. Estimate CoE for all the three firms on behalf of Broadset.
b) On review, Broadset felt that the estimate of beta is not appropriate and they decided to estimate the beta themselves from the market return and stock prices of the company stock. Estimate beta of the firms and recalculate the CoE of all the three firms.
c) Interpret the results of 1 and 2 share your views.
d) Using synthetic rating, calculate CoD of all the three firms.
e) Calculate cost of capital using.
f) Book Value method of weights.
g) Market Value.
h) Target Capital Structure.
i) On the basis of Information provided till the point 5, what suggestion would like to give to the Broadset Client to acquire and why?

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