

Practice Questions - Cost of Capital

1. The earnings, dividends, and stock price of Carpetto Technologies Inc. are expected to grow at 7% per year in the future. Carpetto's common stock sells for Rs. 23 per share, its last dividend was Rs. 2.00, and the company will pay a dividend of Rs. 2.14 at the end of the current year.
 - a. Using the discounted cash flow approach, what is its cost of equity?
 - b. If the firm's beta is 1.6, the risk-free rate is 9 percent, and the expected return on the market is 13 percent, what will be the firm's cost of equity using the CAPM approach?
2. Tunney Industries can issue perpetual preferred stock at a price of Rs. 100 a share. The issue is expected to pay a constant annual dividend of Rs. 3.80 a share. The flotation cost on the issue is estimated to be 5%. **What is the company's cost of preferred stock?**
3. A steel company has two divisions: health foods and specialty metals. Each division employs debt equal to 30% and preferred stock equal to 10% of its total requirements, with equity capital used for the remainder. The current borrowing rate is 15%. And the company's tax rate is 35%. Presently, preferred stock can be sold yielding 13%. Steel company wishes to establish a minimum return standard for each division based on the risk of that division. The company has thought about using the CAPM model in this regard. It has identified two samples of companies. With modal value betas of 0.9 for health foods and 1.3 for specialty metals (Assume sample companies had similar capital structures to that Steel Company). The risk free rate is presently 12% and the expected return on the market portfolio 17%. Using the CAPM approach, what weighted average required returns on investment would you recommend for these two divisions?
4. Gaggle Internet, Inc. is evaluating its cost of capital under alternative financing arrangements. In consultation with investment bankers, Gaggle expects to be able to issue new debt at par with a coupon rate of 8% and to issue new preferred stock with a \$2.50 per share dividend at \$25 a share. The common stock of Gaggle is currently selling for \$20.00 a share. Gaggle expects to pay a dividend of \$1.50 per share next year. Market analysts foresee a growth in dividends in Invest stock at a rate of 5% per year. Gaggle' marginal tax rate is 35%.
 - a. If Gaggle raises capital using 45% debt, 5% preferred stock, and 50% common stock, what is Gaggle's cost of capital?
 - b. If Gaggle raises capital using 30% debt, 5% preferred stock, and 65% common stock, what is Gaggle's cost of capital?
5. A company is considering raising of funds of about Rs. 10 mn by one of two alternative method, viz., 14% institutional term loan or 13% non-convertible debentures. The term loan option would attract no major incidental cost. The debentures would have to be issued at a discount of 2.5% and would involve cost of issue of Rs. 100,000. Advise the company as to the better option based on the effective cost of capital in each case. Assume a tax rate of 50%.

PGDFS 203 Corporate Valuation

6. X Plc balance sheet as at 31/12/2006 is as follows

	\$ 000'
Ordinary Shares (50c)	125,000
Reserves	400,000
10% Preference Shares of \$1	100,000
8% Debentures, 2010	200,000

The ordinary shares are currently trading at 230c and loan stock at \$94. The trading price of a preference share is 80c. The company has just paid an ordinary dividend of 12c per share and is expected to grow at 8% p.a. The company is taxable at 30%

Calculate the WACC for the company

7. Following are the details regarding the capital structure of Alpha company.

Equity share capital (150, 000 shares)	Rs. 4,500,000
10% Preference shares	Rs. 1,500,000
12% Debentures	Rs. 3,000,000

The market price of the company's equity share is Rs.30. It is expected that company will pay a dividend of Rs. 3 per share next year which will grow at 8% forever. The tax rate is 35%. You are required to compute the following.

- A weighted average cost of capital based on existing capital structure.
- The new weighted average cost of capital if the company raises an additional Rs.3,000,000 debt by issuing 14% debentures. This would result in increasing the expected dividend to Rs. 4 and leave the growth unchanged but the price of share will fall to Rs. 25 per share.

8. The statement of financial position of BKB Co provides the following information:

	\$m	\$m
Equity finance		
Ordinary shares (\$1 nominal value)	25	
Reserves	15	40
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Non-current liabilities		
7% Convertible bonds (\$100 nominal value)	20	
5% Preference shares (\$1 nominal value)	10	30
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Current liabilities		
Trade payables	10	
Overdraft	15	25
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Total liabilities		<hr/> 95 <hr/>

BKB Co has an equity beta of 1.2 and the ex-dividend market value of the company's equity is \$125 million. The ex-interest market value of the convertible bonds is \$21 million and the ex-dividend market value of the preference shares is \$6.25 million.

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The convertible bonds of BKB Co have a conversion ratio of 19 ordinary shares per bond. The conversion date and redemption date are both on the same date in five years' time. The current ordinary share price of BKB Co is expected to increase by 4% per year for the foreseeable future. The overdraft has a variable interest rate which is currently 6% per year and BKB Co expects this to increase in the near future. The overdraft has not changed in size over the last financial year, although one year ago the overdraft interest rate was 4% per year. The company's bank will not allow the overdraft to increase from its current level. The equity risk premium is 5% per year and the risk-free rate of return is 4% per year. BKB Co pays profit tax at an annual rate of 30% per year.

Required:

- (a) Calculate the market value after-tax weighted average cost of capital of BKB Co, explaining clearly any assumptions you make
- (b) Discuss why market value weighted average cost of capital is preferred to book value weighted average cost of capital when making investment decisions
- (c) Discuss the attractions to a company of convertible debt compared to a bank loan of a similar maturity as a source of finance.