

FIN 303
Professor Dow

Cost of Capital Problem Set

1. A company has \$100,000,000 of debt and \$80,000,000 of equity. The cost of debt is 5% and the desired return to equity is 8.5%. What is the WACC for this company?
2. Dowco currently has 100,000 shares outstanding which sell for \$55 per share. The expected return to its stock is 11%. Dowco also has \$20,000,000 worth of bonds outstanding which currently offer a yield to maturity of 8%. Its marginal tax rate is 33%. What is its WACC?
3. Eastern Digital has 300,000 shares outstanding which sell for \$10 per share. The extra risk associated with this stock suggests that the investor should get a return 5% greater than that being paid on its bonds. The company has 10,000 10-year bonds outstanding. The bonds have a coupon rate of 8% (coupons paid semiannually), a face value of \$1,000 and currently sell for \$1,100. The marginal tax rate for this company is 30%. What is this company's WACC?
4. (continued from question 3) Eastern Digital is planning on expanding its operations. Its initial outlay would be \$12m. The project would generate \$2m per year over the next 10 years (starting at the beginning of next year). Is this project worthwhile?

Answers

1. $0.56 \cdot 5\% + 0.44 \cdot 8.5\% = 6.54\%$

2. $0.78 \cdot 5.36\% + 0.22 \cdot 11\% = 6.60\%$

3. $n: 20, i: 3.31, pv: -1,100, ptm: 40, fv: 1,000; yield = 6.62, cost\ of\ debt = 6.62 \cdot 0.7 = 4.63$

Cost of equity = 11.62; weights on equity and debt calculated at market prices.

Cost of capital = $0.79 \cdot 4.63 + 0.21 \cdot 11.62 = 6.10$

4. $n: 10, i: 6.10, pv: 14.65, ptm: 2, fv: 0; NPV = 14.65 - 12 = 2.65; project\ is\ worth\ doing.$