Session 14: Post Class tests

1. The earnings reported by a company can be very different from its cash flows. There are companies that report very large positive earnings while also generating large negative cash flows. Which of the following is most likely to create this phenomenon?
   a. High capital expenditures, high depreciation, decreasing working capital
   b. Low capital expenditures, high depreciation, decreasing working capital
   c. High capital expenditures, low depreciation, increasing working capital
   d. Low capital expenditures, low depreciation, decreasing working capital
   e. Low capital expenditures, high depreciation, increasing working capital

2. You are working for Cray Inc., a consumer product company that derives all of its revenues in the United States, is all equity funded and has a cost of equity (and capital) in US$ of 9.2%. (The risk free rate in US$ is 3% and the equity risk premium for the US is 5%). Cray is considering expanding its operations into Indonesia, staying with its policy of using only equity to fund itself. If the equity risk premium for Indonesia is 8%, what is the US$ cost of capital to use to assess this investment?
   a. 9.2%
   b. 9.6%
   c. 11.2%
   d. 12.6%
   e. None of the above

3. MTN Inc. is a company that derives equal portions of its revenues from the telecom and entertainment businesses. The company has targeted a debt to capital ratio of 20% for the firm and an after-tax cost of debt of 3%. The beta for the telecom business is 0.80 and the beta for the entertainment business is 1.20; the risk free rate in US dollars is 2.5% and the equity risk premium is 5%. MTN is considering a new project in the entertainment business that will be funded entirely with debt. What cost of capital should you use in assessing this project?
   a. 3.00%
   b. 5.80%
   c. 6.60%
   d. 7.40%
   e. 8.50%

4. Oneida Enterprises reported pre-tax operating income of $100 million last year and paid an effective tax rate of 40% on its taxable income; its net income was 50 million. The company also reported a book value of equity of $300 million at the start of the year, while its market capitalization was $400 million. The debt outstanding (in both book and market terms) at the start of the year was $150 million and the cash balance was $50 million. What after-tax return on invested capital did the company earn last year?
   a. 12%
   b. 13.33%
   c. 15%
   d. 16.67%
5. You are the CFO of a steel company, considering investing in a new steel plant. The plant is expected to cost $100 million to build and have a 20-year life, at the end of which it is expected to have a salvage value of $20 million. The average annual after-tax operating income is expected to be $9 million and the average annual net income is expected to be $5 million. Your decision rule is to accept any investment that generates an average return on capital that exceeds the cost of capital over its life. Assuming straight-line depreciation, what is the return on capital on this project?
   a. 5%
   b. 8.33%
   c. 9%
   d. 15%
   e. 45%
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1. **c. High capital expenditures, low depreciation, increasing working capital**
   - For cash flows to be negative, with positive earnings, you have to be reinvesting a lot. Reinvestment is comprised of two elements: the difference between cap ex and depreciation (net cap ex) and the effect of working capital (with increases draining cash flows).

2. **d. 12.6%**
   - First, back out the beta for the company
     Expected return = 9.2% = 3% + Beta (5%). Solving for Beta = 1.2
     Now, plug in the ERP for Indonesia
     Cost of equity = 3% + 1.2 (8%) = 12.6%
     Since there is no debt, this is also the cost of capital for the new project

3. **d. 7.40%**
   - Use the beta of the entertainment business (1.20)
   - Use the target debt ratio for the company (rather than how the project is financed)
     Cost of equity = 2.5% + 1.20 (5%) = 8.50%
     After-tax cost of debt = 3%
     Cost of capital = 8.5% (.8) + 3% (.2) = 7.40%

4. **b. 15%**. The return on capital is computed using after-tax operating income and book value of invested capital (book value of equity + book value of debt – cash)
   - Return on invested capital = 100 (1-.4)/ (300+150-50) = 15%

5. **d. 15%**. The first step is to compute the average capital invested over the life of the investment. The starting book value of capital invested is $100 million and the ending book value is $20 million. Since straight line depreciation is used, the average capital invested over the period will be $60 million = (100+20)/2
   - Dividing the after-tax operating income by this number will yield the average return on capital (approximately)
   - Return on capital = 9/ 60 = 15%