MASTER 1

CORPORATE FINANCE
(durée 1h30)

J. HONG

Mercredi 15 mai 2013 ~ 14h00 – 15h30

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1 Comment on the following statements (Say whether you agree and then explain why)

1. I like the payback rule. As long as the minimum payback period is short, the rule makes sure that the company takes no borderline projects. That reduces risk. (2 points)

2. Some people believe firmly, even passionately, that ranking projects on IRR is OK if each project's cash flows can be reinvested at the project's IRR. They also say that the NPV rule "assumes that cash flows are reinvested at the opportunity cost of capital." Think carefully about these statements. Are they true? (2 points)

2 United Pigpen is considering a proposal to manufacture high-protein hog feed. The project would make use of an existing warehouse, which is currently rented out to a neighboring firm. The next year's rental charge on the warehouse is $100,000, and thereafter the rent is expected to grow in line with inflation at 4 percent a year. In addition to using the warehouse, the proposal envisages an investment in plant and equipment of $1.2 million. This could be depreciated for tax purposes straight-line over 10 years. However, Pigpen expects to terminate the project at the end of eight years and to resell the plant and equipment in year 8 for $400,000. Finally, the project requires an initial investment in working capital of $350,000. Thereafter, working capital is forecasted to be 10 percent of sales in each of years 1 through 7.
Year 1 sales of hog feed are expected to be $4.2 million, and thereafter sales are forecast to grow by 5 percent a year, slightly faster than the inflation rate. Manufacturing costs are expected to be 90 percent of sales, and profits are subject to tax at 35 percent. The cost of capital for this project is 12%. What is the NPV of Pigpen's project? (6 points)

3 Clarix Inc. is a publicly traded company that operates in two businesses – it generates 60% of its value from entertainment and 40% from electronics. The company has 100 million shares trading at $ 8/share, has $ 800 million (market and book value) in interest bearing debt. The current equity beta for the firm is 1.15 and the debt is riskless. The riskless interest rate is 3.5%, the market risk premium is 5% and the marginal tax rate is 40%.

a. Estimate the current cost of capital for the firm. (2 points)
b. Now assume that the firm plans to sell its electronics business at fair value and use 75% the proceeds to pay a special dividend to equity investors and 25% of the proceeds to retire interest bearing debt. If the unlevered beta of the electronics business is 0.90, estimate the cost of capital for the firm after the transaction. (4 points)

4 The XYZ Corporation has an expected dividend of $4 one period from now. The dividend is expected to grow by 2 percent per period. Assume that the effective

personal tax rate on dividends is 40 percent and the effective personal tax rate on capital gains and share repurchases is zero.

a. What is the value of a share of stock, assuming that the appropriate discount rate for expected future dividends is 10 percent per period? (2 points)
b. The XYZ Corporation announces that it will stop paying dividends. Instead, the company will engage in a stock repurchase plan under which future cash that would previously have been earmarked for dividend payments will now be used exclusively for stock repurchases. Assuming no information effects, what should the new price of a share of XYZ stock be when market participants first learn of this announcement. (2 points)