

# University Southampton

## MOCK EXAM

The exam paper will contain **THREE** questions (3 to 4 sub-questions)

You have to Answer **TWO** questions in total.

### Example of sub-questions

#### Question 1

a. An analyst uses a temporary supernormal growth model to value a common stock. The company paid a \$3 dividend last year. The analyst expects dividends to grow at 10% each year for the next two years and then to resume a normal rate of 5% per year indefinitely. The analyst estimates that investors require a 15% return on the stock. What is the value of this common stock?

#### Question 2

What are the three assumptions that lie behind the Modigliani–Miller theory in a world without taxes. Are these assumptions reasonable in the real world?

The assumptions of the Modigliani-Miller theory in a world without taxes are the following:

**1) Individuals can borrow** at the same interest rate at which the firm borrows. Since investors can purchase securities on margin, an individual's effective interest rate is probably no higher than that for a firm. Therefore, this assumption is reasonable when applying MM's theory to the real world. If a firm were able to borrow at a rate lower than individuals, the firm's value would increase through corporate leverage. As MM Proposition I states, this is not the case in a world with no taxes.

**2) There are no taxes.** In the real world, firms do pay taxes. In the presence of corporate taxes, the value of a firm **is positively related to its debt level**. Since interest payments are deductible, **increasing debt reduces taxes and raises the value of the firm.**

#### Question 3

Explain why share price drop on the ex-dividends day.

The price drop will occur on the ex-dividend date. If you purchase the equity before the ex-dividends date, you will receive the dividend. If you purchase the equity on or after the ex-dividend date, you will not receive the dividend. Since dividends have value, the shareholder receiving the dividends must pay for them.

#### Question 4

Use the following information to answer the questions

The company has a target capital structure of 50% debt and 50% equity

Bonds with face value of \$1,000 pay an 8% coupon (semi-annual), mature in 10 years, and sell for \$875.38 with yield to maturity of 10%.

The company stock beta is 1.1

Risk-free rate is 2%, and market risk premium is 6%

The company is a constant-growth firm that just paid a dividend of \$1.4, sells for \$24 per share, and has a growth rate of 4%

The company's marginal tax rate is 35%

- a. What is the company's after-tax cost of debt?
- b. What is the company's cost of equity using the capital asset pricing model (CAPM)?
- c. What is the company's cost of equity using the dividend discount model?
- d. What is the company's weighted average cost of capital (using the cost of equity from CAPM)?

### Question 5

What do you understand by the term "value maximization"? Who maximizes this value and why? Explain.

Corporate goals and wealth (value) maximization

- Maximization of shareholders' wealth is the dominant goal of management in the Anglo-American world.
- In the rest of the world, this perspective still holds true (although to a lesser extent in some countries).
- In Anglo-American markets, this goal is realistic; in many other countries it is not.

Shareholder Wealth Maximization

- In a Shareholder Wealth Maximization model (SWM), a firm should strive to *maximize the return to shareholders*, as measured by the *sum of capital gains and dividends*, for a given level of risk.
- Alternatively, the firm should minimize the level of risk to shareholders for a given rate of return.

### Question 6

Discuss why NPV is considered as a superior method of evaluating the cash flows from a project.

NPV is superior to the other methods of analysis because it has no serious flaws.

- Takes account of time value of money.
- Uses cash flow, not accounting profit.
- Takes account of all relevant cash flows over life of project.
- Can take account of conventional and non-conventional cash flows, as well as changes in discount rate during project.

### Question 7

ABC Ltd expects to generate with a new investment in place net after-tax cash flows of \$10,000,000 next year with the cash flows expected to grow at a constant rate of 5% per annum in perpetuity. The initial investment required is \$50,000,000. The company uses a discount rate of 15% to evaluate its projects.

- a. Compute the project's net present value. What decision would the firm make?

- b.** Compute the project's internal rate of return. What decision would the firm make now? *(You can also indicate a possible value for the IRR explaining the rationale).*
- c.** Are there any conflicts in your decisions in parts (a) and (b) above? If so, explain why these conflicts may exist.