

University of Southampton
Group COURSEWORK – CORPORATE FINANCE
Part-Time

This is a Group coursework (4 students)

Please answer **ALL** of the following questions

Instructions:

In answering the questions below you should submit TWO documents:

- 1) A Word or pdf document where the questions are answered and,
- 2) An excel spreadsheet with your workings.

Question 1

Bond Valuation

Southampton Research Plc issued on 15.03.2013 a 10-year, 3.85% coupon bond with coupons paid semi-annually. The bond issue is rated as A- and has a default spread of 1.35%. The Treasury yield rates are presented in the table below.

Treasury Yield curve

| Maturity | 6- month | 1- year | 2- year | 3- year | 5- year | 7- year | 10- year | 20- year | 30- year |
|-------------------|-------------|------------|------------|------------|------------|------------|-------------|-------------|-------------|
| Yield Curve Rates | 2.19% | 2.49% | 2.75% | 2.96% | 3.10% | 3.24% | 3.55% | 4.62% | 5.45% |

Calculate:

- a. The fair price of the bond.
- b. Macaulay and Modified Duration

[20 marks]

Question 2

Equity Valuation

From the **S&P 500 Dividend Aristocrats Index** select two companies from different sectors (one for each sector).

- a. Apply the dividend discount model to calculate the intrinsic value of each of the two stocks selected.
- b. Clearly explain the assumptions used in the valuation and their rationale.
- c. Following your results advise in terms of buying or selling.

<http://us.spindices.com/indices/strategy/sp-500-dividend-aristocrats>

[20 marks]

Question 3

Capital Budgeting

You are asked to analyze two proposed capital investment projects, projects X and Y. Each project has a cost of £10,000, and the cost of capital for both projects is 12%. The projects expected net cash flows are as follows:

| Year | Expected Net Cash Flows | |
|------|-------------------------|-----------|
| | Project X | Project Y |
| 0 | (£10,000) | (£10,000) |
| 1 | £6,500 | £3,500 |
| 2 | £3,000 | £3,500 |
| 3 | £3,000 | £3,500 |
| 4 | £1,000 | £3,500 |

- Calculate each project's nominal payback period, net present value (NPV) and internal rate of return (IRR).
- Should both projects be accepted if they are interdependent?
- Which project should be accepted if they are mutually exclusive?
- How might a change in the cost of capital produce a conflict between the NPV and IRR rankings of these two projects? At what values of cost of capital, k , would this conflict exist? (*Hint*: Plot the NPV profiles for each project to find the crossover discount rate k .)

[20 marks]

Question 4

Capital Structure

You have been hired as a management consultant by Guernsey Corporation to evaluate whether it has an appropriate amount of debt (the company is worried about a leveraged buyout). You have collected the following information on Guernsey current position.

There are 1,000,000 shares outstanding, at £20/share. The stock has a beta of 1.12.

The company has £5,000,000 in long-term debt outstanding and is currently rated 'BBB'. The current market interest rate is 5% on BBB bonds and 1.5% on T.Bills.

The company's marginal tax rate is 35%.

You proceed to collect the data on what increasing debt will do to the company's ratings:

| Additional debt* | New Rating | Interest Rate |
|------------------|----------------|---------------|
| £2,500,000 | BB | 7.0 |
| £3,000,000 | B | 9.0 |
| £3,500,000 | B ⁻ | 11.0 |

* In addition to the existing debt of £5,000,000

- How much additional debt should the company take on?
- What is the weighted average cost of capital before and after the additional debt?

[20 marks]

Question 5

Describe the trade-off and pecking order theories of capital structure. Explain the implications of these theories to financial managers. In particular, highlight which variables managers should take into account when deciding the capital structure of their companies according to the trade-off theory.

[20 marks]

Total [100 marks]

Good luck with your work!