



FIN309
Finance

Assignment 1 - Individual Assignment/TMA01

January 2017 Presentation

Individual Assignment

This assignment is worth 25% of the final mark for FIN309 Finance.

The cut-off date for this assignment is **15 February 2017, 2355hrs.**

In this assignment, you are expected to:

- Evaluate investment proposals.
 - Apply knowledge to decide appropriate financing plan and dividend policy.
 - Demonstrate proficiency in writing.
-

Question 1

You recently went to work for Jurong Parts Limited, a company listed on Catalist, which supplies auto repair parts used in the after-market automobiles like Nissan, Honda and Mitsubishi.

Chief Financial Officer of Jurong Port is concerned with which methods should be used to evaluate projects: payback period, net present value or internal rate of return.

- (a) Explain the major drawback of using payback period method (including discounted payback period method) and give an example which can provide false decision when mutually exclusive projects are considered. (6 marks)
- (b) Appraise the main reason why net present value is the most appropriate method to be used in evaluating a project. (4 marks)
- (c) Jurong Port is considering two mutually exclusive projects with the following details:

	Project A	Project B
Life	3 years	3 years
Investment	\$5 million	\$5 million
NPV	\$836,000	\$750,000
IRR	11%	12%
Opportunity cost	8%	8%

Since NPV method and IRR method show different decisions, explain how the difference can be reconciled.

(6 marks)

Question 2

- (a) Capital Asset Pricing Model (CAPM) is often used to calculate the cost of equity. In deciding the risk-free rate of return, you have the following information on Treasuries:

Maturity	Yield
1 year	2%
10 years	4%
15 years	5%

The market risk premium is always assumed to be positive. However, in practice, it is often seen that in some years the market return is negative showing premium to be negative and some years the market return is unusually high as market returns are based on the expectation of how the economy will move.

Given this information, explain why CAPM using 10-year Treasury rate as risk-free rate and using a positive risk premium is appropriate in calculating the cost of equity.

(6 marks)

- (b) Jurong Port plans to finance a new project through issue of new bonds for \$10 million. Since debt is used to finance the project, the accounts manager argues that the interest paid for the bond should become part of the expenses in calculating the project's free cash flows and these cash flows should be discounted at the after-tax cost of debt.

Prepare a statement refuting the observations of the account manager.

(8 marks)

- (c) Net Present Value Method is used as the main criteria to evaluate the projects. Analyse the issues that the management should consider in using net present value and explain how these issues can be resolved.

(10 marks)

Question 3

The current share price of Jurong Parts is \$8.00 and last year's dividend was \$0.20. It also issued preferred shares several years ago, which pays a dividend of \$0.33 per share and currently trades at \$4.50 per share.

Security analysts are projecting that the ordinary dividends will grow at a rate of 5% a year. The firm also issued 10-year 6% coupon (semi-annual) bonds two years ago. The face value is \$1,000 and the last traded price was \$990.

The market risk premium is 6%, the risk-free rate is 3%, and Jurong Parts beta is 0.8. The firm uses a target capital structure with 45% debt, 5% preferred shares and 50% ordinary shares. The firm's marginal tax rate is 17%.

- (a) Calculate the cost of equity by applying both the capital asset pricing model (CAPM) and Gordon growth model, also known as the dividend discount model (DDM).
(10 marks)
- (b) Calculate the cost of preference share and cost of debt.
(10 marks)
- (c) Calculate the weighted average cost of capital (WACC). In doing so, use the average cost of equity derived in part (a).
(8 marks)

Question 4

You have been asked by the president of Jurong Parts to evaluate the proposed acquisition of a Computer Numeric Control (CNC) machine to manufacture a new type of alternator, ALT375. A feasibility study was commissioned three months ago at a cost of \$65,000 to evaluate this opportunity.

The equipment's basic price is \$700,000, and it would cost another \$50,000 to modify it for special use by your firm.

Based on findings from the feasibility study, Jurong Parts expects to sell 2,000 alternators in the first year. Demand is expected to increase by 400 units each year for the next three years. Thereafter, demand will fall by half. No sales are expected from year six onwards because cars using this part will all be scrapped.

Selling price is \$250 per unit and not expected to fluctuate over the project life. The firm anticipates to earn a gross profit margin of 35%. Fixed operating costs in the first year is estimated to be \$50,000 in year one and this will increase by inflation rate of 3%. Based on past experience, net working capital required, namely spare parts inventory, will be 10% of sales.

The CNC machine would depreciated equally over 3 years to zero net book value. However, it can be sold for \$35,000 at the end of the project life. The firm's marginal tax rate is 17% and the appropriate discount rate is 12%.

- (a) Calculate the free cash flow from Year 0 to 5 relating to the proposed manufacturing of ALT375.
(28 marks)
- (b) Calculate the net present value (NPV) of this opportunity and determine whether Jurong Parts should proceed with this project.
(4 marks)

---- END OF ASSIGNMENT ----