



# M5 Assignment 1 Submission

## Instructions

### Assignment 1: LASA # 2—Capital Budgeting Techniques

As a financial consultant, you have contracted with Wheel Industries to evaluate their procedures involving the evaluation of long term investment opportunities. You have agreed to provide a detailed report illustrating the use of several techniques for evaluating capital projects including the weighted average cost of capital to the firm, the anticipated cash flows for the projects, and the methods used for project selection. In addition, you have been asked to evaluate two projects, incorporating risk into the calculations.

You have also agreed to provide an 8-10 page report, in good form, with detailed explanation of your methodology, findings, and recommendations.

#### Company Information

Wheel Industries is considering a three-year expansion project, Project A. The project requires an initial investment of \$1.5 million. The project will use the straight-line depreciation method. The project has no salvage value. It is estimated that the project will generate

additional revenues of \$1.2 million per year before tax and has additional annual costs of \$600,000. The Marginal Tax rate is 35%.

**Required:**

- A. Wheel has just paid a dividend of \$2.50 per share. The dividends are expected to grow at a constant rate of six percent per year forever. If the stock is currently selling for \$50 per share with a 10% flotation cost, what is the cost of new equity for the firm? What are the advantages and disadvantages of using this type of financing for the firm?
- B. The firm is considering using debt in its capital structure. If the market rate of 5% is appropriate for debt of this kind, what is the after tax cost of debt for the company? What are the advantages and disadvantages of using this type of financing for the firm?
- C. The firm has decided on a capital structure consisting of 30% debt and 70% new common stock. Calculate the WACC and explain how it is used in the capital budgeting process.
- D. Calculate the after tax cash flows for the project for each year. Explain the methods used in your calculations.
- E. If the discount rate were 6 percent calculate the NPV of the project. Is this an economically acceptable project to undertake? Why or why not?
- F. Now calculate the IRR for the project. Is this an acceptable project? Why or why not? Is there a conflict between your answer to part C? Explain why or why not?

Wheel has two other possible investment opportunities, which are mutually exclusive, and independent of Investment A above. Both investments will cost \$120,000 and have a life of 6 years. The after tax cash flows are expected to be the same over the six year life for

both projects, and the probabilities for each year's after tax cash flow is given in the table below.

Investment B			Investr
Probability	After Tax Cash Flow		Probability
0.25	\$20,000		0.30
0.50	32,000		0.50
0.25	40,000		0.20

- G. What is the expected value of each project's annual after tax cash flow? Justify your answers and identify any conflicts between the IRR and the NPV and explain why these conflicts may occur.
- H. Assuming that the appropriate discount rate for projects of this risk level is 8%, what is the risk-adjusted NPV for each project? Which project, if either, should be selected? Justify your conclusions.

Turn in your completed work to the **Submissions Area** by the **due date assigned**.

Assignment 1 Grading Criteria	Maximum Points
Correctly calculated the cost of new equity and explained the calculations, as well as the advantages and disadvantages of using this type of financing for the firm. (CO4)	20

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Correctly calculated the cost of new debt and explained the calculations, as well as the advantages and disadvantages of using this type of financing for the firm. (CO4)	20
Correctly calculated the weighted average cost of capital and explained how and why it is used in the capital budgeting process. (CO4)	20
Correctly calculated the annual cash flows for the projects and explained the methods used in the calculations. (CO1)	44
Evaluated the projects using the NPV method and came to the correct conclusions based on the decision rules for the NPV. (CO2)	44
Evaluated the projects using the IRR method and came to the correct conclusion based on the decision rules for the IRR. Identified any conflicts between the IRR and the NPV and explained why these conflicts may occur. (CO 3)	44
Correctly introduced risk into the evaluation by using the expected values as the cash flows and evaluated these cash flows using risk adjusted discounted rates. (CO 5)	44
Written in a clear, concise, and organized manner; demonstrated ethical scholarship in accurate representation and attribution of sources; displayed accurate spelling, grammar, and punctuation.	64
<b>Total:</b>	<b>300</b>