Module 7:
Capital Structure & the Cost of Capital

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Outline

1. Introduction
2. Learning outcomes
3. Module tasks
4. Module overview and discussion

1. Introduction

Financial managers weight the benefits and costs associated with the investment and financing decisions that they make. An important financing decision that the financial management of a company makes is the capital structure decision; that is, how does the company finance its business? The capital structure decision affects the financial risk that a company assumes and affects the cost of capital.

The greater a company's reliance on debt financing, the greater the benefit that a company receives in terms of the tax deductibility of interest; as you will see, the government shares some of the cost of the debt. But along with that benefit from taxes, the greater the company's reliance on debt, the greater is the increased chance of bankruptcy, which is accompanied by an increase in the company's cost of capital.

What a financial manager must do is strike a balance between the benefit from interest deductibility and the potential cost of bankruptcy. The challenge is that a company doesn't know it has too much debt until it reaches that point at which it can no longer handle this debt. By then, it's too late.

In this module, you will be introduced to the theory of capital structure. This theory is based on a reasoning of the factors to consider in choosing a company's capital structure. You will also be introduced to the methods of estimating the cost of capital. These methods use valuation principles and tools.

2. Learning outcomes

LO7.1 Explain the sensitivity of earnings to owners to financial leverage.
LO7.2 Quantify the risk associated with financial leverage.
LO7.3 Explain the role of interest deductibility for tax purposes in the capital structure decision.
LO7.4 Explain the role of bankruptcy and bankruptcy costs in the capital structure decision.
LO7.5 Demonstrate through example and graphically the interaction between interest deductibility and bankruptcy costs in the capital structure decision.

LO7.6 List reasons why capital structures may differ among industries and among companies within an industry.

LO7.7 Estimate the cost of capital for a company.

LO7.8 Compare and contrast the cost of equity capital determined by the DVM and the CAPM.

LO7.9 Identify the problem and issues related to the estimation of the cost of capital.

3. Module tasks

A. Readings

i. Required reading
   - Capital structure
   - Cost of capital

ii. Other resources
   - Cost of capital formulas
   - Online Tutorial #8: How Do You Calculate A Company's Cost of Capital?, by Expectations Investing.
   - Kevin Bracker's brief explanation of capital structure theory

iii. Optional reading
   - Fabozzi and Peterson text, Chapters 18 and 11, available free through FAU Libraries and NetLibrary.

B. Problem sets

These problems sets are non-graded tasks. It is recommended that you complete these problem sets prior to attempting the graded online quiz.

- Capital structure practice problems and solutions
- Cost of capital practice problems and solutions.
- StudyMate Activity

C. Achievements

1. Module quiz. Complete the online quiz by April 25th. The guidelines of this quiz are the same as all other graded quizzes in this course:

   a. The Honor Code applies. You are permitted to use all materials at hand, but you are not permitted the assistance of any person.

   b. There is no backtracking allowed. Once you answer a question, you are not permitted to go back to check your work or change your answer.
Module overview and discussion

A. Capital structure

The combination of debt and equity used to finance a company's projects is referred to as capital structure. The capital structure of a firm is some mix of debt, internally generated equity, and new equity. But what is the right mixture? It depends on a number of factors.

The best capital structure depends on several factors. The two primary factors are interest and financial risk. A difference in the cost of debt and equity to a company arises because dividends paid are not deductible for tax purposes, whereas interest paid on debt is tax deductible. Therefore, debt is a cheaper source of capital.

But unlike equity, debt is a legal commitment, with attendant legal consequences for failure to pay what is due. If a firm finances its activities with debt, the creditors expect the amount of the interest and principal -- fixed, legal commitments -- to be paid back as promised. Failure to pay may result in legal actions by the creditors. Therefore, a company does not want to take on more debt that it can handle.

Determining the best balance between the benefits of debt and the costs of debt is a challenge for financial managers.

B. The cost of capital

The cost of capital is the firm's cost of using funds provided by creditors and shareholders. A firm's cost of capital is the cost of its long-term sources of funds: debt, preferred equity, and common equity. The cost of each source reflects (1) the risk of the assets the firm invests in, (2) the hierarchy of the risk associated with its seniority over the other sources, and (3) whether what is paid to suppliers of capital is tax deductible.

The cost of capital is what it costs for additional capital, though we often look to the past to gauge this cost. What we want, ideally, is to estimate the cost of raising another dollar of capital - in other words, the marginal cost of capital.

We estimate the cost of capital using what we know about taxes and returns on the different sources of capital. For example, we estimate the cost of debt by first calculating the yield to maturity on existing bonds and then adjusting this cost for the tax deductibility of interest.

The cost of capital is an important input in financial decision making because investment decisions involve comparing the benefit of an investment - the return - with the cost, where this cost reflects the cost of capital.