

ADVANCED MANAGEMENT ACCOUNTING

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3.0 TOPIC THREE: CAPITAL BUDGETING AND RISK- Risk Analysis



Learning Objectives

By the end of this chapter the learner should be able to:

- i) Explain the causes of risk
- ii) Describe the perspectives on risk
- iii) Discuss the various methods of dealing with risk in capital budgeting

3.1 Introduction

Risk is inherent in almost every business decision. More so in capital budgeting decision as they involve costs and benefits extending over a long period of time during which many things can change in unanticipated ways.

A research and development project may be more risky than an expansion project and the latter tends to be more risky than a replacement project. In view of such differences, variations in risk need to be considered explicitly in capital investment appraisal.

Risk analysis is one of the most complex and slippery aspects of capital budgeting.

3.2 Perspectives on Risk

You can view a project from at least three different perspectives:

Stand alone risk- This represents the risk of a project when it is viewed in isolation.

Firm risk- Also called corporate risk; this represents the contribution of a project to risk: the firm.

Market risk- This represents the risk of a project from the point of view of a diversified investor. It is also called systematic risk.

Since the primary goal of the firm is to maximize shareholder value, what matters finally is the risk that a project imposes on shareholders. If shareholders are well diversified market risk is the most appropriate measure of risk.

In practice, however, the project's stand-alone risk as well as its corporate risk are considered important. Why? The project's stand-alone risk is considered important-for the following reasons:

- i) Measuring a project's stand-alone risk is easier than measuring its corporate risk a, far easier than measuring its market risk.

On the basis of the arbitrage processes *M-M (1) conclude that the market of a firm (or its cost of capital) is not affected by leverage*. Thus the financing (or capital structure) decision is irrelevant. It does not have any impact on the maximization of market price share. This implies that one capital structure is as much desirable as the other.

5.3.4.2 Proposition II: (M-M) II

MM (II) defines the cost equity as M-M (1) i.e.

$$k_e = \frac{\bar{X} - K_d D}{S} \dots\dots\dots 3$$

Since we know from equation (4) that;

$$k_o = \frac{\bar{X}}{V}$$

And, k_o and V are constant by definition we obtain the following equation;

$$\bar{X} = k_o V = k_o S + k_d D \dots\dots\dots 10$$

Substituting equation (10) in to equation (3) we have:

$$k_e = \frac{k_o(S + D) - k_d D}{S} = \frac{k_o S + k_o D - k_d D}{S} = k_o + (k_o - k_d) \frac{D}{S} \dots\dots\dots 7$$

