Agency Costs and the Discount Rate for Public Sector Enterprises

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ABSTRACT

In this paper, we examine the implications of agency costs on the discount rate for public sector enterprises (PSEs); we do this in the framework of the Capital Asset Pricing Model. With the addition of agency costs, the discount rate for Public Sector Enterprises (PSEs) under uncertainty becomes the risk-adjusted discount rate plus a premium for agency costs; under certainty, the discount rate for PSEs is shown to be the risk-free rate plus a premium for agency costs. Use of a discount rate by PSEs without adjusting for agency costs both under certainty and uncertainty, will lead to sub-optimal capital investment decisions by PSEs.

Introduction

In capital budgeting decisions, using the correct discount rate to find the present value of cash flows is very critical. There has been considerable debate in the finance literature on the appropriate discount rate for public sector projects. In the absence of risk (or under certainty), cash flows of public sector enterprises (PSEs) should be discounted at the risk-free rate (Lintner 1980). The Capital Asset Pricing Model (CAPM) developed by Sharpe (1964), Lintner (1965) and Mossin (1966) has been used as a framework for estimating the discount rate for Private Sector Enterprises (PVTSEs) and PSEs. For example, under uncertainty and using the CAPM frame work, Lintner (1980) argues that, "the discount rate that a state-owned enterprise should use to determine the desirability of a new investment outlay depends entirely upon (risk-free rate plus) the systematic risk of the cash flows attributable to the project." This is essentially the same approach pursued by Hirshleifer (1966) and Baumol (1968) who argue that regardless of public or private
ownership, risks involved in any project's cash flows are the same and therefore should warrant the same discount rate. Bailey and Jensen (1972) and Rubinstein (1973) reach the conclusion that with any given degree of systematic risk, the discount rate for PSE projects (social rate of discount) is likely to be as high as the discount rate for private projects. Arrow and Lind (1970) argue that since the risks of the public enterprises are ultimately borne by private individuals rather than the government per se, public investments should command the same rate as private investments.

Separation of ownership and control in any organization creates an agency problem. While agency problems exist in PVTSEs, Zeckhauser and Horn (1989) describe the PSEs as an extreme example of separation of ownership and control. In private corporations, the ability of the stockholders to sell the stock and or vote out managements create incentives for managers to act in the interests of stockholders. On the other hand, non-transferability and the diffused nature of ownership of PSEs and the absence of a market price structure impair the mechanisms that help align the interests of management and the "tax payer-shareholder". Since politicians, consumers, suppliers, labor, and management can impose a claim on the operation of the enterprise, the position of the tax payer-shareholder is weakened. Furthermore, since PSE shares are nontransferable, the potential for takeovers is non-existent. PSEs are also limited in their ability to link management compensation to financial performance. With the government owning 100 percent of the shares, stock options cannot be instituted. In addition, in the absence of a market-based share price, it is difficult to find a measure of financial performance that provides a basis for bonus payments. Because of all these factors, the agency costs in PSEs are likely to be higher. These costs have to be reflected properly in the discount rate for PSEs. All corporations need to be evaluated in terms of the net contribution to the social welfare: "that is to say, all enterprises ought to be expected to contribute more to society than they use of the things valuable to society" (Vernon and Aharoni 1980). Hence, we bring in the added argument of agency costs for using a higher discount rate for PSEs.

Agency theory, as expounded by Jensen and Meckling (1976), Fama (1980), Fama and Jensen (1983), provides a good framework for the assessment of the appropriate discount rate for PSEs, with agency costs incorporated. Previous studies by Vernon and Aharoni (1980), Arrow (1980), Raiffa (1980) and Zeckhauser and Horn (1989) apply the agency theory framework to identify the factors underlying the performance of PSEs. But they do not provide a specific model to incorporate explicitly the agency costs. In this paper, we examine the implications of agency costs on the discount rate for the PSEs and find that the rate should be higher due to higher agency costs.

The paper is organized as follows: We provide a brief review of agency theory and its applicability to the public sector, and we develop a modified version of the Capital Asset Pricing Model (CAPM) to measure the required rate of return for PSEs under uncertainty. Then, we apply the CAPM model with agency costs to measure