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Teaching and Education note

A note on bundling budgets to achieve management control

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A R T I C L E   I N F O

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A B S T R A C T

By its very nature, management control research can be complex and difficult to understand, and hence challenging to introduce into the classroom. Nevertheless, it is important for accounting instruction to retain a connection between teaching and research. This note provides guidance on how recent findings in the theory of management control can be introduced into the classroom. The general approach is to present findings in the academic literature using a combination of numerical examples and classroom experiments. We use this two-pronged approach to illustrate that the bundling of budget proposals mitigates management they in a setting where control issues arise because subordinates are privately informed and self-interested. In our experience this approach stimulates student interest and increases the likelihood of successful implementation in undergraduate and graduate classes.

1. Introduction

This note illustrates an approach to introducing management control research into the classroom. By management control, we refer to corporate governance, reporting protocols, incentive schemes and other features of the organization that help align the goals of its members. Research on management control is by its nature complex, as it involves the interaction of multiple individuals with different information and preferences. This makes the formal analysis of management control settings difficult to communicate to students in a way they fully appreciate and comprehend. Yet, it is important to do

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so, as research findings in accounting can be useful in guiding practice and standard-setting. Instead of presenting formal proofs and theorems, we use numerical examples and a classroom experiment to give students an intuitive feel for the underlying economic theory. We have found that the methods described herein are an effective pedagogic tool for upper-level undergraduate instruction, as well as for masters and first-year doctoral courses.

We employ this approach within a stylized capital budgeting setting. Specifically, we focus on how bundling budget proposals may reduce management control costs associated with capital budgeting. By bundling budget proposals, we mean having subordinates submit several budget proposals simultaneously to their superiors.

The traditional textbook treatment of capital budgeting suggests that firms should approve budgets for capital investments if they generate a positive net present value. This traditional approach provides a powerful evaluation metric. However, its application relies on several significant simplifying assumptions related to the investment decision, most notably the acquisition of costless, unbiased information regarding the investment's future profitability. We relax this assumption by exploring the case where the decision-maker relies on other, self-interested, privately informed individuals to forecast the investment's future cash flows.[2] The existence of private information, which naturally arises in decentralized organizations, is generally costly because information holders must be paid economic rents in order to relinquish their informational advantage.

Examples of inefficiencies caused by senior decision-makers' reliance on information from self-interested, lower-level employees are plentiful. For instance, early troubles at Enron began when capital investments became much more expensive and much less profitable than sponsoring managers had projected. One such project is the Dabhol power plant in India, where it was estimated by some that the plant might return 30 percent on invested capital. Instead, Enron spent $900,000,000—without generating a cent in revenue (McLean & Elkind, 2003)![3] Another example involves the hit series "Survivor". The Disney Corporation had an early opportunity to acquire the property. However one manager, out of jealously of a lower-level employee, recommended not picking up the show. Senior executives relied on her advice, and the show became the property of a rival firm, eventually much to the chagrin of Disney (Stewart, 2005). In general, reliance on self-interested, subordinate employees when making capital investment decisions is a critical issue for firms of any size.

Several academic papers examine the role of bundling capital investment budgets in order to reduce costs arising because a superior is less informed (Antle, Bogetoft, & Stark, 1999; Arya & Glover, 2001). The main insight from these papers is allowing the superior to consider several budget requests simultaneously may, in a sense, reduce information asymmetries and hence the costs arising because subordinates are privately informed.

In order to explicate the scholarly findings on the value of bundling budgets to reduce management control costs we use both numerical illustrations and a classroom experiment. These approaches have been successfully implemented in a number of other papers in the pedagogic accounting literature. For example, several teaching notes use numerical examples and anecdotes to present accounting related economic theories (Antle & Demski, 1988; Arya, Fellingham, & Young, 1996; Arya et al., 1998; Nikias, Schwartz, & Young, 2005). Although many undergraduate students struggle with material such as game theory and optimal contract design, in our experience these same students often find the material enjoyable and more rewarding when given the opportunity to design their own stylized employment contracts.[4] There also has been a growing use of economic experiments in the accounting classroom, which mirrors the growth in economics instruction. Papers of this genre include Berg, Dickhaut, Hughes, McCabe, and Rayburn (1995), Boylan (2000, 2004), Kachelmeier and King (2002), Schwartz, Spires, and Young (2004) and Schwartz, Wallin, and Young (2007). As far as we know, this is the first teaching note in accounting to describe how to combine the two methods.

We begin with the simplest case of a single project, which allows students to familiarize themselves with the basic issues of contracting, moral hazard and management control. We then illustrate

[2] See Arya, Fellingham, and Glover (1998) for an analysis of a variety of situations where deviations from the net present value rule may be useful.

[3] Incidentally, this outcome did not stop the sponsoring manager and her team from receiving millions of dollars in bonuses.

[4] This is the purpose of Gächter and Königstein (2006).