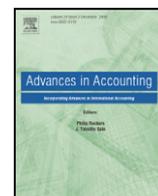




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## Investment appraisal practices: A comparative study of conventional and Islamic financial institutions

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### ABSTRACT

This paper compares the use of capital budgeting techniques of conventional and Islamic financial institutions, using data obtained from a survey of 105 conventional and Islamic financial institutions. Our main aim is to analyze the use of capital budgeting and risk techniques by the two types of financial institutions from a comparative perspective to see whether prohibition of riba makes a difference. Standard difference-of-means tests of the mean scores methods were used to test the hypotheses of the study. The results reveal a number of important conclusions. First, discounted cash flow techniques are found to be more widely used by financial institutions, and among those techniques internal rate of return is the most common. Second, Islamic financial institutions are found to adopt traditional methods that do not comply with the principles of Islamic Sharia'a. Third, a huge gap is found between the theory base of Islamic institutions and some of the practices of those institutions. Fourth, firms' characteristics, such as size, listing status, sources of revenue and government ownership, have some impact on their decisions to adopt capital budgeting criteria, methods of estimating costs of capital and risk. Finally, the decisions to select particular capital budgeting techniques, cost of capital estimation methods, and risk assessments are partly related to the characteristics of the chief financial officers.

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### 1. Introduction

Investment decisions are vital for the long term survival of firms. In addition, these decisions are expected to contribute to maximizing a firm's value. Capital budgeting decisions are among the most important decisions the financial manager of a company has to deal with. Capital budgeting refers to the process of determining which investment projects will maximize shareholder value. Therefore, firms are expected to evaluate investment alternatives using suitable techniques that are able to measure the impact of acceptance or rejection on a firm's value. To this end, finance theory suggests that firms should use discounted cash flow methods (DCF) to analyze capital budgeting alternatives. Among DCF techniques, academics overwhelmingly prefer the use of net present value (NPV). Empirical studies in the area concentrate on studying the possible gaps between theory and practice. A large number of studies conducted with the aim of identifying the capital budgeting practices of firms in many countries report that companies adopt capital budgeting techniques other than DCF methods, either instead of or as well as DCF methods. One non-DCF method, payback period (PB), although seriously flawed, is found to be used extensively by firms in developed markets (Graham & Harvey, 2001). Brounen, de Jong, and Koedijk (2004)

report that the PB method is the most frequently used method among firms in the UK, Germany, and France, and it is also very common in the Netherlands, where it is the second most popular method after NPV. Published studies report conflicting results, however. As a result, researchers continue investigating this area, despite the volumes of published papers, with the aims of identifying trends in capital budgeting practice, determining the extent of inclusion of new developments by firms, and studying new economies or industries.

The purpose of this paper is to investigate the current capital budget and risk practices of conventional and Islamic financial institutions. To our knowledge, this is first published attempt to study the capital budgeting practices of Islamic financial institutions. We carry out this analysis using standard difference-of-means tests to see whether there is an "Islamic Sharia'a effect". This means that we investigate whether capital budgeting practices differ significantly between the two types of institution and whether these differences can be explained by the adherence of Islamic financial institutions to the principles of Islamic Sharia'a.

The additional contribution of this study to the existing empirical literature on capital budgeting and risk practices is threefold. First, while a large number of studies on the use of capital budgeting techniques are conducted, published papers on emerging markets are limited. Therefore this study aims to bridge that gap. Second, it also provides evidence of the capital budgeting techniques and risk methods adopted by financial institutions, an economic sector which has largely been ignored by previous studies. Third, it identifies

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the capital budgeting techniques adopted by Islamic financial institutions that adhere to the requirements of Islamic Sharia'a. Among the most important requirements is the prohibition of *riba* (interest), as Islam prohibits paying or receiving interest.<sup>1</sup> The use of DCF methods, despite their superiority to other techniques, is not fully compliant with the requirements of Islamic Sharia'a (El-Abji, 1985).

## 2. Literature review

### 2.1. Survey of capital budgeting practices

The literature on capital budgeting practices is voluminous. However, the aim of this section is not to provide an extensive survey of the literature, but to review a small selection of recent studies necessary to develop the hypothesis of the study. Limiting the brief review to some recent studies is a response to the findings of a number of studies that practices change over time. In the absence of studies conducted in Bahrain, the review uses studies conducted elsewhere. Chazi, Terra, and Zanella (2007) surveyed firms in the Gulf Cooperation Council (GCC) countries in relation to financial management practices, and included 3 firms from Bahrain. That study included 34 firms from Bahrain, Kuwait, Oman and United Arab Emirates, but did not report on the countries separately. They report that NPV is the most widely used method by firms in the GCC, followed by internal rate of return (IRR), while PB came in third place. In estimating the cost of capital, the Capital Assets Pricing Model (CAPM) or beta approach is the most popular choice among the firms in the sample, together with the use of the discount rate for the entire company.

Graham and Harvey (2001) report that IRR and NPV were the most frequently used capital budgeting techniques by American firms, with IRR the most popular technique. Other techniques, such as the PB were less popular as a primary method, but are still used by a majority of companies as a secondary method. They also found that CAPM was the most popular method of estimating the cost of equity, with 73% of respondents relying mainly on CAPM. An increase in the alignment of the capital budgeting practices of US firms with academic prescriptions was also observed by Gitman and Vandenberg (2000), and Ryan and Ryan (2002). Graham and Harvey (2001) found that a firm's use of a particular method is explained by its size, leverage, and characteristics of the CEO. Small firms are unlikely to use NPV and less likely to use sensitivity analysis or other sophisticated risk techniques. A large gap between theory and capital budgeting practices of small firms in the US is reported by Prather, Topuz, Benco, and Romer (2009).

Hermes, Smid, and Yao (2007) provide evidence that Dutch managers on average use more sophisticated capital budgeting techniques than Chinese managers tasked with capital decision making. This finding may be attributed, among other factors, to the fact that the Netherlands is a more developed economy than China. However, European firms, despite showing an increased use of DCF methods, still lagged behind their American counterparts in the use of these methods. Brounen et al. (2004) replicated the survey of Graham and Harvey (2001) in four European countries (UK, France, Germany and the Netherlands; total sample is 313 firms) in 2002–2003. They report that PB is found to be the favorite method of CFOs, followed by IRR and NPV. Similar results are reported by Sandahl and Stefan Sjögren (2003) for a large group of Swedish companies.

Kester et al. (1999) report that executives in all of the countries they surveyed (Australia, Hong Kong, Indonesia, Malaysia, Philippines, and Singapore) except Hong Kong and Singapore, ranked DCF techniques (NPV or IRR) as the most important techniques for evaluating projects. In the case of Singapore, IRR and PB were rated

equally as the most important technique. In Hong Kong, PB was ranked as the most important technique. The study also reports that scenario analysis is the most popular risk assessment technique used by firms in all the countries, with the exception of Australia, followed by sensitivity analysis in all countries, with the exception of Australia where this method is ranked number one. Kester et al. (1999) found that the firms in the countries surveyed differ significantly with the regard to the method used to estimate the equity cost of capital. It was found that 72.7% of Australian firms use CAPM based on the firm's estimated beta. No company in Indonesia reported using the model, and in other countries the use of CAPM ranges between 6.2% in Malaysia and 26.9% in Hong Kong. Dividend yield plus growth rate is the most popular method in Hong Kong and Malaysia, and cost of debt plus risk premium is the most popular method in Indonesia and Philippines, while in Singapore these two methods enjoy similar popularity.

In a study of Cypriot firms, Lazaridis (2004) reports that the most popular techniques among the surveyed firms is PB, followed by return on investment, while NPV and IRR came in third and fourth place. As to the risk analysis methods, 31.7% of companies use total statistical risk analysis, scenario analysis is used by 30%, sensitivity is used by 28.33%, while beta is not among the methods used to incorporate risk into project analysis. In addition, the study found that the discount rate used varies among firms, with the most popular being the cost of borrowing, followed by past experience, and the cost of equity the third most popular approach. The sample of companies was mainly small and medium firms, which may explain the results.

Larla (2006) reports that PB is the most popular method used by Indian firms, followed by IRR, with NPV in third place. These results are in contrast to those reported by Anand (2002) who found that 85% of the companies consider IRR to be a very important/important selection criterion, 67.5% adopt PB, and about 65% of respondents always or almost always used NPV. The CAPM is found as the most popular method for estimating the cost of equity.

A number of studies, such as Brounen et al. (2004) and Hermes et al. (2007), included financial institutions in their samples. However, generally the responses of financial institutions are not reported separately. Pereiro (2006) is an exception who studied capital budgeting practices of Argentinean firms. Pereiro's sample includes 5 financial advisors, 6 private equity funds, 3 banks and 3 insurance companies, in addition to 31 non-financial firms. The results show that DCF criteria are the most popular, and among them NPV followed by IRR. Also, it is reported that economic value added (EVA) is widely used by banks and insurance companies, but not by other groups in the sample.

In summary, several conclusions can be drawn from the literatures on capital budgeting. Among the most important are: 1) over time, DCF techniques are gaining more popularity, reducing the gap between theory and practice. However, IRR is still the most widely used DCF method, rather than NPV, which is preferred by academics; 2) American firms use DCF techniques more extensively than European firms, which in turn use such methods more than firms in developing countries, 3) non-DCF methods are still widely used, but as a secondary rather than primary method, 4) currently more firms are adopting sophisticated risk methods, and 5) a firm's size is found to be an independent variable that explains differences in the capital budgeting practice.

### 2.2. Islamic finance

The growth of Islamic banking both in Muslim and non-Muslim countries in recent years is remarkable (Wilson, 2007). Islamic banking is developed as an alternative to conventional banking to serve the interest of Muslims who are prohibited from paying or receiving *riba* (interest). This is because al-Qur'an severely condemned it and prohibited it in the strongest possible terms. As a result

<sup>1</sup> *Riba* means an increase in one of two homogeneous equivalents being exchanged without this increase being accompanied by a return.

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