

A STUDY ON CAPITAL BUDGETING PRACTICES IN LISTED COMPANIES OF BOMBAY STOCK EXCHANGE

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Abstract:

Capital budgeting is the important factor in the process of corporate decision-making. The Data's from previous literature shows that managers prefer the payback period method (non-discounted payback model) over the net present value method (discounted cash flow model), which is considered as superior. Almost all investigative research in India has shown that the managers of Indian firms tend to prefer a non-discounted cash flow model, such as a simple payback period method. There is a gap between business practice and academic theory has long been a puzzle to the academic community.

From December 2012 to March 2013, the survey was conducted by using a questionnaire sent to 5,163 people in charge of capital budgeting at firms listed on the Bombay Stock Exchange by focusing on capital budgeting practices. This paper presents the results of the questionnaire survey and evaluates the capital budgeting practices in Indian firms. The results show that Indian firms manage their decision-making by a combination of payback period method and net present value method while most financial managers utilize multiple tools in the capital budgeting process; these results reflect that there is an alignment of views between academia and business.

KEYWORDS:

Capital Budgeting, Business Practice, Academic theory, Indian Firms

INTRODUCTION

Capital budgeting models are used by corporate managers in the process of critical decision-making. The various capital budgeting methods:

- 1.Net present value (NPV) method
- 2.Internal rate of return (IRR) method
- 3.Simple payback period (SPP) method
- 4.Discounted payback period (DPP) method
- 5.Accounting rate of re- turn (ARR) method(ROI)
- 6.Real option (RO) method.

The academic articles and textbooks recommend that managers should use the most appropriate and exact methods to ensure the highest return for the least risk in order for their firm to maximize shareholder wealth. Academic literature has indicated that discounted cash flow models, such as NPV, ARR are desirable for decision-making concerned with capital investment because an increase of NPV is connected directly with increased corporate value.

In the long run various capital budgeting models has not been in agreement with finance theory. The payback period method is said to be irrelevant only because the simple payback period method ignores

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the time value of money and cash flows beyond the cutoff rate, the cutoff is usually arbitrary. The discounted payback period (DPP) method, which was modified in order to eliminate the limitations imposed by ignoring the time value of money, it is not possible to resolve the difficulty of ignoring cash flows. The previous studies in India have indicated that managers have most frequently used SPP and have rarely used NPV or IRR.

This study is relating to examining the capital budgeting decision-making methods used by managers of listed companies on the Bombay Stock Exchange in India. The purpose of this study is to discover how Indian firms use different capital budgeting methods. It also discusses the corresponding relationship between the types of investments and capital budgeting methods. That is, this research focuses on whether managers of Indian firms, when making decisions about different types of investment plans, have changed their thinking about assessing the importance of capital budgeting methods. In this paper there is outline of some recent data, in particular data based on descriptive statistics, on the use of capital budgeting methods in India.

Types on Investments and Capital Budgeting Techniques

For this research paper purpose investments are classified into eight types:

1. New equipment investment
2. Extensive equipment investment
3. Replacement equipment investment
4. Investment in new products and services
5. R&D
6. Investment in information system
7. Investment in foreign business
8. M&A.

LITERATURE REVIEW

Dhankar R S (1995) made a study on the methods of evaluating investments and uncertainty in Indian companies. Sample size was 75 firms. Findings revealed that 33% of firms used non-discounted methods like PBP and ARR whereas 16% of companies were using modern DCF techniques. Moreover, almost 50% of the companies incorporated risk by 'Adjusting the Discount Rate' and 'Capital Asset Pricing Model'.

U. Rao Cherukuri's (1996) made survey of 74 Indian companies revealed that 51% use IRR as project appraisal criterion. ARR and PBP are used as supplementary decision criteria. WACC is the discount rate used by 35% of the sample firms. The most widely used discount rate is 15%, and over 50% use an after-tax rate. About three-fifths of the respondents explicitly consider risk in capital project analysis and mostly use sensitivity analysis for purposes of risk assessment. The most popular method used by respondents to adjust for risk is shortening the PBP followed by increasing the required rate of return. 35% of the respondents included leasing in the capital budgeting process.

C Prabhakara Babu & Aradhana Sharma (1996) had done an empirical study on capital budgeting practices in Indian Industry. The authors have conducted a survey of 73 companies in and around Delhi and Chandigarh. They used personal interview method. It has been found by them that 90% of companies have been using capital budgeting methods. Around 73% of the companies have been using DCF methods. The popular investment appraisal methods are the 'IRR' and the 'PBP', used either individually or jointly. Around 70% executives felt that it is possible to estimate accurately the cash flows associated with each capital investment separately. They have observed that capital investment proposals are prepared by the concerned departments and the final decision is vested with other personnel/committee. The popular discount rate used by the firms is 'the term lending rate of financial institutions' closely followed by 'cost of capital'. The most often used method to resolve the uncertainty in the future returns seems to be 'inflating or deflating the future cash flows'-and it is followed by the use of 'sensitivity analysis'. Most of the executives (around 75%) appreciate the suitability of the DCF technique in our country.

Jain P K and Kumar M (1998) A comparative study of capital budgeting practices in Indian context and observed that 25% of sample companies invested for expansion and diversification and firms were making regular investments for replacement and maintenance. The selected sample companies have evaluated capital budgeting projects were PBP, due to its simplicity, easy understanding, less cost and less time, followed by NPV and IRR. Companies preferred WACC followed by 'Arbitrary rate' and 'Marginal cost of additional funds' as cutoff rate for discounting the projects.

Anand Manoj (2002) 81 CFOs of India to find out corporate finance practices vis-à-vis capital

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budgeting decisions cost of capital, capital structure, and dividend policy decisions. It analyzed the responses by the firm characteristics like firm size, profitability, leverage, P/E ratio, CFO's education, and the sector. The analysis reveals that companies do use the basic corporate finance tools that the professional institutes and business schools have taught for years to a great extent. It is also observed that the corporate finance practices vary with firm size. As per his findings, the firms use DCF techniques more than before. They use multiple criteria in their project choice decisions. 85% of the respondents consider IRR as a very important/important project choice. About 65% of the respondents always or almost always use NPV.

RESEARCH METHODOLOGY

To test practical and actual conditions relevant to capital budgeting in India, a survey was conducted by preparing questionnaire from December 2012 to March 2013. The said questionnaire form was mailed to each of the managers of 5,163 firms listed on the Bombay Stock Exchange who act as coordinators of capital budgeting processes. As a result, 418 usable responses were received.

LIMITATIONS OF THE STUDY

1. The questionnaire form in this survey was mailed to managers, who are in charge of capital budgeting, the responses were just the opinion of one individual.
2. The data is not representing the overall opinion in the firm. To overcome this limitation a request that someone who is well acquainted with the capital budgeting process should complete the form was clearly stated on the questionnaire.
3. The one more limitation when using the adopted mailing method is since there are bound to be many non-responders, it is impossible to avoid the non-response bias.

DATA ANALYSIS AND INTERPRETATION

Capital Budgeting Method	Never (%)	Rarely (%)	Sometimes (%)	Often (%)	Always (%)	Always or Often (%)
NPV	35.3	14.3	19	14.3	17.6	31.7
IRR	52.3	13.7	8.3	10.6	13.9	24.6
PBP	21.2	10.8	18.2	23.8	27.5	52.17
DPBP	53.1	17.4	11.1	10	11.4	22.7
PPP	82.7	7.5	6	4.4	2.1	5.3
ARR	39.3	10.9	17.9	12.2	16.9	31.6
RO	94.8	4.3	0.5	0.8	0	0.5

The above table shows the results of the study on the frequency of use of capital budgeting methods. The questionnaire was prepared to ask how frequently firms use each of the specified budgeting methods on a five-point scale: always, often, sometimes, rarely, and never.

It revealed that 31.9% of the respondents frequently ("always" and "often" combined) used NPV. If we include the "sometimes" category, the cumulative use of NPV climbs to 50.9% of the firms.

In respect to the use of NPV, by comparison of the frequency of use between the results of this survey completed in 2013 in India, Indian firms have in the recent past used NPV at a relatively low frequency. Nevertheless, this survey does show an increase in the frequency of use of NPV in India compared with the results of past surveys.

In addition, Table shows that 22.2% of the respondents frequently ("always" and "sometimes" combined) used IRR. This is a noticeably low frequency of use of IRR when compared with the results of both Graham and Harvey (2001) and Ryan and Ryan (2002). There are no significant differences in the frequency of use of IRR between the result of Table and the previous survey in India.

This paper discusses the three types of payback period: SPP, DPP and PPP. The first method is the simple payback period method (SPP) and it does not consider the time value of money. The second method is the discounted payback period method (DPP). A researcher has pointed out it is well known that DPP is modified in order to consider the time value of money. The another method is the premium payback period

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method (PPP). PPP was proposed by Kazusa (2003). It has a function similar to DPP in considering the time value of money, the calculation procedure between DPP and PPP is somewhat different. For DPP, the payback periods needed to recover initial investment given accumulated amounts of the present value of cash inflows are calculated. Thus, in DPP, the time value of money is considered under the aspect of cash inflow. On the other hand, PPP calculates payback periods needed to recover the amount of both initial investment and interest cost given accumulated amounts of cash inflows. That is, in PPP, the time value of money is considered under the aspect of cash outflow (initial investment plus interest cost). The reason why PPP is used in India is that many Indian firms are supported by major banks and financing of investment is financed by debt loan from banks. Consequently, PPP is based on the concept of calculating the period required to recover the total amount of principal and interest. These three types of payback period method tend not to be used in combination at the same time because all of them focus on estimating the payback period.

The results in this study shows that 45.7% of the respondents frequently (“always” and “sometimes” combined) use SPP. SPP is the most common method in India. Additionally, 10% of firms frequently use DPP and 6% of firms frequently use PPP. Since total of about 78.5% of firms frequently use at least one of the three types of payback period method, we can see that Indian firms appreciate the payback period methods. Payback period methods are frequently used not just in India, however, but also in the other countries.

Moreover, it indicates that 29.1% of firms frequently use ARR. There has been a decrease in the frequency of use of ARR in India when compared with the past survey. The results are not directly comparable and there has been a decrease of about 11% over the past decade. This recent trend of less use of ARR in India is similar to the trend in other countries.

It should also be added that this study confirmed the low frequency of use of the real options method (RO). In Table it can be seen that only 0.8% of the respondents frequently (“always” and “often” combined) use RO. This is considerably lower than the result (1.6%) reported by Ryan and Ryan (2002). On a practical level more sophisticated method of RO is uncommon in India, perhaps because it is still unfamiliar.

The above findings make us to note the following important points. First, managers in Indian firms consider payback periods to be of value when they make a decision related to simple investment plans, for example, investment in equipment. Second, when managers of Indian firms examine the propriety of R&D investments and investment in information system, they consider payback periods as the most important criterion. These results may indicate that when Indian firms intend to invest in ways in which their investment can be recovered in a short period of time, such as investment in information system, then they consider payback periods. Third, managers attach importance to NPV in cases where they examine whether extremely strategic and long-range investment plans, such as M&A or investment in foreign business, are suitable and profitable. Because managers cannot evaluate long-range investment performance using payback period methods, it seems reasonable to suppose that Indian firms apply NPV to the valuation of strategic investment plans. In addition, we may note that ARR is regarded as somewhat important method when managers consider investment in new products and services.

CONCLUSION

The results of the study and from the above discussion it is clear that there is a difference in ways of thinking between academics and managers of firms listed on the Bombay Stock Exchange in India is shrinking and that their opinions are growing closer to agreement: in India in the past decade the frequency of use of NPV has increased.

The firms in India remain heavily dependent on payback period methods. This situation in India is similar to that in the other countries of the world. Many firms in different countries combine discounted cash flow methods with non-discounted cash flow methods and it has not yet been deeply investigated, and it needs further consideration.

The managers of Indian firms may be able to use capital budgeting techniques effectively, depending on the subject and situation. Although managers may think of payback periods as important standard when they consider simple and short-range investment plans, for example, equipment investment or investment in information system, managers may also use NPV when they consider strategic and long-term investment plans, for example, M&A, and when the evaluation of investment performance is required.

To conclude, many firms have faced complex problems in recent years and these problems include the need for high-quality and high-value products, the short life cycle of products, the need for quick recovery of investment, and the need for speedy decision-making. The significance of PBP methods as well as theoretical sophisticated methods, such as NPV and RO, makes sense. The academic theory is not

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important or is not useful, but that, in a practical sense, a multifaceted approach to the issue of capital budgeting methods is necessary in order to achieve effective decision-making on investment plans. It is interesting to see how firms across the globe use capital budgeting methods and how in the future firms figure out ways to raise the efficiency of decision-making.

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