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● Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.

● Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio," Ohio State University.

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● Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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● Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

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==Conference papers==

● Chandel K.S. (2009): "Ethics in Commerce Education." Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

==Unpublished dissertations and theses==

● Kumar S. (2006): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University.

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CAPITAL BUDGETING PRACTICES IN MANUFACTURING SECTOR IN INDIA: A SURVEY ANALYSIS

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ABSTRACT

The present study aims at understanding the behaviour of financial executives of Indian manufacturing sector with respect to their capital budgeting practices. Textiles and pharmaceutical industries are considered for giving a concise representation of manufacturing sector in India. The survey analyses the responses of financial executives of the firms for deriving the details on the characteristics like size, growth, leverage and profitability. Independent sample t-test and Multivariate Probit Regression model are applied to check the significance of the results. The study reveals that firms' size significantly affect the practices of capital budgeting and cost of capital. Large firms frequently use discounted cash flow techniques and CAPM while assessing the financial feasibility of an investment opportunity. The executives of small firms still rely on payback criterion. The IRR method is more popular than NPV method. The large firms are more likely to use sophisticated project risk analysis techniques, such as risk-adjusted discount rate, decision tree, and (Monte Carlo) simulation, than the small firms. High growth firms are more likely to use DCF capital budgeting techniques.

KEYWORDS

Capital budgeting, cost of capital, discount rate, size, growth, leverage, profitability, manufacturing sector

INTRODUCTION

Manufacturing sector is the backbone of our economy. It stimulates productivity, employment, and growth and fortifies agriculture and service sector. India is fast emerging as a global manufacturing hub. Indian textile industry is one of the leading textile industries in the World. Nearly 40 per cent of the textile produced in the country is exported and the textile sector is the biggest employment generator after agriculture. The sector is expected to generate 12 million new jobs by 2010. It is a major export earning industry. For a long time such exports were guided by the Multiple-Fibre Arrangements (MFA) of 1974, which has handled national quotas for exports of textiles. But this act has been dismantled since 2005 (Bhandari *et al.*, 2007). As textile industry is wider in product range and most of the textile production units are composite mills. Hence, all types of textile firms are taken together for the study undertaken. The Indian pharmaceutical industry (IPI) has grown from a mere US\$ 0.32 billion turnover in 1980 to approximately US\$ 21.26 billion in 2009-10. India now ranks 3rd in terms of volume of production (10% of global share) and 14th largest by value. The main activities of the IPI can be broadly classified into two categories: (i) production of bulk drugs and (ii) production of formulations. The bulk drug business is essentially a commodity business, whereas the formulation business is primarily a market driven and brand oriented business. The MNCs have continued to focus only on the formulation business to date. The IPI (including both the MNCs and the domestic firms) meets about 90% of the country's bulk drug requirement and most of the demand for formulations (Saranga and Phani, 2009). Since a majority of the Indian firms are producing both bulk as well as formulations, these are considered together for the purpose of the present study.

Corporate financial practices is a topic of concern and popular among researchers, corporates and academicians. The popular studies about the corporate financial practices are Graham and Harvey's (2001) survey of 392 CFO's about the cost of capital, capital budgeting, capital structure and dividend practices and Anand's (2002) survey of 81 CFO's on corporate finance practices. The present paper aims at understanding the behaviour of 48 financial executives of Indian manufacturing sector with respect to their capital budgeting practices. Textile and pharmaceutical industries are considered for giving a concise representation of manufacturing sector in India. It is expected that the findings of the study in context of Indian manufacturing sector will be of use to academe and practitioners in learning how Indian managers take decisions.

THE REVIEW OF LITERATURE

The decision about which assets to buy is investment decision or capital budgeting decision. Capital budgeting is a significant function because many available investment alternatives compete for the firm's limited resources. Capital budgeting or investment decisions are of considerable importance to the firms since they tend to determine its value by influencing its growth, profitability and risk (Pandey, 2008). Capital budgeting decisions have always been quite programmed due to their irreversible nature and their effect on survival and growth of the firm. But they have become more strategic as a result of liberalization and globalization. One of the innumerable changes that Indian economy has experienced after liberalization and globalization was the entry of MNCs in Indian market. The competition is not only at the market place

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which is visible but it is also at the level of planning and control mechanism prevalent in the MNCs and their Indian counterparts. So the environment in which investment decisions are being taken has become quite competitive. Capital budgeting decisions involve certain sacrifice of a present satisfaction in exchange for a future return. It is an arbitrage overtime that involves a degree of risk. A typical investment or capital budgeting decision involves certain sacrifice of resources now in exchange for an uncertain but hopefully larger inflow of resources in the near or distant future (Jain and Kumar, 1998). Perhaps no other area of management is as important to the success of a firm as good decision-making in acquisition and replacement of capital equipment. A number of studies have been conducted in India and abroad on capital budgeting practices being followed by the corporate world. The empirical studies have been divided into two categories. The first category of the studies have primarily analyzed the financial goals pursued by the firms and the second category of the studies have examined the capital budgeting techniques followed by the corporate sector.

RESEARCH ON FINANCIAL GOALS: Bhaskar and McNamee (1983) after conducting a study of top 500 firms observe that financial decision-makers have a single or multiple goals. The survey concludes 'profitability' as primary goal. Pandey and Bhat's (1990) survey of 57 Indian firms finds that, in practice, managers in India do not aim at maximizing the market value of their firms while making financial decisions. Patel (1992) carries out a survey with the sample size of 100 firms the response rate of 23 percent concludes that 40 percent of the firms favour 'Return on investment' followed by 'Earning per share' and 'aggregate earnings'. He further concludes that in spite of the financial objective of firms has undergone a good change over a period of time; they are focusing on objectives related to profitability. The primary aim of corporate management is to maximize shareholders' value in a legal and ethical manner (Friedman, 1970; Rappaport, 1990; Jensen and Meckling, 1999).

STUDIES ON CAPITAL BUDGETING TECHNIQUES AND COST OF CAPITAL WITH RISK ANALYSIS: Brigham (1975) in a survey of 33 large firms finds that 94 per cent firms use NPV, IRR or profitability index criterion in their capital budgeting decisions. 39 per cent of the respondents revise hurdle rates less than once a year and they do not have a system for its review. Ross (1976) developed an alternative to CAPM, known as arbitrage pricing theory (APT). Pareja and Nieto (1986) in their survey suggest that the degree to which capital budgeting tools are used is higher for large firms than for small firms. Larger firms not only have more numerous and complex problems but also more of the resources needed to use scientific approaches. Pandey (1989) in his study of 14 firms examines the capital budgeting policies and practices of firms in India and compares them with those of U.S.A. and U.K. The study reveals that payback period method is most widely used followed by IRR as a capital budgeting technique. The project risk is assessed through sensitivity analysis and conservative forecasts. Dhanker (1995) in an attempt to examine seventy five large scale manufacturing firms in the private sector having paid up capital over one crore through mailed questionnaire, observes that the 16 per cent firms are using DCF methods (i.e. NPV, IRR and PI), while traditional methods (i.e. PB, ARR) are applied by 33 percent of the respondent firms. It is further found out that firms incorporate risk either by 'Adjusting the discount rate' (51 percent) 'shortening the payback period' (45 percent) with the help of methods like 'Capital Asset Pricing Model'. Fama and French (1997) have identified three factors, namely market factor, size factor and book-to-market factor, which determine the expected stock return. They estimate the risk premium for each factor and factor sensitivities based on the study of period 1963 to 1994. Industry-wise expected risk premiums based on three-factor model and the CAPM are reported. Brealey and Myers (2000) observe that a few large corporations use payback period or accounting rate of return as their primary method of project choice. Most use discounted cash flow methods and for many DCF means IRR and not NPV. The preference to high IRR projects may not add much to the value of the firm because highest IRR may be found in short-lived projects requiring little up-front investment. Hall (2000) selected 358 firms and usable response was collected from 65 respondents, which suggests that the most important stages in the capital budgeting process are project definition and cash flow estimation not financial analysis. An important finding of the research is that in evaluation of capital investment projects, South African firms seem to prefer return on investment internal rate of return as method to determine feasibility of a project. Jain and Yadav (2000) examine the corporate practice in India, Singapore and Thailand. The study analyses the secondary data of 238 Indian, 86 Singaporean and 126 Thai firms in addition to primary data obtained through survey. As regard financing pattern of capital investments, firms in India and Singapore uses long-term sources to finance fixed assets whereas Thai firms seem to use short-term debt to finance long-term investments. Vast majority of the sample firms from all the three countries are using combination of traditional and discount cash flow techniques for investment decisions. Another notable finding of the survey is that IRR is preferred to NPV both in India and Singapore. Graham and Harvey (2002) examine capital budgeting, cost of capital and capital structure asking more than 100 questions with a sample study of 392 respondents. They argue that large firms rely heavily on present value techniques and CAPM, while small firms are relatively likely to use the payback criterion. The firms with high debt ratios are significantly more likely to use NPV and IRR than firms with low debt ratios. Large firms are more likely to use risk-adjusted discount rate than small firms. Anand (2002) conducted a survey 500 firms of India to find out corporate financial practices with respect to capital budgeting decisions, cost of capital, capital structure and dividend decisions. He argues that large firms rely heavily on PV techniques and CAPM, while small firms are likely to use payback criterion. The IRR is more popular than NPV. Irala (2006) observes that the results of his survey are very much in line with the propositions of theory. The study concludes that corporate Indian is fast catching the new methodologies. While 40 percent of the respondents considered EVA as the goal of the firm, 44 percent are using CAPM to estimate the cost of equity. However, 44 percent still preferring pay back period as the project selection tool. Verma *et al.* (2008) tried to unveil the status of capital budgeting in India particularly after the advent of full-fledged globalization and in the era of cutthroat competition by conducting a comprehensive primary survey of 30 CFOs/CEOs of manufacturing firms in India to find out which capital budgeting techniques is more preferred, discounted or non-discounted. The survey reveals that with the advent of globalization and mounting competition among manufacturing firms, these firms pay greater emphasis on making sound investment decisions. However, among the traditional techniques, payback period method is still preferred in majority of companies as a supplement to the DCF techniques. Majority of the firms in India, use the Weighted Average Cost of Capital (WACC) to calculate the cost of capital, which is used as a discount or cut off rate. Kapil Deb (2010) from a survey concludes that respondent's preference towards use of internal funds indicates that investment in positive NPV project is the first choice and they rank cash flow streams and profitability of project as most attracted to undertake investment decisions. NPV and payback period methods are found to be the most preferred methods for evaluating the projects.

RESEARCH DESIGN AND METHODOLOGY

The survey is planned to identify financial objective and capital budgeting practices followed by manufacturing sector in India and focused on three areas: financial objectives, capital budgeting and cost of capital. For this purpose, a questionnaire is drafted based on a comprehensive review of the existing literature. The final questionnaire contained 10 questions with 54 sub parts.

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The survey asked the financial executives to respond to most of the questions on the Likert scale of 0 to 5 (where 0 means "not used;" 1 means "unimportant;" and 5 means "very important"). This move provided data on the method used and relative importance of each method in the decision-making process.

The sample firms are selected from listed firms of National Stock Exchange during the period 1995-1996 to 2007-2008. The criterion for sample selection was:

1. The company should be continuously listed on stock exchange and should have financial data available for the period under study.
2. The sample firms should have declared the dividend for five or more than five years during the period under study.

The universe consisted of 235 firms (125 textile firms and 110 pharmaceutical firms). Secondary data related to respondent firms is collected from the CMIE database PROWESS. In total, 48 complete questionnaires (31 from textile and 17 from pharmaceutical) are received. For the analysis, the firms have been classified into small and large; low growth and high growth; low levered and high levered and low profitability and high profitability based on the median values. Independent sample t-test is used to compare on the basis of size, growth, leverage and profitability. Multivariate Probit Regression is run for further analysis. In any such survey, it is likely that the firm that does not respond on time may have a non-response bias. Whatever the respondents have said is believed to be their true response and hence, no statistical test has been performed to study non-response bias and the consistency of individuals' responses.

RESULTS AND DISCUSSION

The firms range from small (small firms have sales less than or equal to Rs. 3.43 billion; have assets less than or equal to Rs. 3.73 billion; and have a market capitalization less than or equal to Rs. 1.22 billion) to very large having sales more than Rs. 3.43billion, assets more than Rs. 3.73 billion and market capitalization more than Rs. 1.22 billion). The median P/E ratio is 9.87 percent it can refer the firms having P/E more than 9.87 percent as growth firms and remaining as non-growth firms. The median growth rate of sales is 13.66 percent and growth rate of assets is 12.56 percent. The median ROCE is 6.78 percent and the long-term debt to total asset ratio is 0.19.

PRIMARY OBJECTIVE OF FINANCIAL MANAGEMENT: It is generally agreed that financial goal of the firm should be shareholder's wealth maximization, which is reflected in the market value of the firm's shares. It is argued that managers are biased by survival, self-government, self-sufficiency and motivation and concludes that the basic financial objective of the managers is maximization of corporate wealth rather than shareholder's wealth. In practice, managers may not necessarily act in the best interest of shareholders. Mainly four important objectives are pursued by Indian firms: maximizing earning before interests and taxes; maximizing net present value; maximizing economic value added and maximizing market value added. The respondents are asked to indicate the relative importance of different objectives of financial management in their organizations on a five point scale, where 0 and 1 are taken as unimportant or not used, 2 and 3 means important and 4 and 5 means very important for organization.

TABLE 1: SURVEY RESPONSE TO THE RELATIVE IMPORTANCE OF OBJECTIVE OF FINANCIAL MANAGEMENT IN ORGANIZATION WITH OTHER FIRM CHARACTERISTICS

		% Very Important	Mean	Size (Sales) Small Large	Size (Assets) Small Large	Size (Mkt.Cap) Small Large
(i)	To maximize EBIT/EPS	81.3	4.06	3.79 4.33*	3.92 4.21	4.00 4.13
(ii)	To maximize NPV	70.8	3.94	3.83 4.04	3.96 3.92	3.75 4.13
(iii)	To maximize EVA	69.6	3.61	3.25 4.00**	3.21 4.05**	3.64 3.58
(iv)	To maximize MVA	67.4	3.85	3.46 4.27*	3.46 4.27*	3.82 3.88*

		% Very Important	Mean	P/E Low High	Growth (Sales) Low High	Growth (Assets) Low High
(i)	To maximize EBIT/EPS	81.3	4.06	3.79 4.33	4.21 3.96	4.00 4.17
(ii)	To maximize NPV	70.8	3.94	3.63 4.25*	3.83 3.67	3.46 4.04
(iii)	To maximize EVA	69.6	3.61	3.36 3.83	3.23 3.76*	3.22 3.83
(iv)	To maximize MVA	67.4	3.85	3.64 4.04	3.59 3.96	3.52 4.04*

		% Very Important	Mean	Leverage Low High	ROCE Low High	Industry Textile Pharma
(i)	To maximize EBIT/EPS	81.3	4.06	4.04 4.08	4.29 3.83	4.00 4.18
(ii)	To maximize NPV	70.8	3.94	4.25 3.63	3.71 4.17	3.48 4.76
(iii)	To maximize EVA	69.6	3.61	4.45 2.83**	2.96 4.26**	3.03 4.59
(iv)	To maximize MVA	67.4	3.85	4.41 3.33*	3.22 4.48**	3.45 4.53

*, ** and *** show the 10%, 5% and 1% level of significance respectively.

While 81.3 percent of the respondents consider the objective to maximize Earnings Before Interest and Taxes (EBIT) and Earnings Per Share (EPS) as very important. Nearly 71 percent of the respondents consider the objective to maximize Net Present Value (NPV) of their organizations. About 70 percent of the respondents are significantly more likely to use maximization of the spread between Return on Assets (ROA) and Weighted Average Cost of Capital (WACC), i.e. Economic Value Added (EVA).

Analysis is made on the survey responses conditional on each separate firm characteristic. The sample is split into the large firms versus small firms. On each sample the analysis is repeated of the other firm characteristics also such as size, growth, leverage, profitability and industry. Table 1 shows the relative importance of the financial objective of the firm with respect to different characteristics of firms. It can be inferred that large firms (sales and assets basis) are significantly more likely to follow the objective of maximizing EVA as compared to small firms (score of 4.00 versus 3.25 and 4.05 versus 3.21 for EVA and 4.27 versus 3.46 for MVA). The high growth firms (P/E basis) are following the objective maximizing NPV as compared to low growth firms (score of 4.25 versus 3.63). The high growth firms (sales basis) are significantly more likely to use maximizing EVA as their objective of financial management than low growth firms (score of 3.76 versus 3.23). The firms with high growth in assets are giving significantly more importance to the maximization of MVA as a corporate objective than firms with low growth in assets (score

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of 4.04 versus 3.52). The firms with low debt ratio are significantly more likely to follow maximizing EVA and MVA as financial objective as compared to the firms with low debt ratio (score of 4.45 versus 2.83 and 4.41 versus 3.33 respectively). High profit firms are giving more importance to EVA and MVA as corporate objective as compared to low profit firms (score of 4.26 versus 2.96 and 4.48 versus 3.22 respectively).

CAPITAL BUDGETING PRACTICES: This part of the paper is related with the capital budgeting tools and techniques being practiced by the manufacturing sector in India and how popular are they? Eighty three percent of respondents consider IRR as very important/important (response of 5 and 4) capital expenditure evaluation criterion (mean 4.02). Nearly seventy three percent of the respondents use NPV (mean 3.6) as shown in Table 2. The pay back period method is also popular (sixty five percent).

TABLE 2: SURVEY RESPONSE TO THE RELATIVE IMPORTANCE OF METHOD FOR EVALUATING CAPITAL EXPENDITURE WITH OTHER FIRM CHARACTERISTICS

		% V. Imp.	Mean	Size (Sales) Small	Large	Size (Assets) Small	Large	Size (Mkt.Cap) Small	Large
(i)	Pay back Period	64.6	3.79	4.38	3.21***	4.38	3.21***	3.79	3.79
(ii)	Accounting Rate of Return	47.9	3.75	3.79	3.71	3.79	3.71	3.54	3.96
(iii)	Net Present Value	72.9	3.60	2.71	4.50***	2.83	4.38***	2.71	4.50***
(iv)	Internal Rate of Return	83.3	4.02	3.42	4.63***	3.58	4.46**	3.46	4.58***
(v)	Profitability Index	43.8	3.08	3.25	2.92	3.17	3.00	2.83	3.33
(vi)	Break Even Analysis	50.0	3.19	2.79	3.58	2.67	3.71	3.13	3.25

		% V. Imp.	Mean	P/E Low	High	Growth (Sales) Low	High	Growth (Assets) Low	High
(i)	Pay back Period	64.6	3.79	3.71	3.88	3.75	3.83	3.46	4.13
(ii)	Accounting Rate of Return	47.9	3.75	3.75	3.75	3.25	4.25***	3.25	4.25***
(iii)	Net Present Value	72.9	3.60	3.38	3.83**	3.21	4.00	3.17	4.04**
(iv)	Internal Rate of Return	83.3	4.02	3.79	4.25***	3.67	4.38**	3.67	4.38**
(v)	Profitability Index	43.8	3.08	3.29	2.88	2.54	3.63	2.83	3.33
(vi)	Break Even Analysis	50.0	3.19	3.50	2.88	3.00	3.38	3.29	3.08

		% V. Imp.	Mean	Leverage Low	High	ROCE Low	High	Industry Textile	Pharma
(i)	Pay back Period	64.6	3.79	4.63	2.96***	3.08	4.50***	3.26	4.26***
(ii)	Accounting Rate of Return	47.9	3.75	4.17	3.33	3.17	4.33***	3.19	4.76
(iii)	Net Present Value	72.9	3.60	2.96	4.25***	3.58	3.63	3.39	4.00
(iv)	Internal Rate of Return	83.3	4.02	3.83	4.21	3.71	4.33**	3.84	4.35
(v)	Profitability Index	43.8	3.08	3.38	2.79	2.58	3.58	2.90	3.41***
(vi)	Break Even Analysis	50.0	3.19	2.58	3.79	3.67	2.71	3.55	2.53

*, ** and *** show the 10%, 5% and 1% level of significance respectively.

The most interesting results come from examining the responses conditional on firm size, growth, leverage and profitability. Large firms (sales, assets and market capitalization basis) are significantly more likely to use NPV and IRR than small firms (score of 4.50 versus 2.71, 4.38 versus 2.83 and 4.5 versus 2.71 for NPV and score of 4.63 versus 3.42, 4.46 versus 3.58 and 4.58 versus 3.46 for IRR). Small firms (sale and asset basis) are more likely to use payback period method than large firms (score of 4.38 versus 3.21). High growth firms are significantly more likely to use NPV, IRR and PI as compared to low growth firms (score of 3.83 versus 3.38 and 4.04 versus 3.17 for NPV, score of 4.25 versus 3.79, 4.38 versus 3.67 and 4.38 versus 3.67 for IRR). Growth firms (sales and assets basis) are also significantly more likely to use ARR as method of capital budgeting (score of 4.25 versus 3.25). The firms with low leverage (long term debt to total assets) are significantly more likely to use payback period method (score of 4.63 versus 2.96) than the firms with high leverage, which are significantly more likely to use NPV method (score of 4.25 versus 2.96). High profit firms (on the basis of return on capital employed) whether small or large, use payback period method, accounting rate of return and Internal rate of return method. The pharmaceutical firms are more likely to use payback period method and profitability index method (score of 4.26 versus 3.26 and 3.41 versus 2.90). The study reveals that other than NPV and IRR, the pay back period is the most frequently used capital budgeting technique (mean 3.79).

TABLE 3: SURVEY RESPONSE TO THE METHODOLOGY FOLLOWED TO ASSESS THE PROJECT RISK

		% V. Imp.	Mean	Size (Sales) Small	Large	Size (Assets) Small	Large	Size (Mkt.Cap) Small	Large
(i)	Shorter payback period	54.2	0.54	0.75	0.33	0.79	0.29	0.58	0.50
(ii)	Higher cut off rate for risky project	41.7	0.41	0.54	0.29**	0.50	0.33*	0.46	0.37
(iii)	Sensitivity analysis	72.9	0.72	0.71	0.75	0.71	0.75	0.83	0.62***
(iv)	Scenario analysis	45.8	0.45	0.45	0.45	0.46	0.46	0.46	0.46
(v)	Certainty Equivalent	10.4	0.46	0.00	0.20	0.04	0.17	.00	0.21
(vi)	Decision Tree analysis	8.3	0.10	0.00	0.17***	0.00	0.17***	0.04	0.12
(vii)	Probabilistic (Monte Carlo) Simulation	6.3	0.06	0.00	0.12***	0.04	0.08	0.00	0.12***

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		% V. Imp.	Mean	P/E		Growth (Sales)		Growth (Assets)	
				Low	High	Low	High	Low	High
(i)	Shorter payback period	54.2	0.54	0.42	0.67	0.58	0.50	0.50	0.58
(ii)	Higher cut of rate for risky project	41.7	0.41	0.42	0.42	0.50	0.33	0.50	0.33*
(iii)	Sensitivity analysis	72.9	0.72	0.75	0.71	0.71	0.75	0.75	0.71
(iv)	Scenario analysis	45.8	0.45	0.54	0.37	0.50	0.42	0.50	0.42
(v)	Certainty Equivalent	10.4	0.46	0.00	0.20	0.12	0.08	0.08	0.12
(vi)	Decision Tree analysis	8.3	0.10	0.08	0.08	0.04	0.12**	0.08	0.08
(vii)	Probabilistic (Monte Carlo) Simulation	6.3	0.06	0.08	0.04	0.04	0.08	0.08	0.04

		% V. Imp.	Mean	Leverage		ROCE		Industry	
				Low	High	Low	High	Textile	Pharma
(i)	Shorter payback period	54.2	0.54	0.71	0.37	0.50	0.58	0.48	0.65
(ii)	Higher cut of rate for risky project	41.7	0.41	0.58	0.25**	0.37	0.46	0.45	0.35
(iii)	Sensitivity analysis	72.9	0.72	0.67	0.79 **	0.79	0.67	0.77	0.64*
(iv)	Scenario analysis	45.8	0.45	0.33	0.58	0.46	0.46	0.48	0.41
(v)	Certainty Equivalent	10.4	0.46	0.08	0.13	0.04	0.17	0.03	0.23
(vi)	Decision Tree analysis	8.3	0.10	0.04	0.13**	0.08	0.08	0.06	0.12
(vii)	Probabilistic (Monte Carlo) Simulation	6.3	0.06	0.04	0.08	0.04	0.08	0.06	0.06

*, ** and *** show the 10%, 5% and 1% level of significance respectively.

The respondents are asked to indicate the methodology used by them for assessing project risk in their investment decision process. These techniques are shorter payback period, higher cut-off rate for risky project, sensitivity analysis, scenario analysis, certainty equivalent, decision tree and probabilistic (Monte Carlo) simulation.

The results (Table 3) disclose that sensitivity analysis; shorter payback period; scenario analysis and higher cut off rate for risky projects are most widely used techniques for assessing the project risk. The respondents use more than one technique in analyzing the project risk in investment decisions. Nearly 73 percent of the respondents use sensitivity analysis, 54 percent of the respondents employ shorter payback period and 46 percent of the respondents employ scenario analysis. The small firms (market capitalization basis) use sensitivity analysis for assessing project risk more significantly than large firms (83 percent versus 62 percent). A very few respondents use decision tree analysis and (Monte Carlo) simulation to analyze the project risk. Large firms use the decision tree analysis more than small firms (17 percent). Nearly 42 percent of the respondents use higher cut-off rate for risky projects, while assessing the project risk. Small firms (sales and assets basis) use higher cut-off rate for risky projects than large firms (54 percent versus 29 percent and 50 percent versus 33 percent). High growth firms (sales basis) are significantly more likely to use decision tree analysis as compared to low growth firms (12 percent versus 4 percent) and low growth firms (assets basis) are more likely to use higher cut off rate for risky project (50 percent versus 33 percent). High-levered firms are more likely to use sensitivity analysis and decision tree analysis (79 percent versus 67 percent and 13 percent versus 4 percent), whereas low-levered firms are more likely to use higher cut off rate for risky project (58 percent versus 25 percent). The textile firms are significantly more likely to use sensitivity analysis than pharmaceutical firms (77 percent versus 64 percent).

COST OF CAPITAL: This part of the paper endeavors to find out how firms calculate the cost of capital. The study explores the methods followed to estimate the cost of debt and cost of equity capital of the firm. The study also explores whether firms use the Capital Asset Pricing Model to estimate the cost of equity capital. How do firms find out their estimate of beta? What do they use as risk free rate? Which cost of debt is employed for computing cost of capital? What kind of weights is being used to determine WACC? And how frequently the firms reassess the cost of capital? The respondents are asked about the discount rate employed to discount net cash flows of the firm. The discount rate response lies in 8 percent to 24 percent. The average discount rate (minimum expected rate of return) is found 14 percent in textile firms and 13.59 percent in pharmaceutical firms and overall it is 13.85 percent.

TABLE 4: SURVEY RESPONSE TO THE METHOD OF COMPUTING THE RATE OF DISCOUNT FOR DISCOUNTING CASH FLOWS

		% Imp.	Mean	Size (Sales)		Size (Assets)		Size (Mkt.Cap)	
				Small	Large	Small	Large	Small	Large
(i)	Single discount rate based on company 's overall weighted average cost of capital (WACC)	70.8	0.71	0.62	0.79***	0.58	0.83***	0.67	0.75
(ii)	Multiple risk-adjusted discount rates are used; (the riskier the investment the higher the rate)	16.7	0.17	0.20	0.12	0.25	0.08	0.20	0.12
(iii)	Cost of specific capital used to finance the project	22.9	0.23	0.33	0.12***	0.33	0.12***	0.29	0.167

		% Imp.	Mean	P/E Low High	Growth (Sales) Low High	Growth (Assets) Low High
(i)	Single discount rate based on company 's overall weighted average cost of capital (WACC)	70.8	0.71	0.58 0.83***	0.75 0.67	0.62 0.79
(ii)	Multiple risk-adjusted discount rates are used; (the riskier the investment the higher the rate)	16.7	0.17	0.17 0.17	0.12 0.21	0.17 0.17
(iii)	Cost of specific capital used to finance the project	22.9	0.23	0.37 0.08***	0.21 0.25	0.33 0.12

		% Imp.	Mean	Leverage Low High	ROCE Low High	Industry Textile Pharma
(i)	Single discount rate based on company 's overall weighted average cost of capital (WACC)	70.8	0.71	0.62 0.79	0.5 0.67	0.65 0.82
(ii)	Multiple risk-adjusted discount rates are used; (the riskier the investment the higher the rate)	16.7	0.17	0.25 0.08	0.12 0.21	0.16 0.18
(iii)	Cost of specific capital used to finance the project	22.9	0.23	0.29 0.17	0.25 0.21	0.32 0.06***

*, ** and *** show the 10%, 5% and 1% level of significance respectively.

In sequence to the question about discount rate employed by firm to discount net cash flows, the respondent are asked to indicate as to which method they follow for computation of rate of discount (minimum rate of return) for capital budgeting decisions. The respondents are given three options as single discount rate based on company's overall WACC; multiple risk adjusted discount rates (the riskier the investment, higher the rate) and cost of specific capital used to finance the project (i.e. the discount rate for a project that will be financed entirely with the retained earnings is cost of retained funds). Nearly 71 percent of the respondents use single discount rate based on company's overall WACC to evaluate the projects. Nearly 17 percent of the respondents use multiple risk adjusted discount rates depending on the risk characteristics of the projects and about 23 percent of the respondents use cost of specific capital used to finance the projects. Large firms (on the basis of sales and assets) are more likely to use single discount rate based on company's overall Weighted Average Cost of Capital as compared to small firms (79 percent versus 62 percent and 83 percent versus 58 percent). Small firms are more likely to use cost of specific capital used to finance the project as compared to large firms (33 percent versus 12 percent). High growth firms P/E basis) are more likely to use WACC (83 percent versus 58 percent) whereas low growth firms prefer cost of specific capital used to finance the project (37 percent versus 8 percent). Textile firms are more likely to use cost of specific capital to finance the project as compared to pharmaceutical firms (32 percent versus 6 percent).

Table 5 explores the method followed by manufacturing sector in India to estimate the cost of equity. The results indicate that CAPM is the most popular method (37.5 percent) along with Gordon's dividend model (33.3 percent) of estimating cost of equity capital. The third most popular method is earning yield method. Only a few firms estimate the cost of equity with dividend yield method (mean1.46) and multiple factor model (mean1.00). This is sharply in conformity with the findings of Gitman and Mercurio (1982) who find that 31.2 percent of the respondents of the survey use dividend discount model to establish their cost of capital.

The cross sectional analysis is particularly illuminating, large firms is significantly giving more importance to CAPM than the small firms (score of 3.79 versus 2.50). Large firms (Market capitalization basis) are more inclined to use a cost of equity capital that is determined by dividend discount model and CAPM (score of 3.46 versus 2.79 and 3.50 versus 2.79). Low growth firms (P/E basis) prefer to use dividend yield method as compared to high growth firms (score of 1.92 versus 1.00). High growth firms (sales and assets basis) prefer to use Gordon's dividend discount model to estimate cost of equity as compared to low growth firms (score of 3.33 versus 2.92 and 3.71 versus 2.54). Highly profitable firms are giving significantly less importance to CAPM while estimating cost of equity than less profitable firms (score of 3.08 versus 3.21). Very less number of respondents gives importance to multifactor model (mean 8.3) and that also significantly used by profitable concerns. Pharmaceutical firms are significantly more likely to use Gordon's dividend model as compared to textile firms (score of 4.24 versus 2.52).

TABLE 5: SURVEY RESPONSE TO THE METHOD TO ESTIMATE THE COST OF EQUITY FOR REACHING AT THE WACC

		% V. Imp.	Mean	Size (Sales) Small Large	Size (Assets) Small Large	Size (Mkt.Cap) Small Large
(i)	Dividends Yield (DPS / MPS)	16.7	1.46	1.21 1.71	1.33 1.58	1.46 1.46
(ii)	Earnings yield (EPS / MPS)	31.3	2.33	2.58 2.08	2.54 2.13	2.67 2.00

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		% V. Imp. / 33.3 / 37.5 / 8.3	Mean						
(iii)	Gordon's Dividend discount model	33.3	3.13	3.29	2.96	3.17	3.08	2.79	3.46**
(iv)	Capital Asset Pricing Model (CAPM)	37.5	3.15	2.50	3.79***	2.71	3.58	2.79	3.50**
(v)	Multi-factor model	8.3	1.00	1.29	0.71	1.38	0.63	1.08	0.92

		% V. Imp.	Mean	P/E		Growth (Sales)		Growth (Assets)	
				Low	High	Low	High	Low	High
(i)	Dividends Yield (DPS / MPS)	16.7	1.46	1.92	1.00**	1.33	1.58	1.67	1.25
(ii)	Earnings yield (EPS / MPS)	31.3	2.33	2.42	2.25	2.54	2.13	2.58	2.08
(iii)	Gordon's Dividend discount model	33.3	3.13	3.08	3.17	2.92	3.33***	2.54	3.71**
(iv)	Capital Asset Pricing Model (CAPM)	37.5	3.15	3.00	3.29	3.17	3.13	3.13	3.17
(v)	Multi-factor model	8.3	1.00	1.25	0.75	.83	1.17	1.00	1.00

		% V. Imp.	Mean	Leverage		ROCE		Industry	
				Low	High	Low	High	Textile	Pharma
(i)	Dividends Yield (DPS / MPS)	16.7	1.46	1.42	1.50	1.71	1.21	1.52	1.35
(ii)	Earnings yield (EPS / MPS)	31.3	2.33	2.71	1.96	2.29	2.38	2.39	2.24
(iii)	Gordon's Dividend discount model	33.3	3.13	3.42	2.83	2.71	3.54	2.52	4.24***
(iv)	Capital Asset Pricing Model (CAPM)	37.5	3.15	2.96	3.33	3.21	3.08***	3.16	3.12
(v)	Multi-factor model	8.3	1.00	1.33	0.67	0.75	1.25***	1.16	0.71

*, ** and *** show the 10%, 5% and 1% level of significance respectively.

In response to the question on the cost of debt employed by respondent firms to compute cost of capital, the results indicate that 73 percent of the respondents use current market rate at which company can borrow and 27 percent of the respondents use historical cost of debt for computing cost of capital.

TABLE 6 SURVEY RESPONSE TO THE WEIGHTS IN COMPUTING WEIGHTED AVERAGE COST OF CAPITAL (WACC)

		% Use	Size (Sales)		Size (Assets)		Size (Mkt.Cap)	
			Small	Large	Small	Large	Small	Large
(i)	Book Value Weights	29.2	33.3	5.0	33.3	25.0***	41.7	16.7
(ii)	Market value weights	62.5	50.0	75.0*	54.2	70.8***	45.8	79.2**
(iii)	Target Capital structure weights	8.3	16.7	0.00	12.5	4.2	12.5	4.2

		% Use	P/E		Growth (Sales)		Growth (Assets)	
			Low	High	Low	High	Low	High
(i)	Book value weights	29.2	41.7	16.7	37.5	20.8	41.7	16.7
(ii)	Market value weights	62.5	41.7	83.3***	58.3	66.7	50	75.0*
(iii)	Target Capital structure weights	8.3	16.7	0.00	4.2	12.5	8.3	8.3

		% Use	Leverage		ROCE		Industry	
			Low	High	Low	High	Textile	Pharma
(i)	Book value weights	29.2	25.0	33.3	41.7	16.7**	41.9	5.9
(ii)	Market value weights	62.5	62.5	62.5	54.2	70.8	45.2	94.1***
(iii)	Target Capital structure weights	8.3	12.5	4.2	4.2	12.5	12.9	0.00

*, ** and *** show the 10%, 5% and 1% level of significance respectively.

Manufacturing firms in India uses all possible weights in computation of WACC. These weights are based on book value of the firm, market value of the firm and target capital structure. Table 6 explores the importance of weights used by the respondents in computing Weighted Average Cost of Capital. Market value weights are widely used (62.5 percent) followed by book value weights (29.2 percent). Nearly 8 percent of the respondents use target capital structure weights. Large firms (sales and market capitalization basis) are significantly more likely to use market value weights than small firms (75 percent versus 50 percent and 79.2 percent versus 45.8 percent). The high growth firms (P/E and assets basis) are significantly more likely to use market value weights than low growth firms (83.3 percent versus 41.7 percent and 75 percent versus 50 percent). The less profitable firms use book value weights significantly more than highly profitable firms (41.7 percent versus 16.7 percent). Pharmaceutical firms use market value weights significantly more than the textile firms (94 percent versus 45.2 percent).

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Table 7: Survey response to the use of risk free rate and beta for CAPM in estimating cost of equity capital

		% Use	Size (Sales) Small Large	Size (Assets) Small Large	Size (Mkt.Cap) Small Large
	CAPM followed If yes, what do you use for risk free rate?	37.5	25.0　50.0***	25.0　50.0***	29.17　45.83**
(i)	91 days GOI Treasury bill rate	50.0	50.0　58.3	50.0　58.3	71.4　45.5
(ii)	3 to 7 year GOI Treasury bill rate	38.9	50.0　33.3	50.0　33.3	28.6　45.5
(iii)	10 year GOI Treasury bill rate	11.1	00.0　8.3	00.0　8.3	00.0　9.1
	What do you use as your beta factor?				
(i)	Published source	27.8	00.0　41.7	00.0　41.7*	14.3　36.4
(ii)	CFO's estimate	16.7	33.3　8.3	33.3　8.3	28.6　9.1
(iii)	Self calculated	27.8	16.7　33.3	16.7　33.3	28.6　27.3
(iv)	Industry average	38.9	66.7　25.0*	66.7　25.0	57.1　27.3

		% Use	P/E Low High	Growth (Sales) Low High	Growth (Assets) Low High
	CAPM followed If yes, what do you use for risk free rate?	37.5	33.33　41.67	20.43　54.17***	33.33　41.67
(i)	91 days GOI Treasury bill rate	55.6	75.0　40.0	60.0　53.8	75.0　40.0
(ii)	3 to 7 year GOI Treasury bill rate	38.9	25.0　50.0	40.0　38.5	25.0　50.0
(iii)	10 year GOI Treasury bill rate	5.6	00.0　10.0	00.0　7.7	00.0　10.0
	What do you use as your beta factor?				
(i)	Published source	27.8	12.5　40.0	20.0　30.8	12.5　40.0
(ii)	CFO's estimate	16.7	12.5　20.0	20.0　15.4	25.0　10.0
(iii)	Self calculated	27.8	25.0　30.0	20.0　30.8	37.5　20.0
(iv)	Industry average	38.9	62.5　20.0	40.0　38.5	37.5　40.0

		% Use	Leverage Low High	ROCE Low High	Industry Textile Pharma
	CAPM followed If yes, what do you use for risk free rate?	37.5	33.33　41.67	41.67　33.33	38.71　35.29
(i)	91 days GOI Treasury bill rate	55.6	37.5　70.0	80.0　25.0	83.3　00.0***
(ii)	3 to 7 year GOI Treasury bill rate	38.9	62.5　20.0	20.0　62.5	16.7　83.3
(iii)	10 year GOI Treasury bill rate	5.6	00.0　10.0	00.0　12.5	00.0　16.7
	What do you use as your beta factor?				
(i)	Published source	27.8	12.5　40.0	30.0　25.0	25.0　33.3
(ii)	CFO's estimate	16.7	25.0　10.0	20.0　12.5	25.0　00.0
(iii)	Self calculated	27.8	25.0　30.0	30.0　25.0	25.0　33.3
(iv)	Industry average	38.9	50.0　30.0	30.0　50.0	41.7　33.3

*, ** and *** show the 10%, 5% and 1% level of significance respectively.

Table 7 investigates the respondents who use CAPM as to what risk free rate they use and how they estimate beta. 50 percent of the respondents who use CAPM consider return on 91 days GOI treasury bills as risk free rate. Textile firms are significantly more likely to use return on 91 days GOI treasury bills as risk free rate as compared to pharmaceutical firms. The results also indicate that industry average beta is the most popular measure of systematic risk presently used by manufacturing sector in India. About 39 percent of the respondents who use CAPM take industry average beta as a measure of their systematic risk. The second and third most popular sources of beta are published source (27.8 percent) and self calculated (27.8 percent). Large firms (assets basis) are more inclined to use published source for beta than small firms (41.7 percent). The small firms do not calculate beta and are more likely to use industry average as compared to large firms (66.7 percent versus 25 percent). Industry difference is not found significant.

Table 8 explores the choice of financial managers of the share price data period for making an estimate of beta. Nearly 72 percent of the respondents consider the last five-year monthly share price data to estimate equity beta. The high growth firms (assets basis) are significantly more likely tom use last five-year monthly share price data to estimate their security beta than the low growth firms (90 percent versus 50 percent). The market risk premium as average of historical and implied return on the market portfolio is most widely used by Indian manufacturing sector (50 percent) followed by CFO's estimate of average market risk premium (22.2 percent) as an input while using CAPM. About 17 percent of the respondents use fixed rate of 10 percent as market risk premium in CAPM model. Low growth firms (P/E basis) are

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more likely to use fixed rate of 10 percent as market risk premium as compared to high growth firms (37.5 percent). Nearly 39 percent of the respondents revise their estimates of cost of capital quarterly and for 28 percent of the respondents, this process is followed semi-annually.

In response to another question on alternative use of cost of capital, nearly 60 percent of the respondents answered in the affirmative. About 52 percent of the respondents who answered in the affirmative use cost of capital for divisional performance measurements, 42 percent use it for EVA computation and 31 use it for deciding dividend output ratio. There is significant difference in the use of cost of capital for divisional performance measurement between the high growth firms and low growth firms on P/E basis (61.5 percent versus 6.3 percent).

TABLE 8: SURVEY RESPONSE TO THE USE OF PERIOD TO CALCULATE BETA AND MARKET RISK PREMIUM IN CAPM FOR ESTIMATING COST OF EQUITY CAPITAL?

		% Use	Size (Sales) Small Large	Size (Assets) Small Large	Size (Mkt.Cap) Small Large
	CAPM followed If yes, What period do you study to calculate beta of your company?	37.5	25.0 50.0***	25.0 50.0***	29.17 45.83**
(i)	Last 5 years monthly share price data	72.2	83.3 66.7	83.3 66.7	71.4 72.7
(ii)	Last 5 years weekly share price data	27.8	16.7 33.3	16.7 33.3	28.6 27.3
	What do you use as market risk premium in a CAPM Model?				
(i)	Use fixed rate of 10%	16.7	16.7 16.7	16.7 16.7	00.0 27.3
(ii)	Use fixed rate of 7% to 9%	11.1	16.7 8.3	16.7 8.3	14.3 9.1
(iii)	Use average of historical & implied	50.0	33.3 58.3	33.3 58.3	57.1 45.5
(iv)	Use CFO's estimate	22.2	33.3 16.7	33.3 16.7	28.6 18.2

		% Use	P/E Low High	Growth (Sales) Low High	Growth (Assets) Low High
	CAPM followed If yes, What period do you study to calculate beta of your company?	37.5	33.33 41.67	20.43 54.17***	33.33 41.67
(i)	Last 5 years monthly share price data	72.2	62.5 80.0	60.0 76.9	50.0 90.0*
(ii)	Last 5 years weekly share price data	27.8	37.5 20.0	40.0 23.1	50.0 10.0*
	What do you use as market risk premium in a CAPM Model?				
(i)	Use fixed rate of 10%	16.7	37.5 00.0*	00.0 23.1*	12.5 20.0
(ii)	Use fixed rate of 7% to 9%	11.1	00.0 20.0	20.0 7.7	12.5 10.0
(iii)	Use average of historical & implied	50.0	12.5 80.0	40.0 53.8	37.5 60.0
(iv)	Use CFO's estimate	22.2	50.0 00.0	40.0 15.4	37.5 10.0

		% Use	Leverage Low High	ROCE Low High	Industry Textile Pharma
	CAPM followed If yes, What period do you study to calculate beta of your company?	37.5	33.33 41.67	20.43 54.17***	33.33 41.67
(i)	Last 5 years monthly share price data	72.2	87.5 60.0	60.0 87.5	66.7 83.3
(ii)	Last 5 years weekly share price data	27.8	12.5 40.0	40. 12.5	33.3 16.7
	What do you use as market risk premium in a CAPM Model?				
(i)	Use fixed rate of 10%	16.7	12.5 20.0	10.0 25.0	16.7 16.7
(ii)	Use fixed rate of 7% to 9%	11.1	12.5 10.0	10.0 12.5	8.3 16.7
(iii)	Use average of historical & implied	50.0	37.5 60.0	50.0 50.0	50.0 50.0
(iv)	Use CFO's estimate	22.2	37.5 10.0	30.0 12.5	25.0 16.7

*, ** and *** show the 10%, 5% and 1% level of significance respectively.

The present paper also intends to find out the extent to which Indian managers' use National Economic Profitability Analysis and the tools they use for this purpose. Nearly 29 per cent of the respondents carry out national economic profitability analysis of their projects under consideration. The domestic resource cost of US$ is widely used (57 percent) followed by the effective rate of protection enjoyed (14 percent) by the respondents, who carry out national economic profitability analysis. Small firms (market capitalization basis) are more likely to use full-fledged social cost-benefit analysis than the large firms. High growth firms (P/E and assets basis) are more likely to use Effective rate of protection enjoyed by the project than low growth firms. Low growth firms (P/E and assets basis) do not use effective rate of protection enjoyed by the project at all.

MULTIVARIATE PROBIT REGRESSION ANALYSIS: In order to take the analysis further a Multivariate Probit Regression is run to compare the impact of various explanatory variables on the two most important capital budgeting issues. This way it is tried to discover which types of firms apply DCF techniques for capital budgeting decisions and which type of firms use CAPM to determine cost of capital? These questions are

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answered using two sets of model specifications. In the first model it analyses the significance of industry through the use of industry dummy (1 for textile firm and 0 otherwise). In the second, third and fourth model industry analysis is extended by controlling for the cross sectional variations in firm size (1 for large firm and 0 otherwise) and profitability (1 for high profitability and 0 otherwise) using dichotomous variable.

First the use of DCF techniques of capital budgeting is analyzed and the results are displayed in Table 9. The DCF techniques distinguished as NPV, IRR and PI (dummy has value 1 if the response to at least one of these three techniques exceeds 3 and 0 otherwise) opposed to non-DCF techniques. In first set of models in Table 9, model 1 shows that industry dummy reveal significant difference. Textile firms make little use of DCF techniques, while pharmaceutical firms employ these methods significantly more often than the textile firms.

When the control variable size is included in model 2, it is found that size significantly attribute to explain cross sectional variations. Size has been calculated on the basis of log value of sales. In the previous analysis, for size, the log value of assets, log value of sales and log value of market capitalization has been considered for detailed analysis. For regression all the proxies for size cannot be taken for the reason of multicollinearity Size is found positively related to the use of DCF methods. This conclusion confirms that the large firms are more likely to use DCF capital budgeting techniques.

TABLE 9: MULTIVARIATE PROBIT REGRESSION OUTPUT FOR CAPITAL BUDGETING DCF TECHNIQUES

	Model 1	Model 2	Model 3	Model 4
Constant	1.564*** (0.4865)	0.4307* (0.2646)	1.242*** (0.5372)	-0.2058 (-0.5537)
Industry Dummy	-1.0122* (0.5416)	-	-1.1122* (0.5933)	0.6767 (0.7254)
Size	-	0.9522** (0.4532)	1.027** (0.4863)	1.2598 (0.5358)***
Profitability	-	-	-	0.9922 (0.5825)*
N	48	48	48	48
McFadden R-squared	0.084	0.09	0.185	0.249
Akaike info criterion	1.019	1.006	0.958	0.934
Likelihood ratio p value	0.04	0.02	0.01	0.006

1. Figures in the parenthesis are standard error.
2. *, ** and *** show the 10%, 5% and 1% level of significance respectively.

Model 4, which is extension of model 3 by adding another control variable, profitability (dummy has value 1 if the firm is highly profitable and 0 otherwise), and reveals that highly profitable firms are more likely to use DCF capital budgeting techniques.

In the second set of models given in Table 10, it is explained which firms use CAPM (dummy 1 for firms using CAPM and 0 otherwise) to compute their cost of equity. Model 1 gives insignificant results. When model is extended with control variable (industry, size and profitability) in model 3 and model 4, it shows that only firm size appears to be driving the use of CAPM significantly. Profitability and use of CAPM don't have significant relationship.

TABLE 10: MULTIVARIATE PROBIT REGRESSION OUTPUT FOR USE OF CAPM

	Model 1	Model 2	Model 3	Model 4
Constant	-0.2868 (0.2285)	-0.6744*** (0.2781)	-0.6336** (0.3062)	-0.5791 (0.6514)
Industry Dummy	-0.0904 (0.3867)	-	-0.1241 (0.3952)	-0.0030 (0.54610
Size	-	0.6744* (0.3779)	0.6801* (0.3766)	0.6618* (0.3822)
Profitability	-	-	-	-0.1764 (0.5228)
N	48	48	48	48
McFadden R-squared	0.008	0.05	0.05	0.05
Akaike info criterion	1.40	1.33	1.37	1.417
Likelihood ratio p value	0.814	0.05	0.18	0.32

1. Figures in the parenthesis are standard error.
2. *, ** and *** show the 10%, 5% and 1% level of significance respectively.

The results of Multivariate Probit Regression can be stressed because this approach enables to isolate the impact of variables conditional on other influences. Uses of capital budgeting DCF techniques and CAPM for cost of equity are influenced most by firm size. A measure similar to R^2 available in this model is McFadden R^2, which is not high in all the models. It should be noted that in binary regression models, goodness of fit is of secondary importance. What matters is, the expected signs of the regression coefficients and their statistical significance. To test the null hypothesis that all slope coefficient simultaneously equal to zero, the F test equivalent to linear regression model is the likelihood ratio statistics (Gujrati and Sangeetha, 2009). The likelihood ratio p value validates the model. The Akaike info criterion provides a measure of

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information that strikes a balance between this measure of goodness of fit and parsimonious specification of the model, the lower the value the better the fit of model.

CONCLUSION

The results of survey are consistent with the theory and simultaneously revealing too. The study discloses that the most important objective of the financial management is to maximize earnings before interest and taxes or earnings per share, which is in conformity with the results given by Anand (2002). MVA is the least important objective of management, which is in conformity with the results of Pandey and Bhat (1990). It is supporting that IRR is widely used as a capital budgeting technique despite of its limitations. The NPV method remains very popular. Large firms are more likely to use NPV and IRR. High growth firms are more likely to use DCF techniques. Payback is more popular among small firms and low-levered firms. The firms surveyed find risk to be an important consideration in their capital budgeting decisions. Nearly 41 percent of the respondents adjust the discount rate based on the project risk. The sensitivity analysis and higher payback period are the most widely used techniques for project risk analysis. A very few respondents use decision tree analysis and (Monte Carlo) simulation to analyze the project risk. Most of the respondents use single discount rate based on company's overall weighted average cost of capital. Large and high growth firms prefer to use single discount rate. CAPM is also in use to estimate the cost of equity capital. Large firms are more likely to use cost of equity that is determined by CAPM. The firms, which use CAPM to estimate their cost of equity capital, the industry average beta, are widely used by those firms. The use of 91 days GOI Treasury bill as proxy for risk free rate of return is widely preferred by the manufacturing industry. The use of last five years' monthly share price data to estimate the beta is more popular. Most of the firms re-estimate the cost of capital quarterly. Most of the firms use cost of capital estimates for divisional performance measurement and EVA computation in addition to their capital budgeting decisions. Firm size significantly affects the practice of corporate finance. The firms have moved from the traditional non-discounted techniques towards adoption of the sophisticated discounted cash flow techniques.

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