Capital budgeting techniques in asset investments

Title: In practice asset investments are determined by using capital budgeting techniques – discuss using examples in real organisations

Capital budgeting decisions are important because they affect the future earnings and growth of a company. Large amount of academic research has been devoted to establishing methods in asset investments. Most of these relate to Capital Asset Pricing Model, Net Present Value and Internal Rate of Return. But the question still remains how closely the above prescribed methods are followed in the real world. This paper looks at the financial methods used by small and large organisations in investment decision making and analyses whether there is any difference due to firm size. It also looks at whether there is any difference in the methods used during stable and unstable business environment.

Net present value and Capital Asset Pricing Model are the two most common methods prescribed by academics for investment valuation. Over the years the above methods have become more common, yet various surveys find that the large companies use these methods more frequently than smaller firms. Small firms rely more on payback method for investment decision making. They also rely on their past experiences to decide which projects to take. During uncertain and crisis times, managements rely more on their qualitative analysis than on quantitative analysis to make investment judgments even though they carry out more financial analysis.

A) Comparison of small and large business practices in relation to investment decisions

Discounted cash flow methods are most common financial techniques mentioned in academic literature for investment decision making. Graham

and Harvey (2001) carried out a survey of 392 CFOs in USA on capital budgeting techniques. They reported that the asset investment decision making relied heavily on the net present value technique in large firms. On the other hand, smaller firms were more likely to rely on payback method.

Their survey and analysis clearly showed that firm-size was a major factor in deciding the corporate finance practices employed in investment decisions. Larger firms were more inclined to use Capital Asset Pricing Model than smaller firms. In case of smaller firms, CFOs used payback period method as frequently as NPV or IRR methods.

They also noted that the dividend paying firms are more likely to use NPV and IRR methods as compared to non-dividend paying companies. Since dividend paying companies are on average larger than non-dividend paying companies, it shows that larger companies rely more on NPV and IRR for asset investment decision making.

While Graham and Harvey (2001) study showed the growing importance of NPV as an asset investment decision tool, it also showed that the payback method is the third most likely used method in asset investment decision making process. Because of no time value of money in payback method, academics don’t use it for capital budget method. Buts its prevalence and third ranking shows that the companies still rely on relatively incorrect method for investment decision making.

Brounen, Jong and Koedijk (2004) extended Graham and Harvey (2001) study to Europe. They surveyed 313 firms in UK, the Netherlands, Germany and France to analyse the practical applicability of the net present value and

capital asset pricing models in the business world. Like results in Graham and Harvey (2001) study, their main observation was that the financial management practices are determined mainly by the size of a firm.

But they found some differences in financial practices between companies based in USA and Europe. On capital budgeting, Brounen, Jong and Koedijk (2004) found that European firms are more likely to rely on payback method for investment decision making. While the payback method was third preference in the US, it was number one preference among European firms.

Brounen, Jong and Koedijk (2004) noted that smaller firms use cost of capital as told by their investors. They don’t have robust resources in place neither internally nor resources to procure external services for cost of capital calculation. Absence of proper cost of capital measurement results in higher use of payback method.

While in case of US companies, the use of NPV and payback method was equally distributed in the small firm segment, the use of payback was more prevalent in European smaller firms. This difference could be due to the difference in sample size of American and European firms. 51% of American firms in Graham and Harvey (2001) survey had sales of more than $500 million US dollars. The corresponding figure in Brounen, Jong and Koedijk (2004) survey is less than 25%. As the average size of European firms in Brounen, Jong and Koedijk (2004) survey was smaller than average size of American firms in Graham and Harvey (2001) survey, it is more likely that smaller firms use payback more than NPV in asset investment decision making.

Ekanem (2005) surveyed 8 small enterprises in the printing and clothing sectors in UK to analyse their investment decision making process. His results showed that owner-managers of small firms rely more on their previous experience than formal evaluation to make investment decisions. He also lists the barriers faced by the small firms in investment decision making that result in owners' reliance more on their experiences rather than formal evaluation. He cites absence of resources, both financial and managerial, to carry out proper financial evaluation and concentration of decision making in hands of one or two people as the major reasons behind their focus on past experiences. Ekanem (2005) also mentions the uncertain and risky nature of small enterprises as one of the reasons for relying more on experience. Small firms may run out of cash quickly due to sudden change in environment before they could see positive cash inflows from a project and hence many times ignore projects with higher payback periods.

Sole trader

A sole trader is most likely to employ his past experiences in evaluating an investment decision. If he had any past experiences which brought his current business or past businesses very close to bankruptcy due to high amount of debts, he would not like to take up projects which are not cash positive in short term even though they might have a positive net cash flow over their life.

Most of the sole traders even don't understand their true cost of capital. If they fund an internal project from internal accruals they don't associate any cost with it. Very seldom they think about an opportunity cost of capital. Another reason for not associating costs to internal funds is the absence of

difference between business and personal finances. Sole traders don’t have an external majority shareholder to report to and are not accountable to outsiders. They keep on drawing and adding back money to the business based on their personal requirements. Under such circumstances, it becomes very difficult for a sole trader to keep track of all cash flows associated with a project and hence is unable to do the asset investment decision making on the discounted cash flow model.

As an example, we look at the independent pharmacies, i. e., those pharmacies not owned by a group or corporate houses and they normally have 1 to 5 pharmacy outlets in UK. Many of these are limited companies and owned and managed by a qualified pharmacist. Due to increasing regulatory requirements and competition, pharmacies are undergoing refurbishment to offer additional services and increase foot fall and over the counter sales. Over the counter sales have higher margins than NHS prescriptions.

Most of the owners of the independent pharmacies are qualified pharmacists who have professionally managed their pharmacies but don’t have the financial expertise to properly evaluate an asset investment decision based on capital budgeting. When independent pharmacy owners spend money on refurbishment, they don’t take into account the cash flows associated specifically with the refurbishment over its project period. Most of them don’t have the financial expertise to build a full-scale discounted cash flow model to find out the net present value of the refurbishment project. Nor they like to spend money on external resources to do a financial evaluation. If they

see that their peers in the pharmacy industry have managed to do well with refurbishment projects, they undertake similar projects.

B) Comparison of investment decisions in stable and unstable business environments

When companies have time to plan in advance, they do account for different risks when planning investment decisions. Cooper et. al. (2002) surveyed companies on the method of handling risk in the capital budgeting process. 87% of the respondents replied that they use subjective techniques and 65% affirmed that they used quantitative techniques. On the methods used to quantify risk, 33% of the respondents replied that they increase the required rate of return or cost of capital to compensate for risk considerations.

But planning for risk in stable times and then taking decisions in unstable times are different things due to dynamics of things during unstable times. The major difference between stable and unstable environment is the increase in risk during unstable environment. Companies face two different kind of unstable business environments – company specific and economic-wide unstable business environment. Company specific unstable environment relate to company only and occur mostly due to rapid changes in that industry and/or the financial state of that company. The additional major risks facing a company under economic-wide unstable times are political risks and foreign exchange risks.

Even though companies plan for political risks by adjusting rate of capital, when they actually face such a scenario, the investment decision making is more than just calculating net present value. Alessandri (2003) found that managers rely on their personal judgment and experience more than on

quantitative decision tools as uncertainty increases. The use of qualitative tools more at the times of higher uncertainty deviates from the reliance of academic literature on quantitative tools only.

Consider the example of firms planning to invest in Bolivia. Bolivia’s new president has nationalised mining industry. Any firm planning to invest in Bolivia will reassess the risk involved in investing there as its assets could be nationalised in future. It can use the net present value models and adjust political risk factor to incorporate future nationalising in Bolivia. But even after obtaining a positive net present value, most of the companies would not like to invest at current times. They would like to wait and watch to see further actions of the Bolivian government before making any investment decision. If the firm has external shareholders, the management would not like to invest in Bolivia now because if anything goes wrong in future, the management will find it very difficult to justify their action. They would rather play it safe and let the investment opportunity pass by if not invest later rather than facing a situation where their decisions could be severely criticised.

The other major risk that could happen in unstable times is the foreign exchange risk. During 1997-98 the currencies of South East Asian countries plummeted. The drop was so sudden and so sharp that all financial modelling about risk incorporation couldn’t take full effects into consideration. Foreign investment in South East Asian countries in late 1997 and 1998 dropped significantly. Most of the companies waited for the government to take action and economy to stabilise before channelling in their investments. Because of the sharp drop in their currencies, it was

widely expected that South East Asian countries would impose some ban on foreign capital repayment to prevent further out flow of foreign exchange. When countries did implement such ban, multinational companies were not sure when such a ban would be lifted and did not invest in South East Asian economies till the situation became normal.

The rapid change in business environment during crisis times makes it very difficult for companies to assign value to various risk factors used in capital asset pricing model and net present value. This also results in managements relying more on qualitative analysis for investment decision making.

Companies also face unstable business environment or crisis times which are specific to them only. This normally occurs when a company is perceived to be unable to meet its debt requirements and there are chances of it going into administration. At such times even though the company may come across a positive net present value project, it would be unable to invest money into the project because of high debt level concerns.

Stagecoach is a UK listed firm in transportation sector. Prior to 2001, it had diversified in UK, Hong Kong and New Zealand. Sep 11, 2001 events severely impacted its tour operations because of reduced travel. Because of high fixed cost in establishing travel business, sudden drop in revenues raised doubts about the loan serviceability [1] . This was reflected in the sudden drop of Stagecoach’s share price which lost more than 3/4 th of its value in the year 2002 [2] . Even though Stagecoach’s Hong Kong operations were profitable, the management sold Hong Kong operations to reduce debt levels to meet market expectations [3] . The management also sold other

operations in non-UK countries and its share of a joint venture with Virgin Rail to reduce debt levels.

Investment decision making in crisis times involves more than just quantitative analysis and managements make decisions based on their past experiences and likely outcome of different scenarios. Many times during company-specific crisis of high debt, managements take investment decisions to meet market expectations rather than decisions based on net present value.

CONCLUSION

Capital budgeting decisions play a very important role in deciding future growth of a company. Academics rely on use of financial models like net present value, capital asset pricing model and internal rate of return to evaluate investment decisions. Over the years, the use of above methods has become more common. Large companies mostly use the above methods in asset investments. But in case of smaller companies, the use of other methods like payback period is still prevalent. Though over the years the gap between theory and practice has narrowed down, the use of payback period method shows that smaller companies either don’t have the expertise or resources to do proper financial evaluation. The owner-managers of smaller companies and sole traders also rely heavily on their past experiences to decide about investments.

During uncertain and crisis times, managements rely more on their qualitative analysis than on quantitative analysis to make investment judgments even though they carry out more financial analysis. Managements

would not like to take decisions just on the basis of net present value to invest during crisis times.

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[1] Stagecoach trading update (http://www. investegate. co. uk/Article. aspx? id= 20020429070131 2056V)

[2] Stagecoach share price chart (http://uk. finance. yahoo. com/q/bc? s= SGC. L&t= 5yDate 21 Jan 2007)

[3] Stagecoach’s sale of Hong Kong operations (http://www. investegate. co. uk/Article. aspx? id= 20040119081701361 7U)