

Survey and Synthesis of Practices in Estimating Cost of Capital of Non American Firms

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Abstract

The purpose of this paper is to present anecdotal evidence of how financially sophisticated Multi National Corporations (MNCs) estimate cost of capital. This paper differs from its predecessors in several aspects. The previously published surveys are based on written, closed-end surveys. The questionnaires were sent to a large sample of firms in a specific country or region. The questionnaires often covered a wide array of topics and commonly used multiple-choice or fill-in-the blank questions. So, the questionnaires provided for a limited opportunity to explore subtleties of the topic. The US surveys for obvious reasons do not survey MNCs headquartered outside the US. This paper is an attempt to address that deficiency. Our survey is based on results of telephonic survey method. Another important feature of our survey is that it identifies some ambiguities in the application of cost of capital theory in global environment.

Our survey targeted global firms headquartered outside the United States of America. We used the New York Bank's directory of American Depository Receipts (ADR) listed in the New York Stock Exchange (NYSE). The list in October 2006 included 335 companies. We used the random sampling in the Excel© to get a list of 25 companies that we surveyed. The list consisted of 11 European, 2 Russian, 2 Far Eastern, 2 Central American, and 8 South American companies. During the following months 9 representatives of the 25 companies agreed to be interviewed.

The findings confirm, that theoretical framework taught in today's business schools in the USA is used by the MNCs. Interestingly, many of the practices also fill in the gaps in our knowledge of the practices of the MNCs headquartered outside of the USA.

Background

In recent decades, globalization has become reality for many enterprises. Benefits of globalization are many and vary widely depending on a firm's mission and strategic goals. Some reasons for globalization are necessity to expand their markets, reduce cost of inputs, and gaining advantage in various financial securities offered in international financial markets. In a word firms are multinational in scale and scope. A multinational corporation (MNC) evaluates investment opportunities in many continents and countries, performance of its subsidiaries, and/or executive performance by a variety of techniques and methods (Maduro 2005). Techniques such as, Net Present Value, Internal Rate of Return, and other firm specific techniques are used.¹ This makes the estimation of cost of capital and its components important.

Just as technology and resources differ across countries, so does the cost of capital. MNCs

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¹ See the questionnaire in Appendix A.

will seemingly have a positive Net Present Value projects because their nominal cost of capital is could be lower depending on the security market were the MNC floats its financial securities.² A MNC operating and selling securities in a country with seemingly higher nominal cost of capital may be forced to decline projects that might be feasible for a MNC operating and selling securities in a country with lower nominal cost of capital.

Our research focuses on the subject of best practices in estimating the cost of capital for global firms headquartered outside of the United States of America. Many researchers have conducted studies on estimating the cost of capital. Block (2003) surveyed 298 *Fortune* 1000 companies and the use of divisional cost of capital. He found that while 85.2 percent utilize the concept of weighted average cost of capital less than 50 percent use divisional cost of capital. Ferson and Locke (1998) in their article “Estimating the Cost of Capital through Time: An analysis of the Sources of Error” found that great deal of error in estimating the cost of equity capital is found in the risk premium. The reliance on a standard market index is found to bear the brunt of this error. A smaller error is due to the risk measure (beta). Ferson and Locke finally cast doubt on the reliance on the Capital Asset Pricing Model (CAPM) for practitioners needing estimates of the cost of capital. A development in capital cost estimating was discussed by Bierman (1984) in the research titled “We Cannot Measure the Cost of Equity Capital Exactly”. Bierman discusses measurement errors due to having to rely on forecasted values. The market price-book value ratio is presented as an alternative in estimating the cost of capital. “Estimating Cost of Capital using Bottom-up-Betas” (Beneda, 2003) discusses difficulties computing the cost of capital for a growth company. One alternative for the risk measure in CAPM is to use the bottom-up beta approach. Stulz (1995) argues in the paper titled “the Cost of Capital in Internationally Integrated Markets: The Case of Nestle” that the cost of capital for firms in small countries should be estimated using the global CAPM rather than a local CAPM. The choice of which market portfolio to use in the regression calculating betas is of great importance (See, Bruner et.al. 2008) for further empirical observations how practitioners should calculate beta on securities in various developed and emerging markets.

Bruner (1998) surveyed 27 financially sophisticated US firms on how they estimate capital costs. The initial size of Bruner’s sample was 50 firms. 18 were headquartered outside North America and five declined to be interviewed. One of the reasons Bruner excluded firms headquartered outside of North America was the increased difficulty of obtaining interviews from these firms. Bruner mentions that the enlargement of a survey to firms from other countries is a subject worthy of future study. This paper is an attempt to fill the gap and follows the structure and outline of the Bruner survey. This paper however, differs from its predecessors in several aspects. Existing published evidence is based on written, closed-end surveys sent to a large sample of firms, often covering a wide array of topics and commonly using multiple-choice or fill-in-the blank questions and provides limited opportunity to explore subtleties of the topic.

Our survey is based on results of telephonic survey allowing us to expand on the answers.

² Nominal cost of capital means that the cost is not adjusted for country specific risk, business risk, or expected inflation.

Another feature of our survey is that we are interested in those areas of cost-of-capital estimation where finance theory is silent or ambiguous and practitioners are left to their own devices. This paper is not focused on reintroducing theoretical ways of estimating cost of capital. In the survey results section we will make references to the theory when necessary

In the section titled sampling we explain the methodology in selecting the firms in the sample. The survey instrument is also discussed.

Sampling

We started with the list of the companies from the directory of New York Bank whose American Depository Receipts (ADR) were listed in the New York Stock Exchange (NYSE).³ The list in October 2006 included 335 companies. We used the random sampling in the Excel© to get a list of 25 companies that we surveyed. The main rationale for limiting the sample size to 25 companies was the estimated cost of making international calls lasting for hours. The list consisted of 11 European, 2 Russian, 2 Far Eastern, 2 Central American, and 8 South American companies. Following the search on the internet of each company's home page, we sent a letter to the Chief Financial Officer and to the Investment Relations Office of each of the companies. The purpose of the letter was to arrange to have a telephone interview with a representative of each company. After the second mailing, followed by an e-mail reminder, 9 companies (36 percent response rate) agreed to an interview. Out of the 9 companies, 4 were European (36 percent response rate), 2 were South American (25 percent response rate), 1 Far Eastern, 1 Russian, and 1 Central American (50 percent response rate for each group). We called the representative of each company at the prearranged time in the headquarter location outside the U.S. Each interview lasted from 35 minutes to about an hour. In the following section we review the results.

Survey Findings

My research assistant arranged for the telephonic interview. Because the companies were located in 9 different countries we made the telephone calls at all hours of the day. We discussed each of the 20 questions with a representative of the company. The participants responses were recorded (with their approval) and I listened to the conversation (the respondents knowing this). Our survey findings showed that all companies use discounted cash flow (DCF) techniques to evaluate investment opportunities. Similarly, all companies surveyed use weighted average cost of capital as the discount or the hurdle rate in evaluating domestic and international projects. Roughly 60 percent of the respondents said they use the same cost of capital (WACC) worldwide. 40 percent "tweaked" the rate depending on their expectations of future economic developments in the country or region in were the projects are. More about the way the companies estimate expected risks later. Roughly 80 percent said the weight is based on target capital structure. One respondent used market value for equity (common shares) but book value for debt component. Generally, the target capital structure does not deviate much from the actual

³ New York Bank is the trustee for the original shares of the companies whose shares are traded as ADRs on the exchange.

one. There seems to be only a small difference between the target and the current market structure. A wide variety of international debt and other financial securities are included to finance projects. One of the companies had a unique combination which includes the equity, long term borrowing and the pension liabilities. The reason for including the pension liabilities is based on the local accounting requirements. Another unique combination included a hybrid bonds along with equity. Hybrid bonds for the company seem to include a wide variety of convertibles, puttable bonds, and some derivative type of instruments.

Next we asked the companies how they estimate the company's before tax cost of debt. About half of the respondents said they use the 10 year US government bond yield plus credit default SWAP spread. Two companies use a combination of 10 year risk free rate (US government or their local government) plus an actual funding spread. Two companies use a long term debt rate based on their credit rating. When asked about "what tax rate do you use", almost uniformly the answer was either marginal rate, statutory rate, or country specific marginal rate.

Survey results show that when estimating the cost of equity capital the companies use CAPM. A specific risk associated with one project or other might be different from the risk faced by the entire group. Our concern was if and how the companies adjust the calculations in order to accommodate for the country specific difference in risk. The survey findings show that most of the companies did make the adjustment either in the discount rate or the forecasted cash flows generated by a particular project or a subsidiary. Sixty percent of the companies said that they make adjustments in the cost of capital to show that it reflects the actual risk that the division or the project is exposed to. Forty percent of the companies responded that they would make the adjustment in the cash flow so that it reflects the actual risk that the division/subsidiary or the project is exposed to. One company responded that it adjusts the estimated cash flow when a project is exposed to a vastly different risk than the company overall. Furthermore, the estimated cash flow is discounted using their industry specific cost of capital.

All the companies responding to the survey said they recalculate their cost of capital annually and necessary changes are made. The same cost of capital is used for the divisional performance evaluation. One of the companies claimed they discount the operating profit using the WACC in order to evaluate the division performance. In estimating the risk premium we found a variety of different methods. The majority of the surveyed companies use a global market index to proxy the market return and deduct the LIBOR (London Interbank Offering Rate) or a similar rate from it to find the risk premium. Another method is to use a global market index and deduct the rate the company's bank rate or the company's bank credit line rate from it. The European companies in our sample indicated that at times they are using the European Central Bank rate as proxy for the theoretical risk-free rate. One unique way of calculating the market risk premium was using the funding spread which is calculated internally by the respective company. This funding spread was added to the risk free rate, and then the market risk rate was deducted from it to give the risk premium.

According to our survey findings, most of the companies that we surveyed use the group betas. Few companies utilize the average beta of the group beta of the companies which have

similar risk associated with it. These betas are regularly published by the publishers like Bloomberg, Value line and Standard and Poor's.

Conclusion

Survey findings are largely consistent with the theoretical teachings of the business schools in the USA during the last 30 years if the text books correctly indicate what finance professors teach. However there are some interesting deviations or variations from the modern finance theory as discussed in the section about survey findings. Our sample size for practical reasons such as cost, time, and availability of CFOs was small. The main limitation of the survey, therefore, is that one should not necessarily generalize our findings to the MNCs.

Appendix A Questionnaire

1. Do you use DCF techniques to evaluate investment opportunities?
2. Do you use any form of a cost of capital as your discount rate in your DCF analysis?
3. For your cost of capital, do you form any combination of capital cost to determine a WACC?
4. What weighting factors do you use? Target vs. Current debt/equity, market vs. book weights?
5. How do you estimate your before tax cost of debt?
6. What tax rate do you use?
7. How do you estimate your cost of equity?
8. As usually written the CAPM version of the cost of equity has three terms: a risk free rate, a volatility rate or beta factor, and a market-risk premium. Is this consistent with your company's approach?
9. What do you use for the risk free rate?
10. What do you use as your volatility or beta factor?
11. What do you use as your market risk premium?
12. Having estimated your company's cost of capital, do you make any further adjustments to reflect the risk of individual investment opportunities?
13. How frequently do you re-estimate your company's cost of capital?
14. Is the cost of capital used for purposes other than project analysis in your company?
15. Do you distinguish between strategic and operational investment? Is cost of capital used differently in these two categories?
16. What methods do you use to estimate terminal value? Do you use the same discount rate for the terminal value as for the interim cash flows?
17. In valuing a multidivisional company, do you aggregate the values of the individual divisions or just value the firm as whole? If you value each division separately, do you use a different cost of capital for each one?
18. In your valuations do you use any different methods to value synergies or strategic opportunities?
19. Do you make any adjustment to the risk premium for changes in market conditions?
20. How long have you been with the company? What is your job title?

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