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Cost of Capital as a Determinant of Financial Risk of Companies Listed on the Nairobi Securities Exchange in Kenya

Caroline Ayuma Okelo
PhD Student, Mombasa CBD Campus, JKUAT, Kenya
Gregory S. Namusonge
Professor, Dean School of Entrepreneurship, Procurement and Management, JKUAT, Kenya
Dr. Mike Iravo
Director, JKUAT Nairobi Campus, Kenya

Abstract:
Financial risk is an important determinant of a company's performance and sustainability. This study assesses the effect of overall cost of capital on financial risk. The study used theoretical underpinnings to identify the factor and used survey research to determine its effect on company's listed on the Nairobi Securities Exchange (NSE). Purposive sampling was used to identify the sample from the list of publicly listed companies on the NSE. The study applies both qualitative and quantitative methods of data analysis. A pilot study was first conducted to test the reliability of the research tool, corrections made and then used for the research. The questionnaire was used to collect data from a purposive sample of 45 companies out of which 38 gave responses. Statistical Packages for Social Sciences (SPSS) version 24 was used for data analysis and results presented using tables and figures. The results were consisted with the alternative hypothesis of the study.

Keywords*: Asymmetric Information, Cost of capital, Transaction costs*

1. Introduction

Financial risk is a major concern world-wide and there are numerous studies to support the necessity to investigate it. Lee (2006) defines financial risk as the additional risk that the firm's stockholders bear when the firm is financed with debt as well as equity. Clarke (2010) explains that the recent turmoil, bank-runs, global equities sell-off and the "credit crunch" demonstrate sophisticated and interconnected nature of the financial markets making the seemingly localized problem to become a global financial risk. This reiterates the importance of studying the financial risk of companies listed on the securities market. Studies show that a financial crisis although not explained by any one single cause, emanates from poor financial management which eventually spreads to other areas of the economy (McGuigan, McNally & Wyness, 2012).

Studies on the developing countries indicate that it is necessary to change policies and controls in financial risk management. Gemech, et al. (2011) point to the impact of high uncertainty of commodity prices on financial risk management in developing countries as an effort to prevent or reverse the deterioration in their balance of trade, and mitigate short term volatility.

2. Background

The Nairobi Securities Exchange (NSE) individually and cumulatively affects the economy of Kenya. Di Bella (2011) points out that an inadequate number of investors on the capital market which is brought about by uncertainty is an indicator of inefficiency in the economy. The NSE has undergone several changes since inception in the 1920's in the effort to improve efficiency. The phases include the initiation stage, the formalization stage and the revitalization/restructuring stage (Ngugi. 2010). These stages have culminated into dematerialization, demutualization and eventually to self-listing. The performance of the NSE poses a risk on the companies listed and the performance of the listed companies also pose a risk on the NSE; there exists a two way relationship.

2.1. Objectives of the study

The objective of the study is to determine the effect of cost of capital on financial risk of companies listed on the Nairobi Securities Exchange (NSE) in Kenya.

2.2. Research question

How does cost of capital affect the financial risk of companies listed on the NSE?

2.3. Research hypothesis

The research has the following null hypothesis

Ho: Cost of capital does not significantly affect the financial risk of companies listed on the NSE

3. Theoretical Framework

Cost of capital can be explained in terms of both the lender and the borrower of funds. Cost of capital constitutes of cost of debt, cost of equity and cost of debenture. The differences in the overall cost of capital can be captured using transaction cost, information asymmetry and principal-agent relationship.

3.1. Transaction cost

Transaction or contracting costs represent the explicit or implicit costs of facilitating exchanges (Lee, 2006). Five transaction technologies used to evaluate the borrower ultimately determine the cost of capital. These technologies include financial statement lending, small business credit scoring, asset-based lending, factoring, and trade credit (Berger and Bouwman, 2009). All these technologies require a lot of resources to implement. They require intensive monitoring and are highly dependent on the lending infrastructure which is expensive to put in place (Okelo, Namusonge and Iravo, 2014). High transaction costs translate to a high cost of capital.

3.2. Information Asymmetry costs theory

Literature on asymmetry of information indicates that borrowers have an informational advantage over lenders since borrowers have more information about the investment projects they want to undertake leading to moral hazard and adverse selection (Schnabl and Hoffmann, 2008). Brealey, Leland and Pyle (2012) explains the adverse selection and the classic 'lemon' problem where lenders cannot identify good borrowers from bad borrowers and this leads to higher interest rate that reflects the average quality of the good and bad borrowers. Kumar (2008) points out that in the case where the funds provider is the firm, it will have more information about the firm than new equity holders; thus new equity holders will expect a higher rate of return on their investments, implying that it will cost the firm more to issue fresh equity shares than using internal funds. High information asymmetry therefore translates to a high cost of capital.

3.3. Principal-Agent costs theory

The principals or owners of the firm hire agents, or managers, to run the firm in the best interests of the principals. But ethical lapses, self-interest, or the owners' lack of trust in the managers can lead to conflicts of interest and suspicions between the two parties (Lee, 2006).This leads to a cost as principals try to control and monitor the actions of the agents in investments. The costs associated with the agency problem, such as a reduced stock price are called agency costs (Shim and Siegel, 2007). This therefore implies that higher Principal-Agent costs translate to a higher cost of capital.

3.4. Effect of Cost of Capital on Financial Risk

Cost of capital is the rate of return that is necessary to maintain the market value of the firm or price of the firm's stock (Shim and Siegel, 2007). Cost of capital should be such that it eliminates or minimizes variability which increases financial risk. Cost of capital is the expected rate of return demanded by a firm's investors for investing in the firm hence determines its valuation. The higher the rate of return demanded by a firm's investors for the capital they provide to the firm, the more costly it is for a firm to finance itself (Sharfman and Fernando, 2008). In addition, the cost of capital is the rate that investors use to discount a firm's future cash flows. The higher the cost of capital, the lower the present value of the firm's future cash flows, hence the higher the financial risk.

The cost of capital is computed as a weighted average of the various capital components. This therefore means that by analyzing the items such as debt, preferred stock, common stock, and retained earnings of companies listed on the NSE the conclusion on whether it is low-cost capital that is used or high-cost capital can be drawn. High cost capital increases the financial risk of the firm. The cost of debt for instance, the interest rate which has to be paid is a financial obligation and can become a risk in times of low income. Although Retained earnings are a major source of financing for mature, established firms in developing countries, (Njeru, Namusonge and Kihoro, 2012), debt, common stock and preferred stock are also used as sources of financing for the companies listed on the NSE. This study therefore adopts the following conceptual framework to show the effect of cost of capital on financial risk.

3.5. Conceptual Framework

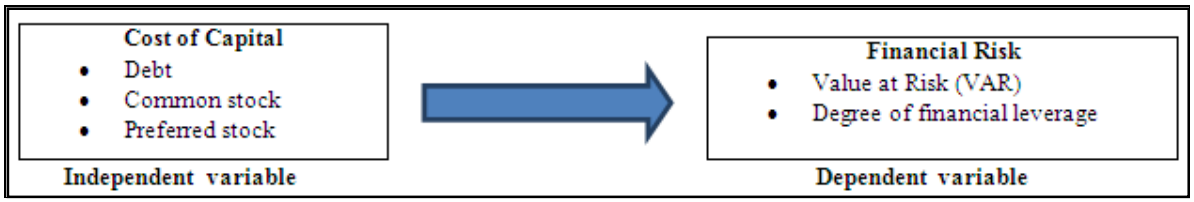

Figure 1: Conceptual Framework

4. Methodology

4.1. Research Design

Mixed approach design was used to facilitate the collection of both statistical data and descriptive data. Descriptive data facilitated collection of opinions and ideas. Analysing the financial statements of a sample of publicly listed companies provided quantitative data (Burns & Grove, 2005) whereas the analysis of the questionnaires provided qualitative data.

4.2. Sample and sample size

A purposive sample was drawn from a population of sixty public listed companies as at December 2013. A proportion 75% of a target population of 60 companies was used to select the sample size of 45. This is representative because it exceeds the 10% proportion recommended (Orodho, 2003).

4.3. Sampling procedures

A purposive sample from Chief Executive Officers (CEOs), Chief Financial Officers (CFOs) and middle level management of 45 companies listed on the NSE was used to give an all-inclusive opinion. The sample frame was drawn from the list of public companies listed on the NSE website as at 2013. Most of the companies have headquarters in Nairobi hence this justified the study's scope.

4.4. Data collection methods

Primary and secondary data collection methods were used, Primary data collected using self- administered questionnaire, and interviews were also carried out. These facilitated the collection of information based on opinions and ideas. Interviews facilitated further clarifications where required. The secondary data was drawn from the NSE website, journals and other publications.

4.5. Pilot study

A pre-test of the research instrument was done on a small sample of six companies selected using convenience sampling. This was to evaluate the reliability of the research tool. The study was carried out on companies based in Mombasa County because they were easily accessible. This facilitated the improvement of the questionnaires and interview guides.

4.6. Data Analysis

The analysis was done on the components of cost of capital. Questions used were drawn from various sub-scales of ''the presence and effect of debt'' scale and "the Presence and effect of common stock" scale and "The presence and effect of preferred stock" scale. The presence and effect of debt financing was assessed using a 5-point scale (3 questions; cronbachs alpha=.937).The presence and effect of common stock was assessed using a 5-point scale (3 questions; cronbach's alpha=.838), the presence and effect of preferred stock was tested using a 5-point scale (3 questions; cronbach's alpha=.726). A logic regression procedure to predict the effect versus no-effect of financial risk by the components of cost of capital was done. The results in table 1 depict that the constructs were reliable since they were above 0.5 which is the acceptable level (Burns & Grove, 2005). The chronbach's alphas were computed using SSPS version 24 to assess internal consistency of the resulting scales endorsing as ''True or agree'' an item affecting financial risk was scored as a 1.'' False or Disagree'' was scored as 0, whereas ''neither agree nor disagree'' or ''Neither agree nor disagree' scored as 0.5. These values were consequently used to create the regression model.

Financial Risk	Reliability Cronbach's alpha	Comment
Debt financing	.937	Accepted
Common stock	.838	Accepted
Preferred stock	.726	Accepted

Table 1: Reliability test

$FR = \beta 0 + \beta 1(DEB) + \beta 3(COMST) + \beta 4(PRDST) + \alpha \ldots$ (1)

Where:
FR = Financial Risk
DEB = Debt
COMST = Common stock
PRDST = Preffered stock
βo = constant term of the model
β's = coefficients of the model
α = Random error term.

The model was tested to know if it was valid in examining financial risk. The results of the equation gave the p-value 0.03 which was less than the critical value<0.05. The null hypothesis was rejected. Significant cost of capital constructs that influence financial risk were extracted by applying the t-test to 3 variables at 5% level of significance using MS Excel. Results are depicted in Table 2.

Models	B	t-values	p-values
Debt	1.238	3.452	0.010
Common stock	.322	1.411	0.021
Preferred stock	.016	1.011	.042

Table 2: Dependent variable: Financial risk affected (yes/ no)
p-value<0.05

The decision rule to reject the null hypothesis would be applied if the p-values obtained were less than 0.05. The decision rule to reject the null hypothesis would be applied if the p-values obtained were less than 0.05 hence they affect financial risk. The null hypothesis was rejected hence the cost of capital significantly affects financial risk of firms listed on the NSE.

5. Discussion

Table 3 depicts that most of the respondents agree that the constructs of cost of capital; debt, equity and preferred stock significantly affect the financial risk of their firms. The factor which is considered to have most effect is debt as it is compulsory to pay back the principal and interest and, the rates of interest fluctuate depending on the existing macroeconomic conditions. Furthermore, collateral is required to access debt .Results show that equity has the least effect on financial risk of the firm since it is not compulsory to pay dividends. Flotation costs however make equity unfavorable for most firms. In addition to this, the model was proved to be valid hence suitable for the study.

6. Conclusion and Recommendations

The study indicated that the cost of capital affects the financial risk of companies listed on the NSE. The following recommendations are forthcoming. First, lenders should put in place superior software systems to ensure inter-connectivity and networking in order to make lender information easily available to reduce costs. Second, the government should provide infrastructure necessary to facilitate efficient lender-borrower interaction. Third, companies should put in place proper financial risk management tools and regularly upgrade them to be in line with emerging financial risks. Finally, listed companies should use more internal financing than external financing. Otherwise utilize more common stock than preferred stock or debt due to the relatively unstable financial conditions.

	Frequency		Percentage	
	YES	NO	YES	NO
Debt				
- Rate of interest	35	3	93	7
- Requirement for collateral	35	3	92	8
- Compulsory repayment	34	4	90	10
Equity				
- Flotation costs	30	8	79	21
- Increase in ownership	27	11	72	28
- Dividends not compulsory	24	14	64	36
Preferred Stock				
- Compulsory dividends	36	2	91	9
- Constant rates of return	34	4	89	11
- No ownership	31	7	81	19

Table 3: Key cost of capital factors affecting financial risk

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