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DEPARTMENT OF BANKING AND FINANCE

B.Com Banking and Finance

The determinants of cost of funds among companies listed on the Zimbabwe stock exchange.

BY

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Dedications

I dedicate this work to the most loved people in my life Mr and Mrs Maburutse. Also a special dedication to my brother Brighton and my friend Thando Attkinson.

Table of Contents

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God richly bless you all!

ABSTRACT

The main aim of the study was to analyse the determinants of cost of capital among companies listed on the Zimbabwe stock exchange. The major objective of the research was to come up with those factors which have an influence on the cost of capital and to what extend. Valuation methods, models of cost of capital and determinants of cost of capital also complemented the research. Related studies done in the past support that there are various factors which influence cost of capital such as size, growth, leverage, tax and total assets only to mention a few. The research used explanatory research design and used secondary data and this data was found from different reliable sources such as the Zimbabwe Stock Exchange, Zimbabwe National Statistics and Imara Edwards securities. Multiple regression was used and the results show that the cost of equity is influenced by the size of the company, gearing level of the company. Most of the results were consistent with literature such as a positive relationship between size and cost of capital. Also the findings suggest that the factors which influence the cost of capital vary across the various sectors and industries hence the need of sector analysis. The results will aid in helping companies to review their estimations on the cost of capital , the allocation of capital, capital structuring and also aid the regulating board to adjust their policies based on effects of cost of capital determinants. The study was also able to conclude that a company which is asset backed is more attractive to investors since it is more secure thereby creating some form of trust between investors and the company hence a lower cost of capital. The Government or regulatory board through its monetary policy should try to maintain low and favourable interest rates even in harsh economic conditions so as to make sure that small and young companies get continuous access to sufficient funds to enable them to remain stable and healthy. Also policies that support company growth will result in a healthy economy.

LIST OF ACRONYMS

DE	: Debt to Equity
EBIT	: Earnings before tax
EG	: Earnings Growth
EPS	: Earnings per Share
IES	: Imara Edwards Securities
MM I	: Modigliani and Miller Proposition 1
MM II	: Modigliani and Miller Proposition 2
NYSE	: New York Stock Exchange
RE	: Retained Earnings
WACC	: Weighted Average Cost of Capital
ZIMSTAT	: Zimbabwe National Statistics Agency
ZSE	: Zimbabwe Stock Exchange

LIST OF TABLES

LIST OF APPENDICES

CHAPTER 1: INTRODUCTION

1.1 Introduction

This research is premised on analysing the determinants of cost of funds among companies listed on the Zimbabwe Stock Exchange. The study seeks to investigate the factors that determine the cost of funds or cost of capital of a company since the spread between the cost of funds and the rate of return represents the profit margin for the company. Also if a company earns a rate of return which exceeds the cost of capital this will lead to an appreciation of the company's stock and value thus maximising shareholder's wealth. This chapter encompasses the introduction to the study, the background on cost of funds, outline the problem statement, highlight objectives of the study, statement of hypothesis, significance and assumptions of the study, scope of the study , limitations and last but not least the definition of terms and organisation of the study.

1.2 Background of the study

An important legacy brought about by the global financial crisis and the euro era is their impact on the funding models of internationally active companies. The unfolding of the Global financial crisis caused destabilisation in funding markets, with market funding becoming scarce and very expensive (Beltratti and Staltz, 2011).

Funding markets became paralysed in the time 2007 to 2012 due to the sub-prime crisis and the Euro era crisis. This resulted in liquidity problems worldwide and led to high interest rates for borrowed money and funding conditions remained tight as investors were avoiding borrowing from banks and new issuance fell very low.

Depending on the type of business activity and layout of balance sheets, companies raised finance through multiple sources which include customer deposits, households, short-term wholesale finance, long-term wholesale finance, local investors, foreign investors, issuance of shares and other lenders.

Although the cost of capital has been popular , little is known about it on a broader menu of developing and emerging markets (Barry et al 1998). Knowhow of cost of capital is of use in coming up with the firm's debt policy or capital structure which has an effect on the size and risk of the earnings and value of the firm and for analysing management.

There have been limited studies due to the fact that the markets are still small and have limited data. Globally many studies have been carried out such as work by Modigilian and miller (1958) that cost of capital is not dependant on the financing mix.

Another study is by Oliner and Redebuch (1992) that larger and older firms have lower risk than small and younger firms, an indicator that size and age are a determinant of cost of capital.

Also Estrada (2000) used the CAPM based model on emerging markets and concluded that emerging markets have low betas and therefore their required rate of return is low and therefore total risk should be taken as a determinant of cost of capital in emerging and developing markets.

There are also other factors which determine the cost of capital which are size, risk and growth. Also determinants of cost of capital vary between different types of industries. They used two different models and both models concluded that reserves, earnings growth and active trading were significant determinants of cost of capital.

Although the cost of capital is quite complex and hard to get at, it is specific to the structure of liabilities, markets conditions, liquidity of the company and the track record of the particular firm. Prior to 2007-2008 financial crisis funding costs moved almost in line with the risk free rate set by central banks. All this changed with the onset of the financial crisis, where some sources evaporated rapidly and measures of bank funding costs rose sharply relative to risk free rates. Symmetrically Zimbabwean companies faced the same problems in raising funds and of scrutiny are those which are listed on the Zimbabwe Stock Exchange.

The Zimbabwe stock exchange currently lists 60 companies and has been open to foreign investment since 1993. It houses two indices the industrial and mining index. Some of its functions include it being a source of raising capital, buying and selling of shares and both activities are available for local and international companies. It also helps companies to attain funds at a relatively low cost but however over the years due to liquidity problems faced by the Zimbabwe economy. Local companies have continued to battle from interest rate obligations arising from expensive loans they acquired in the local market (Zimbabwe independent Feb 4 2010).

1.3 Problem statement

In Corporate finance the issue of Cost of capital has been a major subject but limited attention has been given to factors that determine it. This could be due to the fact that promotion of financial and capital markets is a recent phenomenon in developing countries and therefore data of companies in the markets is limited. In Zimbabwe it has been complex for companies to get funds at reasonable costs and this has forced them to borrow short term and expensive money on the local market. This in turn depletes the companies' profit and hence their retained earnings which traditionally have been the source of capital for growth. This poses a question of where will these companies get funds from and at what cost since foreign debt is also proving to be expensive and scarce due to the high country risk premium of 5%. Also knowing the relevance and importance of cost of capital in making financial decisions, it is of paramount importance to determine the factors that affect the cost of capital. As such, i would like to do a humble attempt to analyse the determinants of cost of capital for companies listed on the Zimbabwe Stock Exchange.

1.4 Objectives of the study

The main objective of the study is to determine which factors affect a company's cost of capital.

Sub-objectives:

- To ascertain which factors are significant determinants of cost of capital.
- To measure the magnitude of the relationship between determinants and the cost of capital.
- To reveal possible ways to cut back on cost of funds.

1.5 Research questions

- Which factors determine cost of capital.
- Which factors have a large influence on a company's cost of capital.
- What is the magnitude of the effect of the determinants.
- To what extend does this research help companies listed on the Zimbabwe Stock exchange.
- How can companies minimise their cost of funds.

1.6 Significance of the study

Beneficiaries of this research include the borrowers in this case the companies listed on the Zimbabwe Stock Exchange and other deficit units like private companies, SMEs, and the government who might be in need of funds. This will aid them in knowing what factors determine the cost of capital so that if permitting they can adjust and know if they are being charged fair and reasonable costs for attaining the funds. It will also help them in pricing models for example cost plus pricing so as to cover their funding costs and to source funds at a lower cost since it would have an effect of increasing their profit margins. Over and above it will help them in making a choice on where to borrow and from whom to borrow. The second group of beneficiaries are the lenders which may include banks, and the central bank these benefit in that these factors will help them in charging fair interest rates to their clients and also as a way of assessing their lending strategies such as charging different rates to different clients , charge higher rates for other type of loans and to come up with a risk premium to cover default risk. Other beneficiaries are investors that is shareholders on the key factors that determine the rate of return in project evaluation. Management is also aided in structuring their activities and projects in a manner that minimises their cost of capital while maximising shareholder's wealth. The last group of beneficiaries would includes the general interested public and academics with empirical evidence and literature for further study in the banking and finance spectrum.

1.7 Scope of the study

The study is limited to companies listed on the Zimbabwe Stock exchange. The study will be cross sectional and will use financial statements of the year 2014 only. The research was mainly conducted in Harare since that is where most of the companies listed on the Zimbabwe Stock Exchange and the Z.S.E itself are headquartered.

1.8 Assumptions of the study

The following assumptions were made in conducting the study:

- Companies listed on the Z.S.E represent a cross section of all the registered companies in Zimbabwe.
- The data and information collected and used in this study is error free.
- The research will be objective in data presentation and analysis.

1.9 Limitations of the study

The following assumptions were made in conducting the study:

- Some companies and authorities have conservative attitudes and give out limited information therefore may result in the study having limited information.
- The researcher was not fully at bay on how to use the stata software package and therefore had to deviate some time to first master how to use stata.
- There was a short time frame hence inhibiting the in-depth analysis and evaluation of the research.
- There were limited financial resources hence narrowing the scope of the study for example transport costs to cover more field research.

1.10 Definition of terms

Cost of funds / Cost of Capital : rate of return investors require for incurring risk when they give a firm their money.

1.11 Organisation of the study

The above chapter constituted of the introduction to the study, the objectives of the study, the research questions, how the study is of help to beneficiaries, statement of hypothesis, the scope of the study, assumptions , definition of terms and finally organisation of the study. The following chapter, Chapter 2, will look into the theoretical and empirical literature. Chapter 3 is the research methodology. Chapter 4 is the presentation of data and its analysis and lastly Chapter 5 which highlights the research, wraps up the research and then the recommendations.

CHAPTER 2

2.1 Introduction

Several studies have been done in relation to the determinants of cost of capital and the findings are accompanied by several theories and different approaches. However this chapter seeks to outline theoretical views and empirical studies on the factors that have an effect on a firm's cost of capital doing an analysis of the relationship and the impact of these factors on a firm's cost of capital in different industries. The theories are backed by repetitional facts, formulas, valid modelling and their applicability which constitutes the empirical review.

2.2 Theoretical literature

Over the past years there have been authors who have in some way done researches related to the topic under study and the researcher looks at some of the literature relating to what determines the cost of capital.

2.2.1 The trade off theory

This theory is of the view that a firm has a choice of choosing how much of debt and how much of equity it should source by analysing the costs and the benefits. It further goes on to explain how the frim chooses their optimal capital structure in relation to trade off between tax advantage of debt and the costs related to leverage (Bradley, jarell and Kim, 1984). The trade off theory covers many areas including bankruptcy exposure of the company and the agency costs vs tax benefits linked with using debt. An example of bankruptcy costs are liqudation costs which is loss of value due to liquidating the net assets belonging to the company.

The costs of liquidating tend to lower the benefits of the lender, should the company become insolvent as a result of not being able to pay their interest instalments., therefore financiers would adjust their cost of funds so as to cater for the potential loss of value. Cassar and Holmes (2003) state that Companies face high cost of funds because of potential liquidation costs.

Financing with debt gives rise to agency costs which are costs that come from the need of shareholders and debt holders monitoring the management of the company so that they act in fulfilling the needs of the equity holders and not their own. These costs result in a higher cost of capital to the company. Therefore companies with high agency costs should limit their amount of external debt. Another consideration should be the tax benefits that are linked with using external debt. This is because interest related to debt is tax deductable, therefore this

encourages companies to use debt financing as it results in higher earnings to the company. This theory has helped a lot in the finance realm. On the other hand it has its demerits such as the debt ratios shown by this theory are bigger than they really are and also the best performing companies have the lower debt ratios which conflicts with the prediction of the trade-off theory.

2.2.2 The pecking order theory

Myers (1984) suggests that a company uses a perking order when using its capital. He claims that a company gives first preference to internal finance that is ploughing back its retained earnings rather than seeking outside finance for example new issues of stock. This is because it less costly to plough back retained earnings and also the company does not have to reveal most of their information regarding the company. Also if a company is to use outside finance it will have to acquire debt and then go on to issue new shares. This is due to the company conveying a message to current stockholders and potential investors that its immediate and future plans are not that attractive when it issues new common shares.

2.2.3 The signalling effects theory

Michael Spence (1973) is of the theory that management of a company and the stockholders of the same company have different information relating to the firm. He suggests that the two groups should solve this issue of information asymmetry by one group revealing relevant information to the other group. There usually is inside information and outside information the former being available to insiders and the later to stockholders. Thus when a company changes its capital structure by repurchasing its stocks and issue of new debt this can send a message concerning the company to stockholders which will result in a change of the company's value. Ross (1977) suggests that when a company issues new debt it conveys a message to stockholders and potential investors the company has a bright future.

This is because the more debt used the more the cash flow problems and financial distress costs, therefore management will increase debt if they know the company will improve and be able to meet its repayments. Some researchers are of the view that the issue of new shares will result in an inverse price response due to current stockholders and promising investors viewing it as a way by management to decrease the share bad fortune as opposed to bad fortune where management re-buys outstanding common shares.

2.3.1 Aggregate cost of capital

The aggregate cost of capital is affected by the capital structure of different companies or institutions. Rutterford (1988) showed that tax is not a major determinant of a company′s capital structure with the support of her findings and results.

Many of the emerging markets should have higher cost of capital than that of developed economies because they have limited participation in global markets. Harvey (1995) found that the cost of capital in markets that are segmented is higher than that in markets which are not segmented due to the point that investors want reward for exposing themselves to local risk. He proposed that an increase in financial market integration would result in a fall in the cost of equity. Also Stultz (1999) proposes that internationally integrated markets considering CAPM, their risk lies on the covariances between the local markets and the global market.

2.3.2 Size and cost of equity

Dragota and Semescu (2009) identified the following factors as determinants of capital structure of companies on the Bucharest Stock exchange which are the performance of the firm, its size, growth capability and its tangible assets. On the part of the size, the larger the company the more diversified the sources of finance available for that one specific company, it also induces a perception of low operating risk by the creditor. Usually size and quality are viewed to go hand in hand that is the larger the company the higher the quality of management and competitive models of managing risk and therefore size reflects a lower borrowing cost of funds.

Easly and O′ Hara (2004) deduce a higher cost of capital when precise information is bigger than private information in a limited economy. They are of the conclusion that uninformed investors demand a higher risk premium because they are prone to information risk. On the other hand Hughes and Lin (2007) show that Easly and O′Hara′s findings do not hold for a bigger economy because increased information affects aggregate market premium and not the company′s cost of capital directly.

Kirschenheiter and Jorgrnson (2003, 2007) do not necessarily come up with the average cost of capital by companies but are able to conclude that the return on the market portfolio (

equity risk premium) increases with the availability of information. Kirschenheiter and Jorgrnson (2003) also highlight that these effects become small in bigger economies if information disclosed is about asset variance, although it holds for bigger economies if disclosure relates to sensitivity to systematic risk. In complementing their work i relate the average cost of capital to economic efficiency.

2.3.3 Cost of capital and corporate governance

Claessens (2004) shows that improved corporate governance of the borrower will lead to reduced global risk and improved confidence on the side of the lender. Also the credit institution should implement corporate governance principles, which in turn will result in more trust from investors hence obtain a cost of capital which is lower. This concludes that corporate governance on the part of the borrower and that of the lender also have implications on the cost of debt.

Gao (2008) concentrates on the relationship linking cost of capital to investor welfare. The introduction of investment changes the quality of accounting which in turn changes the investment decision and allocation of risk. The difference between the investor's welfare and the cost of capital surfaces due to the fact that the cost of capital does not internalise the allocation of risk.

2.3.4 Cost of equity and market capitalisation

Fama and French (1992, 1993) proved that apart from the overall market factor, market capitalisation and the book to market value of stocks were major factors for explaining average returns. They used the three factor asset pricing model taking into account the three factors highlighted previously.

Collins and Abrahamson (2006) derived the cost of equity of industries in emerging economies using evarage value of pricing models which take into account the beta, standard deviation and downside beta as a risk measure.

Guedhami and Mishra (2009) suggest that in a set up with well functioning regulation enforcement costs and monitoring costs are reduced leading to a lower required return wanted by investors. Also Heil and Leuz (2006) show that companies in economies with string and health legal institutions had lower costs of capital compared to economies with weaker

regulating boards.

2.3.5 Cost of equity and earnings

Francis et al (2004) undertook a study on the relationship linking the cost of equity and seven attributes of earnings which are conservatism, timeliness, value relevance, smoothness, predictability, earnings consistency and the quality of accruals. They were categorised into two that is accounting based which are accrual quality, earnings persistence, predictability and smoothness. Then market based attributes which are value relevance, timeliness and conservatism. The research related cost of capital to firm specific information and earnings as the primary source of this information. He was of the assumption that earnings were used by investors to see a company′s current situation and also the company′s direction and future.

Investors demand higher risk premiums for different industries or sectors(Gebhart et al, 2001, Gode and Monhanram, 2003) which leads to higher cost of equity for those industries. However research of the impact of financial statements on cost of equity are minimal except for Omram and Pointon (2004) who analysed the determinants of cost of capital by secor for 119 companies in Egypt. Their study concluded that reserves, size of the company, active trading, earnings growth are major determinants of cost of capital.

2.3.6 Cost of capital and audit fees

Dhaliwal et al (2008) researched on the relationship between auditor′s fees and the cost of debt and effect of the auditing fees on association linking financial statements and the cost of debt. He concluded that non-audit charges are directly related with the cost of debt. The results went on to conclude that the link between earnings and cost of debt decreased as audit fees increased. However there was no evidence to conclude that auditor fees have a direct impact on the cost of debt for those firms in the non-investment grade but suggested that earnings and cost of debt decrease as non-audit fees increase.

Huguet and gundia (2012) undertook a study on the relationship between cost of debt and auditing amoung SMEs an area not researched much upon and they found contradicting results. Their sample constituted of SMEs in Spain which were audite that is mandatory audits, voluntary audits as well as unaudited firms. They were of the conclusion that auditing assists in obtaining a low cost of equity on the part of SMEs but holds only for companies

with a certain size. Also their results suggest that for larger SMEs auditing has a lesser impact on cost of debt as size increases.

2.4 Cost of capital and investment decision

Pandey (2005) Investment decision is a company's resolution to invests its money in longterm assets with a view of obtaining benefits over the next number of years and encompasses growth, acquiring new assets, replacing old assets which would have been obsolute, new sales and advertising methods as well as modernization.

Bierman and Smidt (2006) define capital investment as investments of big sums of funds and have an influence on the future cash flow of the company and also have an effect on the performance and strategies of the company in the long run. This calls for quality and competitive management with outstanding skills since poor decisions have an adverse effect on the long-term performance and position for the company.

When evaluating investment opportunities there is need to compare expected cashfows from the project with current expenditure for it. Capital budgeting is used to analyse expenditure decisions which promise future benefits over a period of 365 days. Such benefits might be a decline in costs or higher revenue streams. Future earnings growth are related to an increase in capital expenditure.

Gilchrist and Zakrajsek (2007) stated that, the view that company spending on fixed capital decreases as interest rates increase is in theory unambiguous and is in the centre of monetary transmission mechanism. However the inverse link between investment expenditure and the user cost of capital is hard to show using actual data. Interest rates in the long run and tax obligations tend to be decreased when investment spending is poor. Gilchrist and Zakrajsek (2007) conclude that there is a positive link between investment and user cost of capital.

Hassert and Hubbard (1994) looked at scenarios where change in tax was big and resulted in almost the whole variance in the cost of capital. In these scenarios the investment demand elasticity in relation to user cost of capital was assumed to be high. As of late house and Shapiro (2006) did an analysis on the effect of recent corporate tax changes at industry level. In relation to different tax scenarios this study was not able to conclude whether there was a

significant relationship between interest rates and investment expenditure.

2.5 Outside equity capital and performance

Kisgen (2006) defines equity capital as the scenario that gives equity holders power to influence and control the decisions made by the management via the directing board. This means they can take real time action to correct any improper decisions when resources are being misused or under utilised. Equity holders can work with the management so as to achieve better and favourable results and can also revise the employment terms of management (Boateng, 2004).

Myers and Majluf (2004) suggest that a company a one all-or-zero investment opportunity has information asymmetry and this results in a higher cost of equity if the company has poor management leading to a decline in performance.

However Booth (2004) suggests that a company which uses equity as a source of finance performs better because it has direct control and the shareholders make sure and monitor that resources are not being underutilised or over utilised so as to maximise shareholder's wealth. Boateng and Jones (2003) also support this as they show that equity capital and performance are positively linked.

2.6 Valuation models for emerging markets

2.6.1 CAPM based method

In emerging economies, it is more convenient to use the asset pricing models used in developed economies such as the three factor model by Farma and French or the abrbitrage pricing model. Grandel et al (2010) was of the conclusion that size and value were not major risk factors for stocks. The three factor model lacked additional information relating to the market in giving an explanation on the stock returns. Also the Arbitrage pricing model requires a lot of data which is not available in emerging economies. A conclusion on the risk factors used in the Asset pricing model has not been finalised.

Another model could be the traditional CAPM though it is of controversy. Percino (2002) suggests the CAPM method will be in use for the foreseeable future because of the following reasons:

i.) being a popular model it has become a standard benchmark.

Ii.) demerits of CAPM can be reduced through specific modifications.

The CAPM model derives the Cost of Equity by inputting locally available information that is the beta, economy risk free rate and returns on the market, provided it is a segmented market. However in an integrated market global beta, glaobal risk free rate and global returns are made use of. Modifications to the traditional one factor CAPM are done in emerging economies to cater for country risk., although in some other economies non-CAPM models are used.

2.6.2 The non-CAPM cost of equity (Estrada model)

Arguments have been raised on the applicability of CAPM in emerging economies. Estrada (2000) found that betas are not correlated with the returns in the global economy. Also global betas are generally too low to show the cost of equity attractive to most investors. This has led to other alternatives such as highlighted by Estrada (2000, 2001).

The CAPM model uses the beta co-efficient as a measure of risk but Estrada (2001) suggests that there are other variables which are more valid in computing the cost of equity and these are downside risk and total risk. He further goes on to argue that the beta is very small and soes not reflect the cost of equity investors see as reasonable.

Estrada (2000) suggests the use of downside risk which is the semi deviation which he thinks can yield better results than using beta in emerging economies. Apart from deriving acceptable estimates of cost of equity in emerging economies downside risk has other strengths such as the applicability to different levels of the economy, is not subjective and it takes into account that part of risk that investors want to run away from. Harvey (2000) is also of the same view that semi-devaiation gives better account on the difference in stock returns of emerging economies as supported by his test and results on firms in emerging economies.

2.7 Empirical evidence in Africa

Omram and Pointon in their study determinants of cost of capital of companies in Egypt used the following models in coming up with the cost of equity.

As a response to the objectives of the study the cost of capital was divided into cost of equity and cost of debt. For the cost of debt this is derived from the interest rates in the market , apart from tax adjustment deduced by the tax rate and whether the company was in a position to pay tax. In calculating the cost of equity the researcher made use of the Gordon growth model (Gordon, 1962).

$K_e = d_0 (1+g)/P_0 + g$ and when expressed in terms of earnings becomes

$$= (e_0/ p_0) (1-b) (1+g) + g$$

Hence: (1/p.e ratio) $[1 - (e_0 - d_0)/e_0] (1+g)+g$

Where: k_e = cost of equity

b=rention ration

d_0 = dividend per share

e_0 = earnings per share

g=growth rate

p_0 =ex-current dividend share price

The other model was that by Omran and Pointon (2004) that is:

$K_e = div_1/p_0+g/p_0+g$

$$= beps_0 (1+g) / p_{0+}g$$

$$= b(1+g) / (p0/eps_0) + g$$

Where;   b= retention ration

g= earnings growth rate

eps_0 and eps_1= earnings per share in period 0 and 1 respectively

p_0= the current market share price

2.8 The determinants of cost of capital

2.8.1 Firm size and age

A firm's financial targets in the long run play a vital role in the selesction of financing decisions by the firm, that is whether to finance their activities using short term debt, medium term debt, long term debt or equity. The adaptation of a company to change their capital structure to deal with the dynamic market environment determines its survival and performance. As a company grows larger, it becomes diversified, reducing its risk hence low probability of bankruptcy but increased debt capacity. Javiland and Harris (2007) undertook empirical study to show that factors like size have an effect on the type of capital a company reacts to in the long run.

The bigger the company, the less chances the company used common and preffered stock to finance additional investments. Bigger investors do not see it attractive to research on the potential and profitability of smaller companies because they don't want to over invest in a single company. On the other hand their investment in bigger companies tends to push prices up and reduce returns. Fama and French (1998) conclude that smaller stocks bring higher returns than bigger stocks. Krishnan and Moyer (2001) show that size together with growth are significant determinants of capital structure in many economies such as U.S.A, Germany, Italy and Japan. They argue that as a company grows larger its activities and operations become more diversified hence reduced risk and less prone to bankruptcy. Bigger companies have a debt capacity which is higher therefore size has a direct effect on the cost of capital.

Sullivan (2003) also carried out an empirical study on the market power of companies, their cost of funds and the risk and was of the conclusion that big firms face lower costs to acquire capital than the smaller ones, which results in a low overall cost of capital. Big firms are also

associated with low risk resulting in reduced costs of capital. Oliver and Redebuch (2006) are of the opinion that low risk of big and old firms is due to them having had time and capacity to generate economies of scale as opposed to small young firms who have no strong relationships with financiers that the big companies have.

They were of the conclusion that outside financing is more costly and higher for small young companies. This is due to the risk associated with small firms and therefore attract funds from financial institutions at high interest rates. Sharpe (2002) supports this and suggests that competition causes banks to lend to small young firms at high interest rates which results in the inexperienced new firms generating losses.

2.8.2 Taxes and capital structure

The interest payable on borrowed funds is tax deductable, this shows that the exact cost of debt is smaller than the stated costs. Modigiliani and miller (1958)'s traditional approach suggests that optimal capital structure does not exist. Their theorem reveals that cost of capital is not dependant on the financing mix that is the debt to equity ratio, in an economy with a frictionless market, no bankruptcy risk, no taxes and has rational investors. In this kind of economy the distribution of net operating earnings to debt and equity does not affect total value (Modigilian and Miller, 1958).

The theory was later extended to encompass a tax hypothesis (Modigilian and Miller, 1963, 1988). There are also other studies which have been undertaken some to refute and some to support the Modigilian and Miller tax adjusted valuation theorem (Stiglita, 1980, Sundarajan, 1987).

The other researches introduced tax, bankruptcy and financial distress to come up with an optimal capital structure resulting in offsetting the Modigilian and Miller irrelevance model. The researches conclude that even with no tax an optimal debt to equity ratio should exist for a company. Hite (1977) concludes that the cost of capital will decrease as a company increases its financial leverage hence resulting in a higher optimal output level of the company.

To further invalidate taxation Rutterford (1988) showed that in many economies tax was not a

major factor in coming up with a company's capital structure. Norton (1991) showed that the major factors that determine capital structure included tax implications, financial flexibility and market concerns.

Mayer (1986) in his study showed that cost of capital is very sensitive to current taxable earnings of the company. Miles and Ezzel (1988) say tha financial theory implies that a unit of a dollar which was borrowed adds value in proportion to the company's tax rate.

2.8.3 Fixed assets to total capital

The risk of a firm may be determined by its fixed asstes and in most cases if they are durable and have a longer life span there is a possibility that capacity could be underutilised or overutilised. Booth (2004) researched on the link between fixed assets and cost of capital to see if they were linked in any way. His study yielded results that there are other determinants of cost of capital other than assets which affect a firm's coost of capital therefore it is not a casual relationship. He stated that the cost of capital decreased if fixed assets value increased. This was in line with the trade off theory which suggests that the higher the tangible assets the higher the use of cheap debt.

Also the move of the variables depend on other factors which are external which include the capital depreciation rate and the output elasticity of capital and if changed the two variables have a negative relationship.

2.8.4 Growth

Growth is also another significant a factor which determines the cost of capital and is somewhat related to size and age. Earnings from common shares and dividends usually increase as the firm grows also and has an impact on the cost of capital. The element of growth can be seen by earnings, dividend, and asset growth.

Fama and French (1998) in their research value vs growth stock concluded that growth stocks do better than value strategies. Lakonishok (2004) is also of the same opinion that value strategies perform better than growth stocks because the strategies take advantage of mistakes by investors and not due to the riskiness of the strategy.

2.8.5 Financial leverage

Sagala (2003) undertook a study on the relationship linking cost of capital to financial leverage. In the study he does an analysis of the firms listed on the Nairobi Stock Exchange to see if there was a link between cost of capital and leverage. His conclusion was that there is a relationship though it varies from firm to firm. Other firms' cost of capital decreased with leverage while for the other firms it increased hence debt financing resulted in an increase of cost of capital. The reason was the cost of debt being greater than the cost of equity for those firms. This is because some firms acquire debt more cheaply hence their low cost of capital.

Ojah (2009) used firms in Africa such as Zimbabwe, Ghana, Kenya, Nigeria and South Africa to study corporate structure and to what extent the characteristics of the different companies influenced the way they sourced their capital. His results were in support with the pecking order theory. His results concluded that the companies' performance, tangible assets, age and size were in relation to leverage.

Chepkemboi (2011) researched on the factors which influence the percking order theory for firms on the Kenyan stock Exchange. He used incremental debt and equity to represent financing decisions with debt being favourable to equity.

2.9 Summary

This chapter highlighted some of the theories undertaken by different researchers and the models that they used in testing the determinants of cost of capital around the world. Literature has presented many theories and approaches pertaining to the factors that determine the cost of capital and reviewed on other studies relevant to cost of capital such as the trade-off theory, pecking order theory and the signalling effect theory. From the literature review, the researcher noted that Omran and Pointon (2004) researched on the cost of capital and concluded that size, risks and growth were key determinants of cost of capital. They were also of the conclusion that the determinants of cost of capital vary among the various categories of the industry. The following chapter which is chapter three will encompass the research design, model specification, justification of variables and the research methodology.

CHAPTER 3

3.1 Introduction

The chapter highlights the methodology used in the collection of information and gathering of data for the research. It presents the research design, model specification, justifying of variables, diagonistic tests and the sample for the research as well as the tools made use of. The research used secondary data that is financial ratios and financial statements of companies.

3.2 Research design

The study seeks to bring to light the relationship or link between the cost of capital and the factors that determine it as well as the variations across companies listed on the Zimbabwean stock exchange. The factors which determine the cost of capital as highlighted in the literature review include size, financial leverage, interest rates, investment decisions, total assets, earnings and tax. The study design shows the method and process used in the collection and analysis of the data. The researcher used the explanatory research design, and also of use was the E-views software and linear regression.

3.3 Model specification

The study made use of regression analysis to determine which factors are the major determinants of cost of capital. It was also important to anticipate in advance the probable occurrence of multicollinearity. With the aid of descriptive statistics in computing the cost of equity and the aggregate cost of capital for the companies under study the results were determined respectively.

To conclude whether there is a relationship between the factors and cost of capital the researcher adopted the model used by Omram and Pointon in their study the determinants of cost of capital of firms in Egypt, multiple regression was made use of and the equation used is ;

$Y = a + b1X1 + b2X2 + b3X3 + b4X4 + \ldots\ldots + bnXn$

Where;

X1, X2, X3, X4 are the factors which influence the cost of capital

b_1, b_2, b_3 are the regression co-efficients

Y= cost of capital

Imputing the factors under study the equation becomes:

$Y = \beta_0 + \beta_1 size + \beta_2 growth + \beta_3 tax + \beta_4 fixed\ assets + \beta_5 leverage + e$

Where: y = cost of capital

β_0 = is the constant

$\beta_1; \beta_2; \beta_3; \beta_4; \beta_5$ = regression co-efficients

size = natural logarithm of market capitalisation

growth = (q-ratio) (total market value of the firm/total assets value)

tax = (tax/net profit before tax)

fixed assets = (fixed assets/total assets)

leverage = (debt/equity)

e = error term

The following variables which are independent were highlighted as the factors which influence the cost of capital, net-earnings growth, asset growth, long term debt /equity, long term debt/investment, fixed assets/total assets, reserves and retained earnings/ total investment, tax/net profit before tax, total liabilities / equity, total debt/net assets, size measured by market capitalisation, standard deviation of earnings, current asset ratio and age measured by the number of years the firm has been in business.

3.4 justification of variables

Independent variables will be made use of from the financial statements of the companies, RBZ, and other related studies on the determinants of cost of capital.

3.4.1 size

Javiland and Harris (1984) undertook empirical study to show that factors like size have an effect on the type of capital a company reacts to in the long run, they concluded that the bigger the company, the less chances the company used common and preffered stock to finance additional investments. As a company grows larger, it becomes diversified, reducing

its risk hence low probability of bankruptcy but increased debt capacity. Bigger investors do not see it attractive to research on the potential and profitability of smaller companies because they don't want to over invest in a single company. Bigger firms should have a low cost of equity and this is usually due to the advantage of economies of scale and an already developed market shareand relationships. However Farma and French, 1998 through an empirical study conclude that small companies usually generate higher returns.

3.4.2 leverage

Sagala (2003) undertook a study on the relationship linking cost of capital to financial leverage. In the study he does an analysis of the firms listed on the Nairobi Stock Exchange to see if there was a link between cost of capital and leverage. His conclusion was that there is a relationship though it varies from firm to firm. Other firms' cost of capital decreased with leverage while for the other firms it increased hence debt financing resulted in an increase of cost of capital. The reason was the cost of debt being greater than the cost of equity for those firms. This is because some firms acquire debt more cheaply hence their low cost of capital.

3.4.3 Tax

The interest payable on borrowed funds is tax deductable, this shows that the exact cost of debt is smaller than the stated costs. Modigiliani and miller (1958)'s traditional approach suggests that optimal capital structure does not exist. The theory was later extended to encompass a tax hypothesis (Modigilian and Miller, 1963, 1988). There are also other studies which have been undertaken some to refute and some to support the Modigilian and Miller tax adjusted valuation theorem (Stiglita, 1980, Sundarajan, 1987).

3.4.4 Fixed assets to total capital

Booth (2004) researched on the link between fixed assets and cost of capital to see if they were linked in any way. His study yielded results that there are other determinants of cost of capital other than assets which affect a firm's cost of capital therefore it is not a casual relationship. He stated that the cost of capital decreased if fixed assets value increased. This was in line with the trade off theory which suggests that the higher the tangible assets the higher the use of cheap debt.

3.5.5 Growth

Growth is also another significant a factor which determines the cost of capital and is somewhat related to size and age. Earnings from common shares and dividends usually increase as the firm grows also and has an impact on the cost of capital. The element of growth can be seen by earnings, dividend, and asset growth.

Fama and French (1998) in their research value vs growth stock concluded that growth stocks do better than value strategies. Lakonishok (2004) is also of the same opinion that value strategies perform better than growth stocks because the strategies take advantage of mistakes by investors and not due to the riskiness of the strategy.

3.5.7 Constant

In regression it is the value of an activity that we will get provided all variables were zero at a given time period, therefore the value of the dependent variable will be equal to the constant. Therefore it follows that a few number of observations and explanatory variables will result in a large constant. Demissie (2012) states that whether the constant is large or small, it has no economic implications.

3.5.8 Error term

The error term is often used to represent the effect or result of explanatory variables which would have been left out of the equation. The cause of this might be due to the unavailability of data, use of obsolete data, inaccurate data estimates along with inconsistency in both information and human behaviour. The error term also captures other variables that have an influence on the cost of capital not included by the model.

3.5.9 Regression coefficients

This is the rate of change of a conditional mean or the rate of change of the response variable. It takes the value of the explanatory variable and shows the type and magnitude of the link between the explanatory variable and the dependent variable. For weaker relationships the coefficient will take a value nearer to zero. For a positive relationship the corresponding regression coefficient is also positive and a negative relationship will also have a negative coefficient.

3.6 Diagonistic tests

Due to the approximates and the estimates made in the models used in this study, they have to be tested for their relevance and applicability before using it for forecasting purposes. The diagonistic test shall be carried out by testing for the following; Granger casuality, Autocorellation, Multicollinearity and heteroskedasticity.

3.6.1 Heteroskedasticity

This is when the standard deviations of a variable over a certain length of time are not constant. White's heteroskedasticity test was made use of which concludes the following hypothesis:

H_0: the model has homoskedasticity (variables have same finite variance).

H_1:the model has heteroskedasticity (variables have a non-constant variance).

3.6.2 Multicollinearity

This is a situation where there is high interassociations amoung some or all independent variables in a regression model. A correlation matrix will be made use of so as to note any signs of multicollinearity. In case multicollinearity does exist and is severe some explanatory variables which are highly correlated will be trimmed.

3.7 Data collection methods and research instruments

The study mainly used secondary data, which is data collected by someone other than the user.

3.7.1 secondary data

Secondary data was used in this research. The researcher gathered data for different companies from their company websites. Also the same data set has been used for other different purposes over the past years for different objectives like analysing the financial performance of firms listed on the Zimbabwe Stock exchange and also for advisory purposes to both local and foreign investors. Data like the market capitalisation and prices of shares was collected through the Zimbabwe stock exchange website (www.zse.co.zw) . financial statements and other related information was collected from African Financials website (www.africanfinancials.com) which is a repository of financial statements dating back as far as 2000 up to the present day. Also other data made use of was obtained from Imara Edwards

website (www.imara.com) which contains some data which has already been analysed like financial ratios.

The study was made up of 60 companies listed on the Zimbabwe stock exchange (ZSE) as at 1 September 2015. Provided the strict and regulated scenario that listed companies have to comply with, this makes the ZSE a rich and more reliable source of information which the researcher requires in achieving objectives and goals of the study.

Secondary data has advantages of its own such as reduction in costs for manually collecting the data, less time taken in the data collection process (Ghauri 2005). Also published statements would have been audited making them more reliable due to less misleading information. However secondary data also faces some disadvantages such as lack of control over the data quality(Saunders 2009).

3.8 Data presentation and analysis plan

Regression analysis was made use of to conclude if there is a relationship between determinants of cost of capital. Regression analysis shows if there is a link between the dependant and independent variables, that is it aids to understand the behaviour of the dependent variable when the independent variables are varied. Other strengths of regression analysis are; helps in forecasting the future, minimising errors, gives new views and aids in the decision making process. Regression analysis also helps improve management skills and tends to neutralise mistakes and deviations given a known relationship.

3.9 Summary

Chapter 3 looked at the model specification, the explanatory variables that were used in the model, the diagnostic tests taken to test on matters such as autocorrelation and collinearity. The chapter also highlighted the research methodology which shows the methods and organisation of data used in the study. Secondary data was made use of to try and achieve the objectives of the study. The preceding chapter will look at the Data Presentation and Analysis.

CHAPTER 4 DATA PRESENTATION AND ANALYSIS

4.1 Introduction

The chapter shows the results from regression and factor analysis of the factors which influence the cost of capital of companies listed on the Zimbabwe Stock exchange, which will be analysed and presented ideologically. The estimations of the coefficients were reached at through the use of the Stata software version 12. Tabulation and clarification of results are part of this chapter. Study results were based on financial ratios that were calculated from data found in the financial statements and already calculated ratios from Imara securities.

4.2 Diagonistic test results

The model made use of in this study was estimated and verified through doing multiple tests, some before and others during and also after coming up with the results.

4.2.1 Heteroskedasticity results

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

    Ho: Constant variance

    Variables: fitted values of ke

    chi2(1)   =   0.39

    Prob > chi2 = 0.5319

H_0: the model has homoskedasticity (high chi-square value)

H_1: the model has no homoskedasticity (low chi-square value)

Therefore at 0.39 percent the data is free from the problem of heteroskedasticity which is the test of standard deviations of a variable over a certain length of time to see if they are constant or not.

4.2.2 Multicollinearity test

Table 4.1: Multicollinearity results

	KE	SIZE	LEVERGE	FIX AS	TAX	GROWTH
KE	1.0000					
SIZE	-0.596	1.0000				
LEVERAGE	0.0300	0.0632	1.0000			
FIX AS	0.1629	-0.265	0.0829	1.0000		
TAX	0.0798	0.0845	-0.0424	-0.0341	1.0000	
GROWTH	-0.433	0.4661	-0.0298	-0.0901	0.0076	1.0000

Source: Raw data

The researcher undertook a multicollinearity test and came up with a correlation matrix displayed in the table above. Prior to the detailed analysis of the results, it is of importance to point out that the study should consider the availability of multicollinearity as some of the variables indicate high correlation coefficients. Babanskiy (2012) highlights that multicollinearity is not a complete threat to study results as it does not erode the predictive prowess and reliability of the model made use of. Thus being the case no variables were removed or dropped, hence the researcher made use of a do-nothing approach to deal with multicollinearity as suggested by Babanskiy (2012).

4.2.3 Descriptive statistics

Table 4.2: Descriptive summary

VARIABLE	OBSERVATION	MEAN	STANDARD DEVIATION	MIN	MAX
KE	60	9.4285	.7775969	7.65	11.45
SIZE	60	16.31567	1.931515	10.74	20.73
LEVERAGE	60	2.359353	11.32194	-42.8	54.5
FIXED ASSETS	60	.367125	.2555664	.003	.89
TAX	60	.2268967	.1643716	.0008	1.035

Source : Raw data

Size had a mean of 16.316 and a standard deviation of 1.931 which shows how the variable's data values vary or are dispersed. The smallest company was Zeco Holdings with a natural logarithm of market capitalisation of 10.74 while Delta was the largest with a figure of 20.73.

Leverage had a mean value of 2.35 meaning that for every dollar that the company has, it also has a corresponding debt of $2.35. With the mean figure being 2.35 for companies on the ZSE this means that most of the companies have more debt than assets. The highest debt ratio being 54.50 of debt per each dollar that the company has.

Fixed assets had a mean of 0.376 which shows how much a company's assets are backed hence the more secure the company is to invest in. Zimre scored the lowest fixed asset to total assets ratio of 0.03 therefore being interpreted as a not so secure company to invest in.

4.3 Presentation of results

Table 4.3.1: Factor analysis results

factor	Eigen value	difference	proportion	cumulative
1	1.45702	1.30681	1.1603	1.1603
2	0.15021	0.05835	0.1196	1.2799
3	0.09185	0.15308	0.0731	1.3530
4	-0.06123	0.07349	-0.0488	1.3043
5	-0.13472	0.11266	-0.1073	1.1970
6	-0.24739		-0.1970	1.0000

variable	Factor 1	Factor 2	Factor 3	uniqueness
Ke	-0.7023	0.1055	0.0636	0.4916
Size	0.7555	0.0883	0.0356	0.4202
Leverage	0.0218	0.2087	-0.1449	0.9350
Fixed assets	-0.2669	-0.2422	0.0282	0.8693
Tax	0.0143	0.1282	0.2506	0.9205
growth	0.5666	-0.1122	0.0439	0.6644

Source: Raw data

From the results presented above on factor analysis and using uniqueness to measure the level of significance of the variables the following conclusion can be made, size is considered the most significant factor of cost of capital with a uniqueness of 0.4202. This means that of the variables used in the study size is the most influential determinant of cost of capital. After size then comes growth with a uniqueness of 0.6644 and is measured by the q-ratio and the higher it is the higher the cost of capital.

Fixed assets to total assets then follow with a uniqueness figure of 0.8693 placing it as the third most significant determinant of cost of capital. After that at number four we have tax with a uniqueness figure of .9205 being the fifth most influential factor which determines the

cost of capital. The least significant of the factors under study is leverage with a unique figure of 0.935.

However the factors which were included in the study do not constitute all the factors that determine the cost of capital, there are also other factors such as the liquidity position of the company, reserves to total investment ratio and standard deviation of earnings only to mention a few.

4.5 Summary of Regression statistical results

Table 4.4: Regression results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
size	-0.2089467	0.0496346	-4.21	0.000
leverage	0.0044032	0.0072572	0.61	0.547
Fixed assets	0.0541568	0.3319129	0.16	0.871
tax	0.6074974	0.4987925	1.22	0.229
Growth	-0.5555981	0.3505285	-1.59	0.119

Source: Raw data

4.6 Interpretation of results

From the findings in table (R^2) the coefficient determination was 0.698 meaning that cost of capital is not on the whole explained by the independent variables used in the study. The adjusted R^2 of 0.6614 means that the model explains an approximation of 66% of variations having taken into account the degrees of freedom. An adjusted R^2 is more reliable as it wields more forecasting power than the R^2. Variations and deviations in cost of capital in the model used are explained by other attributes not incorporated in the model to as much as a figure of 0.302.

The F-statistic of 7.39 shows that significance of the model used is high, comparing with the rule of thumb which suggests that the F-statistic should be greater than 5. Also the probability of the F-statistic is not rejected when it is smaller than 0.05. in this scenario the probability is 0.0000.

4.6.1 Size

The variable size was found to be a significant factor with a t-statistic of 4.21 which is greater than 2. Size has a co-efficient of -0.2089 being a negative suggesting that smaller companies also have lower cost of capital and also it is consistent with the findings of Fama and French (1998) who also found a negative coefficient and are of the view that bigger firms have low

cost of capital due to economies of scale and already built healthy relationships with financiers, although an empirical study of small firms concludes that they have higher returns.

4.6.2 Leverage

Leverage was found not to be not a significant with a t-statistic of 0.61 which is smaller than 2. Leverage has a coefficient of 0.004032. The results were however not consistent with Sagala (2003) who undertook a study on the relationship linking cost of capital to financial leverage. In the study he does an analysis of the firms listed on the Nairobi Stock Exchange to see if there was a link between cost of capital and leverage. His conclusion was that there is a relationship though it varies from firm to firm. Other firms' cost of capital decreased with leverage while for the other firms it increased hence debt financing resulted in an increase of cost of capital. The reason was the cost of debt being greater than the cost of equity for those firms. This is because some firms acquire debt more cheaply hence their low cost of capital.

4.6.3 Tax

The variable tax was also found to be significant with a t-statistic of 1.22 though smaller than 2. Tax had a coefficient of 0.6. Tax diminishes the funds available to investors and that the cost of debt is tax deductable Modigiliani and Miller (1963). The theory was later extended to encompass a tax hypothesis (Modigilian and Miller, 1963, 1988). There are also other studies which have been undertaken some to refute and some to support the Modigilian and Miller tax adjusted valuation theorem.

4.6.4 Fixed assets to total assets

The variable fixed assets to total assets was also found to be not significant with a t-statistic of 0.16 which is smaller than 2. Fixed assets to total assets had a coefficient of 0.54. Booth (2001) researched on the link between fixed assets and cost of capital to see if they were linked in any way. His study yielded results that there are other determinants of cost of capital other than assets which affect a firm's cost of capital therefore it is not a casual relationship. He stated that the cost of capital decreased if fixed assets value increased. This was in line with the trade off theory which suggests that the higher the tangible assets the higher the use of cheap debt.

4.6.5 Growth

The variable growth was found to be not significant with a t-statistic of -1.59 which is smaller than 2. Fama and French (1998) in their research value vs growth stock concluded that growth stocks do better than value strategies. Lakonishok (2004) is also of the same opinion that value strategies perform better than growth stocks because the strategies take advantage of mistakes by investors and not due to the riskiness of the strategy.

Earnings from common shares and dividends usually increase as the firm grows also and has an impact on the cost of capital. The element of growth can be seen by earnings, dividend, and asset growth.

4.7 Summary

The results of the study were presented in table format, line graphs and bar graphs. Overall results show that Size is a significant factor of cost of capital. However other factors were found to be not that significant as potrayed buy the results such as growth and fixed assets to total assets ratio. After these results, recommendations and conclusions on the findings will be shown in the following chapter.

CHAPTER 5: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The main goal or objective of the study was to show the factors which determine the cost of capital, do an analysis of the results and further go on to suggest ways to minimise on the cost of capital. This chapter sets the conclusion of the research and encompasses the summary of the study, conclusions, recommendations and suggestions for further research. In brief it is a snapshot of the whole study giving a mini review of previous chapters before reaching the conclusion of the research.

5.2 Summary of the study

The main objective of the research was to identify those factors which determine a company's cost of capital. Chapter One introduced the study and it covered areas such as the background on the factors which influence the cost of capital, the research questions the researcher seeks to answer, the significance of the study and also the challenges encountered in trying to complete the study. There were also other sub-objectives of the study which the researcher sought to answer. The second chapter encompassed the literature review which looked to highlight related studies around the cost of capital, identify literature gaps and also to aid the researcher in coming up with a model to apply in a bid to attain the objectives of the study. This chapter also included the empirical literature which tests the applicability of the models highlighted in the literature review such as the Gordon model used by Omran and Pointon in determining cost of equity for companies in Egypt. Also empirical evidence concluded that there are various factors which determine the cost of capital and some of them are related and could marginally affect the results of the study. However from previous studies it is clear that a number of factors such as growth, size, business risks, finance, reserves and fixed assets affects a firm's cost of capital. The researcher then moved on to chapter 3 where he used explanatory research and multiple regression to show the relationship between factors which determine the cost of capital and the cost of capital itself. The chapter also shows the research model used. Chapter 4 encompasses data presentation and analysis. The researcher used the Stata package to analyse data, tabulate it, and print out generated tables. The results however showed that other factors are more influential in determining the cost of capital than others.

5.3 Conclusions

In relation to the findings and results presented in the last chapter the conclusion is as follows:

- A company which is asset backed is more attractive to investors since it is more secure thereby creating some form of trust between investors and the company hence a lower cost of capital.

- The study found out that the cost of equity is higher for smaller companies, therefore smaller companies have to use more of internal funding since it is cheaper to them compared to external financing.

- The findings of the results were also consistent with Krishnan and Moyer (1996) who state that, the higher the q-ratio the more the potential the company has for growth opportunities resulting also in a higher cost of equity for the company.

- The research also concludes that larger companies have smaller costs of capital and this is mainly due to economies of scale and already existing good relationships with lenders as opposed to small young firms.

- The study from its literature also concludes that there are other factors which determine the cost of capital apart from those used as variables in the study such as the political environment, inflation rates and liquidity position of the company.

- The research concludes that accounting based attributes also have a significant influence on the cost of capital and these attributes are only that good and reliable depending on the reliability and truthfulness of the financial statements provided by the companies.

5.4 Recommendations:

- Since investment decision is one of the major duties of management in any firm, and also as it determines the performance of the firm, the research recommends that there is need for more attention on cost of equity as an important factor in investment decisions hence resulting in maximisation of shareholder's wealth. Also good investment decisions will result in the creation of new jobs hence improved living standards.

- The Government or regulatory board through its monetary policy should try to maintain low and favourable interest rates even in harsh economic conditions so as to

make sure that small and young companies get continuous access to sufficient funds to enable them to remain stable and healthy. Also policies that support company growth will result in a healthy economy.

- The research also recommends the introduction of an independent Auditor Oversight board which focuses on policies to do with good corporate governance and effective enforcement so as to make sure that investors are not misled but are given true and reliable financial statements which would aid them in making wise and informed investment decisions.

- The research also recommends that companies employ or come up with an optimal capital structure which is favourable and will not result in a high cost of capital which will be bigger than the internal rate of return thus resulting in a decrease in shareholder's wealth.

- The research is also of the recommendation that companies on their own come up with strategies to minimise their cost of capital so as to have more profit hence retained earnings which in turn can be ploughed back into the business hence less need for costly external funds.

5.5 Suggestions for future studies

The main focus of this study was to analyse the determinants of cost of capital among companies listed on the Zimbabwe stock exchange. However the study can be extended further as to what factors determine the capital structure of companies in Zimbabwe. Also not all factors were deeply analysed and further studies could focus on other micro factors like information asymmetry and how it influences the cost of capital. The research could be further widened to cover other emerging markets so as to make it possible to do a cross country comparison.

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Appendix A: Multicollininearity results

. corr ke size leverage fixedassetstototalassets tax growth

(obs=60)

	ke	size	leverage	fixeda~s	tax	growth
ke	1.0000					
size	-0.5967	1.0000				
l everage	0.0300	0.0632	1.0000			
fixedasset~s	0.1629	-0.2656	-0.0829	1.0000		
tax	0.0798	0.0845	-0.0424	-0.0341	1.0000	
growth	-0.4330	0.4661	-0.0298	-0.0901	0.0076	1.0000

Appendix B : Factor analysis

. factor ke size leverage fixedassetstototalassets tax growth

(obs=60)

Factor analysis/correlation   Number of obs   =   60

  Method: principal factors   Retained factors =   3

  Rotation: (unrotated)   Number of params =   15

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.45702	1.30681	1.1603	1.1603
Factor2	0.15021	0.05835	0.1196	1.2799
Factor3	0.09185	0.15308	0.0731	1.3530

```
Factor4  |   -0.06123   0.07349        -0.0488   1.3043

Factor5  |   -0.13472   0.11266        -0.1073   1.1970

Factor6  |   -0.24739      .           -0.1970   1.0000

------------------------------------------------------------------------

LR test: independent vs. saturated:  chi2(15) =   49.47 Prob>chi2 = 0.0000
```

Factor loadings (pattern matrix) and unique variances

```
---------------------------------------------------------

   Variable |  Factor1  Factor2  Factor3 |  Uniqueness

-------------+----------------------------+--------------

        ke |  -0.7023   0.1055   0.0636 |    0.4916

      size |   0.7555   0.0883   0.0356 |    0.4202

   leverage |   0.0218   0.2087  -0.1449 |    0.9350

fixedasset~s |  -0.2669  -0.2422   0.0282 |    0.8693

       tax |   0.0143   0.1282   0.2506 |    0.9205

     growth |   0.5666  -0.1122   0.0439 |    0.6644

---------------------------------------------------------
```

Appendix C: Regression results

. regress ke size leverage fixedassetstototalassets tax growth

```
   Source |     SS      df     MS                  Number of obs =    60

-------------+-----------------------------          F( 5,   54) =   7.39

    Model |  14.4978212    5  2.89956424           Prob > F    = 0.0000

  Residual |  21.1769402   54  .39216556           R-squared   = 0.698

-------------+-----------------------------          Adj R-squared = 0.6614

    Total |  35.6747615   59  .604656974           Root MSE    = .62623
```

```
--------------------------------------------------------------------------------
          ke |   Coef.  Std. Err.    t   P>|t|   [95% Conf. Interval]
-----------------------+--------------------------------------------------------
        size |  -.2089467  .0496346   -4.21  0.000   -.308458  -.1094353
    leverage |   .0044032  .0072572    0.61  0.547   -.0101465  .0189529
fixedassetstototalassets |  .0541568  .3319129    0.16  0.871   -.6112885  .7196022
         tax |   .6074974  .4987925    1.22  0.229   -.3925213  1.607516
      growth |  -.5555981  .3505285   -1.59  0.119   -1.258365  .1471693
       _cons |  12.82725   .810356    15.83  0.000   11.20258  14.45191
-----------------------+--------------------------------------------------------
```

Appendix D: Heteroskedasticity results

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ke

chi2(1)   =   0.39

Prob > chi2 =   0.5319

Appendix E: Descriptive statistics

```
summarize ke size leverage fixedassetstototalassets tax growth


    Variable |      Obs       Mean    Std. Dev.      Min        Max
-------------+-----------------------------------------------------------
```

```
           ke |          60       9.4285    .7775969        7.65       11.45

         size |          60     16.31567    1.931515       10.74       20.73

     leverage |          60     2.359353    11.32194       -42.8        54.5

 fixedasset~s |          60      .367125    .2555664        .003         .89

          tax |          60     .2268967    .1643716       .0008       1.035

-------------+-------------------------------------------------------

       growth |          60     .2839333    .2638449        .001       1.71.
```