The Determinants of the Capital Structure of SA-REITs

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Declaration

I declare that this Research Report is my own, unaided work. It is submitted in partial fulfilment of the degree of Master's in building in the field of Real Estate Finance at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other university.

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Abstract

The purpose of the study was to investigate the SA-REITs by understanding the relationship between their performance and the capital structure determinants. In essence, to delve deep in exploring to what extent the decisions made by REITs in their capital structure configuration are influenced by either the Trade-off Theory, Pecking Order Theory or Market Timing Theory. The study was explored using three models; namely, the Multiple Linear Regression model, the Panel Regression model, and the Pearson Correlation Coefficient model. Using the SPPS lenses to analyse the data through the above-mentioned models, the findings indicated that SA-REITs affirm that Non-debt tax shield has a positive significant relationship with Debt-to-Capital ratio. The study also indicated clear evidence that as the SA-REITs increase debt beyond the limits, the financial performance of the firms decline and increase the possibilities of insolvency. The overall analysis of the study illustrates that capital structure decisions of SA-REITs can mostly be attributed to both the Static Trade-off Theory and the Pecking Order Theory, as we note two significant determinants when specifically analysing the Multiple Linear Regression models without taking into consideration the time effect. As the SA-REITs continue to grow, the reliance on the Market Timing Theory continues to be an avenue to influence the capital structure decisions of REITs.

Keywords: Capital structure, REIT
JEL: G31, G32

To whom it may concern,

This certifies that the document whose title appears below has been edited for proper English language, grammar, punctuation, spelling and overall style by Samantha Redfern, whose qualifications are listed in the footer of this certificate.

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The Determinants of the Capital Structure of SA-REITs

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Acronyms

ALBI	All Bond Index
CAPEX	Capital Expenditure
CGT	Capital Gains Tax
DJIA	Dow Jones Industrial Average
EPS	Earnings per share
JSE	Johannesburg Stock Exchange
NASDAQ	National Association of Securities Dealers Automated Quotations
OLS	Ordinary Least Squares
PCA	Principal Component Analysis
PLS	Property Loan Stocks
PUTs	Property Unit Trusts
ROA	Return of Assets
ROE	Return on Equity
SA-REITs	South African Real Estate Investment Trusts
SME	Small to Medium-sized Enterprise
WACC	Weighted Average Cost of Capital

1. Introduction

1.1 Background to the Study

According to Carstens (2018) the South African Real Estate Investment Trusts (SA-REITs) environment has been recognized as one of the largest JSE sectors, based on their market capitalization which to-date stands at R321 billion (Catalyst Fund Managers, 2020). The drive to making SA-REITs an important role player in attracting foreign investment is crucial. This is because it will eliminate the problem most emerging markets are currently facing which is a lack of information available to understand the growth value proposition, as supported by Han and Liang (1995). Han and Liang (1995) proved that the lack of research is not a foreign concept because the US had a lack of information as they were relatively new at the time, back in 1995. With time changing and concepts developing, the U.S. has made a name for itself and the African continent is equally thriving for that exceptional growth. The concept of growth value proposition is addressed by Dabara and Ogunba (2019) as a key component to influence the structure and performance of REITs which equips real estate companies. Dabara and Ogunba (2019) emphasise that there is a solid association between the structure, conduct and peformance of a REIT. Therefore, this means more exposure equals more opportunities to explore new and improved methods of facilitating the REIT investment vehicle.

To aid in the facilitation of ensuring new and improved methods of REITs as an investment vehicle, policies informing the restructing and evaulation of REITs are essential for progress and thus are required to be factored in (Parthab, 2009). In additon, South Africa competing at a global and domestic level has been emphasised in previous studies and it has been consistent that the capital structure of REITs plays a significant role in ensuring that the companies remain agile in changing economic environments. Several phenomena have been scrutinized and it is apparent that the importance of capital structure during a financial crisis has not been deconstructed from a South African perspective. Lu, et al. (2013) expressed the same sentiments for the period during the global financial crisis that happened in 2009, in which Taiwan experienced a heavy decline in both physical and securitised real estate prices.

1.2 Substantiation of the Problem

Liapis and Spilioti (2014) along with Adesina, Nwidobie and Adesina (2015), stress the importance of ensuring that the capital structure of a REIT is well configured. They further place emphasis that the choice on the approriate combination of equity and debt as determinants of capital structures should be considered carefully because a signifcant portion of shareholders' equity in a company may be good in certain instances, while in others, it may not be as profitable for the company, especially when the shareholders have alternative intentions for the business.

Bangledesh on the other hand, introduces another configuration of a REITs capital structure which includes, the size of the company, return on assets (ROA), debt and equity (Hasan, et al., 2014). Whereas Malaysia considers the determinants of capital structures to include much more than those of Hasan et al (2014), Liapis and Spilioti (2014) and Adesina, Nwidobie and Adesina (2015) which includes, the company growth rate, profitability, non-debt tax shield, tangibility, the age of the company, liquidity position and earning volatility (Ahmad and Aris, 2014).

Kythreotis, et al. (2018), in their quest to understand the determinants of REITs capital structure and their adjustment timeframe within the markets of Iran and Australia, noted a different perspective from the previous researchers, articulating that an ideal capital structure is influenced by the cost of financing which is based on various determinants which include, the companies operational history, profitability and creditworthiness. In the South African context the capital structure was identified to rely on leverage and equity and these are known to be the traditional real estate sector capital structures (Philogene, 2019). However, the concern arises when the market is under pressure and two determinants are not adequate to hold up SA-REITs to what other determinants are considered to be contributors to the capital structures of SA-REITs, besides the traditionally known "leverage and equity", as demonstrated in other developing and developed countries.

Bwembya (2011) emphasised that capital structure to the value of a company is important because a fund's productivity assets also play a huge role in financing choice. Thus, it is important to understand that certain high-yielding assets may likely be able to support more debt, whereas those with relative yielding assets may come in at slightly lower debt levels. The research demonstrates that the affixed structure of REITs has a negative impact on their profitability and growth prospects as they struggle to adapt in a changing environment in comparison to other stocks in the market (Bwembya, 2011).

Zarebski and Dimovski (2012,) whilst investigating the Australian REITs capital structure determinants, found that the size of the company, profitability, operating risk , tangibility and growth rate opportunities also influence the degree of leverage a fund receives and thus, if there is an affixed structure this may impact the amount of debt received, either from the bank or the market when raising debt. The researchers further elaborated that these factors are changing variables latched to a primary goal of survival in the Australian context. Zarebski and Dimovski (2012) verify that the reputation of agility, when it comes to REITs capital structures, is relevant and of great importance in understanding the company's value.

1.3 Problem Statement

Ntuli and Akinsomi (2017) articulated that South Africa has experienced significant growth and irrespective of the growth, there has been a lack of research conducted to articulate the agility of the relationship between the capital structure determinants and performance of REITs to ensure the company's value. The growth trajectory of REIT structures across the world has enabled many nations to explore the agility of their REITs capital structures by allowing the interaction of theorems to inform their decision making. In South Africa however, due to its recent introduction to the REIT structure market as at 2013, previously existing in a different form commonly then known as Property Loan Stocks (PLSs) and Property Unity Trusts (PUTs), which were improved through the introduction of REITs which created an equal footing between the PLS and PUT. The SA-REITs structure has only been in existence for less than 10 years and has not been able to fully explore the agility of its capital structure in unfavourable economic conditions. The underlying problem is that, determinants of the capital structure of SA-REITs are not definitive and therefore impacts on the performance of the company. It is essential to understand these determinants to ensure they respond proactively in times of uncertainity and continue maximising the value of the company.

1.4 Primary Research Question

The primary research question derives from the necessity to address the problem of REITs capital structure. The research question is as follows:

What is the relationship between the performance and determinants of capital structures of South African REITs?

1.5 Secondary Research Questions

From the primary question, the secondary research questions are identified as:

1.1 Which Theoretical Framework(s) informs the South African REITs capital structure?

1.2 What effect does Non-debt tax shield have on Debt-to Capital ratio under the Trade-off Theory?

1.3 What effect does Profitability have on Debt-Capital ratio under the Trade-off Theory and Pecking Order Theory?

1.4 What effect does Asset Tangibility have on Debt-to-Capital ratio under the Trade-off Theory and Pecking Order Theory?

1.5 What effect does the Effective-tax rate have on Debt-to-Capital ratio under the Trade-off Theory?

1.6 What effect does Growth opportunities have on Debt-to-Capital ratio under the Trade-off Theory and Pecking Order Theory?

1.7 What effect does Liquidity have on Debt-to-Capital ratio under the Pecking Order Theory?

1.8 What effect does the Market to Book ratio have on Debt-to-Capital ratio under the Market Timing Theory?

1.9 How have the South African REITs capital structures influenced the performance of REITs?

1.6 Research Aim

The aim of the research study is to empirically test the relationship between performance and the capital structure determinants of REITs in a pursuit to uphold a company's value informed by theoretical frameworks as an intervening mechanism amongst REITs in South Africa.

1.7 Research objective

From the aim the succeeding research objectives are identified:

- To determine which theoretical framework SA-REITs decisions are informed by.

- To determine the relationship between Non-debt tax shield and Debt-to Capital ratio under the Trade-off Theory.
- To determine the relationship between Profitability and Debt-to Capital ratio under the Trade-off Theory and Pecking Order Theory.
- To determine the relationship between Asset Tangibility and Debt- to- Capital ratio under the Trade-off Theory and Pecking Order Theory.
- To determine the relationship between Effective-tax rate and Debt-to-Capital ratio under the Trade-off Theory.
- To determine the relationship between Growth opportunities and Debt-to-Capital under the Trade-off Theory and Pecking Order Theory.
- To determine the relationship between Liquidity and Debt-to-Capital ratio under the Pecking Order Theory.
- To determine the relationship between the Market to Book ratio and Debt-to- Capital ratio under the Market Timing Theory.
- To investigate the influence capital structure of REITs has on performance.

1.8 Hypothesis

Question 1

Trade-off Theory Determinants

H_1: Non-debt tax shield has a negative effect on the Debt-to-Capital ratio of SA-REITs.

H_0: Non-debt tax shield does not have a negative effect on the Debt-to-Capital ratio of SA-REITs.

H_2: Profitability has a positive effect on the Debt-to-Capital ratio of SA-REITs.

H_0: Profitability does not have a positive effect on the Debt-to-Capital ratio of SA-REITs.

H_3: Asset Tangibility has a positive effect on the Debt-to-Capital ratio of SA-REITs.

H_0: Asset Tangibility does not have a positive effect on the Debt-to-Capital ratio of SA-REITs.

H_4: Effective-tax rate has a positive effect on the Debt-to-Capital ratio of SA-REITs.

H_0: Effective-tax rate does not have a positive effect on the Debt-to-Capital ratio of SA-REITs.

H_5: Growth opportunities has a negative relationship effect on the Debt-to-Capital ratio of SA-REITs.

H_0: Growth opportunities does not have a negative relationship effect on the Debt-to-Capital ratio of SA-REITs.

Pecking Order Theory Determinants

H_1: Liquidity has a negative effect on the Debt-to-Capital ratio of SA-REITs.

H_0: Liquidity does not have a negative effect on the Debt-to-Capital ratio of SA-REITs.

H_2: Profitability has a negative effect on the Debt-to-Capital ratio of SA-REITs.

H_0: Profitability does not have a negative effect on the Debt-to-Capital ratio of SA-REITs.

H_3: Asset Tangibility has a positive effect on the Debt-to-Capital ratio of SA-REITs.

H_0: Asset Tangibility does not have a positive effect on the Debt-to-Capital ratio of SA-REITs.

H_4: Growth Opportunity has a positive effect on the Debt-to-Capital ratio of SA-REITs.

H_0: Growth Opportunity does not have a positive effect on the Debt-to-Capital ratio of SA-REITs.

Market Timing Theory Determinants

H_1: Market to Book ratio has a negative effect on the Debt-to-Capital ratio of SA-REITs.

H_0: Market to Book ratio does not have a negative effect on the Debt-to-Capital ratio of SA-REITs.

Question 2

H_1: Capital Structure influences performance of SA-REITs.

H_0: Capital Structure does not influence performance of SA-REITs.

1.9 Limitations

The study is limited to SA-REITs listed on the JSE and excludes holding companies, suspended companies, investment instruments, and private real estate companies to provide a consistent and fair comparable analysis. The data required from the year 2016-2020 may not be all available at the same time due to the establishment date of the various entities.

1.10 Assumptions

The chosen 28 listed REITs will be an appropriate and accurate sample to answer the research question. In addition, another assumption made is that South African REITs do have a formalised capital structure. After examining the molds of these three theories namely; Pecking Order Theory, Market Timing Theory and Trade-off Theory, it can be assumed that the decisions of South African

REITs are a combination of the Trade-off Theory and the Market Timing Theory. The practice of the Pecking Order Theory on the other hand is visible when observing small-medium sized firms. The listed REITs do not form part of the SME's because above and beyond the normal listing rules for companies, the SA-REITs need to comply with extra criteria in section 13 of the JSE listing requirements. One of the requirements includes the REITs having to own at least R300 million worth of assets amongst other things and such requirements eliminate it from the SME group.

1.11 The Chapter Outline

Chapter One: The Problem and background setting

This chapter discusses the background setting of the discipline of REITs in a South African context. It further, articulates the problem statement, primary and secondary research questions, as well as deals with the research objectives. The chapter concludes by introducing the hypothesis, limitations and assumptions of the study to guide the study further.

Chapter Two: Literature Review

This chapter explores the already existing studies on the discipline of REITs, both locally and internationally. It will serve as a pertinent foundation to better articulate the gaps that need to be addressed in this body of knowledge, more especially in a South African context.

Chapter Three: Theories of Capital Structure

This chapter investigates the theoretical frameworks which inform the structure of the study. The majority of the time, research studies are saturated by various ideologies to bring context to differing dynamic aspects. This chapter will introduce well-known theories in the REITs capital structure body. It will dig deep into the edges of the knowledge field, guided mainly by three theories namely; Static Trade-off Theory, Pecking Order Theory and Market Timing Theory.

Chapter Four: Research Design

This section of the chapter outlines the design methods and philosophical norms supporting the research study. It further assesses which research paradigm, approach, and strategies were most appropriate to guide and execute the purpose of the study. The chapter also discloses the data

collection instruments, data analysis and interpretation methods considered accurate. The study follows a quantitative method.

Chapter Five: Data analysis, and presentation

This chapter presents the findings of the research on the relationship between the performance and determinants of SA-REITs capital structures as well as the extent to which the capital structure decisions are influenced by the theoretical frameworks introduced in Chapter 3. The data is presented in the form of tables to better communicate the results.

Chapter Six: Conclusion and Recommendations for future research

This chapter concludes the results that have been interpreted in Chapter 5 and if any, provides recommendations for further research. It synthesises the discussion of the research study and provides clarity on the capital structures of SA-REITs, through the use of the literature review, quantitative analysis and overall content analysis.

2. Literature Review

2.1. Introduction

Real estate investment trusts ("REITs") are described by Aldrich (1972:1165) as a , "creature of the tax law". This is attributable to the nature of REITs and how they uphold their standing (Aldrich, 1972). To maintain their status, REITs are required to distribute a minimum of 75% of their distributable profits to shareholders which is not taxed to the REITs, and maintain a gearing threshold of 60% (Aldrich, 1972). In addition, another tax benefit of REITs is , no capital gains tax **("CGT")** on disposals. The review study is aimed at unpacking and synthesizing previous research exploring the discipline of REITs. In addition, the review will enable the researcher to identify opportunities and areas for further research for the betterment of REITs. The chapter details REITs capital structures, the growth dynamics, the influence of capital structures on REITs performance, and lastly the interaction between the conduct, structure and overall performance.

The rest of the chapter is structured as follows: a discussion surrounding the wave of REITs capital structure followed by the growth dynamics of REITs in the main review. Thereafter, the influence of REITs capital structures on performance, which will then be followed by an analysis of the interaction between the conduct, structure and overall performance of the REITs framework in the main review. It will also touch on the various methodologies used by researchers in the main review. The review chapter will conclude by identifying issues to be investigated through further research.

The findings indicated that adapting to the ever-changing environment and striving to be agile is important for a fund to remain relevant and attractive as an investment vehicle in the long-term. The review further disclosed that South Africa has experienced significant growth and despite the well-recognised growth, there has been a lack of research shown to articulate the relationship amongst the capital structure determinants and the performance of REITs to ensure a company's value is maximised. Research has also revealed the growth trajectory of REIT structures across the world. The idea is that in South Africa, due to its recent introduction to the REIT market as at 2013,with only being in existence for less than 10 years, has not been able to explore the agility of its capital structure in a financial crisis. This is vital for a REIT capital structure in order to respond proactively and to continue maximising the value of the company during and post crisis.

2.2. Methodology of literature review

The methodology style used by most researchers to understand REITs capital structures is a mixture between qualitative and quantitative approaches. The papers use secondary data which includes; journal articles that are peer reviewed and scholarly literature. The data utilised is in line with explaining the REITs structure and the determinants that inform the structure.

The researchers employed a variety of methodology sets to inform their studies. Parthab (2009), employed qualitative methods through the use of telephonic, face-to-face, and email interviews. These interviews were transcribed and arranged according to particular themes for examination. The overall data was collected by Parthab (2009) via desktop using secondary material. Rampersad, (2010) utilised the mixture of both interviews and questionnaires with a sample of 21 respondents which predominantly consisted of asset managers of listed property funds. The data was thereafter analysed graphically to display adequately the thinking behind 21 various opinions. On the other hand, Akinsomi, et al. (2015), took the root of sending out questionnaires alone, these questionnaires were sent to 36 listed S.A property companies on the JSE . The questionnaire type used was insipired by previous reserchers by the names of Falkenbach (2009) and Baum and Marry (2011).

More researchers continued to use the qualitative method as their choice of analysis however, instead of relying on the response of people in terms of interviews and questionaires, which have been viewed to be unreliable at times consisting of time lags inbetween responses which resulted in incomplete processes and opening room for partiality. The application referred to secondary desktop analysis which is aimed at clarifying the context of a primary data research as well as adequately explain the depth required for the chosen study. Bas (2012), in a quest to comprehend the affiliation of capital structures and debt maturity, had a sample size of 24 countries with over 10 839 companies as participants through the application of panel data analysis. Bas (2012) collected data fom various platforms namely: World Bank Enterprise Survey, World Development Indicators, Aggregate Governance Indicators and Financial Development and Structure Database which culminated to a total of 27 738 observations. This was remarkably one of the largest recorded number of respondents in the study of REITs capital structures.

Sun, Titman and Twite (2015) utilised the SNL Financial which contains financial and property data as their primary source of data. The sample included 138 REITs focusing on the relationship between growing monthly rates of return, equity issues and property sales for each REIT. Whereas, Ntuli and Akinsomi (2017) utilised data from the listed basic bonds from the All Bond Index ("ALBI") and the treasurey bill 91-day yield analysed for over a period of 2 years. Dabara, Tinufa, Soladoye, Ebenezer and Omotehinshe (2018) on the other hand utilised the financial statements and annual reports of all the REITs companies in the Nigerian Market at the time and the study covered a lengthy period stretching from 2006 – 2016, as compared with many other researchers, which covered an average of three years.

Dabara, et al. (2018) analysed the data set using descriptive statistical tools which was an uncommon method in many researchers who employed a secondary data approach. Downs and Zhu (2019), with an aim to obtain widespread results, collected data from more than one data source namely, SNL Financials which were also used by Sun, et al. (2015). In additon, they also collected data from Thomson Reuters and Datastream. To analyse the collected data Downs and Zhu (2019) exercised the implicit bid-ask spreads as well as Kyle's concept of illiquidity with a sample size of 145 companies, with 119 being REITs. These methods of data sourcing, collecting and analysing where found to be more accurate and rich in information as compared to interviews and questionaires as you could not analyse the trend of the responses over a period of time and were only limited to that specific period.

A limited number of researchers focusing on the economics of REITs capital structures employed a quantitative approach to their studies. This includes the likes of Zarebski and Dimovski (2012) who used the Least Square Dummy Variable model to estimate a panel equation in order to determine the catalysts of capital structure. Zarebski and Dimovski (2012) collected data from the finance section of the Australian newspaper, further analysing it using descriptive statistics. Sibanda and Mhlanga (2013) sourced their data from Mcgregor BFA library, the S.A Reserve Bank and Statistics S.A using the VAR model to examine the relationships of their variables.

On the other hand, the data compiled by Ahmad and Aris (2014) was sourced from trading and service companies listed in Bursa Malaysia Main Market with a sample size of 181 companies. Furthermore, the study by Hasan, et al. (2014) followed a quantitative approach which was informed by data collected from firms listed on the Dhaka Stock Exchange. In this study, various

ratios were employed such as the earnings per share (EPS) , return on equity (ROE), return on assets (ROA), long-term debt to total assets , total debt to total assets and Tobin's Q as a measure for performance information coming from annual reports and sample firms (Hasan, et al., 2014). Rovolis, et al. (2014) employs a descriptive statistical test which is common amongst a variety of quantitative studies and the Pearson Product-Moment Correlation Coefficient test to inform the study, which is commonly referred to as the " multivariate cluster analysis" also used by Kumari (2015). In additon, Kumari (2015) made use of the Regression Analysis Model to further investigate the findings. The information was sourced from secondary data and annual financial statements of the respective companies.

Ahmad and Aris (2014) factored in a 3-pooled Ordinary Least Square (OLS) equation to estimate three different leverage substitutions for the study. Whereas, Kumari (2015) followed a hybrid qualitative and quantitative approach informed by the correlation analysis, where the Pearson Product-Moment Correlation Coefficient assessed the degrees that variables are linear. The dependent variables in the study of Kumari being, profitability ratio and the independent variable being the debt ratio. The data was sourced from all the entities listed on the Portguese Stock exchange (PSI20), Spanish Stock exchange (IBEX35) and the Thomson Reuters Datastream, which was also used by Sun, et al. (2015). A more different approach, Kola and Kodongo (2017) used the theoretical Arbitrage Pricing Framework which employs the Principal Component Analysis ("PCA") to extract factors identified from the collected research. To further analyse the data, Kola and Kodongo (2017) explored a Linear Regression Model. These researchers, by far, employed extensive quantitative analytics as compared to the majority of the researchers, to accurately deliver clear and purposeful findings.

It is evident that the various researchers were very diversified in their methodologies from the most common methodology to the least common. The most common utilised data sources included: the various stock exchange platforms, the Thomson Reuters Datastream and the audited financial reports of the REITs which are publicised annually as at the REITs financial year-end. The data analysis indicated trends of Desktop Analysis , Regression Model Equations, and Multivariate Models, apart from the use of the Arbitrage Pricing Framework. It has been noted that, the Arbitrage Pricing Framework has not been utilised consistently as compared to the other forms of data collection. Kola and Kodongo (2017) employed the Theoretical Arbitrage Pricing Framework to understand the macroeconomics risk of REITs, the sole focus of this research was not necessarily

capital structures and hence why the model was used because it focused on the volatility of macreconomic factors which have an indirect impact on the REITs capital structure.

2.3. Wave of REITs Capital Structures

Morgan Stanley (2005) embarked on a journey to discover a definitive theory to explain the role of capital structures. The financial institute found that CFOs make the decision of how to configure the capital structure and a large portion of their decision is influenced by credit ratings conducted by Moodys or Standard and Poor. These credit ratings downgrades or improvements determine the variables that will be considered. Morgan Stanely (2005) noted that it is evident that long-term public debt issued for low investment grade are highly costly as compared to the short-term private debt or bank debt. Therefore, it is important to take into consideration their credit rating before imposing any capital structure components as these leverage vs equity dynamics may result in an unfavourable position of the entity. Kisgen (2006) agrees with Morgan Stanely (2005) that credit ratings play an important role and directly affect capital structure decisions made by management. This factor emphasises that approximately 15 years ago there was a lack of diversity in the determinants of capital structures.

The movement continued to advance and eventually a conversation to incoporate reputable REITs structures became popular amongst researchers. Rampersad (2010) investigated the exisiting structures within a South African context at the time, which included Property Loan Stocks (PLS) and Property Unity Trusts (PUT) and understood the determinants that would be required to form a REIT structure. Rampersad (2010) found that dividends, gearing, investment restrictions, management and development restrictions formed part of the identified determinants of REIT capital structures. Besides the above-mentioned, the discussion about tax as a determinant rose as a favourite amongst fund managers, demonstrating that it would create an equal footing between the PLS and PUT once the REITs structure had been formed (Rampersad, 2010).

International Studies by Bas (2012) engaged in the relationship of capital structures as well as debt maturity choices of firms from the perspective of developing countries. The study indicated that developing countries are usually plagued with small REIT firms and thus are at greater risk when it comes to local decisions on fiscal and monetary policies as opposed to the larger firms. This is because the larger firms have exposure to financial markets, both locally and internationally and

therefore are less exposed to experiencing shocks in the local context (Bas, 2012). It is evident that the smaller firms are largerly impacted by unstable economic events as they borrow less and also avoid long-term financing. This will create instability in their Asset-to-Debt ratio, such that if the economy gets better and their debt is at a high gearing, whilst their return on invetsments is increasing at a diminishing rate, the risk is that this will lead the firm to failure (Bas, 2012).

Post the discussion with Bas (2012), it is noted that the importance of asset diversification forms part of an essential component of capital determinants. Boshoff and Bredell (2013) coincide with Bas (2012) and this is explored at the time of the introduction of South Africa into REITs. Boshoff and Bredell (2013) articulated that entering into the REITs space meant allowing for the creation of better international uniformity, tax advantages, and transparency, along with a well-performing management team, whilst maintaining flexibility.

2.4. Growth Dynamics of REITs

Over the years, researchers have examined a variety of relationships that involve REITs. Lee (2010) addressed the relationship between mixed-asset portfolio and the ever-changing benefits of REITs. The discussion was inspired by trying to understand the marvel behind REITs being an attractive alternative investment method with the ability to generate high income streams and promise a long-term appreciation of stock. However, amidst the high praise, Lee (2010) expressed that investment in real estate also brings a few setbacks which include their nature of being illiquid due to large company sizes and being heavily dependent on a well-skilled and high-performing management team (Lee, 2010).

These features still exist today within several REITs. Sibanda and Mhlanga (2013) coincide with Lee (2010) as they share that real estate investments have traditionally been viewed as an illiquid asset class. However, the researchers express a change in attitude, that configurations have evolved over time as a result of innovation and architectural shift within the financial economics (Sibanda and Mhlanga, 2013). This has led to the idea that an investment in real estate is a form of hedge against inflation. In addition, in a more local context, South Africa has grown its REITs presence since formation in 2013. The country has established a well-regulated financial market and was

conveyed to have achieved better results than the UK , European and Asian REITs (Ntuli and Akinsomi, 2017).

Nevertheless, every growth opportunity is often met with challenges and Akinsomi, Pahad, Nape and Margolis (2015) probed into the growing issue of geographic diversification which spanned far beyond just the changing benefits of a mixed asset portfolio. REITs, to-date, are continuously growing and expanding with visible opportunity in cross-border diversification. The idea of a mixed asset portfolio was evident that it depends on the qualified return on performance as opposed to the various asset classes available within the mixed asset portfolio (Lee, 2010). Therefore, the growing concern became more about diversification at a geographical level in order to maximise company value and benefit. Akinsomi, et al. (2015) found that most SA-REITs fear the idea of geographical diversification even though the impression, at an international scale, is that risk which is spread across various locations affords better REIT performance. In the South African context however, this differs significantly due to the political landscape and diverse legal systems which come into play when property rights are involved, of which(ownership and real rights) other countries may accept.

This uncertaintity in the outside market has subsequently led to a barrier to entry into other African countries. South Africa has since believed that rapid and sustainable growth of REITs can be internally achieved through sector split diversification (Akinsomi, et al., 2015). However Akinsomi, et al. (2015) stated that there is great importance in geographical diversification in a global context in order to accomplish higher returns, especially within the African and South American continent. Indeed, the international diversification market is opening at a larger scale, and investors are keen to invest in developing countries due to the untapped potential that exists. If South Africa does not come to play soon enough, they will miss an opportunity to compete at a global scale which will not be favourable for investment growth (Luiz and Charalambous, 2009).

According to Carstens (2018) the SA-REITs environment has been recognized as one of the largest JSE sectors based on their market capitalization which to-date stands at R321 billion (Catalyst Fund Managers, 2020). The drive to making SA-REITs a significant role player in enticing foreign investment is crucial. This is because it eliminates the problem most emerging markets are currently facing of a lack of information available to understand the growth value proposition, as supported by Han and Liang (1995). Han and Liang (1995) proved that the lack of research is not a foreign concept

because back in 1995, the US had a lack of information and was relatively new at the time. With time changing and concepts developing, the U.S. has made a name for itself and the African continent is equally thriving and learning from that exceptional growth. The concept of growth value proposition is addressed by Dabara and Ogunba (2019) as a key component to influence the structure and performance of REITs which equips real estate companies. Dabara and Ogunba (2019) came on board by pressing on the importance in relationships amongst the conduct, performance and structure of a REIT.

2.5. Influence of Capital Structure on Performance

As indicated, there is an important relationship between conduct, structure and performance. All these are aligned with the growth concept which was illustrated by Dabara and Ogunba (2019). This further emphasises that the determinants of capital structure influence the performance of REITs. Therefore, more exposure means more opportunities to explore new and improved methods of facilitating the REIT investment vehicle and thus achieving optimal performance. Rovolis, et al. (2014) along with Adesina, et al. (2015), state that it is important to also make sure that the capital structure of a REIT is well configured and the decision on the approriate combination of debt and equity is considered carefully. This is because a signifcant portion of shareholders equity in a company allows the shareholders to have extensive control over the decisions of the company (Rovolis, et al., 2014).

This may be good in certain instances and in others it may not be as profitable for the company especially when the shareholders have alternative intentions for the business. Rovolis, et al. (2014), noted a trend currently popular in most REITs companies, which is the use of debt to finance projects as well as acquire assets. This has been a safe structure for REITs because most of them have steady cash flows through rental income received from their investment properties. Hasan, Ahsan, Rahaman and Alam (2014) agree with the statement shared by Rovolis, et al. (2014) that a capital structure needs to be made up of various determinants and they need to be weighted to maximise performance at all times. Capital structures are directly related to the risk and return of the company and therefore a miscalculated weighting can cost a company its value and raise its cost of capital (Hasan and

Samour 2014). This further emphasises that the capital structure of a REIT is important because the difference between an immature and effective one can either place a company at its peak or trough.

Bangledesh states that they consider the determinants of capital structure to include, size of firm, Return On Assets (ROA), debt and equity (Hasan, et al., 2014). Whereas Malaysia considers them to include much more than those of Bangledesh which include, tangibility, profitability, size of firm, growth rate, non-debt tax shield, firm age, liquidity position and earning volatility (Ahmad and Aris, 2014). However both researchers stress that, too much or too little of any can easily negatively impact the performance of the firm (Hasan, et al., 2014). These determinants have also been noted by the United States and Spain to change signifcantly under any occurance of a financial crisis. This is supported by the 2008/2009 global financial crisis which offset REITs in such countries and caused liquidity problems and thus questioned the importance of capital structure determinats in valuing a firm (Kumari, 2015). Despite uncertainty in the economy at the time, firms were forced to continue moving forward and recover what was left and thus the importance of capital structure determinants and their ability to withhold in a state of uncertainty was and continues to be crucial.

Kythreotis, Nouri and Soltani (2018) uncovered a lot in their quest to understand the capital structure determinants and their adjustment timeframe within the markets of Iran and Australia. Kythreotis, et al. (2018) identified that an optimal capital structure is influenced by the cost of financing which is based on various determinants which include , the company's operational history, profitability and creditworthiness with the Trade-off Theory chosen as the framework which best explains the dynamics within the different countries. In additon, Philogene (2019) investigated the South African market and coincides with the various researchers that understanding the varying determinants of capital structures is important. In the South African context the capital structure was identified to rely on leverage and equity and these are known to be the traditional real estate sector capital structures (Philogene, 2019). This further shows that there is a common thread amongst several researchers in the determinants of capital structures and these include, profitability, firm size, debt and equity variation and liquidty position.

Nevertheless, the concern in South Africa arises when the market collapses and the two variables are not enough to hold up the firm and thus their determinants would require a dramatic improvement to adapt. The South African context lacks adequate research around the determinants of capital structures since the creation of the investment vehicle, from 2013 to 2020.

2.6. Interaction between the Structure, Conduct and Performance of REITs

To aid in the facilitation of ensuring new and improved methods of REITs as an investment vehicle, policies informing the restructing and evaulation of REITs are essential for progress and thus are required to be factored in (Parthab, 2009). In additon, South Africa competing at a global and domestic level has been emphasised in previous studies and it has been consistent that the capital structure of REITs plays a significant role in ensuring that the companies remain agile to changing economic environments. Several phenomena have been scrutinised and it is apparent that the importance of capital structure during a financial crisis has not been deconstructed from a South African perspective. Lu, et al. (2013) expressed that during the global financial crisis that happened in 2009, Taiwan experienced a heavy decline in both physical and securitised real estate prices.

Also, researchers articulated that the financial crisis resulted in a large decline in liquidity and this raised a few eyebrows about the capital structure of REITs across the world (Downs and Zhu, 2019). Ambrose, et al. (2005) shared that in Philadelphia the response to the disruption which occurred around the 1900s was met with a rise in the number of mergers of various REITs. These REITs consolidations resulted in the sector yielding a 26% return and surpassed NASDAQ and DJIA (Ambrose, et al., 2005). To continue sharing the outlook of various countries, the United States' response to the financial crisis deemed REITs more risky and unsustainable relative to investments in utility stocks (Basse, et al., 2009). This was a very concerning standpoint considering REITs, prior to the crisis, had been depicted as investments of high dividend and strong performance with low risk.

Bwembya (2011) continues to support the position of capital structures as a measure to value a company because the researcher claims that a fund's productivity assets also play a huge role in the financing choice. Thus, it is important to understand that certain high-yielding assets may likely be able to support more debt whereas those with relative-yielding assets may come in at slightly lower debt levels. The research demonstrates that the affixed structure of REITs has a negative impact on their profitability and growth prospects as they struggle to adapt in a changing environment in comparison to other stocks in the market (Bwembya, 2011). Zarebski and Dimovski (2012) whilst investigating capital structure determinants of Australian REITs, found that the size, profitability,

operating risk , tangibility and growth opportunities also influence the degree of leverage a fund receives. The researchers further elaborated that these factors are changing variables latched to a primary goal of survival in the Australian context. Zarebski and Dimovski (2012) verify that the reputation of agility, when it comes to REITs capital structures, is relevant and of great importance in understanding the firms' value.

2.7. Chapter Summary

Ntuli and Akinsomi (2017) articulated that South Africa has experienced significant growth however, irrespective of the growth, there has been a lack of research conducted to articulate the bond between the capital structure determinants and performance of REITs to ensure firm value. The growth trajectory of REIT structures across the world has enabled many nations to explore the agility of their REITs capital structures by allowing the interaction of theorems to inform their decision making. In South Africa however, due to its recent introduction to the REITs market as at 2013,with only being in existence for less than 10 years, has not been able to explore the agility of its capital structure in unfavourable economic conditions. It is essential for a REITs capital structure more specifically to respond proactively in times of uncertainity and continue maximising the value of the company.

This is important to investigate considering that the economic climate fluctuates from time to time. In additon, macroeconomic factors are volatile measures and they affect at large the price fluctuations and instability of companies during unprecedented times (Kola and Kodongo, 2017). The position of understanding the connection between capital structures and the performance of REITs, whilst taking into account the effects of leverage and financial distress is of utmost importance (Dabara and Ogunba, 2019). This will assist South Africa with knowledge gain and better response mechanisms. This will also allow investors to gain insight and be more knowledgeable about the South African investment vehicle (REITs) and thus open up the country to more exposure at a global REIT level.

3. Theories of Capital Structure

These theorems inform the determinants of various capital structures. They have been sought-after, especially the likes of; **Trade-off Theory, Pecking Order Theory, Market Timing Theory and Irrelevance Theory (MM)** which will be discussed in detail. The REITs environment has grown to be a very competitive industry and thus the caution of managing and gaining insight of how to finance various business ventures is crucial. The Trade-off Theory and Pecking Order Theory according to Jahanzeb, Ur-Rehma, Bajuri, Karami and Ahmadismousaabad (2013), have been dominating the capital market decision making since the 1950s. Recently, the Market Timing Theory has gained traction due to the interest of investors and managers always seeking to take advantage of the market timing.

The notion behind capital structures is to effectively choose the appropriate way of managing finances in a corporation in order to maximise its value. Jahanzeb, et al. (2013) describes **Trade-off Theory** as a major tool to support gearing as a way to construct capital structure by assuming leverage-benefits. This application of the theory is achieved by managing a sense of balance amongst the interest payments and costs of issuing debt (Jahanzeb, et al., 2013). The Trade-off Theory essentially forecasts the cost-benefit analysis of debt financing to accomplish the finest structure as noted by Jahanzeb, et al. (2013) as well as Modigliani and Miller (1958).

The other prominent theory related to capital structure is the **Pecking Order Theory.** The Pecking Order Theory is referred to as a tool which focuses on financing business ventures of the firm with internal generated sources first as opposed to the Trade-off Theory. These include retained earnings and equity as opposed to the method of the Trade-off Theory which promotes the use of debt first (Jahanzeb, et al., 2013). The argument presented by the Pecking Order Theory as stipulated by Jahanzeb, et al. (2013) (as stated in Modigaliani and Miller, 1958 and Myers, 1984; and Myers and Majluf, 1984) is that it avoids the irruption of insider-outsider issues related to information inconsistency of a firm and thus it concentrates on utilising internal financing sources. This theory emphasises that the managers of various firms following the Pecking Order Theory initially prioritise their retained earnings when it comes to financing their activities and if thereafter they require more CAPEX they will seek raising debt. Most firms prefer this model if the goal is to achieve lowered debt levels and is mostly common with high-profit firms.Whereas, the Trade-off Theory believes that there should be an equal footing in the relation between profitability and leverage (Jahanzeb, et

al., 2013). They achieve this by prioritising external finance which allows the companies to shield income from taxes.

REITs structures are fond of this because they are already required to distribute 75% of their profitable earnings, of which 75% of those earnings must be derived from rental income. The recently introduced theory namely, **Market Timing Theory** is a theory formulated around the sensitivity of the market. This theory is informed by the ideology that when the cost of equity is low, firms will prefer external equity and also prefer debt issuance from the market as opposed to either their own financing or using traditional debt via financial institutions. However, the ongoing conversation in corporate, as examined by Jahanzeb, et al. (2013) as well as Baker and Wurgler (2002), articulates that risky securities are mispriced by the market and therefore, debt capital market financing can be expensive.

The **Irrelevance Theory**, which is also noted as an influencing tool, is based on a very presumptuous and unrealistic nature. It communicates the idea that a company's investment and financing decisions can be observed independently (Jahanzeb, et al., 2013). This is a never-ending debate amongst researchers soley because the investment decisions of businesses are often driven by financing decisions and their ability to maximise profit. The Irrelevance Theory, also commonly referred to as the MM Theory, essentially states that the cost of capital of a company and its value are not directly proportional to the financing policy of the entity (Jahanzeb, et al., 2013). This theory lacks to communicate how the interaction between corporate finance and investment decisions link and completely discredits the Trade-off Theory and Pecking Order Theory.

3.1.1 Trade-off Theory

Pre 1999, the Trade-off Theory was considered as one of the best theories to explain the dynamics of capital structure (Simatupang, Purwanti and Mardiati, 2019). However, over the years there has been significant advances in theories introduced and the depth of the Trade-off Theory has been contested. Ross and Westerfield (2008) explain that, in the Trade-off Theory there is a debt target which can often result as a limitation for the company's ability to obtain funding, however can also serve as an advantage in terms of the decrease on the tax costs and capital costs recongised.

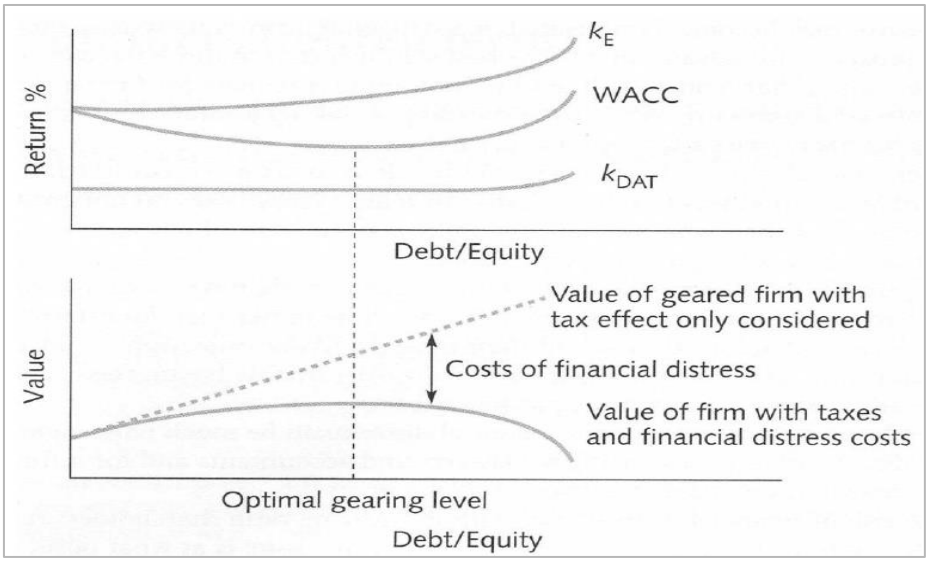
As a result, Ross and Westerfield (2008) share that profitability becomes an important determinant when conducting debt through debt because the firm in question is able to meet the

obligations towards the costs that emerge from the activity of funding. However, there is disagreement in the study, as stated by Simatupang, et al. (2019), that when there is a high level of surplus, the Pecking Order Theory is seen to be followed, where the company takes the advantage of the obtained surplus and channels it to receive safe funding and reduce the risk of being highly geared through debt.

Though Meyers (2001) disagrees with Simatupang, et al. (2019) stating that companies who experience funding surplus will, instead of using their internal funds, choose to pay to receive debt and minimise the usage of their own funds (retained earnings). Simatupang, et al. (2019) study shares that the Trade-off Theory to describe the proportion of the firm's capital structure consists of profitability, sales growth, non-debt tax, and stability assets.

To further explain the Trade-off Theory, Abeywardhana (2017) with the assistance of Myers (1977), explains that when you use debt to a certain level it offsets the cost of financial anguish and interest tax shield. In additon, the key elements of the Trade-off Theory, as noted by Fama and French (2002), can be examined via the benefits of debt tax deductability of interest, cost of agency and bankruptcy as detailed below.

Figure 1: Increase in debt Capital and its effect on the value of the firm



Source: Abeywardhana, 2017:135

The graph above illustrates the relationship between the debt capital increase and weighted average cost of capital, also commonly referred to as "WACC". The results communicate that as the

level of debt capital increases, the WACC of the company declines until such a point where the company reaches an ideal gearing level. With this being said, the cost of financial distress also witnesses growth along with the debt levels (Arnold, 2008). Arnold's (2008) tested theory is in line with Miller (1988), which also places emphasis on the interconnected relationship between the best Debt-to-Equity ratio showing the uppermost tax shield that a company can enjoy. In a study conducted by Koksal and Orman (2015) it is explored that the Trade-off Theory has a constructive bond between the size, profitability and tangability of the company in question and leverage.

This is because often in reality, it is seen that larger firms are more diverse and thus carry less risk in terms of exposure to default and in addition, the interest tax shields of debt are more valued for such profitable companies. On the other hand, the relationship amongst the firm growth, business risks and leverage are disproportionate. Whereas, Narmandakh (2014) sticks to the traditional Trade-off Theory which emphasises that the company's leverage is strong-minded by the trade-off amid the cost and benefits of borrowing. According to Narmandakh (2014), the goal is to balance the company's benefits and cost of debt in order to achieve a commendable Debt-to-Equity ratio.

This traditional method has less determinants as compared to the latter and is seen to have a significant attraction rate due to the benefit received from interest tax shield outweighing the costs related to borrowing (Tongkong, 2012). Subsequently, the company proving high profitability will ultimately achieve higher leverage. Though, there has been continued arguments around the concept of profitability, where it is taught that instead the profitability of a firm induces firms to hold large cash reserves which translates into the firm using retained earnings for funding business related activities.

Koksal and Orman (2015) conclude that the Trade-off Theory is best tested when the entity is private, mature and a non-large manufacturing firm. Essentially the Trade-off Theory favours tax shield advantage and the best efficient Debt-to-Equity mix to ensure value maximisation (Simatupang, et al., 2019). This means that, the effect of the tax shield is seen when preference for external debt is considered by the entity and not its own retained earnings.

3.1.2 Pecking Order Theory

This theory, as described by Myers (1984), outlines that due to the unforeseen circumstances of the unknown, firms prefer internal finance rather than external finance as preferred in the Trade-off Theory. This theory is contested because the majority of firms usually prefer the use of debt before equity. The reason behind that is because there are less information costs related to debt and therefore little equity is used (Myers, 1984). However, the Pecking Order Theory upholds its argument by stating that irregular information creates an unforeseen pyramid of costs when using external financing (Tong and Green, 2005).

According to Myers (1984) debt is considered after internal finance has been well-thought-out due to it being seen as a relatively safer option in comparison to equity. The reason behind the debt option before considering equity is due to the power of information. Usually, the information known to managers is publicised to the market and thus makes values less volatile as investors like knowing what is going on and it seems like a collective effort between the investors and managers (Myers, 1984). Furthermore, the use of the Pecking Order Theory is an immensely flexible capital structure that allows for other types of financing which are not limited to internal financing and debt but also extend to possible hybrid structures which come in various forms. These hybrid structures include; convertible bonds as well as equity, which comes in as the last alternative (De Jong, et al., 2008).

The Pecking Order Theory, according to the study conducted by Oolderink (2013), assumes firstly, that there is a negative relationship between liquidity and leverage. The overarching assumption is that companies that hold higher liquidity tend to borrow less which essentially means that, the more cash on hand a company has, the more ability it posses to utilise internal funds as a financing mechanism (Oolderink, 2013). Secondly, there is a disproportionate relationship between profitability and leverage because a company that is more profitable, has more cash reserves and thus most likely does not need debt funding. Essentially, the company will utilise its profits as investment funds and thereafter, direct them towards new equity buy-ins and high-yielding bonds, accordingly (Huang and Song, 2006).

Thirdly, there is an adverse relationship between company sizes and the amount of debt they hold because information anomalies amongst company managers and the capital markets are predicted to be lesser for large companies in comparison to smaller firms (Chen, et al., 2009). This is driven by the fact that, during the issuance of new equity, the small sized companies are charged

more in comparison to larger companies which creates a great deal of imbalance in the debt structure (Oolderink, 2013).

Lastly, when it comes to asset tangibility the Pecking Order Theory assumes a directly proportionate relationship with debt. This is explained by Chen, et al. (2009) in reference to asset mispricing, where an increase in asset tangibility results in the increase of the liquidation value of the firm.

Essentially the purpose of Pecking Order Theory is obtaining financial slack which refers to liquid assets or reserving borrowing power (Oolderink, 2013). The reason behind this is because the company wants to keep generated cash internally and allow the firm the upper hand to finance its own projects. Chen, et al. (2013) is in harmony with Chen, et al. (2009) and Oolderink (2013) stating that the Pecking Order Theory is indeed built on the preference of internal finance over external financing and is highly driven by the managers' preference. This is due to the preference of managers wanting to keep outside investors less informed about the doings of the business. Under this desired framework, it is difficult for investors looking from the outside to identify between high-quality securities and low-quality securities (Chen, et al., 2013). Therefore, you find that the high-quality securities introduced from firms following the Pecking Order Theory have almost no incentive to issue new securities and thus may result in them being underpriced (Dang, 2013).

This market issue then leads to unfavourable selection and thereafter may experience market failure in the capital market (Chen, et al., 2013). Thus the reliance on internal financing takes away the pressure from these firms worrying about high agency and financial distress costs. The Pecking Order Theory considers financing through equity as a state of emergency when the firm is encountering high financial cost distress as a result of an event of default.

Dang (2013) expresses that the Pecking Order Theory adopts that the internal cash flow of a company is more than the external finance, however the former is more reliable and stable than the latter. Dang (2013), after critically analysing developed countries such as the UK, Germany and France, determined that they don't closely follow the Pecking Order Theory because the above-mentioned nations use debt to offset the smallest amount of funding. The aforementioned begs the question, " is the use of the Pecking Order Theory dependent on the type of nation one is dealing with?", seeing as these results leaned towards the developed country side and did not explore the effects from an undeveloped angle.

The Chinese economy which is categorised as developing, similar to South Africa, does not subscribe to the traditional Pecking Order Theory which is ordered as follows; internal financing, long-term debt and then equity (Narmandakh, 2014). The Chinese economy has contested the traditional method stating that the new Pecking Order Theory proposes companies use retained profit first, then equity and thereafter, long-term debt (Narmandakh, 2014). De Jong, et al. (2008) further supported the above as they pointed out that previous studies focused on developed countries and thus the capital determinants such a profitability, firm size, risk, liquidity and asset tangability may not necessarily have the same weighting in terms of significance when it comes to other countries. Therefore, painting nations with the same brush was inaccurate and provided less robustness in the study of the Pecking Order Theory.

Narmandakh (2014), undertook a study to understand the Pecking Order Theory from a developing country perspective. He found that, developing countries, more specifically the listed companies in Mongolia, do not rely on long-term debt to finance their investments, as previously supported by the traditional Pecking Order Theory after consideration of internal financing. Instead, they depend on more shorter-term banking loans as their source of funding (Narmandakh, 2014). Narmandakh (2014) concludes that companies located in developing countries that have a preferred legal environment as well as stable and healthy economic conditions are more likely to then acquire long-term debt and also be able to sufficiently particpate in the capital market space. So what this means is that, the Chinese economy has been supported by the Mongolian economy as the Pecking Order Theory means the preference is set as below; internal financing first, short-term debt second, instead of long-term debt and thereafter equity, which also takes preference over long-term debt (Narmandakh, 2014).

3.1.3 Market Timing Theory

Baker and Wurgler (2002) developed the Market Timing Theory with the assumption that companies can reach the best capital structure by analysing the capital market activities. The Market Timing Theory, according to de Wet and Gossel (2016), describes this theory as the management's efforts to time their entry into the market. Abeywardhana (2017) explains that most companies issue equity around the time when their share price is overvalued and they structure a buy-back of the shares when the price of shares is undervalued. Baker and Wurgler (2002) are in support of the idea

that this instability in the price of company shares disturbs corporate finance decision making which creates a domino effect by impacting the capital structure holistically as well as the developers. Baker and Wurgler (2002) are in agreement with the Pecking Order Theory when it comes to the concept of the theory not moving target leverage. This is because the equity transactions are entirely tied to market conditions (Abeywardhana, 2017). Basically, capital structure changes in this theory are influenced by market sensitivity and are considered to last (Bessler, et al., 2008).

The Market Timing Theory further explains that the gearing ratio relative to leverage is negatively correlated to past stock returns (Abeywardhana, 2017). However, Hovakimian (2006) disagrees with Bessler, et al. (2008) and states that the Market Timing Theory does not necessarily have a substantial outcome on the companies' capital structure, long-term. Alti (2006) confirms this by articulating that the effect of the Market Timing Theory on gearing is slowly nearing its end in the coming years. The difference between the Market Timing Theory and the two previously mentioned theories, is that, it issues equity as a form of seeking funds due to the perceived lower costs associated with it (Chen, et al., 2013).

Setyawan (2018) states that there are three main leverage target assumptions that are important, where ensuring an optimal leverage is regarded as most important. However, all of this is dependent on the equity issuance. The second assumption relied by the author is that the company will experience a funding shortfall, since it will most likely not have adequate cash flow to exercise internal financing (Setyawan, 2018). Lastly, the existence of characteristics of the company and market conditions are considered important, apart from the cost of capital which has been highly spoken of in other theorectical frameworks (Setyawan, 2018). Setyawan (2018) is of the view that companies should continue to use the Market Timing Theory, however they should not neglect the consistent use of debt sources when those debt financing costs come out to be cheaper than the cost of equity.

The Market Timing Theory is not selfish in only regarding the use of equity, however relies on the market conditions and character of the firm in question, as previously emphasised. Therefore, certain firms do find themselves in situations where the cost of financing via debt is equal to the cost of issuing equity and therefore the firms are able to enter into a hybrid financing structure which takes into account both financing types (Setyawan, 2018). Another major element to be considered is the state in which the company is at during the time in which it is in need of financing, whether it

be at a seasoned equity offering (SEO) or an initial public offering (IPO), this will ultimately impact the chosen capital structure and that is important to take into account. A company that is within the IPO stage usually experiences a much cheaper cost of equity issuance because it is still in its growth phases and thus attracts the participation of more investors (Setyawan, 2018). Therefore, this becomes an attractive form of capital structure for certain companies which are still growing in the industry and are part of a well-run and sustainable economy.

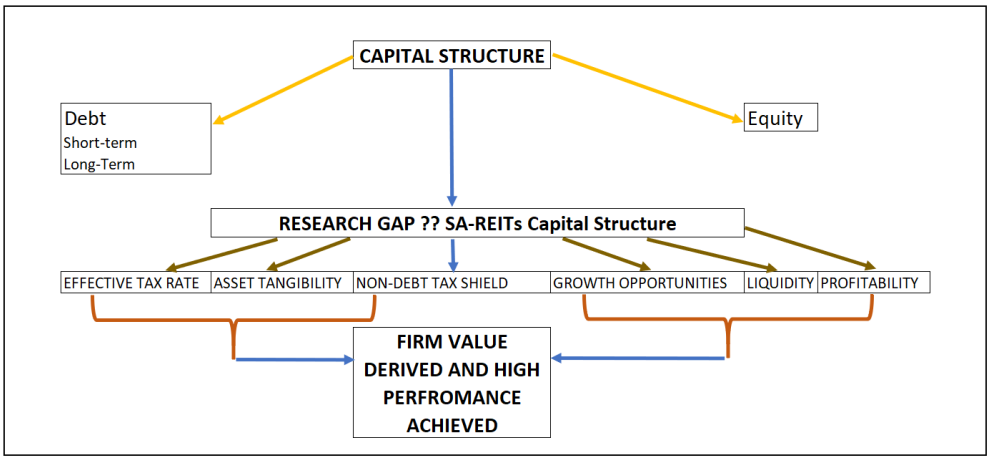
The essence of the Market Timing Theory is common amongst a variety of companies and it is not limited to a specific type of firm, however it is driven by market conditions. For example, Setyawan (2018) noted that often firms that have recently undergone an IPO find themselves battling with a decline in share price thereafter, as there is no urge for profit taking from an investor's perspective. As a result, in that time, the level of leverage increases and this tells us that there is a disproportionate interaction between leverage and Market to Book ratio. The major cause for the reduction in profit, besides the non-urgency of profit taking from investors, is that managers use the minimal profits in sight to pay interest for debt that was required for funding projects and for the IPO to take off.

Baker and Wurgler (2002) conclude that companies who are lowly geared raise funds when their valuations are high and those companies which have an already high gearing level will raise funds when valuations are low. Market Timing Theory is a discovery of whether the market timing works best in the short-term or can be extended to long-term measures. The overarching consensus that has been delivered by Celik and Akarim (2013) is that the Market Timing Theory is best suited in short-term measurement periods instead of long-term. However at the same time, it does not dismiss the possibility of the effect long-term market conditions have on a firms capital structure and financing cost decisions.The theory states that if firms are in the midst of tradable stocks, they are expected to borrow when the the prices of those stocks reduce and issue when the market value of the new stocks increases (Celik and Akarim, 2013). The market timing theory is entirely driven by market sentiments and thus is very capable of being missued by those who hold relevant and sensitive information of firms.

Huang and Ritter (2006) summarises the Market Timing Theory so well by stating that the issuance of equity negatively correlates with the equity risk premium while leverage, on the other hand, is highly related to the real interest rate because it impacts the cost of capital of that corporate

financing. In addition, the issuance of equities is not more expensive than leverage when the risk equity premium is negative. This tells us that, the ruling out of equity as an option to obatin financing should not be automatic. There are a lot of factors that need to be explored prior and are usually specific to a specific firm and how their relationship with the market is. Therefore, there is a number of capital structures that can be employed in a firm, both public and private, and none should be boxed.

3.2 Conceptual Model of the Study



Source: authors own conceptualisation

A conceptual model is common in quantitative research and it serves to outline the course of action in terms of the direction of the study. The illustration above of the conceptual model explains that traditionally, across multiple research studies, the known capital structure of REITs consisted of Debt (Short and Long term) and Equity. As the years progressed and the discipline continued to be explored, theories were established to contest the determinants of capital structure. The various theories, as dicussed in the chapter, have introduced a number of determinants that influence and impact the capital structures of REITs, such as the ones displayed on the diagram. This conceptual model creates a frame to help paint a picture of what the study will venture into in understanding both the existing and new capital structure determinants in order to identify which determinants maximise the firm's value as well as achieve high performance in an SA-REIT context.

3.3 Chapter Summary

This study explored four theoretical frameworks which included the Trade-off Theory, Pecking Order Theory, Market Timing Theory and Irrelevance Theory. The Trade-off Theory is described as a major instrument that supports gearing as a way to inform capital structure decisions. The Pecking Order Theory on the other hand, focuses on using internally generated sources of funds such as retained earnings to finance business ventures, unlike high gearing as in the Trade-off Theory. The Market Timing Theory is more centred on the sensitivity of the market and is mostly informed by the movements of equity. This theory leans towards a firm's preference being external equity and debt issuance from the market as opposed to its own financing or high gearing through the use of financial institutions. The Irrelevance Theory comes off a bit of a tangent compared to the above discussed theories. The conversation around the Irrelevance Theory, which is also referred to as the "MM Theory", communicates that a company's investment and financing decisions can be observed independently (Jahanzeb, et al., 2013).

The MM Theory fails to articulate what the relationship between corporate finance and investment decisions is driven by and completely discredits the Trade-off Theory, Pecking Order Theory and Market Timing Theory and therefore serves as an anomaly theorem.

The Trade-off Theory and Pecking Order Theory, according to Jahanzeb, Ur-Rehma, Bajuri, Karami and Ahmadismousaabad (2013) have been dominating the capital market decision making since the 1950s. Recently, the Market Timing Theory has gained traction due to the interest of investors and managers always seeking to take advantage of market timing. Therefore, from a South African context, it is to understand which of these three theories, comprising of old and new players, are dominating the scene today in influencing decision making in the SA-REIT space.

The concept of capital structures is important in understanding how financial decisions are made and more importantly how they can be agile in ever-changing economic conditions. In South Africa, not much research has been conducted since the introduction of the newly reformed REITs structure to explain the capital determinants of the REITs and their influence on the overall performance of the South African REITs structure and to the extent that decision making is attributed to the three above-mentioned theories.

4. Research Design

4.1. Research Philosophy and Approach

Research philosophy is described by Saunders, Lewis, and Thornhill (2016) as an overarching term concerning the development of knowledge and the relationship it has with the research study to be explored. The study will follow a positivism research philosophy, informed by epistemology. A positivism approach claims that the most important determinant of the theory of knowledge that you take on influences the chosen research question and may result in varying outcomes as per a particular question (Saunders, et al., 2016). The power of a positivism philosophy is that, it is tested and confirmed through hypothesis testing. This allows for further development of the theory through the collected data and facts, with a focus on causality (Saunders, et al., 2016). The use of a positivism philosophy plainly means that the study is adopting a position within a theoretical outline and the inferences are informed and confirmed by empirical evidence (Ruwhiu and Cone, 2010).

This study will follow a deductive approach. Saunders, et al. (2016) describes this approach as one that involves the testing of a theory's intention by employing a research plan precisely designed for the purpose of its testing. The approach focuses on finding evidence to support or contradict the formulated hypothesis introduced and thus, will be adequate to assist the study and enhance understanding in the field of knowledge as a clear theoretical position has been developed from previous studies.

4.2. Research Strategy

This study follows an action research design. This type of research allows for the initial theories introduced in the literature review to be explored as either valid and successful or disproved and unsuccessful (Bhattacherjee, 2012). Action research is based on existing theory and therefore will inform the study by explaining which theory best describes the determinants of capital structures of SA-REITs. This research design will be well suited to articulate the research questions noted in the chapter because its purpose is to bring about change in a certain context as well as establish the optimal structure of a company, which is important to maximise a company's value.

The chapter will delve into three theories which participate as alternates for one another and in some instances are combined. The lack of research in this field in the South African context provides an

opportunity to test whether listed REITs determinacies are of the same significance, as suggested by the various authors under the literature review. The action research will further allow for the study to modify and build on the theory which has been chosen and intervene in providing a platform for more global investors to engage in SA-REITs as a result of increased knowledge in the field.

4.3. Research Methods

The study will take on three models to test the empirical findings. The first test includes a Multiple Linear Regression model, the second test includes a Panel Regression model and the third test includes a Pearson Correlation Coefficient model. These tests will be conducted on the data set using SPSS software, testing for the relationship between the chosen dependent variable and independent variable(s).

Multiple Regression Model

The first regression model is supported by an equation. The equation that will be used to analyse the data consists of a Multiple Linear Regression model, as described below:

Multiple Linear Regression Equation

$$Y = a + bX^1 + cX^2 + dX^3 + \in$$

Where:

Y= Dependent variable

$X_1X_2X_3$= Independent (explanatory) variable

a= Intercept

b, c, d= Slopes

$\in$= Residual (error)

The use of a Multiple Linear Regression model measures the interaction amongst the independent variables on the dependent variable (Omondi and Muturi, 2013). The variable(s) in the context of this study refer to the Debt-to-Capital ratio (dependent variable) and non-debt tax shield, effective tax rate, profitability, asset tangibility, growth opportunities and liquidity (independent

variables). In alignment with previous researchers' methodologies, the chosen Multiple Linear Regression model will be utilised to assess the research hypotheses at a 0.05 level of significance (also referred to as 95% confidence level). According to Keith and Marill (2004) the use of a Multiple Linear Regression model leads to a more accurate and precise articulation of the outcome.

The use of this regression model will require active collaboration with the intention to avoid any excessive collinearity or overlap amongst the variables. In addition, the use of a Multiple Linear Regression model will also offer a comprehensive analysis on the comparative properties and importance of the medium of interest (Keith and Marill, 2004). This chosen regression model will allow the researcher to forecast the outcome of future data.

Panel Regression Model

The study will adopt Zarebski and Dimovski (2012) methodology who followed a Panel Regression Model because each debt ratio is a function of a variety of pertinent theoretical-specific ratios. The Panel Regression Model will be estimated in the following equation:

$$Yıt = \alpha ı + \beta Xıt + Vıt$$

Where:

$Yıt$ = the debt ratio dependent variable, subscript i denotes the cross sectional dimension and subscript t shows the time-series dimension.

α = is a scalar

$Xıt$= contains the set of explanatory variables in the estimation model

β= is a column matrix of the partial regression coefficients

$Vıt$ = represents the remaining disturbances in the regression which varies with individual firms and time.

The use of a Panel Regression Model in the study will be able to take both the time-series as well as the cross sectional factor into consideration, as different entities respond differently due to varying financial year ends. The study would like to capture those differences and how they ultimately impact and influence the capital structure determinants of SA-REITs.

Correlation Coefficient Analysis

The statistical analysis technique used as a third method of analysis is similar to that used by Kumari (2015). In order to understand the data collected accurately, the Pearson Product-Moment Correlation Coefficient (r) is employed. This analysis measures the degree in which quantitative variables are linearly related (Kumari, 2015). The analysis will allow for the significant test for **r** in order to regulate whether the variables analysed have a direct relationship.

The strength of the various relationships tested will be resolute by the square of the correlation, also reflected in the symbol as **(r^2)**. The r^2 represents the proportion in which the variables being tested are related through the measure of the linear relationship and this concept is commonly reffered to as the "coefficient of determination" (Kumari, 2015:15).

The following equation will be utilised to measure the Pearson r Correlation:

$$rxy = \frac{n\Sigma xiyi - \sum xiyi}{\sqrt{n\sum x_i^2 - (\sum x_i)^2}\ \sqrt{n\sum y_i^2 - (\sum y_i)^2}}$$

Where:

rxy = Pearson r correlation coeficient between x and y

n = Number of observations

x_i = Value of x (for ith observation)

y_i = Value of y (for ith observation)

The Pearson r Correlation Model, according to previous researchers, assumes that both variables are normally distributed with a bell-shaped curve. In addition, the directness is considered to assume a straight line association among each of the two variables and homoscedasticity assumes that the data configured is evenly dispersed about the regression line (Statistics Solutions, 2020).

4.4. Techniques and Procedures

Research approach is explained by Kumar (2011) as a process one follows to find answers to the detailed underlying research questions. He further elaborates that, there are two approaches to

examine namely, unstructured approach and structured approach. The structured approach is described as quantitative research and the unstructured approach is known as qualitative research (Kumar, 2011). Leedy and Ormrod (2014) further explain that these two approaches are commonly used as guiding categories for the type of direction a study will embark on.

The focus study will implement a quantitative approach as guided by the nature of the research and research questions using secondary data. Quantitative approach is a study that uses a statistical capturing method and is known to be objective and rigid in its structure, where the focus is always on the outcome and not about "feelings" but instead about the empirical evidence (Kumar, 2012). The use of a quantitative approach will purposefully execute the purpose of the study and grasp the capital determinants of SA-REITs more effectively and pave a way for further research to be uncovered in this discipline by growing the South African REITs discipline body of knowledge.

4.5. Population and Sampling

The study investigates the capital structure determinants of SA-REITs. The target population for this study will be JSE (Johannesburg Stock Exchange) listed Real Estate Investment Trusts from 2016 to 2020. The purpose of employing a study from 2016 to 2020 was to ensure an in depth data set which was wide spread and detailed a varying response from the different periods for the respective REITs. In addition, the time frame includes a stretch where South Africa's economy was doing well and also when it had encountered unprecendented events and thus will assist to effectively determine the extent to which SA-REITs fully compare to the powers of the major theories informed by the study. The study will employ a non-probabilty sampling technique through the use of the Purposive Sampling Method. The Purposive Sampling Method will be used due to the purposely chosen sample size, as a result of the researcher's understanding of the fitting representation required for the research specifically to the REITs that can participate.

The study will exclude holding companies, suspended companies, investment instruments, and private real estate companies to provide a consistent and fair comparable analysis. The JSE comprises of only 344 listed companies (Business Insider SA, 2020). Of the 344 listed companies, 28 of those form part of the REITs in South Africa which will be analysed. The exclusion of the remaining listed companies is due to variances in capital structure decisions and a lack of correlation

to the capital structure theories introduced in the literature review. Hence, the research population focuses on the listed REITs alone to concentrate and build consistency in the outcome of the results.

4.6. Data collection Protocol

The researcher used one methodology approach namely, secondary data. Secondary Data Analysis was described by Bhattacherjee (2012) as data that is already existing through tabulation by different sources. This kind of data is found from a variety of sources such as government agencies, development statistics, data collected by other researchers through the use of meta-analytics and publicly available data which includes; financial data from stock markets or real-time auction data (Bhattacherjee, 2012). The study particularly focused on collecting data via publicly available sources such as industry reports, Bloomberg, Money web, journal articles and publicly available company reports detailing financial performance of the chosen firms.

4.7. Ethical Risks and Mitigation Strategy

I did not encounter any ethical issues given that the data used was collected using secondary data.

4.8. Validity and Reliability

Validity is described by Bhattacherjee (2012) as a measure that explains the underlying construct in discussion adequately. Leed and Ormrod (2015) further simplify it as the measure to which the instrument measures what it is intended to measure. The measure of validity can be evaluated using theoretical or empirical approaches. It is preferred that both approaches are considered where necessary to give measure (Bhattacherjee, 2012).

Reliability on the other hand, measures the levels at which a construct is consistent and dependable (Bhattacherjee, 2012). The concept of reliability suggests consistency but not precision, however impartiality still needs to be maintained. Leed and Ormrod (2015) agrees with the aforementioned statement that reliability is the consistency with which a measurement instrument

yields a certain, consistent result when the entity being measured remains constant. A test can be claimed to be reliable if the test results that it produces are consistent every time, the test of it, is highly related to stability. There are two tests of reliability namely, internal reliability and external reliability (Bhattacherjee, 2012). Internal reliability evaluates the scope in which the measure is consistent within itself (Bhattacherjee, 2012 & Lee and Ormrod, 2015). Whereas, the external reliability assesses the extent to which the measure varies from one use to another (Bhattacherjee, 2012). Overall, both validity and reliability reflect the degree to which errors may be present in measurements used.

This particular study will employ a criterion-related validity, focusing on two of the four sub-types which will include: convergent validity, and discriminant validity. Convergent validity speaks to the closeness the construct illustrates through the use of a chosen measure (Bhattacherjee, 2012 & Leedy and Ormrod, 2015). Discriminant validity on the other hand refers to the level to which the tool does not measure other constructs as well as it is meant to.

The test for validity and reliability will be analysed using the t-test to determine the significance of parameters. This analysis is supported by Oke and Obalade (2015). The t-test will be done to test the significance of each explanatory variable using the t-distribution test. The test will be carried out on a two-tailed test and will employ a 95% confidence level attributable to a 5% significance level.

4.9. Measurement and Interpretation of Variables

Following previous studies, there have been several variables used to determine the capital structure of REITS. The research paper will adopt the measurement from other researchers, since attempts have been made already for investigating the presence of the Trade-off Theory, Market Timing Theory and Pecking Order Theory in certain countries. This study will focus on six of those independent variables to further investigate by analysing what the effect will be on the leverage of the firm using the dependent variable Debt-to-Capital ratio. According to Oolderink (2013), Debt-to-Capital ratio is measured as:

$$Debt - to - Capital\ ratio = \frac{TOTAL\ DEBT}{TOTAL\ DEBT + SHAREHOLDER\ EQUITY}.$$

The independent variables used in the study are as follows; Profitability, Liquidity, Asset Tangibility, Non-debt Tax Shield, Growth Opportunities and Effective Tax Rate. The study will strive to understand the placement of the variables of SA-REITs at great lengths and also measure whether any of these variables contribute to the value of the firm and high performance. These variables are discussed below.

According to Ali, et al. (1959) profitability yields a major quarrel between the Pecking Order Theory and the Trade-off Theory. This is because the Trade-off Theory believes, a firm issues debt when the profitability is high in order to reduce tax liability. Whereas, the Pecking Order Theory assumes that most firms which have high profitability choose to finance their business operations and any financial shortcomings using retained earnings. The determinant according to Oolderink (2013) is calculated as follows:

$$Profitability = \frac{EBIT - DEPRECIATION}{TOTAL\ ASSETS}$$

As previously stated, the Pecking Order Theory stands true to firms prefering internal financing in the form of retained earnings as opposed to external debt financing. Therefore, most firms are assumed to use their retained earnings as liquidity resevers for investment, shortfalls and any other general purposes . This then illustrates that those firms do not require any need to raise funds from external sources such as banks and pension funds. The determinant according to Oolderink (2013) is measured as:

$$Liquidity = \frac{Current\ Assets}{Current\ Liabilities}$$

It is expected to characterise a postive outcome as per the Trade-off Theory due to the collateral aspect which plays a significant role in the costing structure of debt financing. The Pecking Order Theory also assumes a positive relationship due to asset mispricing which is mostly a reflection of broader macro issues. Various researchers including Ali, et al., (1959) agree that an increase in tangible assets results in an increase in debt levels. The variable according to Oolderink (2013) is calculated as follows:

$$Asset\ Tangibility = \frac{Total\ Fixed\ Assets}{Total\ Assets}$$

The Trade-off Theory adopts a negative relationship when it is linked to the dependent variable(Debt-Capital ratio). This is because when firms have large non-debt tax shields as compared to the expected cash flow, they end up not making use of their debt as a contributing determinant to their capital structure. They essentially in layman's terms use their non-interest items to reduce their tax obligations and therefore help them in one of their triple bottom line sustainbilites; profit. The measurement used according to Oolderink (2013) is:

$$Non - Debt\ Tax\ Shield = \frac{Depreciation}{Total\ Assets}$$

Usually firms that are still upcoming and need to make more risky investments to grow business, they do it at the expense of debt holders which means the cost of debt, agency and bankruptcy increase because of the risk assoicated with it. This results in the firms being reluctant to use high amounts of debt so as to not increase any likelihood of bankruptcy (Serrasqueiro and Caetano, 2012).

Therefore in the Trade-off Theory as supported by Myers, (1984) debt is negatively related to growth opportunities because firms will not necessarily use debt as their first financing option. On the other hand, according to the Pecking Order Theory approach, we see that high growth firms have a higher need for funds which may result in increased borrowing, where they will issue less securities subject to short-term debt. This theory is supported by Titman and Wessels, (1988). Rajan and Zingales, (1995) on the other hand state that growth opportunities are positively correlated to debt. The variable discussed according to Serrasqueiro and Caetano (2012) is measured as follows:

$$Growth\ Opportunities = \frac{Intangible\ Assets}{Total\ Assets}$$

The Trade-off Theory explains that the majority of firms usually have an incentive to use debt in order to benefit from debt tax-shield. This means that the more debt borrowings a firm

acquires, the more shielded they are from tax obligations. Therefore, most firms turn to debt as the generation of annual profits to maximise the benefits. According to a number of studies which include; Serrasqueiro and Caetano, (2015), DeAngelo and Masulis, (1980), and Haugen and Senbet, (1986) to mention a few, there is agreement that there is a positive outcome expected between effective tax rate and debt. The determined according to Serrasqueiro and Caetano (2012) is calcualated as follows:

$$Effective\ Tax\ Rate = \frac{Income\ Tax\ Paid}{EBIT}$$

Based on the Market Timing Theory, when the leverage (debt levels) is high, the stock prices will fall in line with the decline of the market value of the equity. This is usually attributed to the negative behaviour of the investors towards companies with high gearing levels. The Market Timing Theory emphasises the observation that when an entity releases shares, the capital structure is instantly affected. As a result, it is assumed that there is a negative relationship between the Market to Book ratio and debt. Baker and Wurgler, (2002) support the aforementioned assumption. The determinant according to Setyawan (2018) is calculated as follows :

$$Market\ to\ Book\ ratio = \frac{Market\ Capital + Total\ Debt}{Total\ Assets}$$

4.10. Data Analysis

Various authors have utilised diverse methodologies of collecting data. The common data analysis techniques included: desktop analysis, regression model equations, and multivariate models. The research study will analyse the data collected by employing a regression analysis with all the company-specific determinants chosen as part of the study. Overall, the study will be guided by a hypothesis test method conducted which will further assess the findings in the form of graphical and tabulated measurement instruments to collectively interpret the data collected.

The study will take on a Multiple Linear Regression model, Panel Regression model and Pearson r Correlation Coefficient model data set using SPSS software (statistics version 26). The models will be testing for the bond between the chosen dependent variable and independent variable(s) in varying circumstances unique to the company.

4.11. Chapter Summary

The chapter discusses the research design labored in the study. This ranges from the positivism philosophy and deductive approach, to the actual research method which consists of the Multiple Linear Regression model, Panel Regression model and a Pearson Correlation Coefficient model. These tests were conducted on the data set using SPSS software. The methodology employed is a structured quantitative approach. It further details the population and sampling for the study which involved a sample of 28 REITs however, due to missing data and unavailability of information, only 23 REITs were effectively used in the study.

The data collection protocol was conversed focusing on the publicly available company reports containing financial reports of the respective chosen REITs as well as Bloomberg, Money web and journal articles. Moreover, a deep dive into ethical considerations as well as validity and reliability were assessed. The various measurement instruments and their interpretations were analysed. These include the dependent varable: Debt-to-Capital ratio, to the independent variables; Profitability, Liquidity, Asset Tangibility, Non-debt Tax Shield, Growth Opportunities, Effective Tax Rate and Market to Book ratio. In addition, to ensure an accurate and precise data analysis, the three models were employed to test for the empirical findings.

5. Data Analysis and Presentation

5.1 Introduction

This chapter presents the study's data analysis and research findings. The sample comprises of REITs listed on the Johannesburg Stock Exchange, also commonly referred to as the "JSE". The South African REITs have been exposed to little research and to-date, it is still not completely sound whether the static Trade-off Theory (referred in the study as "Trade-off Theory), the Pecking Order Theory or the Market Timing Theory explains the capital structure decisions of SA-REITs. The above-mentioned SA-REIT determinants (Profitability, Liquidity, Asset Tangibility, Non-Debt Tax Shield, Growth Opportunities, Effective Tax Rate and Market to Book Ratio) data is measured annually from 2016 to 2020. These SA-REITs determinants are investigated for all three of the supporting theories (Static Trade-off Theory, Pecking Order Theory and Market to Book Ratio).

The analysis collected from the various annual reports followed the inferential statistics technique (Pearson Correlation, Multiple Linear Regression Equation and Panel Regression model) to analyse the data. Firstly, we have the Multiple Linear Regression analysis and before the model was run, four assumptions of Multiple Linear Regression were tested for. These assumptions include (Osborne and Waters, 2002):

- Variables are normally distributed
- Linear relationship between the independent and dependent variable
- Variables are measured without error
- Data presents homoscedasticity

Prior to the commencement of analysing the data collected, the researcher underwent a data cleaning procedure to ensure a more reliable and valid data set. The following two steps were taken:

- Replacement of missing values
- Testing for the normality of the data

In the data, eight values were identified to be missing and in order to be able to run the inferential statistics appropriately, those eight values were replaced using the mean series method, guided by the data pattern. Thereafter, the t-test was done to test the significance of each explanatory

variable as well test for normality of the data using the t-distribution test. The test was carried out on a two-tailed test and employed a 95% confidence level which is also attributable to a 5% significance level.

5.2 Static Trade-off Theory and Pecking Order Theory

The findings started off by first exploring separately both the Static Trade-off Theory and the Pecking Order Theory. Secondly, a Panel Regression Model with all firm-specific determinants being assessed in the study and linked to the dependent variable (Debt-to-Capital ratio) was explored. Lastly, further exploration was done on the Market Timing Theory using the Market to Book ratio variable measured against the Debt-to-Capital ratio for the year 2020 alone. This was to fully establish the influence that the market has on the REITs capital structure and their decision making, more especially during these unprecedented times such as 2020 with the COVID-19 pandemic continuously impacting market sentiment.

5.2.1 Pearson Correlation Coefficient Analysis

Firstly, an investigation was conducted to observe whether a correlation between the capital determinants analysed in the study and the Debt-to-Capital ratio exists. The negative correlation between the NDTS and D-to-C ratio is in line with the Trade-off Theory, which describes firms that have a large non-debt tax shield, who make less use of debt as part of their capital structure for decision making. On the other hand, the positive correlation between the D-to-C ratio and liquidity (0.383) indicates an obscure finding, considering that typically, high liquidity would result in less debt use as per the Pecking Order Theory. However, this data indicates that within a South African context in the REIT space, the more liquidity, the more use of debt there would be as they have a more relaxed freedom of action as some of that liquidity stands in as security for their debt obligations.

The firms with high liquidity and asset base have been defined as being capable of reducing transaction costs associated with debt and also lower exposure to default costs, which is proving to be evident in SA-REITs. The positive correlation between profitability and D-to-C ratio is also in

line with the Static Trade-off Theory, where high debt accompanied by high profitability levels are rationally characterised by investors as a good measure of a higher firm value. The effective tax rate below displays a positive correlation coefficient with D-to-C ratio (0.170) because the more firms turn to debt, the higher the incentives such as benefits from debt tax-shields, which is in line with the Trade-off Theory. Several other studies such as Lopez-Gracia and Sogorb-Mira (2008), Fama and French (2002) also depict a positive relationship between effective tax rate and D-to-C, when analysing SMEs.

Table 1: Bivariate analysis: Pearson Correlation Coefficient

	D to C ratio	**NDTS**	**ASSETTANG**	**PROF**	**EFFTAXRATE**	**GROWTHOPP**	**LIQUIDITY**
D to C ratio	1						
NDTS	-.105	1					
ASSETTANG	.034	-.031	1				
PROF	.224*	.020	.268**	1			
EFFTAXRATE	.170	-.084	.166	.261**	1		
GROWTHOPP	.034	-.031	1.000**	.268**	.166	1	
LIQUIDITY	.383**	-.257**	-.064	.252**	.211*	n/a	1

*Significant at 1%
**Significant at 5%
***Significant at 10%

Table 1 analysed through the bivariate Pearson Correlation Analysis indicates that SA-REITs capital structure leans towards the Static Trade-off Theory when it comes to the influence of decision making. However, when analysing various other studies such as Oolderink, (2013), we note that the Pecking Order Theory prevails when it comes to the capital structure decision making of the firms. In addition, Oolderink, (2013) also shows a moderate sustenance for the Static Trade-off Theory, having focused on the study of Dutch listed firms. Moreover, other researchers such as De Jong, et al. (2008) emphasised that NDTS plays a significant role in the capital structure of listed firms due to financial flexbility. However, according to the results presented by the study, together with Oolderink, (2013), the relevance of NDTS in relation to financial flexibility seems to be minimal.

This is an indication that capital structure deterimants across various nations may differ, with similarities in certain aspects of the structure as seen by the study by Oolderink with different prevailing theories.

5.2.2 Multiple Linear Regression and Panel Regression Model Analysis

To further analyse in-depth whether the Static Trade-off Theory or the Pecking Order Theory prevails in the SA-REITs space, three regression models will be interpreted. This includes, the Multiple Linear Regression model (2) and the Panel Regression model (1). There will be two Multiple Linear Regression models because one will be focusing on the Static Trade-off Theory and the other will be focusing on the Pecking Order Theory. In essence, the separate tables will investigate the variables' influence on debt which can be explained by either the Static Trade-off Theory or the Pecking Order Theory and how significant the assumed particular relationship is, if any.

Table 2: Static Trade-off Theory on firm-specific determinants on debt-to-capital ratio

Variable (static trade-off theory)	**Expected relationship**	**Unstandardized coefficient**	**t-value**	**p-value**	
Constant		0.372	73.138	0.000	
NDTS	-	-9.645	-1.089	0.278	
PROF	+	0.700	2.120	0.036	
ASSETTANG	+	-.093	-0.460	0.647	
EFFTAXRATE	+	0.059	1.194	0.235	
Adj. R^2					0.041
Durbin -Watson					0.920

Table 3: Pecking Order Theory on firm-specific determinants on debt-to-capital ratio

Variable (pecking order theory)	**Expected relationship**	**Unstandardized coefficient**	**t-value**	**p-value**	
Constant		0.378	74.296	0.000	
PROF	-	0.435	1.376	0.172	
ASSETTANG	+	0.046	0.239	0.812	
LIQUIDITY	-	0.017	3.884	0.000	

Adj. R^2					0.142
Durbin -Watson					1.033

Table 4: Pecking Order Theory and Trade-off Theory on firm-specific determinants on Debt-to-Capital ratio

Variable (Panel Regression Model)	Expected relationship	Theory	Unstandardized coefficient	t-value	p-value	
Intercept			0.366	53.565	0.000	
Liquidity	-	PO	0.016	3.575	0.001	
GROWTHOPP	+	ST/OP	-0.083	-0.427	0.670	
EFFTAXRATE	-	ST	0.043	0.888	0.376	
PROF	-	ST/OP	0.422	1.307	0.194	
ASSETTANG	+	ST/OP	0	-	-	
NDTS	-	ST	3.428	0.395	0.693	
Adj. R^2						0.174

In analysing the specific capital structure determinants, we note that the NDTS under Table 2 indicates a negative relationship with Debt-to-Capital ratio. The negative relationship is aligned with the Trade-off Theory as it has also been exhibited in the Pearson Correlation Coefficient. This is caused by the fact that deductions in tax credits and depreciation stand in place of the tax benefit that would be gained from debt financing, as noted by various studies. The tables also illustrate that in the SA-REITs space, the NDTS are not significant contributors as specific determinants for the firm's capital structure and decision making and this is also supported by the low negative correlation between NDTS and Debt-to-Capital ratio, as indicated in Table 1. In Table 4, when considering the time effect, we realise that NDTS has a positive relationship with Debt-to-Capital ratio which is in contradiction with Table 1. Therefore, after further analysis of the adjusted R^2 of the two tables, we note that the higher adjusted R^2 of Table 4 should have more attribution go towards it.

Effective tax rate firm-specific determinant resembles, as indicated on table 2, an insignificant positive correlation on Debt-to-Capital ratio. This emphasises that, irrespective of the determinant being positively correlated, no significant acknowledgement can be deduced from the findings. In relation to the firm-specific determinant Liquidity in Table 3, it is noted that it has a significant positive relationship with Debt-to-Capital ratio. However, the expected outcome was a

significant negative relationship, which means the study rejects the null hypothesis. Table 4 also indicates a positive significant relationship with Debt-to-Capital ratio which indicates that when liquidity is high, South African REITs see that as an opportunity to acquire more debt as their liquidity may allow them lower transaction and default costs. Table 4 adjusted R^2 was much higher than that of Table 3 and therefore more acknowledgement is given to Table 4.

The firm determinants being asked to describe assumptions on both the Static Trade-off Theory and Pecking Order Theory, which are Profitability (PROF), and Asset Tangibility (ASSETTANG), are indicating mixed results, more specifically for Asset Tangibility, which indicates an insignificant negative relationship in Table 2 and in Table 3 indicates an insignificant positive relationship. To further align the firm-specific determinants, we analyse that Table 3 has a higher adjusted R^2 and therefore more attribution should be given to the positive relationship displayed in Table 3, which is in line with the Pecking Order Theory. The Pecking Order Theory assumes a positive relationship because of the event of asset mispricing.

On the other hand, profitability indicates a positive significant relationship for Table 2, whereas it indicates a positive insignificant relationship in Tables 3 and 4. To further understand the diagnostics, the adjusted R^2 was analysed for both tables and it has been found that the adjusted R^2 for Table 4 is greater than that of Tables 2 and 3 and therefore suggests that a positive insignificant relationship between profitability and Debt-to-Capital ratio has a more in depth explanatory ability than compared to Table 2. It is evident in the analysis that the three models displayed exhibit different outcomes and the use of the adjusted R^2 enabled to determine which model has the highest explanatory power.

Altogether, looking at the adjusted R^2 observed in the models, the study witnesses that the variables are very slightly linearly related. The low adjusted R^2 is not alarming as various researchers such as Oolderink (2013), amongst many others, also recorded. In addition, the possibility of multi-colliniarity has been tested for, in addition to the aforementioned tests. The VIF of the determinants were analysed and no issues were found as a result of low VIF-values.

Tables 2-4 indicate mixed results across the different capital structure determinants. The Panel Regression table with the highest adjusted R^2 of 17.4% compared to the other tables has shown that liquidity has a significant relationship with Debt-to-Capital ratio. This tells us that liquidity plays a significant role in the capital structure determinants of SA-REITs whereas other reserchers namely

De Jong, et al. (2008), noted NDTS as the biggest role player in listed REITs. The role of liquidity within SA-REITs sheds a differnt light than commonly known in the Pecking Order Theory. In the South African context, liquidity has a positive significant relationship which means that the more liquidity the listed firm has, the more debt they ought to acquire because it serves as a bargaining tool. Whereas, the Pecking Order Theory assumes that the more liquidity the listed firm has, the less debt they will acquire. SA-REITs seem to be in disagreement with Narmandakh, (2014) who believes that the higher the liquidity, the less debt used because retained earnings substitute external finance in the case of Mongolian listed frims.

5.3 Market Timing Theory

To analyse the Market Timing Theory, we specifically investigated the 2020 data set to fully represent a full scope of market capitalisations of all 23 REITs in question. The reason behind looking at the Market to Book ratio (MTBR) is to understand whether or not and to what extent it influencecs Debt-to-Capital ratio. Setyawan (2018) recorded that Market to Book ratio has a negative relationship with Debt-to-Capital ratio. Table 5 below, the Pearson Correlation Coefficient indicates a positive correlation between MTBR and Debt-to-Capital ratio and in additon, to further support the findings, the Regression Model also indicates a positive insignificant relationship with the Debt-to-Capital ratio.

Essentially the relationship decribes that when the equity of the firms increase, the firms acquire more debt. This could be attributable to the fact that the more debt firms use, the less internal financing they will be utilising which means they retain their earnings. In turn, in the South African context, it seems as though when the firm has a good debt rating, their stock prices will also rise. This then ultimately increases the market value of the equity. This is usually driven by optimist sentiments from investors towards companies with high debt levels and great ratings. It seems as though in the SA-REITs context, the role of debt rating/credit rating plays a significant role in allowing for the positve relationship between the Debt-to-Capital ratio.

Majority of researchers recommend that companies should manage the optimum Debt-to-Capital ratio and Market to Book ratio. However, the study proves different as they do not adhere to the cards of selling of shares when experiencing high debt levels.

Table 5: Market to Book Ratio on firm-specific determinants on Debt-to-Capital ratio

Pearson Correlation Coefficient	D to C ratio	MTBR
D to C ratio	1	
MTBR	0.339	1

Table 6: Market to Book Ratio on firm-specific determinants on Debt-to-Capital ratio

Variable (pecking order theory)	Expected relationship	Unstandardized coefficient	t-value	p-value	
Constant		0.085	3.189	0.004	
MTBR	-	0.277	1.649	0.114	
Adj. R^2					0.072
Durbin- Watson					1.738

The results presented by Table 5-6 place emphasis on the fact that despite MBTR having a positive relationship with Debt-to-Capital ratio, it is not significant. Therefore, the determinants of the capital structure of SA-REITs do not consider market sentiment as a major role player in the capital structure of SA-REITs. Even though Market Timing Theory has emerged in various countries, the influence they have in SA-REITs is not as significant as compared to the influence they have on the Indonesian listed companies for example as per Setyawan, (2018). These Indonesian listed companies indicate that leverage has a negative significant effect on the Market to Book ratio. For South Africa this altogether indicates that regardless of the influence being minimal, there is a growing potential for the Market to Book ratio to influence the SA-REITs capital structure decision making in the near future.

5.4 Influence REITs capital structure has on performance

The financial performance of SA-REITs has been a subject that attracted many investors both locally and globally. However, selecting the most successful firm has always been met with challenges. To further analyse the financial performance of REITs, we look at ROA of the firms

chosen for study. Omondi and Muturi (2013), along with other researchers, measured returns using Return on Assets (ROA).

They all indicated that the use of ROA was a widely used method across the market as a measure of financial performance due to its ability to measure efficiency of assets in producing income. Table 7 illustrates the various debt levels in comparison to their ROA, profitability levels as well their asset tangibility. The table below focuses on the 19 SA-REITs displaying 2020 figures. The 2020 figures were used as a measure to appropriately disect what relationship debt has with ROA.

In analysing the table we note that the recorded ROA was 6.00%, and Debt-to-Capital was 40.00% against equity. The table illutrates to us that there is a negative relationship between Debt-to-Capital ratio and financial performance, also illustrated in the table below as ROA. In conlusion, capital structure influences financial performance in a negative way. This essentially means that the REITs Debt-to-Capital ratio decisions are mostly based on an incentive from the interest tax shields as well as the costs of financial stress. However, what the table below is depicting is that the tax benefit of debt only stretches up until a certain debt ratio level, which usually results in higher ROE. However, if ever the debt ratio stipulated were exceeded, the benefits would be less than the cost which would reduce the ROA.

Table 7: Financial Performance Analysis

	D to C	**ROA**
Mean	40%	6%

The results presented in Table 7 specify the negative relationship Debt-to-Capital ratio has with ROA. In essence, the SA-REITs capital structure has influenced the REITs performance negatively because currently the REITs have an average Debt-to-Capital ratio of 40% with an ROA of 6%. This is a reflection that the debt levels need to be maintained in order to achieve high financial performance across the SA-REITs. In addition, no thresholds can be breached because that will continue to negatively impact the financial performance of REITs. As stated by Omondi & Muturi, (2013) ROA is important in capital structure of REITs because it measures efficiency. Therefore, the ability for the determinant to be balanced with Debt-to-Capital ratio is imperative to promote REITs of high value and performance.

5.5 Chapter Summary

The chapter discusses the results found on the relationship South African REITs have with the capital structure determinants. Starting with the positive correlation between the NDTS and D-to-C ratio, as analysed through the adjusted R^2 of Table 4. On the other hand, a positive significant relationship between liquidity and Debt-to-Capital ratio was displayed on Table 4 which also had a much higher adjusted R^2. This shows that when liquidity is high, South African REITs see that as an opportunity to acquire more debt as their liquidity may allow them lower transaction and default costs. Furthermore, the Effective Tax Rate displayed a positive correlation coefficient with D-to-C ratio (0.170) because the more firms turn to debt, the higher the incentives such as benefits from debt tax-shields will be, which is in line with the Trade-off Theory.

On the firm determinants being asked to describe assumptions on both the Static Trade-off Theory and Pecking Order Theory. Profitability indicated a positive insignificant relationship between profitability and Debt-to-Capital ratio, as displayed in Table 4 with a higher adjusted R^2. Whereas, Asset Tangibility indicated a positive insignificant relationship which is in line with the Pecking Order Theory. It can be noted that the determinant growth opportunities were excluded from the analysis as the results came out inconclusive for the independent variable and therefore no relationship could be analysed.

In conclusion the Market Timing Theory, through testing, proved a positive correlation between MTBR and Debt-to-Capital ratio. In addition to support the matter, the Regression Model analysed indicated a positive relationship with the Debt-to-Capital ratio. To round off the analysis, the effects of financial performance were evaluated. Where it can be reported that capital structure does indeed influence ROA and it influences it in a negative manner, as indicated by the relationship between the Debt-to-Capital ratio (40%) and ROA (6%).

6. Conclusion and Recommendations

6.1 Conclusion

The study affirms that Non-debt tax shield has a positive significant relationship with Debt-to-Capital ratio. The findings of the study also indicate clear evidence that as the SA-REITs increase debt beyond the industry covenant levels, the financial performs of the firms decline and increase the possibilities of insolvency. In addition, the study supports the positive significant relationship between liquidity and Debt-to-Capital ratio which emphasises that when liquidity is high, South African REITs see an opportunity to acquire more debt to reduce their transaction and default costs. The Effective Tax Rate on the other hand, summarises the relationship as an insignificant positive relationship with Debt-to-Capital ratio which essentially means that no in-depth analysis can be drawn from the finding.

Furthermore, based on the research study, Asset Tangibility concluded that there is a positive insignificant relationship on Debt-to-Capital ratio as a result of asset mispricing which is caused by a divergence between the fundamental value of the asset and the market price of that asset. This outcome is commonly attributable to the various economic or black swan events which may allow some firms to position themselves well in the competing market. The research concluded that profitability has an insignificant positive effect on Debt-to-Capital ratio (Table 4). The overall analysis of the study illustrates that capital structure decisions of SA-REITs can mostly be attributed to both the Static Trade-off Theory and Pecking Order Theory as we note two significant determinants when specifically analysing the Multiple Linear Regression models outside the time effect.

Table 2 indicated a positive significant relationship between profitability and Debt-to-Capital ratio and Table 3 displayed a positive significant relationship between liquidity and Debt-to-Capital ratio. However, we are noting that as the SA-REITs continue to grow, their reliance on the Market Timing Theory continues to be an avenue to influence the capital structure decisions of REITs, more data would need to be collected and analysed for more acknowledgement of the theory.

For the below mentioned hypotheses section, all the hypotheses were proven to be true whilst others were rejected. The rejection and acceptance of these were supported by both the data analysis

presented in Chapter 5 and the literature review synthesis presented in Chapter 2. The hypothesis outcomes in investigating the secondary research questions are as follows:

Question 1

Trade-off Theory Determinants

H_1: Non-debt tax shield has a negative effect on the Debt-to-Capital ratio.

H_2: Profitability has a positive effect on the Debt-to-Capital ratio.

H_0: Asset Tangibility does not have a positive effect on the Debt-to-Capital ratio.

H_4: Effective-tax rate has a positive effect on the Debt-to-Capital ratio.

Pecking Order Theory Determinants

H_0: Liquidity does not have a negative effect on the Debt-to-Capital ratio.

H_0: Profitability does not have a negative effect on the Debt-to-Capital ratio.

H_3: Asset Tangibility has a positive effect on the Debt-to-Capital ratio.

Market Timing Theory Determinants

H_1: Market to Book ratio has a negative effect on the Debt-to-Capital ratio.

Question 2

H_1: Capital Structure influences performance.

As we note the detailed hypothesis findings above, we are seeing that we reject the null hypothesis for Asset Tangibility under the Trade-off Theory, Liquidity and Profitability under the Pecking Order Theory. Based on the research, we fail to reject the null hypothesis of the remaining explanatory variables for all three theories.

6.2 Recommendations

The study has identified that the high gearing of REITs severely impacts their performance and as a result, it is recommended that the firms monitor and strive for optimal debt levels that will promote the balance in benefits of debt against the cost of acquiring the debt. In addition, based on the Trade-off Theory for capital structure, it is articulated that firms should take advantage of debt to make better returns on their equity portion which will eventually have a positive effect on profitability. The only way this can be achieved is if the SA-REITs avoid being highly geared as this could lead to their inability to meet their obligations and thus result in an event of default.

Furthermore, the study also recommends that a significant technique is introduced to manage liquidity. As seen in the study, SA-REITs use liquidity as a bargaining chip to acquire debt at lower costs. However, as this is done, we recommend that the firms monitor and employ strategies to ensure the balance between current assets and current liabilities. The inability to manage the balance can easily result in the firm having current liabilities being greater than current assets and that is a risk for any future funding that can be extended to the firm. So, the firms need to ensure that the appropriate funding is employed to current assets as the balance between these two is crucial for capital structure decision making in the forthcoming transactions.

Based on the Trade-off Theory, there should be an equal footing in the relation between profitability and debt. The recommendation is for the SA-REITs to prioritise external finance in a monitored and balanced manner to also allow them to shield their income from taxes. The inability for the firms to attain the above-mentioned, will result in their inability to adapt to the ever-changing environment and market needs and this may slow down future growth. The way forward for SA-REITs is to have a competitive advantage over other global REITs and this can be achieved through well-planned and well-executed capital structures that have the best interests of the South African economic climate to stay informed and aware.

6.3 Areas for further research

The study was only limited to six determinants of capital structure that have an effect on the Debt-to-Capital ratio in the SA-REITs market. Therefore, in the future more research pertaining to

SA-REITs should be employed to determine other determinants that affect Debt-to-Capital ratio as well as the overall financial performance of the REITs. These factors could include but are not limited to Business Risks, Size of the firm, Age of the company as well as managerial competency. This would assist in ensuring that SA-REITs capital structures are operating at their utmost optimal levels and enhancing financial performance of the firms in the near future. These factors would also allow more knowledge to be acquired to determine the effects old vs new companies have on promoting performance and avoiding stagnant bureaucracy and whether the size of the firm matters when it comes to enjoying economies of scales and further achieving high firm value and optimal efficiency.

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