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Are foreign-biased REITs worthwhile?

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Are Foreign-biased REITs worthwhile?



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A Research report submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, Johannesburg in partial fulfilment of the requirements for the degree of Masters in Real Estate

Declaration

I declare that this Research Report is my own unaided work. It is being submitted to the Degree of Master in Real Estate to the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other University.



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9 September 2019

Abstract

This study aimed to investigate the differences in performance of home and foreign bias of South African Real Estate Investment Trusts (REITs). After identifying the home and foreign biased listed property firms, we measured the performance (return and risks) of the REITs to determine if the domestically focussed funds achieve higher or lower returns than their internationally focussed peers. Quantitative methods used in the study, have primarily been with a focus on risk and return and the use of comparative analysis. The methods are supported by criteria based, cluster analysis where data is collated so as to make comparisons. The area of study was limited to Real Estate Investment Trusts, a dispensation introduced to South Africa in 2013, but allowed for standardisation of the variables for historical comparisons. The results illustrate that there is nothing that distinctly indicates that foreign biased REITs underperform their locally focused peers, over a significant period of time, but that rather that the performance fluctuates in different market cycles. The study thus not explicitly indicating that there are significant benefits in South African REITs diversifying their portfolios offshore as a means of generating superior returns to the locally focussed REIT peers

Dedication

I would like to dedicate this Masters Research report to my wife, Dr Nthabiseng Chaane for her inspiration and insight. There is no doubt that without her support throughout the process, I would not have reached a conclusion to putting this report together.

Acknowledgement

I would like to thank Professor Kola Akinsomi for his time and dedication to assisting with the construction and completion of this report. Your exceptional guidance, constructive input, humility and thought-provoking leadership was a great motivating factor for me on the journey towards completing my research. I would also like to thank Professor Samuel Azasu and his commitment to the University of the Witwatersrand and his contribution towards my studies.

Ethical Considerations

The basis of the research is underlined by quantitative methodology which removes or limits ethical concerns relating to voluntary participation, disclosure, consent and privacy. Confidentiality is avoided in this regard as data sourced for the use in testing is sourced from publicly available sources. University Ethics committee approval was sought and approved prior to any data collection processing.

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Chapter 1

1. Introduction

1.1 Background

The overall purpose of portfolio diversification is to increase an investor's returns (for a given amount of risk) and/or decrease their risk (for a given amount of return) by having a number of different assets within one portfolio. This study aims to compare the home and foreign bias of South African Real Estate Investment Trusts (REITs). After identifying the differences between home and foreign biased listed property firms, we measure the performance (return and risks) of the REITs to determine if the domestically focussed funds achieve higher or lower returns than their internationally focussed peers.

Property investment is appealing owing to the steady income that flows to the investor, the appreciation of the property's capital value, and its diversification potential Lee, (2005). In looking to maximise returns, it's important that we understand investing at its core and the role of foreign or home-based investing. The growth, integration and deregulation of the world financial markets, as well as changes in international politics and economic policies, have resulted in increased global investment opportunities Eichholtz, et al., (2001). This is evident across all asset classes globally, more pointedly in global real estate markets, where there have observed increases in cross-border transactions (Yanagihara & Kim, 2016).

The increase in international real estate capital flows has fostered an increasing demand for stronger institutions across global real estate markets, resultantly real estate has experienced fundamental changes in the past two decades. Eichholtz, et al., (2011). International investment can be a very effective way to spread the risk of a property portfolio. Property markets are inherently locally driven, which would suggest that the diversification benefits to be reaped from foreign property holdings can be substantial Eichholtz, et al., (2001).

Globally, the REIT dispensation has gathered pace. There are now 37 countries in which the REIT framework is recognised either through actual legislation or through REIT practises being observed by not necessarily legislated. Across the globe REITs

in total boast a total market capitalisation of approximately US$1.7 trillion Teuben (2018). Within this REIT universe there are four stages used to classify maturity of the different markets varying from nascent, to emerging, established and mature EY Global (2018). A prime example of a matured REIT market would include the United States having introduced REITs in the 1960's, whereas markets such as Singapore, Germany and the United Kingdom represent established markets. South Africa qualifies under emerging alongside REIT markets like Brazil, with Kenya an example of a market in the nascent category. South Africa has the ninth largest REIT market in world DBS Group (2018), and in a bid to converge with global best practise in May 2013, enacted into law the Real Estate Investment Trust legislation.

In South Africa historically, the local property sector was previously split into what were termed Property Unit Trusts (PUT) and Property Loan Stock companies (PLS). In a PUT, investors acquired participatory units in a portfolio of investment properties which were held in the form of a trust and are managed by an external manager. The distribution of rental income from the PUT was tax-neutral in the hands of the PUT if the rental income flows through to investors during the same tax year in which such income was earned. PLS companies achieved roughly the same results, but often without the official sanctioning and restrictions regarding their gearing and pay-out ratios. PLS investors acquired a linked unit comprising a debenture linked to a share, with a "distribution" by the PLS in the form of tax deductible interest which results in the PLS reducing its taxable income. A PLS could be managed internally or externally, although there was a clearer trend towards internal management.

The PUT and PLS structures were subject to uneven regulation as, although both the PUT and the PLS were subject to the listings requirements, only the PUT was subject to Financial Services Board (FSB) regulation (now known as the Financial Sector Conduct Authority). Accordingly, the PUT was less flexible in nature in comparison to the PLS and the PLS lacked tax certainty. Furthermore, as discussed above, the net effect of the PUT and PLS is that rental income received or accrued by the vehicle is effectively only taxed in the hands of the investor. However, although the South African property sector has delivered favourable forward yields compared to global standards in recent years, neither the PLS or PUT offered international investors the uniformity and simplicity to facilitate international investment. For this reason, the Property Loan

Stock Association (“PLSA”) spearheaded the establishment of a “best-of-breed” REIT vehicle to encourage foreign investments into the South African property sector.

An issue which also came under the scrutiny of the National Treasury was the tax deductibility of the interest paid by the PLS to its debenture holders. In this regard the Explanatory Memorandum noted that from a substance-over-form point of view an “excessive level of interest (along with the profit-like yield)” makes this form of interest questionable in tax terms and “to accept this practice is to essentially abdicate the question of debt versus equity.” According to the Explanatory Memorandum the yield in respect of these debentures should rather be viewed as dividends. The proposed provisions regarding REIT structures were therefore put in place to give rise to greater certainty regarding the tax implications in this regard.

The historical structure of PUTs and PLS was previously not internationally recognised and thus did not encourage foreign investment into the local property market, this being exacerbated by the fact these two structures were subject to different rules and legislation despite both trading in property shares, and the unclear tax matters KPMG Services (2013). South Africa post adopting the legislation is now one of 37 countries with a REIT structure, boasting 32 primary listed REIT companies. According to (Boshoff & Bredell (2013) the introduction of REITs to the country allows the South African property market to compete on a global scale, and it allows for and encourages international investment into the domestic market.

In South Africa, offshore diversification has taken on three distinct characteristics namely; inward listed with significant trade outside South Africa, an example of this would be listed counters Capital & Counties Properties, Intu Properties and Hammerson, inward listed with little trade outside of South Africa include, to name a few; Investec Australia, Nepi Rockcastle Plc and MAS Real Estate Inc. and domestic focussed with foreign investment be it assets or listed holdings, to name a few; Growthpoint Properties, Redefine Properties, Vukile Property Fund, Fortress Income Fund and Attacq Limited. Inward listed as mentioned above meaning companies with a primary or secondary listing on the local bourse known as the JSE, the variation being that some companies’ shares are traded more frequently in South Africa and others outside of South Africa. The domestic focused funds, would be companies with

a primary listing in South Africa but have chosen to invest parts of their portfolios into foreign geographies. This drive for diversification has driven the local listed property sector with limited foreign exposure as recently as 2009, to today deriving 37% of earnings from markets including Australia, United States of America, United Kingdom, Central and Eastern Europe and parts of Africa Deutsche Bank (2016). As depicted in Table 1 below, is the composition of South Africa's offshore exposure across all spectrums.

Table 1: SA Listed Property with Offshore Exposure (December 2018)

SA Listed Property with Offshore Exposure			
Category			
Inward listed with significant trade outside SA	**Share code**	**Market Capitalisation (ZAR '000 millions)**	**% of asset base offshore**
Capital & Counties	CCO	37 784	100%
Capital & Regional	CRP	4 539	100%
Hammerson	HMN	51 281	100%
Intu	ITU	27 399	100%
Redefine International	RPL	10 566	100%
Sirius	SRE	10 988	100%
Inward listed with little trade outside SA			
Atlantic Leaf	ALP	3 212	100%
Grit Real Estate	GTR	5 882	100%
Investec Australia Property Fund	IAP	5 807	100%
MAS	MSP	13 410	100%
NEPI Rockcastle	NRP	62 795	100%
New Frontier Properties	NFP	2 011	100%
Schroder European	SCD	2 672	100%
Stenprop	STP	5 785	100%
Listed SA with foreign assets		331 500	
Accelerate	APF	3 726	12.1%
Attacq	ATT	11 356	21.0%
Delta	DLT	2 897	3.8%
Emira	EMI	7 709	5.8%
Equites	EQU	9 302	9.1%
Fortress	FFA/B	35 732	50.6%
Growthpoint	GRT	70 263	27.7%
Hyprop	HYP	21 794	18.0%
Investec Property Fund	IPF	11 302	3.1%
Rebosis	REB	1 943	21.0%
Redefine	RDF	56 216	32.8%
Resilient	RES	25 497	38.1%
SA Corporate	SAC	9 768	6.1%
Texton	TEX	1 594	42.2%
Tower	TWR	1 969	12.0%
Tradehold	TDH	2 633	100.0%
Vukile	VKE	18 485	38.5%

Source: (Company data, compiled by author)

Inward listed Liberty Properties (now split into Capital & Counties and Intu) had preceded as the only source of international real estate exposure available to South African investors early into the millennium. However, in the aftermath of the financial crisis of 2008 the introduction of inward listed companies such as New Europe Property Investment (Nepi) and what is today known as Redefine International would make their entry onto the local bourse. Growthpoint Properties' corporate takeover of Orchard Industrial Property in 2009, subsequently renamed Growthpoint Australia would act as the catalyst to local listed funds making cross border investments, resulting in the sector composition we see today.

Real estate portfolio diversification is described as the means by which investors minimize their exposure to firm-specific risk and systematic risk, as well as moderating the short-term effects of individual asset class performance on portfolio value, Akinsomi et al (2015). This push for diversification has certainly been a catalyst to the shift towards investing outside of the country's borders.

However, investing in real estate markets outside of the home state brings with it an air of the unknown, with elements like the political landscape, economic environment, currency stability, language and law, all being factors to be considered in the capital allocation process.

Lee, (2005) argued that capital markets have become global markets and that commercial real estate markets are no exception, so despite the difficulties posed by venturing overseas, no investors can overlook the potential international real estate investment holds. However as shown in Australia, research indicates contrasting evidence on the impact of international diversification and that domestic Australian REITs (AREITs) provided better returns than internationally diversified REITs. Yong, et al., (2009). This is over the observed period of 1990 to 2008.

The research points to larger REITs being more geographically diversified and less diversified across asset types. And as (Geurts & Jaffe, 1995) indicate that the strategy of naïve diversification would be optimal in markets that are efficient and fully integrated, where investors are freely able to move investments between the capital

markets of different countries. This ideally suited for an investment portfolio containing stocks and bonds, however may not be the case with real estate, thus highlighting the importance of a country's institutional factors prior to investment.

As Stevenson, (2001) points out that the role of property securities as diversification tools found that a mix of domestic and international in a direct property portfolio did lead to significant improvement in portfolio performance. Listed property in South Africa historically remained an under invested asset class, largely as a factor that its representation on the JSE was less than 1% in 2002, however has risen steadily to over 5% at present. As Steinert & Crowe, (2001) pointed out that increased recognition of property, an attractive risk return profile and growing demand from pension fund managers have warranted increased allocations to international property. South African listed property has been no different with diminishing local opportunities persuading property companies to look offshore for greater returns.

As such the purpose of this report was to explore a sample of geographically diversified South African REITs, focussing on the degree of home and foreign bias across the different listed REITs. Post identifying the differences in home and foreign bias among these REITs, we will evaluate whether foreign biased REITs achieve higher or lower performance relative to their home biased peers.

1.2 Statement of the research problem

South African REITs have narrowly focused much of their attention on operating within their domestic market across varied geographies and different sectors. This has largely been orchestrated through REITs growing organically, through acquisitions, development and corporate action. As Rushin, (2006) points out whereas the traditional reasons for diversification would have applied to South African organisations, the political isolation led to an inward focused economy.

Thus, development tended to be inwardly focused and only with the advent of democracy could South African companies venture outside of their borders. Albeit in a new environment, literature by Ke & Ng, (2010) indicates that the "home-bias" phenomenon not only persists, but is ubiquitous across both developed and

developing markets. This illustrates that managers and investors tend to allocate capital close to home and in markets in which they are most familiar. Following the opening of the South African economy it would take local REITs near on 16 years to venture into international markets.

To optimise portfolio risk-return trade-off, managers and investors generally try to identify uncorrelated asset classes that could represent diversification opportunities as Gibilaro & Mattarocci, (2016) point out in their study. As (Pandya, 1998) points out that diversified firms do show better performance compared to undiversified firms on both risk and return dimensions. Chan, et al., (2005) found that in the determination of domestic and foreign bias, allocation of capital was disproportionately larger to domestic stocks, largely as a function of variables including market development and familiarity, whereas foreign bias would be driven by factors including economic development, capital controls and tax variables. As witnessed in the Australian listed property market, Newell & Keng, (2005) managed to find that Listed Property Trusts (LPT), which offered defensive characteristics in a volatile stock market environment, following increased international exposure. The correlation structures for LPT's with the broader market increased. The cumulative effect meant that LPT's lost their defensive characteristics and reduced their portfolio diversification benefits. As South African REITs pushed for further growth offshore, what is not evident is if this resulted in superior returns. The research report attempts to measure the return performance of offshore biased REITs against their domestically focussed peers, to establish if indeed diversification brings about any benefit.

1.3. Research Objectives

The objectives of the study were to provide empirical evidence on the impact on the performance of offshore diversification of SA REITs when compared to locally biased REITs. The study will used predominantly REITs so as to ensure the comparison is aligned within the property sector. The aim was to measure return performance over the period 2010 to 2018[1]. The categorisation has been determined over an eight year period as the diversification of South African REITs into external markets traces back to the latter part of 2009.

1.4. Research Question

1.4.1. Main Question

Do foreign biased REITs outperform domestic biased REITs?

1.5 Research Hypothesis

The hypothesis is as follows:

- H_o : Foreign biased REITs do not outperform locally biased REITs

1.6 Contribution of the study

South Africa's listed property sector has grown from a R10 billion market capitalisation sector as recently as 2001 to over R618 billion in market capitalisation in 2018, of which REITs comprise approximately R310 billion according to Java Capital , (2018). Its contribution to the local JSE index was little over 1.0% at the time and now represents approximately 4.2% of the JSE investable universe Bloomberg, (2018). Resultantly this has meant that greater allocation of investable funds has been directed towards property, meaning its role to the economic fortunes of pension funds and individuals has become markedly greater. This creates the imperative that further understanding of the sector is required as decisions made by allocators of capital, fund managers and investors are inherently tied to the future benefits of those they represent.

Historical research indicates that there is a trade-off between the costs and benefits of international diversification. Eichholtz, et al., (2001) show that property markets are inherently locally driven, which would suggest that the benefits to be derived from foreign investments could be substantial. Investors and managers are incentivised to maximise returns. What this report explored is in seeking excess returns, what affects the home or foreign decision for South African listed property firms and if indeed foreign exposure does minimise risk and enhance returns for funds with offshore exposure.

1.7 Structure

This research report is structured into five chapters, including a reference list, list of tables and list of figures. Following the introduction, chapter two of the study commences with a brief literature review aimed at identifying the gaps in the research, followed by chapter three which details the research design and methodology. This is then followed by chapter four which covers analysis and results, concluding with chapter five.

Chapter 2: Literature Review

2.1 Introduction

The following literature review provides background information regarding the main topic areas of the research question. A literature framework was developed beforehand and it contained the sub-headings indicated below. The review discusses the background to diversification within real estate and covers home and foreign bias in real estate.

2.2. Real Estate Diversification

Diversification is a strategy consisting of the distribution of available resources among different types of investments with respect to financial instruments and including the sectoral diversification of their issuers. The implementation of this strategy is aimed at reducing risk and achieving the expected returns on investment Smietana, (2014). In relation to real estate, it is defined as the practice of dispersing and spreading capital by investing in property while accounting for its geographical diversity, with investments concentrated in selected geographical regions, which is aimed at reducing risk. The observed practice of the dispersion and spread of investment consists of diversifying asset classes and types within various sectors and regions, separated administratively or geographically Hoesli & Lizieri, (2007).

Investors allocate capital based on a formulated investment strategy, aimed at achieving their investment objectives. In the case of professional real estate investors, the principal investment objectives are: the protection of real asset value, achieving investment revenues, and an increase in asset value resulting from the increase in investment value Smietana, (2014). Investment policy principles will determine the means of achieving the investment objective, in particular: investment selection criteria, investment diversification principles, investment restrictions and use of leverage suitable to the investor.

The consideration of the real estate portfolio diversification principles includes an aspect related to the liquidity of assets which are the subject of investment. Liquidity

should be considered as a multidimensional concept, related not only to the time of withdrawal from an investment, but also to the direct and indirect costs of the transaction, the risk and uncertainty of achieving the expected sales price and the price factors of the sale/purchase agreements, dependent on the nature of the investments and on the market conditions Kucharska-Stasiak, (2006). The risk of asset liquidity in terms of portfolio diversification is considered as: the cost of the rapid liquidation of a portfolio, uncertainty about the sale with no impact on prices, the cost of an immediate sale and the protection of capital.

Risk in any investment is measured in two components: market risk (systematic risk) and specific risk. Market risk is driven by factors that cause changes to the broader economy such as inflation, interest rate changes, unemployment, economic growth, corporate tax rates, and the budget and trade deficits. Specific risk, on the other hand, is affected by factors unique to each real estate investment such as location, tenants, quality of the building and so forth Lind & Nystrom, (2012). Market risk cannot be diversified away from, however specific risk can be. Thus, in any investment portfolio the major trade off is finding the balance between risk and return that enhances performance.

Property as an investment is recognised by both institutional and retail investors, and is typically used as a means of diversifying an investment portfolio either through direct ownership or indirectly. Diversification in this regard is normally through investment into different sectors of commercial real estate domestically and further internationally Adair, et al., (1999). Diversification is thus defined as a way to generate similar returns but at a reduced exposure to risk Hishamuddin, (2006).

2.3 The case for international property investment

Eichholtz, et al., (2001) found that international investment can be a very effective tool to spread the risk of a property portfolio. Property markets are by in large locally driven, which would suggest that the diversification benefits to be gained from foreign property holdings can be substantial. Eichholtz, (1996) found that property markets have lower degrees of international correlation than stock and bond markets and that international

property investment is more effective in reducing overall portfolio risk than is the case of international investment in stock and bonds.

Literature however indicates that, REIT portfolios are by in large almost always dominated by domestic investments, with REITs classified, as being “foreign” having limited international exposure and some preferring to have none at all. Supporting this is that REIT managers generally prefer to focus on domestic real estate investments, for which they have access to higher quality information for asset evaluation Zhou & Sah, (2009). The theory being that by remaining at home allows managers to take advantage of the real estate market idiosyncrasies. As Turnbull & Sirmans, (1993) state that home bias is related to real estate market imperfections that increase information costs, especially for outside investors, who may then be faced with suboptimal investments.

Geographic concentration can lend itself to greater operational efficiency, thus may support home-bias across a cluster of REITs within a designated market. The maturity and scope of a real estate market will define the number of opportunities available, until saturation or diminishing returns become critical factors. Profitability of a home-biased strategy depends on the offset between savings related to the economies of scale and losses related to the reduction of investment opportunities Ambrose & Ehrlich, (2000). In the study “Are Home-Biased REITs Worthwhile” the authors Gibilaro & Mattarocci, (2016) find that home bias is more significant for certain countries and that home country portfolio concentration does not always imply higher average returns or persistence of returns.

Investing in real estate is difficult, as property is non-transparent this accentuated more when investing in property outside of one’s immediate geography. However, Ibbotson, (2000) found global asset allocation can add value when disparities between national economies and markets occur. International real estate is found to be greatly heterogeneous, making the choice to invest in alternate geographies dependent on the ability to gather the necessary information for the evaluation of investment opportunities. This resultantly means increased costs as a function of securing the necessary resources and further on lower returns in terms of portfolio performance.

Eichholtz, (1996) in establishing that property typically has a lower degree of correlation to other asset classes, also argued that international property investment

is more effective in reducing overall portfolio risk than is the case for international investment in stocks and bonds. Investing abroad had always been a common trend amongst stock investors, with it less popular for real estate investors to conclude international transactions. This certainly an evolving phenomenon as more real estate investors seek returns outside of their core markets.

The reasons for investors to move out of their core markets contains underlying compelling reasons, as Dunning, (2006) puts it that any international investor needs to possess specific monopolistic advantage over his competition to successfully compete with local host market firms. As the research indicates the implied costs of transacting in foreign markets are often an impediment to external investment and that the additional diversification advantages and return expectations must outweigh these costs to entice outside players.

Compared to international equity flows, the patterns and effects of cross-border direct real estate investment have been the subject of limited research. Focus has largely been towards informational heterogeneity and asymmetries between local and foreign investors. In private markets like the real estate market, information asymmetries go against the international investor, who is likely to be an outsider within most markets unless local trusted partners can be found. This makes private markets difficult for international investment.

Montgomery, (1994) found that there is a neutral or negative, not a positive relationship between diversification and firm performance. Arguing that firms with poor growth prospects were more likely to diversify. Theoretically, if economies are not completely integrated, then property returns in different countries will not move together, and further risk reduction can thus be attained through international diversification. As a result, an internationally diversified portfolio will have lower risk than those that are diversified just among domestic property assets (Newell & Keng, 2005).

Factors such as high costs of diversification and eliminating unsystematic risk, high transaction costs of researching markets and problems of liquidity and day-to-day management have deterred small funds to diversify internationally, McAllister, (1999).

As De Wit, (1997) puts it indirect property or property securities can be employed by investors to reduce their levels of risk in property investment as an alternative to direct property investment. Steinert & Crowe, (2001) also proposed the use of more liquid and transparent property securities to facilitate global property investment.

An important market shift in this period has been the global transformation in the range and scope of real estate investment organizations and their third-party service providers. In addition to relatively long-established institutional investors such as pension funds, insurance companies and listed real estate companies/trusts, other types of real estate investment organizations have become increasingly prominent. The growth in indirect property investment has aided internationalisation of real estate investment, as the availability of suitable investment vehicles has grown, there have been technological advancements and greater benefits and advantages for large investors of capital most notably from a tax perspective, gearing and so forth. Investment vehicles have helped catalyse international investment as some of the problems that are associated with real estate such as low liquidity, strong heterogeneity of individual assets and lumpiness of the assets, have largely been overcome.

2.4 Home & Foreign Bias

Literature indicates that the “home-bias” phenomenon not only persists, but is ubiquitous across both developed and developing markets Ke & Ng, (2010). The “home bias puzzle” as Coval & Moskowitz, (1999) indicate originally studied in the United States is applicable across other countries, where investors appear to only invest in their domestic markets completely ignoring foreign opportunities.

Resultantly fund managers and investors have long held the view that by investing in domestic assets, this served as a hedge against home country specific risks since investments in local assets are likely to track domestic market performance Karlsson & Norden, (2007). The reinforcement of “familiarity breeds investment” is evident across all forms of investment platforms, and that people simply prefer to invest in the familiar and feel comfortable investing their money in businesses that are visible to them.

Previous research indicates that investors historically have been limited in their pursuit of international investment owning to perceived or actual barriers to entry. As Coval & Moskowitz, (1999) state that although many of these obstacles to foreign investment have substantially diminished, the propensity to invest in one's home country remains strong. Initial explanations on the barriers to foreign investment were by in large narrow, substantiated by capital flow controls, foreign taxes and high transaction costs.

However deeper introspection indicates that domestic bias can be grouped into two categories namely; explanations associated with the existence of national boundaries, and explanations associated with a preference for geographic proximity Coval & Moskowitz, (1999). The first taking into account that once capital crosses political and monetary boundaries it faces a barrage of factors including: exchange rate fluctuations, variation in regulation, difference in culture, taxation and sovereign risk. Most of these factors have primarily been explanations for home bias and the discouragement of offshore investment.

Geographic proximity is found to be driven by comfort with the preference that investors are close to local firms and in addition possess a psychological desire to invest in the domestic economy. Investors aversion to risk implies portfolios should be diversified, as Kang & Stulz, (1997) point out that even with the decline in the boundaries to international investment, foreign ownership of equities is still extremely limited than what would be expected given the decline in barriers to international investment.

Invariably home-bias appears to be a default setting for most managers and investors, thus understanding the drivers to explore international investment remains focal in establishing the benefits that may accrue in doing so. Lang & Stulz, (1994) indicate that firms in industries with poor growth prospects may be more inclined to diversify. Diversification in this regard could be across other sectors of an economy or within a single industry. The study by Lang & Stulz, (1994) in which they explore corporate diversification and firm performance, also relays that a negative relationship between diversification and performance may not always hold. In this regard the authors indicate that its vital to understand the return drivers, as "it's possible that it is not

diversification that causes poor performance but poor performance in the underlying business that may be causing diversification"

The reasons for investors to move out of their core markets contains underlying compelling reasons, as Dunning, (2006) puts it that any international investor needs to possess specific monopolistic advantage over his competition to successfully compete with local host market firms. As the research indicates the implied costs of transacting in foreign markets are often an impediment to external investment and that the additional diversification advantages and return expectations must outweigh these costs to entice outside players.

For all the studies into the risks and benefits of international real estate investment, research is limited as to the effect the costs and risks of making these investments into foreign markets have on returns. Eichholtz, et al., (2001) compared the performance of 18 internationally operating property companies with the performance of property companies focusing on their local market during the 1984 to 1995 period. The results indicated that internationals underperformed the locally focussed by 2.7% per year (on a risk adjusted basis) and that the underperformance was consistent over time. Key in the findings is that the results were not driven by transaction costs, leverage or currency effects but more that the performance was attributable to the informational disadvantages.

Edelstein, et al., (2009) show that risk premia placed on listed property shares are partly determined by the quality of a country's legal system and corporate governance environment. Often identified as impediments to cross-border investments is the lack of knowledge, as well as obstacles which include political and currency risk, the cost of doing business and liquidity. International investment is often associated with a loss of focus which can be construed as a potential negative in the performance of international property companies Boer, et al., (2005).

Historic research has focused on the reasoning of foreign diversification with a particular focus towards developed economies. According to Boydell & Clayton, (1993), the main advantages derived from holding property as an investor stem from its potential for growth to ensure security of capital, and its flexibility based on different

performances due to geographical spread. In addition, foreign property investment is viewed as relatively secure medium for wealth maximisation, which yields attractive returns. However, Liow, (1994) points out that direct investment in property can be highly risky due to its indivisibility, illiquidity and large capital outlay.

Given the capital dynamics of foreign real estate markets incoming investors will typically lack local expertise and have limited access to local market information. As private real estate markets are unlikely to be as informationally efficient as public equity markets, prices do not necessarily and instantaneously reflect all available and relevant information. Local investors, who have superior information, can therefore have a competitive advantage Eichholtz, et al., (2011). This may lead to a situation where returns generated from those assets are lower than their counterparts, however over time and with scale underperformance may be reduced, as Eichholtz, et al., (2001) found that larger firms with international exposure reduced underperformance with size.

Eichholtz, et al., (2011) find that benefits and return opportunities following international diversification are likely to exist. However, these benefits may as well be obtained by end investors through investing in foreign property companies that have a local focus. Intermediate investors, like listed property companies, should therefore only invest abroad if they are able to operate in foreign markets at least as efficiently as locals.

2.5. South Africa

(Rushin, 2006) notes that with the paucity of literature on the subject of real estate in Africa, and in particular diversification into emerging markets in Africa conclusive knowledge with regards to factors that impact growth in these markets tends to be minimal or non-existent. According to FTSE EPRA/NAREIT Emerging Index factsheet November 2018, South Africa is considered as a leading emerging real estate market. South Africa holds a weighting of 9.04% in the index making it the second largest market behind China in the 13-member emerging market index. The index weighting clearly illustrative of the advanced nature and sophistication of the South African real estate market.

Akinsomi & et_al, (2014) find that although the benefits of international diversification of real estate into other markets have been highlighted by many authors, it is hardly practised by South African property companies and especially within the African continent. Ramushu, (2006) found that international investment by South African institutional portfolios prior to 1997 was limited by in large due to foreign exchange controls and that following relaxation only 15% of total assets would be invested offshore. Within this context allocation to real estate in terms of these institutional portfolios had remained low due to portfolio manager's inability to accurately quantify the risk-return characteristics of real estate Pearce, (1995). Liquidity and size of the listed property market relative to the JSE investable universe had also remained a constraint to investment allocations.

In the South African context research by Ramushu, (2006) shows that the historical low allocation to domestic real estate by fund managers could be explained by their inability to understand real estate as a unique asset class. Lee, (2010) found that by virtue of being based in the property market the performance and behaviour of REITs is highly influenced by the property cycle, particularly the structural changes that occur within it. This identified as being important as structural changes may result is REITs being more comparable to small cap stocks than to the underlying asset Glascock & Lu, (2000). This potentially indicating that historic performance of what was previously PUTs and PLS may not necessarily replicate in a changed environment. As Akinsomi & Ntuli, (2017) point out, a changed environment is influenced by factors not only within the property sector but outside, evident in how sensitive to interest rate changes REITs are, as this affects the ability of REITs to acquire more assets and anticipation of interest changes may cause risk premiums to increase because of an increase in uncertainty, thus resulting in downward pressure on property prices and capital gains.

Olaleye, (2011) found that in the South African market there is evidence of superior returns and risk adjusted performance of real estate stock over other assets. This evident even under the old dispensation where risk return behaviour of South African PUTs and PLS as individual assets are similar when the asset is a part of a mixed portfolio McDonald, (2013). In a separate REIT performance study Akinsomi, et al., (2016) investigated the extent of herding in the South African REIT market during the

financial crisis, the study making use of Markov switching time-varying parameter (MS-TVP) herding model, was able to detect herding behaviour in the SA REIT market between the period 2008 to 2011.

2.6 Market Trend

Seen as a well-performing asset class, with strong defensive characteristics (eg: low risk) in a portfolio, particularly in a volatile stock market environment, Newell & Keng, (2005) found that with increased internalization of Australian Listed Property Trusts (LPT's) resulting in reduced traditional defensive characteristics and reduced portfolio diversification benefits. LPT's continue to offer liquidity, high yields and access to quality assets, however in an increased risk environment. Yanagihara & Kim, (2016) raise the issue of depletion of assets to acquire or develop within the Japanese market and that offshore expansion will resultantly no longer be an issue of choice but rather need.

Nystrom & Lind, (2012) detail that heterogeneous characteristics of each single property make it even more difficult to foresee what the risk and return would be on the aggregated portfolio level, and that often listed property companies do not consider how an investment will impact performance of the portfolio, but that rather view assets as an investment. Indicating that the full effects of diversification are not fully understood in the context of a portfolio. Baum, et al., (2013) in their findings confirm that factors related with the macroeconomic environment and credit and financial market development are more important for explaining cross-border flows than property returns.

2.7 Research Gap

One of the objectives of investors holding investments is to protect wealth against inflation Ramushu, (2006). In this context investors have always sought to find the optimal balance with regards to portfolio allocations. Real estate in this view has always been under represented as historically it has never been viewed as an independent and separate assets class. Growing significance of the South African

listed property sector has meant that the asset class has grown to an extent where it cannot continue to be ignored. Ntuli, (2017) points out that South African listed property has consistently outperformed more established markets. Investors tend to under-diversify, and effective portfolio diversification contributes to higher investor returns Goetzman & Kumar, (2008). Given that the REIT market is predominantly domestically focused, with the recent drive by local REITs to invest offshore what is not clear is whether this is contributing positively or negatively to total returns. It is evident through a review of literature that the significance of SA REITs, their initial risk-adjusted performance, interaction with other assets, and their potential portfolio diversification benefits are under-researched.

Chapter 3: Research Design and Methodology

3.1 Introduction

Research methodology is a way to systematically solve the research problem. This will entail the science of how research is conducted scientifically, detailing the techniques employed in the process. This methodology chapter will detail how the intended paper aims to answer the identified research questions. The research design was a cross sectional study, as data collected at points in time on a historic basis, with the aim of collating past returns data to analyse the factors that drive the home vs foreign bias investment decisions. The chapter is organised in the following manner: The first section discusses the subjects or participants, followed by the instruments to be used after which the procedures to be followed will be explained.

3.2 Research Methods used in this Problem Area

Previous research that has covered the performance (risk and return) of internationally invested real estate firms versus the performance of domestically focused real estate firms. Majority the papers published have used quantitative methods to derive results about the chosen field of study. Quantitative methods used, have primarily been with a focus on risk and return and the use of comparative analysis. The methods are supported by criteria based, cluster analysis where data is collated so as to make comparisons. Since this proposal is largely a replication of a previous study conducted by Gibilaro & Mattarocci, (2016), where the authors looked into the degree of home bias across countries and compare the performance achieved against non-home biased funds. The study will focus on creating comparable indices as part of the foreign bias funds profile, along with the use of performance measures, predominantly the Sharpe ratio as a means of gauging return as a function of risk. The chapter is organised as follows:

3.3 Research Paradigm

The research paradigm guides in the way we do things and remains central to the belief system adopted in conducting of research. This will guide how research is prepared, studied and interpreted. As Bhattacherjee, (2012) points out there are three paradigms (1) Positivist, (2) Post-positivist and (3) Interpretivist. Positivist being the application of methods of natural sciences to the study of social reality, with

observation and measurement core to its functioning. The post-positivist view is completely opposed to the positivist approach having its main tenet as that reasonable inferences can be made about a phenomenon through a combination of empirical observation and logical reasoning Bhattacherjee, (2012). Interpretivism is the opposite of the positivism, in that it belies that human beings are different to natural science and that some factors are not captured by a more rigid system encompassed in the positivist way of conducting research.

The proposed study aims at using positivist principles in its compilation with quantitative analysis being a key pillar in measuring risk and performance. The focus not necessarily linked to creating theory but rather proving a hypothesis driven by observation.

3.4 Methodology

The research process is made up of three phases which are iterative in nature; these are observation, rationalization and validation Bhattacherjee, (2012). The observation phase involves the selection and observation of a particular area of interest. In the information gathering phase the researcher endeavoured to logically make sense of the material under consideration by carefully studying its various components. This process may inevitably lead to the creation of new theories, followed by the validation stage which involves the testing of existing theory using scientific methods and may lead to the modification or extension of existing theory.

In this study the observation is based on the area of interest being listed property more specifically towards REITs in South Africa. Given a recent trend within the sector for companies to diversify outside of the country's borders the area of study as to whether these internationally diversified companies outperform their local peers, we found to be topical to the local property landscape. Literature reviewed pointed to factors influencing against companies allocating capital offshore and also the reasoning why managers prefer to maintain heavily domesticated portfolios. In addition, research in support of foreign diversification was explored, and all the apprehensions and benefits analysed. Subsequent to reviewing existing literature, we identified a research problem leading to research questions and objectives which will be used in guiding the research process.

Research design as depicted by Bhattacherjee, (2012) is by and large a process driven function with a sequence of steps to fulfil in the aim of addressing the research problem. Having identified the research questions to address our data collection process and instruments used to be able to interpret the data. The use of scientific methods creates a platform for formulating the data to a level where it will be easily open to interpretation with the scientific methodology providing validation of the research. This will then culminate in the preparation of a research report and an explanation of findings.

3.4.1 Methodological Choice

Data was collected quantitatively and analysed as such in order to gain results and conclusions. A small amount/degree of interpretivism (qualitative) was used in order to apply findings to the South African context, and to analyse and apply the asset allocation and asset pricing theories. The data was retrieved from indices and was collated on excel. The indices data was collated as follows:

- A clear distinction was made of segmenting the listed property stocks into REITs and non-REITs
- Company data was sought to establish which REITs were to be classified as local and which REITs to be classified as foreign REITs. Note some REITs over the observation period would go from being classified as local to being reclassified as being foreign given the changes in the composition of the underlying portfolios. The data would thus be adjusted accordingly.
- Historical total return data was sourced using BFA INET Bridge as a source with the data collated based monthly returns then collated to give an annual return
- Annual returns for each stock were collated to create the varying indices
    - Equal Weighted (EW) and Foreign Equal Weighted (FEW) – based on each share contributing equally in terms of weighting in the index, split according to the geographic exposures.
    - Value Weighted (VW) and Foreign Value Weighted (FVW) – based on each share's market capitalisation, where size of the stock relative to the

entire REIT market capitalisation would determine the weighting of the stock within the index.

- REIT Index – would be a representation of the REIT index as prescribed by the JSE, under classification code J805. The REIT index would be used as comparison tool relative to the constructed indices.

The design is cross sectional; the study is observational and the researcher cannot interfere with the data based on that it is of past performance. The data was collected, although it was for a period, it was collected at one point of time. Cross sectional design allows for the comparison of international and domestic SA REITs within a portfolio, and this comparison may be done simultaneously.

It identifies and describes correlations between variables, and other possible relationships. It allows for the research to analyse variables independently, and as interlinked variables. However, the use of cross-sectional design makes it difficult to identify cause-effect relationships.

3.4.2 Target Population

The target population for this study will comprise JSE listed real estate investment trusts. The local listed property sector comprises four distinct company compositions namely; purely domestic focused, inward listed with majority of trade outside South Africa, inward listed with majority of trade within South Africa and locally domiciled with listed or direct international investments. For purposes of the study we will limit the population to represent real estate investment trusts, so have excluded all other listed property stocks so as to purely be able to compare REITs within the market. According to Eichholtz, et al., (2001) a company is classified domestic if it has at least 75 percent of its portfolio in the country in which it has its main stock market listing. Further guidance of this is, if you look at the average allocation within the United States, you will see that investors (of all sizes) have a very strong propensity to overweight their exposure to domestic stocks. The United States, for example, comprises less than 50 percent of the total world market capitalization hence opportunity yet the average U.S. investor still allocates more than 70 percent of his portfolio to U.S. equities Investopedia , (2019). In previous the selection of 75 percent largely had no science to it, but that although arbitrarily selected a change in the threshold didn't adversely affect the results of the studies. Given that in our

population that international investment remains largely still a new phenomenon, we've used a threshold of 20% so as to achieve comparability across our report.

3.4.3 Accessible Population

The population shall be easily accessible as majority of companies are listed on the JSE and as per listing requirements the companies are required to meet certain disclosures with regular auditing oversight over information reported. Accessibility across unlisted funds will prove a challenge as less onus reporting standards will make it difficult to access detailed levels of information. The South African quoted property market comprises 56 active companies made up of inward listed and domestically listed property companies. Within the universe there is a distinction between real estate investment trusts, listed real estate companies and development property companies. For our population we have only targeted companies listed under the real estate investment trust legislation which gives us a universe of 32 individually listed REIT stocks. Distinction between stocks and companies is paramount, as some REITs have dual listed shares usually comprising an A-share and a B-share, these for the purposes of the study have been treated as separate companies as it assists with the population of the study.

3.4.4. Sample

The local listed property sector boasts 56 counters, of which a few are grouped together to create the South African listed property universe. The local property market historically was tracked by the South African Listed Property Index (SAPY) which was always considered the local benchmark used to track sector wide listed property performance. However, with the introduction of Real Estate Investment Trust legislation in April 2013, this has allowed for the formulation of several new indices, namely All Property Index, Tradeable Property Index, SA REIT Index, Real Estate Development and Services Index and Real Estate Investment Trust Index. For purposes of our study we have focussed on the SA REIT Index as it best represents the population we intend to sample.

Given the formulation of the index and the nature of the South African listed property sector, all constituents within the SA REIT index are locally domiciled companies, which is not the case across some of the other indices where some companies are

externally domiciled companies however meeting the primary listing requirement qualify for inclusion within the local indices. In the selection process a threshold of what constitutes home and foreign biased will need to be developed and from that a sample can be drawn. Given the concentration of the local quoted property market invariably sampling may not be necessary as use of all constituents may be required to make a justified inference from the outcome of the analysis of the data. REIT legislation is new to South Africa thus for historical purposes comparisons will be made using the different companies' historical returns albeit achieved under the old Property Loan Stock and Property Unit Trust dispensations.

The following is a summary of the data and research methods used in the field within this topic area:

Table 2 Research Methods used in problem area

Research methods used in this problem area

Author	Focus Area of Study	Year	Method Adopted	Data and Research Method Applied
Gibilaro, L; Mattarocci, G	Degree of home bias and performance of home biased and non-home biased REITs.	2016	Quantitative to examine the performance.	Establishment of home and foreign bias based on overall portfolio value. Standard return performance is calculated using opening and closing price. In addition to simple return performance, authors construct an unexpected performance measure of the excess return with respect to standard pricing models such as the capital asset pricing model (CAPM), Fama-French or Carhart models.

Akinsomi O, Kola K, Ndlovu T & Motloung M	Performance of Broad Based Black Economic Empowerment listed firms in South Africa	2015	Quantitative to examine performance	Preliminary data used to carry out descriptive statistics including obtaining market capitalisations and IPO of Black Economic Empowerment (BEE) and non-Black Economic Empowered (non-BEE) firms. Then comparative analysis of market capitalisations and annualised returns is carried out. In addition, the authors test their hypothesis using several formulas, namely; holding period return, Sharpe ratio and the CAPM for beta testing. The data was then split according to BEE status with data compiled for each status and later combined for regression analysis.	
Keng, T Y	The Role of International Property Trusts in Australian Mixed Asset Portfolios	2004	Quantitative to examine performance	Author uses a compilation based on international bias within the varying property funds to track historical performance. These compilations based on a 100% international exposure and also for funds with a degree of exposure within what is primarily a domestic fund. To evaluate the benefit of property trusts within a mixed asset portfolio the author constructed a mixed asset portfolio so as to measure the degree of diversification that property trusts offer a mixed portfolio. The use of	

				Markowitz Modern Portfolio Theory was also employed to measure efficiency.	
Eichholtz P; Koedijk K & Schweitzer M	Global property investment and the costs of international diversification.	2001	Quantitative (to examine the performance of domestic vs. international performance)	The authors begin with creating a sample set of all REITs with international exposure based on a set of criterions. Once the data is segmented comparable indices are created so as to measure the relative performance of internationals against domestics over time. This data is then sampled and tested over sub-periods to qualify the results presented in the initial study to derive a result/conclusion. The methods above are found to be a little too simplistic and thus the authors delve deeper through the use of constructed indices that create a level comparable factors through the use of mimicking indices and further on the use of performance measures derived	

				from the CAPM namely the Sharpe ratio and Jensen's alpha.	

3.5 Data Analysis Procedure

The purpose of the study is to investigate the performance of locally focused REITs against the performance of foreign focused REITs. The research aims to investigate the influence of the implementation of an offshore strategy to REIT return performance.

The methodology that will be used is taken from the authors in the table above, i. e. Gibilaro and Mattarocci (2016), Akinsomi et al (2015), Keng (2004) and Eichholtz et al (2001). The study will primarily use quantitative methodology, where the performance of South African listed property companies will be analysed, with the specific view of comparing the return performance of home and foreign biased property companies against each other as part of a comparative study to establish if home bias achieves higher returns than a foreign biased strategy.

Gibilaro and Mattarocci use a methodology that is suited for the initial section of our analysis, the paper is structured on establishing the level of home bias across the REIT sample base. The authors use an event study methodology to calculate abnormal returns associated with home biased REITs. Standard pricing models including; the capital asset pricing model (CAPM) and Fama-French or Cahart models are used to calculate variations across the different REITs based on size, sensitivity and past performance.

Akinsomi et al (2016) in the previous study apply descriptive statistics to establish a comparative analysis, this process includes gathering of data variables in order to further test the hypothesis. In testing the hypothesis, the authors use a method commonly used in real estate finance research, the use of beta and alpha is primarily driven by the need for wanting to understand what the level of BEE or non-BEE within a fund means to the performance of a listed property company in South Africa. The methodology allows for the establishment of outperformance of each strategy over the risk-free rate on an annual basis to establish long term trend. Keng's study follows the method of classification as in the two reports mentioned above, however some slight adjustments in the construction of the comparable indices are included, as Keng argues that listed property trusts with domestic and offshore exposure returns will be perfectly correlated. Keng thus adjusts for purely internationally focussed and uses efficient frontiers to determine the level of benefit that diversification adds to

performance. In our study differentiation between pure and partially diversified stocks could be incorporated to distinguish between performance and benefit.

Eichholtz et al (2011), apply similar processes in the initial analysis to that depicted above, however make adjustments to the data to be able to compare on an equitable basis. Property companies diversify differently across the global and to test purely in a domestic setting for performance is found to be too simplistic. The authors thus create mimicking indices comparing the domestic fund that invests in an offshore market against that market's property companies, however equal weights the exposures to be able to compare if the offshore investor outperforms the locally based funds. Given that South African funds tend to invest directly into offshore markets, this methodology of comparing against in country peers will give a clearer indication of whether performance is based on good investing or on other factors such as currency movements.

A quantitative methodology is used to analyse the variance in performance between REITs that are solely domestically focused and those that are considered foreign focused. The study will explore the risk and returns of REIT firms in South Africa through a comparative analysis, with the scope of the analysis limited to comparing local and foreign focused REITs[1]. The returns samples of the two constituents will be compared to determine which strategy produces higher returns. Previous studies employed by Gibilaro and Mattarocci (2016), Akinsomi et al (2015). Gibilaro and Mattarocci (2016), established bias across the REIT sample in their study to distinguish between home and foreign biased. Standard return performance is calculated using opening and closing price. In addition to simple return performance, authors construct an unexpected performance measure of the excess return with respect to standard pricing models such as the capital asset pricing model (CAPM). Akinsomi et al (2015) initially ascertaining which property companies were BEE and non-BEE through a categorization based on ownership.

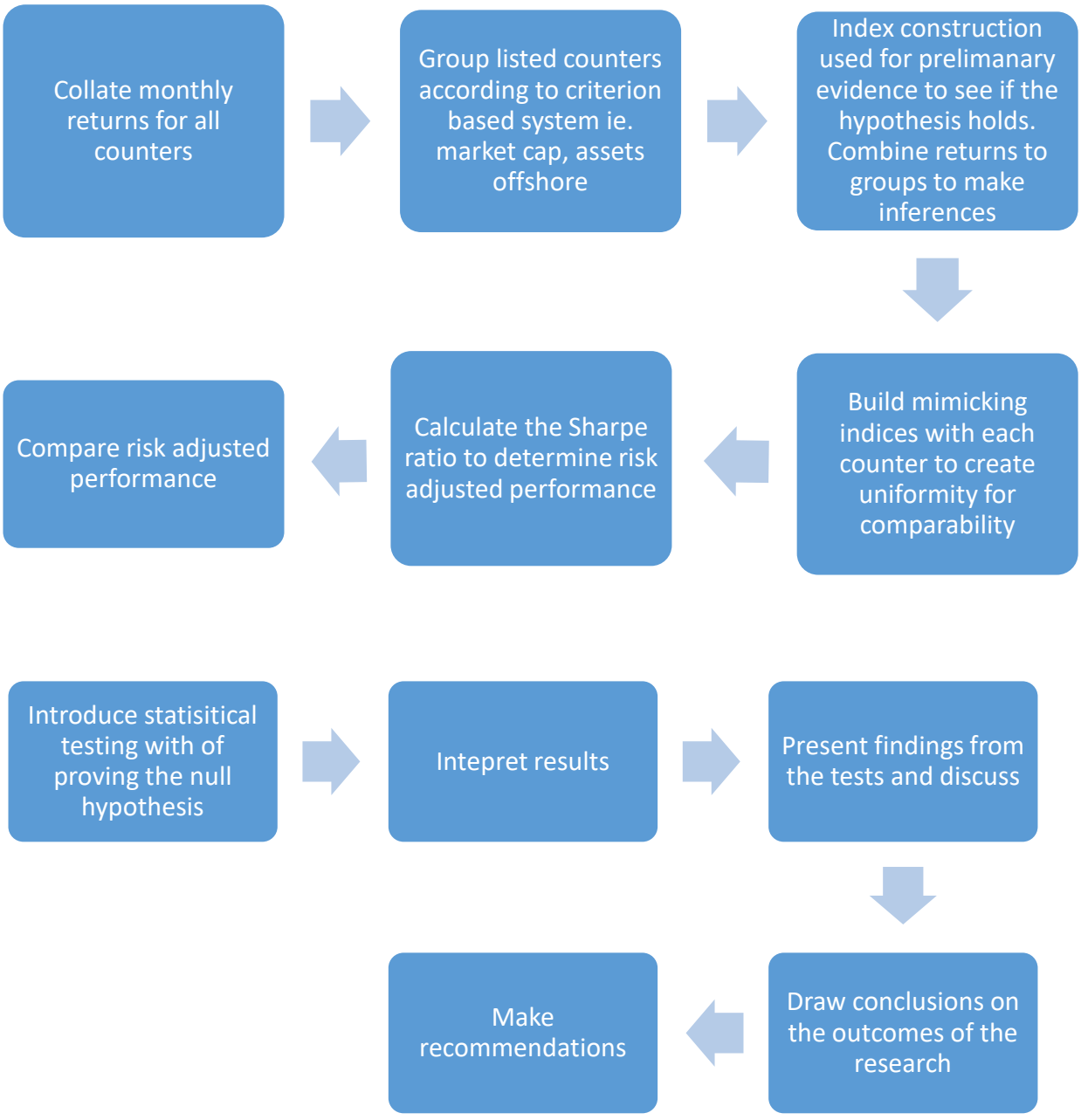
[1] The data for this study will be comprised of quoted property stocks that are considered to be REITs under the prevailing laws governing REITs in South Africa. The parameters of this study will comprise of companies that qualify as REITs under the current legal dispensation governing REITs, but with the existence of REITs in South Africa only dating back to April 2013 the data is thus sourced from historic property loan stock and property unit trust data as they were referred prior to the changes in legislation. Companies that identify as REITs in 2018, have been used in both their current status as REITs and under the previous regime in sourcing their individual historic data. The study will consider performance of locally and foreign focused REITs in South Africa.

Following on from there preliminary data was used to carry out descriptive statistics, with a comparative analysis of annualized returns and market capitalization also carried out.

3.5.1 Methodology Flow Chart

Figure 1: Methodology Flow Chart

The following diagram will illustrate how the methodology process will unfold:



The first step of the methodology was to collect data of the total returns of home and foreign biased listed property companies. They were presented monthly and thus were annualised. The data collected was grouped into segments, based on classifying foreign biased stocks as those with 25% of the asset base located offshore. Home bias in REIT investment strategy is measured as a percentage with respect to its overall portfolio Gibilaro & Mattarocci, (2016).

Home bias

$$\text{Home bias}_{it} = \frac{\text{Portfolio Value}}{\text{Overall Portfolio Value}} \quad (1)$$

Home bias is the is the ratio of the appraisal value of all assets in the home country (*Portfolio value*) to that of the overall portfolio (*Overall portfolio value*). However, given that the history of investing beyond South Africa's borders is limited and also fairly recent monthly data may be used and compared with the annualised results. There may be an element of survivorship bias in the data as some counters have been offshore longer than others and some may no longer qualify as they did before within our sample set.

Main data gathering involves obtaining variables that will test the following formulas in order to further test the hypothesis in the study.

Holding period return

$$R_{it} = \frac{P_{it+1} - P_{it}}{P_{it}} \quad (2)$$

where R_{it} is the return of share *i* at time *t*; P*it* the price of share *i* at time *t*; P_{t+1} the price of share *i* at time t+1. The data are obtained as monthly data and the total return is then annualized from 2010 to 2018. Data are obtained from the McGregor BFA database.

Sharpe index

$$Si = \frac{R_{it} - R_{ft}}{\sigma_{it}} \qquad (3)$$

The Sharpe index S_i is calculated using the monthly average rate of return, where R_{it} is the return of a share of firm *i* at time t; R_{ft} is the three-month South African government bond and the risk-free rate. σ_{it} is the standard deviation of monthly returns of Share i at time *t*

Beta

The beta and alpha values for this investigation are derived using capital asset pricing model (CAPM). The equation used has been used by several authors in finance and real estate literature and is as follows:

$$R_{it} - R_{ft} = \alpha + \beta (R_{mt} - R_{ft}) + \epsilon_{it} \qquad (4)$$

where R_{it} is the monthly return of firm I at time t; Rft is the one-month South African government bond and the risk-free rate; β is beta; R_{mt} is the monthly market rate, in this case the monthly market rate is the market risk premium being the difference between the expected return on a market portfolio and the risk-free rate of return at time t; α is alpha, and ∑ is an error term.

The firms were initially categorized into local and foreign biased for each year of investigation. The threshold set for determining if a company is either foreign biased or local biased was based on the value of the total asset base that is located outside of South Africa. This as a result of finding different betas for each group of REITs. The monthly returns of each REIT for each company were used to calculate the value of R_{it} monthly return in the same manner that the calculations were performed for the rate of returns stated above. The risk-free rate of return R_{ft} was also calculated on a monthly basis by using the monthly price of the three month government bond. As with the risk-free rate of return, the market return is a monthly return. Equation (4) will plot R_{it}-R_{ft} against R_{mt}-R_{ft} where the gradient of the line is β and α being the intercept. The regression was compiled on an annual basis, meaning one figure for each year within the focus period.

In Keng TY, (2009) it classified local and foreign biased Listed Property Trusts (LPT) as real estate companies that owned assets outside of Australia. This separation was done both on a partial and fully internationalized LPT, where the fully international were entities that had 100% of their assets out of the country and the partial where companies had a segment of their portfolio out of the country with the largest of these owning no more than 20% of international assets as part of its total portfolio. For definition in this study we have classified locally focused and foreign focused on the basis of a percentage threshold 25% in terms of what constitutes international assets against the total portfolios.

In South Africa historically, the local property sector was previously split into what were termed Property Unit Trusts (PUT) and Property Loan Stock companies (PLS). In a PUT, investors acquired participatory units in a portfolio of investment properties which were held in the form of a trust and are managed by an external manager. The distribution of rental income from the PUT was tax-neutral in the hands of the PUT if the rental income flows through to investors during the same tax year in which such income was earned. PLS companies achieved roughly the same results, but often without the official sanctioning and restrictions regarding their gearing and pay-out ratios. PLS investors acquired a linked unit comprising a debenture linked to a share, with a “distribution” by the PLS in the form of tax deductible interest which results in the PLS reducing its taxable income. A PLS could be managed internally or externally, although there was a clearer trend towards internal management.

The PUT and PLS structures were subject to uneven regulation as, although both the PUT and the PLS were subject to the listings requirements, only the PUT was subject to FSB regulation. Accordingly, the PUT was less flexible in nature in comparison to the PLS and the PLS lacked tax certainty. Furthermore, as discussed above, the net effect of the PUT and PLS is that rental income received or accrued by the vehicle is effectively only taxed in the hands of the investor. However, although the South African property sector has delivered favourable forward yields compared to global standards in recent years, neither the PLS or PUT offered international investors the uniformity and simplicity to facilitate international investment. For this reason, the Property Loan Stock Association (“PLSA”) spearheaded the establishment of a “best-of-breed” REIT vehicle to encourage foreign investments into the South African property sector.

An issue which also came under the scrutiny of the National Treasury was the tax deductibility of the interest paid by the PLS to its debenture holders. In this regard the Explanatory Memorandum noted that from a substance-over-form point of view an "excessive level of interest (along with the profit-like yield)" makes this form of interest questionable in tax terms and "to accept this practice is to essentially abdicate the question of debt versus equity." According to the Explanatory Memorandum the yield in respect of these debentures should rather be viewed as dividends. The proposed provisions regarding REIT structures were therefore put in place to give rise to greater certainty regarding the tax implications in this regard.

Table 3 shows the trends in the number of REITs which were locally focused and foreign focused throughout the years revealing that from 2010 majority of REITs were locally focused, with rapid growth offshore largely taking place from 2014 onwards. The number of foreign focused REITs increased from 1 in 2011 to 4 by 2014 and up to 10 in 2018. Of interest is the shift in the composition of the local REIT market, with the number firms with offshore exposure remaining below 10, however of the total market capitalization of the REIT sector the split in market capitalization of individual firms is largely even from 2014 onwards. This indicating that influential market leading companies were largely leaders in exploring and taking offshore positions.

Table 3: Summary of descriptive data

Year	Number of REITS All		Local		Foreign		Market capitalisation of firms All		Local		Foreign	
2010	13	100%	13	100%	0	0%	92.543	100%	92.543	100%	0	0%
2011	19	100%	18	95%	1	5%	101.010	100%	81.103	80%	19.907	20%
2012	20	100%	19	95%	2	10%	148.719	100%	122.715	83%	26.004	17%
2013	21	100%	18	86%	3	14%	170.933	100%	115.3811	68%	55.552	32%
2014	21	100%	17	81%	4	19%	239.882	100%	131.319	55%	108.563	45%
2015	23	100%	20	87%	4	17%	312.835	100%	152.96	49%	159.875	51%
2016	27	100%	22	81%	5	19%	374.498	100%	198.451	53%	176.047	47%
2017	29	100%	20	69%	9	31%	421.634	100%	96.028	23%	325.6061	77%
2018	29	100%	19	66%	10	34%	337.204	100%	83.929	25%	253.275	75%

Source: Company data

The first REIT to make an offshore investment was Growthpoint in 2009 through its investment into Orchard Industrial Property Fund and the most recent REIT in the sample size to make its foray offshore being Equites Property Fund. The next REIT to move offshore would be Redefine in 2011 followed later in 2013 by the Resilient group

of companies, Fortress REIT and Resilient REIT. These funds through the period of 2010 to 2015 would dominate as the foreign focused group of REITs with significant offshore growth as show in the table taking place from 2017, where the number of foreign focused REIT rose from 5 to 9. In this same period the shift based on market capitalization would also rise from 47% to 77% in terms of offshore focused REITs as a percentage of the total REIT market capitalization on the JSE.

The number of firms with offshore exposure has remained relatively steady during the period investigated aside from the rapid growth in 2017, however of interest has been the consistent growth in market capitalization of offshore focused firms. This indicating that the offshore strategies of these companies became more entrenched and that REITs in this space found it easier to grow off an existing platform. The increase in market capitalization contribution of offshore REITs rose from R19.9 billion in 2011, representing 20% of total market capitalization to R325.6 billion by 2017, representing 77% of total market capitalization. The rapid increase may in large part have been driven by the dynamics of a weakening local currency where REITs with offshore exposure would likely have delivered better returns given the currency tailwinds. South African REITs in a deteriorating currency environment, used the ability to use local balance sheets to raise debt offshore, thus resulting in lower hard currency borrowing costs and a positive yield spread in markets where interest rates remained substantially lower than income yields. Strong hard currency growth would result in inflated income being repatriated to South Africa, thus resulting in higher dividend growth and stronger returns This naturally would have led to an increase in the allocation of capital to these REITs as fund managers would have invested more capital in a bid to generate higher returns.

As shown in Table 3, after separating the REITs into locally focused and foreign focused for each year, the two have followed a trend of inverse contribution, whereby the locally focused REITs composition to the total market capitalization has steadily declined and the inverse where the foreign focused REIT composition has steadily grown. The locally focused contribution to overall market capitalization of REITs on the JSE has declined from R92.5 billion to R83.9 billion between the years of 2010 and 2018, whereas the foreign focused REIT growth has increased from a base of zero to R253.2 billion having peaked in 2017 at R325.6 billion.

In summary, locally focused REITs had a higher market capitalization than foreign biased REITs in the years 2010, 2011, 2012, 2013 and 2014, the market capitalization for foreign biased REITs was higher in the years 2015, 2016, 2017 and 2018 which is a function of gradual investment allocation to assets outside of South Africa. With the larger REITs such as Growthpoint, Fortress and Redefine being the influence as they represent a significant portion of the total market capitalization. According to the market capitalization we find that foreign biased REITs in number remained relatively stable through the period studied, aside from the last two years were the number of REITs classified as offshore rose significantly in number. The factors here being twofold in these offshore businesses growing rapidly and the allocation of capital and growth in market capitalization of these REITs being factors in their increased contribution.

Chapter 4: Analysis and Results

4.1 Annualized returns and Sharpe ratios

Table 4 indicates the annualized returns, risk and Sharpe ratios for the constructed indices which include; equal weighted (EW)[2] and value weighted (VW)[2] locally focused REIT returns and equal weighted and value weighted for foreign focused REIT returns for the period 2010 to 2018.

In our study we created indices based on historical data:

The indices data was collated as follows:

- A clear distinction was made of segmenting the listed property stocks into REITs and non-REITs. Given that REIT legislation was only enacted in May 2013, companies who previously fell within the PUTs and PLS structure which had now become REITs were included so as to lengthen the population observation period.
- Company data was sought to establish which REITs were to classified as local and which REITs to be classified as foreign REITs. This was based on using gross asset value and then calculating a percentage exposure to the domestic market and to foreign markets. Listed offshore holdings were also considered as part of the asset base in the calculation. Note some REITs over the observation period would go from being classified as local to being reclassified as being foreign. The data would thus be adjusted accordingly.
- Historical total return data was sourced using BFA INET Bridge as a source with the data collated based monthly returns of each individual stock then collated to give an annual return. This for all stocks listed on the JSE in the given year within the observation period.
- Annual returns for each stock were collated to create the varying indices

- Equal Weighted (EW) and Foreign Equal Weighted (FEW) – based on each share contributing equally in terms of weighting in the index, split according to the geographic exposures.
  - Calculation

	Market Capitalisation	
Company A	R6 billion	
Company B	R3 billion	
Company C	R1 billion	
Total Market Cap of all companies	R10 billion	
Equally Weighted Index		
Company A	=	33%
Company B	=	33%
Company C	=	33%

- An equally weighted index weights each stock equally regardless of its market capitalization or economic size (sales, earnings, book value). The formula uses the equal weighted average returns, tends to favour smaller companies if they are numerous in terms of this method of calculation.
- Value Weighted (VW) and Foreign Value Weighted – based on each shares market capitalisation, where size of the stock relative to the entire REIT market capitalisation would determine the weighting of the stock within the index.
- A Value Weighted Index weights stocks within the relevant universe based on a calculation of each stock's absolute and relative value as compared to the other stocks within the index universe. The index is continually rebalanced to weight most heavily those stocks that are priced at the largest discount to various measures of value. The index is updated as prices and company fundamentals change.

Local EW returns show positive returns for the years 2010, 2011, 2012, 2013, 2014 and 2016. The VW local index shows positive returns for the years 2010, 2011, 2012, 2013, 2014, 2016. The EW index contributed negative returns for the years 2015, 2017

and 2018, with the VW local index returning negative figures for the years 2015, 2017 and 2018. The cumulative return for the local EW and VW indices from 2010 to 2018 is 95.29% and 82.99% respectively.

The annualized returns for foreign EW and VW index also show a positive correlation with the returns for the period 2010 to 2018 coming in at 9.25% and 76.85%. Based on the index performance both local and foreign over the period delivered strong positive performance, however with the local EW outperformed the foreign EW and local VW delivered superior performance to the foreign VW. This differentiated from research done by (Keng, 2009) in Australia on LPTs where the foreign indices outperformed the domestic focussed indices.

The Sharpe ratio is the adjusted return per unit of risk for an asset or portfolio; a higher Sharpe ratio is more attractive to investors since a unit of risk contributes to a high return, this is also used as a measure of performance between the local and foreign REITs in this study. As evident in the formula a negative Sharpe Ratio indicates that the assets return was less than of the risk-free rate. Based on the period reviewed from 2010 to 2018 the local EW and VW index measured 0.05 and -0.07 respectively, this illustrating a mixed contribution result for locally focused REITs.

The results for the foreign EW and VW indexes were 0.01 and -0.03 respectively again illustrating a mixed result as a function of contributing more risk. The local and foreign measures show different results, where on an EW basis both local and foreign show positive contribution to returns whereas for the VW the added unit of risk impacts negatively on VW index returns for both local and foreign REITS. When using the Sharpe ratio for comparison purposes local EW outperforms significantly over the majority of the study period, when compared to the foreign EW index. The same measure deliverers a similar result when compared to the local VW and foreign VW indices using the Sharpe ratio for VW indexes.

Table 4: Total return risk and Sharpe ratio

Year	Local equal weighted Return (%)	Risk (%)	SR	Foreign equal weighted Return (%)	Risk (%)	SR	Local value weighted Return (%)	Risk (%)	SR	Foreign value weighted Return (%)	Risk (%)	SR
2010	20.51%	15.85%	-3.63%	0.00%	0.00%	0.00%	21.51%	2.30%	-24.69%	0.00%	0.00%	0.00%
2011	26.21%	26.96%	27.22%	-0.21%	-7.05%	-4.06%	2.61%	2.06%	13.39%	-2.53%	3.17%	8.32%
2012	32.80%	16.68%	25.49%	6.62%	3.90%	-24.67%	20.11%	2.88%	-40.66%	29.32%	5.85%	-18.40%
2013	5.35%	16.30%	5.24%	2.32%	11.65%	2.16%	28.20%	8.30%	2.13%	2.97%	5.98%	-0.06%
2014	16.82%	23.87%	15.92%	11.73%	28.86%	10.99%	15.10%	3.28%	-5.24%	25.96%	4.01%	-3.15%
2015	-3.48%	16.45%	7.85%	8.65%	44.61%	12.83%	-3.63%	4.82%	38.36%	21.62%	5.87%	33.58%
2016	13.06%	12.05%	7.33%	0.93%	11.95%	-4.84%	10.54%	4.95%	-13.07%	3.96%	3.70%	-18.30%
2017	-11.66%	14.87%	-13.37%	6.65%	15.14%	4.98%	-8.75%	2.77%	-9.86%	12.17%	2.26%	-10.21%
2018	-4.31%	10.66%	-13.21%	-27.44%	24.90%	-31.25%	-2.70%	3.50%	-27.50%	-16.62%	5.88%	-18.52%
2010-2018	**95.29%**	**17.08%**	**6.54%**	**9.25%**	**14.88%**	**-3.76%**	**82.99%**	**3.87%**	**-7.46%**	**76.85%**	**4.08%**	**-2.97%**

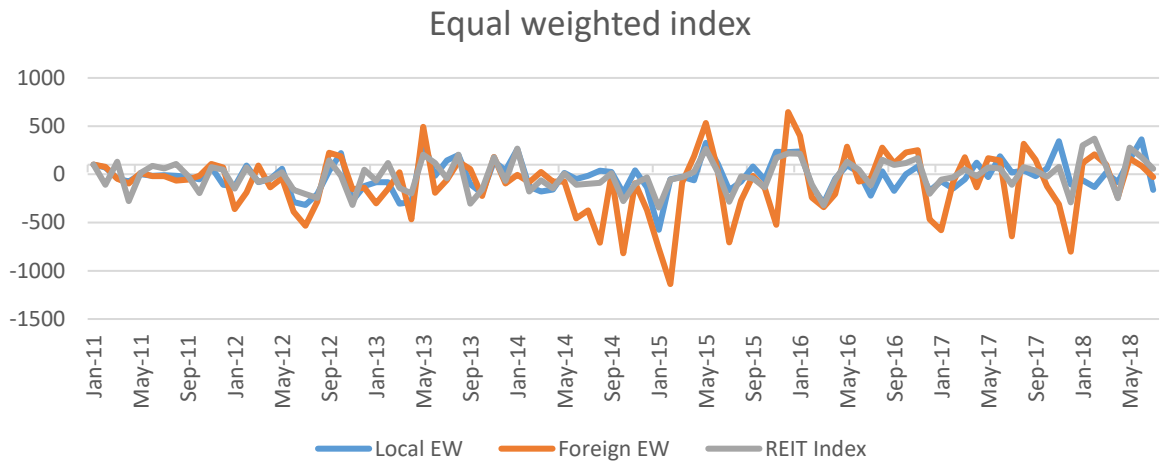
As illustrated above in the index construction, the FTSE/JSE SA REIT Index is used as a comparison tool when running historical comparable data of the local and foreign indexes. The SA REIT Index consists of FTSE/JSE All Share Index constituents which are designated as SA REIT where the constituents are classified under SA REITs where the weighting in the index is based on investable market capitalisation.

In the figures below, the data is classified into the groupings based on local and foreign equal weighted indices, along with local and foreign value weighted indices. The indices were constructed from 2010 to 2018 and compared with the other property indices in South Africa. As seen in Figure 2 the local EW index tracks the REIT index closely over the period, whilst the foreign EW initially performs in line with the comparable indexes however begins to show more volatility in terms of performance in 2015 and late 2017 into 2018.

Exaggerated volatility is largely related to specific company events, driven by idiosyncratic events; notably in 2015 at the announcement of the potential withdrawal of South Africa from the All World Bond Index and in late 2017/early 2018, a function of market manipulation claims against the Resilient stable of companies. However, the EW index shows that REITs trade largely within a thin band in terms of return profile with the EW tracking the REIT index relatively closely over the study period of 2010 to 2018. DeLisle & Mckay Price, (2010) found that idiosyncratic volatility and expected

returns should remain positively related if investors demand a premium for the inability to fully diversify risk.

Figure 2: Equal weighted index of property companies



Kawaguchi, et al., (2012) found that the relation between changes in equity value and equity volatility for levered REITs may at times be positive or negative. In the study to examine whether volatility of REIT returns can transmit across national markets (Li & J, 2012) find that investors would get more portfolio risk diversification benefits by investing in real estate securities from countries that have a lower integration between their property sector and the general stock market. But given these circumstances it was still enough to infer that the relationship between international real estate securities markets movements has a practical use for formulating international portfolio strategies.

Figure 3: Value weighted index of property companies

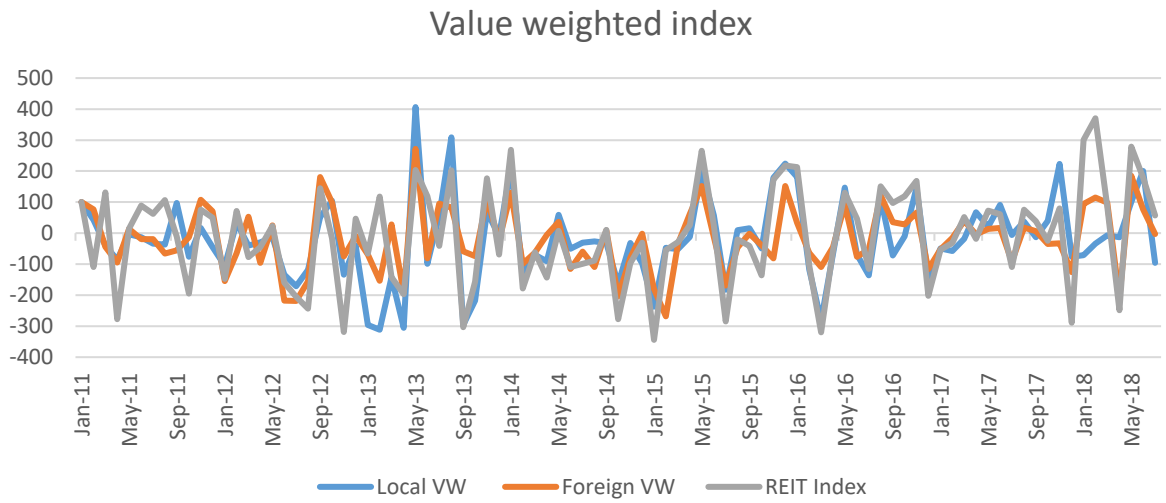


Figure 3 below depicts that all three indexes track performance relatively closely over the investigation period, with the local VW index underperforming the foreign VW index marginally over the period. In a similar study by Mueller & Anderson, (2002) analysis of the performance before and during the crisis (respectively 2003-2007 and 2008-2013) showed that home biased REITs performed worse with respect to diversified REITs after the crisis, on the probability that due to internationally diversified investments across macro areas in a market downturn proved to be advantageous. Evident in the results however, over the period is that listed property returns track closely regardless if they are local or foreign. What one could infer from these results is that the market participants view towards listed property may operate in unison in that when the view is negative the market may adopt a negative sentiment to the market resulting in the entire market underperforming regardless of whether it is foreign or locally focussed stocks.

This holistic view to property is likely the influence in performance tracking so closely, as the view towards the asset classes based on the data below appears to simulate regardless of REIT portfolio composition. (Keng, 2009) also found that the domination of one stock in both international indices may cause resemblance in the performance of the indices. This we think also could have contributed in playing a role in the local VW and foreign VW indices in the South African REIT market, where single stocks at different points in time may have driven performance based on which side of the spectrum, they fell in either being local or foreign. An example of this being Redefine who in the observation period varied from being classified as local and foreign and

given its size within each of the indexes could have had a significant amount of influence on performance.

Tables 5 and 6 show the results of the regression model analysis as estimated from equation (3), Table 5 shows the regression analysis of the locally and foreign focused equal weighted and the value weighted constructed index from 2010 to 2018.

Based on the beta (risk) results as seen in Tables 5 and 6 with regards to the interpretation of beta, aside from foreign value weighted index in table 5, all indices depict less risky stock composition as they are all below one and therefore, we can infer that they move slower than the market

Table 5: Regression analysis on local and foreign property index

Portfolio	α	β	Obsv.	R^2 (%)
Local EW index	0.0436	-0.0005	91	0.4442
Foreign EW index	0.0132	0.0004	91	0.4439
Local VW index	0.0046	0.8851	91	0.4464
Foreign VW index	0.006	1.0125	91	0.5139
REIT Index	0.0130	0.0002	91	0.0327

Notes: Table 5 includes the results of the regression analysis of the adjusted monthly returns of the locally biased EW REIT and VW REIT indexes, along with the EW and VW Foreign biased REIT indexes, and the REIT index, as the market index. Computed at a significance level of 0.1

This consistent with findings in past literature where real estate portfolios are considered to have lower risk and lower correlation to the market Tsai, (2013). Table 6 results indicate that local REITs in the period 2010 to 2018 are more volatile than foreign biased REITs, the beta co-efficient for local REITs is 1.6124 significant at the 5% level whilst the beta co-efficient for foreign biased REITs is 0.7304 significant at the 5%. Past literature indicates that diversification has tended to result in improved performance in return performance Eichholtz, et al., (2001).

Based on the alpha (outperformance) results in the tables 5, the South African market appears to be in line with past literature where the home bias of domestic markets has often resulted in the locally biased stocks outperforming their peers Keng, (2009). Both the equal and value weighted indices outperform indicating that domestic bias would have produced superior returns. This is however in contrast with table 6 where over

the period 2010 to 2018, foreign biased REITs produced better alpha over the period effectively nullifying the results in table 5. On an annual basis with performance measures such as annualized returns, Sharpe ratios and alpha are employed, the data depicts local REITs outperforming for six of the nine years, however outperformance marginal in those years. Foreign biased REITs outperform for three of the nine years, however the outperformance in those years proves to be significant relative to the local peers. Hence possibly resulting in an influence in terms of performance over the entire period.

Table 6: Regression analysis on local and foreign companies

Portfolio	Year	α	β	Obsv.	R^2 (%)
Local REITs	2010-2018	-0.0081	1.6124	1746	0.3085
Foreign REITs	2010-2018	0.0061	0.7304	540	0.3917
Local REITs	2010	0.0164	0.1842	144	0.2126
Foreign REITs	2010	0	0	0	0
Local REITs	2011	0.0027	-0.1747	177	0.0387
Foreign REITs	2011	0.0019	0.3208	103	0.0771
Local REITs	2012	0.0002	-1.6523	216	0.472
Foreign REITs	2012	0.0029	1.2273	24	0.5772
Local REITs	2013	-0.0169	0.9679	204	0.1492
Foreign REITs	2013	0.0062	0.5526	36	0.2681
Local REITs	2014	-0.0467	0.007435	221	0.1924
Foreign REITs	2014	0.0157	0.6577	55	0.2956
Local REITs	2015	0.0845	-0.00399	228	0.3082
Foreign REITs	2015	0.0168	0.9998	60	0.3946
Local REITs	2016	0.0136	-0.00366	240	0.7597
Foreign REITs	2016	0.0034	0.6526	72	0.8185
Local REITs	2017	0.0761	-0.00889	204	0.7697
Foreign REITs	2017	0.0074	0.674	120	0.8081
Local REITs	2018	0.1843	-0.01417	112	0.92
Foreign REITs	2018	0.0192	1.5133	70	0.9162

Notes: Table 6 represents the results of the regression analysis of the adjusted monthly returns of individual locally focused REITs and foreign biased REITs from the period 2010 to 2018 and each individual year (2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017 and 2018) of the period researched. The market index used is the REIT index.

Results in Table 7 further illustrate that returns are not consistent from year to year potentially as a function of differing market cycles. The results on the difference in performance between foreign and local SA REITs are mixed depending on the study

period, methods used in computing the difference indices (value vs equal weighted) and risk adjusted return measures used (Sharpe ratio vs Jensen's alpha). REITs as shown in the tables above whether foreign focussed or locally focussed have tended to display consistency and the low risk nature of investment as is normally expected of real estate, with most betas over the periods below one. The South African real estate market remained largely unaffected in the aftermath of the financial crisis, with the market largely growth driven underpinned by steady and growing income streams. The alpha co-efficients in Table 7 at a significance level of 1% show marginal outperformance across both foreign and local focussed REITs.

Table 7: Regression analysis on local and foreign companies

Portfolio	Year	α	β	Obsv.	R^2 (%)
Local REITs	2010-2012	0.0003	0.4286	24	0.0963
Foreign REITs	2010-2012	0.0042	0.4257	24	0.181
Local REITs	2013-2015	0.0486	0.8152	24	0.2088
Foreign REITs	2013-2015	0.0125	0.7685	24	0.3292
Local REITs	2016-2018	0.0358	-0.8349	24	0.6848
Foreign REITs	2016-2018	0.0049	0.9935	24	0.787

Notes: Table 7 represents the results of the regression analysis of the adjusted monthly returns of individual locally focused REITs and foreign biased REITs from three varying periods: 2010-2012; 2013-2015 and 2016-2018. Computed at a significance level of 0.1

Chapter 5: Conclusion

The main research question of this study sought to answer - Have foreign-biased South African REITs outperformed their home-biased domestic REIT peers? The decision to remain home biased or incorporate offshore investments remains a critical one to the fortunes of a REIT real estate stock. Venturing offshore introduces a different set of risks and benefits, along with difficulties as access and entry are often challenging at the offset. The challenge is in understanding the costs to the decision to invest offshore and whether the benefits outweigh.

The results of our study indicate that locally biased equal weighted index outperforms in different years of the period of study. When comparing the balance of the indices and their performance relative to each other the performance largely tracks quite closely with marginal outperformance on an interchangeable basis between the local and foreign biased indexes and individual REITs. The measure of performance in this study included annualized returns, Sharpe ratios as well as alpha coefficients. Overall what is clear from these results is that it is not easily clear to depict between the locally biased and foreign biased index peers in terms of performance. Results over the period of study do indicate that foreign REITs do outperform their local peers when judging the comparable alphas over the period. However, of significant interest is in how outperformance is achieved within segmented period between 2012 and 2014. There would naturally point towards market cycle bias in the results where possibly foreign REITs were favoured over local REITs and vice versa in differing years. There is also the likelihood of non-market related factors influencing investment decisions and the significant growth by South African REITs into markets outside of the country taking place largely between the years of 2012 and 2015, where foreign REITs on a market capitalisation basis grew from being 17% contributors to 51% by 2015, as depicted in table 3.

Real estate is naturally a low risk, low volatility asset classes depicted in the low individual stock betas. Therefore, on a risk adjusted basis returns from locally focused REITs show a steady profile over the long term with limited short-term volatility between the monthly cycles.

In research conducted by Kalok, et al., (2005) they conclude that different countries conclude on differing levels of home and foreign bias. In Keng, (2009) he concludes

that investors typically prefer pure plays and that diversification at portfolio level is usually easier to achieve diversification through investing in international securities rather than through diversifying the underlying portfolio. Ke, et al., (2010) in their study on home bias in foreign investment decisions found that the benefits of international diversification derived from cross border holdings were overestimated. Even in the instance where their analysis controlled for cross border barriers the findings reveal that investor familiarity contributes to the observed home bias. As with J-REITs venture into the offshore space Yanagihara & Kim, (2016) the market reaction is positive but, in its infancy, as noted in our research to be able to make discernible decisions that having foreign bias will be more beneficial. Keng, (2009) found that in the Australian LPT market that internationally focused LPT's outperformed all other sector indices both on an absolute and risk adjusted basis.

International diversification in South Africa is younger than 10 years thus resultantly the local REIT market still remains relatively underdeveloped in this sphere. This has thus made our investigation period biased towards the data available. Limitation in the study is largely through the fact that REIT legislation is still in its infancy having been promulgated in April 2013. Although listed property has existed since the 1980's the move into offshore markets is largely linked to the turn into the new millennium. Growth has been rapid however originally centred to a limited array of companies and only more recently becoming more widespread at scale where local REIT portfolios boast offshore assets in excess of 20% of total portfolio composition.

We have thus used previous dispensation classifications to aid in developing historic REIT performance across individual shares listed on the local exchange. The results of which indicated that through our investigation applying statistical measures such as annualized returns, Sharpe ratios and alpha coefficients show that foreign focused REITs outperformed their local biased peers. Our results illustrate that there is nothing that distinctly indicates that foreign biased REITs underperform their locally focused peers, over a significant period of time, but that rather that the performance fluctuates in different market cycles. Indicating that across all statistical measures explored including annualized returns, Sharpe ratios and alpha our question posed as part of the study of this report does not appear to confirm a positive outcome in terms of

foreign biased REITs outperforming locally focussed REITs, as there is nothing conclusive in our findings to support this view. Thus, not explicitly indicating that there are significant benefits in South African REITs diversifying their portfolios offshore as a means of generating superior returns to the locally focussed REIT peers

Our recommendation is that further study of this topic be explored, further understanding of how South African REITs are moving into new offshore markets and whether there is any distinction between geographies invested in with regards to return performance. Along with whether on a longer term basis it will indeed continue to point to that fact that foreign exposure of local REITs will continue to prove beneficial to performance.

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