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Do South African private equity firms with portfolio companies in the rest of Africa have better returns than the Johannesburg Stock Exchange (JSE) Top 40 index companies with operations in the rest of Africa?

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ABSTRACT

The performance of private equity companies compared to that of major stock exchange indices has been well researched internationally. Benchmarking the performance of private equity enables investors to build a compelling investment case for investing in this asset class, as a channel to diversify their portfolios. The issue of liquidity and higher fees associated with private equity when compared to other asset classes, is considered to be one of the main factors that reduce investor appetite for private equity.

This study focuses on the performance of South African private equity firms with portfolio companies in the rest of Africa compared to that of JSE Top 40 companies with operations in the rest of Africa. The returns of the private equity firms are compared to those of the JSE companies over a ten-year period.

Private equity firms are determined to have outperformed the JSE companies. An average return of 25.93% was achieved by private equity compared to the average return of 14.35% for JSE companies. These returns were calculated gross-of-fees for both groups therefore net-of-fees and adjusting for risk may alter the findings of this study. Gross-of-fees, private equity companies performed better than the JSE companies for the period reviewed.

KEYWORDS: private equity; JSE; Africa; investment return; diversification

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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CONTENTS

ABSTRACT	ii
KEYWORDS	iii
DECLARATION	iv
CONTENTS	v
LIST OF FIGURES	viii
1. INTRODUCTION	1
1.1. Background	1
1.2. Research Title	2
1.3. Research Problem.....	3
1.4. Problem statement and research objectives	3
1.5. Research motivation and business rationale.....	4
1.6. Conclusion.....	5
2. LITERATURE REVIEW	6
2.1. Introduction.....	6
2.2. Private Equity	7
2.3. The PE Investment Process	8
2.4. Private Equity Performance (Returns) Measures	12
2.5. Private Equity versus Listed Shares.....	14
2.6. Secondary Markets	17
2.7. Comparing PE Performance to Performance of a Listed Share.....	18
2.8. Correlations: Sector & Performance & Entry Barriers	20
2.9. Conclusion.....	22
3. RESEARCH QUESTIONS	24
3.1. Research Question 1.....	24

3.2.	Research Question 2.....	24
4.	RESEARCH METHODOLOGY.....	25
4.1.	Introduction.....	25
4.2.	Research design	25
4.3.	Unit of Analysis.....	25
4.4.	Reliability and Validity	26
4.5.	Population	26
4.6.	Sampling Method and Sample Size	26
4.7.	Measurement Instrument	27
4.8.	Data Collection	27
4.9.	Data Analysis	28
4.10.	Limitations	32
5.	RESULTS.....	34
5.1.	Introduction	34
5.2.	Attributes of the Samples.....	34
5.3.	Tests for Normality	35
5.4.	Research question 1 main findings.....	44
5.5.	Research question 2 main findings	47
6.	DISCUSSION OF RESULTS	52
6.1.	Introduction	52
6.2.	Summary of the results	52
6.4.	Research Question 1.....	55
6.5.	Research Question 2.....	62
6.6.	Conclusion of findings	65
7.	CONCLUSION	67
7.1.	Introduction.....	67
7.2.	Principal findings	67

7.2.1. PE Firms v JSE Top 40 Firms	67
7.2.1.1. Private Equity as Diversification Strategy and liquidity risk.....	68
7.2.2. Performance Variations by Sector.....	69
7.3. Implications for Investment Managers.....	69
7.4. Limitations	71
7.5. Suggestions for future research	71
REFERENCES	73
APPENDICES:	79
APPENDIX 1: Summary of Data Processed JSE Companies	79
APPENDIX 2: Summary of Data Processed Private Equity.....	79
APPENDIX 3: 10 Year JSE Companies	79
APPENDIX 4: Ethical Clearance.....	80

LIST OF FIGURES

Figure 2. 1 Literature Review Structure.....	6
Figure 2. 2 Overview of a typical Private Equity Structure (Gilligan & Wright, 2014)8	
Figure 2. 3 Illustration of the PE Investment Process	8
Figure 2. 4 Value Add Strategy (Ethos Private Equity, 2017)	10
Figure 2. 5 Compound Annual Growth Rate Formula (Moodley, Muller, & Ward, 2016).....	20
Figure 4. 1 Sample composition.....	30
Figure 4. 2 PE Firms v JSE Firms Average Internal Rate of Return	31
Figure 5. 1 Composition of Samples by Unit of Analysis.....	34
Figure 5. 2 JSE companies' composition by sector.....	35
Figure 5. 3 Histogram for IRR Private Equity Firms	36
Figure 5. 4 Histogram for JSE Firms' IRR.....	37
Figure 5. 5 Normal Q-Q Plots for Private Equity IRR	38
Figure 5. 6 Normal Q-Q Plot JSE Firms' IRR	39
Figure 5. 7 Shapiro-Wilk test for normality IRR	39
Figure 5. 8 Histogram Private Equity Firms' IM.....	40
Figure 5. 9 Histogram JSE Firms' IM.....	41
Figure 5. 10 Normal Q-Q Plot Private Equity Firms' IM.....	42
Figure 5. 11 Normal Q-Q Plot JSE Firms' IM	43
Figure 5. 12 Shapiro-Wilk test for normality IM	43
Figure 5. 13 PE Firms v JSE Firms Average Internal Rate of Return (IRR).....	44
Figure 5. 14 PE Firms v JSE Firms Average Internal Rate of Return (IM).....	45

Figure 5. 15 Group Statistics	45
Figure 5. 16 Independent samples test IM	46
Figure 5. 17 Independent samples test IRR	46
Figure 5. 18 Average returns (IRR) by Sector	47
Figure 5. 19 IRRs by sector with averages	48
Figure 5. 20 Average returns (IM) by sector	49
Figure 5. 21 Average returns (IM) by Sector with total average benchmark	50
Figure 5. 22 Spearman's rank-order correlation	51

1. INTRODUCTION

1.1. Background

Reports of listed South African companies expanding into the rest of Africa and failing spectacularly or being fined unbelievable sums of money leave much to be desired. Is there an alternative for the investor who wishes to capture the African growth story and earn a premium on the return of the invest?

This question has been the subject of a number of studies in the US and in the UK and a few other emerging markets. The question has been in a number of variations: “Does private equity perform better than listed shares, indices, etc.?”

Demaria (2015) defined private equity as an investment into a private company, in transaction that has been negotiated privately. Jegadeesh, Kräusl, & Pollet (2015) further described private equity as equity securities in companies that are not publicly traded. Private equity serves as an instrument for the distribution of this asset class to institutional investors and other capital market participants Jegadeesh, et al. (2015).

The discreetness of PE is exactly what makes it an obscure, illiquid and often difficult to analyse asset class. Private equity investing however, and indeed in the South African context, as Missankov, van Dyk, van Billion, Hayes, & van der Veen (2008) observed, has many advantages compared to investing in public and liquid asset classes.

In a study to determine whether the returns of Private Equity were superior to those of the major U.S. stock indices, Sharma, Singh, Gupta, Prashar (2014) found that most Private Equity firms in their study beat the major indices.

Although it is natural to benchmark PE returns against public markets, investing in a portfolio of PE funds across vintage years involves uncertainties and potential costs related to the long-term commitment of capital, uncertainty of cash flows and the liquidity of holdings that differ from those in public markets (Harris, Jenkinson, & Kaplan, 2014; Franzoni, Nowak, & Phalippou, 2012; Sorensen, Wang, & Yang, 2014)

The spectacular failures of recent years by JSE companies when expanding to the rest of Africa have formed the basis of this study. It is seldom that the successes of expanding into Africa are celebrated. The focus of this study will be to determine whether private equity firms that have portfolio companies in the rest of Africa i.e. have expanded into the rest of Africa, have generated returns that are superior to those of JSE Top 40 companies with operations in the rest of Africa.

1.2. Research Title

“Do South African Private Equity Funds with portfolio companies in the Rest of Africa have better returns than the Johannesburg Stock Exchange (JSE) Top 40 index companies with operations in the Rest of Africa?”

The benchmarking of private equity performance on indices of listed shares has been researched extensively in the US with a few studies appearing sporadically in other parts of the world.

Private equity is an asset class that invests by acquiring companies usually through debt with the assets of the company being acquired used as collateral for the debt. The private equity firm as the new owner of the acquired company, uses levers such as financial engineering, operational engineering, and governance engineering (Tykvová & Borell, 2012; Gompers, Kaplan, & Mukharlyamov, 2016; Lerner, Hardyman, & Leamon, 2012).

As one of the oldest stock exchanges in the world, the Johannesburg Stock Exchange or simply the JSE, provides a platform that facilitates the trading of shares amongst other instruments (Firer, Ross, Westerfield, & Jordan, 2012; de Kock, 2015)

This study is aimed at determining whether South African PE firms have a better return when investing in the rest of Africa compared to Johannesburg Stock Exchange (JSE) Top 40 index companies that have expanded to the Rest of Africa.

1.3. Research Problem

South African companies venturing into the rest of Africa has proved many a challenge. In 2012 Tiger Brands purchased a 63.35% stake in Dangote Flour Mills (DFM) for R 2.7 billion. By 2015, R 2.7 billion had been impaired with regards to the acquisition of DFM (Finweek, 2015). MTN also faced major challenges in Nigeria which resulted in a share price drop of more than 40% in a space of two years (Thomson Reuters, 2017). The question becomes; is PE a better alternative for investors looking to capture the growing African market compared to JSE Top 40 companies with operations in the rest of Africa?

de Kock (2015) stated that the objective of any investor is to achieve a return that is superior to that of the market. This study will examine whether an investor can achieve higher returns if they invest in South African private equity firms with portfolio companies in the rest of Africa compared to the returns that can be achieved by investing in JSE Top 40 companies with operations in the rest of Africa. The study will also evaluate the issue of diversify an investment into private equity as well as testing whether there is any relation between return and the sector that a company operates.

Literature that is specific to the South African discourse on the performance of private equity is sparse. This could possibly be attributed to the infancy of the South African private equity sector. This research will add to previous research on the performance of South African private equity firms using the stock exchange as a benchmark.

1.4. Problem statement and research objectives

1.4.1. Problem statement

Do South African Private Equity Funds with portfolio companies in Africa have better returns than the Johannesburg Stock Exchange (JSE) Top 40 index companies that have expanded to the Rest of Africa?

1.4.2. Objective

The main objective is to answer the question on whether South African Private Equity Firms with portfolio companies in Africa have better returns than the Johannesburg Stock Exchange (JSE) Top 40 index companies that have expanded to the Rest of Africa.

Secondary to the main objective is whether private equity becomes a viable strategy for diversification and lastly to test whether the performance of companies in the samples, correlates with the sector that the company operates in.

The findings of the research will potentially provide investors with a foundation to build a compelling investment case.

1.5. Research motivation and business rationale

Franzoni, Nowak, & Phalippou (2012) suggested that investing in private equity is among the preferred choices for long-term investors such as pension funds, who seek to diversify their portfolios. Such long-term investors are best suited for holding an illiquid asset (i.e., one that cannot be readily exchanged for money) such as private equity.

The purpose of this research is to determine whether private equity yields better returns for investors in the Rest of Africa (outside South Africa) ventures than the JSE Top 40 companies that have expanded into the Rest of Africa.

Tiger Brands is not the only major corporate to have ventured into the Rest of Africa without much success. In 2002 Telkom ventured into Nigeria and by 2012 it had incurred a loss of R 896 million which related to the sale of Multi-Links. In 2008 Allied Technologies (Altech) ventured into Kenya and acquired a few subsidiaries of Sameer ICT group. In its 2013 results, Altech reported a capital loss of R 730 million on account of its Rest of Africa ventures (Moneyweb, 2017).

The main concerns that investors have with investing in private equity is that the investments are illiquid. A commitment to invest means that the investment cannot be liquidated before the agreed tenure which can be in excess of ten years. Franzoni,

Nowak, & Phalippou (2012) stated that it should not be surprising that investments in private equity yield a premium relative to investing in public markets. The premium serves as a reward for exposure to illiquidity risk (Franzoni, Nowak, & Phalippou, 2012; Sorensen, Wang, & Yang, 2014).

Beyond illiquidity, there is also uncertainty regarding how much to commit to private equity so as to achieve a certain target portfolio allocation. Consequently, “commitment risk” exists when investing into private equity. This is due to the fact that once a commitment is made, it is hard to cancel it. The commitment into that particular firm, cannot be sold. By contrast there is no distinction between capital committed and invested in public markets, as trading is continuous and so one can always sell out of an investment earlier (Sorensen, Wang, & Yang, 2014).

This study will help determine whether South African PE firms have a better return when investing in the rest of Africa compared to JSE Top 40 Index companies that have expanded to the Rest of Africa. The study will further explore whether private equity is viable diversification strategy for investing into the rest of Africa. Finally, the study will test for a relationship between sector and performance.

1.6. Conclusion

The objectives of the study are aimed at using data to determine whether PE firms with portfolio companies in the roA perform better than JSE Top 40 companies with operations in the roA. The study will also explore whether private equity is viable diversification strategy for investing in the rest of Africa. Finally, the study will test whether the sector the company operates correlates to the performance of the company.

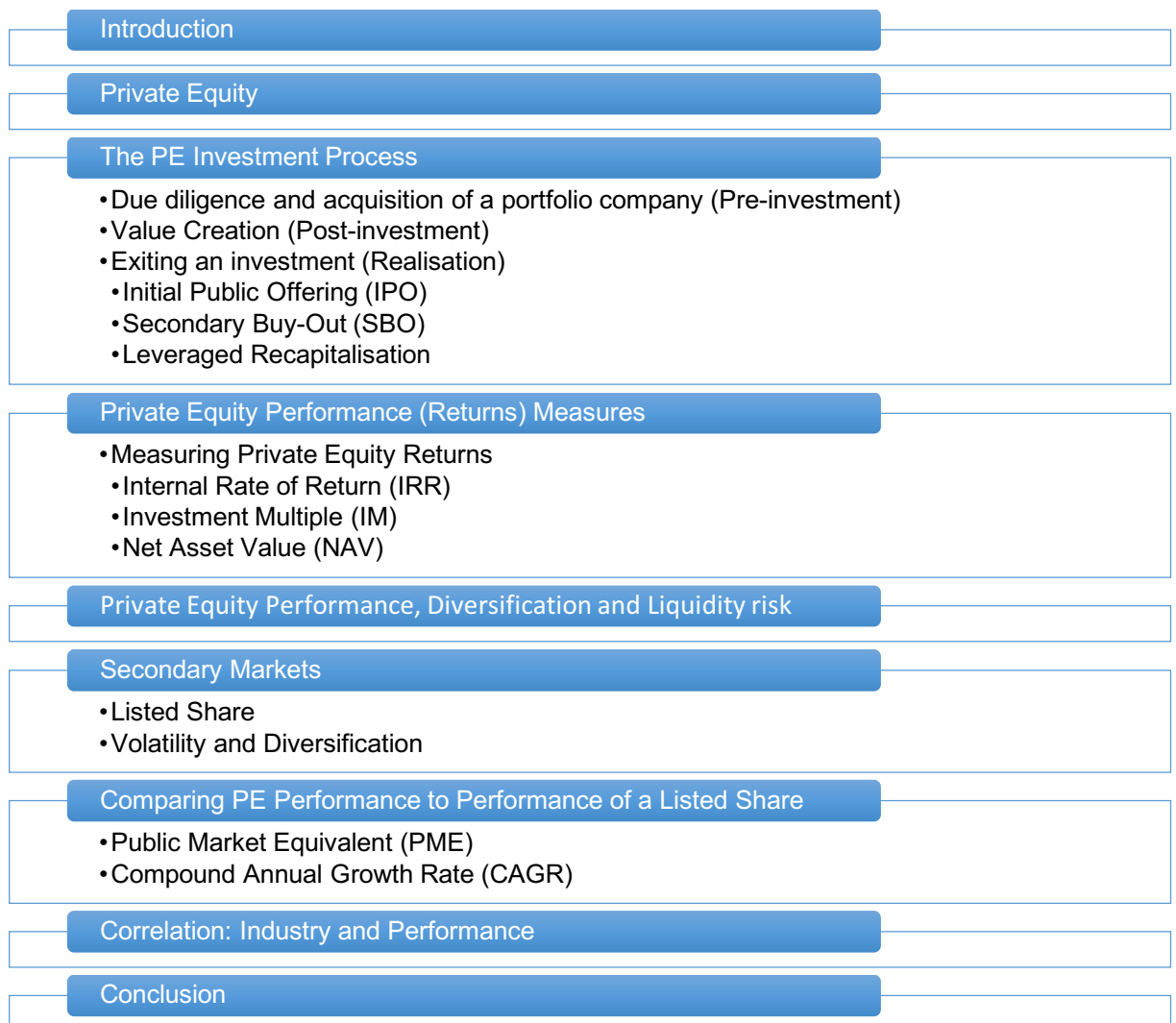
Chapter 2 of the research discusses literature review. In this chapter, the academic literature will shed light on the topic of study. Chapter 3 records the research questions. Chapter 4 outlines the research methodology used, the collection and analysis data. Chapter 5 is a presentation of the results. The results are discussed Chapter 6 with Chapter 7 concluding the research.

2. LITERATURE REVIEW

2.1. Introduction

The objective of this section is to perform a review of the body of theory that pertains to the subject. The section starts out by using theory to explore private equity. The review then explores the stages in the private equity investment process and the role they play the performance of private equity. Measures used by other studies, the performance of private equity benchmarked by the performance of stock markets, diversification into private equity as strategy, the relationship between sector and performance are explored. The chapter will conclude with the factors that shape the argument for this study.

Figure 2. 1 Literature Review Structure



2.2. Private Equity

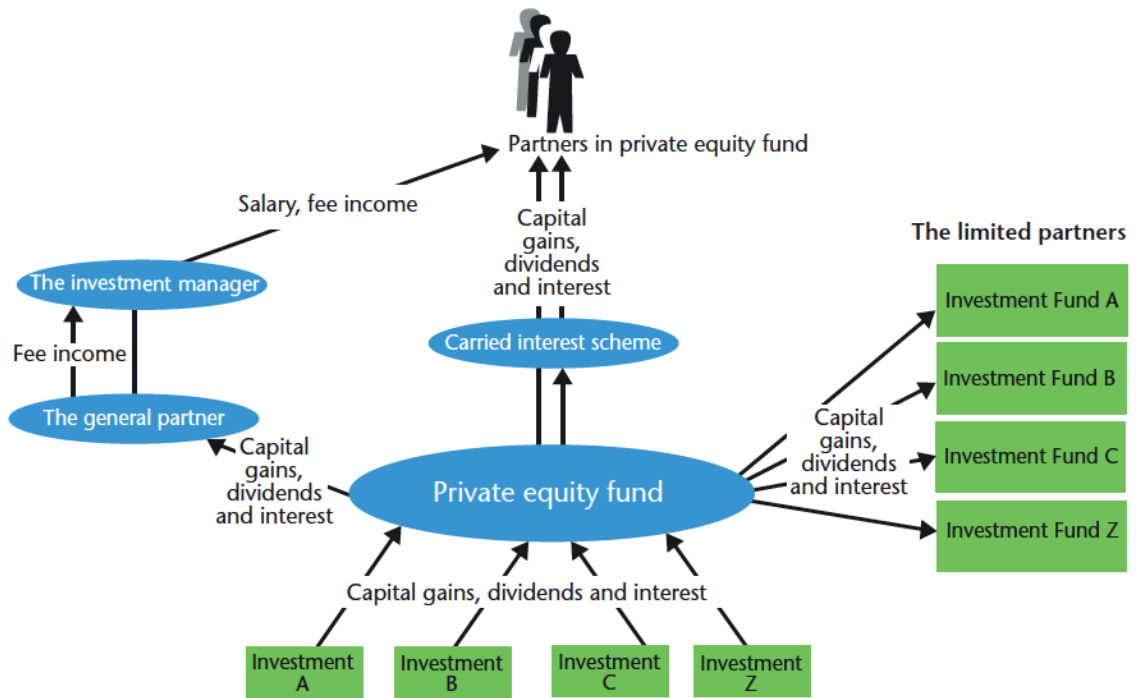
Private equity (PE) is a reference to equity securities in private companies that are not publicly traded. Private equity funds specialize in PE investments. They are an instrument for the distribution of this asset class to institutional investors and other capital market participants (Jegadeesh, Kräussl, & Pollet, 2015)

According to Gillian & Wright (2014), a private equity fund is a form of 'investment club' in which the principal investors are:

- institutional investors such as pension funds, investment funds, endowment funds
- insurance companies
- banks
- family offices/high net worth individuals
- funds-of funds, and
- the private equity fund managers themselves

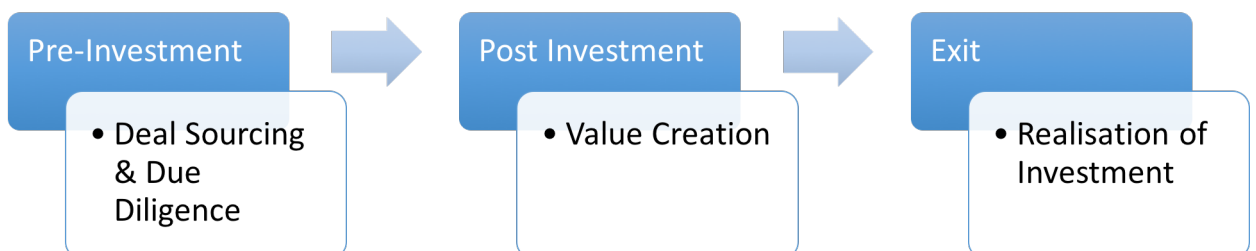
The objective of a private equity fund is to invest equity or risk capital in a portfolio of private companies which are identified and researched by the private equity fund managers. Private equity funds are generally designed to generate capital profits from the sale of investments rather than income from dividends, fees and interest payments (Gilligan & Wright, 2014). Figure 2.2 below graphically depicts the structure of PE.

Figure 2. 2 Overview of a typical Private Equity Structure (Gilligan & Wright, 2014)



2.3. The PE Investment Process

Figure 2. 3 Illustration of the PE Investment Process



2.3.1. Due diligence and acquisition of a portfolio company (Pre-investment)

Cumming & Zambelli (2017) found in their study that time spent on due diligence of the portfolio company could be linked to the future performance of the portfolio company. Their study further showed that an extended time spent on due diligence enabled the selection of better portfolio companies to invest in and that this extensive due diligence was associated with improved performance.

2.3.2. Value Creation (Post-investment)

There are three types of value-increasing actions: financial engineering, governance engineering, and operational engineering (Gompers, Kaplan, & Mukharlyamov, 2016). These value-enhancing actions are not necessarily mutually exclusive, but certain firms likely emphasize some of them more than others. Lerner, et al. (2012) suggested that the strategy of the private equity firm determined the levers that are emphasised. Private equity firms that invest for shorter periods would likely chose financial engineering compared to firms that invested for longer period who would likely chose all three levers.

Tykvová & Borell (2012) suggested that there is some controversy concerning the key sources of success in the PE model. They enquired as to whether this success comes from value creation or from value transfer. Accordingly, they stated that most scholars agree that PE investors create value by increasing productivity and profitability of their portfolio companies.

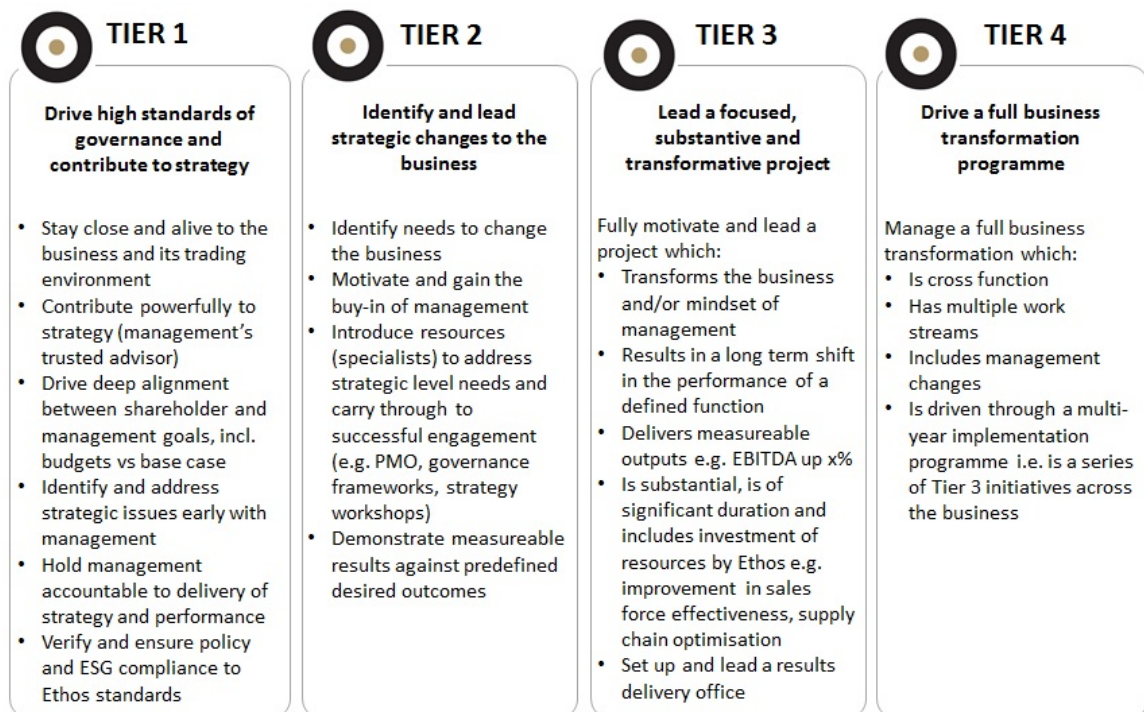
Tykvová & Borell, (2012); Gompers, et al. (2016); Lerner, et al. (2012) stated that the private equity firm as the new owner of the acquired company, used levers such as financial engineering, operational engineering, and governance engineering to increase the value of the portfolio company.

Gompers, et al (2012) stated that the strong equity incentives to the management teams of their portfolio companies and leveraging of the portfolio companies pressured managers not to waste money. They further stated that private equity firms controlled the boards of their portfolio companies and were more actively involved in governance than public company directors and public shareholders.

Wilson, Wright, Siegel, & Scholes (2012) Stated that the expertise of the private equity firm in monitoring, enabled portfolio companies to improve performance by exploiting opportunities for both cost efficiencies and growth. They further stated that the private equity firm’s involvement enabled timely restructuring of portfolio companies in the event of trading difficulties and/or problems in servicing financial structures and this they found reduced the likelihood of a portfolio company failing. Non-PE backed firms, whether private or public, may be disadvantaged in these respects (Wilson, Wright, Siegel, & Scholes, 2012).

Gompers, et al. (2016) stated that remuneration and reward of the partners at private equity firms produced strong incentives to generate high returns, both directly and through the ability to raise subsequent funds. They further stated that the high-powered incentives combined with the largely positive empirical results were consistent with PE investors taking actions that were value increasing or maximizing (Gompers, Kaplan, & Mukharlyamov, 2016).

Figure 2. 4 Value Add Strategy (Ethos Private Equity, 2017)



2.3.3. Exiting an investment (Realisation)

The objective of a private equity investment is to realise the return on the investment. Lerner, et al (2012) highlighted that the exit of an investment was crucial to the private equity firm. The more consistent a PE firm has been in achieving successful exits, the greater the chances of attracting new investors for future funds (Hungarian Private Equity and Venture Capital Association, 2017).

2.3.3.1. Initial Public Offering (IPO)

Lerner, Hardymon, & Leamon (2012) defined an IPO as sale of shares of a company to public investors when the company has not been traded on a public stock exchange before.

2.3.3.2. Secondary Buy-Out (SBO)

A purchase of a portfolio company from a private equity firm by another private equity firm (Lerner, Hardymon, & Leamon, 2012)

2.3.3.3. Leveraged Recapitalisation

A Leveraged Recapitalisation is whereby the management team of a company uses debt to buy out the interests or ownership rights of other investors (Lerner, Hardymon, & Leamon, 2012).

2.4. Private Equity Performance (Returns) Measures

Ardalan (2007) stated that mathematical models changed as soon as their underlying assumptions were changed and that the claim about the scientific nature of the mainstream academic finance becomes questionable (Ardalan, 2017). My interpretation of the previous statement by Ardalan (2017), was that, there are many ways that performance of firms could be measured and that models change over time. For this study, it was important to note that the objective was to determine whether PE firms with portfolio companies in the Rest of Africa (i.e. outside South Africa) have performed better than the JSE Top 40 Index companies that have expanded to the Rest of Africa over a ten year period.

2.4.1. Measuring Private Equity Returns

Previous studies have shown that there are a number of formulae that can be used to measure the performance of PE. These included the Investment Multiple (IM), Net Asset Value (NAV) and the Internal Rate of Return (IRR). To compare the performance of the PE funds to indices, the Public Market Equivalent (PME) has been used in various studies pertaining to PE performance. For this study however, the PME would not be an accurate measure. This study was concerned with growth rate at which a portfolio would have grown over the period being reviewed. Moodley, Muller, & Ward (2016) stated that the CAGR was a useful metric to measure the performance of portfolios.

2.4.1.1. Internal Rate of Return (IRR)

Firer, et al. (2012) defined the IRR is defined as the required rate of return that results in a zero Net Present Value (NPV) when it is used as the discount rate. They further define the IRR as an annualised effective compounded rate of return that can be earned on invested capital. In their study, Harris, et al. (2015) noted that the IRR and the Investment Multiple (IM), were the most used metrics when measuring the performance of PE returns.

2.4.1.2. Investment Multiple (IM)

The Institutional Limited Partners (LP) Association (ILPA) (2017), defined the IM as a calculation that is performed by adding the reported value of an investment and the distributions received, divided by the total capital that was invested. Phalippou & Gottschalg (2009) cautioned against using IRR because the combination of IRRs is biased if IRR and duration are correlated because the IRR is a per period return while the object of interest to the investor is total return. However, in their study comparing the performance of PE to Listed Equities, Harris, Jenkinson & Kaplan (2015) noted that the IM and the IRR are the most used metrics. Their definition of the IM supported the definition given by the ILPA in that the IM compares the sum of all fund contributions by investors to the sum of all fund distributions and the value of investments net of fees and carried interest.

2.4.1.3. Net Asset Value (NAV)

In their study, Harris, et al., (2014) noted that some researchers claimed that NAVs are biased upward while more recent research suggests that, on average, NAVs have historically been conservative estimates of ultimate cash returned to investors and as such caution is warranted before including NAVs in the assessment of returns.

In a more recent study Harris, et al., (2016), found that NAV became more important in recent vintage years.

NAV is calculated by adding the value of all investments in a fund. NAV per share is calculated as the NAV and divided by the number of shares of the fund that are outstanding (Institutional Limited Partners Association, 2017).

2.5. Private Equity versus Listed Shares

2.5.1. Performance

Kaplan & Schoar (2005) in their study concluded that average private equity returns net of fees were generally equal to those of the S&P 500 (Standard and Poor 500 large capitalisation index of company shares traded on the New York Stock Exchange NYSE or on the NASDAQ stock exchange or). They further found that when the private equity firms are weighted by capital that has been committed, the firms do not perform better than the S&P 500 index.

Franzoni, Nowak, & Phalippou (2012) Stated that private equity can use high levels of leverage and consequently, investments into this asset class can be sensitive to the capital constraints faced by the providers of debt. The providers of debt for PE firms are considered to be primarily banks and hedge funds. Gompers, et al (2012) found that the strong equity incentives to the management teams of their portfolio companies and leveraging of the portfolio companies pressured managers not to waste money. They further stated that private equity firms controlled the boards of their portfolio companies and were more actively involved in governance than public company directors and public shareholders.

Kaplan & Schoar (2005) inferred that private equity firms that perform better, have governance structures. Gompers, et al. (2016) defined the governance structures as governance engineering which is the exercise of control of the boards of the portfolio companies and the active involvement in governance compared to public company directors and public shareholders.

(Sorensen, Wang, & Yang, 2014) argued that private equity does perform better compared to listed shares gross of fees however, net of fees and liquidity risk opportunity cost, the investor broke even. They attributed the muted performance to the costs and fees associated with private equity.

The arguments presented by Sorensen, et al. (2014) were in contrast to the findings of the study conducted by Mozes & Fiore (2012) in that the latter stated that private equity firms provided better risk adjusted returns compared to indices, with half the risk of a public share market. Mozes & Fiore (2012) concluded that private equity

offered superior returns compared to the share market and that the risk-reward profile of private equity was also superior to that of the share market. In their study of the performance of South African private equity, Missankov, van Dyk, van Billion, Hayes, & van der Veen (2008) found that South African private equity had performed better than all the other asset classes, net of fees and further concluded that the high fees associated with investing in the asset class, were well compensated for in the return premium that was earned by the investor.

2.5.2. Diversification and Liquidity Risk

The diversification benefits of private equity have not been widely documented. In particular, an issue that has not been addressed so far is whether private equity performance, like that of other asset classes (Franzoni et al., 2012). Franzoni et al. (2012) found that private equity is significantly more exposed to liquidity risk factors than publicly listed equities and other asset classes. They contended that diversification gains that can originate from private equity may thus be lower than previously thought given the exposure to liquidity risk.

Sorensen, et al. (2014) noted that it was common cause that the average return of private equity performs better than the return of listed shares however, they questioned whether the higher performance compensated for the illiquidity risk that is attached to private equity asset class. They believed that the investor would just about breakeven when investing in private equity given the cost that need to be taken in to account which are: the opportunity cost of not investing in a liquid share market, the management fees levied by the private equity firms and lastly the carry that the private equity firm earns when they have met their targets (Sorensen, Wang, & Yang, 2014).

Sorensen, et al. (2014) were in contrast to the findings of the study conducted by Mozes & Fiore (2012) in that the latter stated that private equity firms provided better risk adjusted returns compared to indices, with half the risk of a public share market. Mozes & Fiore (2012) concluded that private equity offered superior returns compared to the share market and that the risk-reward profile of private equity was also superior to that of the share market.

Franzoni, et al. (2012) concluded in their study that private equity when compared to public markets had a much higher risk profile and as such this justified the risk premium which they estimated to be 3%. This premium they stated, was compensation for the investor for the variety of risk factors that the returns were exposed to. They further suggested that based on their findings, investors should seek a higher hurdle rate than the usual 8% which was the generally accepted benchmark at the time of the study. 18% plus the risk-free rate was the rate that investors should start negotiating from when investing in private equity. Mancuveni (2015) stated that risk averse investors could negotiate clawbacks on fees which would result in a higher return on the investment.

Phalippou & Gottschalg (2009) found that that after fees, average performance of private equity was lower than that of the S&P 500 by 3% per annum, however before deducting fees, performance was above that of the S&P 500 by 3% per year. They further found that risk adjustment decreased performance by about 3% per year, meaning that the performance of private equity was lower than the performance of the S&P 500 by 6%. The critical acknowledgment they made was that performance estimates could only be reliably measured when using data from mature or closed funds and that the majority of private equity funds in their study had not reached maturity.

Dyck & Pomorski (2016) observed that investors could significantly increase their returns from private equity by adopting economic principles such as scale. This they contended provided for cost advantages. This they attributed to their finding which that a 1 standard deviation increase in private equity investment increased returns by 4%. This finding infers that the observations made by Phalippou & Gottschalg (2009) where they found that risk adjusted returns of private equity were 3% lower than the returns of the S&P 500 could be mitigated by an increased allocation to private equity. Mancuveni (2015) in his study found that, increasing investment allocation towards private equity does not statistically improve the upside. He concluded however, that South African private equity had a statistically significant upside when compared to South African listed shares.

Kaplan & Schoar (2005) found in their study that there was performance persistence across funds raised until the late 1990s. Other studies have also found that private equity has persistently performed better than listed shares and that it has also

withstood consistent academic scrutiny over a long period of time (Hochberg, Ljungqvist, & Vissing-Jorgensen, 2014; Kaplan & Schoar, 2005).

Braun, Jenkinson, & Stoff (2017) found that evidence of performance persistence in private equity firms was much weaker than in it was for previous studies such the study by Kaplan & Schoar (2005) for their larger and more recent sample of private equity firms, found weaker evidence of performance persistence. Braun, et al. (2017) and Sensoy, Wang, & Weisbach (2014) contended that the privileged access to successful private equity firms became less valuable as the market matured and private equity performance persistence disappeared. Braun, et al. (2017) further stated that for investors, their findings had clear, but uncomfortable, consequences which is: past performance cannot be used to predict future performance when choosing a private equity firm to invest in.

2.6. Secondary Markets

Firer, et al. (2012) defined secondary markets as facilitators of the exchange of ownership of corporate securities. Firer, et al, (2012) also stated that the Johannesburg Stock Exchange (JSE) was the largest stock exchange in Africa with over 400 shares or securities companies were traded using an automated trading system and all trades executed electronically.

2.6.1. Share

A share or as it is sometimes referred to: a common stock, is a unit of ownership that does not carry any special rights outside of those described in the company's Memorandum of Incorporation (MOC) and the law of the land (Lerner, Hardyman, & Leamon, 2012). The ownership of the stock is subordinated to a variety of stakeholders such as Government, Debt (Banks and Trade) and preferred stock, leaving the common or ordinary shareholder at the end of the que behind the stakeholders that the ownership of the common stock is subordinated to (Lerner, Hardyman, & Leamon, 2012).

Clendenin & Van Cleave (1954) stated that shares can be subordinated and that this renders investment risky should a company be liquidated or sold in an asset sale. They further stated that value theorists have inferred that under normal conditions, a rational stock market would value or in the least, attempt to value the share at expected future value, using a compounding discount rate in.

2.6.2. Share Volatility & Diversification

Yang, Tapon, & Sun (2006) Stated that the volatility of an investment returns is measured by the range of the return mean over a fixed period of time and that risk and volatility were associated in that a share which is volatile is a risky share. They further stated that when making an investment, an investor also sought to reduce the risk associated with investing.

Yang, Tapon, & Sun (2006) stated that a powerful tool that reduces the level of risk that is associated with volatility, is diversification. They further stated that diversification could be achieved by allocating assets between various stock markets and/or industries (sectors).

2.7. Comparing PE Performance to Performance of a Listed Share

Although previous studies have suggested that the IRR and IM are the most favoured metrics to measure the performance of PE, neither of the two provide a direct way to assess how PE returns fare when compared to those of listed equity (Harris, Jenkinson, & Kaplan, 2016). A measure that reflects the return of PE investments relative to listed equities is considered to be the Public Market Equivalent (PME) (Kaplan & Schoar, 2005).

In their study, Mozes & Fiore (2012) noted that the comparative results for private equity performance were sensitive to the share market benchmark that was selected. This they argued was because private equity invests in smaller

capitalisation companies while an index such as the S&P 500 constituted large capitalisation companies.

Phalippou & Gottschalg (2009) found that that an after fees, average performance of private equity was lower than that of the S&P 500 by 3% per annum, however before deducting fees, performance was above that of the S&P 500 by 3% per year. They further found that risk adjustment decreased performance by about 3% per year, meaning that the performance of private equity was lower than the performance of the S&P 500 by 6%. Phalippou & Gottschalg (2009) conceded however that performance estimates could only be reliably measured when the fund had matured and further they stated that the majority of private equity funds in their study had not reached maturity.

2.7.1. Public Market Equivalent (PME)

The PME compares an investment in a PE fund to an equivalent timed investment in the particular equities market. The calculation of the PME discounts all cash distributions and residual value to the fund at the public market total return and divides the resulting value by the value of all cash contributions discounted at the public market total return (Harris, Jenkinson, & Kaplan, 2016). The PME can thus be viewed as a market adjusted multiple of invested capital after fees. For example, a PME of 1.17 implies that at the end of a fund's life, investors ended up with 17% more than they would have if they had invested in listed equities (Harris, Jenkinson, & Kaplan, 2016).

In essence, the PME measures or compares what an investor would have earned if they had invested in an index (Harris, Jenkinson, & Kaplan, 2014).

The PME would therefore not be an appropriate tool to compare the performance of PE firms with portfolios in the roA to the performance of JSE Top 40 firms with operations in the roA. The focus of this this research was to conduct a comparative analysis at a firm level and not at an index level of the Johannesburg Stock Exchange (JSE).

2.7.2. Compound Annual Growth Rate (CAGR)

Moodley, Muller & Ward (2016) stated that the CAGR is a number that specifies the constant steady growth rate at which a portfolio would have grown over the period being reviewed. It is important to state that the CAGR should not be confused with actual growth but it was a useful metric to compare the performance of portfolios (Moodley, Muller, & Ward, 2016). Figure 2.3 below shows the formula for the CAGR.

Figure 2. 5 Compound Annual Growth Rate Formula (Moodley, Muller, & Ward, 2016)

$$CAGR = \left(\frac{V_{end}}{V_{begin}} \right)^{\left(\frac{1}{\#Periods} \right)} - 1$$

2.8. Correlations: Sector & Performance & Entry Barriers

2.8.1. Industry and Performance

Yang, et al. (2006) stated that the the correlation of return indices of different stock market was an indicator of co movement of markets. A higher positive correlation meant a higher level of co-movement between the markets and similarly a higher positive correlation of returns between industries indicated a higher level of co-movement between the industries (Yang, Tapon, & Sun, 2006).

Bekaert, Hodrick, & Zhang (2009) in their study found that there was a higher correlation between country and the performance of a share than there was between sector and the performance of a share.

Bai & Green (2010) discovered in their study that from 1984 to 1986, industry and country factors had a substantial influence on stock risks however, industry factors played a more important role. They contended that the initial results could be attributable partially to the small sample of companies in the data. They further noted that from 1986 to 1996 country factors were more dominant for stock returns and that from 1996 to 2004, industry effects become significant but still remained less important than the country effects.

Bai & Green (2010) also stated that the changing time pattern of country and industry effects was consistent with the contention that increasing liberalisation in emerging markets would more than likely increase industry effects over time.

In their study, Lee, Chen, & Chang (2013) stated that sector returns that led the stock market were positively influenced by government support. Frijns, Verschoor, & Zwinkels (2017) established in their study that share return correlations were mainly driven by investor sentiment and that investors accordingly should beware of what effect, common sentiment: especially in times of crises, has on the diversification of their portfolios (Frijns, Verschoor, & Zwinkels, 2017).

Faias & Ferreira (2017) concluded that industry and global aspects were relatively more significant than the country factors in amplifying share return variation between shares with institutional owners. They further concluded that Industry diversification strategies were more beneficial than country diversification strategies for shares that have more institutional owners (Faias & Ferreira, 2017).

2.8.2. Sector Barriers to entry and performance

In their study, Karakaya & Parayitam (2013) noted the following as being barriers to market entry: capital requirements, cost advantage of existings firms, access to distribution channels, customer switching costs and government regulation. Grant (2001) contended that economies of scale, patents, a reputable brand and, experience were an added barrier to entry. Karakaya & Parayitam (2013) further stated that the relationships between the barriers to entry were more complex than were conjectured in previous studies. An example they made was that one barrier

could lead to another. Literally, capital requirements, could lead to competitive advantage (Karakaya & Parayitam, 2013).

Wernerfelt (1984) argued in his study that the resources of a company were the primary determinant of higher performance. Indeed the barriers highlighted in previous studies could be assumed to be the resources that a company has. If cost advantages were to be examined as to how a firm could have such an advantage, it could be discovered that the technology the company has acquired has resulted in significant cost savings. To this end then, Wernerfelt's (1984) conjecture was interpreted as saying that if a company used lower prices achieved through cost advantages gained from technology, which was acquired using capital then, the inference by Karakaya & Parayitam (2013) could be significant in that one barrier can lead to another barrier.

Karakaya & Parayitam (2013) also observed in their study that higher capital requirements and higher business environment barriers gave existing companies a higher competitive advantage which became a major barrier to entry in its own right.

2.9. Conclusion

The literature review has provided a background of the Private Equity (PE) industry and the components that make up the industry. The Secondary Markets which are commonly referred to as the Stock Exchange were defined together with the component that this research focussed on; the share that gets traded on the stock exchange and held as investment.

The common theme in the literature that was reviewed was that it is generally acknowledged that the average return of Private Equity (PE) funds is higher than or exceeds the returns that are achieved by listed equities (Harris, Jenkinson, & Kaplan, 2014). What was clear from the review of the literature was that most of the research was conducted in the United States of America (U.S.A) and using an index (a measure of shares grouped by one factor or another and computed from the prices of selected shares) as a benchmark. Suman, Sharan, & Sachan (2012) claimed that gaps within the literature of Private Equity existed whilst adding that most of the literature focussed on the U.S.A. and the United Kingdom (U.K.).

The Southern African Venture Capital Association (SAVCA) in partnership with KPMG publish results of an annual survey that amongst many variables, measure the performance of PE firms using an index as a benchmark (SAVCA, 2017). Beyond this survey, the literature review demonstrated the gap that exists in literature. de Klerk (2016) stated that a gap in literature as far as the emerging markets were concerned.

The common theme in the literature with regards to co-movement on the returns of share prices was that in earlier studies, country factors were more significant than the industry factors. In later studies however, the common theme was that industry factors were more significant. Bai & Green (2010) stated that the reason that we could be seeing this shift could be the fact that emerging markets were being liberalised and that this was contributing to the significance of the industry or sector factor in correlations between share price performance and industry.

The gap in the literature on the performance of PE firms compared to companies or indeed small cap indices rather than the index validated the need for this research. The research will help determine whether South African PE firms have a better return when investing in the rest of Africa compared to JSE Top 40 index companies that have expanded to the Rest of Africa whether private equity is a viable strategy for diversification and whether the sector the company operates in has an effect on the return.

3. RESEARCH QUESTIONS

Franzoni, Nowak, & Phalippou (2012) suggested that investing in private equity is among the preferred choices for long-term investors such as pension funds, who seek to diversify their portfolios. Such long-term investors are best suited for holding an illiquid asset (i.e., one that cannot be readily exchanged for money) such as private equity.

The purpose of this research is to determine whether South African PE firms have a better return when investing in the rest of Africa compared to JSE Top 40 index companies that have expanded to the Rest of Africa whether private equity is a viable strategy for diversification and whether the sector the company operates in has an effect on the return.

3.1. Research Question 1

Do South African Private Equity Funds with portfolio companies in the Rest of Africa perform better than the Johannesburg Stock Exchange (JSE) Top 40 Index companies with operations in the Rest of Africa?

3.1.1. Research Quest 1.1.

Is private equity a viable diversification strategy considering that it is not liquid?

3.2. Research Question 2

Are there any variations in performance based on sectors when expanding into RoA?

4. RESEARCH METHODOLOGY

4.1. Introduction

The purpose of the research was to determine whether South African PE firms that have invested in companies in the Rest of Africa have better returns than JSE listed companies that have expanded into the Rest of Africa. To achieve this, a quantitative approach was adopted in order to measure the performance of the PE firms and that of companies listed in the JSE.

4.2. Research design

The research was quantitative and compared two groups using two variables. The groups are South African PE firms and JSE Listed companies that have expanded into the Rest of Africa. The variables used were the Internal Rate of Return (IRR) as well as the Investment Multiple. Wilson (2014), stated that a comparative research design compares two or more groups on one variable. He further stated that a variable is a characteristic that can be measured. In this study, the IRR as well as the IM were identified as the variables that would better measure and compare the returns of the two groups in line with the literature review. Having two variables meant that two tests would be conducted at each time; one for the variable IRR and another for the variable IM.

4.3. Unit of Analysis

The unit of analysis was the Private Equity firms with portfolio companies in the rest of Africa and the JSE Top 40 firms with operations in the rest of Africa. This is in line with the research design as stated in 4.2. above.

4.4. Reliability and Validity

The extent to which the data collection methods and analysis procedures produce consistent findings is referred to as reliability (Saunders & Lewis, 2012). The extent to which the data collection methods measure what they intended to measure and the results are true to their form (Saunders & Lewis, 2012).

The validity and the reliability of the results are discussed in 5.3 of chapter five.

4.5. Population

A population is defined as the entire set of cases from which the sample is drawn (Wilson J. , 2014). The population for this research was the South African PE firms with portfolio companies in the rest of Africa as well as the JSE Top 40 companies with operations in the rest of Africa.

4.6. Sampling Method and Sample Size

The sample was selected by judgement. Judgment sampling is non-probability sampling technique in which a sample is selected based on the judgement regarding some of the appropriate characteristics required of the sample members (Zikmund, 2003). The sample was of a critical case variety in that it was crucial to addressing the research aim and objective (Saunders & Lewis, 2012). Critical case sampling was essential for this study because performance data from the Private Equity sector is not readily available.

The characteristics required of the sample members were as follows:

1. South African Private Equity Firm with investments in the Rest of Africa that has voluntarily reported its IRR.
2. Data was obtained from Preqin. The data was used to determine the South African private equity firms that had portfolio companies in the rest of Africa or have made an investment in the rest of Africa.

3. Johannesburg Stock Exchange (JSE) Top 40 Firm with operations in the rest of Africa and are not in the following industries:
 - i. Gambling
 - ii. Tobacco
 - iii. Agriculture
 - iv. Property
 - v. Weapons

Out of a total of a total of 45 PE firms that participated in the KPMG SAVCA (Southern African Venture Capital Association) 2016 performance survey, six PE firms matched the selection criteria. No further sampling was conducted. Missankov, et al. (2008) in their study had a sample size of private equity firms of seven.

Out of 40 companies on the JSE, 12 companies matched the selection criteria. No further sampling was done.

4.7. Measurement Instrument

Microsoft Excel was used as an instrument which was first populated with data and subsequent analyses were conducted through the use of formulae and graphical outputs. SPSS was used for statistical analysis in testing for differences between two groups as well as testing association (Saunders & Lewis, 2012).

4.8. Data Collection

Secondary data was used for the research project. Secondary data is defined as data that is used in a research project however was originally intended or collected for another purpose (Saunders & Lewis, 2012).

Performance data for Private Equity firms was obtained from websites of the companies that participated in the KPMG SAVCA Private Equity Industry Survey of 2016.

The share price data for the JSE Top 40 listed companies in the sample was obtained from Thomson Reuters Eikon database. The database records historic data share

prices on a daily basis. The share price information for the JSE Top 40 companies was downloaded from the database as Microsoft Excel.

4.9. Data Analysis

The study made use of financial ratios to determine and compare the returns of different PE funds. The study made use of the CAGR as a comparative measure of PE Firm reported IRR and IM to the JSE Top 40 Index companies. In their study, Moodley, et al., (2016) made use of the CAGR to comparing the performance of portfolios. They stated that the CAGR is a number that specifies the constant steady growth rate at which a portfolio would have grown over the period being reviewed. Similarly, the IRR can be defined as the annualised effective compounded rate of return that can be earned on invested capital (Lerner, Hardyman, & Leamon, 2012).

4.9.1. Internal Rate of Return (IRR)

IRR can be defined as the required return that results in a zero Net Present Value (NPV) when it is used as the discount rate (Firer, Ross, Westerfield, & Jordan, 2012).

The formula for IRR is as follows:

$$NPV = -\text{Initial Investment} + \frac{\text{Period Cashflow}}{(1+R)} \quad (\text{Firer, Ross, Westerfield, \& Jordan, 2012})$$

R = the discount rate

4.9.2. Investment Multiple

The Investment Multiple compares the sum of all fund contributions by investors to the sum of all fund distributions and the value of unrealised investments (Harris, Jenkinson, & Kaplan, 2014).

The formula for the IM is as follows:

Investment Multiple = Invested Sum/(Realised Sum - Invested Sum)

$$IM = \frac{MR - MI}{MI}$$

IM = Investment Multiple

MI = Money Invested

MR = Money Returned (on maturity of investment)

4.9.3. Compound Annual Growth Rate (CAGR)

Moodley, Muller & Ward (2016) stated that the CAGR is a number that specifies the constant steady growth rate at which a portfolio would have grown over the period being reviewed. It is important to state that the CAGR should not be confused with actual growth but it was a useful metric to compare the performance of portfolios (Moodley, Muller, & Ward, 2016).

The formula for the CAGR is

$$CAGR = \left(\frac{V_{end}}{V_{begin}} \right)^{\left(\frac{1}{\#Periods} \right)} - 1$$

The key questions for the analysis were:

1. If an investor invested a particular amount of money in 2008, where would they have made the higher return between (i) investing in private equity with investments in RoA and (ii) investing in the JSE Top 40 index companies with operations in RoA?
2. Are there any correlations between the sector that a company operates in and the returns that the firm achieved?

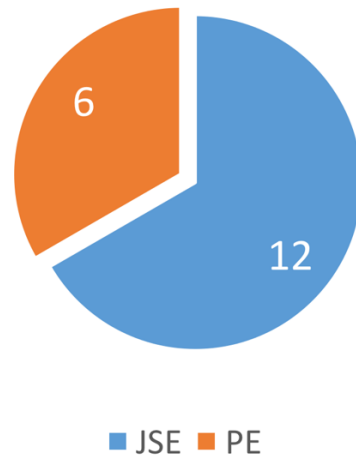
4.9.4. Summary of Data Analysis

For this study, the IRR and the CAGR were considered interchangeable as period cash flows were not taken into account as the IRR formula suggested. This allowed for a comparative analysis of the two groups discussed in 4.3. above (unit of analysis).

4.9.4.1. Proportions Analysis

Data was graphically presented so that proportions could be seen through the use of pie charts created using Microsoft Excel. Figure 4.1 below demonstrates.

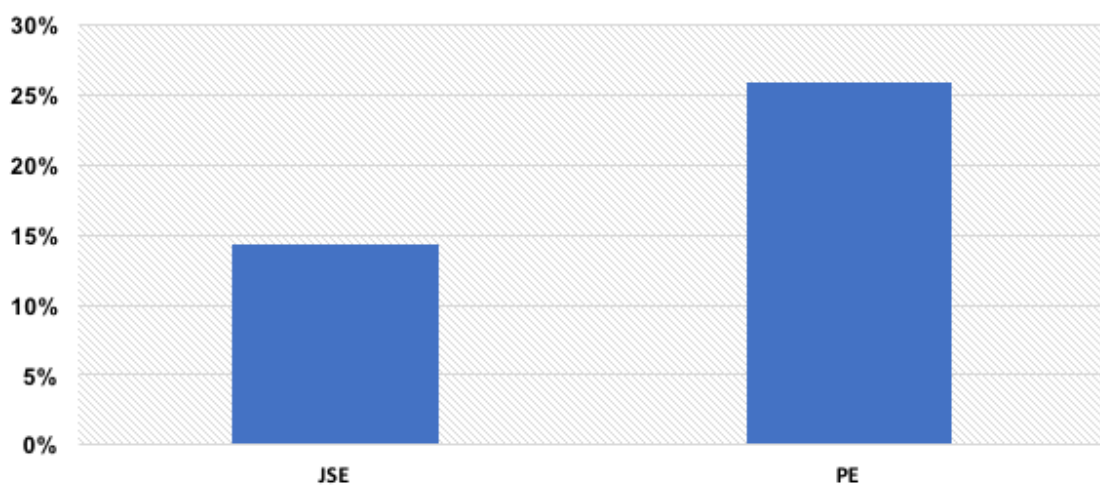
Figure 4. 1 Sample composition



4.9.4.2. Highest and Lowest Data Analysis

Data was graphical presented using bar graphs so that the lowest and highest values could be seen easily. The graphs were created using Microsoft Excel. Figure 4.2 illustrates the highest and lowest data.

Figure 4. 2 PE Firms v JSE Firms Average Internal Rate of Return



4.9.4.3. Examining Relationships

To answer **Research Question 1**, the following tests were conducted using SPSS

- a. A Shapiro-Wilk test was run to check if the dependent variable was approximately normally distributed (Satterhwaite, 1946).
- b. An independent group t-test (t) was used to test for differences in the returns of the two groups (Barde & Barde, 2012).
- c. A Levene's test for homogeneity of variance was used in order to test whether the assumption of homogeneity was violated or not violated (Wegner, 2016).

To answer **Research Question 2**, the following tests were conducted using SPSS

- a. A chart builder was run so that a scatterplot could be created in order to determine whether the relationship between the variables was monotonic (Spearman, 1904; Sheskin, 2011).
- b. A Bivariate was run in order to produce the correlation coefficient and the statistical significance which were presented in the Spearman's correlation (Spearman, 1904; Sheskin, 2011).

4.10. Limitations

Some limitations were recognised in the course of conducting this research. Data on Private Equity at a firm level was not readily available for research purposes especially for firms in South Africa. Self-report data had to be relied upon. This reduced the sample size significantly.

The research adopted a judgement sampling technique. Judgement sampling was noted as the most frequently used form of non-probability sampling (Saunders & Lewis, 2012). The use of this sampling technique meant that the results of the study cannot be extrapolated so that it applies to the population. The sampling technique also meant that the researcher may have omitted samples that would have been better suited for the research.

The use of Microsoft Excel and SPSS meant that there was a possibility of processing errors. Caution was applied to ensure that the data and results were free from error.

The researcher may not have had the appropriate experience required in this field. When conducting judgement sampling, the experience of the researcher plays a critical role.

5. RESULTS

5.1. Introduction

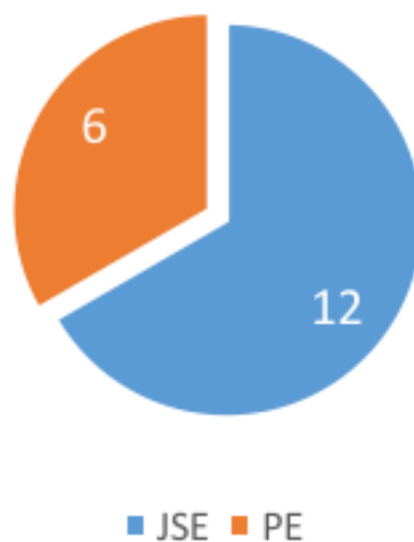
The section presents the results of the study. Context is given by using descriptive statistics and finally by presenting the statistical analyses as outlined in Chapter 4. The focus of the results analysis is on the research questions that are listed in Chapter 3.

5.2. Attributes of the Samples

5.2.1. Composition of Samples

Figure 5.1 outlines the division between PE firms and the JSE listed companies. The weight is more towards the JSE firms with 12 firms and 6 firms constituting PE.

Figure 5. 1 Composition of Samples by Unit of Analysis



5.2.2. JSE companies' composition by sector

Figure 5. 2 JSE companies' composition by sector

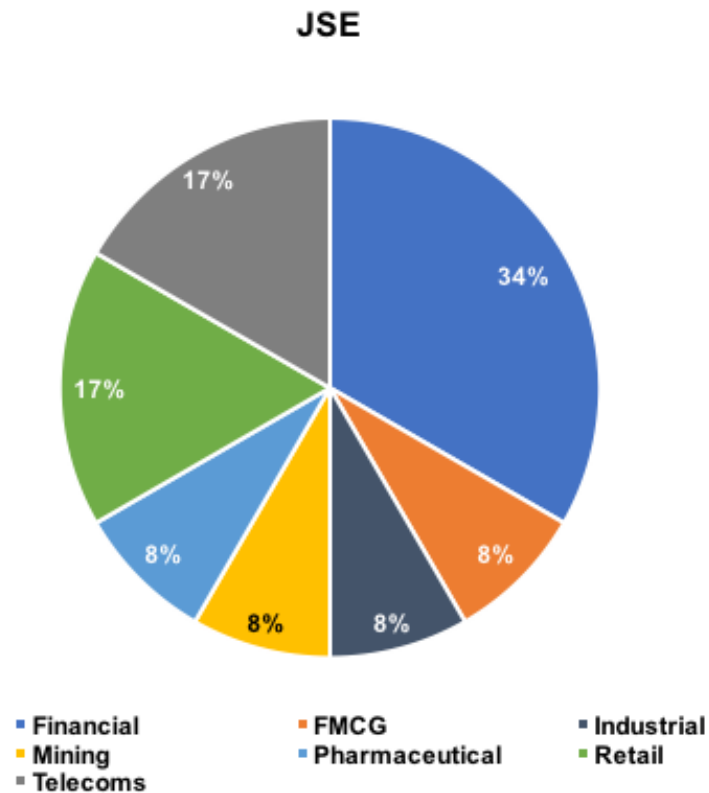


Figure 5.2 outlines the composition of the JSE companies by sector. 3 sectors accounted the to the sample and these were Financial, Retail and Telecoms.

5.3. Tests for Normality

A Shapiro-Wilk's test ($p > 0.05$) (Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal Q-Q plots and box plots showed that the IRRs were approximately normally distributed for both PE firms and JSE firms, with a skewness of 0.392 (SE=0.845) and a kurtosis of 0.205 (SE=1.741) for the PE firms and a skewness of -0.009 (SE=0.637) and a kurtosis of -0.749 (SE=1.232) for the JSE firms.

Figure 5. 3 Histogram for IRR Private Equity Firms

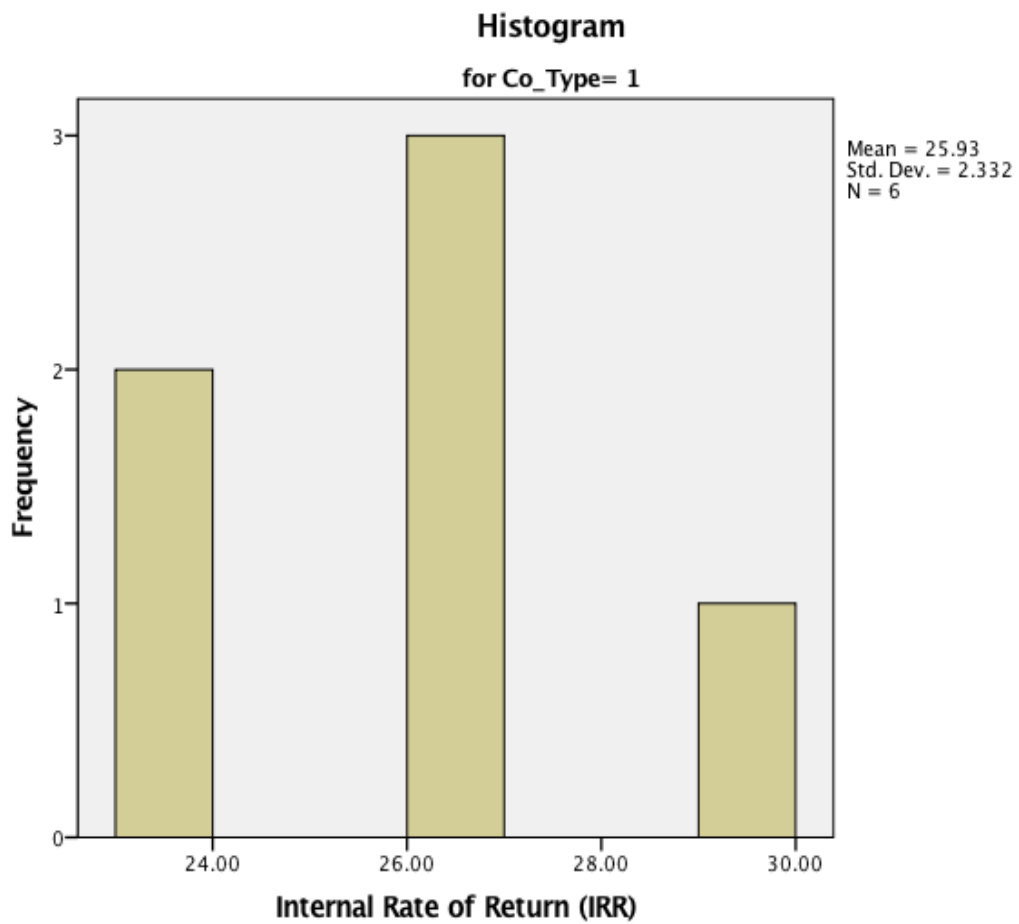


Figure 5. 4 Histogram for JSE Firms' IRR

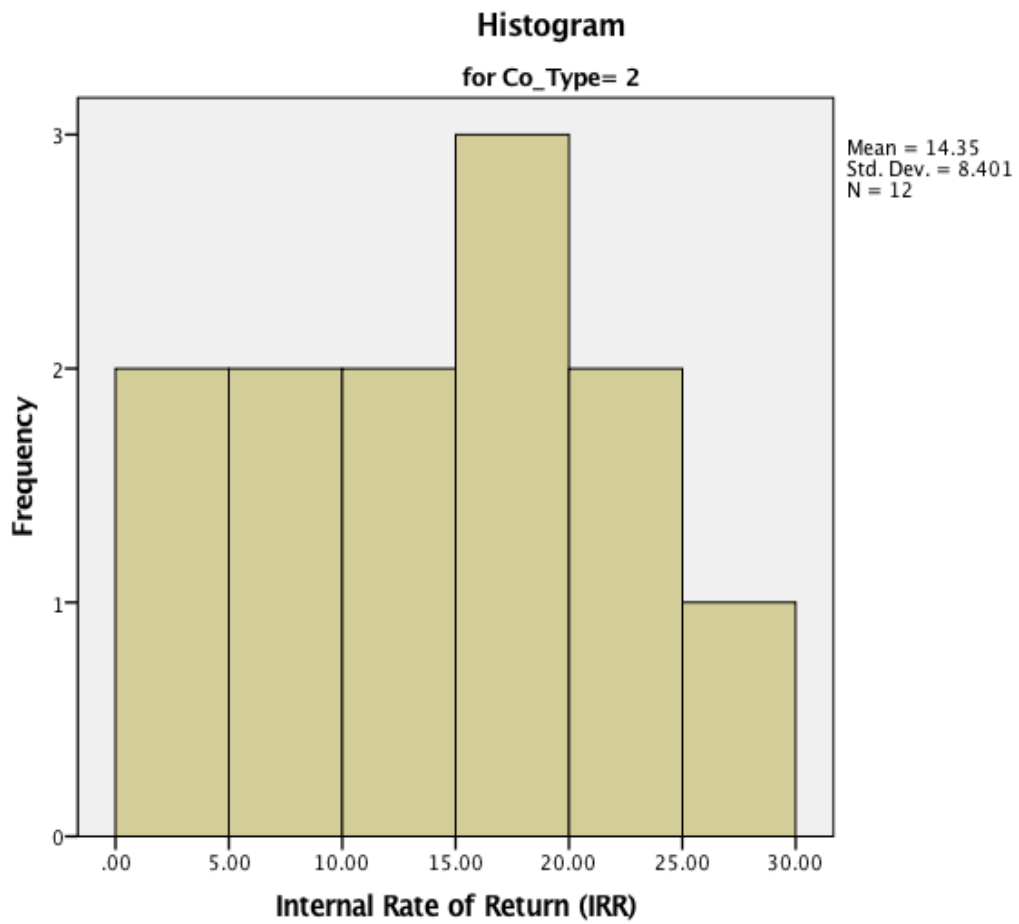


Figure 5. 5 Normal Q-Q Plots for Private Equity IRR

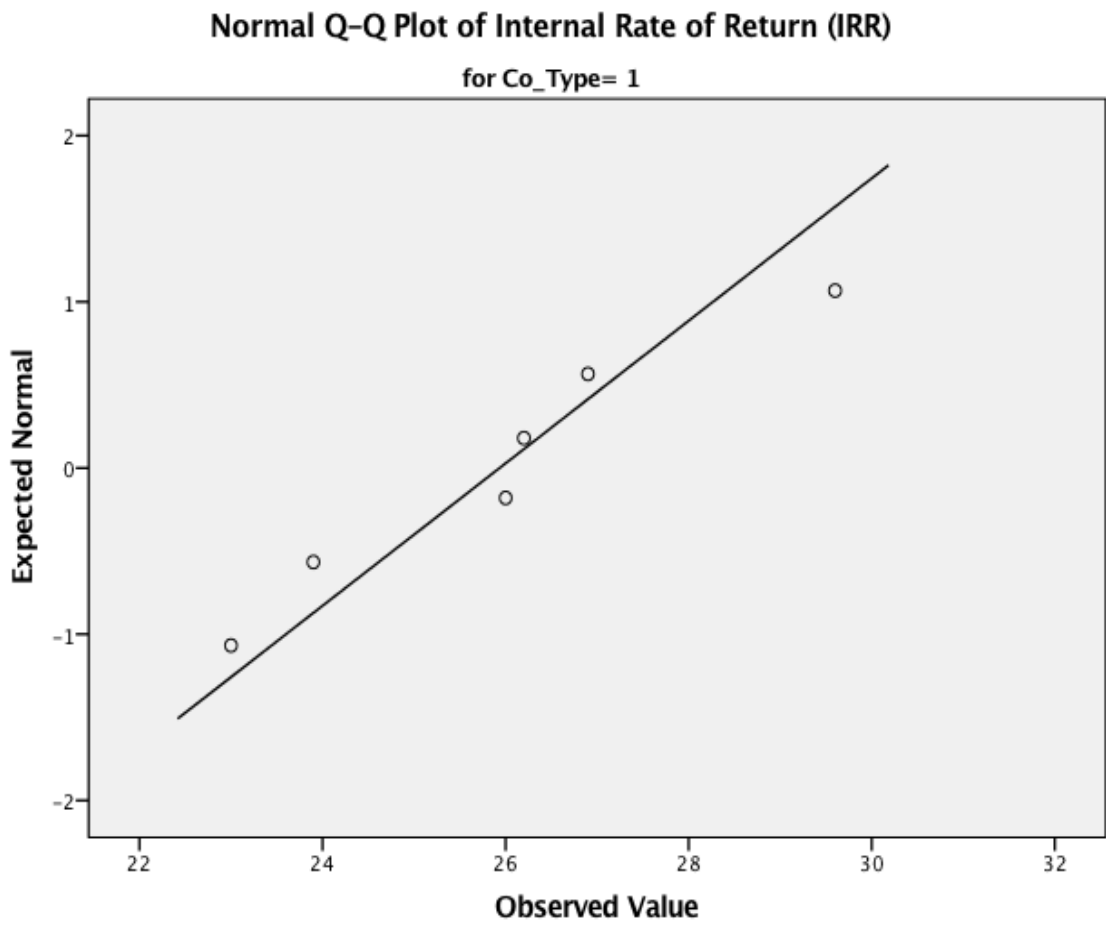


Figure 5. 6 Normal Q-Q Plot JSE Firms' IRR

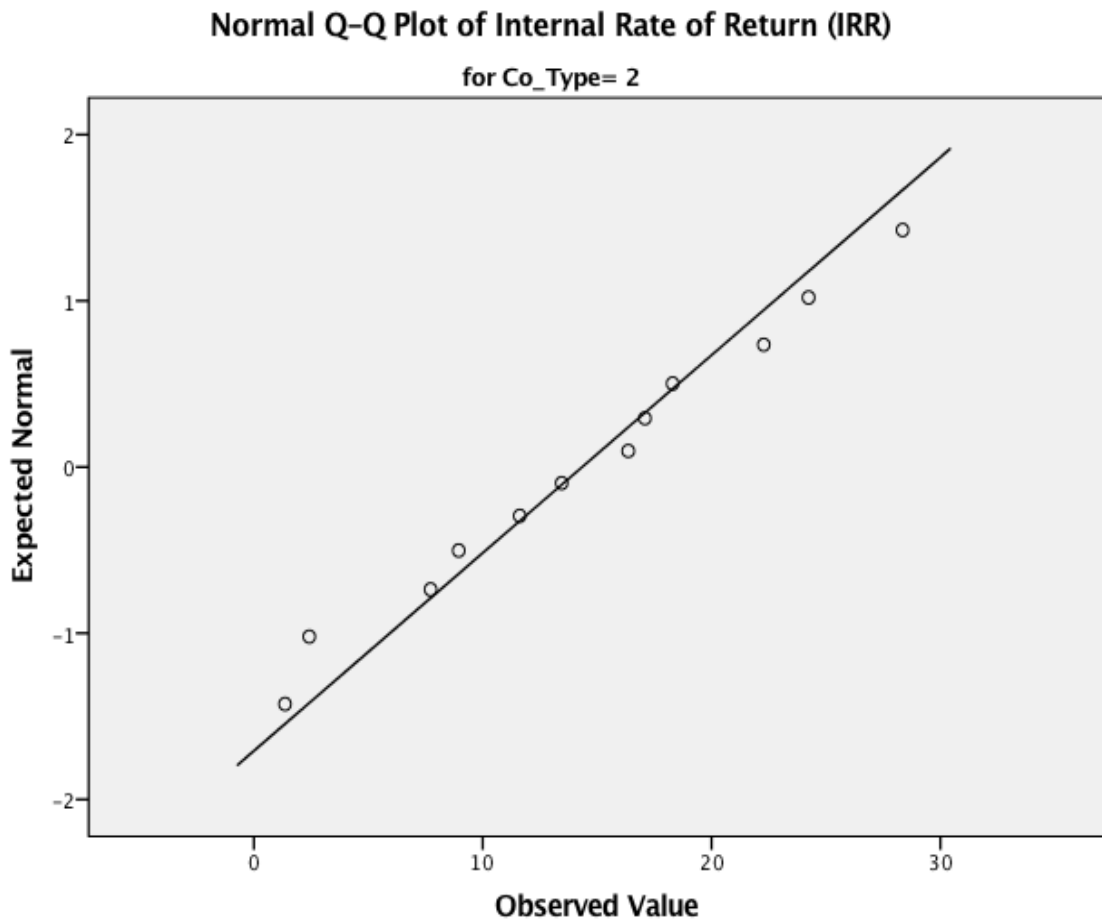


Figure 5. 7 Shapiro-Wilk test for normality IRR

IRR	Type	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
	PE	.178	6	.200*	.958	6	.802
	JSE	.095	12	.200*	.976	12	.963

A Shapiro-Wilk's test ($p > 0.05$) (Shapiro & Wilk, 1965) and a visual inspection of the histograms, normal Q-Q plots and box plots showed that the IMs were approximately normally distributed for both PE firms and JSE firms, with a skewness of 0.748 (SE=0.845) and a kurtosis of 0.871 (SE=1.741) for the PE firms and a skewness of 1.119 (SE=0.639) and a kurtosis of 0.873 (SE=1.232) for the JSE firms.

Figure 5. 8 Histogram Private Equity Firms' IM

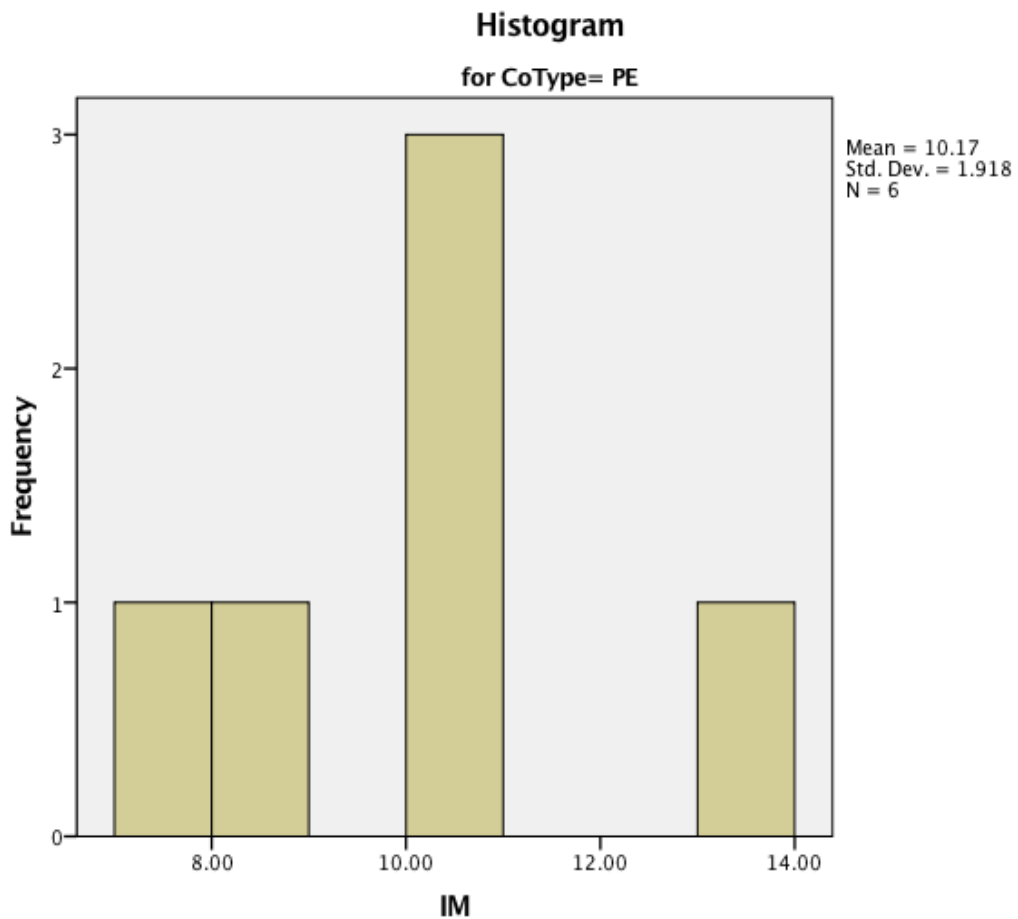


Figure 5. 9 Histogram JSE Firms' IM

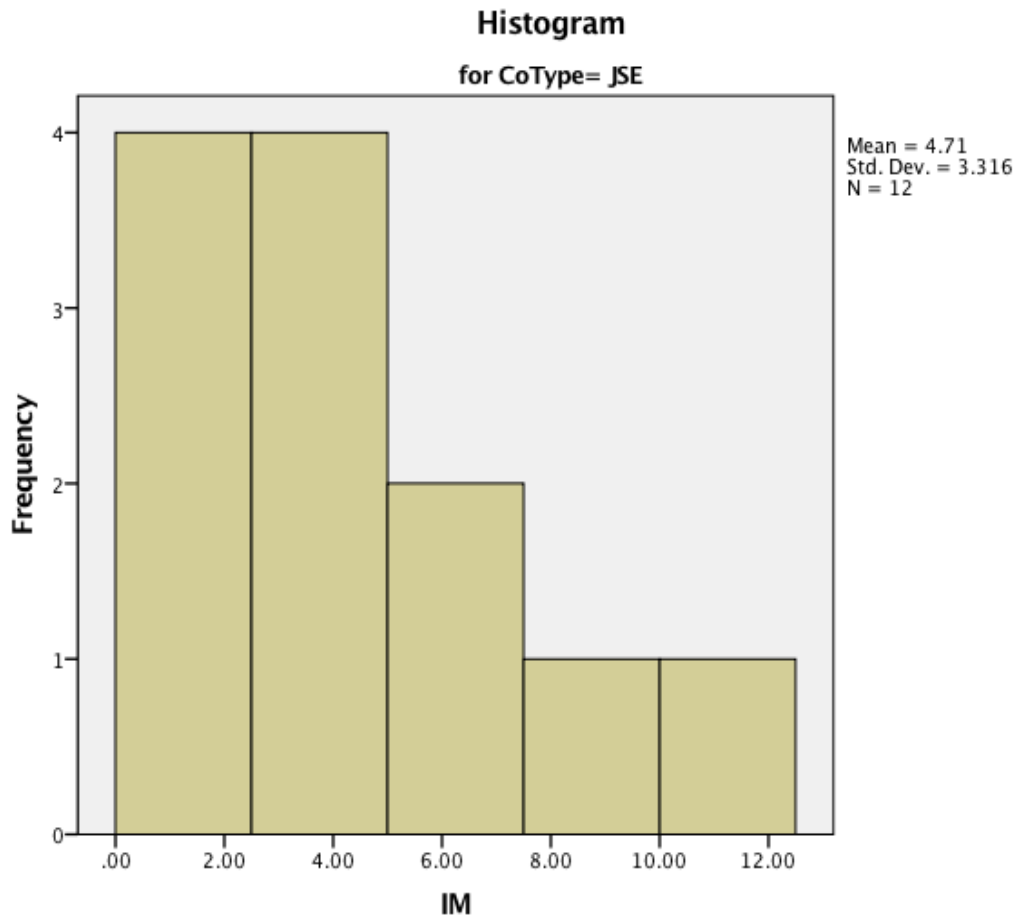


Figure 5. 10 Normal Q-Q Plot Private Equity Firms' IM

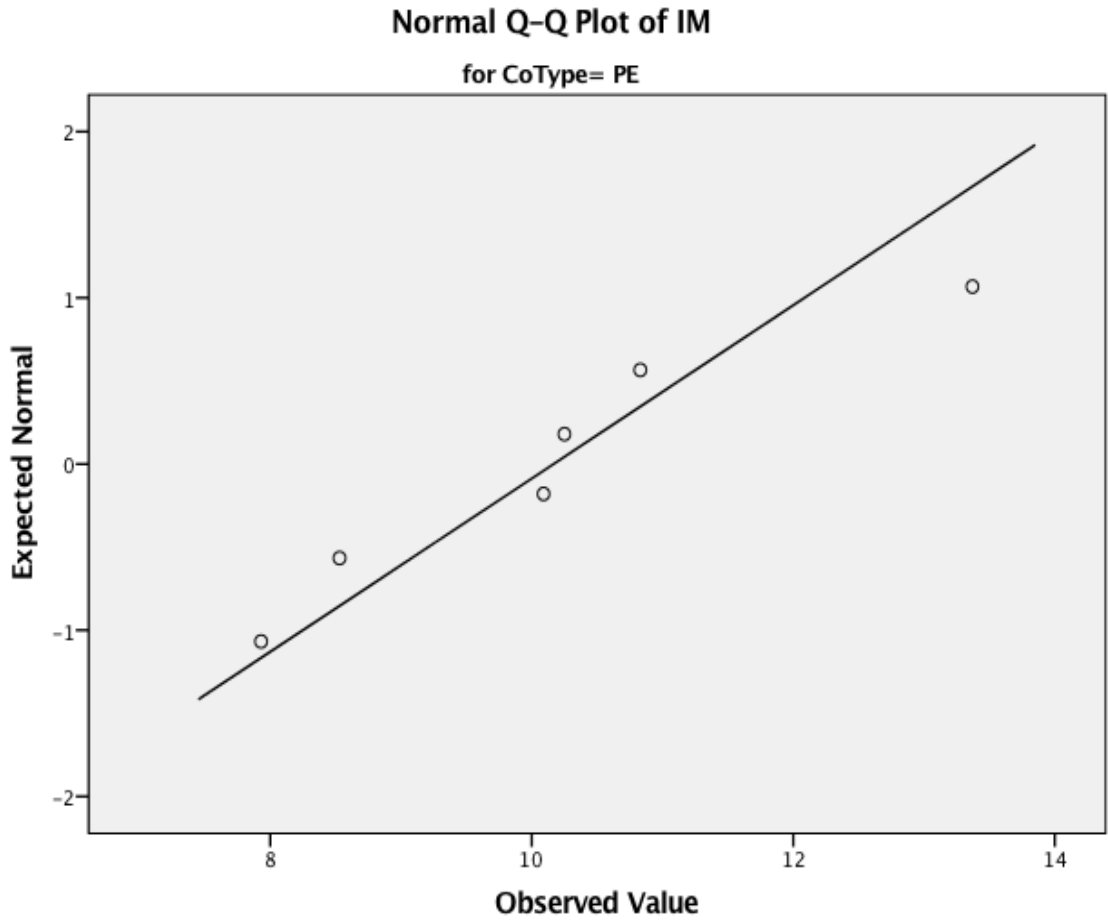


Figure 5. 11 Normal Q-Q Plot JSE Firms' IM

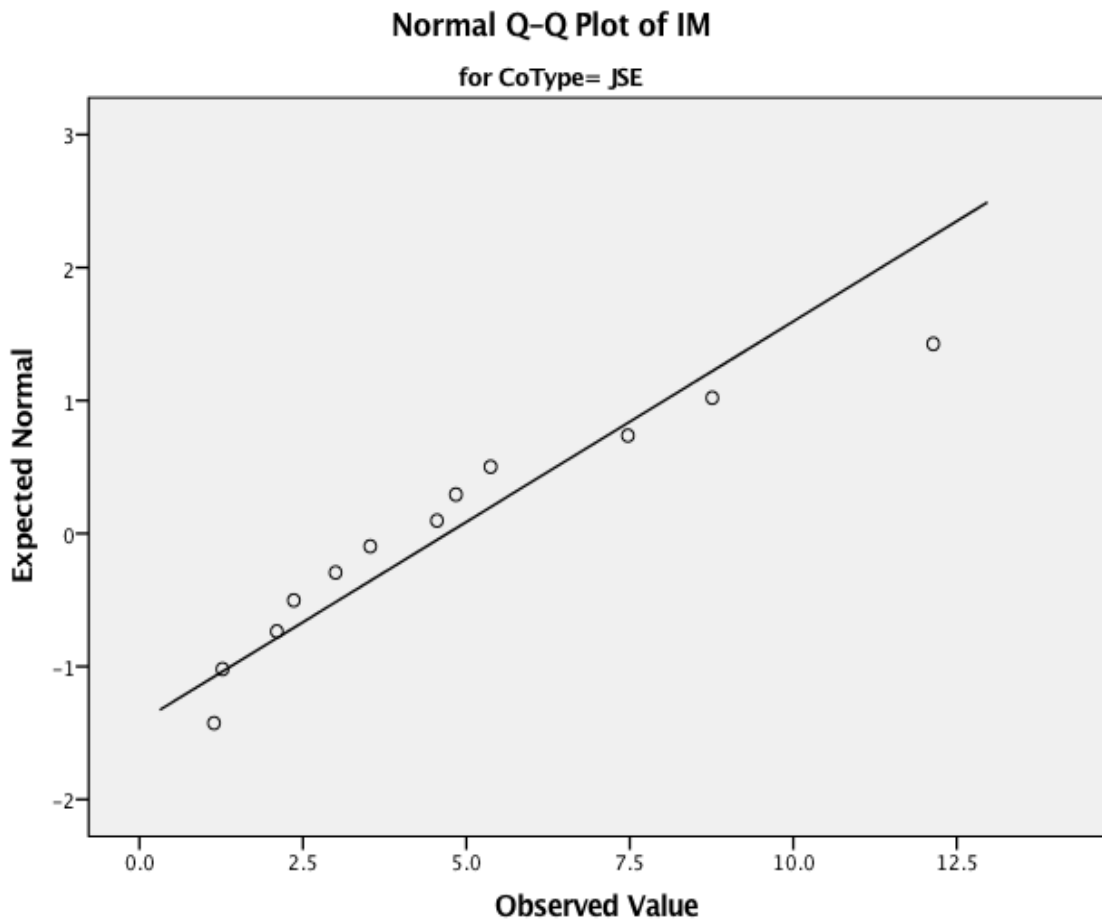


Figure 5. 12 Shapiro-Wilk test for normality IM

	CoType	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
IM	PE	.198	6	.200*	.940	6	.656
	JSE	.171	12	.200*	.903	12	.175

5.4. Research question 1 main findings

Research question 1 sought to determine whether PE firms with portfolio companies in RoA performed better than JSE Top 40 listed companies with operations in the RoA.

5.4.1. PE Firms v JSE Firms average internal rate of return

The first question of the study sought to test whether PE Firms with portfolio companies in the Rest of Africa (RoA) performed better than JSE Top 40 companies with operations in the RoA. Figure 5.17 and Figure 5.18 show at a glance that the findings were such that on average, PE firms do have an edge over JSE Top 40 companies with operations in the RoA.

Figure 5. 13 PE Firms v JSE Firms Average Internal Rate of Return (IRR)

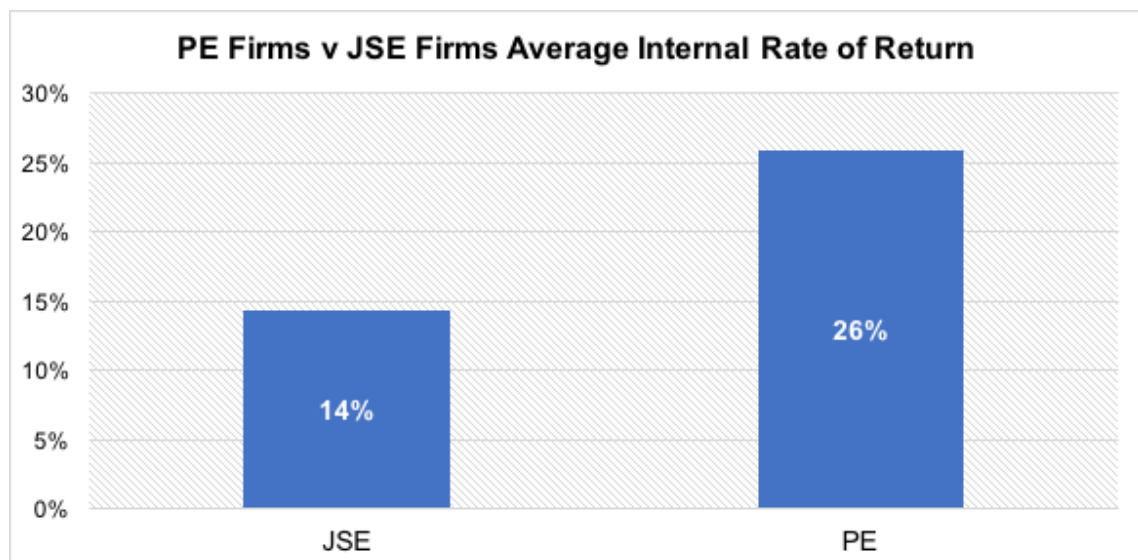
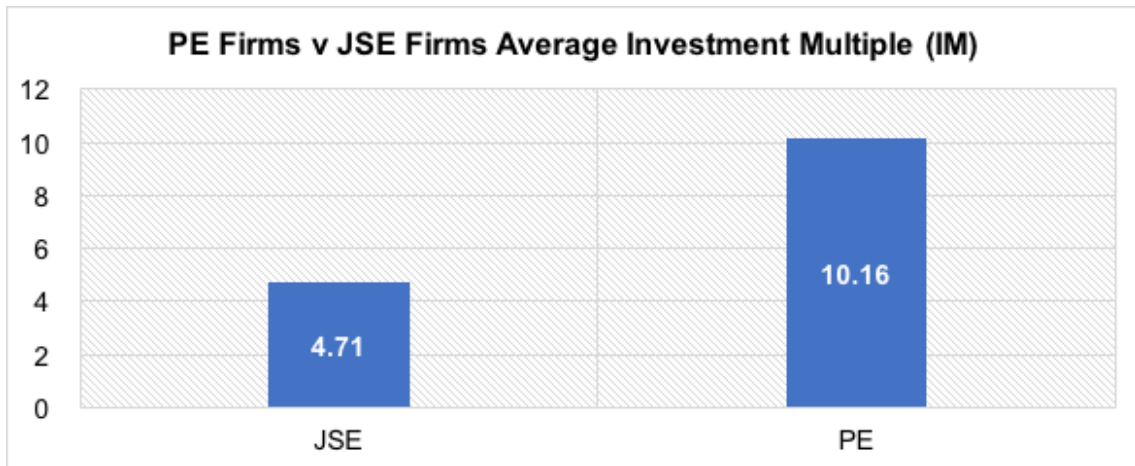


Figure 5. 14 PE Firms v JSE Firms Average Internal Rate of Return (IM)



5.4.1. Descriptive Analysis

5.4.1.1. Group statistics

Figure 5. 15 Group Statistics

Group Statistics					
	CoType	N	Mean	Std. Deviation	Std. Error Mean
IRR	PE	6	25.9333	2.33209	.95207
	JSE	12	14.3450	8.40071	2.42508
IM	PE	6	10.1667	1.91810	.78306
	JSE	12	4.7108	3.31570	.95716

There were 6 PE firms and 12 JSE firms in the samples. The return (IRR) was higher for PE firms (M = 25.93, SD = 2.33) than JSE firms (M = 14.3450, SD = 8.40). Similarly, the return (IM) was higher for PE firms (M = 10.16, SD = 1.91) than JSE firms (M = 4.71, SD = 3.31) (Wegner, 2016).

5.4.1.2. Assumption for homogeneity of variances

There was homogeneity of variances for the IM for PE firms and JSE Firms, as assessed by Levene’s test for equality of variances ($p = 0.213$). The assumption of homogeneity of variances was violated for the IRR for PE firms and JSE firms, as assessed by Levene’s test for equality of variances ($p = 0.018$) (Wegner, 2016).

5.4.1.3. Mean difference between groups and statistical significance (IM)

Figure 5. 16 Independent samples test IM

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
IM	Equal variances assumed	1.682	0.213	3.698	16	0.002	5.45583	1.47547	2.32798	8.58368
	Equal variances not assumed			4.412	15.438	0.000	5.45583	1.23667	2.82644	8.08523

PE firms mean IM returns were 5.45, 95% CI [2.33 to 8.58] higher than JSE firms mean IM return. There was a statistically significant difference in IM returns between PE firms and JSE firms, with PE firms achieving a higher IM return than JSE firms (Wegner, 2016).

Figure 5. 17 Independent samples test IRR

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
IRR	Equal variances assumed	6.974	0.018	3.271	16	0.005	11.58833	3.54323	4.07703	19.09964
	Equal variances not assumed			4.448	13.924	0.001	11.58833	2.60527	5.99774	17.17893

A Welch t-test was run to determine if there were differences in returns for PE firms and JSE firms. The returns (IRR) were better for PE firms ($M = 25.93$, $SD = 2.33$) than JSE firms ($M = 14.34$, $SD = 8.40$), a statistically significant difference, $M = 11.59$, 95% CI [5.99 to 17.18], $t(13.924) = 4.448$, $p = 0.001$ (Wegner, 2016; Welch, 1947)

5.5. Research question 2 main findings

Research question 2 sought to determine whether the sector in which a firm operates has any impact on returns when invested in the Rest of Africa (RoA).

5.5.1. Average returns (IRR) by sector

The second question of the study sought to establish whether there was variation on performance that correlates with the sector that a firm operates in. Figure 5.18 depicts IRR by sector. PE is included as a sector because of the varying sectors that the portfolio companies may be in. The results showed that Pharmaceuticals, Private Equity, Industrial and Retail were above the total average in terms of performance as shown in Figure 5.19.

Figure 5. 18 Average returns (IRR) by Sector

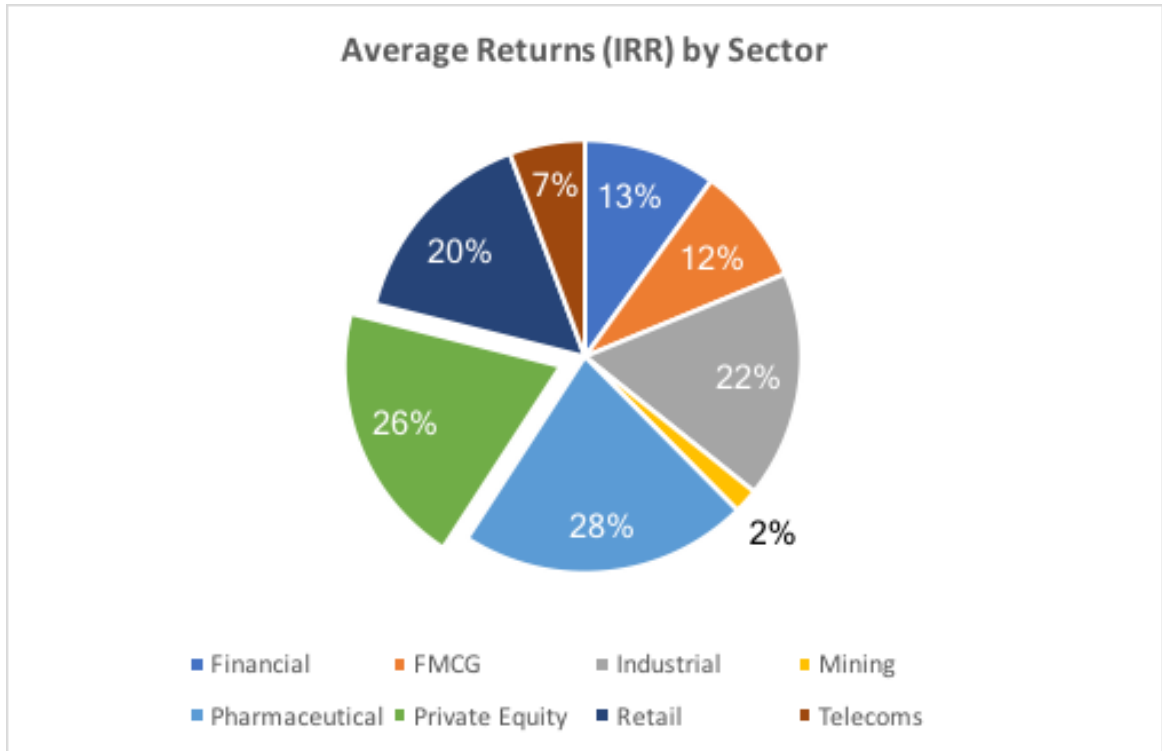
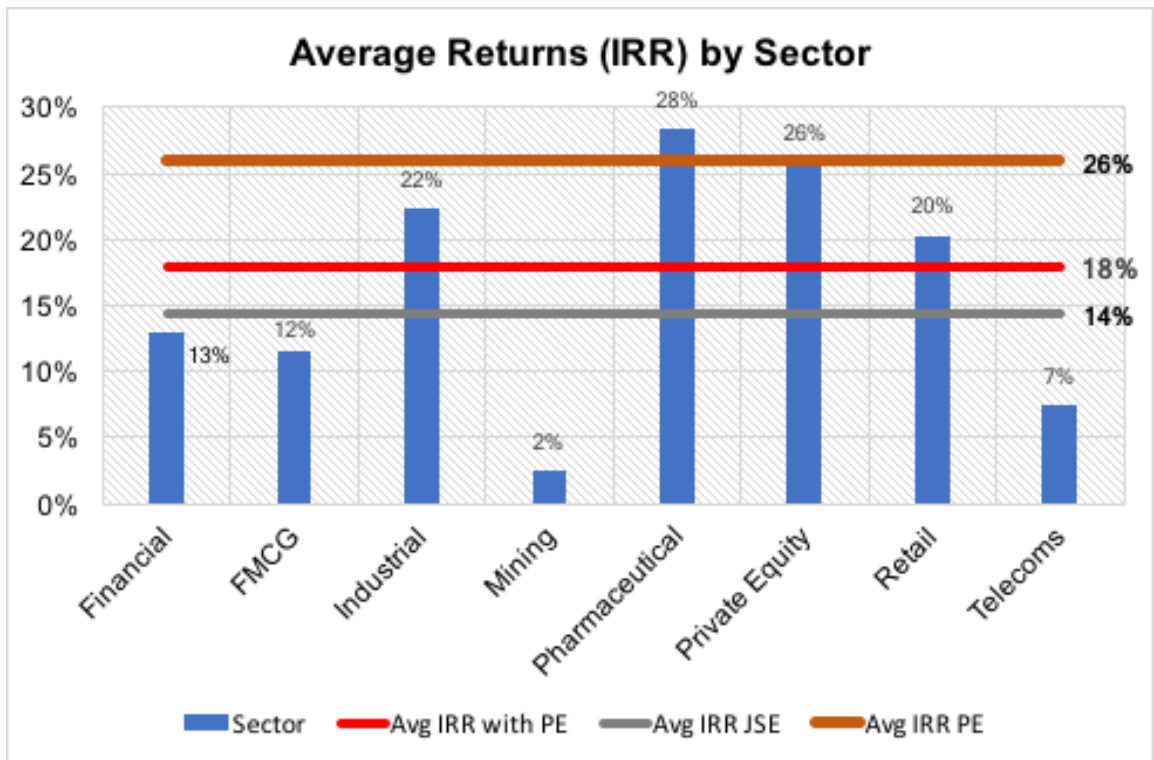


Figure 5. 19 IRRs by sector with averages



5.5.2. Average return (IM) by sector

In line with 5.5.1 above, the second question of the study sought to establish whether there was variation on performance that correlates with the sector that a firm operates in. Figure 5.12 depicts IM by sector. PE is grouped as a sector because of the varying sectors that the portfolio companies may be in. The results showed that Pharmaceuticals, Private Equity, Industrial with the exception of Retail which was below the average by 0.3, were above the total average in terms of performance as shown in figure 5.13.

Figure 5. 20 Average returns (IM) by sector

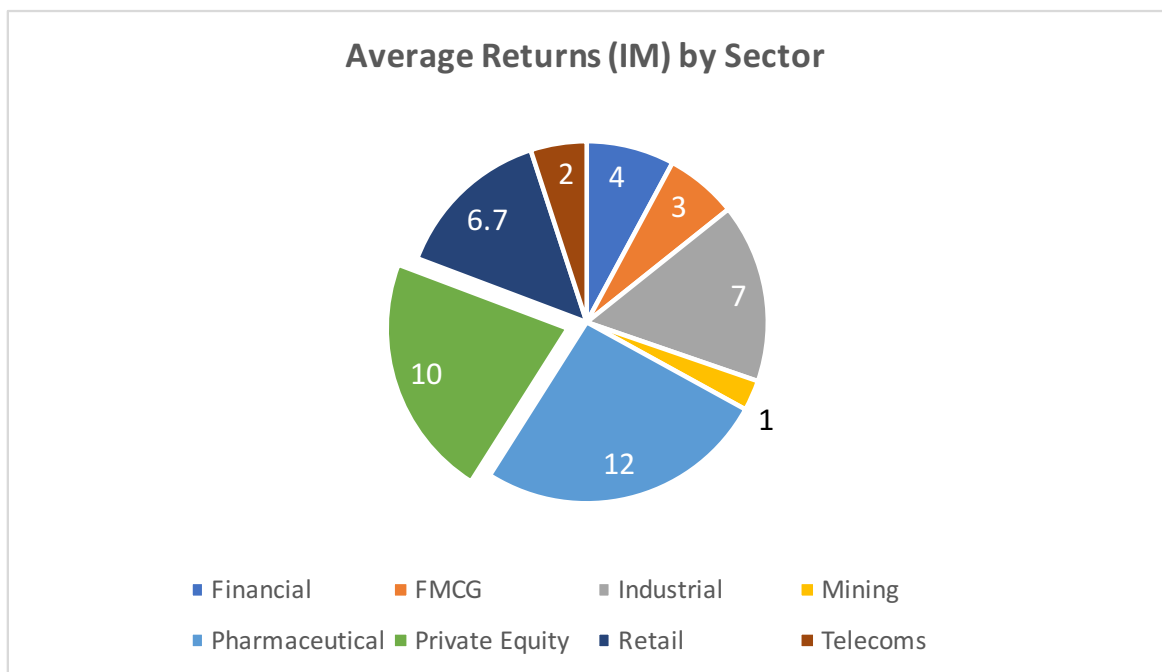
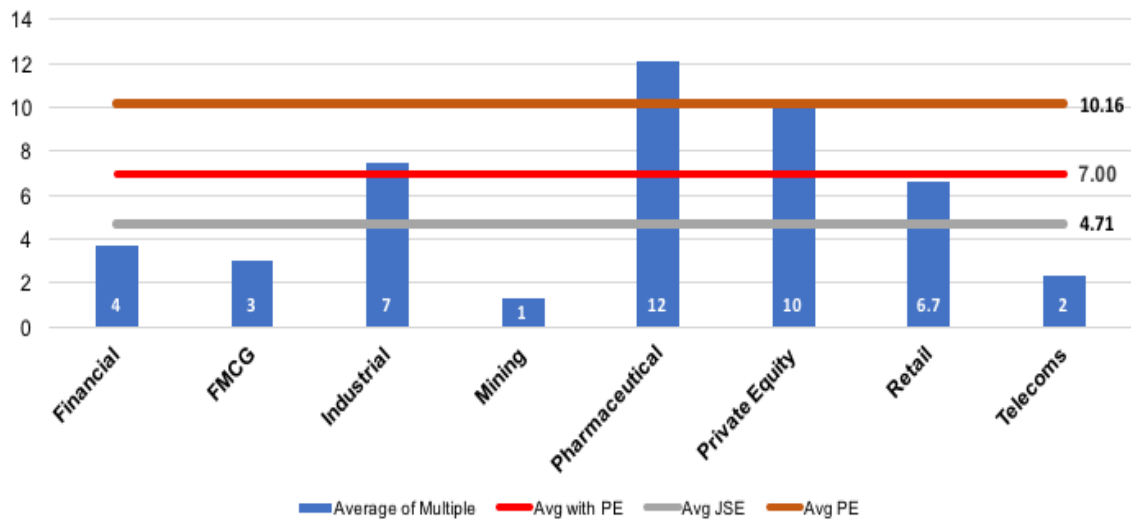


Figure 5. 21 Average returns (IM) by Sector with total average benchmark



5.5.1. Spearman's Correlation

Figure 5.22 shows the results of a Spearman's rank-order correlation (Spearman, 1904) that was used to assess the relationship between the investment return (IRR or IM) and the sector that a firm operates in. Preliminary analysis showed the relationship to be monotonic. There was a strong positive correlation between the sector and the investment return attained, $r_s(98) = 0.857$, $p < 0.001$ (Wegner, 2016; Spearman, 1904; Sheskin, 2011).

Figure 5. 22 Spearman’s rank-order correlation

			Sector	IRR	IM
Spearman's rho	Sector	Correlation Coefficient	1.000	.857**	.857**
		Sig. (2-tailed)	.	.000	.000
		N	18	18	18
	IRR	Correlation Coefficient	.857**	1.000	1.000**
		Sig. (2-tailed)	.000	.	.
		N	18	18	18
	IM	Correlation Coefficient	.857**	1.000**	1.000
		Sig. (2-tailed)	.000	.	.
		N	18	18	18

** . Correlation is significant at the 0.01 level (2-tailed).

The results will be discussed in chapter 6 in terms of the research questions.

6. DISCUSSION OF RESULTS

6.1. Introduction

This chapter summarises the results of the research that were presented in chapter 5. The chapter will also discuss the results of the research according to the research questions that were stated in chapter 3. Theory from the literature review in chapter 2 as well as theory on investments will be used to explain the results. The limitations of the research will be outlined towards the end of the chapter.

This chapter begins with the summary of the results for both Research Question 1 and Research Question 2. The structure of chapter 5 is then used to discuss the results in detail as follows: first, the returns from Private Equity firms with portfolio companies in the rest of Africa are compared to the returns from JSE Top 40 companies with operations in the rest of Africa. This is in line with Research Question 1 in chapter 3. Second, the results of test of the relationship between the sector that the company operates in and the returns that the company has achieved are discussed. This is in line with Research Question 2 in chapter 3.

The summary of the research finding will conclude the chapter and serve as a link to chapter 7.

6.2. Summary of the results

6.2.1. PE Firms v JSE Firms: Research Question One

Figure 5.13 in chapter five demonstrates that on average, an investment into a Private Equity firm with a portfolio company in the rest of Africa would have generated a return that is superior than that, on average, generated by a JSE Top 40 company with operations in the rest of Africa.

Figure 5.19 from chapter 5 demonstrated that the average internal rate of return for PE firms was 26% with the JSE firms achieving an average internal rate of return of

14%. This represents an average return premium of 12% for money invested into PE firms with portfolio companies in the rest of Africa, in the ten-year period from 2008 to 2017. The premium is significantly above that the literature review indicated. This finding is in line with the literature review in that there is a return premium for investments into private equity. Franzoni, *et al.* (2012) contended that the illiquidity risk that is associated with private equity investments justifies the premium that is attained from the investment. Sorensen, *et al.* (2014) stated that it is common cause that the average return of private equity outdoes the return of listed equities.

A Welch t-test was run to determine if there were differences in returns for PE firms and JSE firms. The returns (IRR) were superior for PE firms ($M = 25.93$, $SD = 2.33$) than JSE firms ($M = 14.34$, $SD = 8.40$), a statistically significant difference, $M = 11.59$, 95% CI [5.99 to 17.18], $t(13.924) = 4.448$, $p = 0.001$.

The average Investment Multiple for private equity firms was 10 with JSE firms achieving an average Investment Multiple of 5. This represents a premium of 5 or double the initial investment had an investor invested in a private equity firm with a portfolio company in the rest of Africa instead of a JSE firm with operations in the rest of Africa. These findings are in line with the literature.

An independent samples t-test was run to determine if there were differences in the return between PE firms and JSE firms. IM returns were found to be higher for PE firms ($M=10.1667$, $SD=1.9181$) than JSE firms ($M=4.7108$, $SD=3.3157$), a statistically significant difference, $M= 5.45583$, 95% CI [2.32798 to 8.58368], $t(16) = 3.698$, $p=0.002$.

The main findings of this study were consistent with the general contention in the literature review that, on average private equity performs better than shares listed on stock exchanges.

The finding for research question 1.1. was that in line with the literature presented, private equity offers a viable diversification strategy for investors seeking superior returns from the growth of Africa.

6.2.2. Performance Variations by Sector: Research Question Two

Figure 5.19 in chapter five demonstrated that there were four sectors that generated an internal rate of return (IRR) that is above the average for all sectors. These sectors were: Pharmaceutical, Private Equity, Industrial, & retail. The sectors that were below the average for all sectors were: Financial, FMCG (Fast Moving Consumer Goods), Telecoms, & Mining.

A Spearman's rank-order correlation (Spearman, 1904) was used to assess the relationship between the investment return (IRR or IM) and the sector that a firm operates in. Preliminary analysis showed the relationship to be monotonic. There was a strong positive correlation between the sector and the investment return attained, $r_s(98) = 0.857$, $p < 0.001$ (Spearman, 1904).

The interesting observation was the performance of the pharmaceutical sector. The sector generated a return of 28% for the period under review. It is also important to note that the pharmaceutical sector comprised of one firm and therefore it cannot be inferred that the pharmaceutical sector was superior in performance. A like for like comparison of individual firms would show that in the sample, one private equity firm achieved an internal rate of return of 30%. The performance of pharmaceutical is consistent with the literature. Karakaya & Parayitam (2013) observed that higher capital requirements and higher business environment barriers gave companies a higher competitive advantage which becomes a major barrier to entry in its own right.

The pharmaceutical sector has very high barrier to entry. One particular barrier that was observed by Grant (1991) was the patent. Indeed patents offer the holders a competitive advantage over the useful life of the patent. The patent in essence gives the company a competitive advantage which, as Karakaya & Parayitam (2013) observed becomes a major barrier to entry in its own right.

Telecoms and Mining were the sectors that displayed poor results in the study however the study conducted by Lee, et al. (2013) could explain the poor performance of these sectors. Their study observed that the events of substantial shocks should be taken into account when analysing the effect of the return from certain industries. Their argument was based on their findings of which they stated

that the impact of industry returns on market returns, varies according to periods, unusual shocks and business cycles (Lee, Chen, & Chang, 2013).

MTN was recently penalised in Nigeria for violations of regulations. This resulted in a drop of its share and would thus have had an effect on its returns and the average return of the sector as computed for this study. It is also true that the prices of minerals have been depressed in the past few years and this would have had an effect on the returns generated by the mining sector and thus the sector average.

The conclusion from the findings is that there is a correlation between performance and sector. This study however, cannot infer that these sectors achieved these results because of the sectors they operate in. Those factors are beyond the scope of this research.

6.4. Research Question 1

Do South African Private Equity Funds with portfolio companies in the Rest of Africa perform better than the Johannesburg Stock Exchange (JSE) Top 40 Index companies with operations in the Rest of Africa?

6.4.1. PE Firms v JSE Top 40 Firms

Figure 5.13 in chapter five demonstrates that on average, an investment into a Private Equity firm with a portfolio company in the rest of Africa would have generated a return that is superior that, on average, generated by a JSE Top 40 company with operations in the rest of Africa.

Figure 5.19 shows that the average internal rate of return for PE firms was 26% with the JSE firms achieving an average internal rate of return of 14%. This represents an average return premium of 12% for money invested into PE firms in the ten-year period from 2008 to 2017. The premium is significantly above that the literature review indicated. This finding is in line with the literature review in that there is a return premium for investments into private equity. Franzoni, *et al.* (2012) contended that the illiquidity risk that is associated with private equity investments justifies the

premium that is attained from the investment. Sorensen, et al. (2014) stated that it is common cause that the average return of private equity outdoes the return of listed equities.

Figure 5.17 shows the results of a Welch t-test that was run in order to determine if there were differences in returns for PE firms and JSE firms. The returns (IRR) were superior for PE firms (M = 25.93, SD = 2.33) than JSE firms (M = 14.34, SD = 8.40), a statistically significant difference, M = 11.59, 95% CI [5.99 to 17.18], $t(13.924) = 4.448$, $p = 0.001$. The results from the Welch t-test validated the results of the excel analysis. The mean difference of 11.59% corroborates the 12% premium that was calculated in the excel analysis in Figure 5.19.

Figure 5.13 is the graphical output from the excel analysis of the investment multiple (IM). The average Investment Multiple for private equity firms was 10.16 with JSE firms achieving an average Investment Multiple of 4.71. This represents an average premium of 5.45 or on average, double the initial investment had an investor invested in a private equity firm with a portfolio company in the rest of Africa instead of a JSE firm with operations in the rest of Africa gross of fees.

The above findings were supported by the literature review. Sorensen, et al. (2014) argued that private equity does perform better compared to listed shares gross of fees. The findings of this study did not concur with the findings of the study conducted by Kaplan & Schoar (2005) where they concluded that average private equity returns net of fees were generally equal to those of the S&P 500. They further found that when the private equity firms are weighted by capital that has been committed, the firms do not perform better than the S&P 500 index. Sorensen, et al. (2014) supported the finding of Kaplan & Schoar (2005) by concluding from their study that investors in private equity would most probably breakeven from their investment after fees. The interpretation of Kaplan & Schoar (2005) & Sorensen, et al. (2014) was that the investors would find that private equity would not perform better than listed shares when fees and other factors are taken into account.

In this study, the performance values that were used for private equity were gross of fees. The shares prices of the JSE companies were also quoted gross of fees. The objective of the study was comparing the return that an investor would earn after investing for ten years in private equity as well as in shares on the JSE. It is on that basis that the study is unable to challenge the findings of Sorensen, et al. (2014).

The findings of the research were in line with the conclusions of Harris, et al. (2014) where they found that private equity firms have performed better than share markets specifically the S&P 500, after fees and carried interest. Their estimates suggested that each dollar invested in the average private equity firm, returned at a minimum 20% more than a dollar invested in the S&P 500. Further, their results suggested that private equity firms performed better than the share market much more substantially when fees have not been deducted Mozes & Fiore (2012).

Harris, et al. (2014) and the industry report compiled by RisCura-SAVCA, (2016) as well as the findings by Missankov, et al. (2008) which concluded that South African private equity firms performed better than listed shares. These studies affirmed the findings of this research. For the sample observed, private equity firms with portfolio companies in the rest of Africa performed better on average compared to JSE Top 40 companies with operations in the rest of Africa.

The studies conducted by Tykvová & Borell, (2012); Gompers, et al. (2016); shed some light on why private equity outperforms listed shares. They explain that when a private equity firm acquires a company they use a variety of levers such as financial engineering, operational engineering, and governance engineering to increase the value of the portfolio company. Wilson, Wright, Siegel, & Scholes (2012) further stated that the expertise of the private equity firm in monitoring, enabled portfolio companies to improve performance by exploiting opportunities for both cost efficiencies and growth. The involvement of the private equity firm facilitated timely restructuring of portfolio companies in the event of trading difficulties and/or problems in servicing financial structures and this they found reduced the likelihood of a portfolio company failing. They also contended that Non-PE backed firms, whether private or public, are possibly disadvantaged in this regard. (Wilson, Wright, Siegel, & Scholes, 2012).

The findings of this study were consistent with the general contention in the literature review in that, on average private equity performs better than shares listed on stock exchanges.

6.4.1.1. Private Equity as Diversification Strategy and liquidity risk

Figure 5.13 in chapter five demonstrates that on average, an investment into a Private Equity firm with a portfolio company in the rest of Africa would have generated a return that is superior that, on average, generated by a JSE Top 40 company with operations in the rest of Africa.

The average internal rate of return for PE firms was 26% with the JSE firms achieving an average internal rate of return of 14%. This represents an average return premium of 12% for money invested into PE firms in the ten-year period from 2008 to 2017. The premium is significantly above that the literature review indicated. This finding is in line with the literature review in that there is a return premium for investments into private equity. Franzoni, *et al.* (2012) contended that the illiquidity risk that is associated with private equity investments justifies the premium that is attained from the investment. Sorensen, *et al.* (2014) stated that it is common cause that the average return of private equity outdoes the return of listed equities.

Figure 5.17 in chapter five shows the results of a Welch t-test that was run in order to determine if there were differences in returns for PE firms and JSE firms. The returns (IRR) were superior for PE firms (M = 25.93, SD = 2.33) than JSE firms (M = 14.34, SD = 8.40), a statistically significant difference, M = 11.59, 95% CI [5.99 to 17.18], $t(13.924) = 4.448$, $p = 0.001$. The results from the Welch t-test validated the results of the excel analysis. The mean difference of 11.59% corroborates the 12% premium that was calculated in the excel analysis in Figure 5.19.

The average Investment Multiple for private equity firms was 10.16 with JSE firms achieving an average Investment Multiple of 4.71. This represents an average premium of 5.45 or on average, double the initial investment had an investor invested in a private equity firm with a portfolio company in the rest of Africa instead of a JSE firm with operations in the rest of Africa.

Figure 5.8 in chapter 5 shows the results of the independent samples t-test. From the findings, it can be concluded that, PE firms mean IM returns were 5.45, 95% CI [2.33 to 8.58] higher than JSE firms mean IM return. There was a statistically significant difference in IM returns between PE firms and JSE firms, with PE firms

achieving a higher IM return than JSE firms. The mean difference of corroborated the 5.45 average premium that was calculated in the excel analysis as shown in figure 5.13 of chapter 5.

The findings of this study did not concur with the findings of the study conducted by Kaplan & Schoar (2005) where they concluded that average private equity returns net of fees were generally equal to those of the S&P 500. They further found that when the private equity firms are weighted by capital that has been committed, the firms do not perform better than the S&P 500 index. Sorensen, et al. (2014) supported the finding of Kaplan & Schoar (2005) by concluding from their study that investors in private equity would most probably breakeven from their investment. The interpretation of Kaplan & Schoar (2005) & Sorensen, et al. (2014) was that the investors would find that private equity would not perform better than listed shares when fees and other factors are taken into account. This would therefore negate the benefits of diversifying the portfolio by including private equity as an asset class.

Sorensen, et al. (2014) however, conceded that private equity does perform better compared to listed shares gross of fees. This concession supported the findings of this study.

In this study, the performance values that were used for private equity were gross of fees. The shares prices of the JSE companies were also quoted gross of fees. The objective of the study was comparing the return that an investor would earn after investing for ten years in private equity as well as in shares on the JSE. It is on that basis that the study is unable to challenge the findings of Sorensen, et al. (2014).

Investors seeking to diversify their portfolios can achieve a return premium on their investment if they invest in private equity firms with portfolio companies in the rest of Africa. Franzoni, et al. (2012) stated that private equity when compared to public markets had a much higher risk profile. They contended that the premium justified the risk of illiquidity. The premium, they alluded, served as compensation to the investor for the variety of risk factors that the returns of private equity are exposed to. This means that the investor should have appreciation of the underlying risks associated with the private equity investments. Kinlaw, Kritzman, & Mao (2015) in the literature review, summarized that investors who believe that they are able to identify superior private equity firms, invest in private equity with the view that the superior performance of the asset class offsets the illiquidity risks associated with

this type of investment. Missankov, van Dyk, van Billion, Hayes, & van der Veen (2008) concluded that South African private equity provided an absolute return which was at a premium to other asset classes and that private equity achieved a significant premium when compared to other asset classes including the listed shares.

On average private equity firms that were observed in this study, outperformed the JSE firms observed in this study by 81%. The RisCura-SAVCA (2016) survey report of private equity performance for the ten year period from 2006 to 2016 found that private equity attained a 19% IRR net of fees compared to 13% return from the All Share Index (gross of fees), 17.6% return of the Financial and Industrial Index (gross of fees) as well as the Shareholder Weighted Index (gross of fees).

The statistical analysis findings are supported by the findings made by Kinlaw, et al. (2015) in that from the six private equity firms in the sample and the 12 JSE Top 40 companies, an independent-samples t-test (figure 5.8 in chapter 5) which was run to determine if there were differences in the return means between PE firms and JSE firms. Investment multiple (IM) returns were found to be higher for PE firms ($M=10.1667$, $SD=1.9181$) than JSE firms ($M=4.7108$, $SD=3.3157$), a statistically significant difference, $M= 5.45583$, 95% CI [2.32798 to 8.58368], $t(16) = 3.698$, $p=0.002$.

The investment multiple (IM) mean difference of 5.45 is of practical importance in that it corroborates the results from the excel analysis in Figure 5.13 in chapter 5 where the average investment multiple for private equity was 10.16 and the average for JSE firms was 4.71 for the control period of 10 years from 2008 to 2017. The difference between the average investment multiple of private equity and that of JSE firms was 5.45.

In practice, the finding illustrates that if an investor had invested in private equity in the period under observation, an initial investment of R100 000 (one hundred thousand rand) compounded over ten years at an average internal return rate of 25.93%, from the initial investment would have been R 1 016 351 (one million, sixteen thousand, three hundred and fifty-one rand). This would imply an average investment return multiple of 10.16. A comparative investment in the JSE Top 40 companies with same investment of R100 000 (one hundred thousand rand) compounded at an internal rate of return of 14.35% from the initial investment would

have yielded an end value of R 471 209.97 (four hundred and seventy-one thousand, two hundred and nine rand). This translates to a multiple of 4.71.

These findings are not supported by earlier literature on private equity. Kaplan & Schoar (2005); Franzoni, et al. (2012); Phalippou & Gottschalg, (2009) who concluded that on average private equity funds do not perform better than share markets after fees. However, Mozes & Fiore (2012) debated the findings of such earlier literature when they found in their study that private equity firms outperformed the share market after adjusting the returns for risk and that; when private equity returns were measured after fees, they still outperformed the share market. The conclusions made by Mozes & Fiore (2012) are supported by the the RisCura-SAVCA (2016) report which stated that even when comparing private equity over a ten year period, net of fees, the private equity returns were still above the returns from the JSE indices whose returns were reported gross of fees which is inline with the findings of this research.

Most studies in the literature seem to support the notion that past performance is likely to predict future performance. The trend of this view appears in earlier literature such as that of Kaplan & Schoar (2005) who found that there was performance persistence across funds raised until the late 1990s. However, Braun, Jenkinson, & Stoff (2017) found that, evidence of performance persistence in private equity firms was much weaker than in it was for previous studies such as the study conducted by Kaplan & Schoar (2005). For their larger and more recent sample of private equity firms, they found weaker evidence of performance persistence. Braun, et al. (2017) and Sensoy, Wang, & Weisbach (2014) contended that the privileged access to successful private equity firms became less valuable as the market matured and private equity performance persistence disappeared. Braun, et al. (2017) further stated that for investors, their findings had clear, but uncomfortable, consequences which is: past performance cannot be used to predict future performance when choosing a private equity firm to invest in.

The Hungarian Private Equity and Venture Capital Association (2017) had a different point of view. The association intimated that the more consistent a PE firm is in achieving successful exits, the better the return for the investor and indeed the firm as it is able to raise funds more efficiently for future investment.

From the findings that have been presented and the literature, a conjecture that can be made is that private equity offers a viable diversification strategy for investors seeking superior returns. Liquidity risk, which is one of the main concerns for investor when contemplating private equity as an investment, is compensated by the return premium.

6.5. Research Question 2

Research question 2 is aimed at observing if there were any variations in performance based on sectors when expanding into RoA?

6.5.1. Performance Variations by Sector

Figure 5.19 in chapter five demonstrates the Microsoft Excel analysis. From results, the research found that four sectors generated an internal rate of return (IRR) that is above the total average of all sectors. These sectors were: Pharmaceutical, Private Equity, Industrial, & retail. The following sectors were below the total average of all the sectors: Financial, FMCG (Fast Moving Consumer Goods), Telecoms, & Mining.

To confirm whether there was a relationship between the sector and the returns (Internal Rate of (IRR) and Investment Multiple (IM)) achieved by firms, A Spearman's rank-order correlation (Spearman, 1904) was run on SPSS (Figure 5.22 in chapter). Preliminary analysis showed the relationship to be monotonic. There was a strong positive correlation between the sector and the investment return attained, $r_s(98) = 0.857, p < 0.001$ (Spearman, 1904).

Figure 5.18 and Figure 5.19 in chapter five show the results of the excel analysis. The excel analysis was used so that the variations by sector could visualised. Conclusions on the existence of a relationship between sector and returns cannot be drawn. To test for a relationship, a Spearman's Rank-order correlation test was conducted. The results are stated above. The interesting observation was the performance of the pharmaceutical sector. The sector generated a return of 28% for

the period under review. It is also important to note that the pharmaceutical sector comprised of one firm and that it cannot be inferred that the pharmaceutical sector outperforms other sectors. A like for like comparison of individual firms would show that in the sample, one private equity firm achieved an internal rate of return of 30%. The industrial and retail sectors were above the average of all sectors as well as the average of the JSE firms however, they were below the average for private equity.

The superior performance of these sectors is supported by the literature. Karakaya & Parayitam (2013) observed that higher capital requirements and higher business environment barriers gave companies a higher competitive advantage which becomes a major barrier to entry in its own right. Bekaert, Hodrick, & Zhang (2009) in their study found that there was a higher correlation between country and the performance of a share than there was between sector and the performance of a share.

The findings from the study could be explained by the study conducted by Lee, Chen, & Chang (2013) where they stated that sector returns that led the stock market were positively influenced by government support. Frijns, Verschoor, & Zwinkels (2017) established in their study that share return correlations were mainly driven by investor sentiment and that investors accordingly should beware of what effect, common sentiment: especially in times of crises, has on the diversification of their portfolios (Frijns, Verschoor, & Zwinkels, 2017).

As an example, the pharmaceutical sector has very high barriers to entry. One particular barrier that was observed by Grant (1991) was the patent. Indeed patents offer the holders a competitive advantage over the useful life of the patent.

The findings from the research are explained by the literature in that a study conducted by Karakaya & Parayitam (2013) highlighted the potential reasons for the variation in performance by sectors. Their observation was that: higher capital requirements and higher business environment barriers gave existing companies a higher competitive advantage which became a major barrier to entry in its own right. Grant (2001) contended that economies of scale, patents, a reputable brand and, experience were an added barrier to entry. Karakaya & Parayitam (2013) further stated that the relationships between the barriers to entry were more complex than were conjectured in previous studies. An example they made was that one barrier

could lead to another. Literally, capital requirements, could lead to competitive advantage (Karakaya & Parayitam, 2013).

Faias & Ferreira (2017) concluded that industry and global aspects were relatively more significant than the country factors in amplifying share return variation between shares with institutional owners. They further concluded that Industry diversification strategies were more beneficial than country diversification strategies for shares that have more institutional owners.

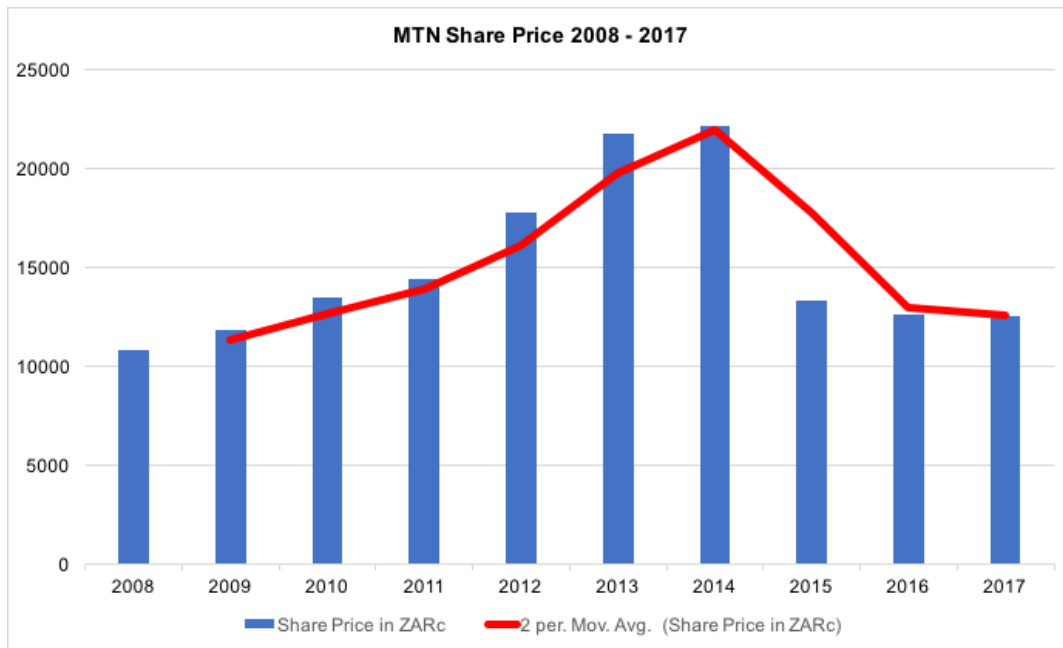
The characteristics of the sectors that performed above average indeed concur with the literature. The extent of the impact these characteristics or simply factors, could not be established as this was beyond the scope of this study.

Telecoms and Mining were the sectors that displayed poor results in the study however, the study conducted by Lee, et al. (2013) could explain the poor performance of these sectors. They stated that the events of substantial shocks should be taken into account when analysing the effect of the return from certain sectors. Their argument was based on their findings of which they stated that the impact of sector returns on market returns, varies according to periods, unusual shocks and business cycles (Lee, Chen, & Chang, 2013). Frijns, Verschoor, & Zwinkels (2017) added that share return correlations were mainly driven by investor sentiment and that investors accordingly should beware of what effect, common sentiment: especially in times of crises, has on the diversification of their portfolios (Frijns, Verschoor, & Zwinkels, 2017).

MTN is used in the next paragraph to illustrate the effect of investor sentiment as discussed in the paragraph above.

MTN Nigeria was found to have violated regulations in 2015. This resulted in a drop of its share and this would have had an effect on its returns and the average return of the sector as computed for this study. In the case of MTN, it was interesting to observe the effect of investor sentiment as play. Figure 6.1 illustrates the fluctuations of MTN's share price.

Figure 6. 1 MTN share price in ZARc from 2008 to 2017 (Thomson Reuters, 2017)



From 2014 to 2016 the share price of MTN has dropped by more than 40%. The underlying business though is still solid and a settlement was reached with the Nigerian government and yet the share price has not responded to the positive outlook of the company. Frijns, et al. (2017) assertions are amplified by the analysis of MTN and the effect that it had on the overall sector performance observed by in this research.

It is also true that the prices of minerals have been depressed in the past few years and this would have had an effect on the returns generated by the mining sector and thus would have had an effect on the the sector average. This was substantiated by the literature review. Lee, et al. (2013) stated that the impact of industry returns on market returns, varies according to periods, unusual shocks and business cycles. Mining is was of the sectors that is very cyclical and thus market timing becomes crucial when contemplating investing in the sector. Market timing however, was not in the scope of this study.

The conclusion from the findings is that there is a correlation between performance and sector. This study however, cannot infer that these sectors achieved superior results because of the sectors they operate in or because of other factors.

6.6. Conclusion of findings

The findings of this study were consistent with the general contention in the literature review in that, on average private equity performs better than shares listed on stock exchanges. The finding for research question one was that private equity firms with portfolio companies in the rest of Africa perform better than JSE Top 40 companies with operations in the rest of Africa.

The finding for research question 1.1. was that in line with the literature presented, private equity offers a viable diversification strategy for investors seeking superior returns from the growth of Africa.

The finding for research question two was that there is a correlation between performance and sector. This study however, could not infer that these sectors achieved superior results because of the sectors they operate in or because of other factors.

7. CONCLUSION

7.1. Introduction

The main objective of the research was to fill a gap in the literature by determining whether South African PE firms have a better return when investing in the rest of Africa compared to JSE Top 40 index companies that have expanded to the Rest of Africa. The research findings would investors seeking to capture the African growth story in manner that achieves returns that are superior to those they would have achieved in South Africa.

7.2. Principal findings

The findings are presented in the order of the research questions.

7.2.1. PE Firms v JSE Top 40 Firms

The aim of the research was to answer the question which is; do South African Private Equity Funds with portfolio companies in the Rest of Africa perform better than the Johannesburg Stock Exchange (JSE) Top 40 Index companies with operations in the Rest of Africa?

The findings from the research were consistent with the general contention in the literature review. On average, private equity performs better than shares listed on stock exchanges (Harris, Jenkinson, & Kaplan, 2014; Mozes & Fiore, 2012; Sorensen, Wang, & Yang, 2014).

Some studies however found that private equity performance when compared to that of listed equities was flat when returns are calculated after fees (Kaplan & Schoar, 2005; Phalippou & Gottschalg, 2009; Sorensen, Wang, & Yang, 2014)

The literature suggested that the value engineering that is done by private equity firms could be the source of the superior returns (Tykvová & Borell, 2012; Gompers, Kaplan, & Mukharlyamov, 2016). Cumming & Zambelli (2017) found in their study that time spent on due diligence of the portfolio company could be linked to the future performance of the portfolio company. Their study further showed that an extended time spent on due diligence enabled the selection of better portfolio companies to invest in and that this extensive due diligence was associated with improved performance

The findings of the research were in line with the conclusions of Harris, et al. (2014) where they found that private equity firms have performed better than share markets specifically the S&P 500, after fees and carried interest. Their estimates suggested that each dollar invested in the average private equity firm, returned at a minimum 20% more than a dollar invested in the S&P 500. Mozes & Fiore (2012); Missankov, et al. (2008) also found that private equity firms performed better than the share market much more substantially when fees have not been deducted.

7.2.1.1. Private Equity as Diversification Strategy and liquidity risk

The finding of the research was that private equity offers a viable diversification strategy for investors seeking exposure to the rest of Africa market with superior returns. Franzoni, et al. (2012) stated that private equity when compared to public markets had a much higher risk profile which justified the higher return and that this higher return should be seen as a risk premium.

The findings of this study were not supported by earlier literature on private equity such as Kaplan & Schoar (2005); Franzoni, et al. (2012) who concluded that on average private equity funds do not perform better than share markets after fees.

Mozes & Fiore (2012) debated the findings of such earlier literature when they found in their study that private equity firms outperformed the share market after adjusting the returns for risk and that; when private equity returns were measured after fees, they still outperformed the share market.

The conclusions made by Mozes & Fiore (2012) are supported by the the RisCura-SAVCA (2016) report which stated that even when comparing private equity over a

ten year period, net of fees, the private equity returns were still above the returns from the JSE indices whose returns were reported gross of fees. The RisCura-SAVCA (2016) report supported the findings of this research.

From the findings of the research, a conclusion that can be made is that private equity offers a viable diversification strategy for investors seeking superior returns.

7.2.2. Performance Variations by Sector

The conclusion from the findings is that there is a correlation between performance and sector. This study however, could not infer that these sectors achieved these results because of the sectors they operate in or because of other factors. The exploration of the factors that enabled the higher performing sectors were beyond the scope of this research.

There were two main themes from the literature review. The first theme was that there is correlation between sector and performance (Frijns, Verschoor, & Zwinkels, 2017; Lee, Chen, & Chang, 2013). Bai & Green (2010) discovered in their study that industry and country factors had a substantial influence on stock risks and the subsequent return. The second theme was that resource intensive sectors have barriers to entry and that the effect of this was minimal competition which ultimately ensure higher returns (Karakaya & Parayitam, 2013; Grant, 1991; Wernerfelt, 1984).

The objective of research question two was test whether there was performance variation by sector. The principal finding was that there is a correlation between performance and sector. The literature review supported this finding (Frijns, Verschoor, & Zwinkels, 2017; Lee, Chen, & Chang, 2013; Bai & Green, 2010) The exploration of the factors that enabled the sectors to achieve better results than other sectors were beyond the scope of this research.

7.3. Implications for Investment Managers

Based on the findings of the research, Investors seeking to diversify their portfolio and gain exposure to the growing African market (excluding South Africa) can achieve a return premium on their investment if they invest in private equity firms with portfolio companies in the rest of Africa.

The following are what investors and users of this research need to take into account when contemplating an investment into private equity firms with portfolio companies in the rest of Africa:

- a. An understanding of the underlying risks associated with the premium such illiquidity should be taken into account.
- b. The hurdle rate must be negotiated vigorously in order to counter the erosion of the return associated with “carry”. The researcher agrees with (Sorensen, Wang, & Yang, 2014; Franzoni, Nowak, & Phalippou, 2012) who found in their studies that the associated fees of investing in private equity and low hurdle rates, can erode the return premium, thus rendering diversification pointless.
- c. Market timing also has an effect on the returns achieved by private equity
- d. It is possible to diversify by sector on the listed equities and achieve similar returns to private equity
- e. Liquidity risk, which is one of the main concerns for investor when contemplating private equity as an investment, is compensated by the return premium.
- f. The conclusion from the findings was that there is a correlation between performance and sector. Investors should however take into account the factors that influence the superior performance of such sectors. These factors could be the resource intensity of the sector and/or the country/sector and lastly the sentiment of other shareholders especially institutional shareholders (Lee, Chen, & Chang, 2013; Frijns, Verschoor, & Zwinkels, 2017; Karakaya & Parayitam, 2013).
- g. It should always be noted that past performance is not an indicator of future success (Missankov, van Dyk, van Billion, Hayes, & van der Veen, 2008; Braun, Jenkinson, & Stoff, 2017; Sensoy, Wang, & Weisbach, 2014)

7.4. Limitations

The main limitations are as follows:

- The private equity sample was very small. A total of six firms who reported their returns was found.
- Judgement sampling was used for both groups. Using judgement sampling may have introduced researcher bias.
- The private equity industry is not very accessible. Data for academic study as this one is sold by research companies at a premium.
- The scope of the theory did not allow the research to generalise the findings
- Microsoft Excel was used as a tool for the proportional analysis. The impact of possible errors was noted. Consistency in the application of formulae was key in the analysis.
- A mixed method would have added depth to the study in that the factors that influence variation of performance by sectors would shed light on the factors that contribute to the success of some sectors and the failures of others.
- Academic literature on South African private equity performance is very minimal. Only one peer-reviewed journal article could be found.
- Private equity companies that have not performed well are unlikely to report their performance voluntarily.

7.5. Suggestions for future research

The limitations of the research suggest that there is a need for further research on the performance of South African private equity firms with portfolio companies or branches of portfolio companies in the rest of Africa, benchmarked against the performance of JSE listed companies with operations in the rest of Africa.

Future studies should focus on companies that have similar capitalisation as the private equity firms' portfolio companies in order to mitigate the resource bias that that studies in the literature review have acknowledged to having an impact on the returns.

A mixed research method would allow future studies to gain a better perspective of the success/failure factors from private equity as well as listed companies. In essence, a mixed methodology would give depth to the findings.

REFERENCES

- Ardalan, K. (2017). Reconsidered, Capital structure theory:. *Research in International Business and Finance*, 696-710.
- Bai, Y., & Green, C. J. (2010). International diversification strategies: Revisited from the risk perspective. *Journal of Banking and Finance*, 236-245.
- Barde, M., & Barde, P. (2012). What to use to express the variability of data: Standard deviation or standard error of mean? *Perspectives in Clinical Research*, 113-6.
- Bekaert, G., Hodrick, R. J., & Zhang, X. (2009). International Stock Return Comovements. *The Journal of Finance*.
- Braun, R., Jenkinson, T., & Stoff, I. (2017). How persistent is private equity performance? Evidence from deal-level data. *Journal of Financial Economics*, 273-291.
- Clendenin, J. C., & Van Cleave, M. (1954). Growth and Common Stock Values. *The Journal of Finance*, 365-376.
- Cumming, D., & Zambelli, S. (2017). Due Dilligence and Investee Performance. *European Financial Management*, 211-253.
- de Klerk, J. (2016). *Private Equity and Responsible Investment in Namibia*. Gordon Institute of Business Science. University of Pretoria.
- de Kock, A. (2015). *Market timing on the JSE using the South African Volatility Index*. Gordon Institute of Business Finance. University of Pretoris.
- Demaria, C. (2015). Fee Levels, Performance, and Alignment of Interests in Private Equity. *Journal of Alternative Investments*, 95-135.
- Dyck, A., & Pomorski, L. (2016). Investor Scale and Performance in Private Equity. *Review of Finance*, 1081-1106.
- Ethos Private Equity. (2017, September 18). *Value Add: Ethos Private Equity* . Retrieved from Ethos Private Equity Website: <http://www.ethos.co.za/our-firm/value-add/>

- Faias, J. A., & Ferreira, M. A. (2017). Does institutional ownership matter for international stock return comovement? *The Journal of International Money and Finance*, 64-83.
- Finweek. (2015, December 17). Tiger Brands' Multibillion-Rand Impairment. *Finweek*, p. 33.
- Firer, C., Ross, S. A., Westerfield, R. W., & Jordan, B. D. (2012). *Fundamentals of Corporate Finance*. Maidenhead: McGraw-Hill Education.
- Franzoni, F., Nowak, E., & Phalippou, L. (2012). Private Equity Performance and Liquidity Risk. *The Journal of Finance*, 2341-2373.
- Frijns, B., Verschoor, W. F., & Zwinkels, R. C. (2017). Excess stock return comovements and the role of investor sentiment. *Journal of International Financial Markets, Institutions and Money*, 74-87.
- Gilligan, J., & Wright, M. (2014). *Private equity demystified: an exploratory guide*. London: ICAEW Corporate Finance Faculty.
- Gompers, P., Kaplan, S. N., & Mukharlyamov, V. (2016). What do private equity firms say they do? *Journal of Financial Economics*, 449-476.
- Grant, R. M. (1991). The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation. *California Management Review*, 114-135.
- Gupta, P., Prashar, E., Singh, G., & Sharma, M. (2014). The Coefficient of Determination for Listed Private Equity Funds. *Journal of Private Equity*, 27-33.
- Harris, R. S., Jenkinson, T., & Kaplan, S. N. (2014). Private Equity Performance: What Do We Know? *The Journal of Finance*, 1851-1882.
- Harris, R. S., Jenkinson, T., & Kaplan, S. N. (2016). How Do Private Equity Investments Perform Compared to Public Equity? *Journal of Investment Finance*, 14-37.
- Hochberg, Y. V., Ljungqvist, A. L., & Vissing-Jorgensen, A. (2014). Information Holdup and Performance Persistence in Venture Capital. *Review of Financial Studies*, 102-152.

- Hungarian Private Equity and Venture Capital Association. (2017, September 01). *Private Equity/Exit Routes in Private Equity Transactions: Hungarian Private Equity and Venture Capital Association*. Retrieved from Hungarian Private Equity and Venture Capital Association Website: <http://www.hvca.hu/pevc-explained/private-equity/exit-routes-in-private-equity-transactions/>
- Institutional Limited Partners Association. (2017, September 15). *Glossary/Investment-Multiple: ILPA Website*. Retrieved from ILPA Website: <https://ilpa.org/glossary/investment-multiple>
- Jegadeesh, N., Kräussl, R., & Pollet, J. M. (2015). Risk and Expected Returns of Private Equity Investments: Evidence Based on Market Prices. *The Review of Financial Studies*, 3270-3302.
- Kaplan, S. N., & Schoar, A. (2005, August). Private Equity Performance: Returns, Persistence, and Capital Flows. *The Journal of Finance*, LX(4), 1791-1823.
- Karakaya, F., & Parayitam, S. (2013). Barriers to entry and firm performance: a proposed model and curilinear relationships. *Journal of Strategic Marketing*, 25-47.
- Kinlaw, W., Kritzman, M., & Mao, J. (2015). The Components of Private Equity Performance: Implications for Portfolio Choice. *The Journal of Alternative Investments*.
- Lee, C.-C., Chen, M.-P., & Chang, C.-H. (2013). Dynamic relationships between industry returns and stock market returns. *The North American Journal of Economics and Finance*.
- Lehmann, E. (2006). *Nonparametrics: statistical methods based on ranks*. Upper Saddle River, NJ: Springer.
- Lerner, J., Hardyman, F., & Leamon, A. (2012). *Venture Capital and Private Equity* (5th Edition ed.). Hoboken, NJ: John Wiley & Sons, Inc.
- Mahato, M. (2011). Performance Analysis of High, Medium and Low Companies in Indian Pharmaceuticals Industry. *IUP Journal of Management Research*, 52-70.

- Mancuveni, T. M. (2015). *Marginal diversification benefits of private equity fund of funds in South African pension funds*. Gordon Institute of Business Science . Pretoria: University of Pretoria.
- Missankov, I., van Dyk, R., van Billion, A., Hayes, M., & van der Veen, W. (2008). Private Equity Returns in Emerging Markets: The South African Case. *Journal of Private Equity*, 42-52.
- Moneyweb. (2017, May 02). *Archives: The biggest SA failures abroad?* Retrieved from Moneyweb Website: <https://www.moneyweb.co.za/archive/the-biggest-sa-failures-abroad/>
- Moodley, N., Muller, C., & Ward, M. (2016). Director Dealings as an Investment Strategy. *J.STUD>ECON>ECONOMETRICS*, 105-123.
- Mozes, H. A., & Fiore, A. (2012). Private Equity Performance: Better Than Commonly Believed. *The Journal of Private Equity*.
- Phalippou, L., & Gottschalg, O. (2009). The Performance of Private Equity Funds. *The Review of Financial Studies*, 1747-1776.
- Plagborg-Moller, E., & Holm, M. (2017). IPO or SBO?: The Increasing Importance of Operational Performance for Private Equity Exits Following the Global Financial Crisis of 2007-08. *Journal of Applied Corporate Finance*, 29, 115-121.
- RisCura-SAVCA. (2016). *RisCura-SAVCA South African Private Equity Report*. Johannesburg: RisCura-Savca.
- Satterhwaite, F. (1946). An approximate distribution of estimates of variance components. *Biometrics Bulletin*, 110-114.
- Saunders, M., & Lewis, P. (2012). *Doing Research in Business Management*. Essex: Pearson Education.
- SAVCA. (2017, October 30). *Uploads: SAVCA* . Retrieved from SAVCA Website: <http://savca.co.za/wp-content/uploads/2017/06/SAVCA-2017-Private-Equity-Industry-Survey-electronic.pdf>
- Securities Exchange Council. (2007, July 3). *Archives*. Retrieved from Securities Exchange Council:

<https://www.sec.gov/Archives/edgar/data/1404912/000104746907005446/a2178646zs-1.htm>

- Sensoy, B., Wang, Y., & Weisbach, M. (2014). Limited partner performance and the maturing of the private equity industry. *Journal of Financial Economics*, 320-343.
- Shapiro, S. S., & Wilk, M. B. (1965). An analysis of Variance Test for Normality (Complete Samples). *Biometrika*, 591-611.
- Sheskin, D. (2011). *Handbook of parametric and nonparametric statistical procedures* (5th Edition ed.). Boca Raton, FL: CRC Press.
- Sorensen, M., Wang, N., & Yang, J. (2014). Valuing Private Equity. *Review of Financial Studies*, 1977-2021.
- Spearman, C. (1904). The proof and measurement of association between two things. *The American Journal of Psychology*, 72-101.
- Suman, S., Sharan, S., & Sachan, A. (2012). A Review of Research Methodologies in Private Equity: 2005 - 2011. *The Journal of Private Equity*, 33-44.
- Thomson Reuters. (2017, October 25). *Eikon: Thomson Reuters*. Retrieved from Thompson Reuters Eikon: <https://amers1.apps.cp.thomsonreuters.com/web/Apps/Homepage>
- Tykvová, T., & Borell, M. (2012). Do private equity owners increase risk of financial distress and bankruptcy? *Journal of Corporate Finance*, 138-150.
- Wegner, T. (2016). *Applied Business Statistics*. Claremont: Juta and Company Ltd.
- Welch, B. (1947). The generalization of "Student's" problem when several different population variances are involved. *Biometrika*, 28-35.
- Wernerfelt, B. (1984). A Resourced-Based View of the firm. *Strategic Management Journal*, 171-180.
- Wilson, J. (2014). *Essentials of Business Research: A Guide to Doing Your Research Project*. London.
- Wilson, N., Wright, M., Siegel, D. S., & Scholes, L. (2012). Private equity portfolio company performance during the global recession. *Journal of Corporate Finance*, 193-205.

Yang, L., Tapon, F., & Sun, Y. (2006). International correlations across stock markets and industries: trends and patterns 1988–2002. *Applied Financial Economics*, 1171-1183.

Zikmund, W. G. (2003). *Business Research Methods*. Mason, Ohio: South-Western.

APPENDICES:

APPENDIX 1: Summary of Data Processed JSE Companies

Key	JSE Company	IRR	Initial Payment	Period	Multiple	Exit Payment	Sector
JSE4	Aspen	28.35%	(100,000)	10	12.14	1,213,610	Pharmaceutical
JSE10	Mr Price	24.24%	(100,000)	10	8.76	875,994	Retail
JSE2	Bidvest	22.28%	(100,000)	10	7.47	747,264	Industrial
JSE6	Old Mutual	18.30%	(100,000)	10	5.37	536,914	Financial
JSE5	Sanlam	17.09%	(100,000)	10	4.84	484,480	Financial
JSE9	Shoprite	16.36%	(100,000)	10	4.55	455,175	Retail
JSE8	Vodacom	13.45%	(100,000)	10	3.53	353,350	Telecoms
JSE3	Tiger Brands	11.62%	(100,000)	10	3.00	300,224	FMCG
JSE11	Nedbank	8.95%	(100,000)	10	2.36	235,744	Financial
JSE12	Standard Bank	7.72%	(100,000)	10	2.10	210,271	Financial
JSE1	Anglo American	2.42%	(100,000)	10	1.27	127,069	Mining
JSE7	MTN	1.36%	(100,000)	10	1.14	114,427	Telecoms
Key	JSE Company	IRR	Initial Payment	Period	Multiple	Exit Payment	Sector

APPENDIX 2: Summary of Data Processed Private Equity

Key	PE Firm	IRR	Initial Payment	Period	Multiple	Exit Payment
PE1	Metier	26.00%	(100,000)	10	10.09	1,008,569
PE2	Ethos	26.20%	(100,000)	10	10.25	1,024,692
PE3	Old Mutual	26.90%	(100,000)	10	10.83	1,082,969
PE4	Rockwood	23.00%	(100,000)	10	7.93	792,595
PE5	BRAIT	29.60%	(100,000)	10	13.37	1,336,749
PE6	Musa Capital	23.90%	(100,000)	10	8.53	852,537
Key	PE Firm	IRR	Initial Payment	Period	Multiple	Exit Payment

APPENDIX 3: 10 Year JSE Companies

Company	Initial Share Price	Last Share Price	Start Date	End Date	CAGR	Change	Investment Multiple	IM Confirmation	Return %
Anglo American	21,099	26,179	12/31/08	12/31/17	2.42%	5,080	1.240769705	26179	24%
Bidvest	2,815	17,223	12/31/08	12/31/17	22.28%	14,408	6.117937935	17223	512%
Tiger Brands	14,344	38,604	12/31/08	12/31/17	11.62%	24,260	2.691299498	38604	169%
Aspen	3,360	31,813	12/31/08	12/31/17	28.35%	28,453	9.468154762	31813	847%
Sanlam	1,700	7,040	12/31/08	12/31/17	17.09%	5,340	4.141176471	7040	314%
Old Mutual	770	3,500	12/31/08	12/31/17	18.30%	2,730	4.542699086	3500	354%
MTN	10,850	12,250	12/31/08	12/31/17	1.36%	1,400	1.129032258	12250	13%
Vodacom	5,649	15,518	12/31/09	12/31/17	13.45%	9,869	2.747034873	15518	175%
Shoprite	5,300	20,749	12/31/08	12/31/17	16.36%	15,449	3.91490566	20749	291%
Mr Price	2,475	17,472	12/31/08	12/31/17	24.24%	14,997	7.059393939	17472	606%
Nedbank	9,550	20,673	12/31/08	12/31/17	8.95%	11,123	2.164712042	20673	116%
Standard Bank	8,300	16,209	12/31/08	12/31/17	7.72%	7,909	1.952891566	16209	95%

APPENDIX 4: Ethical Clearance

Gordon Institute of Business Science

University
of Pretoria

17 August 2017

Lungelo Hlongwa

Dear Lungelo,

Please be advised that your application for Ethical Clearance has been approved.

You are therefore allowed to continue collecting your data.

We wish you everything of the best for the rest of the project.

Kind Regards

GIBS MBA Research Ethical Clearance Committee

