

**THE EFFECT OF RISK MANAGEMENT ON THE FINANCIAL  
PERFORMANCE OF PRIVATE EQUITY FUNDS IN KENYA**

**BY**

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## DECLARATION

This research project is my original work and has not been presented for a degree in any other university.

Signed \_\_\_\_\_

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This research project work has been submitted for examination with approval of university Supervisor.

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**DR. MIRIE MWANGI**

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## **DEDICATION**

My deepest gratitude goes to God the Almighty for bringing me this far, may your name be praised. I dedicate this project to my siblings Wambui, Wangechi and Ngare, thank you for your continued support, look how far God has brought us. To my father, thank you for ensuring that excuses are never tolerated, you have taught me through example and thank God for you. To my mother Jedidah M. Ngare, words will never be enough to express my deepest gratitude, be blessed.

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## **LIST OF ABBREVIATIONS**

- AVCA** - African Private Equity and Venture Capital Association
- CAPM** - Capital Asset Pricing Model
- CMA** - Capital Markets Authority
- CBK** - Central Bank of Kenya
- DFI** - Development Finance Institutions
- EVCA** - European Private Equity and Venture Capital Association
- EAVCA** - East Africa Venture Capital Association
- GDP** - Gross Domestic Product
- LSE** - London School of Economics
- MM** - Modigliani-Miller
- PE** - Private Equity
- RBA** - Retirement Benefits Authority
- SAVCA** - Southern Africa Venture Capital and Private Equity Association.
- VaR** - Value at risk

## **ABSTRACT**

This study sought to determine the effect of risk management on financial performance of private equity funds in Kenya. It is important to note that the private equity funds operating in Kenya are few but growing. The nature of private equity funds in Kenya is still very private with limited information on their operations available to the public. Risk management is a process activity with individual steps to be carried out in a specific order. Financial services across the globe take risk management as an important business process and necessary due to the different risk exposed to. The concept of risk and return has been addressed in previous studies in Kenyan private equity industry however one specific to risk management in that industry had to be carried out. The study took on a census research design with data collected being reviewed for accuracy, consistency, completeness and uniformity and arranged to enable coding and tabulation before final analysis. Both qualitative and quantitative analysis techniques were used. The study also used multiple linear regressions to best analyse the data. The study concludes that there is a positive relationship between risk management and financial performance in private equity funds. The firms concentrated on risk identification, measurement and monitoring as key steps in the risk management process with risk evaluation and mitigation actively engaged but not heavily concentrated on. It was clear that risk management carried out in the clear process affected financial performance of the firms. The study therefore suggests that further research be carried on private equity firms to determine other aspects affecting financial performance.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background Study

Private equity is defined as investments structured as equity or equity related instruments in unquoted private companies (Sampson, 2011). PE is risk capital provided in a wide variety of situations, ranging from finance provided to business start-ups to the purchase of large, mature quoted companies (Gillian and Wright, 2008). Today, Private Equity is considered to play a crucial role in the economy, by boosting innovation and growth in promising startups or expanding firms, as well as by fostering the restructuring of mature companies (Davila, Foster & Gupta 2003). PE has also developed as a vital intermediary in financial markets by providing capital to firms that might otherwise have difficulty attracting financing.

These firms are mainly small and young, plagued by high levels of uncertainty and large differences between what entrepreneurs and investors (Gompers and Lerner 2001). The theoretical rationale for investing in an alternative asset class such as private equity is to improve the risk and reward characteristics of an investment portfolio, with the expectation that the asset will offer a higher absolute return whilst improving portfolio diversification (Bodie & Marcus 2005). There are four main types of Private equity investments in companies; buyout/Mezzanine, development capital, growth capital and venture capital. In addition there is a fifth, mezzanine which feeds on buyout transaction and therefore could not exist on its own right (Sampson 2011).

It may be convenient to think of the four main types of Private Equity as targeting companies at different stages of the business cycle. Venture capital is a subset of private equity and it refers to equity investments made for the launch, early development or expansion of a business. When a management team requires financing to buy an existing company from its current shareholders then such a process is referred to as a buyout (Gillian and Wright, 2008). Growth capital refers to private equity investments in relatively mature, high-growth companies, which use the funds to expand their operations, either through internal investment, add-on acquisitions or a combination of the two (Dominguez & Bailey 2008). Developmental PE refers to the capital investment in businesses that have developed the product/service and are looking to manufacture/produce the product, it is important to note that this businesses have not generated any profits.

### **1.1.1. Risk Management**

Risk in relation to investment is described as the chance that the actual return may differ from the expected return. Risk can be classified into systematic and unsystematic risk Systematic risk refers to a risk inherent to the entire system or entire market. It is sometimes called market risk, systemic risk or un-diversification risk that cannot be avoided through diversification. Whereas, unsystematic risk is risk associated with individual assets and hence can be avoided through diversification. It is also known as specific risk, residual risk or diversifiable risk (Al-Tamimi & Al-Mazrooei, 2007). Risk management is described as the process that should seek to identify, eliminate, reduce and control risk, enhance benefits and avoid detriments from speculative exposures (Anderson & Terp 2006). The

objective of risk management is to maximize the potential of success and minimize the probability of future losses.

It is universally accepted that risk management is a procedure with individual steps that have to be carried out with specific consideration to the excellence of each step. Risk management involves identifying, measuring, evaluating, mitigation and monitoring. The process is to ensure that the individuals clearly understands risk management and fulfills the business strategy and objectives (SBP, 2003). Risk management is more important in the financial sector than in any other sectors in an economy (Carey, 2001). We have four common measures of risk management based on the measurement of risk namely; standard deviation, beta, Value at risk (VaR) and conditional value at risk (CVaR). Standard deviation measures the dispersion of data from its expected value.

The standard deviation is used in making an investment decision to measure the amount of historical volatility, or risk, associated with an investment relative to its annual rate of return. It indicates how much the current return is deviating from its expected historical normal returns. Beta measures the amount of systematic risk a security has relative to the whole market. (Peterson 2012). The market has a beta of 1, and it can be used to gauge the risk of a security. If a security's beta is equal to 1, the security's price moves in time step with the market. A security with a beta greater than 1 indicates that it is more volatile than the market. Conversely, if a security's beta is less than 1, it indicates that the security is less volatile than the market. A third common measure of risk used in risk management is the value at risk. The VaR is a statistical measure used to assess the level of risk associated with

a portfolio or company. The VaR measures the maximum potential loss with a degree of confidence for a specified period. Conditional VaR is another risk measure used to assess the tail risk of an investment. The conditional VaR assesses the likelihood, with a certain degree of confidence, that there will be a break in the VaR. This measure is used as an extension to the VaR and seeks to assess what happens to an investment beyond its maximum loss threshold. This measure is more sensitive to events that happen in the tail end of a distribution, also known as tail risk (Peterson 2012).

### **1.1.2 Financial Performance of Private Equity Fund**

Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Kaplan & Schoar 2001). Financial performance can be measured through evaluating a firm's profitability, solvency and liquidity. A firm's profitability indicates the extent to which a firm generates profit from its factors of production. Financial performance can be measured by monitoring the firm's profitability levels. Zenios et al. (1999) states that profitability analysis focuses on the relationship between revenues and expenses and on the level of profits relative to the size of investment in the business through the use of profitability ratios.

The return on equity (ROE) and the return on assets (ROA) are the common measures of profitability. By monitoring a firm's profitability levels, one can

measure its financial performance. A private equity fund is defined as a collective investment scheme used to invest in various equity and debt in line with the specific investment strategy selected by the investment managers, the strategies are four in number venture capital fund, Buyout funds, special situations and mezzanine debt funds ( Ang & Somerson 2011). Return on investment is noted as a key identifier of financial performance in an investment and consists of the income and the capital gains relative on an investment.

Return on private equity funds is measured in two key ways; Internal Rate of Return and Times Money (cash multiple/total value to pay in capital). The best Internal Rate of Return measure of returns is the 'since inception' measure, where all cash flows in the fund (or deal) and the latest valuation are used in the calculation. However, backward-looking measures of returns can also be prevalent. These are often referred to as 'ten year' or 'three year' returns, depending on the length of time over which the return is calculated. Backward-looking return measures are calculated by 'liquidating' the residual fund value at the start of the time period (and treating it as a negative cash flow), and then considering cash flows and the final NAV over the remaining life of the fund.

### **1.1.3 Risk Management and Financial Performance of Private Equity Funds**

The core focus of risk management in financial services has mainly been on controlling and compliance, as opposed to enhancing financial performance (Banks, 2004). However, this risk management often leads to enhanced financial performance as compliance and control of risks enables the organization to save on

costs. Banks (2004) further suggests that by managing risks, the managers are able to increase the value of the firm through ensuring continued profitability of the firm. Risk management has been linked with shareholder value maximization proposition. Ali and Luft (2002), suggested that a firm will only engage in risk management if it enhances shareholder value; Banks (2004), contributed that it is important for each firm to retain and actively manage some level of risk if it is to increase its market value or if the probability of financial distress is to be lowered.

Knowing the risk profiles of different types of private equity funds enables investors to improve their asset allocation to the private equity asset class and across private equity funds. Private equity investors cannot quantify actual performance until portfolio companies are sold (Rice 2012). As a consequence, it is highly difficult to accurately evaluate a private equity fund manager's performance until the fund has been dissolved and capital fully returned to investors. Without a willing buyer, it is impossible to know the value of a portfolio company. Valuation estimates reflect the judgment of the private equity manager, a third-party valuation firm, or both. Such estimates are flawed at best. Private equity also has the basic investment risk of identifying, choosing, and investing in companies (Rice 2012).

Generally, company operations are prone to risks and if the risks are not managed the firm's financial performance will be at stake. Firms with efficient risk management structures outperform their peers as they are well prepared for periods after the occurrence of the related risks. This study hopes to come up with an expected positive relationship between risk management and financial performance of private equity funds



### **1.1.4 Private Equity Funds in Kenya**

A private equity fund is defined as a collective scheme of capital/ money that is raised to invest in equity or debt form in line with the fund's investment strategy namely venture capital, buyout, and mezzanine and growth capital. The current private equity funds in Kenya have their foundation in Development Finance Institutions (DFIs) that took root in Kenya in the 1970's and 1980's specifically Africa Development Bank and the CDC Group (Tuimising 2012). The international DFIs further spurred the growth of local government controlled DFIs namely Agricultural Finance Corporation (AFC), Industrial Development Bank (IDB) Capital, Kenya Industrial Estate, Kenya Tourism Development Corporation (KTDC) and Industrial and Commercial Development Corporation (ICDC). The success of DFIs has seen them start investing in private companies leading to the development of private equity funds centered on East Africa.

Private equity as an alternative asset class remains largely unregulated in Kenya as it is treated as a private company. However the government through the Capital Markets Authority has tried to nurture the venture capital space by offering a ten year tax break as long as they register with the CMA. Since this proposal was passed into law only one fund has registered, Acacia Capital Fund Limited (NSE 2013). Practitioners in the private equity industry in Kenya have formed an association to best push the private equity agenda in Kenya and the region called the East Africa Venture Capital Association.

Private equity funds in Kenya are concentrated in the growth capital investment strategy in Small to Medium Enterprise and large corporates. Currently over 32

active private equity funds operate in Kenya with 18 taking up local office space in Kenya. The private equity growth funds in Kenya have concentrated on the following industries in the last two years respectively; infrastructure, real estate, financial services, agribusiness, manufacturing, healthcare and food and beverages (Tuimising 2012). Kenya's private equity market has been on a steady growth plan since 2005. In the last three years 2010-2013 we have seen closed deals in private equity in Kenya move from \$36.1 million to \$105.2 million.(Gatauwa 2014) It is important to note that this are from deals that have been made public, it is therefore speculated to be much higher in value. The exact impact on the economy is yet to be researched and quantified but private equity initiatives have been noted by the government.

Kenya has been placed as the third best destination for private equity investment in Africa after South Africa and Nigeria, and the best destination in East Africa as at 2014. This has been attributed to a growing middle class with high consumerism, stable macroeconomic factors and renewed stable political and governance practices. Financial performance in private equity funds in Kenya has been addressed from a regional outlook owing to fundraising with a regional outlook that is Eastern Africa. The Eastern Africa region for investment purposes looks at Kenya, Uganda, Tanzania, Rwanda, Ethiopia and South Sudan. Financial performance in the region has been measured in terms of return on capital which has been estimated to between 11% to as high as 22%. Risk profiling for different types of private equity funds enables investors to improve their asset allocation to the private equity asset class and across private equity funds. The risk profiling is

one of the reasons Private Equity investment in Africa is viewed from a regional specific outlook than from any other parameter. Without a willing buyer, it is impossible to know the value of a portfolio company. Valuation estimates reflect the judgment of the private equity fund manager, a third-party valuation firm, or both. Such estimates are flawed at best. Private equity also has the basic investment risk of identifying, choosing, and investing in companies (Rice 2012).

## **1.2 Research Problem**

Private equity funds in Kenya are currently concentrated in the growth capital investment strategy in Small to Medium Enterprise and large corporates. Currently there are over thirty two active private equity funds investing in Kenya with eighteen taking up local offices in Kenya. The private equity growth funds in Kenya have concentrated on the following industries in the last two years respectively; infrastructure, real estate, financial services, agribusiness, manufacturing, healthcare and food and beverages. (Tuimising 2012). Kenya's private equity market has been on a steady growth plan since 2005. In the last three years 2011-2014 we have seen closed deals in private equity in Kenya move from \$36.1 million to \$105.2 million. It is important to note that this are from deals that have been made public, it is therefore speculated to be much higher in value than the figure shared.

Banks (2004), contributed that it is important for each fund to retain and actively manage some level of risk if it is to increase its financial value or if the probability of financial distress is to be lowered. Knowing the risk profiles of different types of private equity funds enables investors to improve their asset allocation to the

private equity asset class and across private equity funds. Private equity investors cannot quantify actual financial performance until portfolio companies are sold (Rice 2012). As a consequence, it is highly difficult to accurately evaluate a private equity fund manager's financial performance until the fund has been dissolved and capital fully returned to investors. Without a willing buyer, it is impossible to know the value of a portfolio company.

Globally, average returns seem to be lower than public equity returns and, in any event, less spectacular than often conjectured. Buyout funds seem to bear a moderate market risk but their exposure to liquidity risk and distress risk is significant (Phalippou 2009). Financial returns from private equity funds across America have been consistently larger than the S&P 500 returns for the last fifteen years. While in Europe PE divestments are significantly and positively associated with PE. In the case of IPO divestments, they concluded that the IPO divestments remain one of the strongest determinants for PE investments. The divestments have been noted as a key risk management tactic (Oehler 2007). Locally, researchers Murithi (2012) assessed risk – return trade off among private equity firms in Kenya while Mutuku (2011) on the relationship between portfolio composition and risk and return among fund management firms in Kenya .

In the two, respondents indicated that the firms measured the riskiness of the investment portfolio returns using beta and standard deviation. However no concrete information was shared on the risk management process as a whole but concentrated on the measurement and mitigation processes. A search for empirical

literature on risk management effects on financial performance of private equity fund investing in Kenya revealed very few studies but even fewer linking the two.

Deloitte has been carrying out annual confidence surveys on the private equity industry in Africa, beginning 2008, the research survey partners with the Southern Africa Venture Capital Association and previously Africa Asset. However this surveys are limited in that they are region specific and not country specific, the survey also look at macroeconomic variables in the regions and limited information on return and valuation practices. Therefore a gap in literature as far as the study on the effects of risk management on the financial performance of private equity funds in Kenya is concerned. The following research question is therefore explored: What is the effects of risk management on the financial performance of private equity funds in Kenya?

### **1.3 Research Objective**

To evaluate the effect of risk management on the financial performance of private equity funds here in Kenya.

### **1.4 Value of the Study**

The findings of this study will be significant to the following groups; the general public, scholars/academicians in this field, policymakers/the government more specifically the finance regulatory bodies, private equity industry lastly to investors. Management of private equity fund investment firms in that they will get to understand the best risk management processes to use specific to this asset class and their implication on the fund performance. This in turn will lead to better marketing by PE firms increasing the avenues for fund allocation to PE from local

pools for example pension funds which would add much needed funding as well as diversify their investment portfolios. PE managers will also be better equipped to explain the risk terrain for Kenya centered PE funds.

The findings of this study will also be significant to the private investors(both individual and institutional) as they will be able to evaluate equity investments in Kenya based on the risk management approaches applied and therefore be able to identify those that will offer maximum return to their investments and those in line with their different risk appetites. The findings of this study will be significant to scholars in that it will add to the knowledge of the researchers in this field of study especially in Kenya where technical running of PE funds is still not well understood. The concept of risk management specific to a country in the Sub-Saharan will also aid academicians in the region understand the unique risks inherent to doing business in this region.

The findings will also be significant to policymakers and regulators specifically for the CMA, EAVCA and CBK in that it will serve as a pointer for them when making policies regarding private equity fund investing and how to strengthen and protect this industry. To the general public private equity as an asset class is probably one of the least understood segments of today's financial markets. Therefore my study will contribute to the body of knowledge of private equity investing and lead to greater investment by the public or at the very least continue to spur the interest in the market.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introductions**

This chapter contains the literature review. Firstly, a theoretical review is provided focusing on theories that explain issues to do with risk management and private equity fund investing. Secondly, an empirical review of the studies that have been done on the risk management and performance of private equity fund investing will be carried out. A summary of the chapter will then be provided.

#### **2.2 Theoretical Review**

This section will look at three key theories namely Modigliani-Miller Proposition, Modern Portfolio theory and Capital Asset Pricing Model.

##### **2.2.1 Modigliani-Miller Proposition**

There is broad literature on risk management decisions for firms in general, beginning with Modigliani and Miller (1958): Their famous theorem states that in a world of perfect and complete markets, financial decisions are irrelevant as they do not alter the value of the shareholder's stake in the firm. The only way to increase shareholder's wealth is to increase value of the firm's assets. Neither the capital structure nor the risk management decisions have an impact on shareholder's wealth. Some important deviations from the perfect capital markets in the Modigliani and Miller setting have been identified, giving motivations for firms to care about risk management, such as taxes, bankruptcy costs, agency costs and others (Gossy, 2008). When these reasons for risk management are incorporated

into the firm's objective function, one finds the following basic result: When all risks are perfectly tradeable the firm maximizes shareholder value by hedging completely (Gossy, 2008; Mozumdar, 2001).

Modigliani and Miller (1958) state that under the restrictive neoclassical assumptions, corporate financial decisions do not influence the value of the firm. These decisions simply redistribute the income stream among different investors. As long as investors can act in the capital markets at the same terms and conditions as the firm itself, the only way to impact firm value is by influencing the expected level of firm cash flows (Gossy, 2008). Since enterprise risk management is part of an overall financing policy, the MM findings directly have important implications for the enterprise risk management strategy of the firm. Under the MM proposition, any investor's wealth position is unaffected by corporate risk management activities on the part of the firm (Gossy, 2008).

Following this argument, a MM disciple would argue against doing any risk management at all since it is a purely financial transaction (Gossy, 2008). The immense importance of the MM proposition for corporate risk management, however, becomes apparent when it is used a starting point for identifying conditions under which corporate risk management makes economic sense. Such a positive theory of corporate risk management can be derived by relaxing the neoclassical assumptions of the MM proposition.



## **2.2.2 Modern Portfolio Theory**

Modern Portfolio Theory, a hypothesis put forth by Harry Markowitz in his paper *Portfolio Selection*, (published in 1952 by the *Journal of Finance*) is an investment theory based on the idea that risk-averse investors can construct portfolios to optimize or maximize expected return based on a given level of market risk, emphasizing that risk is an inherent part of higher reward. It is one of the most important and influential economic theories dealing with finance and investment (Kaplan and Schoar, 2005). Also called Portfolio Theory or Portfolio Management Theory, suggests that it is possible to construct an "efficient frontier" of optimal portfolios, offering the maximum possible expected return for a given level of risk stated. It suggests that it is not enough to look at the expected risk and return of one particular asset. By investing in more than one stock, an investor can reap the benefits of diversification, particularly a reduction in the riskiness of the portfolio. MPT quantifies the benefits of diversification, also known as not putting all of your eggs in one basket (Kaplan and Schoar, 2005).

The theoretical rationale for investing in an alternative asset class such as private equity (guided by Modern Portfolio Theory) is to improve the risk and reward characteristics of an investment portfolio, with the expectation that the asset will offer a higher absolute return whilst improving portfolio diversification (Bodie et al., 2005). In comparison with investing in more traditional securities such as public stocks or bonds, however, investing in PE funds is considered a complex task. This is due to their long-term and illiquid nature, as well as the noticeable lack of

transparent and publically available information pertaining to PE funds (Tuck, 2003).

Moreover, there are material variations in performance across PE funds, implying that while PE investing may generate excellent returns, investors could also face large losses (Phalippou and Gottschalg, 2009). Hence, a PE fund investor needs to have the ability (or luck) to select funds with the potential to deliver attractive returns. Deeper insights about which investment strategies have proven successful however information about how these strategies may differ across various risk investor types, seem to be missing from the literature. This is somewhat surprising given the large amounts of capital that private as well as public institutions devote to this particular asset class each year, as a broader understanding about performance determinants could improve investor returns.

### **2.2.3 Capital Asset Pricing Model**

The concept of risk is closely related to the insights of portfolio theory. The most important paradigm of risk is part of a set of results known in the financial economics literature as the Capital Asset Pricing Model (CAPM) developed by Sharpe (1964) and Lintner (1965) and later refined by Black (1972). It represents an extension and simplification of the model by Markowitz (1952). The Markowitz model was the first theorizing a relationship between risk and return. In his model, there are as many efficient portfolios as there are investor risk preferences. All efficient portfolios must lie on the mean-variance investment frontiers where investors can get a higher return only by accepting a higher level of risk (Gossy, 2008). The CAPM extends this theory to a situation of equilibrium. The CAPM

argues that all investors will hold the same efficient portfolio (the market portfolio) regardless of their individual risk preferences. Thereby, the CAPM is capable of determining the market price for risk and an appropriate risk measure for a single asset (Gossy, 2008).

There have been numerous anomalies of the CAPM that have been discovered by finance researchers. This has initiated a discussion of the usefulness of the CAPM for the field of strategic management starting with the contribution by Bettis (1983). He detects a conundrum regarding the role of risk in strategic management context and states the main points of controversy between finance and strategy (Vicente-Lorente, 2001). In particular, he seriously questions the implications of the CAPM on strategic management but especially corporate risk management. He identifies an implied recommendation in the CAPM to corporate management not to be concerned at all about firm-specific risks. Bettis (1983) argued that business risks are associated with firm specific resources and competencies and are strongly related to the firm environment interface. This theory implies that for risk management, firms should institute efficient portfolios that offer maximum returns and minimum risks

### **2.3 Determinants of Financial Performance of Private Equity Firms**

Financial performance can be defined as an approach to determining the extent to which the financial goals such as increase in shareholder value, profitability and cash flows are achieved in a particular period of time. To distinctly isolate the relationship between risk management and value of the company, there is need to

control for other factors that could influence firm performance (Liebenberg and Hoyt, 2003; Beasley et al, 2005; Hoyt et al, 2008)

### **2.3.1 Exchange Rate**

PE firms in Kenya usually have a high proportionate ownership of foreign LP partners. Currency exchanges between the investee country and the investors' home currency have an impact on PE firms' financial performance (Cumming and Johan, 2007). Real exchange rate is commonly known as a measure of international competitiveness. It is also known as index of competitiveness of currency of any country and an inverse relationship between this index and competitiveness exists. The lower the value of this index in any country, the higher the competitiveness of currency of that country will be.

It is a widely held view that exchange rate volatility should affect corporate expected cash flows and hence its performance by causing changes in the home currency denominated revenues (costs) and the terms of competition for firms with international activities (Hinchberger, 2013). Metrick and Yasuda (2007) did a study on the casual relationship between exchange rates and private equity performance where it was established that fluctuations affects the profits repatriated to private equity foreign investors. Adongo (2012) asserts that exchange rate policy in Kenya has undergone various shifts mostly driven to a large extent by the economic events especially balance of payment crisis. Depreciation of the Kenya shilling against United States Dollar is expected to decrease PE firms' financial performance.

### **2.3.2 Level of Interest Rate**

Debt is a key component of PE, a key signal of the performance of PE is the level of interest rates and the arbitrage opportunities to which they give rise. This is ultimately an issue of global savings availability and liquidity policies. When liquidity and savings are plentiful, and rates are low, investors will have a high appetite for investment and PE firms' step in to fill this gap. Miles and Ezzell (1980) discuss the Modigliani and Miller which presented the classical study on firm capital structures, showing that in perfect capital markets, the value of a firm is unaffected by its capital structure. In essence, their theorem states that in markets with no taxes, no bankruptcy costs and with perfect information, the way a firm is financed does not determine its value, i.e. firm value is determined by its real assets and not by the securities it issues.

In spite of much less than perfect capital markets real life presents, this pioneering work has provided a fundamental understanding of optimal capital structures. One important aspect of the theorem is that it strongly suggests financial leverage as a way of financing firms. PE firms finance firm buyouts by using high levels of debt, mainly because this is cheaper than equity financing. The limited partner structure essentially subordinates returns to equity investors with respect to creditor returns. Thus as a compensation, providers of equity capital require relatively larger returns. Since debt capital is more cost effective in this sense, debt financing which enable higher returns on investments. The inherent tax shield in debt is another important reason why debt financing is cheaper. Interest paid on debt is tax-deductible, thus the investment returns highly depends on the size of the tax shield.

### **2.3.3 Inflation**

Inflation refers to the general increase in the price of commodities over a given duration. Inflation tends to push up the price of commodities without a corresponding increase in their real value. Private equity firms are adversely affected by inflation since they tend to hold investment over duration of time between acquisition and exit (Nielsen, 2011). Private equity investors provide capital to private companies, usually for expansion, new product development, or restructuring of the company's operations, management, or ownership.

As the firm grows, private equity investors sell their stakes in the company either to return the capital to the limited partners or to find new investee companies through an IPO or a private placement. Many academics and practitioners have argued that the success of private equity firms' buyouts and their financial performance by extension stems at least in part from a to a gradual inflation rate which does not distort the value of investments. PE firms are also extremely wary of government measures to control inflation through currency devaluation since it ultimately affects private equity firm's illiquid investments which cannot be easily disposed (Parra-Bernal and Blount, 2011). Inflation has an adverse effect on the exit returns when PE firms divest or dispose their stake in an investment (Parra-Bernal and Blount, 2011). IPOs form a favored channel for private equity firms when they choose to disinvest or sell their investments and stake in companies they have previously acquired. (Gilson and Black 1997) established a relationship between the degree of development of a country's stock market and the overall volume of private equity investments.

## 2.4 Empirical Studies

Phalippou (2010) reviewed the literature on the risks and returns of private equity funds, comparing the different datasets used in academic research. Irrespective of the datasets used, average returns seem to be lower than public equity returns and, in any event, less spectacular than often conjectured. Buyout funds seem to bear a moderate market risk but their exposure to liquidity risk and distress risk is significant. The cost of capital of buyout is 18% (in excess of risk free rate). The beta of venture capital seems much higher (around 3), implying a cost of capital of about 20% (in excess of risk-free rate and any venture capital liquidity risk premium). Finally, the study discusses fund selection. The study emphasizes the importance of a bottom-up approach when investing in private equity, show that top-quartile returns and evidence of performance persistence should be approached with some caveats in mind, and describe variables that have predicted returns.

In Harris et al. (2011) the study sought to shed more light on PE firms' financial performance. A total of 1400 US buy out and venture capital funds were studied using a data set obtained from Burgiss. This is a data set was sourced exclusively from LPs and includes their complete transactional and valuation history between themselves and their primary fund investments. The data included all funds and cash flows from the LPs that provide the data. To ensure data validity, the data obtained was compared to other leading global commercial data sets such as Cambridge associates, Preqin and Thomson Venture Economics. The study

established that PE firms financially outperformed the S&P 500 index of publicly listed firms by an average of 20% to 27% over the firm's' life.

Oehler et al. (2007) analyzed the determinants of the European PE market. Using fixed and random effects models on a data set with 23 countries and for the period from 1992 to 2003 they concluded that GDP growth, the level of interest rate, stock market growth, PE divestments are significantly and positively associated with PE. In the case of IPO divestments, they concluded that the IPO divestments remain one of the strongest determinants for PE financings, or for PE investments. Similar results are observed for the trade sales divestments. Finally, they concluded that the unemployment rate and the price /book ratio are relevant in the European PE markets

See & Jusoh (2012) examined the fund characteristics that affect fund performance by studying 69 Malaysian equity mutual funds representing 44 conventional funds and 25 Islamic funds over the period of five years. The characteristics examined include Risk, Fund Size, Management Expense Ratio, Turnover Ratio and Fund Age. The hypotheses were tested using several regression analyses to see whether Risk, Fund Size, Management Expense Ratio, Turnover Ratio and Fund Age have significant relationships with Fund Performance. The results show that higher risk fund provides higher return. Those funds which spent more on research expenses give superior return compared to those that spent less. The findings also show that young funds performed better than old ones. However, Fund Size and Turnover Ratios were found to have no significant relationship with Fund Performance. Overall, the results indicate that investors



should focus on young funds and select fund based on his/her preferred risk level. Fund managers should understand the characteristics that will affect fund performance and develop strategies on how to increase their funds' performance.

Siqueire et al. (2011) investigated the macroeconomic variable on financial performance of PE and venture capital (PEVC) funds in Brazil. They used data covering the period between 1999 and 2007. Their results indicated that the factors influencing the performance of investments are: size of the fund, number of investments, the practice of co-investment, experience and foreign origin of the managing organization, focus on late stage, intensity of contact between managers and portfolio companies and the number of seats on the boards of the invested companies. The success grows with the number of investments at a declining rate.

Brinson et al. (1991) presented a framework for determining the contributions of different aspects of the investment management process-asset allocation policy, active asset allocation, and security's election to the total return of investment portfolios. Data from 82 large pension plans-the main PE fund contributors sampled in the study indicated that asset allocation policy, however determined, is the overwhelmingly dominant contributor to total return and financial performance of a PE fund. Murithi (2012) did a study on the risk return assessment among PE firms in Kenya. He analyzed data using the Fama and French model to measure risk and return of PE investments.

Out of a population of 14 firms he sampled, he established that low risk experienced in the period of his study was as a result of high Treasury bill rate during this period. Another factor is that the financial sector was not immediately affected during the financial crisis in Europe and. At the onset some commentators were pessimistic about the prospects for PE-backed buyouts in Kenya. The study also established that the PE industry being young in Kenya was attracting many international firms to invest because he argued that Kenya has a lot of potential in PE which is unexploited.

Mutuku (2011) on the relationship between portfolio composition and risk and return among fund management firms in Kenya found that 89% of the respondents indicated that the firms determine the percentage return of the investment portfolio. 72% of the respondents indicated that the method used by the firms in determining percentage rate of return was geometric or time weighted returns. 50% of the respondents indicated that the firms measured percentage return of the investment portfolio annually. 61% of the respondents indicated that the firms measured the riskiness of the investment portfolio returns using beta and standard deviation.

Ojiako (2012) conducted a study that examined thematic elements in strategic business risk management. The author sought to put forward propositions on how firms may best conceive business risks in an environment characterized by constant change and uncertainty. The paper brought out a propositional foundation for the empirical development of an appropriate framework for strategic risk management. The major contribution of the study was that it focused readers on not only strategic

risk and competition, but on how lessons can be drawn from the military's experience of dealing with irregular forms of competition. However, the study differs from our study as it did not address the link between strategic risk management practices and financial performance.

## **2.5 Summary of Literature Review**

While the concept of risk management and guidelines has been well researched in Kenya, the research concentrates on the heavily regulated financial services namely; Commercial Banks and SACCOS. Within the PE empirical studies the risk-return performance measure has been reviewed but not in depth. The review has established a research gap in Kenya because despite the increased investment in the PE asset class and the potential importance of PE investments for the economy as a whole, we have only a limited understanding of PE returns, its performance and the correlation between the macroeconomic factors and PE firms financial performance. One of the main obstacles has been lack of available data because PE, as the name suggests, is largely exempt from public disclosure requirements.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter explains the methods used in to carry out this study. It commences with an overview of the research design, this is followed by an explanation of the target population, description of research instruments, a description of data collection procedures, the data validity and reliability and finally the description of data analysis procedures.

#### **3.2 Research Design**

A research design can be regarded as an arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance with the research purpose (Tromp 2008). The method of research that most captures the objectives of this study is descriptive method and the study design is therefore appropriately named a descriptive design. Descriptive design are formalized and typically structured with clearly stated hypotheses or investigative questions (Cooper & Schneider 2008). In this manner, the study will be able to describe the relationship between the variables in the study.

#### **3.3 Population and Sample**

The population comprises of eighteen private equity firms in Kenya .A census study will carried out due to the small number of firms available. The list of the eighteen firms used for this study was sourced from the Capital Market Authority list of licensed firms and the East Africa Venture Capital Association membership list. As

the target population of eighteen firms is not big enough to warrant the use of a sample, the researcher will not undertake any sampling on the population.

### **3.5 Data Collection**

To carry out this study we shall use both primary and secondary data. Primary data will be collected through a structured questionnaire in line with the research objectives. The questions will be both open and closed. The close ended questions will help capture the results that can be quantified during analysis. The open ended questions will help in eliciting responses that can be qualitatively analyzed and capture factors relevant to the study but cannot be set by structured questions. The researcher will then circulate the questions across the PE firms for a period of one week or five working days to be filled in by the portfolio managers and senior financial portfolio analysts. The period to be investigated is the financial period beginning 1<sup>st</sup> January 2013 and ending 31<sup>st</sup> December 2013.

### **3.6 Validity and Reliability**

To establish the validity of the research instruments the researcher will seek opinions of experts in the field of study especially the lecturers in the department of Finance and Accounting .This helped facilitate the necessary revision and modification of the research instrument thereby enhancing validity. Further, the time between the test run and actual study will be short enough to avoid historical effects. Reliability refers to the consistency of measurement and is frequently assessed using the test retest reliability method. To ensure reliability, the study will adopt the test retest technique. This can be achieved by testing the

questionnaire on a smaller group of my census to test its consistency and adjust for any inconsistencies before the real field work begun.

### **3.7 Data Analysis**

Data will be analyzed using both descriptive and linear regression analysis. The study will use descriptive statistics and inferential statistics to establish the relationship between the variables. The descriptive statistics here will be the percentages, mean and standard deviations. Linear regression will be carried out to test the influence of the various risk management steps on the financial performance of the private equity funds.

The study will use the following linear regression model

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \alpha$$

Where

Y Financial Performance measured by Return on Equity (ROE)

$\beta_0$  Regression coefficient

$\beta_1, \beta_2, \beta_3, \beta_4$  Slopes of the regression equation

X<sub>1</sub> Risk identification measured by defining the businesses environment of the firm

X<sub>2</sub> Risk measurement measured by the standard deviation.

X<sub>3</sub> Risk evaluating and mitigation will be measured by the level of diversification namely insurance level and portfolio diversification

X<sub>4</sub> Risk monitoring measured by reduced performance variability (expected return-actual return)

$\alpha$  Is the constant or intercept

## **CHAPTER FOUR**

### **DATA ANALYSIS, RESULTS AND DISCUSSION**

#### **4.1 Introduction**

The information presented in this chapter is the analysis, findings and discussions with a reference to the research study and objectives. The results are presented in the summary tables, the regression equation and tests for correlation were employed to answer the research question. The data for this research was primarily obtained from a questionnaire shared with the organization and secondary data of financial statements was sourced from EAVCA.

#### **4.2 Response Rate**

The research study targeted 18 private equity firms operating in Kenya. The study yielded 17 filled responses and returned from the 18 targeted firm presenting a 94.44% response rate. The successful response rate was made possible through continued follow up calls and emails from the researcher. In the general information section 16 of the interviewees were analysts (research and financial) while one was a portfolio manager. 12 of the respondents PE firms were between 6-10 years in operation, 3 were less than 5 years in operation and 2 above 11 years of operation. All the respondents had risk management processes in their firms.

#### **4.4 Descriptive Statistics**

This section will address the descriptive statistics by segment namely risk identification, risk measurement, risk evaluating and mitigation and lastly risk monitoring.



**Table 4.1 Descriptive Statistics by Variable**

<b>Descriptive Statistics</b>			
	<b>Mean</b>	<b>Standard Deviation</b>	<b>n</b>
Risk Identification	2.45193	0.6496718	17
Risk Measurement	2.8192	0.6336892	17
Risk evaluation and Mitigation	2.9941	0.8464633	17
Risk Monitoring	3.6782	1.3464338	17

**Source: SPSS 20**

The above descriptive statistics table summarizes the mean, standard deviation and number of observations included in the study analysis. It is important to note the smaller the mean and standard deviations of the variables included in the study analysis, the more accurate the model in use. In table 4.1 risk identification, risk measurement and risk evaluation and mitigation have a relatively lower mean than risk monitoring. The inference drawn from this is that apart from risk monitoring which shows a weaker connection to the model, the other variables are noted as having a significant impact on the financial performance of the private equity firms. Risk identification has the strongest relation to the model followed by risk measurement and finally risk evaluation and monitoring.

#### **4.5 Correlation Analysis**

The table below presents the correlation (R) and the coefficient of determination between financial performance of private equity funds (dependent variable) and

risk management (independent variable). In the findings the study found that there was a positive relationship between the dependent variable and the independent variables. The independent variables that were a breakdown of four processes namely risk identification which had the highest relationship with financial performance followed by risk measurement then risk monitoring and lastly risk evaluation and mitigation. The findings show that all the steps are carried out and relate to the overall financial outcome, however their strength is weighted differently. The private equity firms can apply more resources to risk evaluation, mitigation and monitoring to see better financial performance of its funds.

**Table 4.2 Correlation Analysis**

	<b>R</b>	<b>RSquare</b>	<b>Adjusted Square</b>	<b>Std. error of the estimate</b>
Risk Identification	0.832	0.692	0.456	0.8410
Risk measurement	0.826	0.682	0.417	0.8309
Risk evaluation and mitigation	0.788	0.489	0.238	0.8119
Risk monitoring	0.608	0.433	0.159	0.8201

**Source: SPSS 20**

#### **4.5.1 Coefficient of Determination**

The coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable financial performance that can be explained by risk management processes. From the findings 96.7% of the

financial performance of the PE firm is attributed to the combination of risk management processes researched in this survey. Therefore we have an independent variable that has a 96.7% correlation with the dependent variable financial performance, return on equity. While 3.3% of financial performance of PE firms is attributed to other factors not attributed to this study.

**Table 4.3 Coefficient of Determination**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the estimate</b>	<b>Sig.</b>
1	.771 (a)	0.967	0.943	0.922	0.057

**Source: SPSS 20**

#### **4.6 Regression Analysis**

In the following analysis a multivariate model was applied to find the effect of risk management on financial performance of PE firms in Kenya. A linear regression model of financial performance represented by return on equity versus risk management was applied to examine the relationship between the variables. The linear equation was as below;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \alpha$$

Where

Y Financial Performance measured by Return on Equity (ROE)

$\beta_0$  Regression coefficient

$\beta_1, \beta_2, \beta_3, \beta_4$  Slopes of the regression equation

$X_1$  Risk identification

$X_2$  Risk measurement

X<sub>3</sub> Risk evaluating and mitigation

X<sub>4</sub> Risk monitoring

α Is the constant or intercept

**Table 4.4 Regression Model Analysis**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	.821	.68		11.207	.000
Risk Identification	.525	.038	0.193	1.564	.169
Risk Measurement	.357	.071	0.919	5.159	.002
Risk evaluation and mitigation	.381	.046	0.501	2.806	.031
Risk monitoring	.166	.089	1.228	9.546	.000

**Source: SPSS 20**

In the regression model the beta coefficients to be used in the study are the unstandardized coefficients. The equation is therefore as below;

$$Y = 0.821 + 0.525X_1 + 0.357X_2 + 0.381X_3 + 0.166X_4 + 0$$

The results indicate that a unit (1%) change in the risk identification causes an increase of 0.525 or 52.5% change in the return on equity for the PE firms. This indicates that risk identification has an influence on financial performance which means that risk identification is a predictor of financial performance. Risk monitoring is the lowest predictor of financial performance, a unit change in risk

monitoring leads to an increase of 0.166 or 16.6%. A unit change in risk measurement leads to a positive change of 0.357 or 35.7% in the financial performance of the PE firm. A unit change in risk evaluation and monitoring leads to a positive change of 0.381 or 38.1% in the financial performance of the PE firm studied. This clearly shows that the uptake of risk management contributes to a positive effect on financial performance of private equity firms in Kenya.

#### 4.6.1 Analysis of Variance ANOVA

The variance in the financial performance can be explained by the model to extent of 1.447 out of 1.713 or 94.1% while other variables not captured by this model can explain 0.266 or 5.9% of the variations in the financial performance of the PE firms. The F-Value of the model produces a p-value of 0.000 which is significantly the same as zero. A p-value of 0.000 indicates that the set level of significance in explaining financial performance of PE firms.

**Table 4.5 ANOVA Table**

Model		Sum of Squared	df	Mean Square	F	Sig.
1	Regression	1.447	5	0.471	106.3	.000 <sup>a</sup>
	Residual	0.266	12	0.018		
	Total	1.713	17			

Source: SPSS 20

#### 4.7 Discussion of Research Findings

The research findings reveals that risk management is needed in PE firms in order to ensure successful financial performance of the funds under their management.

The study found that it is crucial as indicated by the respondents in the study. The study found that risk identification, measurement, evaluating and mitigation and monitoring are all indicators that measured financial performance. Risk identification was noted as the heaviest indicator followed by risk measurement and risk evaluation and mitigation and risk monitoring in the risk management processes.

The research findings further show that risk monitoring however taken seriously by the PE firms is not actively engaged in the risk management process. Formulation of risk monitoring policies was noted as a great challenge in this indicator. Risk identification and measurement are still considered the most important steps in the risk management process indicated by their high correlation with the dependent variable. The findings also indicate that all the processes are to be carried out for the dependent variable to be positive, none should be eliminated. A strong relationship was noted in the independent and dependent variables indicating that risk management affects financial performance by 96.7% clearly indicating that management and implementation of risk management process will lead to a growth in financial performance.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

The chapter contains the summary of the data collected and analysis carried thereafter, it will also contain the conclusions and recommendations from the study in line with the research objective set out. The research objective is to determine the effect of risk management on the financial performance of private equity funds in Kenya.

#### **5.2 Summary of Findings**

The objective of this study was to establish the effect of risk management and financial performance of private equity funds in Kenya. The study looked at the four core steps in the risk management process namely risk identification, risk measurement, risk evaluation and mitigation and lastly risk monitoring. The study distributed a questionnaire which was used to collect data to examine the effect of risk management on financial performance of private equity funds in Kenya. The study assumed a census approach due to the small number of firms in that industry in operation and domiciled in Kenya.

The response rate was 94% of the eighteen firms, the data was sourced from sixteen analyst (both research and financial) and one portfolio manager. The data was analyzed using SPSS 20. The findings 96.7% of the financial performance of the PE firm is attributed to the combination of risk management processes researched in this survey. Therefore we have an independent variable that has a 96.7% correlation with the dependent variable financial performance, return on equity. While 3.3% of

financial performance of PE firms is attributed to other factors not attributed to this study. The variance in the financial performance can be explained by the model to extent of 1.447 out of 1.713 or 94.1% while other variables not captured by this model can explain 0.266 or 5.9% of the variations in the financial performance of the PE firms

Respondents noted that clear understanding of one operational space was necessary to be able to identify risks in their funds, this was indicated through the respondent's ability to take into consideration the industry, strategy and the need to source high caliber personnel to be able to carry out this step. The respondents on risk measurement indicated the measurement model to be used as an important activity in this step, the ability of this model to meet global investment guidelines was also noted as important. Risk evaluation and mitigation had respondents state that the use of a rating scale as challenging but necessary however risk mitigation models in use were noted as not internal best practice. The study found that enforcement of risk monitoring policies to be able to reclaim lost funds as not possible, therefore need to strengthen this in the risk management process.

### **5.3 Conclusion**

The conclusion of the study from the findings is that private equity firms need to manage effectively the risk management process in order to realize better financial performance by minimizing investment loss and better return on assets. Findings from the study conclude that risk identification, risk measurement, risk monitoring and risk evaluation and mitigation are strong predictors of the model therefore showing an effect on financial performance of private equity funds in Kenya.



## **5.4 Recommendation**

My recommendation for this study is that for the risk management process to have a stronger effect on financial performance on private equity firms in Kenya there is a need to strengthen the risk monitoring step. This can be done through better understanding of this step, increased personnel training and capacity building and lastly the need to look at the risk management process steps with equal and consistent weighting. The need to a private equity fund specific oversight body is recommended specifically for two reasons to help build competent capacities in the risk management process and secondly to build the industry within the economy of Kenya.

## **5.5 Limitations of the Study**

The nature of private equity firms across the globe is private in nature with Kenya included. The majority of private equity firms in Kenya invest in private companies therefore they are largely exempted from disclosing their practices and regulatory disclosures. This has led to the lack of independent parties that can confirm or deny self-reported information. The private equity environment however still small has been noted for its contribution to the economy but the number of firms being set up in the country are few. This led to a rather small number of firms to carry out the census with.

The investment practitioners engaged for this study were busy and also confidential in habit therefore calls to answer risk management specific queries were treated with delayed engagement and none engagement in one incident. This was addressed through sharing of the official letter from my school and also personal engagement

through calls and emails with the interviewees. The researcher also clarified the high level of confidentiality that the data collected will be treated with therefore reducing any conflict.

## **5.6 Suggestions for Further Research**

The study was specific to the effect of risk management on financial performance of private equity funds in Kenya, I suggest that further research should be conducted to study the effects of risk management on other aspects of the private equity business in specific competitive advantage. A similar study should also be done in licensed fund managers as they share a similar landscape with private equity firms.

The study also recommends that other studies are carried out to find out other factors affecting financial performance in private equity firms. The study can also be compared with similar studies in the following financial institutions SACCOs, Insurance and Microfinance, this will help give a clear financial services landscape for Kenya as a whole. Finally a study in private equity funds with specific growing economic industries should be considered to better compare growth patterns.

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## APPENDICES

### APPENDIX 1: QUESTIONNAIRE

#### Section A: General Information

1. Name of the Private Equity Firm .....
2. Designation of the interviewee.....
3. Number of years the firm has been in operation
  - a) Less than 5 year's [ ]
  - b) 6-10 year's [ ]
  - c) More than 11 year's [ ]
4. Does the firm have a risk management process?  
Yes [ ] No [ ]
5. How many clients does your organization have?  
Less than 10 clients [ ] between 11 to 20 Client  
[ ]  
Between 21 to 50 clients [ ] above 50 clients  
[ ]
6. How many industries does your firm invest in?  
1 [ ] 2 [ ] More than 2 [ ]

#### Section B: Risk Management Process

##### Risk Identification

7. To what extent does the firm use risk identification in the risk management process
  - Very great extent [ ]
  - Great extent [ ]
  - Moderate extent [ ]
  - Low extent [ ]
  - Not at all [ ]

8. Amount in USD under investment by the firm

- a) Less than 5 million USD [ ]
- b) Between 6-10 million USD [ ]
- c) More than 10 million USD [ ]

9. What is your level of agreement on the following statements in relating to risk identification in risk management?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Risk identification is a viable step for risk management.					
The PE firm has competent personnel for carrying out risk identification.					
The nature of the industry to be invested in is considered in risk management					
The duration of the investment by the PE firm in an industry is considered in this step					
Risk identification considers the investment strategy used in the fund					

### **Risk Measurement**

10. To what extent does the firm use risk measurement in the risk management process

- Very great extent [ ]
- Great extent [ ]
- Moderate extent [ ]

Low extent [ ]  
 Not at all [ ]

11. To what extent does your firm consider risk evaluation and mitigation in the risk management process?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Risk measurement is the most important step in risk management.					
The risk measurement model used in your PE firm is affected by the nature of businesses you invest in.					
The risk measurement model used is in line with the global guidelines on risk measurement in PE investments.					

### **Risk Evaluation and Mitigation**

12. To what extent does your firm consider risk evaluation and mitigation in the risk management process?

Very great extent [ ]  
 Great extent [ ]  
 Moderate extent [ ]  
 Low extent [ ]  
 Not at all [ ]

13. What is your level of agreement on the following statements in relating to risk evaluation and mitigation in risk management?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Risk evaluation and mitigation is a viable step in the risk management process.					
The PE firm has an internal rating for risks measured to be actively engaged and controlled.					
The rating scale is actively updated to ensure it is still relevant in regards to the investment portfolio of the fund					
Risk mitigation practices are engaged by the firm once risks inherent to the firm are rated.					
A clear guideline for risk mitigation is available in the firm.					
Clear mitigation models used are in line with international practices in risk management.					

### **Risk Monitoring**

14. To what extent does your firm consider risk monitoring in the risk management process?

- Very great extent            [   ]
- Great extent                    [   ]
- Moderate extent               [   ]
- Low extent                       [   ]
- Not at all                        [   ]

15. What is your level of agreement on the following statements in relating to risk identification in risk management?

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Available risk monitoring policies have assisted towards effective risk management.					
Formulation of risk monitoring policies have been a challenge in risk management process of the PE firm.					
Enforcement of risk monitoring policies provides chances for the fund to reclaim some of the lost capital.					
Regular reviews have been done on risk monitoring policies to improve the state of risk management.					

16. Do you think there is any effect between risk management and the financial performance of the PE industry? And in your individual firm?

## **APPENDIX 2: List of Private Equity Firms to be investigated**

1. Abraaj Capital
2. Acacia Capital Fund Limited
3. ACTIS
4. Acumen Fund
5. Africainvest
6. Agri-Vie Food & Agribusiness Investment Fund
7. Catalyst Principal Partners
8. Centum
9. Emerging Capital Partners (ECP)
10. Fanisi Capital Partners
11. Fusion Capital
12. Grofin
13. Investeq Capital
14. Norfund
15. One Acre Fund
16. Pearl Capital Partners (PCP)
17. TBL Mirror Fund
18. Transcentury Limited

### APPENDIX 3: STUDY DATA

	<b>Return on Equity '13</b>	<b>Risk Identification</b>	<b>Risk Measurement</b>	<b>Risk Evaluation and Mitigation</b>	<b>Risk Monitoring</b>
Abraaj Capital	31.2%	2.14621	3.1219	2.4778	3.14621
Acacia Capital	7.9%	3.42263	2.96311	3.0273	3.1273
ACTIS	11.7%	5.4229	6.2427	5.4891	7.4323
Acumen Fund	4.56%	4.1025	3.8763	2.9825	4.0267
AfricaInvest	9.2%	1.6309	2.0978	1.9971	2.3090
Agrie-Vie	8%	3.9567	3.2789	2.5791	3.5003
Catalysts Principal	15.2%	1.7864	1.1148	1.6834	2.8694
Centum	42%	1.4478	1.6693	1.9899	2.1178
Emerging Capital	13.4%	1.9962	2.22714	2.8869	3.1263
Fanisi Capital	5.6%	2.2756	3.2955	3.8746	3.9786
Grofin	9%	2.00963	2.17756	3.7953	3.0997
Norfund	15%	3.77900	3.1922	2.6707	4.19340
Once Acre Fund	13.4%	1.1228	2.1238	1.1228	3.1289
Pearl Capital	4.3%	3.22291	2.4291	2.3291	3.6721
TBL Mirror Fund	14%	2.8867	2.3367	1.2363	2.9817
Transcentury Ltd	23%	3.4446	3.4796	2.9489	3.94701

Source: EVCA, AVCA, CMA and SPSS