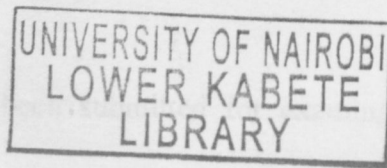


**EFFECT OF INFLATION ON INVESTMENT AMONG INSURANCE
COMPANIES IN KENYA**

BY

MUTHONI JOSEPH NDERITU



**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTERS OF
BUSINESS ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF
NAIROBI**

NOVEMBER 2012

DECLARATION

This research project is my original work and has not been submitted for a degree in any other university or college for examination/academic purposes.

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Reg No. D61/63099/2010

Signed _____



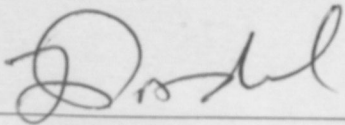
Date: _____

09th Nov 2012

This research project has been submitted for examination with my approval as the University Supervisor.

Name: Dr. J.O. Aduda

Signed: _____



Date: _____

12/11/12

DEDICATION

I dedicate this Research project to my beloved son Mike Victor Gichuhi for his courage to live even in difficult situations. May God bless him to live to attain the highest academic achievements.

Here, an official for encouraging me to go back to class. Thanks to my family for their support and prayer throughout the course. Thanks also to my employer Unga Group for giving me the opportunity to study even sometime during work hours.

Specifically, I would like to greatly thank Dr. J.O. Aduda for his fatherly guidance that he gave me through this project. May God bless him abundantly to continue having his burning love and commitment to guide other students achieve their academic ambitions. I also thank all other lecturers for their time, guidance and coaching during course work.

I also would like to thank my research assistant Mr. Charles Njoro for the commitment and effort he put in data collection. He showed courage and patience in midst of many challenges in the two months he collected data. He also spent his invaluable time proof reading this research project. May God bless him greatly.

Finally, I thank all the managers of Association of Kenya insurance, insurance Regulatory Authority, The Kenya Bureau of Statistics and the Librarian at the Central Bank of Kenya for their support and advice during data collection.

Lastly, I thank God for giving me the gift of life, resources to enable complete this MSc course. Without Him nothing would have been possible.

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This Research project would not have been possible without some people believing that I can. Many thanks go to Herman Githinji for encouraging me to go back to class. Thanks to my family for their support and prayer throughout the course. Thanks also to my employer Unga Group for giving me the opportunity to study even sometime during work hours.

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ABSTRACT

The Kenyan insurance industry plays a critical role in financial and economic development. It is in this case that understanding how inflation affects the sector and specifically investment will help make sound business decisions. Inflation is expected and has been proved by this study to have a weak negative effect on the insurance investment as it erodes the value of investments products.

The purpose of the study is to investigate the effect of inflation on investment among insurance companies in Kenya. This study was conducted through the use of a descriptive design. The target population for this study was 46 insurance companies in Kenya. The study used purposeful sampling to pick 35 insurance companies authorized to transact miscellaneous class of insurance business and by extension bid bonds business. The secondary data was collected from the companies audited financial statements, the central bureau of statistics and also CBK. The data collected was run through various models so as to clearly bring out the effects of change in inflation on firm's investment. The results obtained from the models were presented in tables

The study concludes that inflation have a negative influence on the investment among insurance companies in Kenya. Inflation has a coefficient of -0.0668 which indicates that inflationary environment are detrimental to insurance investment. High inflation brings with it less predictable returns on capital purchased and the also the expectation that demand will fall in the future while low inflation will encourage investment and a help businesses develop a long term view. The study recommends that central bank should concentrate on those policies which keep the inflation rate below the first threshold because it may be helpful for the achievement of robust economic growth and enhance investment. The companies' management should ensure that good corporate policies are implemented by the insurance companies to offset the effect of this macro-economic factor. Further, the management should also come up with structured solutions and strategies to mitigate the effect of inflation.

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LIST OF ABBREVIATIONS

AKI	-	Association of Kenya Insurers
CPIs	-	Consumer Price Indexes
EPI	-	Employment Cost Index
GDP	-	Gross Domestic Product
IPP	-	International Price Program
OECD	-	Organisation for Economic Co-operation and Development
PCE	-	Personal Consumption Expenditures index
PPIs	-	Producer Price Indexes
SPSS	-	Statistical Package for Social Sciences
WPIs	-	Wholesale Price Indexes

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The relationship between inflation and economic activity has long been of interest to economists. Attention receded somewhat during the period of generally low and stable inflation in the 1990s and early 2000s; however, with inflation resurging throughout large parts of the world, particularly in less developed countries, and threats of deflation elsewhere, this question has returned to the fore (Li, 2006).

1.1.1 Inflation

Inflation is an economic and monetary phenomenon which challenges almost every national economy in the world. Even though it can appear under various intensities and forms, it always concerns monetary authorities, because accelerating inflation threatens to destroy the economic substance of every country. Inflation is the overall general upward movement of prices of goods and services in an economy and it's usually measured by the consumer price index (Cost-of-living indices), the producer price index, wholesale price indexes and the employment cost index. Other measures include commodity price indices, core price indices and GDP deflator.

Inflation reflects a situation where the demand for goods and services exceeds their supply in the economy (Hall, 2002). Inflation causes many distortions in the economy. It hurts people who are retired and living on a fixed income. When prices rise these consumers cannot buy as much as they could previously. This discourages savings due to the fact that the money is worth more presently than in the future. This expectation reduces economic growth because the economy needs a certain level of savings to finance investments which boosts economic growth. Also, inflation makes it harder for businesses to plan for the future. It is very difficult to decide how much to produce,

because businesses cannot predict the demand for their product at the higher prices they will have to charge in order to cover their costs (Aghion et al., 2010).

1.1.2 Investments

Investments refer to the cost of capital invested in buying financial assets and securities. It is putting money into something with the expectation of gain, that upon thorough analysis, has a high degree of security for the principal amount, as well as security of return, within an expected period of time (Graham and Dodd 2001). They include the investments made in shares, bonds and equities. Most insurers do not report a separate category of short-term investments but instead include them in cash or investment in securities. Short-term investments include primarily short-term fixed income instruments such as commercial paper and T-bills.

These investments are reported at either fair value or amortized historical cost which, due to the short-term nature of the instruments, approximates fair value (Lee, Petroni and Shen, 2006). On the other hand, long term investments include stocks and bonds of other companies and real estate. Given the importance of business investment as a determinant of output growth and contributor to aggregate supply, much recent work has focused on the determinants of investment (Hussain, 2005; Aghion, Angeletos, Banerjee and Manova, 2010).

1.1.3 Relationship between Inflation and Investment

Inflation, a tax on real balance, reduces real returns to savings which in turn causes an informational friction afflicting the financial system. These financial market frictions results in credit rationing and thus limit the availability of investment and finally this reduction in investment adversely impacts economic growth (Xu, 2000). The major effect of inflation on firms is to discourage investment. High inflation brings with it less predictable returns on capital purchased and the also the expectation that demand will fall in the future. This discouragement of investment is one of the main reasons why the government wishes to limit inflation. Low inflation will encourage investment and a help businesses develop a long term view.

According to Bloom, Bond and Van Reenen (2007), inflation causes uncertainty about future prices, interest rates, and exchange rates, and this in turn increases the risks among potential trade partners, discouraging trade and investment. The uncertainty associated with inflation increases the risk associated with the investment and production activity of firms and markets.

More formally, there is an extensive literature on the effects of uncertainty on investment. As Caballero (2001) notes, the structure of the model determines whether the effect of uncertainty will be negative or positive. With risk averse firms, the effect is negative (Craine, 2009), with competitive firms and symmetric (quadratic) adjustment costs, the effect of uncertainty is positive (Abel, 2003).

Overtime as the cost of goods and services increase, the value of the Kenya shilling has continually fallen. Meanwhile the annual rate of inflation has fluctuated from time to time over the past fifteen years. Inflation also adversely affects capital accumulation and investment and deteriorates income distribution. Inflation hurts economic growth through declining Financial Development especially by damaging the operation of financial markets including insurance.

1.1.4 Insurance Companies in Kenya

The insurance sector can play a very important role in the development of the private sector and the modernization of the securities markets. By covering economic and financial risks, it enables enterprises to better manage their financial affairs and protects households from the financial losses arising from accidents and injuries. In addition, the industry, especially the life insurance sector, mobilizes long-term savings that can facilitate the financing of both enterprises and households with resources that have a much longer maturity than traditional loans from the banking sector (Hichks, 1996).

In order to play its economic and financial role, the insurance sector requires a framework of stable and liberal regulation that provides adequate incentives for efficiency and allows individual companies to innovate. According to Punyahotra, (1989) insurance regulation must aim at creating a contestable market that is open to new entry

by qualified companies and facilitates the exit of insolvent firms. It must also aim at safeguarding the stability of the sector and the solvency of individual companies and at protecting the interests of policyholders.

There are approximately 40 insurance companies in Kenya. All are members of AKI the association of Kenya Insurers. AKI is involved with protecting, promoting and advancing the common interests of members, and acting as a medium of consultation and communication with the Government. AKI is involved in promoting knowledge of insurance, gathering data, information and the market statistics from members of the association. According to a survey done by AKI on the market in 2007, it is clear that the industry has not penetrated the insurable market. In 2007, the industry contributed a marginal 2.5% of the GDP.

1.2 Statement of the Problem

Recent data from the central bank of Kenya show that Kenya has been experiencing high levels of inflation in the last three year (CBK, 2011). It is for this reason that the government has directed a lot of effort towards the stabilization of the high rates of inflation being currently experienced in the country. High inflation rates are viewed to have adverse effects on the companies, especially those in the financial sector in the country in many of its aspects. One is therefore left to wonder if inflation has any effects on the investment decision of the companies.

The relationship between inflation and investment remains a controversial one in both theory and empirical findings with positive, negative and even no relationship between the two being exemplified. Earlier studies show mix results about the relationship between inflation and investment. Few predict negative relationship (Nasir and Saima, 2010; Li, 2006) while other confirms positive relationship between inflation and investment (Lucas, 1988; Mallik and Chowdhury, 2001 and Gillman et al. 2002; Epetimehin and Fatoki, 2011). Recent literature, however, emphasizes the existence of non linear relationship between these two variables and supports the hypothesis that low and stable inflation promotes investment while higher inflations rates have significantly

negative effect on investment (Khan and Senhadji, 2001; Sweidan, 2004; Lee and Shin, 2000; Hussain, 2005). Aghion, et al., (2010) demonstrate that a negative relationship is particularly strong in less developed countries, where prices also tend to be more volatile. Yet despite this fact and perhaps owing to data limitations, most empirical work in this area has focused on developed countries. Moreover, these studies tend to focus on country or industry investment aggregates, which pose challenges for identifying the precise channels through which inflation uncertainty reduces investment.

Local studies have been conducted on the effect of inflation. Opati (2009) did a study on casual relationship between inflation and exchange rates in Kenya and found a positive relationship, Maina (2010) did a study on the relationship between inflation and Financial Performance of Commercial Banks in Kenya and found that they always hedge themselves and so not very significantly affected while Masila (2010) conducted a study on the relationship between inflation and land prices in Kenya the case of Nairobi and selected environs and noted that inflation causes a rise in land prices. To the best of the researchers knowledge, none of these local and international studies has ever focused on the effect of inflation on investment among insurance companies. The study therefore seeks to fill this gap by investigating the effect of inflation on investment among insurance companies in Kenya.

1.3 Objective of the Study

The objective of the study is to investigate the effect of inflation on investment among insurance companies in Kenya.

1.4 Significance of the Study

The government through the Central bank has the responsibility of ensuring that the prevailing rate of inflation is favorable to the economy. To contain high rates of inflation, the government puts in place prudent monetary policy by ensuring that growth in money supply remains in tandem with economic trends and by ensuring stability of the shilling exchange rate in order to restrain increases in prices of imports. From the understanding

of the level up to which the rate of inflation affects investment, the government would be able to determine the inflation rates that would be necessary in a developing economy like Kenya. It is also very necessary to determine how inflation affects investment as this would guide the government in making the right economic policy adjustment necessary in containing inflationary levels.

The study would also be invaluable to the investors in the insurance companies as it will provide an insight on how inflation on investment among insurance companies in Kenya. Companies need to know how inflation will affect investments. This is so that as they forecast into economic conditions, they can predict the effect on the interest rates that they will be charged, the cost of capital, the returns they can expect and how much capital goods they can procure to expand their business.

The financial institutions, investment bankers and others bodies involved with provision of capital. These bodies need to know how inflation will affect the interest rates that they can charge, the savings that can be made, the investments that will be made, the cost of capital, and all the linkage between the above factors.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses other studies that have been done in the area of study. The specific areas covered here include the theoretical review (economic theory, the fundamental theory and the option pricing theory), concept of inflation, effect of inflation on investment, empirical review and the summary.

2.2 Theoretical Review

Various theoretical explanations are documented in literature to explain the inflation investment nexus. The study is hinged on the fundamental theory economic theory, and the option pricing theory.

2.2.1 The Fundamental Theory

This theory argues that at any point in time; an individual security has an intrinsic or true value, which is the present value of the future receipts, accruing to the security holder. This view is based on the assumption that the analyst needs to consider the major factor affecting the economy, the industry and the company when making investment decisions (Daferighe and Aje, 2009).

To make an appropriate investment decision, the environment within the company and its reaction to that environment in terms of investment and financing policies determines the future net receipts. It is also affected by the state of national economy, government economic policies such as the control of inflation, the balance of payments, government budgetary and interest rate policies (Daferighe and Aje, 2009). The effect of each of these factors is largely dependent on the nature of the company's activities.

If fundamental analysis is used as a guide to investment decision, the buy and sell decision will be based on the discrepancy between intrinsic and market prices; if the intrinsic is greater than the market, the investor should buy, and sell if the market price is

greater than intrinsic price. The amount of discrepancy and speed with the market approaches an intrinsic value may be regarded as indications of the degree of perfection in the market (Daferighe and Aje, 2009).

2.2.2 Economic Theory

Economic theory can predict either a positive, negative, or zero effect of trend inflation on investment, depending on the specific assumptions of the model. Tobin (1965) presents a model where inflation reduces accumulated wealth, which in turn raises current savings, investment, and growth. In contrast, Stockman (1981) shows that in an economy with a cash-in-advance constraint on both consumption and investment, inflation will lower investment. Sidrauski (1967) constructs a model of the super-neutrality of inflation.

Economic theory reveals that developed financial sector mobilizes savings efficiently and reallocates the resources to productive projects and hence stimulates economic activities in the country. However, high rate of inflation worsens the efficiency of financial sector through financial market frictions and slows down the economic performance. Inflation tends to induce volatility in equity returns as well as lowers the real return on savings. In inflationary periods, governments are inclined to impose additional tax burden on the financial sector to reduce their budget deficits (Sepehri and Moshiri, 2004). It is observed that inflation impedes the performance of financial markets by reducing the level of investment in the economy.

2.2.3 Option Pricing Theory

The theoretical literature concerning the effect of uncertainty on business investment is inconclusive. The traditional literature assuming reversibility of investment suggests a positive impact from uncertainty on business investment (Hartman, 1972). Other studies, which realistically question the assumption that investment spending is perfectly reversible, propose a cost to committing to an investment project and a benefit to reducing investment in an uncertain environment which can be conceptualized using option theory (Dixit and Pindyck (1994).

Drawing on option pricing theory, Pindyck (1988, 1991) generalizes this observation to show that uncertainty increases the option value of delaying irreversible investment. Huizinga (1993) draws on this result to build a theoretical link between inflation uncertainty and reduced investment.

2.3 Concept of Inflation

Inflation is the overall general upward movement of prices of goods and services in an economy and it's usually measured by the consumer price index and the producer price index. Inflation can be defined as the persistent rise in the general price level across the economy over time. Mild inflation is considered to be desirable for economic growth and investment (Kiley, 2008). However, high and variable inflation, in general, leads to uncertainties in income and expenditure decisions of the different groups of the society; distorts economic growth; lowers savings and investments; and makes more expensive cost of capital.

Inflation is measured by observing the change in the price of a large number of goods and services in an economy, usually based on data collected by government agencies (White, 2011). The prices of goods and services are combined to give a price index or average price level, the average price of the basket of products. The inflation rate is the rate of increase in this index; while the price level might be seen as measuring the size of a balloon, inflation refers to the increase in its size. There is no single true measure of inflation, because the value of inflation will depend on the weight given to each good in the index. The common measures of inflation include: Consumer price indexes (CPIs), Producer price indexes (PPIs), Wholesale price indexes (WPIs), commodity price indexes, GDP deflator, and Employment cost index.

Many price statistics are available to keep tabs on average prices. Some, like the Consumer Price Index (CPI) or the Personal Consumption Expenditures index (PCE), track the prices consumers pay for things. Others, like the Producer Price Indexes (PPI), track the prices producers receive for the goods or services they provide. There are broader indexes, like the GDP deflator, which is based on gross domestic product. Some

price statistics are more specialized. For example, the Employment Cost Index tracks changes in labor costs, and the International Price Program (IPP) tracks price changes in the foreign trade sector (Taylor, 2008).

The consumer price index (CPI) is a weighted price index which measures the monthly change in the prices of goods and services. The spending patterns on which the index is weighted are revised each year, mainly using information from the Family Expenditure Survey. The expenditure of some of the higher income households, and of pensioner households mainly dependent on state pensions, is excluded. As spending patterns change over time, the weightings used in calculating the CPI are altered.

Producer price indices (PPIs) which measures average changes in prices received by domestic producers for their output. This differs from the CPI in that price subsidization, profits, and taxes may cause the amount received by the producer to differ from what the consumer paid. There is also typically a delay between an increase in the PPI and any eventual increase in the CPI. Producer price index measures the pressure being put on producers by the costs of their raw materials. This could be "passed on" to consumers, or it could be absorbed by profits, or offset by increasing productivity. In India and the United States, an earlier version of the PPI was called the Wholesale Price Index.

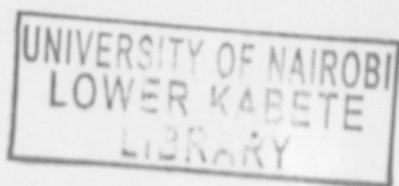
Commodity price indices, which measure the price of a selection of commodities. In the present commodity price indices are weighted by the relative importance of the components to the "all in" cost of an employee. Core price indices: because food and oil prices can change quickly due to changes in supply and demand conditions in the food and oil markets, it can be difficult to detect the long run trend in price levels when those prices are included. Therefore most statistical agencies also report a measure of 'core inflation', which removes the most volatile components (such as food and oil) from a broad price index like the CPI. Because core inflation is less affected by short run supply and demand conditions in specific markets, central banks rely on it to better measure the inflationary impact of current monetary policy. GDP deflator is a measure of the price of all the goods and services included in Gross Domestic Product (GDP).

2.4 Effect of Inflation on Investment

It has been shown that inflation affects investment in several ways, mostly inhibiting investment. The effect of inflation on investment occurs directly and indirectly. Inflation increases transactions and information costs, which directly inhibits economic development. For example, when inflation makes nominal values uncertain, investment planning becomes difficult. Individuals may be reluctant to enter into contracts when inflation cannot be predicted making relative prices uncertain. This reluctance to enter into contracts over time will inhibit investment which will affect investment. In this case inflation will inhibit investment and could result in financial recession (Hellerstein, 1997). In an inflationary environment intermediaries will be less eager to provide long-term financing for capital formation and growth. Both lenders and borrowers will also be less willing to enter long-term contracts. High inflation is often associated with financial repression as governments take actions to protect certain sectors of the economy. For example, interest rate ceilings are common in high inflation environments. Such controls lead to inefficient allocations of capital that inhibit investment (Morley, 2001).

Recent studies have concentrated on the impact of inflation on output, investment, productivity and growth in the short run and long run while others have concentrated on welfare costs of inflation. In the former models, the growth rate of the economy is the dependent variable while the inflation rate is the explanatory variable. They have shown that the effects of inflation on growth work through the effects of inflation on the productivity of investment (Barro 2006; Levine and Renelt 1992). It has therefore often been suggested that a stable macroeconomic environment promotes growth by providing a more conducive environment for private investment.

Just as the literature on the effects of inflation on growth, the literature on the uncertainty-investment relationship is also divisive. For example, Caballero (2001) notes that the structure of the model determines whether the effect of uncertainty on investment will be negative or positive. In Craine's (1989) model, with risk-averse firms, the effect is negative as they refrain from long-term investment. However, Dotsey and Sarte (2000)



use a cash-in-advance model to show that risk-averse agents tend to save more during periods of uncertainty. This pool of additional savings will lead to higher investment and growth. On the other hand, in models (e.g. Hartman, 1972; Abel, 1983) with competitive firms and symmetric (quadratic) adjustment costs, the effect of uncertainty is positive. When investment is postponable, but irreversible, i.e. with asymmetric adjustment costs, uncertainty can negatively affect investment (Dixit and Pindyck, 2003). As noted in Pindyck and Solimano (2003), the decision to invest is like an option. Firms can either exercise the option by investing, or delay the investment and continue to hold the option. Greater uncertainty raises the option value of waiting in the sense that it raises the required rate of return on current investment projects, resulting in the postponement of some investment project.

The structuralists believe that inflation is essential for investment, whereas the monetarists see inflation as detrimental to investment progress. Earlier works (Tun Wai, 1959) failed to establish any meaningful relationship between inflation and investment. A more recent work by Paul, Kearney and Chowdhury (1997) involving 70 countries (of which 48 are developing economies) for the period 1960-1989 found no causal relationship between inflation and investment in 40 per cent of the countries; they reported bidirectional causality in about 20 per cent of countries and a unidirectional (either inflation to investment or vice versa) relationship in the rest. More interestingly, the relationship was found to be positive in some cases, but negative in others. Moreover, most of these studies are conducted in developed countries whose strategic approach and financial footing is different from that of Kenya. Thus this study sought to establish the relationship that exists in the Kenyan case.

One strand of the theoretical literature has pointed towards a positive relationship between uncertainty and investment (Abel 1983, Hartman 1972). In both cases, the result proceeds from the realization that if the firms profit function is convex in prices and capital adjustment costs are convex, a mean-preserving spread of prices increases the optimal level of investment. Caballero (1991) shows how this relationship depends on market structures. When markets are competitive, he shows that investment decisions

depend almost entirely on the price of capital and its expected marginal profitability, which, as in Abel and Hartman, is convex with respect to prices. A Jensen's inequality argument shows that the optimal response to uncertainty is to increase investment. In contrast, when competition is imperfect, an increase in investment today makes it more likely that a firm will tomorrow have too much capital relative to its desired level. When adjustment costs are asymmetric (i.e., net of direct costs, it is more costly to reduce capital than to increase it) having too much capital is worse than having too little. Here, the uncertainty-investment relationship can turn negative.

Zeira (2000) notes that the fixed discount rate assumption of other studies is tantamount to risk-neutrality. He builds a model of investment that incorporates shareholder risk aversion and demonstrates that the uncertainty-investment relationship becomes indeterminate in this framework.

Pindyck (1991) looks at the case of irreversible investments (i.e., largely sunk costs that cannot be recovered), focusing on those for which delay is possible and allows the firm to gather new information about prices and other market conditions before making the investment. While firms do not always have the opportunity to delay investments, they may, for example, be subject to a short-lived strategic window. He argues that in most cases delay is feasible. In such case, the standard rule of investment decisions, which says that a firm should invest in a project when the present value of its expected net cash flows exceeds its cost, is no longer optimal. When investments are irreversible and decisions to invest can be postponed, increased uncertainty makes firms more reluctant to invest.

Bloom (2000) shows that while the real option effect of uncertainty can explain large elasticities of short-run investment, it does not affect long-term investment. He points out that while real option motives increase the investment threshold, reducing investment in times of strong demand, they also lower the disinvestment threshold, reducing the rate of disinvestment when demand is weak. In both cases, uncertainty has a cost. It pushes firms from their instantaneously optimal level of capital but it does not reduce long-term investment through the real option effect. In the case of microenterprises, for which low

levels of initial fixed assets limit the scope for downward adjustment, this reduced threshold for disinvestment may be less of a factor. As shown by a number of authors (Caballero 1991, Lee and Shin 2000) when starting from a base of zero initial capital stock, the real option effect of uncertainty unambiguously reduces investment.

2.5 Empirical Review

Among the many empirical studies that have tried to assess the effects of inflation on investment, a general agreement has only emerged that high inflation is bad for investment however, for low inflation rates say between 10 and 15, there is no consensus. Sidrauski (1967) established the negative relationship while Tobin (1965) established the positive impact of inflation on investment commonly known as the Tobin effect.

Numerous others point to the possibility of a positive relationship. Hartman (1972) and Abel (1983) demonstrate that uncertainty increases investment when adjustment costs are convex and the profit function is convex in prices. Dotsey and Sarte (2000) show that precautionary savings can also produce a positive correlation between inflation variability and investment, while Caballero (1991) shows the relationship between uncertainty and investment depends on industry structure. Some degree of imperfect competition is required for a negative relationship between inflation volatility and investment even in the presence of asymmetric adjustment costs.

Khan et al. (2001) estimate the threshold level of inflation, for 168 countries by using NLLS estimation beyond which inflation had powerful negative effects on all measures of financial dept and below which inflation had insignificant or even positive effects on financial depth. They founded that inflation between the range of 3 to 6 percent had negative impact. McClain and Nichols (1994) used newly developed time series techniques to test for a long-run relationship between inflation and investment by using U.S. time series data from 1929 to 1987. Surprisingly, these authors found that investment and inflation are positively correlated to each other. They argued that this finding is consistent with the interpretation that the income effect of inflation increases savings, the incomplete Fisher effect lowers the real cost of funds, and that bond price

movements from inflation increase real corporate wealth, all leading to higher real investment, not lower.

Li (2006) estimate the non linear relationship between inflation and investment for 27 develop and 90 developing countries over the period 1961-2004. He found that the efficiency of investment is the channel through which inflation adversely and nonlinearly affects economic investment. Moreover, at low to moderate inflation, specifically, below 65% for developing countries and below 42% for developed countries and inflation even has a significantly positive effect on the level of investment. Chadha and Sarno (2002) report results based on Kalman filtering on the price level, where the transitory component of price volatility has a more substantial impact than the permanent component on the ratio of investment to output for the US.

Holland (1993) summarizes 18 studies of the empirical link between inflation uncertainty and real activity in the United States; 14 find a negative relationship, three are insignificant, and only one (Coulson and Robins 1985) finds a positive relationship. Ramey and Ramey (1995) demonstrate a strong negative relationship between business cycle volatility and mean investment growth rates in OECD countries and suggestive evidence in a broader set of 92 countries.

Mallik and Chowdhury (2002) in their cross country evidence for four Asian countries established a positive relation between inflation and investment. The results indicated that the sensitivity of investment to changes in inflation is larger than that of growth to changes in inflation rates.

Some recent studies have found out that cross country evidence supports the view that long term investment is adversely affected by inflation. These include Kormendi and Meguire (1985), De Gregorio (1993) and Smyth (1994). They all established that inflation always harms investment however weak it is. De Gregorio (1993) established a significant negative effect of inflation and its variability on investment for Latin American countries.

Friedman (1977) argues that inflation volatility and uncertainty may render market prices a less-efficient system for coordinating economic activity, thereby reducing allocative efficiency. When nominal rigidities are present, inflation uncertainty generates uncertainty about the relative price of final goods and input costs. Even without nominal rigidities, Lucas (2003) argues, increased inflation uncertainty accentuates firms real responses to observed price variation and worsens the trade-off between output and inflation. Fischer and Modigliani (1978) systematically catalog a range of channels through which inflation can affect real outcomes, including what they consider to be the focus of practical men: inflation makes it difficult to plan in the absence of knowledge about future prices.

Valdovinos (2003) tested the proposition that the investment and the level of inflation are negatively correlated in the long run and the result was a clear negative relation between the two time series. Fischer (1993) in his cross sectional and panel regressions for a large set of countries found out that there exists a negative relationship between inflation and investment. This is because inflation reduces growth by reducing investment and productivity. Smyth (1992) estimated a negative relationship between inflation and investment in the United States of America. The results indicated that for each one percentage point increase in US inflation, the annual investment rate is reduced by 0.223 percent.

Other studies have been able to demonstrate that harmful effects of inflation are not universal but appear only over the "threshold" level of inflation. Bruno and Easterly (1998) examined the relationship between inflation and investment for 127 Latin American countries for the period 1960 to 1992. They found no evidence of any consistent relationship between investment and inflation at any frequency. However, they found that investment falls sharply during discrete high inflation crises, and then recovers surprisingly strongly after inflation falls. They argue that the negative association between inflation and investment is due to high inflation episode especially in the long run.

Some studies though have failed to establish a meaningful relationship between inflation and investment. Kearney and Choudhury (1997) involving 70 countries of which 48 were developing countries for the period 1960- 1989, found no causal relationship between inflation and investment in 40 % of the countries. The relationship was found to be positive in some cases but negative in others.

Faria and Carneiro (2001), in the Journal of Applied Economics used a bivariate time series model including inflation rate and real output in Brazil and found out that permanent inflation shocks do not have significant permanent effect on investment rates. Sarel (1996) attempted an alternative empirical investigation of the problem and concluded that inflation affects investment only if it breaches a specific 'threshold' rate of inflation but not otherwise. These mixed empirical results suggest that the relationship between inflation and investment is far from clear.

Epetimehin, F. M. and Fatoki, O. (2011) states the nominal returns on asset of the insurance Industry have been less than 4% annually. The real returns on asset of the industry have been negative over the period 2003-2007. The negative returns were as large as -16% during 2005 and 2006. For the 5year period of 2003-2007, the average real return has been -10% per year. This means the real assets and shareholder equity of the company are being eroded at rate of about 10% per year since 2003. The enough rate of inflation magnifies the claims of life insurance.

2.6 Conclusion

The theoretical literature concerning the effect of inflation on business investment is inconclusive. Empirical literature has indicated different relationships between inflation and investment for different countries and studies. The evidence on the effect of inflation on investment has not always provided clear support though it is generally accepted that inflation has negative effects on investment. It is this reason that motivates this study. Kenya being a developing country which has of late experienced high rates of inflation, it becomes important to determine how inflation affects investment among its insurance industry.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology of the study. It outlines how the study was carried out. The chapter presents the research design, the population, sample and sampling technique, data collection method and instruments and data analysis.

3.2 Research Design

This study was conducted through the use of a descriptive design. Descriptive research portrays an accurate profile of persons, events, or situations (Kothari, 2000). Descriptive design allows the collection of large amount of data from a sizable population in a highly economical way. The method was chosen since it is more precise and accurate since it involves description of events in a carefully planned way (Babbie, 2004). Therefore, the descriptive survey was deemed the best strategy to fulfil the objectives of this study.

3.3 Target Population

Target population in statistics is the specific population from which information is desired (Ngechu, 2004). The target population for this study was 46 insurance companies in Kenya.

3.4 Sample

Ngechu (2004) underscores the importance of selecting a representative sample through making a sampling frame. From the population frame the required number of firms was selected in order to make a sample. The study used purposeful sampling to pick 35 insurance companies authorized to transact miscellaneous class of insurance business and by extension bid bonds business. According to Oso and Onen (2005), purposive sampling starts with a purpose in mind and the sample is thus selected to include people of interest

and exclude those who do not suit the purpose. Saunders and Thornhill (2003) also posited that purposeful sampling is useful when one want to access a particular subset of subjects.

3.5 Data Collection

Secondary data collection method was used in this study. The secondary data was collected from the companies audited financial statements, the central bureau of statistics and also CBK.

3.6 Data Analysis Methods

Data was analyzed using Statistical Package for Social Sciences (SPSS Version 19.0) program. Being that the study was descriptive in nature, both quantitative analysis and inferential analysis was used as data analysis technique. The data collected was run through various models so as to clearly bring out the effects of change in inflation on firm's investment. The results obtained from the models were presented in tables to aid in the analysis and ease with which the inferential statistics were drawn. The study used the under-mentioned multivariate regression model to best predict the change in investment due to change in inflation, GDP and Money Supply, with ratio of investment as the dependent variable and inflation as the independent variable while GDP and Money supply [MS] were used as dummy variables as used by Eptimehin and Fatoki (2011) in their empirical analysis of the impact of inflation on the Nigeria Insurance Industry.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where: Y = Investment [Inv] (91 days T-bills, commercial papers, bonds, stock)/Total Assets

β_0 = Constant Term;

$\beta_1, \beta_2, \beta_3$ and β_4 = Beta coefficients;

X_1 = Inflation [Inf] (Consumer price indexes);

X_2 = GDP; (Change in GDP)

X_3 = Money supply [MS]; (Change in Money Supply)

ε = Error term

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the information processed from the data collected during the study on effect of inflation on investment among insurance companies in Kenya. The sample composed of 35 insurance companies authorized to transact miscellaneous class of insurance business and by extension bid bonds business for the period (2007-2011).

4.2 Descriptive Statistics

Table 4.1: descriptive statistics

	Investment	GDP	Inflation	Money supply
Mean	0.4645	4.2467	8.1367	1024.3433
Std. Deviation	0.2969	0.4567	2.1128	208.1460

The study established that for the five years, investment had a mean score of 0.4645 and a standard deviation of 0.2969, GDP had a mean of 4.2467 and a standard deviation of 0.4567, inflation had a mean score of 8.1367 and a standard deviation of 2.1128 while money supply had a mean score of 1024.3433 and a standard deviation of 208.1460. A reasonable level of consistency is observed between the mean and standard deviation for all variables.

4.3 Regression Results

In addition to descriptive analysis, the study conducted a cross-sectional OLS multiple regression on the selected independent variables over the period 2007–2011 and results of investment.

4.3.1 Year 2007 Analysis and Interpretations

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 (investment) that is explained by all the three independent variables (Inflation, GDP and Money supply).

Table 4.2: ANOVA Statistics for 2007 Data

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.825 ^a	.680	.561	.12285

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.257	3	.086	5.677	.022
	Residual	.121	8	.015		
	Total	.378	11			

Table 4.3: Coefficients of 2007 Model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.015	.658		4.583	.002
	Inflation	-.024	.021	-.267	-1.141	.287
	GDP	.326	.100	-.713	-3.277	.011
	Money supply	3.451E-5	.000	-.035	-.151	.884

The data findings from 2007 market statistics were analyzed and the SPSS output presented in table 2 and 3 above. From the ANOVA statistics in table 2, the processed data, which are the population parameters, had a significance level of 0.022 which shows that the data is ideal for making a conclusion on the population's parameter. The F critical at 5% level of significance was 2.834. Since F calculated is more than the F critical (value = 5.677), this shows that the overall model was significant. The coefficient table in table 3 above was used in coming up with the model below:

$$\text{Inv} = 3.015 - 0.024 \text{ Inf} + 0.326 \text{ GDP} - 3.451\text{E-}5 \text{ MS}$$

According to the model, only GDP and money supply were positively correlated with investment while inflation was negatively correlated with investment. From the model, taking all factors (Inflation, GDP and money supply) constant at zero, investment will be 3.015. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in inflation will lead to a -0.024 decrease in investment. A unit increase in GDP will lead to a 0.326 increase in investment while a unit increase in money supply will lead to a 3.451E-5 increase in investment. This infers that GDP had more effect on investment followed by money supply while inflation had a negative effect.

4.3.2 Year 2008 Analysis and Interpretations

Table 4.4: ANOVA Statistics for 2008 Data

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.831 ^a	0.691	0.620	.19594

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.070	3	.023	.607	.029 ^a
	Residual	.307	8	.038		
	Total	.377	11			

Table 4.5: Coefficients for 2008 Regression Model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.701	.734		.955	.368
Inflation	-.034	.035	-.339	-.967	.362
GDP	.001	.142	-.001	-.003	.998
Money supply	.013	.000	.410	1.082	.311

The data findings for 2008 statistics were processed using SPSS and the output presented in table 4 and 5 above. According to the ANOVA table 4 above, the parameters predicted in the table above had a significance level of 0.029 which is inadequate to be used as a population parameter in predicting the effect of inflation on investment for the insurance companies. The regression model drawn from table 4.5 above is presented below:

$$\text{Inv} = 0.701 - 0.034 \text{ Inf} + 0.001 \text{ GDP} + 0.013 \text{ MS}$$

According to the table, the investment had an autonomous value of -0.701 that is when the value of all the independent variables is zero. A unit increase in inflation decreases the investment by 0.034 when the money supply and GDP variables are held constant. A unit increase in GDP, holding other variables constant, increased the investment by 0.001. A unit increase in money supply, holding other variables constant, increased the investment by 0.013. This shows that money supply and GDP had a positive relationship with the investment while inflation negatively influenced the companies' investment.

4.3.3 Year 2009 Analysis and Interpretations

Table 4.6: ANOVA for 2009 Statistics

Table 4.7: 2009 Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.219	4.846		.458	.659
	Inflation	-.211	.167	.418	1.257	.244
	GDP	.503	.916	-.229	-.550	.598
	Money supply	-.002	.003	-.316	-.736	.483

From the finding of the study on the 2009 market statistics as analyzed and presented in the above table, the following regression equation was established by the study for the year 2009:

$$\text{Inv} = 2.219 + 0.211 \text{ Inf} + 0.503 \text{ GDP} + 0.002 \text{ MS}$$

From the findings of the data it can be concluded that when the value of inflation, money supply and GDP were zero, investment was 2.219. The table also shows that holding money supply and GDP constant, an increase by one unit of inflation decreases investment by -0.211, when other factors are held constant an increase in GDP by one unit increases investment by 0.503. If one unit of money supply was increased while holding other factors constant, the investment would decrease by 0.002. This shows that the GDP has a positive relationship with investment while inflation and money supply inversely affect companies' investment, although the GDP influences investment

4.3.3 Year 2009 Analysis and Interpretations

Table 4.6: ANOVA for 2009 Statistics

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positively most. However, the model was arrived at a significance level of 0.036 which means that the model is adequate in drawing a conclusion on the population parameters.

4. 3.4 Year 2010 Analysis and Interpretations

Table 4.8: ANOVA statistics for 2010 Model

Model	R	R ² Square	Adjusted R Square	Std. Error of the Estimate
1	.821 ^a	0.674	.502	.27024

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.217	3	.072	.992	.044 ^a
	Residual	.584	8	.073		
	Total	.802	11			

Table 4.9: Coefficients of model 2010

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.080	1.688		1.825	.105
	Inflation	-.069	.062	-.485	-1.116	.297
	GDP	-.425	.275	-.665	-1.544	.161
	Money supply	.002	.000	-.142	-.458	.659

The market data for 2010 was regressed on SPSS and the output presented in table 8 and 9 above. From the data analyzed and presented in the table above, the model for the year 2010 is presented below:

$$\text{Inv} = 3.080 - 0.069 \text{ Inf} + 0.425 \text{ GDP} + 0.002 \text{MS}$$

According to the model above, holding inflation, GDP and money supply constant at zero, investment will be 3.080. When the money supply and GDP are held constant, a unit increase in inflation will decrease the investment by 0.069. When other factors are held constant, a unit increase in GDP will decrease the investment by -0.425. The model also shows that money supply had a positive relationship with investment such that a unit increases in money supply holding other factors constant will lead to a increase in investment of 0.002. From the above model it can be concluded that money supply positively influenced investment while inflation and GDP had a negative influence on the same. From the ANOVA statistics table 8 above, it shows that the parameters in the model have a 0.044 level of significance which shows that it is significant in predicting the effect of inflation on investment.

4.3.5 Year 2011 Analysis and Interpretations

Table 4.10: ANOVA Statistics for 2011

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.849 ^a	0.721	.569	.19354

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.196	3	.065	1.745	.025 ^a
	Residual	.300	8	.037		
	Total	.496	11			

Table 4.11: Coefficients of model 2011

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.614	.844		-.727	.488
Inflation	.004	.023	.057	.188	.856
GDP	.250	.129	.594	1.929	.090
Money supply	9.157E-5	.000	-.112	-.365	.725

The data findings for 2011 were computed, analyzed and presented in table 10 and 11 above. According to the ANOVA statistics in table 10 above, the model had a significance level of 0.025 which means that the model is appropriate to be used as a population parameter. From table 11, the regression model is presented below:

$$\text{Inv} = 1.614 + 0.004 \text{ Inf} + 0.250 \text{ GDP} + 9.157\text{E-}5\text{MS}$$

According to the regression model, when the values of inflation, GDP and money supply are zero, investment will be 1.614. When inflation is increased by one unit, the investment will increase by 0.004 while when GDP is increased by one unit, the investment will increase by 0.250. The investment will also increase by 9.157E-5 when the money supply is increased by one unit holding other factors constant. This shows that in this year, all the independent variables had a positive correlation with investment.

4.4 Summary and Interpretation of Findings

From the above regression models for the five years, the study found out that there were several factors influencing the investment of insurance companies, which are inflation,

GDP and money supply. They either influenced it positively or negatively. The study found out that the intercept varied. The highest value was 3.08 and the lowest was 0.701 with an average of 2.1258 for all years. The study also found out that the coefficient of inflation varied from positive to negative. The highest regression value was negative with an average coefficient of -0.0668. This means that inflation negatively influenced the investment.

The study found out that the GDP varied in value although it was positive in most cases except for 2010. This means that GDP positively influenced the investment. The study further found out that the coefficients of the money supply to be positive in four out of the five regression models. This depicts that, according to findings, money supply positively influences the investment.

The four independent variables that were studied (Inflation, GDP and money supply) explain only 65.9 % of investment as represented by the average R^2 (0.659). This therefore means the three independent variables only contribute about 65.9% of investment decision while other factors not studied in this research contributes 34.1% of the investment decision.

There has been several studies carried out on the effect of inflation on firms in different sectors but findings have to a large extent corroborated the findings on the effect of inflation on investment among insurance companies in Kenya. The study concludes that inflation have a weak negative influence on the investment among insurance companies in Kenya. My results are consistent with prior research by Xu (2000) that the major effect of inflation on firms is to discourage investment. Xu observed that inflation reduces real returns to savings which in turn causes an informational friction afflicting the financial system. The findings are also consistent with Bloom, Bond and Van Reenen (2007) that inflation causes uncertainty about future prices, interest rates, and exchange rates, and this in turn increases the risks among potential trade partners, discouraging trade and investment.

The study deduced that although the overall relationship between inflation and investment is negative, there are some cases showing positive relationship. Thus, the relationship between inflation and investment remains a controversial. This is in line with earlier studies that showed mixed results about the relationship between inflation and investment with few predicting a negative relationship (Nassir and Saima, 2010; Li, 2006) while other confirms positive relationship between inflation and investment (Lucas, 1988; Mallik and Chowdhury, 2001 and Gillman et al. 2002). However, some point on the existence of a non linear relationship between these two variables and supports the hypothesis that low and stable inflation promotes investment while higher inflations rates have significantly negative effect on investment (Khan and Senhadji, 2001; Sweidan, 2004; Lee and Shin, 2000; Hussain, 2005). Chowdhury (1997) study involving 70 countries (of which 48 are developing economies) for the period 1960-1989

Local studies have been conducted on the effect of inflation. Opati (2009) did a study on casual relationship between inflation and exchange rates in Kenya and found a positive relationship. The findings differ from this study in the investment is affected negatively while exchange rates are affected positively. He noted that inflation increase the demand for foreign currencies to stabilize the local currencies which in turn tend to increase the exchange rates. Further, Maina (2010) did a study on the relationship between inflation and Financial Performance of Commercial Banks in Kenya and found that they always hedge themselves and so not very significantly affected even though interest rates are positively affected by inflation. This study clearly show that inflation affect investment hence companies can only invest when inflation is low. Masila (2010) further conducted a study on the relationship between inflation and land prices in Kenya the case of Nairobi and selected environs and noted that inflation causes a rise in land prices. The study deduces that when inflation raises the value for money go down causing prices to go up.

From the findings, it can be observed that inflation affects investment negatively. Any time inflation raises investors will withhold investments in the insurance industries. However, the study deduced that the dummy variables, GDP and money supply positively influence investment hence the conclusion of this study inflation has weak

negative correlation with investment while GDP and money supply have strong and positive correlation with investment. Therefore it will be important for a firm's management to understand the relationship that exists between inflation, GDP, money supply and investment and the direction that they affect the level of investment for effective decision making.

The secondary data in this analysis covered a period of 5 years from 2007 to 2011. The population of study comprised of all insurance companies operating in Kenya during the study period. After the screening process, firms that were not dealing with life bond were not considered hence 11 companies were eliminated from the list. The purpose of the study is to investigate the effect of inflation on investment among insurance companies in Kenya. This study was conducted through the use of a descriptive design. The study used purposive sampling to pick 15 insurance companies authorized to transact life insurance policies of insurance brokers and by criterion did not include those for the period (2007-2011) which was exposed to security challenges in Kenya.

The study found that the regression equation for the period 2007 to 2011 related investment of the companies to their inflation, GDP and money supply. From the same regression model for the five years, the study found out that there were positive factors influencing the investment of insurance companies, which are inflation, GDP and money supply. They either influenced it positively or negatively. The four independent variables that were studied (inflation, GDP and money supply) explain only 63.9% of investment as measured by the adjusted R². The study concludes that inflation have a weak negative but significant influence on the investment among insurance companies in Kenya. The study recommends that the central bank should concentrate on those policies which keep the inflation rate below the first threshold because it may be helpful for the achievement of national economic growth and enhance investment.

5.1 Conclusion

This paper examines the effect of inflation on investment among insurance companies in Kenya. The study concludes that inflation have a weak negative influence on the

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The secondary data in this analysis covered a period of 5 years from 2007 to 2011. The population of study comprised of all insurance companies operating in Kenya during the study period. After the screening process, firms that were not dealing with bid bond were not considered hence 11 companies were eliminated from the. The purpose of the study is to investigate the effect of inflation on investment among insurance companies in Kenya. This study was conducted through the use of a descriptive design. The study used purposeful sampling to pick 35 insurance companies authorized to transact miscellaneous class of insurance business and by extension bid bonds business for the period (2007-2011) which was exposed to sensitivity analysis using OLS regression.

The study found that the regression equations for the period 2007 to 2011 related investment of the companies to their inflation, GDP and money supply. From the above regression models for the five years, the study found out that there were several factors influencing the investment of insurance companies, which are inflation, GDP and money supply. They either influenced it positively or negatively. The four independent variables that were studied (Inflation, GDP and money supply) explain only 65.9 % of investment as represented by the average R^2 . The study concludes that inflation have a weak negative but significant influence on the investment among insurance companies in Kenya. The study recommends that the central bank should concentrate on those policies which keep the inflation rate below the first threshold because it may be helpful for the achievement of robust economic growth and enhance investment.

5.2 Conclusions

This paper examines the effect of inflation on investment among insurance companies in Kenya. The study concludes that inflation have a weak negative influence on the

investment among insurance companies in Kenya. High inflation brings with it less predictable returns on capital purchased and the also the expectation that demand will fall in the future while low inflation will encourage investment and a help businesses develop a long term view.

Inflation reduces real returns to savings which in turn causes an informational friction afflicting the financial system. Inflation also causes uncertainty about future prices, interest rates, and exchange rates, and this in turn increases the risks among potential trade partners, discouraging trade and investment among company.

The study deduced that although the overall relationship between inflation and investment is weak and negative, there are some cases showing positive relationship. Thus, the relationship between inflation and investment remains a controversial. This is shows there are mixed results about the relationship between inflation and investment with both a negative relationship and a positive relationship between inflation and investment. This also point on the existence of a non linear relationship between these two variables and supports the hypothesis that low and stable inflation promotes investment while higher inflations rates have significantly negative effect on investment.

5.3 Recommendations for Policy and Practice

Since the study established that inflation has a significant influence on the investment, central bank should concentrate on those policies which keep the inflation rate below the first threshold because it may be helpful for the achievement of robust economic growth and enhance investment. Low inflation is also helpful for minimizing the uncertainties in the financial market which in turn boost the investment in the country. Monetary policy must be designed to stabilize the prices and curb inflation. Low inflation is also helpful for minimizing the uncertainties in the financial market which in turn boost investment in the country. Better coordination between monetary and fiscal policies is required to achieve both objectives i.e. high and sustainable investment with low inflation. Monetary policy should be most concerned with avoiding protracted periods of temporary uncertainty.

Since the study deduced that inflation generally affects the investment of the insurance companies negatively, the researcher recommends that the companies management should ensure that good corporate policies are implemented by the insurance companies to offset the effect of this macro-economic factor.

The management should also come up with structured solutions and strategies to mitigate the effect of inflation. These include index-based solutions, international diversification, hedging with fixed assets and hedging with derivatives. The industry should relax their investment in shares and stocks during inflation to enable the companies have or determine their optimal mix of portfolio.

Given the high rate of inflation being experienced in Kenya, the Insurance Industry should design cash surrender value insurance products which will provide at least a reasonable partial hedge against inflation.

The study also recommends that insurers must stay vigilant in monitoring inflation. Insurers can reduce their exposure to inflation risk through carefully crafted contract terms, the use of reinsurance and investing in assets that perform well in high-inflation periods.

5.4 Limitations of the Study

There were challenges which were encountered during the study. Some officers from insurance companies that participated in the study were initially reluctant to release information related to and Annual reports making arguments that it was confidential. That reluctance delayed the completion of data collection.

Further, the investment computations may be incomplete. For example, the extent of firms' foreign operations and ownership structure might impact on their investment. We excluded these variables due to data and cost constraints.

Further, the model may not be reliable due to some shortcoming of the regression models. Due to the shortcomings of regression models, other models can be used to explain the various relationships between the variables.

Further, the data was tedious to collect and compute as it was in very raw form. Due to lack of standardized financial statements from various insurance companies which made the data computation even harder.

5.5 Suggestions for Further Research

This paper examines the effect of inflation on investment among insurance companies in Kenya. Because of data unavailability, it was not possible to include all the insurance companies in our sample. Therefore I suggest further research on the effect of inflation on investment among all the insurance companies in Kenya.

The study also recommends that a similar study to be done on other firms in the financial sector such as the banks and Saccos to allow for generalization of the effect of inflation on investment in the Kenya financial sector. This is because different companies have different strategic and investment approaches.

Further studies should also be done on the impact of inflation on the profitability of insurance industry. This is because inflation is one of the major element of the external environment that affect a company performance.

The study also recommends that further studies should be done on the effect of other factors in the external environment such as GDP and interest rate on investment decision in insurance companies. A similar study should also be done whereby the data collection relies on primary data i.e. in-depth questionnaires and interview guide so as to complement this study.

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Appendix I: Insurance Companies Authorized to Transact Bid Bonds

1. APA Insurance Company Ltd
2. Africa Merchant Assurance Company Ltd
3. British American Insurance Company Ltd
4. Cannon Assurance Ltd
5. Chartis Kenya Insurance Co. Ltd
6. Concord Insurance Co. Ltd
7. CIC Insurance Group Ltd
8. Corporate Insurance Co. Ltd
9. Fidelity Shield Insurance Co. Ltd
10. First Assurance Co. Ltd
11. GA Insurance Limited
12. Gateway Insurance Co. Ltd
13. Geminia Insurance Co. Ltd
14. Insurance Company of East Africa Ltd
15. Intra Africa Assurance Co. Ltd
16. Invesco Insurance Co. Ltd
17. Kenindia Assurance Co. Ltd

18. Kenya Orient Insurance Co. Ltd
19. Lion of Kenya Insurance Co. Ltd
20. Madison Insurance Co. Ltd
21. Mayfair Insurance Co. Ltd
22. Mercantile Insurance Co. Ltd
23. Occidental Insurance Co. Ltd
24. Pacis Insurance Co. Ltd
25. Phoenix East Africa Assurance Co. Ltd
26. Real Insurance Co. Ltd
27. Takaful Insurance of Africa Ltd
28. Tausi Assurance Co. Ltd
29. The Monarch Insurance Co. Ltd
30. The Heritage Insurance Co. Ltd
31. The Kenya Alliance Insurance Co. Ltd
32. Trident Insurance Co. Ltd
33. UAP Insurance Co. Ltd
34. Xplico Insurance Co. Ltd
35. Jubilee Insurance Company of Kenya Ltd.

Appendix II: Inflation data for 2007 – 2011

	2007	2008	2009	2010	2011
Jan	2.6	16.9	12.1	9.1	4.7
Feb	3.1	16.3	11.9	5.9	4.1
March	3.3	16.7	10.5	5.3	3.6
April	3.1	17.2	7.8	4.1	4.2
May	2.1	18.2	9.9	2.7	3.9
June	2.7	17.3	6.2	3.2	4.7
July	5.3	18.1	12.8	4.3	4.5
Aug	6.2	15.9	12.1	3.3	3.8
Sep	5.1	11.7	10.5	2.6	5.4
Oct	4.4	13.9	9.9	3.1	9.2
Nov	5.2	16.4	12.4	2.9	13
Dec	9.5	15.2	9.9	2.7	5.5

Appendix III: Money Supply data for 2007 - 2011

	2007	2008	2009	2010	2011
Jan	1072.8	996.1	1003.8	1186.2	1299.4
Feb	667.5	1273.5	1295.5	1080.9	1313.5
March	1050.8	893.2	998.6	1164.2	1396.8
April	746.9	873.6	1011.3	1160.3	1292.9
May	677.7	804.4	942.1	941.4	1264.6
June	604.4	731.1	868.8	1278.1	1391.3
July	613.2	789.9	927.6	2032.7	2153.9
Aug	778.1	904.8	1042.5	1371.5	1492.7
Sep	492.2	618.9	756.6	1025.6	1146.8
Oct	646.6	773.3	911	1060	1259.5
Nov	853.9	980.6	847.4	946.8	1246.3
Dec	528.9	732.9	870.6	1122.3	1251.8

Appendix IV: GDP data for 2007 – 2011

	2007	2008	2009	2010	2011
Jan	7.3	0.9	2.2	4.9	5.4
Feb	6.9	0.9	2.1	5.2	5.2
March	7.4	1.1	2.6	5.1	4.9
April	6.2	1.3	1.9	5.4	4.4
May	7.3	1.4	2.7	5.3	4.3
June	6.6	1.6	2.9	6.1	4.2
July	7.6	1.1	2.6	5.6	3.9
Aug	7.4	1.4	2.4	5.8	4.1
Sep	7.4	1.6	2.6	6.1	3.9
Oct	6.8	1.7	2.8	6.2	4.4
Nov	7.2	1.9	3.2	5.7	4.1
Dec	7.1	2.7	3.5	5.4	4.9