THE EFFECTS OF EXCHANGE RATE MOVEMENTS ON CORPORATE PROFITABILITY OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

FAITH CHEPKOECH LANGAT

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DECLARATION

I declare that this is my original work and has not been submitted for any award of Degree in this university or any other university.

Signature …… Date…..……..

Faith Chepkoech Langat **D61/83966/2016**

This research project report has been presented for examination with my approval as candidate's supervisor.

Signature …… Date…….

Dr. Kisaka Sifunjo

Lecturer Department of Finance & Accounting

School of Business, University of Nairobi

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DEDICATION

I dedicate this research project to my supervisor. Completion of this project was made possible by his guide and expertise.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
CIRP	Covered Interest Rate Parity
CMA	Capital Markets Authority
IMF	International Monetary Fund
INGO	International Non-Governmental Organizations
IRP	Interest Rate Parity
NPV	Net Present Value
NSE	Nairobi Securities Exchange
OCA	Optimal Currency Area
PPP	Purchasing Power Parity
ROA	Return on Assets
UCIRP	Uncovered Interest Rate Parity
USD	United States Dollar
VIF	Variance Inflation Factor

ABSTRACT

Empirical studies have described different results on the kind of association that exists between exchange rate and financial performance. The intent of this study was to identify variables that impact on the level of corporate profitability of firms listed at the NSE and also to find out the level of impact of these variables on corporate profitability. Corporate profitability was the dependent variable of the study and it was measured using ROA (Jensen and Meckling, 1996). The independent variables of the study were interest rate, current account balance and debt. Interest rate was measured using natural logarithm of finance cost (Richardson and Welker, 2001). Current account balance was measured using natural logarithm of foreign gain (Jumani, 2014) and debt was measured using natural logarithm of external borrowings. Data on values of these variables were obtained from annual reports of listed firms at the NSE downloaded from every listed firm website. A mean value of the last five years was calculated for each variable of the study. The study was census in nature which involved the study of all the 65 listed firms at the NSE as at June 2017. The statistical investigations carried out revealed that profitability has positive association with current account balance while interest rate and debt have negative relationship with profitability. These kinds of associations were however noted to be insignificant so as to cause significant positive or adverse changes in level of firm's profitability. The study concluded that corporate profitability was negatively affected by an increase in interest rate and positively affected by an increase in current account balance; also increase in debt was found to negatively affect profitability.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

This chapter provided the definition of key terms that were used in the study. It sought to provide an insight and overview of the study. An overview of the volatility of foreign exchange rate in the market and how it affects corporate profitability was precisely seen in this section. Exchange rate is defined as the price and value of a currency in unit terms of a currency of another country. The market by which buying and selling of different currencies occur is referred to as the foreign exchange market. Corporate profitability is an effective tool designed to give an overview on how a company operates in terms of strategic planning, marketing and financial aspects (Grambovas and McLeay, 2006).

The purchasing power parity, interest rate theory and the theory of International Fischer Effect are the theoretical perspectives that are used to explain the effects of exchange rate volatility on firm's profitability (Bergen, 2010). The context of the study was all the listed firms at the NSE as at June 2017. The recent emergence and development of new capital markets, adoption of more flexible exchange rate systems and the lessening of foreign capital controls have led to an increase in the interest of academics and experts in reviewing and establishing the interactions between the foreign exchange markets and stock and this was the basis by which this study was premised (Rapach and Wohar, 2002).

1.1.1 Exchange Rate Movement

Volatility of foreign exchange rate is defined as the tendency of the foreign exchange rate to change rapidly and unpredictably in the foreign exchange market (Bergen, 2010). Volatility of foreign exchange rate is an important indicator which portrays stability and is also a channel through which the resultant chattels of external shocks are communicated and diffused through in the economy. The international monetary system or otherwise referred to as the money market is characterized by a combination of both fixed exchange rates as well as freely floating managed exchange rates.

There is thus no single theory that is available to forecast and predict exchange rates under all conditions. However, there exists certain basic financial relationship referred to as parity conditions that help to describe movements of exchange rate. The freely floating system of exchange rate is where future spot exchange rates are hypothetically determined by the interaction of differing interest rates, national rates of inflation, discount or forward premium on each currency. All these are factors that help explain the foreign exchange rate movements (Stonehill, 1999).

1.1.2 Corporate Profitability

Fluctuations in foreign exchange rates affect the operating cash flows and the value of the firm through transaction, translation, and economic effects of risk exposure brought about by volatility of foreign exchange rates. Volatility of foreign exchange rate has been a major concern for shareholders, managers, investors and financial analyst ever since the Bretton Woods fixed exchange rate system was abolished in 1971. The system was later replaced by freely floating rates system where the price of currency is determined by

forces of demand and supply of money. Value of the firm refers to the economic measure that reflects the market value of the business that is the value to be allocated to both the debt holders as well as the shareholders of the company. The most accredited method of computing the value of the firm is the net present value (NPV) where the present and future cash flows of the firm are discounted to a present value, (Pandey, 2009).

Volatility of foreign exchange rates could affect a firm in a variety of business models of operation (Choi and Prasad, 1995). For instance, a firm could produce commodities and services locally for domestic sales as well for export sales. A firm could also produce using local as well as imported components of production. A firm could also produce identical products or different products at foreign plants. The last firm described would be a multinational firm such that the firm produces and sells both at home and abroad and uses both domestic and foreign components of production. Therefore, the model of the firm should be comprehensive enough to incorporate all of the above conduits.

1.1.3 Foreign Exchange Rate Volatility and Corporate Profitability

Foreign exchange rate volatility drives foreign currency debt to huge repayments in form of the principal and interests resulting in reduction in aggregate demand which further leads to currency depreciation. Depreciation in turn deteriorates the current account and tightens borrowing constraints across the economy. Economic theory proposes that volatility of foreign exchange rates produces dynamic shifts in securities and stock prices that are direct to importing and exporting firms, multinational firms, firms that import part of their factors of production and affect other firms indirectly. Volatility of exchange rate affects both the costs of imported factors of production as well as the purchase price

of imported finished products, consequently influencing competitors of such firms (Grambovas and McLeay, 2006).

Foreign currency risk exposure related to foreign exchange rates arise when a firm has revenue or expenses, assets or liabilities that are in a currency other than the standard currency of the statement of financial position. These foreign currency risk exposures can also arise even for companies without revenue, expenses, assets or liabilities in a different currency from the currency of the statement of financial position. According to Grambovas and McLeay, (2006); if there exists a prevalent condition such that the foreign exchange rates are extremely volatile, then volatility of exchange rates will result to cash flows of a firm being destabilized significantly. The risks from foreign currency exposures are thus brought about by such destabilization of the cash flows which affect the corporate profitability. It is for this background that this study sought to find out the effects of volatility of exchange rates on firm's corporate profitability in Kenya's listed firms at the NSE.

1.1.4 The Nairobi Securities Exchange

The Nairobi Securities Exchange (NSE) is a market where trade stocks, bonds and other securities are traded. The NSE was voluntarily constituted in 1954 by association of European stockbrokers and registered in 1991 under the companies act. The NSE provides firms with the capacity to source for capital for development projects and expansion through trading of shares and securities to the potential investors and the public. A vital role is played by The NSE plays in the economy of connecting the lenders and borrowers of money together at low costs. The typical ownership individualities at

the NSE are by the individual investors, the government, institutions, foreigners, and other diverse ownership forms (Kobonyo and Ongore, 2011).

There are sixty five companies that are currently listed at the NSE categorized in ten comprehensive sectors of the economic namely automobile and accessories, agriculture, commercial and services, banking, construction and allied, insurance, energy and petroleum, investment, telecommunication and technology, manufacturing and allied. According to Kipchumba and Wasike (2010) each of the listed companies, capital structure is comprehended to override specific activities of the company such as dividend policy and capital budgeting decisions. Accounting procedures correspondingly apply to all the quoted firms and prudence by management is observed by all the listed firms as it is one of the key requirements by Capital Markets Authority (CMA) before a firm is quoted and as long as the firm remains quoted.

1.2 Research Problem

Variable fluctuations of foreign exchange rates in Kenya have been experienced with seasons of rapid depreciation of the Kenya shilling which unfavourably affect the corporate profitability of firms in Kenya. Developing nations including Kenya borrow heavily in foreign currency specifically USD which has resultant low current account balances and macroeconomic externalities in the economy (Korinek, 2010). Strategies and policies aimed at addressing external imbalances are important in ensuring stability of the foreign exchange rates in the long run which ought to be achieved in the quest to achieving the desired foreign exchange rate outcomes.

Even though there are several studies that have been carried out on the exchange rate systems, regimes and the repercussions for management of macroeconomic variables and the management of risks of foreign exchange rates (Abor, 2005), not much has been done on how the effects of foreign exchanges rate movements on corporate profitability of listed firms in Kenya. It is in this framework that this research sets to examine the effect that volatility of foreign exchange rates have on the corporate profitability of the listed firms at the Nairobi Stock Exchange.

Past studies have attempted to establish the type of relationship that exists between foreign exchange rate movements and financial performance. Chepkairor, (1987) conducted a study on an assessment of the impact of foreign exchange rate variations on projects that are partly financed through loans denominated in foreign currency. Kurgat, (1998) did an empirical study of the efficiency of spot market on foreign exchange rate bureaus in Kenya, and (Chiira, 2009) did a survey of risk management practices of foreign exchange rates by oil firms in Kenya. However, there is no evidence of local studies in Kenya that have been conducted on the effects of volatility of foreign exchange rates on a corporate's profitability and particularly on the listed firms at the NSE. It is because of this backdrop that the study sought to find an answer to the question: what are the effects of exchange rate movements on corporate profitability of listed firms at the NSE?

1.3 Research Objective

This study sought to determine the effects of volatility of foreign exchange rates movement on corporate profitability of listed firms at the NSE.

1.4 Value of the Study

The study was useful to various stakeholders in the field of finance among other fields. The government and policy makers for instance were in a position to know the way in which it can reduce its level of foreign public debt by factoring in the volatility of foreign exchange rates in policy making decisions for the country. Investors both local and foreign were to get useful insights which enabled them to specify certain patterns in volatility of exchange rates. This helped them in making rational investment decisions and strategies. Investors benefited in obtaining useful information with regards to risk management and the value of the firm. This gave them an insight in evaluating the most profitable firms to invest their stake in.

Financial analysts and advisors benefited from the knowledge on the patterns and movements of foreign exchange rates, which in turn helped them in the forecasts and predictions of future exchange rate behaviour. This in turn enabled them to offer useful advice to their clients. The World Bank, IMF and other international lending organisations was able to see how volatility of the exchange rates in Kenya has influenced the levels and repayment patterns of foreign public debt. This in turn enabled these monetary organisations to be able to formulate policies that would be favourable for the country.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section provides an overview of what scholars in the field of finance have reported on the topic of exchange rate movements and corporate profitability. The researcher elaborated different theoretical reviews on foreign exchange rate volatility and determinants of foreign exchange rate in this chapter. The empirical studies on the effects of volatility of exchange rates on corporate profitability as well as the conceptual framework and the summary of literature review were portrayed in this section.

In depth literature on theories that relates to exchange rate movements such as the purchasing power theory, interest rate parity and international fisher effect theory were discussed at length in this section. Determinants of foreign exchange rate such as interest rate, current account balance and external debt is seen at length. Empirical literature review that includes both global and local studies on effects of exchange rate movements was also covered in this section. Lastly conceptual framework that explains how determinants of foreign exchange rate affect corporate profitability as well as summary of literature review was discussed in this chapter.

2.1 Theoretical Literature Review

The theoretical literature review assists in establishing the theories that already exist, the relationships between the different theories, the degree that the existing theories have been explored, and in development and formulation of new hypotheses to be tested. There are several theories that are attributed to foreign exchange rates with major focus being theory of purchasing power parity, theory of interest rate and theory of International Fischer Effect.

2.2.1 Theory of Purchasing Power Parity

The theory of purchasing power parity (PPP) is founded on the law of one price. Under this law, the prices in two countries of commodities and services of similar quality should be identical when stated in unit terms of the same currency. However, it is assumed that there are no or minimal transportation costs and that no trade barriers exist. Mishkin (2012) stipulates that under PPP theory the exchange rates between any pair countries should adjust over time with respect to the changes in their corresponding price levels. There are three forms of PPP namely; absolute PPP, relative PPP and ex ante PPP.

Under absolute PPP the equilibrium, the foreign exchange rate between pair countries is obtained majorly by the national price levels. A single market therefore integrates both domestic and foreign market. The balance of international payments and money market are not considered in this form of PPP and hence partial equilibrium theory is demonstrated. The theory of PPP under the absolute form is impractical as it requires preconditions that are strongly impractical (Kanamori et al, 2006).

Relative PPP acknowledges the existence of imperfections in the market and that prices of similar goods could have different prices when stated on the same currency. This form of PPP postulates that the rate of change of the portfolio should be similar to some degree when measured in one currency provided that trade barriers and transportation costs are not changed. According to Mishkin (2012), the percentage change in the actual spot rates for two pair countries is entirely determined by the differences between actual inflation rates of the currencies. These differences between actual inflation rates of the currencies are obtained by the difference of the actual inflation figures for counter currency less base currency.

PPP on the other holds that the percentage change in the spot rate will be determined by the anticipated differences in national rates of inflation. Economies that are anticipated to be susceptible to persistently high rates of inflation should anticipate a depreciation of their currency over time (Mishkin, 2012). Similarly to relative PPP, these differences between actual inflation rates of the currencies is obtained by the difference of the actual inflation figures for counter currency less base currency.

2.2.2 Theory of Interest Parity Rate

This theorem was developed by Keynes in 1930. The law of one price also applies to this theory. The law of one price applies to commodities and services under PPP whereas the securities market applies under IRP. Under this theory, it holds that identical securities for different countries should have a similar price when quoted in the same common currency. This is however irrespective of the prevailing interest rates between the different countries. The exchange rates are adjusted by the forward markets under IPP

such that the resultant arbitrage gains earned from investing in countries with high levels of interest rate are wiped out by the depreciation of the domestic currency.

This theory also has two forms; covered interest rate parity (CIRP) and the uncovered interest rate parity (UCIRP). Under CIRP, a riskless arbitrage relationship will exist a foreign market investment instrument is hedged completely against risks of exchange rates and an identical return should be yielded to the local currency money market investment instrument. Frenkel & Levich (1975) highlighted that CIRP has deviations that could occur due to different reasons mainly; transport costs, liquidity preferences, tax advantages that are political in nature and other political risks.

UCIRP on the other hand holds that the expected return on the unhedged foreign currency investment instrument should be equivalent to the comparable return to the local currency investment currency. Investors however face uncertainty over future prices of security. If new information is considered, a forward exchange rate will be influenced strongly by expectations in the market about the future. Similarly unhedged interest rate parity conditions will hold where there information is uncertain.

2.2.3 Theory of International Fisher Effect

This theory was developed by Irving Fisher, an American economist. The theorem stipulates that nominal interest rates are a function of a premium for expectations of inflation and real interest rates. It suggests that foreign currencies higher interest rates will tend to depreciate due to higher nominal rates of interest which reflect the expected rates of inflation (Madura, 2010). Understandably, there exists a relationship between the

differentials of interest rates and consequent changes in the spot exchange rate in the long run. Considerable deviations however, exist in the short run (Hill, 2004) due a series of different factors that cause fluctuations in exchange rates among them supply and demand forces of exchange rates, problems of balance of payments, rising rates of inflation and interest rates, monetary policies, national income, speculations and expectations (Khalwaty, 2000).

Evidence of substantial deviation in the relationship between differential 0f the rate of inflation and exchange rate were all found by Adler and Dumas (1983), Mishkin (1984), and Abuaf and Jorion (1990). However, Hakkio (1986) established that the relationship between differentials of rates of inflation and exchange rates is not perfect in the long-run, nevertheless he notably recognized the use of differentials of rates of inflation in forecasting long-run exchange rates movements.

According to Fisher (1930), he put forward that the relationship between rates of interest and rates inflation, such that the nominal rate of interest for a particular period should be equivalent to the sum of the real rate of interest as well as expected inflation rate termed as the Fisher Effect. He postulated that the nominal rate of interest could be broken down into two components, an anticipated rate of inflation plus a real rate of inflation. He further claimed a direct relationship between rate of inflation and rates of interest in a perfect world, where real rates of interest are unrelated to the anticipated inflation rate and entirely determined by the real dynamics in an economy, for instance capital productivity time preference of investors.

2.3 Determinants of Foreign Exchange Rates

Otuori (2013) stipulates the determinants of exchange rate fluctuations on corporate profitability as; rates of interest, balance of payment or otherwise referred to as the current account, external debt and rates of inflation.

2.3.1 Rates of Interest

A change in the rate of interest will affect the value of the currency versus USD. A relationship exists between interest rates, inflation rates and foreign exchange rates. An increase in the interest rate will result in appreciation of the country's local currency because high levels of interest rates provide higher rates to the lenders which translates to more foreign capital attraction and consequently a rise in foreign exchange rate. High rates of interest in an economy offer lenders higher returns comparatively to other economies (Dornbusch & Fisher, 2003).

2.3.2 Current Account Balance

The current account of an economy plays a vital role in the determining the rate of foreign exchange such that a rise or an increase in the foreign exchange rate represents current account balance improvement referred to as the appreciation of the shilling. When domestic prices increase on the other hand, the Kenya shilling said to be depreciated Karfakis & Kim (1995).

Trade openness measured as total sum of Kenya's exports and imports provides the real income. Strategies and policies aimed at addressing external imbalances are important in ensuring stability of the foreign exchange rates in the long run which ought to be

achieved in the quest to achieving the desired foreign exchange rate outcomes. When there is an increase in the price of exports by a rate smaller than the increase in the price of imports, the value of the currency decreases with regards to the value of the currency of the trading partner (Solnik, 2000).

2.3.3 External Debt

Firms and corporates are faced with financial constraints limiting their investment decisions and thus resort to external funding through debt. The choice between local currency debt and foreign currency debt is a trade-off between risk and return. More often than not, the foreign exchange rates are over the counter in most emerging economies (Bergen, 2010). Local currency debt insures aggregate volatility but commands interest rate premiums since foreign public debt lenders are averse to emerging market risks.

Investors and borrowers decide on the currency compositions of their liability portfolios by weighing the expected cost of foreign exchange rate volatility against any savings obtainable from the spread of interest rates between the domestic currency and USD. Foreign exchange rate volatility drives foreign currency debt to huge repayments in form of the principal and interests resulting in reduction in aggregate demand which further leads to currency depreciation. Depreciation in turn deteriorates the current account and tightens borrowing constraints across the economy.

2.3.4 Rates of Inflation

A change in the rate of inflation in the market causes a change in the exchange rate of country's currency. An economy with a lower rate of inflation relative to another country will have its local currency appreciate. Similarly, prices of commodities and services increase at a slower rate when the inflation rate of the country is low. A country that is consistently characterized by low levels of inflation exhibits a higher value of its currency whereas a country with levels of inflation reveals depreciation in her currency which is customarily accompanied by high interest levels (Bergen, 2010).

2.4 Empirical Literature Review

Previous studies that have been carried out have dwelled mainly on the role that current accounts plays in determination of exchange rate. This means that an increase in the exchange rate is a representation of an improvement current account balance. While several studies have focused on this formulation, Hooper and Morton (1997) advocated for consideration of portfolio approach with regard to exchange rate relative to price of nominal assets. This approach focuses specifically on the connection between the adjustments of balance of payments in stocks.

Several empirical studies on the purchasing parity have been carried out severally. Results from these studies have revealed the purchasing power parity to be weak. Literature which concentrates on explaining why there are deviations from purchasing power parity exists (Joosip and Izo, 2006). Balassa (2004) argues that deviations from the purchasing power take time to revert back in cases where sectorial productivity shock

exists. Edison and Klovland (1997) used data of exchange rate between Britain and Norway; their study found evidence on existence of productivity differential effect.

Some authors have however pointed out failure of purchasing power parity to limited innovations and developments in econometrics. They have argued that cross sectional data and bilateral exchange rates leads to achievement of marginal rejections (Abuaf and Jorian, 2007). The most recent developments in econometric techniques allows one to test for weaker versions of purchasing power parity but nevertheless limitation of adequate data in development of these studies makes the validity of the purchasing power parity hypothesis to still remain as an on-going controversy.

Devereux and Lane (2003) established an empirical model of bilateral exchange rate volatility. They comprehensively studied the determinants of bilateral exchange trade between countries using optimal currency area (OCA) variables such as the country size, trade dependence and differences in economic shocks. Further, a set of fiscal and monetary variables were included: First is the indicative of internal finance, showing the degree of financial depth within the countries. The other set focused on external financial factors, among them foreign currency debt and liabilities as well as bilateral portfolio debt and liabilities between countries.

Their empirical results established that financial variables played a substantial role in determination of exchange rate volatility together with the typical OCA set of variables. This study elaborated that economic size increased volatility while bilateral trade was

perceived to reduce bilateral exchange rate volatility. The findings were seen to hold for both developing and developed countries. In addition, the results indicated that bilateral exchange rate volatility for developing countries had strong negative effects on the external debt. However, for developed countries, OCA variables were more important than external debt in elucidating bilateral exchange rate volatility.

Fixed price and floating price models of determining exchange rate have been tested severally with mixed results being found. According to monetary model, long-run changes in exchange rate provide a predictive component and in short-run it is dominated by noise that disappears with time (Marks, 1997). Rapach and Wohar (2002) used panel analysis on the data of the United States of America, their study sort to find out support for the application of monetary model. The study did not support the assumption of homogeneity and it observed that since there was lack of homogeneity, then it is not a good basis for dismissing the results for panel data. A similar conclusion was given by Pesarn et al (1999). For the case of developing economies (Chile, Argentina and Israel); study by McNown and Wallace (1999) found fundamental role of the model in the determination of exchange rate. Co-integration between the two fundamentals was largely supported in the three countries under study.

There are several local studies relating to exchange rates and different aspects of profitability of firms in Kenya that have been carried out. Ndung'u (2000) and Ngugi (1999) used modified uncovered interest parity in their studies. They found out that prevailing exchange rate reflects the monetary policy to be adopted and the effect of trade

account is not taken into consideration. Kenya is classified as a developing economy and is characterized by substantial volume of foreign exchange that arises from international trade. Her exchange rate is also determined by short-term capital flows which are attributed to the difference between local interest rate and foreign exchange rates.

A study was conducted by Onyancha (2011) on the impact that volatility of foreign exchange rate has on the corporate profitability of International Non-Governmental Organizations (INGOs). The study was based on three variables; investment capacity, asset holding and liability management. The data collection and analysis established that out of the indicators tested on corporate profitability, there was a substantial indication that financial performance may be affected by gains and losses from foreign exchange transactions and any other factors particularly on management support of INGOs.

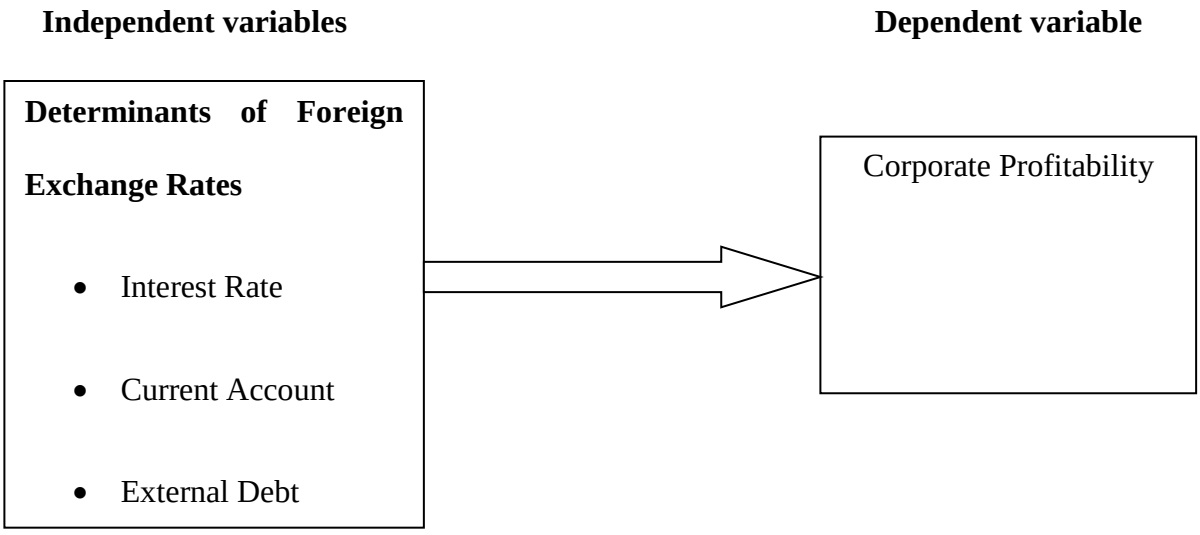
Were et al (2001) in their study attempted to find out the impact of trade account balance on the exchange rate. They used more robust methodology and recent data in their study and they found out that fiscal policies being put in place by governments are not guided by prevailing exchange rates. A case study was done by Diffu (2011) that sought to determine the relationship that exist between risk of foreign exchange rate and the financial performance of the national carrier, Kenya Airways for the period between 2007 to 2010. The study established significant statistically coefficients for the variables that were used in the model. The results of his findings indicated that there exist a negative relationship between the risks of exposure of foreign exchange rates and the financial performance of Kenya Airways.

2.5 Conceptual Framework

It was expected that a negative link between volatility of foreign exchange rates and level of corporate profitability exists. Increase in foreign exchange rates means that the firm will have to incur more in terms of interest rate and external debt thus reducing the level of firm's profitability. Foreign exchange gain translates to a decrease in foreign exchange volatility hence an increase in corporate's profitability.

In summary increase in interest rate, increase in level of external debt as well as a decrease in foreign gain leads to a negative correlation/relationship with corporate profitability. A foreign exchange loss has a negative effect to firm's profitability level hence a negative relationship exists between the two variables.

Figure 2.5.1 Conceptual Model



2.6 Summary of Literature Review

The literature on determinants of foreign exchange rate volatility is vast and no much empirical studies have been carried out in context of African countries despite the crucial

role which volatility of exchange rate plays in developing financial markets for African countries such as Kenya (Ndung'u, 2000). Empirical studies that have been carried out by different scholars have revealed that volatility of exchange rates have implications on corporate profitability. Increase in local prices for local commodities is associated with depreciation of local currency and increase in foreign prices for imports is an indication of deterioration in trade account balance and depreciation of local currency.

Research findings from earlier studies have shown the feedback effects between foreign exchange rate and local price level of commodities exists although its feedback effect is not significant if the effect of trade account balance is considered (Rapach and Wohar, 2002). Previous studies points out at the need for addressing external imbalances and structural predispositions for imports for example through promotion of high-value exports which enables a country to boost her foreign exchange flows relative to her import demands. A concern for disequilibrium or volatility of exchange rate which destabilizes local or domestic prices is reduced by addressing external imbalances in the trade account balances in the long-run.

Few studies in Kenya have attempted to demonstrate the relationship between exchange rate movements and financial performance of the listed firms at NSE. For instance, Masuku (2012) did an investigation of the effects of external debt of Kenya on exchange rate fluctuations of USD to the Kenya shilling between the year 1971 and 2012. The study showed that external debt had positive and substantial effects on exchange rate. Nonetheless, the study did not establish the effects of other determinants of volatility of

foreign exchange such as interest rates and current account; this is the research gap that this study intends to fill. This study therefore sought to establish the kind of relationship that exists between volatility of foreign exchange rate and level of corporate profitability of listed firms at the NSE.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter provides a methodology for which data was collected and analyzed. Research methodology is a process in which the researcher uses tools and procedures to collect and analyze data. Covered in this chapter was the research design, population, procedures and processes for collecting data including the method of analysis; both conceptual and analytical models.

The type of research design employed by the study is given in this section together with the underlying reasons behind its adoption. The size of the population of the study was also provided in this section together with the type of data collected and analyzed by the study. Lastly this section ended by providing the conceptual model and the analytical model of the study together with measurements for each variable of the study.

3.1 Research Design

Research offers a structure for gathering and examination of data. A descriptive research design was applied in this study. Kothari (2005) proposes that a descriptive design is suitable in enabling the researcher to collect information, make a summary of the data, present and interpret it. In this research, the researcher utilized this design to find out the effect of exchange rate movements on the foreign public debt of Kenya.

The explanations for approval of this type of research design were: First, it assists in describing the features of variables of the study and also integrates multiple variables for analysis. Secondly, it is useful in demonstration of proofs about the position and nature of the condition as it exists at the time of study. Lastly, it capitalizes on the dependability of data gathered and examined (Mugenda and Mugenda, 2003)

3.2 Population

Population is a set of elements having similar traits defined by the sampling criteria adopted by the researcher. This involves target and accessible population. Target population constitutes a whole group of people or objects that the researcher seeks to generalize the findings of the study while accessible population is a population that the researcher has reasonable access, it might be a subset of the target population (Mugenda & Mugenda, 2003).

65 listed firms at the NSE as at June 2017 formed part of the target population for purpose of obtaining data on corporate profitability, interest rate, current account balance and debt. All the items in the population were tested. The target population for the study was small and therefore there was no need for sampling.

3.3 Data Collection

The study used secondary data from annual reports of companies listed at the NSE in order to obtain values for the variables of the study. These data were obtained from

websites of companies listed at the NSE. Archival data or secondary data can be obtained from journals and electronic materials (Mugenda and Mugenda, 2003).

Corporate profitability, interest rate, current account balance and external debt were data obtained from annual reports of firms listed at the NSE. Five year average for all variables of the study i.e. from 1st July 2012 to 30th June 2017 was calculated for every listed firm at the NSE. This average value obtained for each study variable was then used for purpose of analysis in order to provide the study findings.

3.4 Data Analysis

Data was gathered, then sorted and coded with the help of Statistical Package for Social Sciences (SPSS). According to Zikmund, Babin and Griffin (2010), data analysis is defined as the use of reasoning to understand the data collected. The objective of data analysis was to determine the consistency of the results obtained and to specify important details of an investigation.

The justification for use of this programme (SPSS) is because it provides an extensive range of important statistical and physical data analysis tools and options. Inferential statistics were utilized for analysis of data. In accordance to Kothari (2005), inferential statistics is a form of analysis with several means of reliability testing through making inferences from data to general conditions through interpretation. Examples include Regression and correlation analysis.

3.5 Conceptual Model

The study was guided by the conceptual model below:

PROF=f (INT, CA, DEBT)

Where:

PROF is the corporate profitability and it is the dependent variable for the study,

INT is the interest rate,

CA is the current account balance,

DEBT is level of external debt.

3.5.1 Analytical Model

The study was guided by the linear function below:

$PROF_x = \alpha + \beta_1 INT_x + \beta_2 CA_x + \beta_3 DEBT_x + \varepsilon$

Where:

$PROF_x$ = the value corporate profitability of company X.

α = Intercept/Constant,

$\beta 1 \ldots\ldots\ldots\ldots \beta 3 =$ Parameters of the model,

INT_x = Value of interest rate of company X.

CA_x = Value of current account balance of company X.

$DEBT_x$ = Value of level of external debt of company X.

ε = Error term for the model.

3.5.2 Measurement and Parameterization of Variables

The regression equation for the study was stated as follows:

$PROF_x = \alpha + \beta_1 INT_x + \beta_2 CA_x + \beta_3 DEBT_x + \varepsilon$

Where:

$PROF_x$ was the dependent variable for the study which represented the value of corporate profitability of company X. It was measured using Return on Assets of company X or using ratio of Profit After tax of company X to Total Assets of company X (Jensen and Meckling, 1996). An increase in foreign exchange rate leads to an increase in the cost of doing business in form of increased cost of interest expense and also increased cost of external debt thereby leading to a decrease in level of corporate profitability; therefore a negative relationship exists between an increase in foreign exchange rate and level of corporate profitability.

INT_x represented the value of interest rate of company X. It was measured using natural logarithm of finance cost of company X (Richardson and Welker, 2001). An increase in foreign exchange rate will lead to increase in cost of borrowing and this will lead to a decline in profitability of a company. This means that a negative relationship exists between an increase in foreign exchange rate and level of firm's profitability.

CA_x represented the value of current account balance of company X. It was measured using natural logarithm of foreign gain of company X (Jumani, 2014). An increase in foreign gain implies a decrease in foreign exchange rate thus a foreign gain of a company translates to an increase in its level of corporate profitability. This indicates that positive relationship exists between foreign gain and level of corporate profitability.

$DEBT_x$ represented the value of level of external debt of company X. It was measured using natural logarithm of cost of external borrowings of company X (Jensen and Meckling, 1996). An increase in foreign exchange rate leads to an escalation in cost of foreign external debt/borrowings thus translating to a decline on the level of firm's profitability. A negative relationship thus subsists between an upturn in level of external debt and level of firm's profitability.

3.5.3 Diagnostic Tests

Test of normality was carried out in order to establish whether the study variables possessed the properties of normal distribution. .Serial correlation test was performed in order to examine the kind of relationship that exists between observations of the same variable over a given period of time. Unit root test as well as co-integration test was performed.

Variance Inflation Factor (VIF) was performed in order to establish whether there was existence of multi-collinearity problem between independent variables. Regression and correlation tests were carried out in order to determine the kind of relationship that exists between changes in foreign exchange rate and level of corporate profitability. The Pearson Correlation Coefficient was used to find out the strength of the relationship that subsists between foreign exchange rates/movements and level of corporate profitability

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This section specifically followed the breakdown design laid out in chapter three. The response rate, diagnostic tests, descriptive statistics, correlation analysis, regression analysis and discussion of research findings was covered in depth in this section. Summary of data analysis was also covered in this section.

Diagnostic tests performed include normality test, serial correlation test, unit root test, co-integration test and multi-collinearity test. Descriptive statistics covered in this section include mean, standard deviation, skewness and kurtosis. Pearson correlation coefficient was used in this section to perform correlation analysis. Discussion of research findings and summary of data analysis is also covered.

4.2 Response Rate

The study covered the entire population of listed companies at the NSE as at June 2017. Data from annual reports of these firms were used for variables of the study. The study analyzed four variables and not all the data from annual reports for all the four variables were available for all the listed firms at the NSE.

Generally on average the data availability for all the variables of the study stood at 80%. This figure was obtained from the number of observations analyzed for each variable of the study. This means that the data availability was satisfactorily adequate for purpose of analysis in order to give reliable results.

4.3 Diagnostic Tests

The study performed the following diagnostic tests: normality test, serial correlation test, unit root test, co-integration test and multi-collinearity test. Table 4.3.1 below shows Kolmogorov – Smirnov normality test performed.

Table 4.3.1 Kolmogorov – Smirnov Normality Test

		Profitability	Interest Rate	Current Account	Debt
Normal Distribution	Location	0.07670	10.32793	10.00592	11.07235
	Scale	0.190656	0.744804	0.621357	0.604878

The cases are unweighted.

According to Kolmogorov – Smirnov probabilities of the study variables should be greater than 0.05 for test to be normally distributed. The results from the above table reveals that the all the study variables have properties of normal distribution because their respective normal distribution probabilities were greater than 0.05.

The serial correlation test performed in the study is shown below in table 4.3.2.

Table 4.3.2 Serial Correlation Test

Variable	Durbin-Watson Serial Correlation Coefficient
Profitability	0.049
Interest Rate	0.096
Current Account	0.072
Debt	0.179

From the above table Durbin-Watson Serial Correlation Coefficient for all the study variables is approximately equal to zero. It means that serial correlation among the study variables didn't exist and each of the observations were independent of each other.

The study also carried out unit root test. A unit root is a stochastic trend in the study variables (Kothari, 2005). A spurious regression was performed in order to determine the value of R squared. This is shown in table 4.6.1. The study found out the R squared was 0.060 in value. The rule of thumb under unit root test in spurious regression provides that stochastic trend exists if the value of R^2 is high. The study found no stochastic trend among the study variables because the value of R^2 was low.

The R squared performed in the study was also used to test for existence of co-integration between the study variables. A higher value of R^2 suggests that the study variables are co-

integrated while a lower value of R^2 suggests that co-integration between the study variables does not exist. In reference to table 4.6.1, the study found a lower value of R^2 of 0.060. This means that co-integration between the variables of the study did not exist.

Multi-collinearity test was performed in order to test for the existence of collinearity between independent variables of the study. Table 4.3.1 below shows the multi-collinearity tests that were performed.

Table 4.3.3 Multi-collinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Interest Rate	0.793	1.262
Current Account	0.850	1.177
Debt	0.787	1.271

From the table above the VIF for independent variables of the study were 1.262, 1.177 and 1.271 for interest rate, current account and debt respectively. These VIF results means that there was no collinearity problem as the maximum value of 10 was not reached (Bryman and Cramer, 2005). The rule of the thumb provides that severity of multi-collinearity between independent variables is seen when the VIF values are greater

or equals to 10. This therefore means that the coefficients of the model were fit for the data.

4.4 Descriptive Statistics

The descriptive statistics for the study variables that were performed includes: mean, standard deviation, skewness and kurtosis. They are summarized in table 4.4.1 below.

Table 4.4.1 Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Profitability	59	.07670	.190656	2.852	.311	15.285	.613
Interest Rate	59	10.32793	1.744804	.240	.311	-.822	.613
Current Account	42	10.00592	1.621357	.032	.365	-1.204	.717
Debt	59	11.07235	1.604878	-.269	.311	-1.029	.613
Valid N (listwise)	42						

From the table above the mean value for corporate profitability of listed companies at the NSE was 0.0767. This means that on average listed firms at the NSE as at June 2017 ROA as a measure of their profitability stands at 7.67%. The mean values for interest rate, current account and debt was 10.33, 10.01 and 11.07 respectively.

The standard deviation values of profitability, interest rate, current account balance and debt was 0.191, 1.74, 1.62 and 1.60 respectively. It means that the deviation from respective mean values of the study variables was very low. Skewness results of the variables of the study revealed that data values for profitability, interest rate and current account balance were positively skewed from their mean values. Data values for debt were found to be negatively skewed from its mean value. Kurtosis results for the study variables revealed that data values for profitability was positively centered to its mean value while data values for interest rate, current account balance and debt respectively were negatively centered to their mean values.

4.5 Correlation Analysis

In order to study the kind of relationship that exists between corporate profitability and the determinants of exchange rate volatility (interest rate, current account balance and debt); the Pearson Correlation Coefficient test was carried out. This is presented in table 4.5.1 below.

Table 4.5.1 Correlation Analysis

		Profitability	Interest Rate	Current Account	Debt
Profitability	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	59			
Interest Rate	Pearson Correlation	-.008	1		
	Sig. (2-tailed)	.004			
	N	59	59		
Current Account	Pearson Correlation	.078	.020*	1	
	Sig. (2-tailed)	.002	.039		.
	N	42	42	42	
Debt	Pearson Correlation	-.001	.038**	.031*	1
	Sig. (2-tailed)	.021	.000	.033	
	N	59	59	42	59
*. Correlation is significant at the 0.05 level (2-tailed).					
**. Correlation is significant at the 0.01 level (2-tailed).					

From the above table, there exists a very weak negative association of -0.008 between profitability and interest rate. This means that an increase in interest rate translates to an insignificant decrease in firm's level of profitability. The current account balance and debt had a Pearson Correlation Coefficients of 0.078 and -0.001 respectively. This means that there was existence of very weak positive relationship between profitability and current account balance and existence of very weak negative association between profitability and debt.

Collinearity between independent variables of the study was not found to exist. Collinearity between independent variables exists when Pearson Correlation Coefficient between independent variables reaches a maximum value of 0.80 (Bryman and Cramer, 2005). From the results of the study as shown in table 4.5.1 above; correlation between interest rate and current account was 0.020, between interest rate and debt was 0.038 and between current account and debt is 0.031. This means that an increase or a decrease in one predictor variable does not lead to an increase or a decrease in the other predictor variables.

4.6 Effect of Exchange Rate on Corporate Profitability

The actual results of the study are shown in tables 4.6.1, 4.6.2 and 4.6.3 below.

Table 4.6.1 Results of Model's Goodness of Fit

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.245	.060	0.058	.197105	.060	.807	3	38	.001

a. Predictors: (Constant), Debt, Current Account, Interest Rate

Table 4.6.2 Results of ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.178	3	.059	.807	.001
	Residual	1.476	38	.039		
	Total	1.570	41			

a. Dependent Variable: Profitability

b. Predictors: (Constant), Debt, Current Account, Interest Rate

From table 4.6.1 R value was 0.245; this means that the correlation between predicted values and observed values of profitability was 0.245. R^2 value was 0.060 which means that the regression model explains 6% variation in level of corporate profitability of listed firms at the NSE was caused by changes in determinants of exchange rate such as interest rate, current account balance and debt. The adjusted R^2 value was 0.058 which means that if predictors in the model were increased; the value of R^2 would be 0.058.

The value of R square change in change statistics was 0.06 which means that if additional control variables were added to the model R^2 would still be 0.060 and F statistic change value would be 0.807 with 0.01 significance F change. This signifies that the model using predictor variables did a good job of predicting the outcome variable which was an indication of existence of significant association between the set of predictors and dependent variable. Results of ANOVA from table 4.6.2 revealed that the sum of squares for the regression model was 0.178 with 3 degrees of freedom, mean square of 0.059 with 0.001 significance.

Table 4.6.3 Estimated Model

Model	Unstandardized Coefficients		Standardized Coefficients	t Values	P Values
	B	Std. Error	Beta		
(Constant)	.384	.175		1.706	
Interest	-.017	.021	-.137	-.776	.004

Rate					
Current Account	0.002	.021	.019	.111	.002
Debt	-.021	.023	-.162	-.912	.021

The final regression model for the study derived model coefficients shown in table 4.6.3 above was as follows:

$PROF_X = 0.384 - 0.017INT_X + 0.002CA_X - 0.021DEBT_X + 0.197105$

4.7 Discussion of Research Findings

The study found out that there exist a very weak negative association between profitability and interest rate; this is evident by -0.008 Pearson Correlation Coefficient of these two variables. It means that volatility or changes in interest rate has negative effects on firm's profitability. Consequently corporate's profit level is negatively affected by an increase in rate of interest and at the same time firm's profitability can merely increase because of a decrease in interest rate. This finding supports the study by Mishkin (2012) where his study results upheld the preposition of the theory of Purchasing power parity which holds that in an economy where same functional currency is being used for transactional purposes; changes in interest rate have a negative bearing on profitability of corporations because changes in interest rate as a result of changes in exchange rate is consequential because of the use of one functional currency by all the firms in an economy.

Study results revealed the existence of very weak positive relationship of 0.078 between profitability and current account balance. The current account balance was measured using natural logarithm of foreign gain. Therefore the study results revealed that when a firm realizes more in terms of foreign exchange gain then this have a positive bearing effect on its level of profitability. This type of relationship that exists between profitability and current account balance upholds the preposition of the theory of international fisher effect which was supported by empirical studies such as (Hill, 2004; Khalwaty, 2000 and Madura, 2010).

Results of the study further revealed that a very weak negative relationship exists between profitability and debt. Debt was measured using natural logarithm of external borrowings. This type of association is explained by the fact that when debt in firm's capital structure occupies a bigger proportion then the firm will incur a lot of costs in terms of interest expense. This will mean that firm's expenses will increase as a result of increased cost of debt thus having a negative effect on firm's level of profitability.

4.8 Summary of Data Analysis

A very weak negative association between profitability and interest rate was found. This translates to the fact that changes or volatility in exchange rate has a negative effect on firm's profitability level. Also it means that corporate's profit level is negatively affected by an increase in the interest rate. Existence of a very weak positive relationship between profitability and current account balance was revealed by the study. This means that when a firm realizes more in terms of foreign exchange gain, a positive effect is seen in terms of firm's increase in profitability level during that particular period.

Furthermore, the study revealed the existence of a very weak negative association between profitability and debt. This means that a huge proportion of debt in a firm's capital structure leads the firm to incur much in terms of finance costs and debt repayment. As a result firm's profits are diluted hence reducing on corporate profitability. In conclusion an increase in interest rate, reduction in current account balance and an increase in firm's external debt level impair corporate profitability level.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section looks at summary of study outcomes; conclusion of the research, a recommendation in line with the study findings and limitations of the research carried out. It ends by giving more expanses in exchange rate movement that needs more investigation.

A highlight of important findings of the study is provided in terms of summary of findings. The conclusion part provides the results which the study aimed to achieve. Recommendations for policy provide useful insights to policy makers on effects of foreign exchange movements on corporate profitability. Limitation of the study gives weaknesses that may compromise reliability of the study findings and recommendations for further research provides suggestions on fields in exchange rate movement that requires further research.

5.2 Summary of Findings

Findings of the research revealed that there subsists a very weak negative relationship amid profitability and interest rate. It means that instability or variations in interest rate have insubstantial negative results on firm's level of profitability. Subsequently corporate's profit level is not adversely affected by an escalation in interest rate and similarly firm's profitability cannot simply increase by significant level because of a

reduction in interest rate. This verdict supports the study by Mishkin (2012) where his study outcomes supported the preposition of the theory of purchasing power parity.

From this kind of relationship that exists between profitability and interest rate, it can be recognized that negative volatility in rate of interest affect profitability level of a company. Finance managers for corporations should therefore deliberate more on other financial matters that will maximum shareholders' value since adverse variations in interest rate is insignificant in decreasing the level of profitability as deduced by the study results. In summary adverse or favourable changes in interest rate have negligible negative influence on firm's level of profitability.

Results of the study also revealed the existence of insignificant positive relationship between profitability and current account balance. When current account balance of a firm increases it points to an insignificant growth in firm's level of profitability. Even though this growth in firm's level of profitability brought about by favourable changes in firm's current account balance is negligible in short-run, in the long-run it can contribute to substantial rise in shareholders' value if current account balance remains favourable for a long period of time.

However, it should be noted that a decline in firm's current account balance translates to insignificant decline in firm's profitability. Even though this adverse effect may not be consequential in the short period, in the long period the same can have adverse effects on firm's value.

The study results further revealed that a very weak adverse association exists between profitability and debt. This type of relationship is described by the fact that when debt in

firm's capital structure takes a higher proportion then the firm will incur a lot of costs in terms of finance cost. This will mean that firm's expenses will rise as a result of increased cost of debt thus having a detrimental result on firm's level of profitability.

The study findings shows that firms listed at the NSE have debt taking a bigger proportion in their capital structures. This is evident from the negative association that profitability have with debt. Though this negative association has minimal effects as a result of the magnitude of its coefficient; it is advisable that debt as part of capital structure of a firm be kept at low levels so that in the long-run firm value can be maximized through increased profitability.

5.3 Conclusion

The objective of the study was to determine the effects of volatility of foreign exchange rates movement on corporate profitability of listed firms at the NSE. For this objective to be achieved, a five year average as done for all the study variables; data relating to these variables was obtained from annual reports of listed firms at the NSE. Descriptive statistics such as mean, standard deviation skewness and kurtosis were performed. Also correlation and regression analysis for the study data was carried out with the aid of SPSS version 24. Results of the study have been summarized above and this sub section will provide implications of the study results.

Interest rate volatility as a determinant of exchange rate has insignificant adverse or unfavorable effect on profitability of a firm. This finding proves that escalation of interest rate leads to an increase in interest expense and as such interest expense or finance cost

takes a very small proportion of firm's overall expenses. This means that given a small percentage that interest or finance cost takes in firm's overall expenditure structure, changes in interest rates leads to invisible decline in firm's profitability level.

The positive relationship that exists between profitability and current account balance implies that firms needs to increase on their foreign exchange gains from their foreign operations. The study found this type of relationship to exist because most firms listed at the NSE reported more foreign exchange gains in their financial statements. Firms should therefore concentrate on increasing the efficiency and competitiveness of their foreign operations in order to report favourable foreign exchange gains. Increased foreign exchange gain will translate to positive changes in firm's profitability index hence maximization of wealth which is the ultimate goal of finance function for all the firms.

Firms should also lower their external debt proportion in their capital structures because a negative relationship between profitability level and debt level exist as proved by the study. When debt is heavily employed to finance long term operations of a firm, profitability level of that firm will be impaired because finance cost in terms of repayment of debt will take a substantial portion of firm's total expenses hence reducing its profitability. It is therefore advisable that finance managers strike a balance between proportion of debt and equity in firm's capital structure so that the advantages of the two sources of capital can accrue to the firm.

5.4 Recommendations for Policy

Results of the study have revealed that determinants of foreign exchange rate volatility such as interest rate and debt have an insignificant negative association with profitability. This means that adverse changes in interest rate and debt will not cause a noticeable negative effect on firm's profitability in the short-run. However in the long-run these adverse changes in the determinants of foreign exchange rate volatility will accumulate substantial negative effects that compromise on the objective of wealth maximization by the firm.

Firms should gear on increasing the gains that they get from their foreign operations. If measures are put in place to achieve this objective; foreign gains will increase resulting to an increase in firm's level of profitability hence achievement of the wealth maximization objective by the firm in the long-run. Finance managers should also make sound decisions on composition of their firms' capital structures. Debt should not occupy a bigger proportion of firm's capital structure simply because of its tax shield advantage; as proved by the study increased debt levels have an adverse effect on firm's profitability. Consideration for equity occupying a substantial share of firm's capital structure is thus advised.

5.5 Limitations of the Study

The main limitation of the study was the use of historical data. The study used historical data from annual reports for its study variables. Historical or archival data is a highly

limiting source of data because its data is past and not present and therefore its ability to give a reflection of the current situation has been put to question by many scholars.

The constraint of unavailable data for some few listed firms at the NSE was another limitation of the study. The study was census in nature but data for some variables of the study was unavailable. To some little extent, the study results may not accurately represent the targeted findings of the entire population.

5.6 Recommendations for Further Research

The study found existence of insufficient negative relationship between profitability and interest rate. Practically it is expected that increased interest rate should significantly affect profitability but this was not the case with the study findings. The researcher is therefore suggesting further investigation behind existence of this very weak negative association between profitability and interest rate.

The study investigated the effects of foreign exchange rate movements on corporate profitability. Results of study revealed existence of very weak negative relationship between corporate profitability and the determinants of exchange rate. The researcher is recommending further research on the negative effects of adverse changes in determinants of exchange rate on firm's profitability.

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APPENDICES

Appendix I: Listed Companies at the NSE

Listed Companies at the NSE

1. Eaagads Ltd
2. Kakuzi Ltd
3. Kapchorua Tea Co. Ltd
4. The Limuru Tea Co. Ltd
5. Sasini Ltd
6. Williamson Tea Kenya Ltd
7. Car & General (K) Ltd
8. Marshalls (E.A.) Ltd
9. Sameer Africa Ltd
10. Barclays Bank of Kenya Ltd
11. CFC Stanbic of Kenya Holdings Ltd
12. Diamond Trust Bank Kenya Ltd
13. Equity Group Holdings Ltd
14. Housing Finance Group Ltd
15. I&M Holdings Ltd
16. KCB Group Ltd Ord
17. National Bank of Kenya Ltd
18. NIC Bank Ltd
19. Standard Chartered Bank Kenya Ltd
20. The Co-operative Bank of Kenya Ltd
21. Atlas African Industries Ltd
22. Express Kenya Ltd
23. Hutchings Biemer Ltd
24. Kenya Airways Ltd
25. Longhorn Publishers Ltd
26. Nairobi Business Ventures Ltd
27. Nation Media Group Ltd
28. Standard Group Ltd
29. TPS Eastern Africa Ltd

30. Uchumi Supermarket Ltd
31. WPP Scangroup Ltd
32. ARM Cement Ltd
33. Bamburi Cement Ltd
34. Crown Paints Kenya Ltd
35. E.A.Cables Ltd
36. E.A.Portland Cement Co. Ltd
37. KenGen Co. Ltd
38. KenolKobil Ltd
39. Kenya Power & Lighting Co Ltd
40. Total Kenya Ltd
41. Umeme Ltd
42. Britam Holdings Ltd
43. CIC Insurance Group Ltd
44. Jubilee Holdings Ltd
45. Kenya Re Insurance Corporation Ltd
46. Liberty Kenya Holdings Ltd
47. Pan Africa Insurance Holdings Ltd
48. Centum Investment Co Ltd
49. Home Afrika Ltd
50. Kurwitu Ventures Ltd
51. Olympia Capital Holdings Ltd
52. Trans-Century Ltd
53. Nairobi Securities Exchange Ltd
54. A.Baumann & Co Ltd
55. B.O.C Kenya Ltd
56. British American Tobacco Kenya Ltd
57. Carbacid Investments Ltd
58. East African Breweries Ltd
59. Eveready East Africa Ltd
60. Flame Tree Group Holdings Ltd
61. Kenya Orchards Ltd
62. Mumias Sugar Co. Ltd

63. Unga Group Ltd
64. Safaricom Ltd
65. Stanlib Fahari I-Reit.

Appendix II: Raw Data

PAT Shs. "000"	TA Shs. "000"	FC Shs. "000"	FG Shs. "000"	EB Shs. "000"
21850	573356	19027	8000	11350
165028	3570362	73500	96317	129610
234322	2329151	48500	25745	153256
28513	322269	9000	-	14776
158407	9054366	6631	--	175491
740721	4808120	19825	10742	43772
315790	6901403	213287	7714	94869
-110029	294564	3400	-	11964
-15000	2492000	50000	-	543000
8387	225844	3337	2042	2117
5687	180999	3181	--	6513
5231	166520	6030	1223	5760
17327	428062	9249	5752	42895
11196969	10025858	4468	3780	6783
5619	154163	5835	-	14328
16848	490338	11527	4150	12735
-1153	125440	5851	564000	30000
3237	121063	4374		3628
6342	233965	5007	-	5492
11706	339550	13587	5367	19271
-77352	477922	14159	84348	297714
-25743	141011	4737	5192	104175
67239	747531	776000	12029	9600
2222.7	9105.6	8300	118800	38100
326083	4355614	106198		530021

274419	10412489	182971	15390	108449
364316	6918847	64640	124283	93574
478672	12468479	50000	47213	128373
1493393	36912580	191876	2047	7655
3903	40991	76000	253000	309000
19715	3852814	87888	3257	264104
187198	6809265	51264	3568	369684
-	-	-	-	-
11517327	342519995	3010	2270	117039
2014974	17377103	88340	-	466243
7431957	275493150	4964	2819	43000
1615003	34225035	39428	149186	4069
105857	1774869	53063	8424	477160
2497878	21439672	350290	169566	200000
1136604	24920235	650000	186365	506803
3121093	82378010	34861	-	137368
3137172	35954134	489964	106720	209768
416460	20281921	100000	-	584526
16604	441392	1160	19551	12580
4866921	72340320	669463	-	99826
47774671	771902832	12577	109029	72323
-815416	107499300	1145	-	12788
45043	1576337	27483	11099	68591
-2422574	11157217	791229	111749	576073
320041	897037	14290	62000	105072
148600	2320956	12797	13783	606850
4976256	12080481	533546	-	845084
393863	2968727	74121	21296	108818
9574905	42009009	40743	84942	489862
-77710	1511665	104082	75929	34912
178848	730229	19838	40985	51251
28915648	62297478	197581	-	323341
-2706595	23563086	601397	-	52455

348195	6410259	10591	139283	11745
31871303	104767293	13477	17725	101492

Key

PAT Profit After Tax

TA Total Assets

FC Finance Cost

FG Foreign Gain

EB External Borrowing

Appendix III: Data Used For Analysis

PROFITABILITY	INTEREST RATE	CURRENT ACCOUNT	DEBT
0.038	9.854	8.987	9.337
0.046	11.205	11.475	11.772
0.101	10.789	10.156	11.940
0.088	9.105	-	9.601
0.017	8.800	-	12.075
0.154	9.895	9.282	10.687
0.046	12.270	8.951	11.460
-0.374	8.132	-	9.390
-0.006	10.820	-	13.205
0.037	8.113	7.622	7.658
0.031	8.065	-	8.782
0.031	8.705	7.109	8.659
0.040	9.132	8.657	10.667
1.117	8.405	8.237	8.822
0.036	8.672	-	9.570
0.034	9.352	8.331	9.452
-0.009	8.674	13.243	10.309
0.027	8.383	-	8.196
0.027	8.519	-	8.611

0.034	9.517	8.588	9.866
-0.162	9.558	11.343	12.604
-	-	-	-
-0.183	8.463	8.555	11.554
0.090	13.562	9.395	9.170
-	-	-	-
0.244	9.024	11.685	10.548
0.075	11.573	-	13.181
0.026	12.117	9.641	11.594
0.053	11.077	11.730	11.447
0.038	10.820	10.762	11.763
0.040	12.165	7.624	8.943
0.095	11.238	12.441	12.641
0.005	11.384	8.089	12.484
0.027	10.845	8.180	12.820
-	-	-	-
0.034	8.010	7.728	11.670
0.116	11.389	-	13.052
0.027	8.510	7.944	10.669
0.047	10.582	11.913	8.311
0.060	10.879	9.039	13.076
0.117	12.767	12.041	12.206
0.046	13.385	12.135	13.136
0.038	10.459	-	11.830
0.087	13.102	11.578	12.254
0.021	11.513	-	13.279
0.038	7.056	9.881	9.440
0.067	13.414	-	11.511
0.062	9.440	11.599	11.189
-0.008	7.043	-	9.456
0.029	10.221	9.315	11.136
-0.217	13.581	11.624	13.264
0.357	9.567	11.035	11.562

-	-	-	-
0.064	9.457	9.531	13.316
0.412	13.187	-	13.647
0.133	11.213	9.966	11.597
0.228	10.615	11.350	13.102
-0.051	11.553	11.238	10.461
0.245	9.895	10.621	10.844
0.464	12.194	-	12.686
-0.115	13.307	-	10.868
0.054	9.268	11.844	9.371
0.304	9.509	9.783	11.528
-	-	-	-