

**THE EFFECT OF FOREIGN EXCHANGE RATE FLUCTUATION ON THE
FINANCIAL PERFORMANCE OF LISTED COMPANIES IN KENYA**

By,

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DECLARATION

I declare that this Research project is my original work and has not been submitted to any other University for examination.

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This project has been submitted for examination with my approval of;

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DEDICATION

To

My dear loving wife

Lena Nabea

(This would not have been a success except for your unfailing love)

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First and foremost, I would like to thank my supervisor Mr Barasa and Moderator Mr Ondigo for their most support and encouragement. They kindly read my paper and offered invaluable detailed advices on grammar, organization, and the theme of the paper.

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ABSTRACT

This study developed a model of foreign exchange exposure dependent on three variables, the firm's imports, exports and their effect on profits formulating the problem statement of the effects (if any) that variations in the exchange rate has in the financial performance of the selected listed companies in the Nairobi Stock Exchange for the period covering years 2001 to 2010. The study is to find out whether foreign exchange exposure is minimized where firms have been able to match their foreign currency revenues and costs leaving them with little net exposure.

The research design was descriptive which involved the use of both qualitative and quantitative data. The sample size constituted of 38 firms except for financial and investment but the results of 32 firms were analysed after eliminating spoilt and inconsistent questionnaires. The research utilized questionnaires for data collection comprising of structured questions.

In analyzing the responses, the Microsoft Excel Spreadsheet tool was used to calculate descriptive statistics and the Statistical Package for Social Sciences (SPSS) was also used. This generated descriptive statistics such as percentages, frequency distribution, measures of central tendency and graphical expressions.

From the findings the study found that listed firms use the income statement and the owner's equity account to record foreign exchange differences. The study concluded that unrealized foreign exchange gains/losses had an effect on the Net Income of listed companies as it was posted to either income statement or owners' equity. The study also found that there had been significant percentage growth in imports and exports for firms listed in the Nairobi Securities Exchange. The study further concluded that the use of foreign exchange has an effect on import costs and accounts payables, export revenues and accounts receivables with the net effect on the Net Income of the companies.

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LIST OF ABBREVIATIONS

CPI	Consumer Price Index
CMA	Capital Markets Authority
FDI	Foreign Direct Investments
FX	Foreign Exchange
GDP	Gross Domestic Product
IAS	International Accounting Standards
KSH	Kenya Shillings
MN	Multi Nationals
MNE	Multi National Enterprises
NSE	Nairobi Securities Exchange
PPP	Purchasing power parity
SPSS	Statistical Package for Social Sciences
US	United States

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

A multinational firm in its normal, day to day conduct of business becomes vulnerable to potential gains and losses due to changes in the values of its assets and liabilities that are denominated in foreign currencies. Exporting, importing, and investing abroad expose the firm to foreign exchange risks. Under the 1944 Bretton Woods Agreement, Central Bank interventions in foreign currency markets were frequent, with relatively minor changes in exchange rates. Managers then could afford to ignore foreign exchange exposure. However, with the demise of the Agreement in 1973, exchange rates for major currencies have fluctuated freely, sometimes wildly. These currency fluctuations constantly change the values of foreign currency assets and liabilities, thereby creating foreign exchange risks. Managing these foreign exchange risks now constitutes one of the most difficult and persistent problems for financial managers of multinational firms (Mathur 1982)

Eugene (1999) studied globalization of business activities by looking at the percentage of overseas profits for well known corporations in America. Studies centered on the percentage of revenue originating from overseas and the corresponding costs thereon. On average most of the company he conducted research on showed more than half dependency on foreign markets. From this he concluded that American companies are really international concern because amongst the ten companies generally greatly depends on overseas market. He further argues that for a company to effectively competes with others it must produce and sell globally. It is this globalization of business activities that expose a firm to multiple currencies and hence exchange rate fluctuation risks.

Foreign exchange market is undoubtedly to be the world's largest financial market. Stephen et al (1998). They define a financial market as where one country's currency is exchanged for another's. Not all currencies are traded in this financial market but few common ones. They further explain that this market is an over the counter market

thus it is not a single location where traders get together to do such transactions. Major participants are commercial and investment banks around the world. The price of a country's currency is determined by market forces existing within a day and thus the fluctuation of the exchange rate.

Stephen et al (1998) introduced the concept of foreign rate exchange fluctuations as appreciation or depreciation of one currency against the other and appreciation or strengthening of a currency as a rise in its value against other currencies. Depreciation is thus a fall in value of one currency against other currencies. This appreciation and depreciation of a currency is what they term as foreign rate exchange fluctuations. It is this changes in exchange rate that give rise to undesirable effects on company's foreign operations.

Kothari (1990) defined a case study as a very popular form of qualitative analysis and involves a careful and complete observation of a social unit, be that unit a person, a family an institution, cultural group or even the entire community. It is a method of study in-depth rather than breadth. The advantage of using a case study including an in-depth understanding of the behaviour pattern of the concerned unit, facilitating intensive study of the concerned unit which is not possible with different methods and possibility of obtaining the inside facts from the experienced employees. In addition the use of the case study method enriches generalized knowledge and makes it possible for the researcher to use more methods depending upon the prevalent circumstance e.g. in depth interviews and questionnaires.

1.1.1 Foreign Exchange Rate Fluctuation

Thomas (2006) found that since the early 1970s, foreign rate exchange system had been a floating one in most countries. The findings were that such nations permitted exchange rates to change in the market place from day to day as per market forces. Before this eventuality central banks of nations intervened in determinations of the exchange rate. This meant that international transactions were never subjected to exchange rate fluctuations risk and as such international transactions were less dynamic. He further stated that since the collapse of this exchange rate system it is markets forces that determine the exchange rate of a nation's currency. Thus such rates keep on fluctuating as per market forces and therefore exposing international transactions to exchange fluctuation risks.

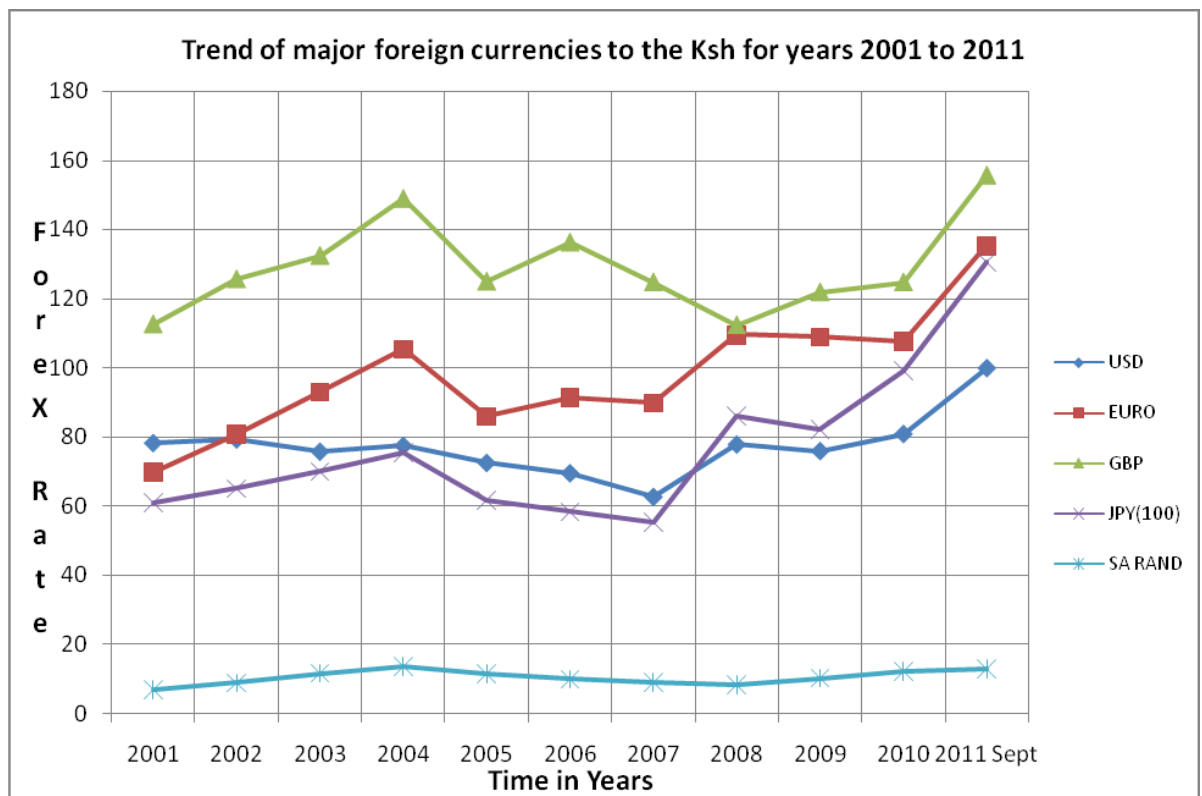
Foreign currency exposures arise whenever a company has an income or expenditure or an asset or liability in a currency other than that of the balance-sheet currency. Indeed exposures can arise even for companies with no income, expenditure, asset or liability in a currency different from the balance-sheet currency. When there is a condition prevalent where the exchange rates become extremely volatile the exchange rate movements destabilize the cash flows of a business significantly. The table below illustrates the movement of the USD, Euro, GBP, JPY and SA Rand to the Kenyan shilling exchange rate from January 2001 to August 2011

Table 1: Major foreign currencies mean exchange rates to the Ksh years 2001 to 2011

Time (Years)	USD	EURO	GBP	JPY(100)	ZAR
2001	78.14	69.72	112.61	61.00	6.80
2002	79.18	80.77	125.67	65.00	8.86
2003	75.62	92.97	132.47	70.00	11.61
2004	77.34	105.33	149.00	75.38	13.67
2005	72.37	85.91	124.98	61.68	11.38
2006	69.40	91.39	136.32	58.35	9.94
2007	62.54	89.85	124.78	55.24	9.01
2008	77.71	109.48	112.35	86.07	8.27
2009	75.82	108.94	121.89	82.04	10.22
2010	80.75	107.63	124.77	99.12	12.20
2011(Sept)	99.83	135.38	155.78	130.54	12.85

Data source: <http://www.gocurrency.com> (2001 to 2003) and Central bank of Kenya website www.centralbank.go.ke/ (2004 to 2011).

Figure 1: Graph of mean exchange rate of major currencies years 2001 to 2011



The figure above illustrates the movement of the USD, Euro, GBP, JPY and SA Rand to the Kenyan shilling exchange rate from January 2001 to September 2011 and it is clearly evident that the level of exposure by foreign exchange rate fluctuations is significantly high.

Movements in exchange rates tend to be influenced by two important variables namely the relative prices of goods in two countries and relative interest rates. The Purchasing Power Parity (PPP) theorem explains the relationship between relative prices of goods and exchange rates. The PPP theorem propounds that under a floating exchange regime, a relative change in purchasing power parity for any pair of currency calculated as a price ratio of traded goods would tend to be approximated by a change in the equilibrium rate of exchange between these two currencies (Shapiro and Rutenberg, 1976).

1.1.2 Financial Performance

Each business day seems to bring more international business transactions, generated by an ever-growing number of enterprises from an ever-increasing number of countries. Enterprises in developing nations are vying for their share of world commerce. However, the economies of these developing nations can be especially fragile, while economies of mature nations periodically sputter and suffer recessions. Asia, Latin America, and Eastern Europe have all endured economic turmoil in the past decade, while such regions as the Middle East have been volatile for several decades, principally because of the wide swings in oil prices.

Currency exchange rates can be just as volatile, and this clearly poses risks to any enterprise conducting business in foreign markets and any investor holding either stock in a foreign-based company or an interest in a mutual fund that invests in foreign companies. The effects on a company's earnings, cash flow, and balance sheet can be significant. The main exchange rate risk to an operation or investment is that any profits realized will be partially reduced or wiped out altogether when they are exchanged for the domestic currency, be it US dollars, pounds sterling, the euro, or Japanese yen. More often, exchange rate risk will affect a company's price competitiveness in a product or service also offered by a competitor whose costs are incurred in a foreign currency. If the competitor's currency weakens, its relative competitive position improves because its costs decline, enabling the competitor to reduce its price and attract a larger share of a market.

1.1.3 Effects of FX rate fluctuations of financial performance

Currency fluctuations enter directly into the import price, producer price and Consumer Price Index (CPI). Exchange rate movements are transmitted to domestic prices through three channels. First is through prices of imported consumption goods, exchange rate movement affects domestic prices directly. Second is through prices of imported intermediate goods, exchange rate movement affects production cost of domestically produced goods. Third is through prices of domestic goods priced in foreign currency. The extent to which those changes are reflected in the consumer price index (CPI) depends on the share of imports in the consumption basket. If depreciation results in higher prices for imported goods, demand for domestic goods

that compete with imports will increase. As demand rises, there will be upward pressure on domestic prices and nominal wages. Rising wages will exert further upward pressure on domestic prices (Bailliu and Bouakez, 2004).

Pass-through consists of two stages. In the first stage, changes in exchange rates are transmitted into the prices of imported goods (McCarthy, 1999). A depreciation of a country's domestic currency is typically expected to result in an increase in import prices. If the effect of the depreciation is fully reflected in import prices, then pass-through is said to be full or complete. If only a portion of the depreciation is reflected in import prices, then pass-through is described as partial or incomplete. In the second stage of pass-through, change in import prices are transmitted to consumer prices.

Exchange rate fluctuations may have implications on the general price level in any economy depending on the share of imported goods in overall consumption (imports penetration ratio). Open economy macroeconomics theory postulates that a small open economy is an international price taker. Therefore in every aspect of trade in exports, the government will make deliberate efforts to encourage exports at all costs. In this pursuit, the government will deflate the exchange rate. According to Goldberg and Knetter (1997) only about 60% of exchange rate changes are passed onto import prices in the US. The main explanation for this phenomenon is that many importing and exporting firms choose to hold their prices constant and simply reduce or increase the mark up of prices, when the exchange rate is changing. Such behaviour is referred to as—pricing-to-market. Many firms might choose to make temporary losses on their revenue not to lose market share to competition.

1.1.4 Nairobi Securities Exchange

Participation of foreign investors in the Nairobi Securities Exchange (NSE) can be traced back to 1954 when trade in shares was confined to the resident European community. The presence and dominance of foreign investors in the market declined after independence when the country adopted the Kenyanization policy, however, protection of foreign investor interest was still given prominence and thus the Foreign Investment Protection Act (1964) was passed. In the recent past, several institutional changes have been implemented to strengthen the market and to improve its efficiency among other factors. These include establishment of the Capital Markets Authority (CMA) in 1990.

Opening of the NSE to foreign portfolio investment may have led to improvement in trading volumes, enhanced levels of service to stockbrokers and increased volume of capital raised. The capital market is, however, still small in size with limited listings, relatively low liquidity and is faced with significant structural and regulatory weaknesses (Ngugi et al., 2010). The level of foreign trade picked up immediately after the market was opened with foreign purchases of equity recorded at Kshs.1,644 million and sales amounting to Kshs.101 million in 1997 (Table 2). Overall, the total foreign turnover increased over time from a low of Kshs.695 million in 1996 to the highest of Kshs.78,765 million by the end of 2011.

Table 2: Foreign Investors' Activity at the NSE, 1996 - 2011, KShs. Million

Year	Purchase	Sales	Net Inflows	Total Turnover	Foreign to total turnover (%)
1996	633.2	62.2	571.1	695.4	8.18
1997	1,664.2	101.4	1,562.8	1,765.6	13.51
1998	411.9	334.4	77.5	746.3	7.94
1999	210.3	769.6	-559.3	979.9	9.02
2000	89.2	606.3	-517.2	695.5	9.06
2001	231.2	227.7	3.5	459.0	6.81
2002	140.3	239.0	-98.7	379.3	6.76
2003	358.1	161.2	196.9	519.3	2.05
2004	4.0	24.2	-20.1	28.2	0.06
2005	1,515.2	2,192.7	-677.6	3,707.9	4.84
2006	53.2	53.6	-0.5	106.8	0.06
2007	317.3	67.5	249.8	384.7	0.21
2008	15,479.9	23,669.1	-8,189.2	39,149.0	21.20
2009	15,723.2	7,397.2	8,326.0	23,120.4	28.52
2010	30,706.4	15,579.5	15,126.8	46,285.9	22.98
2011	39,492.6	39,272.3	220.3	78,764.9	51.89

Source: Computations using data from Nairobi Securities Exchange.

*The information for 1996 is aggregated from April to December.

1.2 Research Problem

Exchange rate movement in Kenya has been variable with periods of rapid depreciation of the domestic currency Kenya Shilling, which adversely affect the Kenyan economy. Even though studies have been conducted on the exchange rate regimes and the implications for macroeconomic management as well as managing foreign exchange risk, very little has been done on the study of the firm exposure to

exchange risk in Kenya. It is in this context that this research was to evaluate the effects that variations in the exchange rate has in the financial performance of the selected listed companies in the Nairobi Stock Exchange.

Exchange rate fluctuations affect operating cash flows and firm value through translation, transaction, and economic effects of exchange rate risk exposure. Income based on fair values reflects income volatility more than historical cost-based income. It is also found that income is more volatile with the recognition of unrealized fair value gains/losses on financial instruments. Results of assessing the relative explanatory power of income volatility measures suggest that not all fair value income volatility measures can be a good proxy of the total risk. This can be seen in IAS 39 and its subsequent amendments, which permit a mixed system of measurement for investments. Nevertheless, it would seem, rightly or wrongly, that fair value accounting is becoming more pervasive and its impact remains contentious. Generally fair value earnings, resulting from recognizing unrealized holding gains and losses, and are more volatile than those computed under historical cost accounting argue that because this increased volatility is not reflective of the underlying economic volatility of banks operations, inefficient capital allocation decisions by investors will result, thus raising banks' cost of capital. (Dickinson and Liedtke 2004) have found a high degree of agreement that the higher volatility of reported income would increase the cost of capital of insurance companies and it would be more difficult to provide earnings forecasts or forward-looking information to the investment community.

Exchange rate fluctuations have become a day to day phenomenon. International transactions have increased tremendously. These transactions are affected by the change in exchange rates of currencies involved. There is need to understand this effects in Kenya and institute appropriate action. This study sought to fill the existing research gap by conducting a study on the effect of foreign exchange exposure on a firm's financial performance on selected listed companies in Kenya. The research will adopt a model of the firm that is versatile enough to take into account different forms of exposure.

1.3 Research objectives

In order to answer the research questions the objectives that will guide this study are:

1. To assess the effects of foreign rate exchange fluctuations on profitability

1.4 Value of the study

The study is significant in many ways including it adds to the body of empirical literature on exchange rate exposure of firms, it explains the exchange rate exposure of firms under study and also the study incorporates the effect of different currency exchange rates to the world hard currencies namely the United States Dollar, the Euro, the Sterling Pound, the Japanese Yen and others like the South African Rand.

The studies reviewed have used a sample of multinational corporations to test the nature and causes of the exposure are not extraordinary. Such firms have cash flows and asset and liability values that are directly affected by exchange rate movements. Foreign exchange exposures for such firms affect not only the values of foreign operating cash flows, but also the foreign asset and liability values reported in consolidated financial statements. The findings of the study are of great importance to help researchers, corporate managers, shareholders and academicians in thrift international financial management.

The study will enhance export and import terms to help businesses remain competitive, reduce non-cash flows risk because of local currency devaluation, help firms understand and learn best practice procedures to monitor and manage these risks and their impact on profits. Since this study assesses the existing capacity in the country for foreign currency risk management, its findings generate more knowledge in this area. The findings of this research will draw more personal insight in understanding international transaction management and increase knowledge in this area. A copy of the findings will be available to students and other researchers who might be interested in this area of study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The effects of foreign rate exchange fluctuations are generally understood and general methods of hedging against them well documented. Despite this, an organization needs to do careful analysis of these affects on its operations before making a decision on how to deal with them. This chapter will highlight the theories associated with international transactions and exchange rate systems. It will also review empirical evidence from other similar research work done before in order to conceptualize and operationalize the study.

2.2 Theoretical Framework

2.2.1 Location Theory of International Investment

Location theory, if extended across national boundaries, could explain why multinationals emerge. Location theory is supply oriented location theory that explains that production takes place where the factor costs for production including distribution are the lowest and demand oriented location theory which asserts that the location of a firm is governed by the location of its market and competitors. Bringing the two theory together four main location factors; raw materials, cheap labor, protected and untapped markets, and transportation costs are believed to give rise to the emergence of multinationals. Although this approach provided valuable insights as to geographical distributions, it fell short to explain how it was that foreign owned firms could outcompete domestic firms in supplying their own market neither did it give any hint about the origin countries (Dunning 1979)

2.2.2 Classical international trade theory

According to the theory, international trade is a case of geographical speculation. Different countries have different set of resources. Smith (1776) held that for two nations to trade with each other voluntarily, both nations must gain absolute advantage theory. If one nation gained nothing or lost, it would refuse it. According to Smith, mutually beneficial trade takes place based on absolute advantage. The assumptions made by smith were trade is between two countries only, two

commodities are traded, free trade exists between the countries and the only element of cost of production is labor.

Although Smith's ideas about absolute advantage were crucial for the early development of classical thought for international trade, it is generally agreed that Ricardo (1817) is the creator of the classical theory of international trade on comparative advantage, where he showed that the potential gains from trade are far greater than Smith envisioned in the concept of absolute advantage. The abundance of a resource gives cost advantage in the production of a commodity. The cost advantage is the basic of specialization and international trade. The assumption made is that theory of international trade is based on the labor theory of value. With this, value of any product can be explained in term of labor units. The theory assumes barter system of exchange. It is a case of free trade without any restriction from either country and no transport costs are involved while perfect competition and full employment and factors of production are perfectly mobile within a country and immobile between countries. The classical theory of international trade is explained in three parts, absolute cost advantage, equal cost advantage and comparative cost advantage. However, trade can take place even in absence of absolute cost advantage. Trade can take place when the domestic exchange rates are different.

2.2.3 Product Cycle Theory

Vernon (1966) argued that technological innovations development and production of new products in consumer and industrial goods could explain international investments of firms. Assuming that products undergo predictable changes in production and marketing, restricted information is available on technology, production process changes overtime and economies of scale prevalent, tastes differ according to income and products can be standardized at various income level. Vernon distinguished three different stages in the life of a product, the new product, the maturing product and the standardized product. The argument is that the first stage takes place in large markets because of demand and effective communication with the

market with high income per capita and in industries with high labor cost. After the feedback is received from the market and product is modified accordingly, the new product emerges. At the second stage a certain degree of standardization comes into existence because of the increase in demand and the commitment to achieve economies of scale

Product differentiation does not come to an end, specialization in product for different market segments prevail and the cost of production gains more attention and importance. Competition begins to appear at this stage. The location of production is unlikely to move somewhere out of the country. Vernon notes that this stage is crucial for the firms whether to invest in other advanced countries or to continue to export. He mentions a host of considerations for this decision (cost of production, protected patent position, threats of new competition in the country of import, the level of tariff protection and the political situation). After careful evaluation, he believes that more advanced countries would be the first to receive FDI because of threat either from home country or host country competitors. At the last stage of product cycle, the standardized product, the less developed countries are considered to provide competitive advantages especially in terms of labor cost (Vernon 1966).

This theory according to Veron (1966) centers on the local firms attractions to International markets. It states that the propensity of a firm to initiate foreign production will depend on specific attractions of its home country compared with resources implications and advantages of locality in another country. Resources differentials and advantages differ from country to country and hence attractions are different. As such firms chose which countries to invest in and at what order of preference. This internalization of business leads to multiple currencies which are subject to change in value one to another and hence a source of currency risk.

2.2.4 Aliber Theory

Aliber (1970) found that multinational enterprises through financial market relations, namely exchange risk and the market's preferences for holding assets denominated in selected currencies. More specifically he hypothesized that it is the financial market which enables firms to have advantages over host country firms and applicable to all firms whose assets and borrowing are based in selected currencies.

Aliber reasoned that multinationals tend to flow from strong currency areas to weak currency areas. Critics of Aliber argued that while the view is compatible with the early post-war American domination, it gave no account of the rise of European and Japanese multinationals. In defense, Aliber (1983) attributed the upsurge of FDI from Japan and Europe to the decline of market values of US firms relative to the market value of firms headquartered abroad. Another criticism pin-pointed an important issue that many international firms raise much of their funds for investment in host countries and currencies where the investments take place and financial capital is not the most important component of multinationals

2.2.6 Hymer-Kindleberger Theory

In order to explain the wide spread of the US multinationals, Hymer (1960) took a distinguished avenue which many scholars confirm that it formed the present theory of multinationals on why firms go abroad, how are they able to survive in foreign markets in which they bear initial costs and why do they want to retain control and ownership. He found two kinds of incentives namely monopolistic or oligopolistic advantages the home country firms enjoyed over host country firms and removal of competition between the firms in different countries. He noted that international firms do not operate under conditions of perfect competition. With respect to the first motive he did not put any particular emphasis on a single advantage, but he stressed that there are as many kinds of advantages as there are functions in making and

selling a product. According to Hymer (1960), the second motive could be achieved by way of collusive agreements. In Hymer's view, the tendency toward the choice between licensing or contractual agreements and FDI would depend on the degree of imperfection, danger of losing advantage and comparative rate of return.

In one of his later writings, he introduced another major incentive for firms to go abroad, namely the economies of scale and efficient functioning of firms' organization in coordinating activities at the firm level compared to the industry level. In the light of his thesis, especially relating to the first motivation market imperfection based on monopolistic or oligopolistic advantages, a number of studies seem to have tried to pin-point advantages and single out the most important one. Kindleberger (1969) the supervisor for Hymer's theses, argued that in a world of perfect competition in goods and markets, FDI cannot exist. He categorized market imperfections as imperfections in goods market, imperfections in factor markets and economies of scale both external and internal and government limitations on output or entry. The second motive proposed by Hymer, removal of competition through collusive agreements, did not seem to receive as much attention as the first one. Informal or formal collusive agreements are recently beginning to appear as a factor inducing firms to go abroad and appropriate rents. Due to the fact that the latest approach of Hymer has not drawn attention until recently, the theory of MNEs was redeveloped under different names and Hymer's contribution remained somewhat controversial and incomplete.

The analysis of financial performance of a firm has a special significance for the management, in their attempt to maintain the company's stability and to increase its market share. Effectiveness of company managers and resource efficiency affect directly the development of the state in which they operate, by obtaining positive financial results. For a long time, financial performance has been perceived only through its ability to obtain profits. This changed over time, today the concept of performance having different meanings depending on the user perspective of financial

information. For the companies listed at the stock exchange, its ability to distribute dividends is a proof of stability. However, until now there was no proof of a link between this factor and profitability, since profits can be used for purposes other than to distribute dividends.

Profitability can be decomposed into its main components: net turnover and net profit margin. Ross et al. (1996) argues that both can influence the profitability of a company one time. If a high turnover means better use of assets owned by the company and therefore better efficiency, a higher profit margin means that the entity has substantial market power. Risk and growth are two other important factors influencing a firm's financial performance. Since market value is conditioned by the company's results, the level of risk exposure can cause changes in its market value. Economic growth is another component that helps to achieve a better position on the financial markets, because market value also takes into consideration expected future profits.

2.3 Empirical review

Jorion (1991) estimates exposure using a two-factor model that thereafter became the norm for estimating foreign exchange exposure controlling for market risk. For a sample of firms drawn from the Fortune 500, he finds that the degree of exposure varies directly with the degree of foreign involvement. Other studies have re-confirmed these basic findings regarding the foreign exchange exposure faced by internationally involved and multinational companies, and explored in greater detail various issues that arise in the procedures used for estimating such exposure - issues that are important considerations in this study. The first issue is the nature of the market model used to estimate corporate foreign exchange exposure. The focus of this paper is not the validity or efficiency of the various asset pricing models, but instead, based on prior studies, the research focus on how foreign exchange exposure is estimated. Earlier studies used a monthly, contemporaneous horizon to measure exposure. Beginning with the seminal study by Jorion (1990), initial research in this area focused on whether corporations are exposed to foreign exchange risk

Another issue in developing foreign exchange exposure estimates has to do with portfolio size. Generally, there are two major choices in this regard. The first method

is to estimate exposure on the firm level and the other method is to estimate the exposure for portfolio groupings, formed either by size, industry, level of international activity, or another criteria. Many studies assess both the firm level and portfolio level exposures. As indicated earlier, prior studies have focused on exposures of internationally involved or multinational firms. Using a large sample of firms from many different countries, Doidge, Griffin and Williamson (2002) find that foreign exchange exposure is related to the level of foreign activity. They also find that large firms exhibit more foreign exchange exposure than smaller firms after controlling for the level of foreign activity.

Bartov & Bodnar (1996) find an increase in equity volatility following the breakdown of the Bretton Woods agreement and increased exchange rate volatility but equity risks increased much more for firms with a multinational presence than it did for a control sample of domestic firms. As has been noted in theoretical studies, industry effects also seem important in estimating foreign exchange rate exposure.

Using a sample of firms in the automotive industry in the US and Japan, Williamson (2001) found that foreign sales are a major determinant of exposure but there is considerable time variation in exchange rate exposure. However, Griffin and Stulz (2001) find the effect of exchange rate shocks is minimal in explaining relative US industry performance and is even smaller in other countries that are more open to trade finding that industry effects are more significant than exchange rate effects. While there may be some differences in empirical findings, foreign exchange exposure most likely depends on the competitive structure in an industry. Additional firm characteristics have also been assessed as to their impact on foreign exchange exposure.

Koutmos and Martin (2003) used industry sector portfolios from four countries and find that exchange rate exposure is asymmetric over different appreciation depreciation periods. Furthermore, these asymmetries are more pronounced in the financial and non-cyclical sectors. Overall, studies of foreign exchange exposure find that multinational corporations and corporations with extensive foreign business have significant foreign exchange exposure. However, most studies find that this estimated exposure is less than expected by economic theory perhaps due to operational and financial hedges used by companies facing foreign exchange exposure. While a few

studies have included domestic firms without foreign activity and generally found them not to be exposed to foreign exchange risk, no prior study has addressed the determinants of foreign exchange exposure of domestic firms. It is common practice among firms to use a combination of production and marketing strategies across the firm's different operating units, operational hedges to manage long term exposure, whereas foreign exchange derivatives, financial hedges are more often used for managing short term exposure. Long-term operating policy adjustments are costly and difficult to reverse hence they are most effective when the firm possesses a network of multiple operating units that span many business and geographic areas.

Bodnar and Gentry (1993) using data from the US, Canada and Japan also find industry differences in foreign exchange exposure and note that the exposure direction and level are broadly consistent with economic theory. Exchange rates changes have important implications for financial decision-making and for the profitability of firms. One of the central motivations for the creation of the euro was to eliminate exchange rate risk to enable European firms to operate free from the uncertainties of changes in relative prices resulting from exchange rate movements

Since the theoretical literature has not reached a consensus, at the end of the day, the answer for this question should be empirical, as pointed out by Eichengreen and Hausmann (1999), gathering survey and other data on hedged and un hedged exposures and analyzing their determinants should be a high priority for academics. This study tries to shed light on this question by analyzing the behavior of foreign currency exposure. Recent financial crises showed that emerging countries are extremely vulnerable to sudden swings in international capital flows. In these countries, commonly, periods of relative tranquility, characterized by substantial capital inflows and real GDP growth, are followed by periods when capital flows abroad, and output plummets. In some countries, such crises lead not only to economic downturns but also to social unrest. Although there is a consensus among economists that emerging markets should take measures to reduce their external vulnerability, there is no agreement about the role of the choice of the exchange rate regime in this matter. At the center of this debate is the fact that due to the widespread problem of the dollarization of liabilities, depreciations of the home currency in

emerging markets would cause a collapse in company's balance sheets, leading to a fall in output. Therefore, one mechanism through which the choice of the exchange rate regime could affect countries vulnerability would be to exert influence on corporate financial policies.

Calvo and Mishkin (2003) argued that the construction of healthy macroeconomic institutions would be the key to countries macroeconomic stability, and the choice of the exchange rate regime would likely be of second order importance to alleviate countries external vulnerability. One hypothesis in the international finance literature is that fixed exchange rate regimes would increase countries vulnerability by leading companies to disregard the exchange rate risk, biasing their borrowing towards foreign currency denominated debt, and/or reducing their hedging activities. According to this hypothesis, floating regimes would help to reduce countries vulnerability by inducing creditors and debtors to take seriously their exchange rate exposure. On the other hand, with the independence of the exchange rate regime, emerging countries will always be vulnerable to external shocks. There will always be a currency mismatch on company's balance sheets, since domestic companies would never be allowed to borrow in the domestic currency, and most of their revenues come from domestic activities.

Among the many academic publications and articles, there is still a notable gap in this research study that has been undertaken to date in the context of FX exposure which has helped to gather some valuable information. This study therefore serves as a springboard for future researchers to investigate and widen their scope on the effects of FX exposure to the financial performance of a company. The study provides scholars with useful information on how to avert the FX exposure. It is also of use to financial managers who have the responsibility of managing the risk associated with foreign exchange exposure.

To this end most research on FX risk have focused on the exposure of multinational companies. This study has found mixed results regarding significant foreign exchange exposures, perhaps, as many multinational companies effectively hedge against many foreign exchange risks using financial and operating procedures. In general, it seems counter- intuitive to most managers that domestic companies that are not engaged in international transactions would be exposed to exchange rate changes. Domestic companies are unlikely to engage in hedging activities and are, thus, more likely to have measurable foreign exchange exposure. Indeed, accounting rules favour derivative-based hedges only against identifiable foreign exchange exposures, thus favouring companies with international transactions and multinational companies. However, there are also good economic conjectural reasons to suspect that domestic companies may be exposed to foreign exchange risks. With the increasing globalization of financial and product markets, domestic firms may face foreign exchange risks through interest rate and financial markets and through product markets as competitors, suppliers, and customers may engage in cross-border transactions and be faced with foreign exchange risks. Given these contrary managerial and economic arguments, the FX exposure of domestic companies is an important empirical question. The studies contend that the measured exposure for domestic corporations is likely to be significant and similar to what has been reported for multinational corporations.

2.3.1 Research Gaps

Kenyan export trade is to a large extent under developed. This has significant implications on the exchange rate market. Some well documented and applicable instrument of managing foreign rate exchange fluctuations risks in developed markets are under utilized in Kenya. Research gap thus exists in analyzing the instruments that can be applied locally in management of this currency risks and the extent of their applicability in our international transactions exchanges.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design and data collection methods that were used by the researcher in the study. It discusses the aspects such as research design, study population, data collection instruments, and data collection procedures and analysis. The chapter in addition showcases how a case study research excels at bringing us to an understanding of a complex issue or object and can extend experience or add strength to what is already known through previous studies.

The study emphasized on detailed contextual analysis of a limited number of events or conditions and their relationships. Social scientists, in particular, have made wide use of this qualitative research method to examine contemporary real-life situations and provide the basis for the application of ideas and extension of methods. Yin (1984) defined the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are not clearly evident and in which multiple sources of evidence are used (Yin 1984)

3.2 Research Design

The research is a descriptive research design which generally described the characteristics of a particular situation, event or case. It involved both qualitative and quantitative data which this research used. As defined by Glass & Hopkins (1984), descriptive research design involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collection and often uses visual aids such as graphs and charts to help the reader in understanding data distribution.

3.3 Population

This study investigated the value relevance of foreign exchange currency exposure for listed companies in Kenya for the period covering years 2001 to 2010 forming a wealth of data in a decade. However, some sectors were heterogenic in that some are highly influenced by exchange rates fluctuations due to their predominance in exports while others over-rely on imports for their inputs. Much of their revenues and expenditures are denominated in the foreign currencies, notably the US dollar (\$), Sterling pound (£) Japanese yen (¥), and the euro (€). Indeed, Bodnar and Gentry (1993) proposed that exchange rate fluctuations affect some industries differently than others because some of the industries are more export (or import) dependent than others

3.4 Data Collection

The researcher used observation and questioning methods to collect data. Observation method was considered appropriate in obtaining data on the financial statement of a firm in order to analyze the effects of exchange rate changes on the profitability of the firm. Questioning method was also used to obtain data from the accountant on the method used by the firm to hedge against exchange rates risks.

3.5 Data Analysis and Reporting

In analyzing the responses, the Microsoft Excel Spreadsheet tool was used to calculate descriptive statistics and the Statistical Package for Social Sciences (SPSS) was also used. This will generate descriptive statistics such as percentages, frequency distribution, measures of central tendencies (mean, mode, & median), graphs and pie charts. The data will be presented in tables and graphs.

The data analysis method used was based on Pearson correlation analysis and a multiple regression model of the form of:

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

Where:

Y = Dependent variable, ROA

X1 = Translation exposure

X2 = Transaction exposure

X3 = Economic exposure

X1, X2 and X3 are the independent variables

On translation exposure, the following was measured, assets, liabilities, income receipts and expenses. Transaction exposure will be measured by looking at settlement of specific transactions at a time whereas Economic exposure will be measured by looking at expected future cash flows and their effects on assets and liabilities

X1, X2 and X3 are the independent variables

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Regression coefficients or change included in Y by each X value

ϵ = error term

T-tests will be used to show the significance of the relationship between the determinant factors and exchange rate as follows;

Null Hypothesis: $H_0: \rho=0$

Alternate Hypothesis: $H_a: \rho \neq 0$

Null Hypothesis H_0 : The population correlation coefficient is not significantly different from 0. There is not a significant linear relationship, correlation between x and y in the population.

Alternate Hypothesis H_a : The population correlation coefficient is significantly different from 0. There is a significant linear relationship, correlation between x and y in the population.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the research findings to investigate on the effect of foreign exchange exposure on a firm's financial performance. The study was conducted on 32 firms listed at the NSE where one employee from the finance and/or treasury department was served with a questionnaire shown in appendix (II). Out of the 32 respondents, 31 filled and returned their questionnaires which make a 97% response rate. The commendable response rate was achieved after the researcher administered the questionnaires personally and made personal visits and telephone follow-up calls to remind the respondents to fill-in and return the questionnaires. Descriptive statistics were used to analyze the data. In the descriptive statistics, relative frequencies were used in some questions.

4.2 Respondent Company Profile

The study sought to determine the respondent department and therefore requested the respondent to indicate their department, from the findings the study revealed that respondents were from the finance, accounts and treasury departments. This was deemed viable since employees from the finance departments are deemed to have the knowledge of the foreign exchange exposure. The study further revealed that industry areas of operation were marketing, manufacturing, purchasing and supplies, manufacturing and selling, sales, media and supply. On the total number of employee in the firms listed in the Nairobi Securities Exchange the study revealed that these ranged between 200 employees to over 800 employees. The study also sought to determine the companies years of operation in Kenya and from the findings, the study found that majority of the firm listed in Nairobi Securities Exchange had been in operation between 20 to over 100 years.

The range of businesses represented in the sample of respondents was wide and covered the key areas targeted for the study. Whether or not a firm was local or a subsidiary of an overseas holding company was considered important for this study in that foreign exchange risk management strategies would have been perhaps different between local firms and subsidiaries of foreign firms. The profile of respondent firms by line of industry covered a range of activities as summarized in table 4.1.

Table 4.1: Major business line of respondent firms

Business Line	Frequency	Percent
Agricultural	3	10%
Automobile and Accessories	4	13%
Commercial and services	7	23%
Construction and Allied	5	16%
Energy and Petroleum	4	13%
Manufacturing and Allied	6	19%
Telecommunication and Technology	2	6%
Total	31	100%

Figure 4.1: Respondent's business sector graph

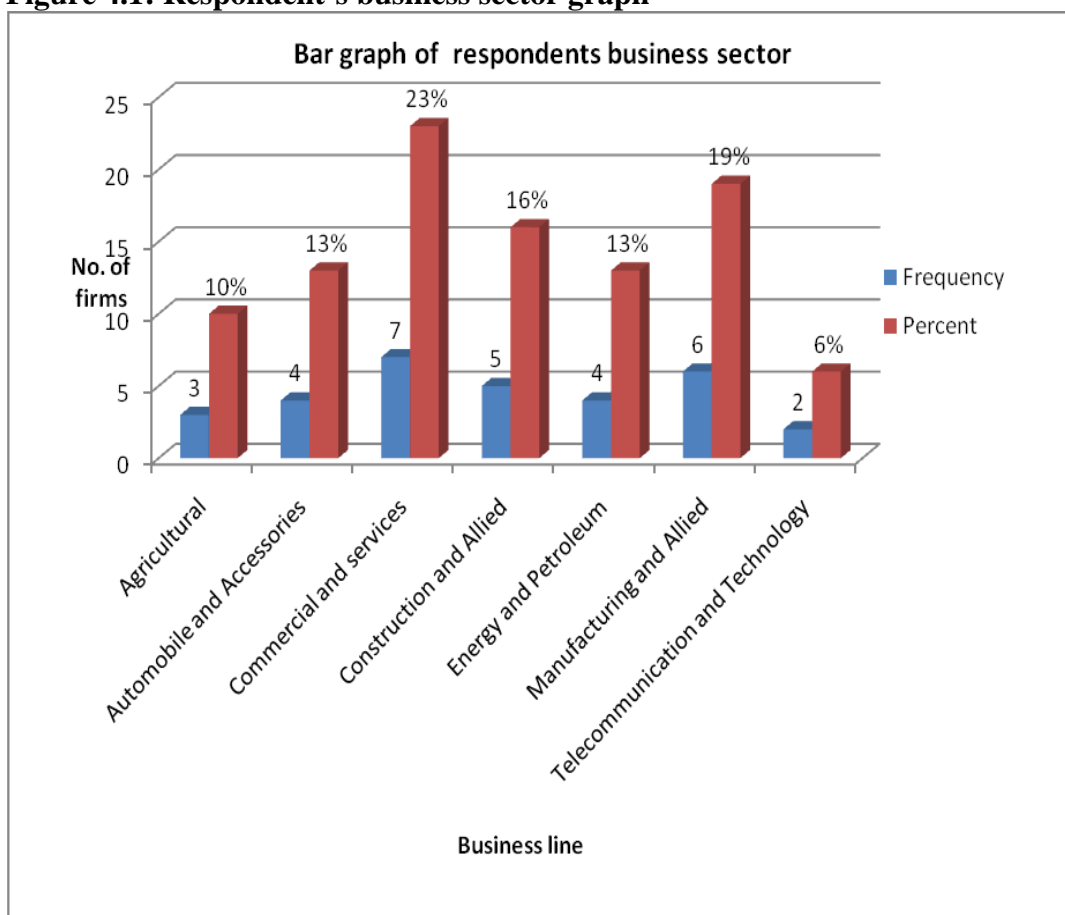


Figure 4.2: Respondents business sector chart

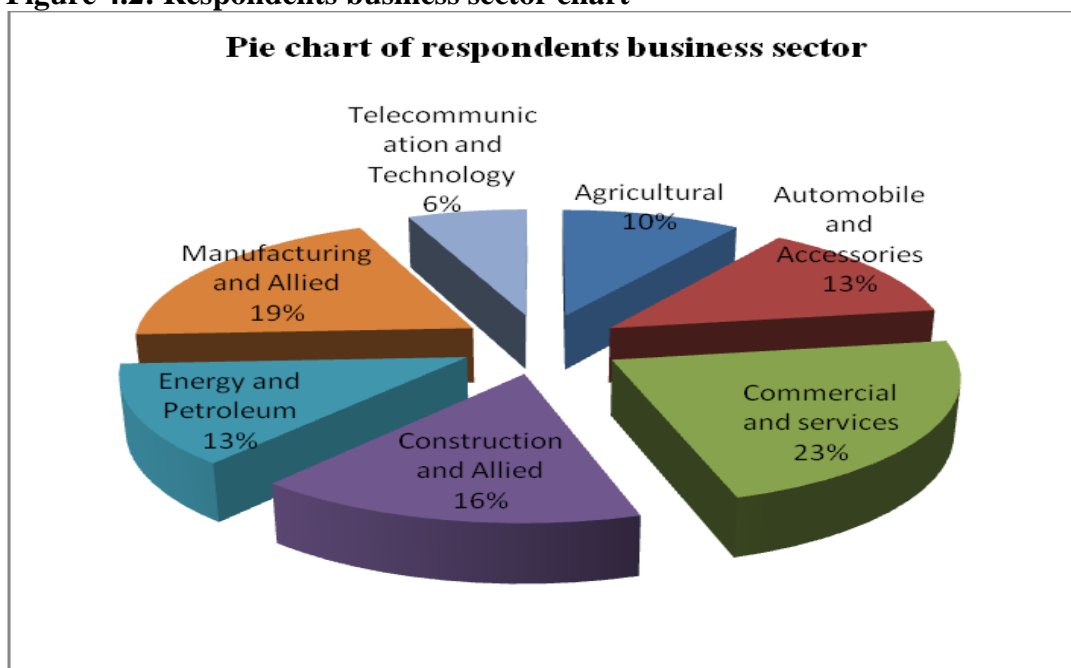


Figure 4.1 and 4.2 shows a graphical expression and a chart of each business sector. The graph shows commercial and services had the highest at 23% while the least was communication and technology at 6%.

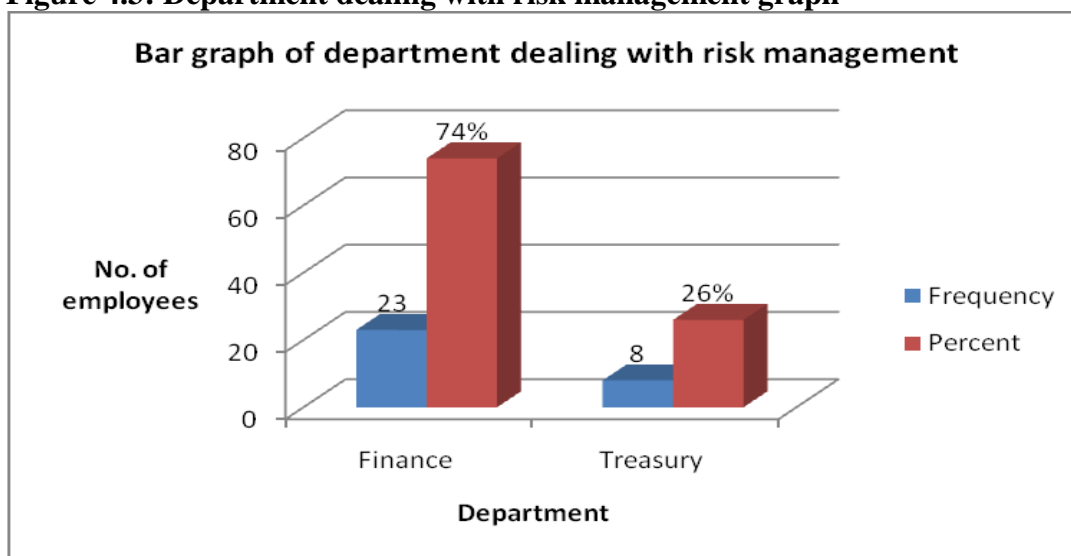
4.3 Unrealized Foreign Exchange Gain or Loss

The study was set to determine the departments dealing with foreign exchange risk management, whether they had written foreign exchange policy and if they did not have whether they still hedged against foreign exchange risk. The study also investigated on the hedging policy availability, its effectiveness and the most effective hedging techniques which best suited their organizations. The findings are as summarized in tables 4.2 to 4.9 and Figures 4.3 to 4.6.

Table 4.2: Department dealing with risk management

Department	Frequency	Percent
Finance	23	74%
Treasury	8	26%
Total	31	100%

Figure 4.3: Department dealing with risk management graph

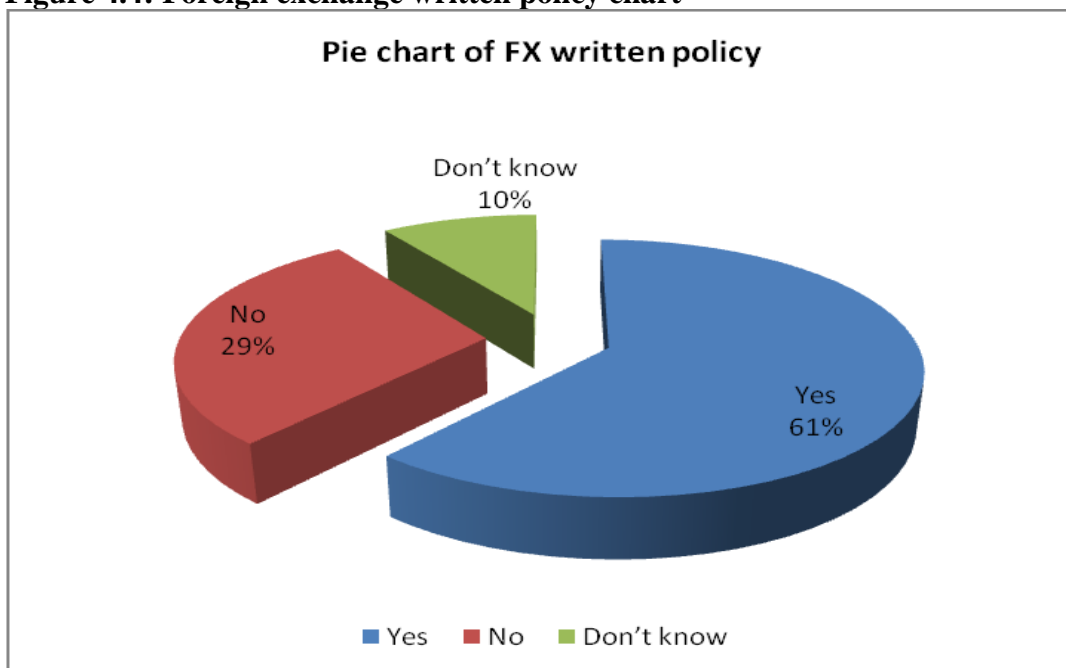


From the findings shown in table 4.2 and figure 4.3 above on the department which deals with risk management in the firm listed in the NSE, the study found that majority of the respondent as shown by 74% indicated that finance department was responsible for dealing with risk management in their organization, whereas 26% indicated that treasury department was responsible for dealing with risk in their organizations. This shows that both treasury and finance department were the main departments that dealt with risk for firms listed in the Nairobi Stock Exchange.

Table 4.3: Presence of written policy on foreign exchange

Presence of written policy	Frequency	Percent
Yes	19	61%
No	9	29%
Don't know	3	10%
Total	31	100%

Figure 4.4: Foreign exchange written policy chart

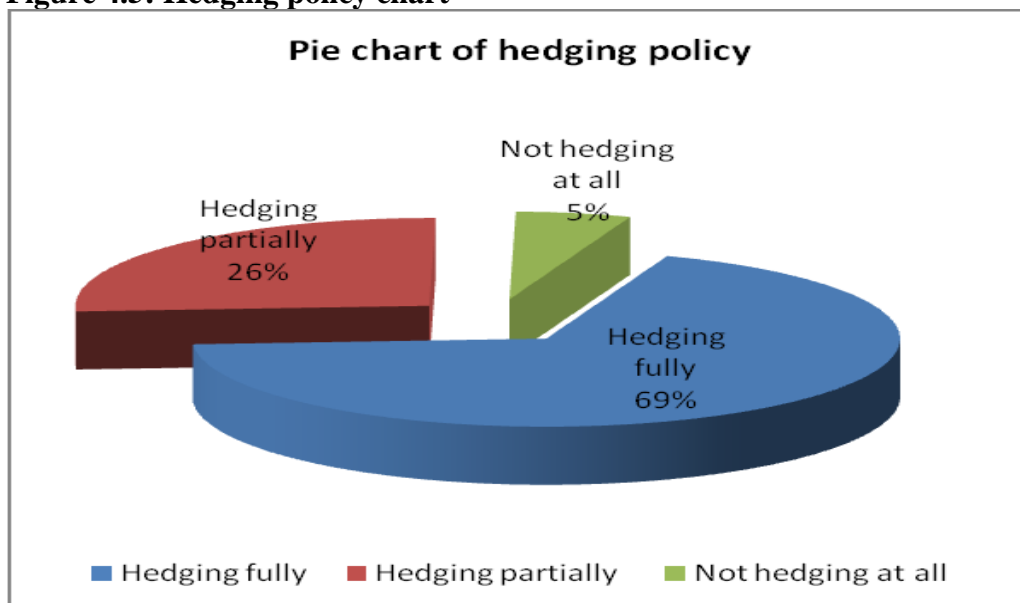


On whether listed firm had a written foreign exchange policy, from the findings shown in table 4.3 and figure 4.4 above the study found that 61% of the respondent indicated that their firms had written foreign exchange policy, 29% of the respondent indicated that their firms didn't have any written foreign exchange policy whereas 10% of the respondents were not aware of any written policy on foreign exchange. This shows that majority of the firms listed in the NSE had written policy on foreign exchange.

Table 4.4: Hedging policy in the organization

Hedging policy	Frequency	Percent
Hedging fully	13	69%
Hedging partially	5	26%
Not hedging at all	1	5%
Total	19	100%

Figure 4.5: Hedging policy chart



To those firms that had written foreign exchange policy, the study as depicted by table 4.4

and figure 4.5 revealed that majority of the respondents as shown by 69% indicated that their firms were managing foreign exchange exposure by hedging fully, 26% of the respondents indicated that their firms were using hedging partially whereas 5% of the respondent indicated that their firms didn't have hedging at all, this information shows that the firms listed in the Nairobi Stock Exchange that have written policy on foreign exchange exposure were using hedging fully while others were partially hedging.

Table 4.5: Hedging by firms with no written policy

Hedging with no written policy	Frequency	Percent
Yes	12	100%
Total	12	100%

To those 12 firms that didn't have written policy on foreign exchange the study revealed that they were hedging against foreign exchange risk as shown by 100% of the respondent who indicated yes. This shows that all the firms listed in the NSE were hedging against foreign exchange risk as shown in table 4.5.

Table 4.6: Hedging partially by firms with policy

Percentage of hedging partially	Frequency	Percent
10%	1	20%
25%	1	20%
30%	2	40%
35%	1	20%
Total	5	100%

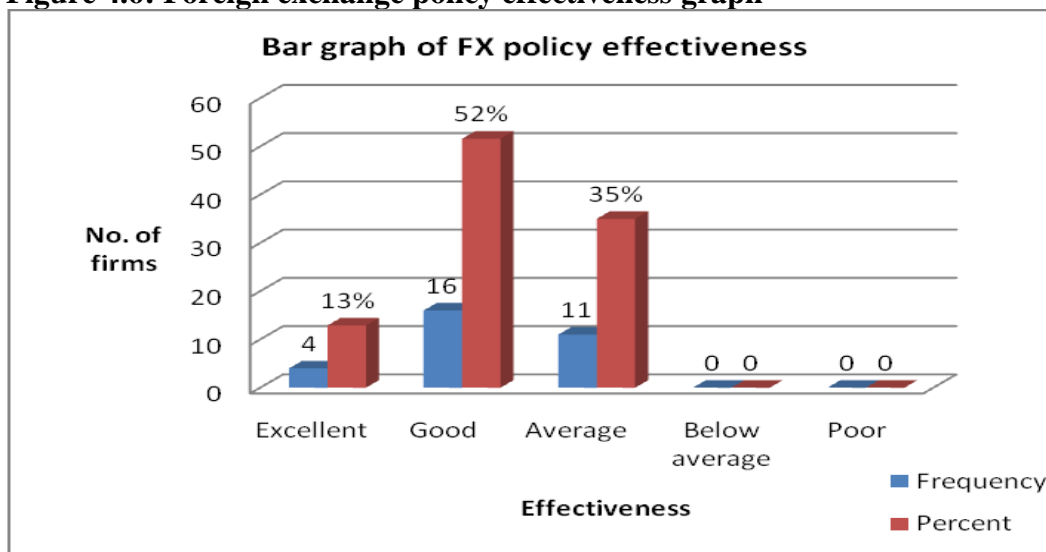
On those firms that were partially hedging against foreign exchange, the study revealed that they had a policy and their percentage of hedging ranged between 10% to 35%. 40% of the respondents who indicated that their firms were hedging partially indicated that their firms hedged 30%, those who indicated that their firm hedged 10%, 25% and 35% were shown by

20% of the respondent in each case as depicted in table 4.6.

Table 4.7: Effectiveness of the foreign exchange policy

Effectiveness	Frequency	Percent
Excellent	4	13%
Good	16	52%
Average	11	36%
Below average	0	0
Poor	0	0
Total	31	100%

Figure 4.6: Foreign exchange policy effectiveness graph



The study sought to determine the effectiveness of the foreign exchange policy for the firms listed in the Nairobi Stock Exchange. From the findings shown in table 4.7 and figure 4.6, the study found that 52% of the respondents indicated that the foreign exchange policy was good, 35% of the respondents indicated that it was average whereas 13% of the respondents indicated that the foreign exchange policy was excellent. This shows that foreign exchange policy used by firms listed in the Nairobi Stock Exchange is above average by 100% effectiveness with no below average.

Table 4.8: Internal /natural hedging techniques

Foreign Trade	Lead	Lags	Netting	Invoicing in foreign currency	Negotiating local prices on imports	Money market E.g. loan	None
Export	5-10%	5-15%	10-20%	50-70%	0	5-40%	0
Import	5-15%	10-15%	5-20%	0	50-60%	10-20%	0

Table 4.8 demonstrates how on the most effective internal/natural hedging techniques that best suit the respondent firms, the study found that in terms of exports lead was effective in companies between 5 to 10%, lag 5 to 15%, netting 10

to 20%, invoicing in foreign currency 50 to 70% and money market between 5 to 40%. In terms of imports leads were effective between 5 to 15%, lags were between 10 to 15 % netting were effective between 5 to 20% negotiating local price on imports between 50 to 60 % and money market were between 10 to 20%.

Table 4.9: External hedging techniques

Foreign Trade	Spot	Forwards	Currency Swap	Currency Option	Futures	None
Export	10-80%	5-20%	40-50%	20-30%	15-20%	0
Import	15-80%	10-20%	20-40%	20-30%	10-15%	0

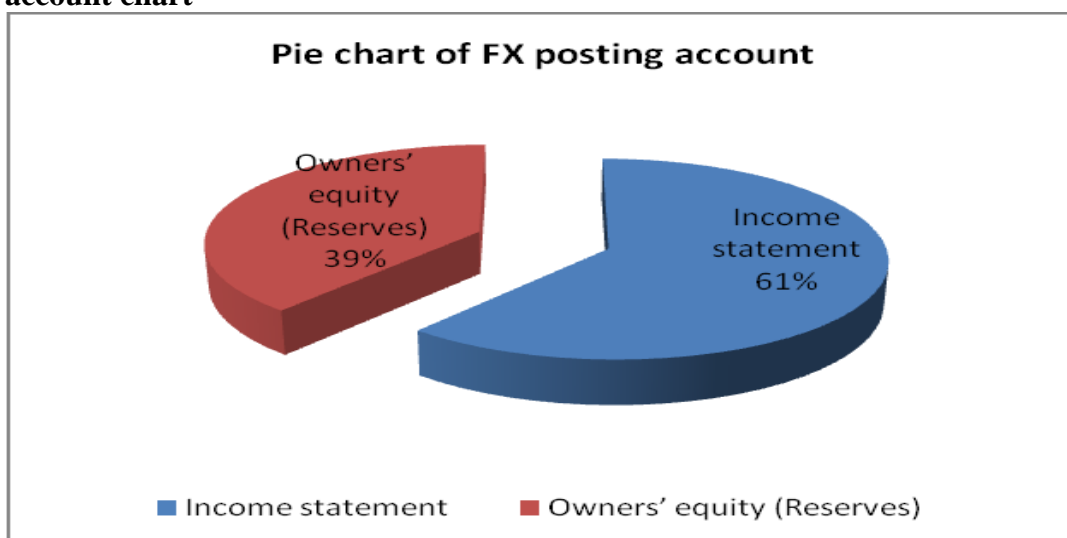
On the most effective external hedging techniques, from the findings in the above table 4.9, the study found that in terms of exports spot were effective between 10 to 80%, forwards were effective between 5 to 20%, currency swap were effective between 40 to 50%, currency option were effective between 20 to 30% whereas futures were effective between 15 to 20%. In terms of imports the study found that spot were effective between 15 to 80%, forwards were effective between 10 to 20%, currency swap were effective between 20 to 40%, currency option were effective between 20 to 30% whereas futures were effective between 10 to 15%.

As elaborated in the literature review there are two main groups of foreign currency risk management techniques; internal hedging techniques and external hedging techniques. Internal hedging techniques are able to be executed within a firm by managerial operational arrangements. External hedging techniques on the other hand involve an instrument that can only be bought or sold through market intermediaries. External hedging techniques therefore require higher competencies to execute successfully when contrasted to internal hedging techniques. This study sought to measure the degree of knowledge or general information as well as competencies on the part of respondent firms on the use of specific hedging techniques. A summary of responses from firms on knowledge, and competencies of employing internal and external hedging techniques is as summarized in tables 4.8 and 4.9.

Table 4.10: Accounts posted with foreign exchange differences (gains /losses)

Account	Frequency	Percent
Income statement	19	61%
Owners' equity (Reserves)	12	39%
Total	31	100%

Figure 4.7: Foreign exchange difference posting account chart



On the account posted with foreign exchange gains/losses as shown in table 4.10 and figure

4.7, the study revealed that majority of the respondents as shown by 61% indicated that their firms used income statement whereas 39% of the respondents indicated that their firms used owners' equity through reserves account to post foreign exchange gains /losses. Secondary data extracted from income statements on the business review

website, <http://investing.businessweek.com/research/stocks/financials/financials.asp?ticker> as depicted in appendix iv also revealed that currency fluctuation is a real accounting problem facing NSE listed companies.

4.4 Effects of foreign exchange imports on the net income of the Company

The study sought to determine the annual total purchases to arrive to import purchases for the last 10 years from 2001 to 2010.

Table 4.11: Total and Import Purchases

Description	Total Purchases “Kshs”		Import Purchases “Kshs”		Import to Annual Purchases %		Average % growth of Imports	
	Min	Max	Min	Max	Min	Max	Min	Max
Purchases	700M	29B	140M	10.15B	15%	75%	10%	50%

From the findings shown by table 4.11, the total purchases of the firm ranged between Kenya shillings 700 million to 29 billion with an import range of 140 million to 10.15 billion Kenya Shillings. On the percentage of the annual import purchases compared to total purchases, the study found that the percentage of import purchases ranged between 15% to 75% with a range of growth of 10% to 50% an indication that the firms listed in the Nairobi Securities Exchange are prone to foreign exchange risk by the reason of the paying foreign currency.

Table 4.12: T-Statistics for annual growth in imports

						95% Confidence Interval of the Difference	
	T	Df	Sig. (2-tailed)	Mean Difference	Std. Deviation	Lower	Upper
% change in annual imports	9.221	30	.000	16.77419	10.12821	13.0591	20.4893

Where t is the t-value and Df is the degree of freedom showing the number of annual import growth values in the final calculation of a statistic that are free to vary.

The study sought to determine the annual total purchases to derive annual import purchases for the last 10 years. From the findings the study revealed that there was 10% to 50% growth in the annual import purchases in the last decade from 2001 to

2010. The mean growth rate in imports for firms listed in the NSE was found to be 16.77419. The standard deviation was high at 10.12821 an indication that there was high variance in the growth of imports between the listed firms.

The t-value was found to be statistically significant at 9.221 as their significance value was less than 0.05 meaning the probability that the means of the two populations are not the same as illustrated in table 4.12. T-tests are statistical tests that are

used to determine whether there are significant differences between two groups. According to Welch's *t*-test, these tests are often referred to as "unpaired" or "independent samples" *t*-tests, as they are typically applied when the data underlying the two samples being compared are non-overlapping. The larger the *t*-value the smaller the probability that the means of the two populations are the same. It does not matter if the *t*-value is negative or positive. The absolute value is used regardless of the sign when interpreting the *t*-value. The *t*-value is an indication of the probability that both populations from which the samples are selected have the same mean and that differences in our sample means are due to random fluctuation. As the *t*-value gets smaller (approaches zero) the probability that the population means are the same gets larger. As the *t*-value gets larger (in either the positive or negative direction) the probability that the population means are the same gets smaller. Equation (iv) by Fisher and

Yates explains how to calculate the *t*-value.

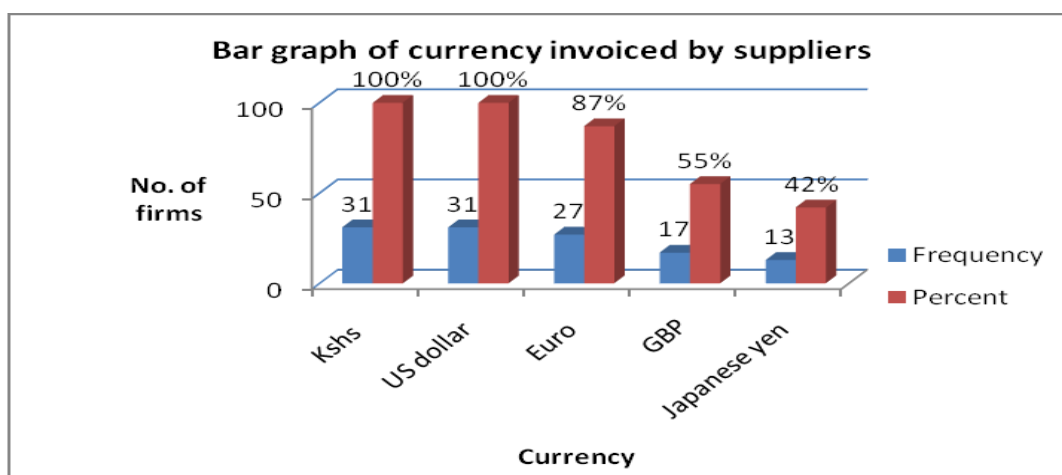
$$t = \frac{\bar{Y}_2 - \bar{Y}_1}{S_{\bar{Y}_1 - \bar{Y}_2}} \quad \text{ii ()}$$

where *t* is the *t*-value, *Y*₁ and *Y*₂ are the mean of the two samples, *S*_{*Y*₁} and *S*_{*Y*₂} are the standard deviation of the difference between the means of the two samples.

Table 4.13: Currency invoiced by suppliers

Currency	Frequency	Percent
Kshs	31	100%
US dollar	31	100%
Euro	27	87%
GBP	17	55%
Japanese yen	13	42%

Figure 4.8: Currency invoiced by suppliers graph

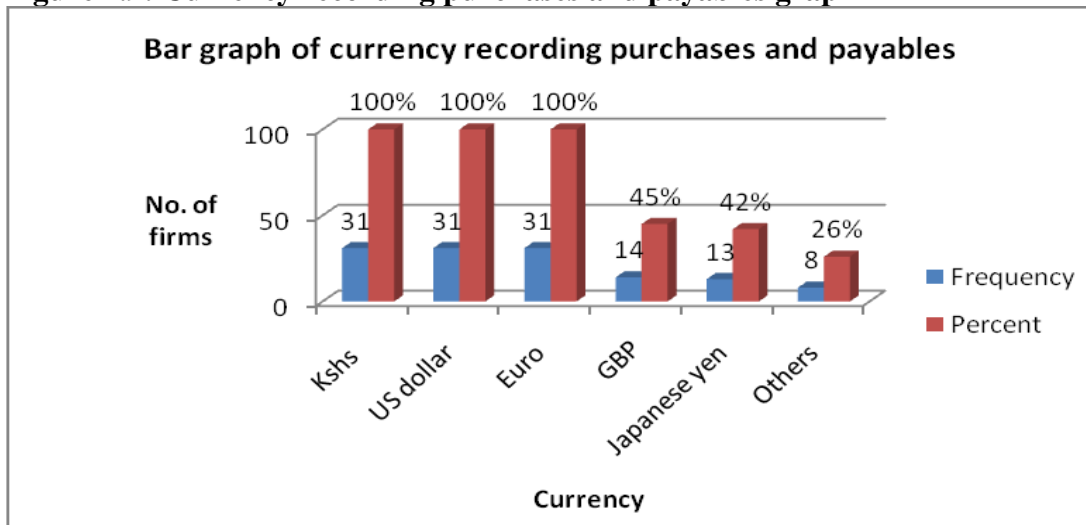


On the currency used by the suppliers to invoice the firm listed in the Nairobi Stock Exchange, the study found by virtue of table 4.13 and figure 4.8 that majority of the firms are invoiced using Kenyan shilling as shown by 100%, US dollar as shown by 100%, Euro as shown by 87%, Sterling pound as shown by 55% and Japanese yen as shown by 42%. This shows that Kenya shilling, US dollar, Euro, Sterling pound and Japanese yen were the most currency used to invoice firms listed in the Nairobi Stock Exchange by their suppliers. The study sought to determine the extent of usage of foreign exchange currencies on import purchases and accounts payables and the impacts they have on the future payments to the foreign suppliers invoiced in foreign currency.

Table 4.14: Currency used in recording purchases and accounts payable

Currency	Frequency	Percent
Kshs	31	100%
US dollar	31	100%
Euro	31	100%
GBP	14	45%
Japanese yen	13	42%
Others	8	26%

Figure 4.9: Currency recording purchases and payables graph



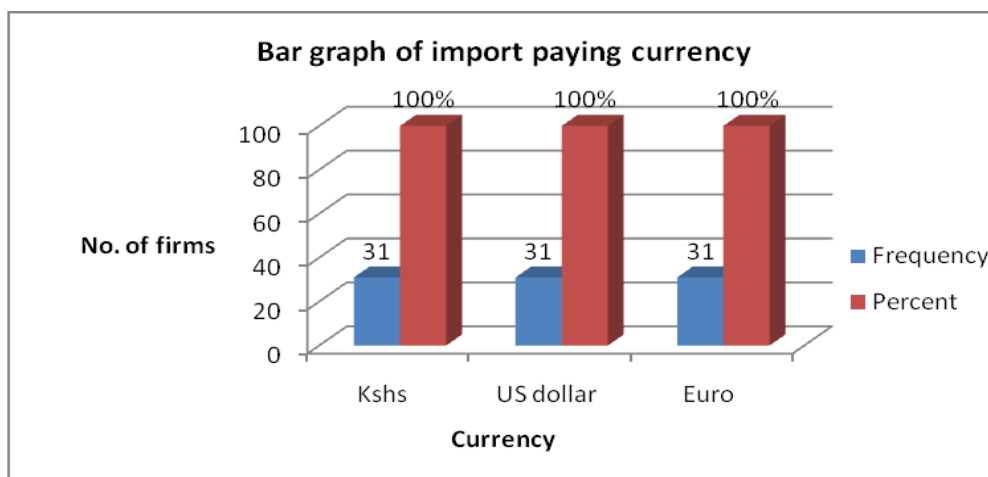
From the findings used in recording of purchases and accounts payable as depicted by table

4.14 and figure 4.9, the study revealed that the firms listed in the Nairobi Stock Exchange used the following currencies to record purchases and accounts payable. They include Kenya shilling, US dollar and Euro as shown by 100% in each case, GBP as shown by 45%, Japanese yen as shown by 42% and others like South African rand as shown by 26%.

Table 4.15: Currency used to pay foreign accounts payable

Currency	Frequency	Percent
Kshs	31	100%
US dollar	31	100%
Euro	31	100%

Figure 4.10: Imports paying currency graph



The study sought to determine the currency used to pay foreign accounts payable. From the findings shown in table 4.15 and figure 4.10, the study found that majority of the firms listed in the Nairobi Stock Exchange used Kenyan shillings, US dollars and Euros to pay foreign accounts payable as shown by 100% in each case.

4.5 Effects of foreign exchange export sales on net income of the company

The study sought to determine the annual total sales to arrive to export revenue for the last 10 years from 2001 to 2010.

Table 4.16: Total Revenue and Export Sales

Description	Total Sales "Kshs"		Export Sales "Kshs"		Export to Annual Sales %		Average % growth of Exports	
	Min	Max	Min	Max	Min	Max	Min	Max
Revenue	900M	78.9B	315M	35B	15%	50%	10%	35%

From the findings on table 4.16, the study established that total sales ranged between 900 million to 78.9 billion with an export revenue range of 315 million to 35 billion Kenya Shillings. On the percentage of the annual export sales compared to the total sales, the study found that percentage of annual export sales as compared to total sales ranged between 15% to 50%. This shows that firms listed in the Nairobi Stock Exchange also sell to foreign countries.

The study sought to determine the percentage growth in the annual total sales in the last 10 years, from the findings the study revealed that this ranged between 10% to 35% of the annual total sales. This shows that there has been a significant growth in the annual total and export sales for firms listed in the Nairobi Stock Exchange.

Table 4.17: Descriptive Statistics for annual growth in exports

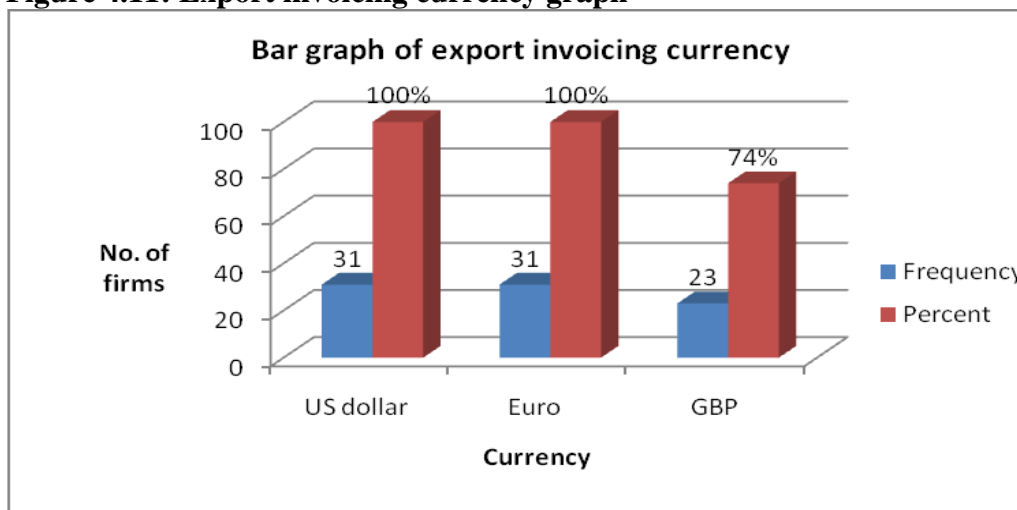
						95% Confidence Interval of the	
	T	Df	Sig. (2-	Mean	Std. Deviation	Lower	Upper
% change in annual exports	13.794	31	.000	15.2188	6.24104	12.9686	17.4689

Where t is the t-value and Df is degree of freedom showing the number of annual export growth values in the final calculation of a statistic that is free to vary. T-tests have been used to determine whether there are significant differences between the two groups with respect to a given annual export growth endpoint. The mean growth in annual exports for firms listed in the Nairobi Stock Exchange was found to be 15.2188, the standard deviation was high at 6.24104 an indication that there was a high variance in the growth of export sales between the listed companies. The t-value was found to be statistically significant at 13.794 as their significance value was less than 0.05 meaning the probability that the means of the two populations are not the same as described in table 4.17.

Table 4.18: Currency used to invoice exports

Currency	Frequency	Percent
US dollar	31	100%
Euro	31	100%
GBP	23	74%

Figure 4.11: Export invoicing currency graph

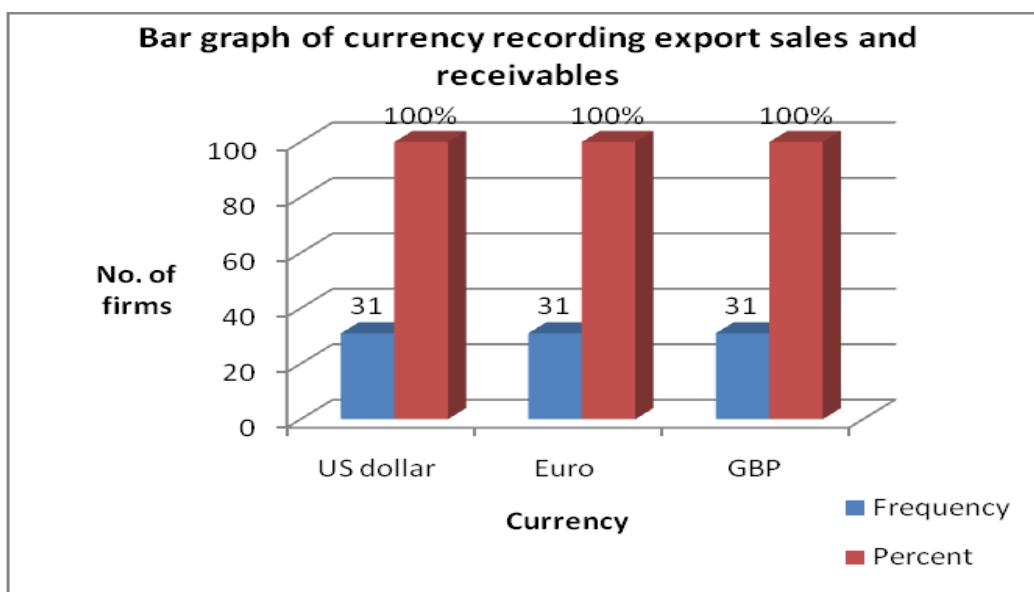


The study sought to determine the currency used to invoice the export sales by firms listed in the Nairobi Stock Exchange as illustrated in table 4.18 and figure 4.11. From the findings, the study found that most of the firms use US dollar and Euro as shown by 100% and GBP as shown by 74%, this shows that US dollar, Euro and GBP are the most currencies used by the firms listed in the Nairobi Stock Exchange to invoice their export sales. The study further revealed those firms listed in the Nairobi Stock Exchange do not record all their sales and receivable in Kenyan shilling as shown by 100% of the respondent who indicated no to the question.

Table 4.19: Currency for recording export sales and account receivables

Currency	Frequency	Percent
US dollar	31	100%
Euro	31	100%
GBP	31	100%

Figure 4.12: Currency recording export sales and receivables graph



The study sought to determine the currency used to record sales and account receivable for firms listed in the Nairobi Stock Exchange. From the findings, the study found that most of the firms listed in the Nairobi Stock Exchange use US dollar, Euro and GBP to record their sales and account receivables as shown by 100% in each case in table 4.19 and figure 4.12. This sought to confirm if the usage of foreign currencies in export sales and account receivables has any impact on the future receipt of the foreign debts invoiced in foreign currency.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This study had identified the listed companies in the Nairobi Securities Exchange as the study subjects. Questionnaires were administered to listed firms in the NSE respondents were informed that responses to the questionnaires were to be confidential and identities of respondents and their firms would not be revealed. From the analysis and data collected, the following discussions, conclusion and recommendations were made. The responses were based on the objectives of the study. The researcher had intended to establish the effect of unrealized foreign exchange gain or loss on Net Income of listed companies, to evaluate the influence of foreign exchange on import costs on the Net Income of listed companies and to determine the effects of foreign exchange on export sales towards the Net Income of listed companies.

5.2 Summary of Findings

From the findings on the department which deals with risk management in the firms listed in the NSE, the study found that finance department and treasury department were responsible for dealing with risk management in the firms listed in the Nairobi Stock Exchange. On whether listed firms had a written foreign exchange policy, the study found that majority of the firms listed in the NSE had written foreign exchange policy as indicated by majority of the respondent who indicated yes. Those firms that had written foreign exchange policy the study revealed that majority of them were hedging fully, some were hedging partially whereas other firms didn't hedge at all, this information shows that the firms listed in the NSE that have written policy on foreign exchange exposure are hedging fully while others are hedging partially.

To those firms that didn't have a written policy on foreign exchange the study revealed that they were hedging against foreign exchange risk. This shows that all the firms listed in the NSE were hedging against foreign exchange risk. On those firms that were partially hedging against foreign exchange, the study revealed that their percentage of hedging ranged between 10% to 35%.

The study also sought to determine the effectiveness of the foreign exchange policy for the firms listed in the NSE; the study found that majority of the respondent firms indicated that the foreign exchange policy was good; this shows that foreign exchange policy used by the firms listed in the NSE was above average. On the most effective internal/natural hedging techniques that best suit the respondent firm, the study found that in terms of exports lead was effective in companies between 5% to 10%, lag 5% to 15%, netting 10% to 20%, invoicing in foreign currency 50% to 70% and money market between 5% to 40%. In terms of imports leads were effective between 5% to 15%, lags were between 10% to 15% netting were effective between 5% to 20% negotiating local price on imports between 50% to 60% and money market were between 10% to 20%.

On the most effective external hedging techniques from the findings in the above table, the study found that in terms of exports spot were effective between 10% to 80%, forwards between 5% to 20%, currency swap between 40% to 50%, currency option between 20% to 30% whereas futures were effective between 15% to 20%. In terms of imports the study found that spot were effective between 15% to 80%, forwards between 10% to 20%, currency swap between 20% to 40%, currency option between 20% to 30% whereas futures were effective between 10% to 15%. On the account posted with foreign exchange gains or losses, the study revealed that majority of firms used income statement whereas others firm used owners' equity through reserves or retained earnings to post foreign exchange gains or losses. These findings strongly reveal there is an effect in the company's financial performance as a result of dealing with foreign exchange in the normal business operations.

From the findings on the total purchases of the firms, the study found that total purchases of the firms listed in the NSE ranged between 700 million to 29 billion Kenyan shillings with an import range of 140 million to 10.15 billion Kenya Shillings. On the percentage of the annual import purchases compared to total

purchases, the study found that percentage of import purchases ranged between 15% to 75% of the total purchases an indication that firms listed in the NSE were prone to foreign exchange risk in their import purchases. The study sought to determine the percentage growth in annual import purchases in the last 10 years. From the findings, the study revealed that there was 10% to 50% growth in the annual import purchases in the last 10 years.

On the currency used by the suppliers to invoice the firms listed in the NSE, the study found that majority of the firms are invoiced using Kenyan shillings, US dollars, Euros, Sterling pound and Japanese yen. This shows that Kenya shilling, US dollar, Euro, GBP and Japanese yen were the currencies mostly used to invoice the firms listed in the NSE by their suppliers. From the findings on the currency used in recording of purchases and accounts payable, the study revealed that the firms listed in the NSE used the following currencies to record the purchases and account payable; Kenyan shillings, US dollars, Euros, GBPs, Japanese Yens and South African rands. The study sought to determine the currency used to pay foreign accounts payable. From the findings, the study found that majority of the firms listed in the Nairobi Stock Exchange used Kenyan shilling, US dollar and Euro to pay foreign accounts payable.

The study also sought to determine the total sales. From the findings, the study established that the total sales ranged between 900 million to 78.9 billion Kenyan Shillings with an export revenue range of 315 million to 35 billion Kenya Shillings. From the findings the study revealed that this ranged between 15% to 50%.

This shows that there has been significant change in the annual total sales for firms listed in the NSE. The study further revealed that there had been 10% to 35% growth in the annual export sales in the last 10 years.

From the findings on the currency used to invoice the export sales by the firms listed in the NSE, the study found that most of the firms use US dollar, Euro and sterling pound, this shows that US dollar, Euro and sterling pound are the currencies mostly used by firms listed in the NSE to invoice their export sales. The study further revealed those firms listed in the NSE do not record all their sales

and accounts receivables in Kenya shillings. The study sought to determine the currencies used to record sales and accounts receivables for firms listed in the Nairobi Stock Exchange. From the findings, the study found that most of the firms listed in the Nairobi Securities Exchange use US dollar, Euro and GBP to record their sales and accounts receivable as shown by 100% in each case in table 18 and figure 16.

5.3 Conclusion

From the findings the study found that firms listed in the Nairobi Stock Exchange use income statement and owners equity account to record foreign exchange differences. The study thus conclude that unrealized foreign exchange gains/losses had an effect on the Net Income of multinational companies as it was posted to either income statement or owners' equity reserves. The study also found that there had been significant percentage change in imports for firms listed in the Nairobi Stock Exchange; the study thus concludes that use of foreign exchange has an effect on import costs and accounts payables with the net effect on the Net Income of multinational companies.

The study examined the exposure of listed firms on the Nairobi Stock Exchange to exchange rate risk for the period January 2001 to December 2010. The findings of the study are that, all the major hard currencies of international transaction are sources of foreign exchange risk to listed firms on the Nairobi Stock Exchange. The US dollar turned out to be the most dominant source of exchange rate risk at both the firm and sector levels. In general, most listed firms on the Nairobi Stock Exchange are significantly exposed to foreign exchange risk emanating from all the major hard currencies of international trade, namely, the US dollar, the Sterling pound, the Euro and the Japanese Yen.

The practical relevance of the research findings in foreign exchange management lies in the fact that, even though there are a number of techniques such as balance sheet hedging, use of derivatives, leading and lagging amongst others available to manage foreign exchange risk in most developed countries, these measures tend to be rather too sophisticated and difficult to implement in developing countries like

Kenya with less developed financial systems. Nonetheless, given the degree of exposure revealed in this study, corporate managers and investors in Kenya should endeavour to apply a combination of simple tools such as the use of forward contracts and swaps to supplement price adjustments and investment in foreign currency in order to minimize their exposure to exchange risk. Despite the shortcomings of the financial system in terms of availability of tools for managing foreign exchange risk exposure, instruments are still available to manage the risk exposure.

The study therefore concludes that foreign exchange affect the companies, imports and accounts payables and export sales and accounts receivables thus with the net effect on the Net Income of multinational companies through the income statement or the owners equity reserves.

5.4 Recommendations

From the findings of this research, the study recommends that firms listed in the Nairobi Stock Exchange should explore avenues to enhance capacities within firms for managing foreign currency risk exposure. They should explore the route of continued education for those in workplaces through short term training that should be very practical oriented, this could involve professional organizations for finance specialists, bankers, accountants and consultants. Such training should ideally be out of site because of the need to meet participants from diverse businesses and orientations for training and assessment to avoid internal interruptions. These trainings should not only cover foreign currency risk alone but rather could be preceded by introductory contents on the import-export trade and the practical market challenges facing the industries.

As found out in this study, the exchange rate risk faced by firms forms a significant component of their risk profile. It is therefore imperative that listed firms and generally all firms in Kenya with and without international operations effectively manage their risk to minimize their exposure to exchange rate risk. In an increasingly globalizing economy, domestic corporations, their suppliers, and their customers are not insulated from the effects of international economic cycles, currency movements, and global competition.

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Appendix 1: Research Questionnaire

PART I – COMPANY PROFILE

1) Company name.....

2) Respondent's name.....

3) Respondent's department.....

4) Industry of operation.....

5) No. of employees.....

6) Years of operation in Kenya.....

PART II - UNREALIZED FOREIGN EXCHANGE GAIN OR LOSS ON NET INCOME OF A COMPANY

7) Which department or section deals with risk management in your organization?

Finance

Treasury

8) Does your company have a written foreign exchange policy?

Yes No
Don't Know

9) If number 8 is (Yes) what is your hedging policy in your organization?

Hedging fully hedging
 partially
Not hedging at all
 Do
 n't Know

10) If number 8 is (No) do you still hedge against foreign exchange risk?

Yes No
Don't Know

11) If your policy is hedging partially in number 9 above, what is the percentage?

.....%

12) How effective is the foreign exchange policy? Please tick one.

Excellent Good Average
Below average Poor

13) In your opinion which are the most effective hedging technique which best suits your organization?

a) Internal/natural techniques

Trade	Leads	Lags	Netting	Invoicing in FX currency	Negotiating local price on imports	Money market e.g. FX	None	Total
Expo								100%
Impo								100%

b) External techniques

Trade	Spot	Forwards	Currency	Currency	Futures	None	Total
Exports							100%
Imports							100%

14) Which account do you post your foreign exchange gain or losses?

Income statement

Owners equity

**PART III – EFFECTS OF FOREIGN EXCHANGE
IMPORT COSTS ON NET INCOME OF A COMPANY**

15) What is your annual total purchases (Kshs. Millions).....

16) What is the percentage of the annual import purchases as compared to no.15 above?.....%

17) What has been the percentage change in the annual import purchases in the last 10

years %

18) Which foreign currencies are you invoiced in by your suppliers?

Kshs US\$ Euro(€) GBP(£)
 Japanese Yen(¥) Others

.(Specify)

19) Which currencies do you book all your purchases and account payables?

(tick if more than one).

Kshs US\$ Euro(€) GBP(£)
 Japanese Yen(¥) Others

.(Specify)

20) Which currencies do you use to pay your foreign account payables? (tick if

more than one).

Kshs US\$ Euro(€)
 GBP(£) Japanese Yen(¥)
 Others (Specify)

**PART IV–EFFECTS OF FOREIGN EXCHANGE EXPORT SALES
ON NET INCOME OF A COMPANY**

21) What is your annual total sales (Kshs.
Millions).....

22) What is the percentage of the annual export sales as compared
to no.21 above?.....%

23) What has been the percentage change in your annual total sales in the last 10
years

.....%

24) What has been the percentage in annual export sales in the last 10 years

.....%

25) Which currencies do you invoice your exports?

Kshs US\$ Euro(€) GBP(£)
Japanese Yen(¥) Others

.(Specify)

26) a) Do you book all your sales and receivables in Kshs?

Yes

No

b) If (Yes) in 26a above, which currencies do you receive your foreign account receivables? (tick if more than one).

Kshs US\$ Euro(€) GBP(£)
Japanese Yen(¥) Others

.(Specify)

c) If (No) in 26a, which currencies do you book your sales and account receivables? (tick if more than one).

US\$ Euro(€) GBP(£)
Japanese Yen(¥) Others

.(Specify)

Appendix II: Currency exchange gains/losses extracted from financial statements
Currency in Millions of Kenya Shillings

Company	Year	Year	Year	Year	Years
Agriculture					
1. Rea Vipingo Ltd.	-8.2	-4.5	1.5	4.0	2007-2010
2. Sasini Tea & Coffee Ltd.					
3. Kakuzi Ltd.	17.8	21.2	18.3	0.6	2007-2010
Commercial and Services					
4. Access Kenya Group Ltd.	10.0	-1.0	-3.4	-43.0	2007-2010
5. Marshalls E.A. Ltd.					
6. Car & General Ltd.	16.7	10.1	49.4	-16.7	2007-2010
7. Hutchings Biemer Ltd.					
8. Kenya Airways Ltd.	-56.0	62.0	-389.0	361.0	2008-2011
9. CMC Holdings Ltd.	-1.6	27.5	--	15.6	2007-2010
10. Uchumi Supermarkets Ltd.					
11. Nation Media Group Ltd.	--	--	--	--	2007-2010
12. TPS (Serena) Ltd.					
13. Scan Group Ltd.	-11.8	5.1	-4.7	--	2007-2010
14. Standard Group Ltd.	-0.5	-0.1	--	--	2008-2009
15. Safaricom Ltd.	587.9	-824.7	-256.1	111.8	2008-2011
Industrial and Allied					
16. Athi River Mining Ltd.	26.6	-108.1	52.3	31.6	2007-2010

17. BOC Kenya Ltd.					
18. British American Tobacco Kenya Ltd.					
19. Carbacid Investments Ltd. .	4.7				2004/8/9/10
20. E.A. Cables Ltd.	-6.5	--	--	--	2007-2010
21. E.A. Breweries Ltd.	--	-24.6	52.2	18.0	2007-2010
22. Sameer Africa Ltd.	162.1	152.6	-199.7	--	2008-2011
23. Kenya Oil Ltd.	18.9	-61.7	-1.9	-19.1	2007-2010
24. Mumias Sugar Company Ltd.					
25. Unga Group Ltd.	2.3	-66.9	-246.9	-146.1	2007-2010
26. Bamburi Cement Ltd.	-5.8	--	--	-77.3	2006/8/9/10
27. Crown berger (K) Ltd.					
28. E.A Portland Cement Co. Ltd.					
29. Kenya Power & Lighting Co. Ltd.	1,336.9	131.4	-138.4	154.9	2007-2010
30. Total Kenya Ltd.	--	--	-48.8	-2.3	2007-2010
31. Eveready East Africa Ltd.	21.4	-12.3	7.4	-20.5	2007-2010
32. Kengen Ltd.					

From the above appendix iv, gain represents positive (no sign) while loss is negative (-). The firms with no figures had no data from the source.

Data Source:

<http://investing.businessweek.com/research/stocks/financials/financials.asp?ticker>