THE IMPLICATIONS OF FOREIGN EXCHANGE EXPOSURE ON THE OIL MARKETING COMPANIES IN KENYA

BY

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SUMMER 2015
STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit.

Signed: ______________________  Date: __________________________

Judy Mwangi (641678)

This project has been presented for examination with my approval as the appointed supervisor.

Signed: ______________________  Date: __________________________

Dr. Amos Njuguna

Signed: ______________________  Date: __________________________

Dean, Chandaria School of Business
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ABSTRACT

The purpose of this research was to examine the implications of foreign exchange exposure on Oil Marketing firms in Kenya. The research was conducted to identify the types of foreign exchange exposures facing oil firms, various non-instrumental strategies used to mitigate foreign exchange exposure risk among Oil firms in Kenya and also determine the instrumental techniques used for managing foreign exchange risks.

The research problem was done through descriptive survey research design that targeted 10 oil marketing firms. The target population was stratified based on their market share. The large firms were 3 which all formed part of the sample, medium firms were 17 whereby 4 OMCS’ were randomly chosen and small were 16 whereby 3 were randomly chosen. The study applied purposive sampling of selecting 3 employees in the finance department to make a sample of 3 respondents from each organization. The study used a survey method of data collection. Descriptive statistics approach was used for data analysis and the findings were presented in bar charts, graphs and pie charts. Content analysis was used to analyze data that was qualitative in nature or aspect of the data collected from the open ended questions. Statistical inferences were made by use of correlation analysis.

The study found that OMCS’s were highly affected by all the three foreign exchange exposures: these are translation; transactional and economic exposure. However translational and transactional exposure did not affect the firm’s investment strategy to a high extent. Translation exposure also didn’t have a high effect on the cash flow. Cash flow was mainly impacted by transaction and economic exposure.

Further, the study found that the most popular non-instrumental techniques in mitigating foreign exchange exposure risks by OMCS’ were, continuously measuring and quantifying through the foreign exchange gain or loss in the financial statements, cash flow matching, leading and lagging and changing the currency of billing. The least common is increasing prices due to competition and ERC price controls.

Further the study concluded that the most popular instrumental techniques to mitigate foreign exchange exposure risks by OMCS’ were money market contracts and to a moderate extent
the forward and future contracts. Swaps and options were least common. A combination of both instrumental and non-instrumental techniques is also very common.

The study recommends that oil firms should closely monitor their losses or gains that arise due to foreign exchange fluctuations since it impacts firm overall performance and operations. It also recommends a deliberate effort by the firms to embrace use of derivatives through trainings and over the counter short term derivatives and use of other available consultants since proper use of derivatives offers protection to firms.
ACKNOWLEDGEMENT

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<table>
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<tbody>
<tr>
<td>ERC</td>
<td>Energy Regulatory Commission</td>
</tr>
<tr>
<td>FX</td>
<td>Foreign Exchange</td>
</tr>
<tr>
<td>KPC</td>
<td>Kenya Pipeline Company</td>
</tr>
<tr>
<td>KPRL</td>
<td>Kenya Petroleum Refineries Ltd</td>
</tr>
<tr>
<td>MNCs</td>
<td>Multi-National Corporations</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package For Social Science</td>
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<tr>
<td>USA</td>
<td>United States of America</td>
</tr>
<tr>
<td>OMCs</td>
<td>Oil Marketing Companies</td>
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<td>PIEA</td>
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

There are three types of foreign exchange exposure that face firms, namely, translation exposure, transaction exposure and economic exposure. According to Wang (2009), translation exposure arises as the financial accounting statements of foreign affiliates are translated into the currency of the parent firm. Transaction exposure measures how the home currency value of a firm’s foreign currency denominated contractual cash flows would be affected by exchange rate fluctuations. Economic exposure measures how the value of a firm, the present value of all future cash flows, will be affected by changes in foreign exchange rates.

Foreign currency exchange risk is the variance of a firm’s cash flows that may be associated to currency fluctuations (Brigham and Ehrhardt, 2008). Salifu, (2011) stated that foreign currency risk management means taking actions that will minimize the negative effects of currency fluctuations on the financial statements, on firm’s receivables and payables arising from existing obligations, and on long term future cash flows of a firm. Innovativeness of the managers and rapid growth of financial instruments have made accessible to firms mitigating tools that can be used in dealing with the impact of foreign currency rate fluctuations. These tools are commonly known as hedging techniques.

Salifu, (2011) found that, exchange risk management takes the following steps, determination of exposure is the first step, the market trend is then forecasted with special attention the forex rate trend forecast of the market trends. The forecasting period is usually six months. By using the forecast, Value at risk is measured and the probability of this risk is ascertained. This is compared with the firms set limits for foreign exchange exposure (Brigham and Ehrhardt, 2008).

Hedging transaction exposure can increase firm value by reducing the variability of cash flows and thereby reducing expected costs associated with financial distress, taxes or the underinvestment problem. In addition, since transaction exposure hedges can affect the
variability of firm value they can also affect the risk of poorly diversified managers’ shareholdings. Hedging exposure attracts a lot of managerial and financial resources. Hence, knowledge about whether derivative hedging adds value to firms is of importance to shareholders (Hagelin, 2003).

Translation gains or losses tend to be unrealized and have little direct impact on firms’ cash flows, which suggests that translation exposure hedges create little shareholder value through reducing expected costs of financial distress, taxes or the underinvestment problem. It can also be a poor estimator of real changes in firm value, which suggests that managing translation exposure is also inefficient in reducing the share price exposure (Hagelin, 2003).

Centralized risk management activities are becoming very common and also the use of derivatives. Foreign exchange risk is the risk most commonly hedged with derivatives. Interest rate risk is the next most commonly managed risk. Lack of knowledge about derivatives is the aspect causing the most concern among derivatives users. The most important reason for using hedging with derivatives is managing the volatility in cash flows, and secondly because of the market value of the firm (El-Masry, 2006).

Non-financial firms can implement risk management not only through financial hedging which is basically use of derivatives that reduces volatility in the near term, but also through operational hedging via the location and structure of operations and the ability to modify operations in response to currency movements. This reduces the long-term impact of exchange rate changes on firm value. Consequently, if firms react rationally to their exposures, most firms will either have no exposure to start with, or reduce their exposure to levels that may be too small to detect empirically (Bartram & Bodnar, 2007).

According to He and Ng, (2008), these studies have recorded proof of exposure by a significant number of the organizations with critical resources and cash flows denominated in foreign currency. In majority of these studies, exposure is measured by assessing the sensitivity of stock returns to exchange rate fluctuations. Choi (2012) inspected USA banks and discovered that around 20 per cent of them were significantly exposed to foreign risk over the 1995-2007 period.
As the nature of business becomes international, many firms are exposed to the risk of fluctuating exchange rates. Changes in exchange rates may, according to Eun and Resnick (2009), affect the settlement of contracts, cash flows, and the firm valuation as measured by share prices. It is thus important for financial managers to know the firm’s foreign currency exposure and properly manage the exposure. By doing so, managers can stabilize the firm’s cash flows and enhance the firm’s value, (Brigham and Ehrhardt, 2008).

As the economy becomes increasingly globalised, more firms are subject to international competition. Fluctuating exchange rates can seriously alter the relative competitive positions of such firms in domestic and foreign markets, affecting their operating cash flows (Eun and Reswick, 2009).

The effect of exchange rate changes on the operations, cash flows and market values of MNCs is well documented. Several studies on MNCs, hedging, and exchange rate risk have stressed the fact that as MNCs expand their involvement throughout the world, the higher the probability that they will face exchange rate fluctuations/volatility in their operations. In turn, they face the possibility of negative effects on their cash flows. To safeguard the company’s overall interests, cash flows, and equity, the extensive use of various hedging techniques by most companies has been widely recognized.

Mathur (2012) found that most companies institute a hedging program to reduce the negative effects of foreign exchange rate changes on their cash flows and reported earnings. He also found that a formal foreign exchange management policy is more common among larger firms. Bartov, Bodnar and Kaul (2009) found a relationship between exchange rate variability and stock return volatility, and attribute this to foreign currency transaction. They also found that MNCs that do not use hedging strategies are more vulnerable to losses due to exchange rate fluctuations. Choi and Prasad (2010) also found a link between exchange rate risk and declines in cash flows and market values.

An important task of the financial manager is to measure foreign exchange exposure and to manage it so as to maximize the profitability, cash flows, and market value of the firm. These three components-profits, cash flows and market value are the key financial elements of how
the relative success or failure of a firm is viewed. The reported earnings of any publicly traded company are fundamental to the market’s opinion of that company (Copeland, 2008).

The floating exchange rate system was adopted in Kenya in the 1990s and was expected to have several advantages for Kenya. First, it would allow a more continuous adjustment of the exchange rate to shifts in the demand for and supply of foreign exchange. Second, it would equilibrate the demand for and supply of foreign exchange by changing the nominal exchange rate rather than the levels of reserves. Third, it would give Kenya the freedom to pursue its monetary policy without having to be concerned about balance of payments effects. Thus the country would have an independent monetary policy, but one that was consistent with the exchange rate movements. Under the floating system external imbalances would be reflected in exchange rate movements rather than reserve movements. However, the exchange rate was allowed to float in an environment of excess liquidity, and massive depreciation and high and accelerating inflation ensued (Ndung’u, 2000).

Oil companies in Kenyan market are significantly exposed to foreign exchange risk through transactions involving importation of oil products and subsequent exportation to the neighboring countries. Both the importation and exportation is mainly quoted in US Dollars since world prices are also quoted in dollars. Petroleum fuels constitute the main source of commercial energy in Kenya. Kenya is a net importer of petroleum products and has a refinery owned and managed by the Kenya Petroleum Refineries Ltd (KPRL) currently out of service, an 800 km cross country oil pipeline from Mombasa to Nairobi and Western Kenya with terminals in Nairobi, Nakuru, Eldoret and Kisumu, run by the Kenya Pipeline Company (KPC). The sector also boasts of over 30 oil importing and marketing companies comprising of five major companies namely Shell / Vivo, Total, Kenol/Kobil, Oil Libya, Gulf and other emerging oil companies which include the Government owned National Oil Corporation of Kenya (ERC Website).

Kenya being a net importer of oil, the OMC’s are exposed to foreign exchange transactions while purchasing the products either locally from other OMC’s or while importing the whole parcel to sell to other importers. Other than the duties that are locally paid, the rest of product costs are dollar based. The companies must convert the local currency to foreign currency specifically to dollar. The rate at which the conversion is done is subject to market
fluctuations. The oil marketing firms are also involved in exporting oil to the landlocked East African countries which include Uganda, Burundi and Rwanda. All export transactions are executed in dollars which has to be reported in local currency Kenya shillings.

The share of Kenya’s exports in GDP has remained constant since 2005, while the share of Kenya’s imports has increased. Specifically, exports marginally declined from 24.3 percent in 2005, to 23.1 percent of GDP in 2012, while at the same time imports as share of GDP increased from 32 percent to 40 percent. Though a significant portion of the increase of imports can be attributed to the oil bill and increased imports of machinery, transport goods and other intermediate goods, the appreciation in the real exchange has contributed to the problem (Kenya Economic Update, 2013).

More recently, the deterioration in the current account reflected an increase in non-oil imports by 13.8 percent to US$ 12.2b in 2012, from US$ 10.7 in 2011. Crude oil imports were not a major factor driving the current account deficit in 2012, as the oil bill remained the same as in 2011 at US$ 4.1 billion. Capital imports were a major factor, increasing by 29 percent from US$ 3.7 billion to US$ 4.9 billion (Kenya Economic Update, 2013).

1.2 Problem Statement

Grambovas and McLeay (2006), in their research confirmed that there exists a relationship between value of the firm and foreign exchange rates movements. Changes in exchange rate could create a shift in stock prices for multinational firms, exporters and importers companies, companies that import part of their inputs and also those that import for other companies. Exchange rate movements affect prices of both imported finished goods and the costs of imported inputs, hence impacting by implication those organizations that compete with such firms.

The domestic currency Kenya Shilling has been struggling due to a strong US dollar, which is performing well against a wide basket of emerging market currencies over the years but it has been worst hit in the years 2014 and 2015. Business Monitor International predicts that the dollar will continue to strengthen due to a combination of tighter monetary policy and faster economic growth. The two main factors in the shilling’s depreciation are export
weakness, low tourism and dollar strength and are set to continue in to 2015, keeping pressure on the currency (Global Strategy - FX’, October 27, 2014).

It is in this context that this research evaluated the types of impacts (if any) that variations in the exchange rate has on the firm, whether there are any actions that are taken to mitigate the extent of the losses to the firm, this is particularly targeted to the oil firms whose commodities are purely imported and if purchased locally they are partially denominated in dollar.

Ngari (2011), carried out a study on the effect of foreign exchange exposure on a firm’s financial performance for listed companies in Kenya. In his study, he found that the net income of the companies is affected by all the transactions that are denominated in foreign currency. This study looked at overall impact of foreign denominated transactions on oil firms in Kenya and the different types of exposures facing firms unlike the study above.

Changes in exchange rates have an impact on a firm’s economic value that can be quite different from the impact on the firm’s financial statements. Analysts and investors who use financial statements must be aware of the potential divergence between the economic and accounting effects of exchange rate movements so that they can understand the firm’s economic situation, its foreign currency exposure, and its hedging policies (Brien , 1997).

Chiira (2009), found out that all the oil companies, find foreign exchange risk to be significant to them and most of them rank it as second to fluctuation in global crude oil prices. This study will review how this exchange risk impacts the firms and the actions they take to mitigate the risks.

Avutswa (2010) found out that the horticultural firms use various techniques to manage the risk which they face. The techniques they use include payment netting, prepayment, leading and lagging and hedging with derivatives. The major reason found as to why the horticultural firms hedge was found to be to cushion the firms against fluctuation in cash flows, volatility
in earnings, tax incentives of derivatives and maintenance of market value. This study was to found out whether oil firms do take similar actions as the horticultural firms.

1.3 Purpose of the Study

The purpose of this study was to establish the implications of foreign exchange exposure on the oil marketing companies in Kenya.

1.4 Research Questions

The study sought to answer the following research questions

1.4.1 What foreign exchange exposures are oil firms in Kenya exposed to?
1.4.2 What non-instrumental strategies do Kenyan oil firms use to manage their foreign exchange exposure?
1.4.3 What instrumental techniques do Kenyan oil firms use to manage their foreign exchange exposure?

1.5 Significance of the Study

1.5.1 Management of Oil Companies

The study has following practical values: The study will provide useful insights into the effectiveness of derivatives as an exposure management tool. The study will add to the body of empirical literature on use of derivatives to deal with exchange rate exposure of oil firm in Kenya. Helps the oil firms to analyze the impacts of foreign exchange fluctuations to them and hedging methods that are currently being applied. Thus understanding how efficient the controls are.

1.5.2 Policy Makers

The policy value of this study will be to provide the regulators with deeper understanding that can be used to facilitate best practices and regulatory policy formulation. It will also provide useful management information on the extent to which derivatives as a hedging instrument should be adopted in the Oil, industry in Kenya.
1.5.3 Academically

Academically this study will add to the current body of knowledge on impacts of foreign exchange exposure and fluctuations to oil firms in Kenya. To the scholars and researchers, this study has provided a basis for future studies on the area of foreign exchange rate risk management.

1.6 Scope of the Study

This study focused on understanding the impact of foreign exchange transactions on the operations and performance of oil marketing companies based in Kenya. The study focused on 10 out of the 36 oil firms operating in Kenya. A sample of 30 employees was selected, 3 from each firm all of whom worked in the finance department. The study began in January 2015 and run through to July 2015. Data was collected through the use of questionnaires.

1.7 Definition of terms

1.7.1 Foreign Exchange Exposure

Foreign exchange exposure of a firm refers to the sensitivity of its economic value, or stock price, to exchange rate changes (Heckman, 2013).

1.7.2 Hedging

Jamal and Khalil (2011) define hedging as the technique of making offsetting commitments in order to minimize the impact of unfavorable potential outcomes.

1.7.3 Derivative Instruments

A derivative is a financial instrument whose value depends on or is derived from the value of some other financial instrument, called the ‘underlying asset’ (Anderson and McKay, 2008).

1.7.4 Interest Rate Caps

Hull (2013) defines interest rate cap is actually a series of European interest call options (called caplets), with a particular interest rate, each of which expire on the date the floating loan rate is reset.
1.8 Chapter Summary

The following areas of discussion are included as subsections in the introduction chapter. They are as follows; background of the problem, statement of the problem, purpose of the study, research questions, importance of the study, scope of the study and definition of terms. Chapter two will be literature review, chapter three will be research methodology, chapter four will be results and findings and chapter five will be the discussion, conclusion and recommendations.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter discusses the literature review undertaken for the study. In specific the section covers the various types of foreign exchange exposures facing oil firms, identify various non-instrumental measures that can be taken to mitigate risks arising from the foreign exchange exposure and identify the various instrumental measures used for managing foreign exchange risks.

2.2 Types of Foreign Exchange Exposures Facing Oil Firms

Exchange rate exposure is the risk of loss in company’s value or business’s operations due to fluctuations in currency values. Madura (2003) identified three types of foreign exchange exposure, which include translation exposure, transaction exposure and economic exposure.

Transaction exposure is the inherent risk that a company’s gains or losses will change favorably or otherwise upon the settlement of a foreign denominated obligation at a future date. According to Wang (2009), economic exposure measures the extent to which the firm’s value and present value of future cash flows will be influenced by the foreign exchange rate changes. Managing economic exposure tries to control and reduce the negative impacts on firm’s value.

Exchange rates have always fluctuated even during the gold standard era. Their values fluctuate as their demand and supply fluctuate. When a business has interests denominated in foreign currency it faces the risk of value loss or gain due to fluctuations in exchange rates also known as exchange rate exposure (Sekirin, 2014). However it wasn’t until the 1970’s when the Bretton woods system collapsed that many countries switched to floating exchange rate systems where exchange rates now were being determined by their supply and demand (Sekirin, 2014). Due to their unstable nature, floating exchange rates pose numerous risks when they fluctuate hence for businesses it becomes of utmost importance to monitor their
exposure to exchange rate risk. All micro and macro-economic factors act as risk factors to exchange rate exposure since they affect the flow of money and foreign currencies.

2.2.1 Translation exposure

Translation exposure is one of the three types of currency exposure. Translation exposure arises from assets and liabilities that are denominated in foreign currencies (Bradley and Moles 2002). In an accounting context, foreign currency translation is the restatement of accounting data expressed in one currency into another (Bogicevic, 2013) Accountants use various methods to insulate firms from these types of risks, such as consolidation techniques for the firm’s financial statements and the use of the most effective cost accounting evaluation procedures. In many cases, this exposure will be recorded in the financial statements as an exchange rate gain or loss (Kathryn, Domingueza and Linda, 2011).

Exchange rate translation exposure measurement is important to all businesses because it affects them directly or indirectly. Translation exposure is related to firm size, multinational status, foreign sales, international assets, and competitiveness and trade at the industry level hence the firms must vigorously adjust their behavior in response to exchange rate risk (Koutmos, Martin and Dolan, 2013).

Habibnia (2013) described measurement of translation exposure as the difference between exposed assets and exposed liabilities. Exposed assets by this method are translated at the current exchange rate while the non-exposed assets are translated at the acquisition (historical) exchange rate using the current rate and temporal methods. Worldwide, FASB No. 52 which replaced FASB No. 8 requires American companies to record foreign exchange items on a balance sheet according to prevailing exchange rates. Adjustments for changes to market rates are only made when they affect the company's cash flow (FASB, 2014). In Kenya, translation exposure is explicitly stated in the statement of comprehensive income under the classification: “translation gains/losses from foreign operations”.

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2.2.2 Transaction Exposure

Fang, Lai and Miller (2014) states that transaction exposure measures how the home currency value of a firm’s foreign currency denominated contractual cash flows would be affected by exchange rate fluctuations. Transaction exposure arises from the possibility of incurring exchange gains or losses on transactions already entered into which is denominated in a foreign currency. Management of transaction exposure is to control and reduce the risk of exchange rate fluctuations involved in these contractual transactions. Transaction exposure arises from the possibility of incurring exchange gains or losses on transactions already entered into which is denominated in a foreign currency. Management of transaction exposure is to control and reduce the risk of exchange rate fluctuations involved in these contractual transactions (Krugman, 2009).

2.2.3 Economic Exposure

Economic exposure is also known as operating, competitive or strategic exposure. The relevant measure is now the change in the company’s present value as a consequence of changes in all future operating cash flows caused by unexpected change in exchange rates. Typically these changes influence future costs, prices and/or sales volume. The main difference between transaction and operating exposure is that the first one only measures changes in already contracted cash flows, while the latter focuses on changes in all expected future cash flows (Cameron, 2009).

Economic exposure measures how the value of a firm, the present value of all future cash flows, will be affected by changes in foreign exchange rates. Management of economic exposure is the effort to control and reduce the adverse effect of exchange rate fluctuations on firm value. Changes or fluctuations in exchange rates have effect on cash flows/value of firms engaged in international activities as well as firms of domestic nature. The value of a pure domestic firm may be affected by economic exposure through foreign competition in the domestic and local market (Krugman, 2009). Economic/ operating exposure is the effect of unexpected changes in the exchange rate on cash flows associated with a firm's non-monetary (real) assets and liabilities. Operating exposure is typically a long term exposure
that can usually be best managed through the implementation of operational hedges (Files, 2008).

2.2.4 Foreign Exposure Risk Management

According to Giddy (2009), exchange risk is the variance of firm’s cash inflows and outflows associated with exchange rate fluctuations. Foreign currency risk management are the activities taken to reduce the impacts of the currency fluctuations in the firm’s financial statements, on firm’s cash inflow and outflows from current and future transactions (Brigham and Ehrhardt, 2008).

Adler and Dumas (1984) exhibited a technique for evaluating the foreign exchange exposure using a single factor to estimate the versatility of firm’s equity returns to exchange rates. Jorion (2011) measured exposure using a two factor technique which later became the norm for controlling the exchange rate risk. He also found that exposure varies directly with the level of foreign involved from a research of firms drawn from the Fortune 500.

Doidge, Griffin and Williamson (2012) found that foreign exchange exposure is related to the level of foreign activity. They additionally found that vast firms display more foreign exchange exposure than smaller firms after controlling for the level of foreign activity. Bartov, Bodnar and Kaul (2009) found 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.

Bartram and Bodner (2007) in their study on exchange rate exposure on non-financial firms, found that, If firms manage their exposures, most firms will reduce their exposure to a small level or eliminate it. Consequently, the exposure puzzle may not be an issue of approach but rather the result of endogeneity of operative and financial hedging at the firm level.
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, (He and Ng, 2008).

2.3 Non-instrumental Strategies used to Mitigate Risks Arising from the Foreign Exchange Exposure

2.3.1 Firm’s Operational Strategies

There are two main ways in which firms can mitigate the impact of exchange rate changes on their profitability (Stulz, 2003). The firm can structure its operations so that the firm is operationally hedged against exchange rate fluctuations or use financial hedges. Structuring operations which is use of non-instrumental techniques of exposure management involves considering the mix of outputs, inputs, and locations of production in such a way as to minimize the net exposure to exchange rates, subject to the adjustment and operating costs of such structures (Bartram & Bodner, 2007). By more closely matching the foreign currency inflows and outflows, firms with significant foreign operations will find their exposure fall significantly relative to standard exporting or importing operations.

Various operating strategies can also be used to manage foreign currency exposure. In order to avoid the exposure, a company can maintain the amount of its foreign currency receivables in a particular currency equal to the balance of the overdraft in that currency. Currency bank account is particularly useful when a company engaged in international trade has receivables in excess of payables in the same currency (Buckley, 1986).
2.3.2 Non-Instrumental methods

There are many non-instrumental risk management instruments, which are being used by companies to manage their exposures to foreign exchange risks such as Risk management, Payments netting system, prepayment, leading and lagging. Each of these techniques differs in the way they are applied in each company’s situation (Carter, Pantzalis and Simkins, 2013).

Risk management is described as the performance of activities designed to minimize the negative impact (cost) of uncertainty (risk) regarding possible losses (Schmit and Roth, 1990). Redja (1998) also defines risk management as a systematic process for the identification and evaluation of pure loss exposure faced by an organization or an individual, and for the selection and implementation of the most appropriate techniques for treating such exposure. The process involves: identification, measurement, and management of the risk. The objectives of risk management include: to minimize foreign exchange losses, to reduce the volatility of cash flows, to protect earnings fluctuations, to increase profitability and to ensure survival of the firm (Fatemi, 2000).

For a multinational company, another alternative is to use re-invoicing center. It is a separate corporate subsidiary that manages in one location all transaction exposure arising from intra-company trade. Another operating strategy is netting that involves group companies to settle inter-affiliate indebtedness for the net amount owing. Gross intra-group trade receivables and payables are netted out (Buckley, 1986).

Pricing policy is another operating strategy that can be implemented through either price variation, or invoicing in foreign currency. Price variation involves increasing selling prices to counter the adverse effects of exchange rate changes. In some countries, price increases are the only legally available tactic for exposure management. Furthermore, a seller usually wishes to sell in his own currency, or the currency in which he incurs cost to avoid foreign-exchange exposure (Buckley, 1986).

Payments netting system or matching which is used in international transactions by multinational companies and involves reducing fund transfers between affiliates to only a
netted amount. It requires the firm to have a centralized organization of its cash management. There are basically two forms of payments netting. These include bilateral and multilateral netting. Bilateral netting involves the transfer of a netted amount between two affiliates. Bilateral payment is valuable only to the extent that subsidiaries sell back and forth to each other (Stern, 2014).

Multilateral netting involves the transfer of a netted amount among three or more affiliates. The use payments netting reduces the physical flow of funds from one subsidiary to another. As a result, measurable costs such as the cost of purchasing foreign exchange, the opportunity cost of the float (time in transit) and other transaction costs are minimized or eliminated. Netting systems are set up to reduce the costs associated with inter-affiliate cash transfers that result from business transactions. The payoff from multilateral netting systems can be large relative to their expense (Volkov, 2012).

Prepayment method of hedging requires the importer to pay the exporter in full before shipment is made (Hill, 2011). Payment is usually made in the form of international wire transfer to the exporter’s bank account or foreign bank draft. This method affords the supplier the greatest degree of protection and it is normally requested of first-time buyers whose credit worthiness is unknown or whose countries are in financial difficulty. If currency is thought to appreciate, then prepaying enables the company to pay at a lower rate. If the future rate finally depreciates, the firm is worse off than if it had done nothing, (Watkins, 2014).

Leading and lagging; a lead strategy involves attempting to collect foreign currency receivables early when a foreign currency is expected to depreciate and paying foreign currency payables before they are due when a currency is expected to appreciate. A lag strategy involves delaying collection of foreign currency receivables if that currency is expected to appreciate and delaying payables if the currency is expected to depreciate (Vogiatzoglou, Christodoulou, Pazarskis and Drogalas, 2012). Leading and lagging involves accelerating payments from weak-currency countries to strong-currency countries and delaying inflows from strong-currency to weak-currency countries.
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Wensheng, Yiqun and Yonghon (2014) in their study on foreign exchange risk management practices among Ghanaian firms involved in international trade found that a majority of the respondents never use hedging techniques in managing their foreign exchange risk. Foreign exchange risk is mainly managed by adjusting prices to reflect changes in import prices resulting from currency fluctuation and also by buying and saving foreign currency in advance. And the main problems firms face are the frequent appreciation of foreign currencies against the local currency and the difficulty in retaining local customers because of the high prices of imported inputs which tend to affect the prices of final products sold locally.

2.3.3 The Effect of Risk management Instruments of Forex Exposure

The motives for the usage of risk management instruments have been widely studied by researchers, with the focus being on whether firms use derivatives for hedging purposes to maximize shareholder wealth or for speculation. Bartram (2013), found strong evidence that the use of derivatives is, in fact, risk management rather than simply speculation. For example, firms that use foreign exchange risk management instruments have higher proportions of foreign assets, sales, and income and firms that use interest rate derivatives have higher leverage, Bartram (2013). Finance theory indicates that hedging with derivatives
can increase firm value by reducing expected taxes, expected costs of financial distress, under-investment costs associated with investment opportunities in the presence of financial constraints, and agency costs.

Mian (2006) studied a sample of 2,799 U.S. non-financial firms after the FASB introduced new reporting requirements for derivatives, found weak evidence with respect to taxes and inconsistent with regard to hedging based on financial distress costs, while Bartram (2013) findings are in line with the financial distress hypothesis. Nance, Smith and Smithson (2013) study the use of derivatives by 159 large U.S. non-financial corporations based on their responses to a questionnaire. They find that firms using risk management instruments have more growth options, are larger, employ fewer hedging substitutes, have less coverage of fixed claims, and face more convex tax functions.

2.3.4 Diversification

Froot (2013) asserts that, a properly diversified portfolio should include investments in a variety of industries and asset classes such as small-company stocks, international government bonds, and fixed annuities. According to Douglas (2008), diversification refers to the spreading of risk by putting assets in several categories of investments such as stocks, bonds, money market instruments, unit trusts and precious metals. It is a good investment strategy as losses from some investments are offset by gains in others. Investors can reduce risk, and improve the level of risk relative to return, by diversifying their portfolios.

Bodnar (2008) asserts that the key to diversification is to choose investments whose prices are not strongly correlated. Although some financial institutions use sophisticated financial models to calculate and control risks, a private investor can achieve good diversification with little more than reasonable common sense. Douglas (2008) asserts that, one of the most effective ways to diversify an investment is with asset (stock) allocation, and it is a good way to help smooth out volatility in your portfolio.

In asset allocation different asset classes (such as stocks and bonds) may respond differently to the same market conditions. This means if one part of a diversified portfolio does poorly it
can be buffered by other investments that do relatively better. In other words, asset allocation helps spread the risk over several investments. The key to asset allocation is investing in assets with dissimilar performance.

According to Ferson and Warther (2006), in a globalised economy investors in shares will find it hard not to have geographically diverse exposure, as so many listed companies have substantial sales or operations around the world. Within equity portfolio, an investor does not need to buy lots of different shares to be well diversified: eight or ten is enough provided their returns are not too highly correlated. Because diversification affects risk, it means that it also affects value (because diversifying away risk reduces the risk premium an investor requires).

2.4 Instrumental techniques for Managing Foreign Exchange Risks

Creativity by managers and innovations in financial instruments have made available to firms mitigating tools that can be followed in managing the impact of foreign currency rate fluctuations. These tools are commonly known as hedging techniques. A hedge is a means of prevention against a possible probable loss (Giddy, 2009). Hedging is the process of reducing exposure and consists of a number of techniques intended to offset or minimize the exchange risk of loss on the assets or liabilities which are denominated in a foreign currency.

Allayannis and Ofek (2011) and Simkins and Laux (2012) investigated the effect of financial hedging on foreign-exchange exposure. More recently, Pantzalis, Simkins, and Laux (2010) examined the ability of operational hedges to reduce exposure. However, few studies this far have examined the combined influence of financial hedges and operational hedges on foreign exchange exposure.

2.4.1 Hedging

According to Jamal and Khalil (2011) hedging refers to the technique of making offsetting commitments in order to minimize the impact of unfavorable potential outcomes. Hedging foreign exchange risks has become increasingly important to firms engaged in international transactions. Even prior to the 1970s when the Bretton Woods system dissolved and the
world's major currencies began to float, the amount of hedging was extensive, especially for those firms dealing in the less stable currencies. Growth in both size and geographical diversification of multinational corporations and the unexpectedly large and frequent movements in exchange rates have provided an increased impetus for hedging: more foreign exchange exposure to hedge and more need for protection against adverse exchange rate movements (Resnick, 2009).

While the theory of hedging foreign exchange risk is well developed, its decision criterion basically has dealt with whether or not to hedge. This approach has the intuitive appeal of the argument that if a part of a specific foreign exchange exposure should be hedged, all the exposure should be hedged. Each hedging decision, of course, is assumed to be made for a given set of costs (foreign exchange transactions costs and forward premiums/discounts on the relevant currencies), expectations of future spot rates, and management's degree of risk aversion (Resnick, 2009).

The risk manager’s choice of the different types of hedging techniques may, however, be influenced by costs, taxes, effects on accounting conventions and regulation.

2.4.2 Derivative Instruments

A derivative is a financial instrument which derives its value from the value of underlying entities such as an asset, index, or interest rate. It has no intrinsic value in itself. Derivative transactions include a variety of financial contracts, including structured debt obligations and deposits, swaps, futures, options, caps, floors, collars, forwards, and various combinations of these (Christopher, 2012). 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 (Koski and Pontiff, 2009).
Derivatives markets were small until the 1970s, when economic conditions and advances in the pricing of derivatives led to spectacular growth. During that period, the volatility of interest rates and currency-exchange rates increased sharply, making it imperative to find more efficient ways to hedge relative risks.

Bartram, Brown and Fehle (2009) found that derivative usage is associated with higher firm value, particularly for firms using interest rate derivatives. However, lack of awareness of the benefits that result from using derivatives may lead companies to lose out in the gains and protection that this instrument offers when carefully handled (Stulz, 2005).

There are four main types of derivatives contracts - forwards; futures; options and swaps. These allow users to meet the demand for cost-effective protection against risks associated with movements in the prices of the underlying security. In other words, users of derivatives can hedge against fluctuations in exchange and interest rates, equity and commodity prices, as well as credit worthiness. Specifically, derivative transactions involve transferring those risks from entities less willing or able to manage them to those more willing or able to do so. Derivatives transactions are now common among a wide range of entities, including commercial banks, investment banks, central banks, fund managers, insurance companies and other non-financial corporations (Nystedt, 2014).

Participants in derivatives markets are typically classified as either “hedgers” or “speculators”. Hedgers enter a derivative contract to protect against adverse changes in the values of their assets or liabilities. Hedgers enter a derivative transaction so that a fall in the value of their assets will be compensated by an increase in the value of the derivative contract. By contrast, speculators attempt to profit from anticipating changes in market prices or rates or credit events by entering a derivative contract. According to this definition, activities of speculators are inherently more risky and should warrant close monitoring by financial regulators (Jarrow and Turnbull, 2010). However, it is difficult to differentiate the two in practice. As pointed out by Jarrow and Turnbull (2010), hedging, risk reduction, speculation and risk augmentation are flip sides of the same coin.
Using available and relevant derivative financial instruments to manage and hedge against the exposure to foreign exchange and input/output markets has developed into a mandate, enforced upon the management by various market and corporate governance mechanisms, even if it were not required by financial regulatory authorities (Whaley, 2008). The major financial derivatives are futures, forwards, options and swaps, with a focus on foreign exchange (Jarrow and Turnbull, 2010).

Futures contract is a contract to buy or sell a stated commodity or financial claim at a specified price at some future specified time. They are used to lock in future prices of commodity or financial claim. This contract requires the holder to buy or sell the asset, regardless of what happens to its value during the interim. A financial manager can use the futures contract to effectively offset future price movements and thereby eliminate risk (Jarrow and Turnbull, 2010).

A forward exchange contract requires delivery, at a specified future date, of one currency for a specified amount of another currency. The exchange rate for the forward is agreed on today and the actual payment of one currency and the receipt of another currency take place at the future date. Forward rate is not the same as the spot rate that will prevail in the future. Forward contracts in major currencies can be available daily with maturities of up to 30, 90, and 180 days. They are used to hedge exposures that are short to medium term and whose timing is known for certainty Forward contract can reduce the uncertainty about the future thus reducing risk (Jarrow and Turnbull, 2010).

An option gives the holder the right, but involves no obligation, to buy or sell a given quantity of an asset in the future at a pre-determined price. There are two types of options. A call option gives the holder the right, but involves no obligation, to buy a given quantity of an asset at a time in the future at a pre-determined price, (Whaley, 2008). A put option gives the holder the right, but involves no obligation, to sell a given quantity of an asset at a time in the future at a pre-determined price. A currency option gives the holder the right, but involves no obligation, to buy or sell a given quantity of a currency in the future at a pre-determined
price, which is the exchange rate. Currency options can be traded on an organised exchange and over-the-counter (Jarrow and Turnbull, 2010).

In a swap, two counterparties agree to a contractual arrangement to exchange cash flows at periodic intervals. When cash flows from a swap are denominated in two or more currencies, the swap is a cross-currency interest rate swap, or a currency swap (Whaley, 2008).

Given the difficulty in anticipating exchange rate movements, corporate managers, investors and analysts have to devise means of managing or investing optimally to neutralize exchange rate risks. Due to the adverse effects of exchange rate exposure, and the difficulty in anticipating exchange rate movements, there have been increased attempts by researchers to determine the level and effect of exchange rate exposure of firms (Nystedt, 2014). The foreign exchange risk exposure literature is replete with a plethora of studies regarding the exposure of firms and countries to frequent changes in the exchange rates of domestic currencies in relation to the currencies of trading partner countries.

2.4.3 Interest Rate Caps and Floors

According to Hull (2013) an interest rate cap is actually a series of European interest call options (called caplets), with a particular interest rate, each of which expire on the date the floating loan rate is reset. At each interest payment date the holder decides whether to exercise or let that particular option expire. In an interest rate cap, the seller agrees to compensate the buyer for the amount by which an underlying short-term rate exceeds a specified rate on a series of dates during the life of the contract. Interest rate caps are used often by borrowers in order to hedge against floating rate risk.

Floors are similar to caps in that they consist of a series of European interest put options (called caplets) with a particular interest rate, each of which expire on the date the floating loan interest rate. In an interest rate floor, the seller agrees to compensate the buyer for a rate falling below the specified rate during the contract period. A collar is a combination of a long (short) cap and short (long) floor, struck at different rates. The difference occurs in that on each date the writer pays the holder if the reference rate drops below the floor. Hull (2013)
asserts that Interest rate Caps and Floors are basic products in hedging floating rate risk. They set the minimum return levels on one side of interest rate movement and allow the profit on the other side.

2.5 Summary of the Chapter

The chapter presented a review of literature by various writers on the impact of foreign exchange exposure to oil firms in Kenya. Specifically, literature review covered the various types of foreign exchange exposures facing oil firms, various non-instrumental strategies used to mitigate risks arising from the foreign exchange exposure and determined the instrumental techniques used for managing foreign exchange risks and chapter summary. The next chapter focused on the research methodology. It also focused on the population; described the data collection instruments and methods used. It also gave details of the research procedures and data presentation methods used.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research design for the study, the target population for the study, the sampling procedure used in conducting the study, methods of data collection, instrumentation issues with regard to validity and reliability, operational definition of variables, method of data analysis used in conducting the research and finally the summary of the chapter.

3.2 Research Design

Research design is the blueprint for fulfilling research objectives and answering questions. It is the conceptual structure within which research is conducted; it constitutes the blueprint for collection, measurement and analysis of data. It is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to research purpose with economy in procedure (Saunders, Lewis and Thornhill, 2009).

This research problem was studied through the use of a descriptive survey research design. According to Cooper and Schindler (2003), a descriptive study is concerned with finding out the what, where and how of a phenomenon. It is popular in business research because of its versatility. This study therefore is able to generalize the findings to all the oil firms in Kenya. This method concerns the intense investigation of problem solving situations in which problems are relevant to the research problem.

The research proposal focused on establishing the impact of foreign exchange exposure to oil firms in Kenya. The underlining concept was to select several targeted cases where an intensive analysis identifies the possible alternatives for solving the research questions on the basis of the existing solution applied in the selected case study. The study attempts to describe and define a subject, often by creating a profile of group of problems (Cooper & Schindler, 2006). Data was collected via use of online surveys and questionnaires disbursed through pick and drop. The estimated data collection period was four weeks.
3.3 Population and Sampling Design

3.3.1 Target Population

According to Ngechu (2004) a study population is a well-defined or specified set of people, group of things, households, firms, services, elements or events which are being investigated. Kenya has about 36 operational firms in the petroleum industry where the 3 largest companies, mainly multinationals, account for 72% of total market share. The rest of the companies, about 33 or so, compete for the remaining market share (ERC Annual Report 2012-2013). The study targeted 36 oil marketing firms. The target population was stratified in to large, medium and small companies.

Table 3.1: Target Population

<table>
<thead>
<tr>
<th>Department</th>
<th>Population</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td>Medium</td>
<td>17</td>
<td>47.2</td>
</tr>
<tr>
<td>Small</td>
<td>16</td>
<td>44.4</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>100</td>
</tr>
</tbody>
</table>

3.3.2 Sampling Design

3.3.2.1 Sampling Frame

A sampling frame is a comprehensive list of all sampling units, from which a sample can be selected, (Kombo and Tromp, 2006). The sampling frame for this study was the list of 36 registered oil companies in Kenya. A set of information used to identify a sample population for statistical treatment. A sampling frame includes a numerical identifier for each individual, plus other identifying information about characteristics of the individuals, to aid in analysis and allow for division into further frames for more in-depth analysis.

3.3.2.2 Sampling Technique

Sampling techniques provide a range of methods that facilitate to reduce the amount of data need to collect by considering only data from a sub-group rather than all possible cases or elements. At the time of conducting research, it is often impossible, impractical, or too
expensive to collect data from all the potential units of analysis included in the research problem. From the population frame the required number of subjects, respondents, elements, firms are selected in order to make a sample. Stratified random sampling technique was used to select the sample. According to (Kerry & Bland (2008) the technique produce estimates of overall population parameters with greater precision and ensures a more representative sample is derived from a relatively homogeneous population.

3.3.2.3 Sample Size
The study groups the population into three strata i.e. large, medium and small companies. This in turn increases the precision of any estimation methods used. For the large companies it will be a census. For the 17 medium companies and 16 small companies a simple random sampling method will be used to select 4 and 3 samples respectively. The study will then apply purposive sampling to select 3 senior employees in the finance department to make sample of 3 respondent from each organization and a sample of 30 respondents.

Table 3.2: Sample Size

<table>
<thead>
<tr>
<th>Department</th>
<th>Population</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Medium</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>Small</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>10</td>
</tr>
</tbody>
</table>

3.4 Data Collection Methods

The use of survey method of data collection was chosen for this study. The study used a semi structured questionnaires containing closed ended and open ended questions to collect primary data. Questionnaires were administered to the respondent through drop and pick method where the respondents gave their feedback later (Kothari, 2004). The reason for choosing a survey method is because the method is more efficient and economical as compared to other methods such as observation. Disseminating the questionnaires to the respondents through email was chosen because it gave the respondent ample time to give true and accurate information, less costly than personal interviews.
Drop and pick questionnaires gave the respondents enough time to think about the response they wanted to give concerning the impact of foreign exchange exposure to oil firms in Kenya. The researcher used likert scale questionnaire to ensure collection of data from many respondents within a short time (Mugenda and Mugenda, 2008). Secondary data regarding this study was sourced from Banks reports and other studies. Together with the data that was collected using the questionnaire, analysis was done and findings and conclusions drawn.

3.5 Research Procedures

The researcher sought an appointment with respondents before administering research instruments. The questionnaires were administered by the researcher and trained research assistant through a drop and collect method. The researcher and the research assistant took the questionnaire to the selected respondents who were selected through a random procedure to fill the questionnaires as they are waited. The key informants’ interviews were conducted by the researcher on appointment with the heads of departments in their offices.

3.6 Data Analysis Methods

In this study, a descriptive approach to data analysis was used to analyze data collected on the impact of foreign exchange exposure to oil firms in Kenya. The researcher perused through the completed questionnaires. Quantitative data collected was analyzed using SPSS and presented through percentages, means, standard deviations and frequencies. The information was displayed by use of bar charts, graphs, pie charts, regression and correlation. This involved tallying up responses, computing percentages of variations in response as well as describing and interpreting the data in line with the study objectives and assumptions through use of SPSS. Content analysis was used to analyze data that is qualitative in nature or aspect of the data collected from the open ended questions.

3.7 Chapter Summary

Chapter three has mainly described the research design and the methodology which was applied in the study to establish the impact of foreign exchange exposure to oil firms in Kenya. The research took the survey approach which was conducted using a structured questionnaire. The sample frame was obtained from employees of Oil Companies in Kenya.
The sample was selected through a convenience non-probability sampling method. The analysis of the data was done using the SPSS data analysis tool.

The following chapter, which is chapter four; covered the results and findings; this information was gathered after the data was collected and analyzed. Chapter five discusses conclusions and recommendations based on the findings of the research which was to establish the impact of foreign exchange exposure to oil firms in Kenya.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

The study was guided by a broad objective to determine the implications of foreign exchange exposure on the oil marketing companies in Kenya. The study used primary data that was collected through semi-structured questionnaires. Thirty questionnaires were distributed to finance department senior staffs of 10 OMCS. Out of the 30 questionnaires distributed, 27 were returned to the researcher. This represents a response rate of 90% which was considered sufficient for making generalization of the whole population. Bashir, Afzal and Azeem (2008) notes that reliability is the extent to which the data collected is plausible, credible and trustworthy. Reliability determines whether the instruments used in research measures what is meant to measure. This was determined by explaining to the respondents the purpose of the research.

4.2 Background Information

This section offers the background information on the length of service in the industry, the input denominated in foreign currency and the foreign currency that organizations are mainly exposed to.

4.2.1 Length of Service in the Industry

The study sought to determine the period in which the respondents had served in the oil industry not just their current organizations. Below are results of the findings in figure 4.1.
Figure 4.1: Length of Service in the Industry

From the above findings in Figure 4.1, 59.3% of the respondents had worked in the organization between 5-10 years, 22.2% of the respondents had worked between 11-15 years and another 11.1% of the respondents worked for 3 years. There was a tally of the respondents who worked between 16-20 years and above 20 years. This was accounted for by 3.7% in each category. This is an indication that most of the respondents had worked for more than 5 years and thus were in a position to provide accurate and reliable information in relation to the implications of foreign exchange exposure on the oil marketing companies in Kenya.

4.2.2 The Amount of Input Denominated in Foreign Currency

The respondents were asked to indicate the amount of input denominated in foreign currency to evaluate the sensitivity of exchange rate changes by OMC’s. The results are provided in the figure 4.2 below:
From the above analysis in figure 4.2, majority of the respondents indicate that the amount of input denominated in foreign currency was between 1-1.5 billion. This was accounted by 55.6% of the respondents. 29.6% of the respondents indicated that it was less than 1 billion. 11.1% of the respondents pointed out that it was between 5.1 - 10 billion while only 5% of the respondents indicated that the amount was over 10 billion. This is an indication that the amount of input denominated in foreign currency was more than 1 billion.

4.2.3 Foreign Currency Exposed to the Organization

The respondents were requested to indicate the foreign currency their organization was exposed to. Below are the results of the findings in figure 4.3.
From the figure, majority of the respondents indicated most OMC’s are exposed to US dollars, as shown by 98% of the respondents, whereas 2% of the respondents indicated that OMCs are exposed to Euro. This implied that most OMC’s were exposed to US dollar compared to other currencies.

4.3 Foreign Exchange Exposures Facing Oil Firms

The study sought to determine the extent to which the various forms of foreign exchange exposures that is translation, transactional and economic affect OMCS’.

4.3.1 Translation Exposure

The respondents were asked to indicate the extent to which translation exposure affect OMC’s. Below are the results of the findings in table 4.3.

Table 4.3: Translation Exposure

<table>
<thead>
<tr>
<th>Statement</th>
<th>Always</th>
<th>Sometimes</th>
<th>Never</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability of the firm</td>
<td>94%</td>
<td>4%</td>
<td>2%</td>
<td>4.0</td>
<td>0.97</td>
</tr>
<tr>
<td>Firm’s Cash flow</td>
<td>15%</td>
<td>25%</td>
<td>60%</td>
<td>3.82</td>
<td>0.94</td>
</tr>
<tr>
<td>Firm’s Revenue</td>
<td>89%</td>
<td>7%</td>
<td>4%</td>
<td>3.9</td>
<td>0.79</td>
</tr>
<tr>
<td>Firm’s Competitiveness</td>
<td>66%</td>
<td>28%</td>
<td>6%</td>
<td>3.7</td>
<td>1.05</td>
</tr>
<tr>
<td>Firms Investment Strategies</td>
<td>15%</td>
<td>25%</td>
<td>60%</td>
<td>3.5</td>
<td>0.81</td>
</tr>
<tr>
<td>Average</td>
<td>56%</td>
<td>18%</td>
<td>26%</td>
<td>3.78</td>
<td>0.91</td>
</tr>
</tbody>
</table>

From the above findings, majority of the respondents indicated that translation exposure affected profitability. This was accounted by 94% of the respondents. Only 2% of the respondents were opposed this statement. Most of the respondents indicated that firms’ cash flow was not materially affected by translation exposure. This was represented by 60% of the respondents indicated only 40% were opposed. 89% of the respondents were of the opinion that firm’s revenue was affected by translation exposure and only 4% of the respondents were opposed to this statement. Further the findings revealed that 66% were of the opinion
that firm’s competitiveness was affected by translation exposure while 6% of the respondents were opposed to this statement. Majority of the respondents pointed out that investment strategy of OMCS’ was not affected by translation exposure. This was accounted by 60% of the respondents. Only 15% of the respondents thought that investment strategy of OMCS’ was affected by translation exposure. On whether OMCS’s are affected by translation exposure the average scores are as follows (M=3.82 and S.D =.94). This implies that OMCS’ performance (profitability, cash flow, revenue and firm’s competitiveness) is highly affected by translation exposure. However, its investment strategies are not affected by translation exposure. These findings depict that the translation exposures always affect the OMC’s.

4.3.2 Transaction Exposure

The respondents were asked to comment on the extent to which transaction exposure affect OMC’s. Below are the results of the findings in table 4.4

**Table 4.4: Transaction Exposure**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Always</th>
<th>Sometimes</th>
<th>Never</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability of the firm</td>
<td>75%</td>
<td>20%</td>
<td>5%</td>
<td>3.9</td>
<td>0.92</td>
</tr>
<tr>
<td>Firm’s Cash flow</td>
<td>90%</td>
<td>5%</td>
<td>5%</td>
<td>4.0</td>
<td>0.87</td>
</tr>
<tr>
<td>Firm’s Revenue</td>
<td>75%</td>
<td>20%</td>
<td>5%</td>
<td>3.8</td>
<td>0.89</td>
</tr>
<tr>
<td>Firms Competitiveness</td>
<td>62%</td>
<td>21%</td>
<td>18%</td>
<td>3.6</td>
<td>1.21</td>
</tr>
<tr>
<td>Firms Investment Strategies</td>
<td>3%</td>
<td>7%</td>
<td>90%</td>
<td>2.9</td>
<td>1.16</td>
</tr>
<tr>
<td>Average</td>
<td>61%</td>
<td>14.6%</td>
<td>24.6%</td>
<td>3.64</td>
<td>1.01</td>
</tr>
</tbody>
</table>

From the analysis above, most of the respondents pointed out that transaction exposure affected the firm’s profitability. This was represented by a response of 75%. Only 5% of the respondents disagreed that transaction exposure did not affect firm’s profitability. The study found that majority of the respondents was of the opinion that firm’s cash flow was strongly affected by transaction exposure. This was accounted for by 90% of the respondents. Only
5% of the respondents were opposed. The results also revealed that firm’s revenue was affected by transaction exposure this was represented by 75% of the respondents. Only 5% of the respondents were opposed. Further, 62% of the respondents indicated that transaction exposure affected firm’s competitiveness 18% of the respondents was opposed. Majority of the respondents indicated that transaction exposure did not affect firm’s investment strategies. This was represented by 90% of the respondents only 3% of the respondents were opposed. It can be concluded that OMCS’ were highly affected by transactional exposure apart from their investment strategies. The average results were as follows (M=3.64 and S.D. =1.01).

4.3.3 Economic Exposure

The respondents were asked to indicate the extent to which economic exposure affect OMC’s. Below are the results of the findings in table 4.5

<table>
<thead>
<tr>
<th>Statement</th>
<th>Always</th>
<th>Sometimes</th>
<th>Never</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability of the firm</td>
<td>38%</td>
<td>44%</td>
<td>22%</td>
<td>3.4</td>
<td>0.91</td>
</tr>
<tr>
<td>Firm’ Cash flow</td>
<td>85%</td>
<td>10%</td>
<td>5%</td>
<td>3.8</td>
<td>0.94</td>
</tr>
<tr>
<td>Firm’s Revenue</td>
<td>85%</td>
<td>10%</td>
<td>5%</td>
<td>3.8</td>
<td>0.94</td>
</tr>
<tr>
<td>Firms Competitiveness</td>
<td>67%</td>
<td>29%</td>
<td>4%</td>
<td>3.5</td>
<td>.98</td>
</tr>
<tr>
<td>Firms Investment Strategies</td>
<td>85%</td>
<td>10%</td>
<td>5%</td>
<td>3.9</td>
<td>.81</td>
</tr>
<tr>
<td>Average</td>
<td>72%</td>
<td>21%</td>
<td>8%</td>
<td>3.68</td>
<td>.916</td>
</tr>
</tbody>
</table>

From the results above, a few respondents pointed out that firm profitability was affected by economic exposure. This was accounted by more than 40% of the respondents. 22% of the respondents were opposed. Majority of the respondents indicated that firm’s cash flow was affected by economic exposure. This was accounted by 85% of the respondents although 5% of the respondents pointed that firms’ cash flow was not affected by economic exposure. The
The study further revealed that firm’s revenue was highly affected by economic exposure. This was represented by 85%, only 5% were opposed. The firms’ competitiveness was found to be affected by economic exposure. This was accounted by 67% of the respondents. Only 4% of the respondents were opposed. However, according to the findings the firms’ investment strategies were highly affected by economic exposure. This was accounted by 85% of the respondents. Only 5% of the respondents were opposed. It can be concluded that OMCS’ were highly affected by economic exposures. Firm’s revenue, investment strategies and firm’s competitiveness were highly affected by economic exposure. Further, firm’s cash flow and profitability were less affected by economic exposure. The average findings are as follows (M=3.5 and S.D=.927).

4.3.4 Correlation Analysis

Table 4.6: Correlations between foreign exchange exposures and performance of OMC’s in Kenya

<table>
<thead>
<tr>
<th></th>
<th>foreign exchange exposures</th>
<th>performance of OMC’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>foreign exchange</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td>exposures</td>
<td>Sig. (2-tailed)</td>
<td>-.421*</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>27</td>
</tr>
<tr>
<td>performance of OMC’s</td>
<td>Pearson Correlation</td>
<td>-.421*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.011</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>27</td>
</tr>
</tbody>
</table>

The study conducted a Pearson product moment correlation to determine the strength of relationship between foreign exchange exposures and performance of OMC’s in Kenya. The study found that there negative significant relationship between foreign exchange exposures and performance of OMC’s in Kenya as shown by correlation coefficient of -0.421. The study found that the significant value (0.011) was an indication that there was significant relationship between foreign exchange exposures and performance of OMC’s in Kenya. This is an indication that foreign exchange exposures negatively affected the performance of OMC’s in Kenya.
4.3.5 Regression Analysis between foreign exchange exposures and performance of OMC’s in Kenya

Table 4.7: Regression Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>5.322</td>
<td>1.345</td>
<td></td>
<td>4.011</td>
</tr>
<tr>
<td>foreign exchange exposures</td>
<td>-</td>
<td>.390</td>
<td>-.414</td>
<td>-2.616</td>
</tr>
<tr>
<td>foreign exchange</td>
<td>2.024</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The established regression equation was Performance of OMC’s = 5.322 - 2.024 foreign exchange exposures. From the above regression equation it was revealed that holding foreign exchange exposures to a constant zero, performance of OMC’s would be 5.322. The study found that a unit increase in foreign exchange exposures would lead to decrease in performance of OMC’s by a factor 2.024. This is an indication that foreign exchange exposures negatively affects performance of OMC’s in Kenya. The study also found that there is significant relationship between foreign exchange exposures and performance of OMC’s in Kenya.

4.4 Non Instrumental techniques used to Mitigate Risks Arising from the Foreign Exchange Exposure

The respondents were requested to indicate the extent to which some stated non-instrumental techniques were used to mitigate risks arising from foreign exchange exposure in their organization. Below were the results of the findings in table 4.8.
From the above findings, it was observed that the most popular non-instrumental techniques in mitigating foreign exchange exposure risks by OMCS’ are; cash flow matching, continuously monitoring the kind of exchange risk the firm face, leading and lagging, measuring and quantifying the kind of exchange rate exposure risk, changing the currency of billing and continuously identifying the kind of exchange risk exposure. The results are as follows: mean scores (M=4.23, M=3.86, M=3.84, M=3.74, M=3.72 and M=3.71). Their
Standard deviations were as follows (S.D=.695, S.D=.723, S.D=.770, S.D=.818, S.D=.559 and S.D=.757). The findings further revealed that increasing prices and prepayment that is importer paying exporter full before shipment, were unpopular non-instrumental technique in mitigating foreign exchange exposure among OMCS’. The results were as follows: (M=2.94 and S.D=.692) for increasing prices and prepayment (M=2.91 and S.D=.916).

4.4.1 Correlation Analysis

Table 4.9: Correlations between non-instrumental techniques and performance of OMC’s in Kenya

<table>
<thead>
<tr>
<th>non-instrumental techniques</th>
<th>performance of OMC’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>-.546*</td>
</tr>
<tr>
<td>N</td>
<td>27</td>
</tr>
</tbody>
</table>

The study conducted a Pearson product moment correlation to determine the strength of relationship between non-instrumental techniques used and performance of OMC’s in Kenya. The study found that there was a positive significant relationship between non-instrumental techniques used and performance of OMC’s in Kenya as shown by correlation coefficient of 0.546. The study found that the significant value (0.014) was an indication that there was significant relationship between non-instrumental techniques and performance of OMC’s in Kenya. This is an indication that non-instrumental techniques positively affected the performance of OMC’s in Kenya.

4.4.2 Regression Analysis between non-instrumental techniques and performance of OMC’s in Kenya
### Table 4.10: Regression Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>0.392</td>
<td>1.300</td>
<td>3.66</td>
</tr>
<tr>
<td></td>
<td>non-instrumental techniques</td>
<td>5.141</td>
<td>.340</td>
<td>-.514</td>
</tr>
</tbody>
</table>

The established regression equation was
Performance of OMC’s = 0.392 + 5.141 non-instrumental techniques

From the above regression equation it was revealed that holding non-instrumental techniques to a constant zero, performance of OMC’s would be 0.392. The study found that a unit increase in non-instrumental techniques would lead to an increase in performance of OMC’s by a factor 5.141. This is an indication that non-instrumental techniques used positively affects performance of OMC’s in Kenya. The study also found that there is significant relationship between non-instrumental techniques and performance of OMC’s in Kenya.

#### 4.5 Instrumental Techniques used to Mitigate Foreign Exchange Exposure Risks

The respondents were requested to indicate the extent to which their organisation used instrumental techniques to mitigate foreign exchange exposure. The findings are presented in the table 4.11 below
Table 4.11 Instrumental Techniques used to Mitigate Risks

<table>
<thead>
<tr>
<th>Technique</th>
<th>Not At All</th>
<th>Slightly</th>
<th>Neutral</th>
<th>Moderately</th>
<th>High</th>
<th>Highly</th>
<th>Mean</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Contracts</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>10</td>
<td></td>
<td>3.54</td>
<td>.957</td>
</tr>
<tr>
<td>Future Contracts</td>
<td>3</td>
<td>1</td>
<td>7</td>
<td>6</td>
<td>10</td>
<td></td>
<td>4.47</td>
<td>.923</td>
</tr>
<tr>
<td>Money market contracts</td>
<td>16</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td></td>
<td>4.27</td>
<td>.678</td>
</tr>
<tr>
<td>Options</td>
<td>2</td>
<td>4</td>
<td>9</td>
<td>7</td>
<td>5</td>
<td></td>
<td>3.84</td>
<td>.576</td>
</tr>
<tr>
<td>Swaps</td>
<td>1</td>
<td>3</td>
<td>11</td>
<td>5</td>
<td>7</td>
<td></td>
<td>3.92</td>
<td>.916</td>
</tr>
</tbody>
</table>

From the above findings, the study found that the most popular instrumental techniques used to mitigate foreign exchange exposure risks by OMCS’ is money market contracts. It is also clear that majority of the firms combine both instrumental and non-instrumental techniques to mitigate the risk arising from foreign exchange exposure. The mean scores for money market contracts and combining both instrumental and non-instrumental is 4.27 and 4.81 respectively. Their standard deviations are S.D=.678 and S.D=.657 respectively. Future and forward contracts were moderately used mainly by the large firms and medium firms. Their scores were as follows: (M=2.45 and M=2.47) while their standard deviation was (S.D=.957 and S.D=.923). Further, it was revealed that swaps and options kinds of instrumental technique were are not common in the oil marketing firms.

4.5.1 Correlation Analysis

Table 4.12: Correlations between instrumental techniques and performance of OMC’s in Kenya

<table>
<thead>
<tr>
<th></th>
<th>instrumental techniques</th>
<th>performance of OMC’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>instrumental techniques</td>
<td>Pearson Correlation</td>
<td>- .443*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.018</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td></td>
<td>27</td>
</tr>
<tr>
<td>performance of OMC’s</td>
<td>Pearson Correlation</td>
<td>.443*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.018</td>
</tr>
</tbody>
</table>
The study conducted a Pearson product moment correlation to determine the strength of relationship between instrumental techniques used and performance of OMC’s in Kenya. The study found that there was a positive significant relationship between instrumental techniques used and performance of OMC’s in Kenya as shown by correlation coefficient of 0.443. The study found that the significant value (0.018) was an indication that there was significant relationship between instrumental techniques and performance of OMC’s in Kenya. This is an indication that instrumental techniques positively affected the performance of OMC’s in Kenya.

4.5.2 Regression Analysis between instrumental techniques and performance of OMC’s in Kenya

Table 4.13: Regression Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>1.883</td>
<td>1.220</td>
<td>3.019</td>
<td>.000</td>
</tr>
<tr>
<td>instrumental techniques</td>
<td>4.236</td>
<td>.340</td>
<td>-.414</td>
<td>-2.216</td>
</tr>
</tbody>
</table>

The established regression equation was

\[
\text{Performance of OMC’s} = 1.883 + 4.236 \times \text{instrumental techniques}
\]

From the above regression equation it was revealed that holding instrumental techniques to a constant zero, performance of OMC’s would be 1.883. The study found that a unit increase in instrumental techniques would lead to an increase in performance of OMC’s by a factor 4.236. This is an indication that instrumental techniques used positively affects performance of OMC’s in Kenya. The study also found that there is significant relationship between instrumental techniques and performance of OMC’s in Kenya.
CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The general objective of the study was to establish the implications of foreign exchange exposure on the oil marketing companies in Kenya. The study sought to find answer to the following: The types of foreign exchange exposures facing Oil firms in Kenya, the non-instrumental strategies used to mitigate foreign exchange risk among Oil firms in Kenya and the instrumental techniques used for managing foreign exchange risks among Oil firms in Kenya. The study used a semi-structured questionnaire to collect primary data. A response rate of 93% was achieved; this was considered a sufficient representation of the whole population.

5.2 Summary of the Study

The general objective of this study was the implications of foreign exchange exposure on oil marketing companies operating in Kenya. The research found that the oil firms were exposed since all the purchases were denominated in US dollars apart from the duties paid to the taxman and their sales were traded in both local currency and dollar for exports. Yet they have to prepare their financial statements and pay taxes in Kenya shillings as per requirements by the law.

The study sought answers on the demographics of the respondents to determine whether they were in a position to give accurate and reliable information with regard to the objective of the study. With regard to the respondents’ length of service to the oil industry, the findings revealed that most of the respondents had worked for more than 5 years and thus were in a position to provide accurate and reliable in relation to the implications of foreign exchange exposure on the oil marketing companies in Kenya. 59.3% of the respondents had worked in the organization between 5-10 years, 22.2% of the respondents had worked between 11-15 years and another 11.1% of the respondents worked for 3 years. 3.7% of the respondents who worked between 16-20 years and above 20 years.
The study sought to determine the amount of input denominated in foreign currency, the study found that the amount of input denominated in foreign currency was more than 1 billion. Majority of the respondents indicate that the amount of input denominated in foreign currency was between 1-1.5 billion standing at 55.6%. 29.6% of the respondents indicated that it was less than 1 billion. 11.1% of the respondents pointed out that it was between 5.1-10 billion while only 5% of the respondents indicated that the amount was over 10 billion. This is an indication that the amount of input denominated in foreign currency was more than 1 billion. This implies that most OMCs’ were affected by the changes in exchange rates by a huge amount. Further the study found that most OMCS’ were more exposed to US dollar compared to other currencies according to 98% of the respondents.

From the research, the oil companies are exposed to all forms of exposure which are translation, transaction and economic exposure. These exposures have an effect on the firm’s performance, operations and strategy. Most respondents stated that, translation exposure affected profitability and firm’s revenue materially since 94% and 89% respectively of people who responded agreed. Only 15% of respondents thought that translation exposure affects cash flow and firm’s investment strategy. Translation exposure moderately affects firm’s competitiveness, this represented by 66% of the respondents.

From the findings most of the respondents pointed out that transaction exposure affected the firm’s profitability and revenue. This was represented by a response of 75%. Only 5% of the respondents disagreed that transaction exposure affected firm’s profitability and revenues. It highly impacts the firm’s cash flow according to 90% of the respondents. On the other hand, the findings revealed that transaction exposure did not affect firm’s investment strategies. This was represented by 90% of the respondents only 3% of the respondents were opposed. Transaction exposure moderately affects the firm’s competitiveness according to 62% of the respondents.

It was also discovered that OMCs’ were highly affected by economic exposures. Firm’s revenue, investment strategies and firm’s cash flow were highly affected by economic exposure. This is represented by 85% of the respondents and only 5% disagreed. Further, firm’s competitiveness and profitability were less affected by economic exposure standing at 67% and 38% respectively.
The most common non-instrumental techniques are cash flow matching having a mean of 4.23, since majority of firms are multinationals, leading and lagging with a mean of 3.84, increasing prices through high exchange rate with a mean of , changing the currency of billing with a mean of 3.72 and the risk management process with an average mean of 3.77. The findings further revealed that prepayment and increasing prices which had means of 2.91 and 2.94 respectively, were unpopular non-instrumental technique in mitigating foreign exchange exposure among OMCS’.

The instrumental technique most commonly used is money market contracts, forward and future contracts are moderately used while swaps and options are least common.

From the above findings, the study found that the most popular instrumental techniques used to mitigate foreign exchange exposure risks by OMCS’ is money market contracts. It is also clear that majority of the firms combine both instrumental and non-instrumental techniques to mitigate the risk arising from foreign exchange exposure. The mean scores for money market contracts and combining both instrumental and non-instrumental is 4.27 and 4.81 respectively. Their standard deviations are S.D=.678 and S.D=.657 respectively. Future and forward contracts were moderately used mainly by the large firms and medium firms. Their scores were as follows: (M=2.45 and M=2.47) while their standard deviation was (S.D=.957 and S.D=.923). Further, it was revealed that swaps and options kinds of instrumental technique were are not common in the oil marketing firms.

5.3 Discussions

5.3.1 Types of Foreign Exchange Exposures facing Oil Marketing Firms

The study sought to determine the extent to which the various forms of foreign exchange exposures that is translation, transactional and economic affect OMCS’. Oil firms are faced with exchange risk since they are exposed to all the three exposures which also affects the firms performance. The exchange risk is one of the risks that oil firms have identified and thus controls it as any other risk. Other risks include price risk, supply risk which together with currency risks affects the industry players to a high degree (Okinyi, 2013). It was revealed that OMCS’ profitability and revenue were highly affected by translation exposure.
Cash flow and firm’s investment strategy was not materially affected by translation exposure while firm’s competitiveness was moderately affected by translation exposure.

According to Wang (2009), translation exposure does not directly affect cash flows and is mainly concerned with the potential impact and stock market impacts on consolidated financial accounts arising from the translation of the accounts items of the MNC and has a lower priority among all foreign exchange risk management activities.

Majority of oil transactions are done in US dollars especially the purchase of product and also at selling for exports. However the companies have to pay taxes in Kenya shillings and also report their financials in Kenya shillings thus affected by the translation exposure.

From the findings most of the respondents pointed out that, transaction exposure affected the firm’s profitability, cash flow and revenue. It moderately affected firm’s competitiveness and to a lower extent the firm’s investment strategies. Transaction exposure had a high impact especially to cash flow according to 90% of the respondents. This was consistent with Chiira (2009) who found out that oil companies were prone to transaction foreign exchange risk and it is one of the most critical risks. Chiira (2009) also found that transaction is highly quantified and hedged.

These findings were found to concur with those of Koutmos, Martin and Dolan, (2013) who stated that exchange rate translation exposure measurement is important to all businesses because it affects them directly or indirectly. They further argued that translation exposure is related to firm size, multinational status, foreign sales, international assets, and competitiveness and trade at the industry level hence the firms must vigorously adjust their behavior in response to exchange rate risk.

Oil marketing firms are also faced by economic exposure. Economic exposure impacts profitability, revenue, firm’s cash flow and firm’s investment strategies to a high extent. It moderately impacts the competitiveness of the firm. Economic exposure measures how the present value of all future cash flows and the value of a firm shall be influenced by fluctuations in foreign currency. Economic exposure is strategic and fundamental, it’s implications go beyond transaction exposure (Wang 2009).
The findings also concurred with those of Krugman (2009) who stated that changes or fluctuations in exchange rates have effect on cash flows/value of firms engaged in international activities as well as firms of domestic nature. He further added that the value of a pure domestic firm may be affected by economic exposure through foreign competition in the domestic and local market.

5.3.2 Non-instrumental Techniques used to Mitigate Foreign Exchange Exposure Risk

On whether non-instrumental techniques were used to mitigate risks arising from foreign exchange exposure: it was observed that the most popular non-instrumental techniques in mitigating foreign exchange exposure risks by OMCS’ are cash flow matching, increasing prices, continuously monitoring the kind of exchange risk the firm face, leading and lagging, measuring and quantifying the kind of exchange rate exposure risk, changing the currency billing and continuously identifying the kind of exchange risk exposure.

Risk Management process is common among the oil firms. The oil firms have acknowledged that currency risk is one of their major risks and therefore manage it like any other risk. This is consistent to El-Masry (2006) study of 401 nonfinancial firms in the UK that found centralized risk management activities are overwhelmingly most common.

Similarly, a study done by Ceuster, Durinck, Laveren, and Lodewyckx et al. (2000) on derivatives usage by nonfinancial large firms operating in Belgium, found that a significant part of large firms have engaged themselves in risk management practices. Many of the respondents claimed to be strategic hedgers but fail to organize the risk management control and reporting procedures in a way that one would expect from a strategic hedger.

The findings further revealed that prepayment that is importer paying exporter full before shipment, was an unpopular non-instrumental technique in mitigating foreign exchange exposure among oil marketing companies.

The above findings support the observation made by Carter et al. (2013) who pointed that the most common non-instrumental techniques used by companies to manage their exposures were as follows: cash flow matching, payments netting system, prepayment and leading and lagging.
According to Eiteman, Stonehill and Moffet (2001), the first best way for a firm to deal with exchange rate exposure is to consider the structure of their operations. This involves considering the mix of outputs and inputs in such a way as to minimize the net exposure to exchange rates. By more closely matching the foreign currency inflows and outflows, firms with significant foreign operations will find their exposure fall significantly relative to standard exporting or importing operations.

5.3.3 Instrumental Techniques used to Mitigate Foreign Exchange Exposure Risk

The findings further revealed that the most popular instrumental techniques used to mitigate foreign exchange exposure risks by OMCS’ were money market contracts. Future and forward contracts were moderately used while swaps and options were the least commonly used techniques. Forward and future were more common in the larger firms since majority are international firms with presence beyond East Africa. These are Vivo Energy, Kenol Kobil and Total. From a study carried out by El-Masry (2006) on 401 nonfinancial firms in UK concerning the use of derivatives and risk management practices, it was clear that larger firms are more likely to use derivatives than medium and smaller firms, public companies are more likely to use derivatives than private firms, and derivatives usage is greatest among international firms.

Money market contracts were most commonly used hedging technique. Possibly because its short term and mainly over the counter. This is coherent with the findings of Douglas (2008) who argued that money market contracts were an instrumental method of risk minimization. He added that investors can reduce risk, and improve the level of risk relative to return, by diversifying their portfolios.

A study done by Abor (2005) on the effect of capital structure on profitability on listed firms in Ghana, indicated that most firms didn’t use sophisticated methods to manage foreign exchange risk. Most firms in Ghana managed their foreign exchange risk through the use of price adjustments to reflect balance sheet changes and the buying and holding of foreign currency (Salifu, Osei and Adjasi 2007), this seems to be the case in Kenya too. The firms that are using forward and future contracts fall under the category of large firms which are mainly international. According to Murungi, Murage and Wanjau (2014), financial risk
hedging and derivative use in Kenya has remained low in Kenya due to limited derivative market microstructure, and knowledge on derivative use and accounting.

There is considerable evidence that the use of derivatives mitigates exchange exposure (Allayannis & Ofek, 2001). It has been argued that a lack of awareness of the benefits that result from using derivatives may lead companies to lose out in the gains and protection that this instrument offers when carefully handled (Stulz, 2005). Bartram et al. (2009) found that derivative usage is associated with higher firm value, particularly for firms using interest rate derivatives.

Derivative instruments should be used with caution so that they do not expose the company to greater losses. Case study being KenolKobil who incurred a huge loss due a forward contract they entered into to cover volatile exchange movements (Mugwe, 2013).

The use of both instrumental and non-instrumental techniques within firms is also very common. That means the oil firms do use internal and external hedging techniques. You find a firm using derivatives and other operational strategies which include leading and lagging, cash flow matching, risk management and prepayment. Hommel (2003) found that by utilising a real options framework, operative hedging through the creation of operational flexibility serves as a complementary strategy to any variance minimising financial hedging.

5.4 Conclusions

OMC’s are highly affected by foreign exchange fluctuations in their operations and they do come up with various ways to reduce the impact foreign exchange risk to the firm.

5.4.1 Types of Foreign Exchange Exposures facing Oil Marketing Firms

The study leads to a conclusion that, oil marketing companies are indeed faced with various types of foreign exchange risks which include translational, transactional and economic exposure. The firm’s performance and profitability may suffer losses or gains depending on the behavior of the currency in the period being reported. Factors beyond their influence in the Kenyan economy and also due to global changes have a spiral effect on the firms expected cash inflows and outflows.
5.4.2 Non-instrumental Techniques used to Mitigate Foreign Exchange Exposure Risk

The firms employed some internal strategies of mitigating the foreign exchange exposure. Majority of the Kenyan firms do have their sister companies in East African region. Their main export market customers are their sister companies in the landlocked countries especially Uganda and Rwanda among other customers. They are able to use the cash flow matching technique while making or receiving payments and also leading and lagging. The other popular non-instrumental method is the risk management process whereby the firms identify, measure, quantify and continuously monitor the risk. Other popular non-instrumental strategies are billing in the foreign currency and increasing prices mainly the reseller prices though to limited level due to price controls by ERC and competition.

5.4.3 Instrumental Techniques used to Mitigate Foreign Exchange Exposure Risk

Instrumental techniques of managing foreign exchange risk mainly consists use of derivatives. Money market contracts is the most common technique, future and forward contracts are also used to a less moderate extent, while options and swaps are the least common techniques. Companies should endeavor to use more instrumental techniques to mitigate, through more training and use of consultants. There is proof that informed use of derivatives reduces the exchange risk. Use of forward contracts, futures, swaps and option is still low but could get better if firms embrace the derivatives use.

5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 Types of Foreign Exchange Exposures facing Oil Marketing Firms

It is important for oil firms to indeed acknowledge that they are faced with a risk that may affect the value of the firm, the expected cash flows of the firm and the profitability too. Management of the currency risk is as important to the firm as any other kind of management. The transaction and economic exposure is especially very important since it affects the cash flows of the firm and thus requires proper hedging.
5.5.1.2 Non-instrumental Techniques used to Mitigate Foreign Exchange Exposure Risk

There should be internal and operational strategies embraced by the firm to mitigate the losses that could arise due to foreign exchange exposure. The strategic plans of the firm of the firm should be such that the exchange risk is mitigated in the long run. The risk department should consider the currency risk as an important part of financials risk that must be managed. The risk managers however must realize that currency movements are unpredictable thus actions taken are just meant to minimize risks.

5.5.1.3 Instrumental Techniques used to Mitigate Foreign Exchange Exposure Risk

The Central Bank of Kenya should move at a greater speed to roll out the use of derivatives and also provide necessary training and guidance to non-financial firms on the use of these instruments. Despite the fact that derivatives use is still evolving in Kenya, managers should endeavor to train locally or internationally on these derivatives, so that they can use them knowledgably to mitigate foreign exchange risk. Derivative instruments should be used with caution so that they do not expose the company to greater losses.

5.5.2 Recommendations for Further Research

The study sought to establish the implications of foreign exchange exposure on the oil marketing companies in Kenya. The study recommends that a study should be done on efficiency of instrumental and non-instrumental techniques in mitigating the foreign exchange exposure.
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El-Masry, A.A (2006). Derivatives use and risk management practices by UK nonfinancial Companies. Journal of Managerial Finance, 32 (2) 137 - 159


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APPENDICES
Appendix I: Questionnaire

Section A: Demographic information

1. Position of the respondent: .............................................

2. Duration of Service in the Oil Industry
   - Below 5 years [  ]
   - 5-10 years [  ]
   - 11-15 years [  ]
   - 16-20 years [  ]
   - 21 years and above [  ]

3. How much of your input is denominated in foreign currency
   - Less than 1 billion [  ]
   - 1.1 billion-5 billion [  ]
   - 5.1 billion to 10 billion [  ]
   - Over 10 billion [  ]

4. Please state the foreign Currency your organization is mainly exposed to
   - US Dollar [  ]
   - Euro [  ]
   - Other (specify) ..............................................................

Part B: Foreign Exchange Exposures Facing Oil Firms

5. To what extent does Translation Exposure affect the following
   - Profitability of the firm Always [  ] Sometimes [  ] Never [  ]
   - Firm’s cashflow Always [  ] Sometimes [  ] Never [  ]
   - Firm’s Revenue Always [  ] Sometimes [  ] Never [  ]
   - Firm’s competitiveness Always [  ] Sometimes [  ] Never [  ]
   - Firm’s investment strategies Always [  ] Sometimes [  ] Never [  ]
   - Any other: Please specify. .............................................

..........................................................
6. To what extent does Transaction Exposure affect the following
   - Profitability of the firm Always [ ] Sometimes [ ] Never [ ]
   - Firm’s cashflow Always [ ] Sometimes [ ] Never [ ]
   - Firm’s Revenue Always [ ] Sometimes [ ] Never [ ]
   - Firm’s competitiveness Always [ ] Sometimes [ ] Never [ ]
   - Firm’s investment strategies Always [ ] Sometimes [ ] Never [ ]
   - Any other: Please specify. .................................................................

7. To what extent does Economic Exposure affect the following
   - Profitability of the firm Always [ ] Sometimes [ ] Never [ ]
   - Firm’s cashflow Always [ ] Sometimes [ ] Never [ ]
   - Firm’s Revenue Always [ ] Sometimes [ ] Never [ ]
   - Firm’s competitiveness Always [ ] Sometimes [ ] Never [ ]
   - Firm’s investment strategies Always [ ] Sometimes [ ] Never [ ]
   - Any other: Please specify. .................................................................

Part C: Non Instrumental techniques used to Mitigate Risks Arising From the Foreign Exchange Exposure

8. To what extent do you use the following measures to mitigate risk (1-Highly, 2-Moderately high 3-Neutral, 4-Slightly 5-Not at all)

<table>
<thead>
<tr>
<th>Statements</th>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td><strong>Non instrumental strategies</strong></td>
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<tr>
<td>9. Continuously identifying the types of exchange rate risk the firm is exposed to</td>
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<tr>
<td>10. Continuously monitoring the types of exchange rate risk the firm is exposed to</td>
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<td>11. Continuously measuring and quantifying the exchange rate exposure risk</td>
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</tbody>
</table>
12. Cash flow matching (netting payables with receivables)

13. Prepayment (Importer paying exporter full before shipment)

14. Leading and lagging (collect foreign currency early when its depreciating and vice versa)

15. Increasing prices

16. Changing the currency of billing

17. Any other measure, please specify

…………………………………………………………………………………………

…………………………………………………………………………………………

Part D: Instrumental Techniques used to mitigate foreign exchange exposure

18. To what extent do you use the following measures to mitigate risk (1-Highly, 2-Moderately high, 3-Neutral, 4-Slightly, 5-Not at all)

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<tbody>
<tr>
<td>19. Instrumental Techniques (Derivative Instruments)</td>
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<tr>
<td>Forward Contracts</td>
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<td>Future Contracts</td>
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<td>Money market contracts</td>
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<td>Swaps</td>
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<td>Any other. Please Specify</td>
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20. Combining both instrumental and non-instrumental techniques are efficient tools for managing a company's foreign exchange exposure risks

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## Registered Oil Companies

### Registered Oil Companies and overall Market share January to March 2014

<table>
<thead>
<tr>
<th>Large Companies</th>
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<tbody>
<tr>
<td>1 Total Limited</td>
</tr>
<tr>
<td>2 Vivo Energy Ltd</td>
</tr>
<tr>
<td>3 Kenolkobil Limited</td>
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<tr>
<td>4 Hashi Energy Ltd</td>
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<tr>
<td>5 Gulf Energy Limited</td>
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<tr>
<td>6 Libya Oil</td>
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<tr>
<td>7 Gapco Kenya Limited</td>
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<tr>
<td>8 Regnoil Oil Kenya Limited</td>
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<tr>
<td>9 Petro Oil Kenya Limited</td>
</tr>
<tr>
<td>10 National Oil Corporation Of Kenya</td>
</tr>
<tr>
<td>11 Hass Petroleum Limited</td>
</tr>
<tr>
<td>12 Fossil Fuels Limited</td>
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<tr>
<td>13 Engen Limited</td>
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<tr>
<td>14 Oryx Energies Ltd</td>
</tr>
<tr>
<td>15 Bakri International Energy Company</td>
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<tr>
<td>16 Royal Energy Kenya Limited</td>
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<tr>
<td>17 Mogas Kenya Limited</td>
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<tr>
<td>18 Tosha Petroleum Limited</td>
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<tr>
<td>19 Ainushamsi Energy Ltd</td>
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<tr>
<td>20 Galana Oil Limited</td>
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<tr>
<td>21 Olympic Petroleum Limited</td>
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<tr>
<td>22 Banoda Oil Ltd</td>
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<tr>
<td>23 Ranway Traders Limited</td>
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<tr>
<td>24 Essar Petroleum (East Africa) Ltd</td>
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<tr>
<td>25 City Oil Limited</td>
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<tr>
<td>26 Ramji Haribhai Devani Ltd</td>
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<tr>
<td>27 East Africa Gasoil Co. Limited</td>
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<tr>
<td>28 Dalbit Petroleum Limited</td>
</tr>
<tr>
<td>29 Trojan International Limited</td>
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<tr>
<td>30 Global Petroleum Products (K) Ltd</td>
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<tr>
<td>31 Axon Energy Ltd</td>
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<tr>
<td>32 Tiba Oil Company Limited</td>
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<tr>
<td>33 Futures Energy Company Limited</td>
</tr>
<tr>
<td>34 Tradiverse Kenya Limited</td>
</tr>
<tr>
<td>35 Fast Energy Limited</td>
</tr>
<tr>
<td>36 Kosmoil Petroleum (Ea) Limited</td>
</tr>
</tbody>
</table>
Appendix III: Sample list

Large
1. Total Limited
2. Vivo Energy Limited
3. KenolKobil Limited

Medium
4. Gapco Kenya Limited
5. Hashi Energy Limited
6. Ainushamsi Energy Limited
7. Galana Oil Limited

Small
8. Kosmoil Petroleum (EA) Limited
9. Dalbit Petroleum Limited
10. Olympic Petroleum Limited