EFFECT OF PUMP PRICE REGULATION ON FINANCIAL PERFORMANCE OF OIL MARKETING COMPANIES IN KENYA

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DECLARATION

I declare that this research project is my Original and has not been presented for any academic award in any university.

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

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DEDICATION

I dedicate this project to my family and friends.

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ABREVIATIONS AND ACRONYMS

UNCTAD: United Nations Conference on Trade and Development

ERC: Electricity Regulatory Board

BPS: Bulk Procurement System

OLS: Operating Least Square

ANOVA: Analysis of Variance

NSE: Nairobi Security Exchange

CPI: Consumer Price Index

PIEA: Petroleum Institute of East Africa

ROA: Return on Assets

SPSS: Statistical Package for Social Sciences

KNBS: Kenya National Bureau of Statistics

CBK: Central Bank of Kenya

OMC: Oil Marketing Companies

ABSTRACT

Petroleum products are a key ingredient to economic growth of Kenya because of its role in the productivity of almost all sectors in the economy. There were high fluctuations in international fuel prices coupled with unstable exchange rate and the desire to make huge profits among oil marketing firms between the periods 2008 to 2009. Pump regulations describe a scenario where by the Government plays a big role in the establishment of prices to be charged by sellers of a given good or service. Oil industry in Kenya has experienced a number of reforms to improve the efficiency of making oil products available to common citizens. This study sought to determine the effect of pump price regulations on financial performance of oil marketing companies in Kenya. The study adopted descriptive design. The target population was all oil marketing companies in Kenya. Data was collected from secondary sources over a period of 2012-2016. The collected data was analyzed using descriptive and inferential statics. The analyzed data indicated that at 5% level of significance, pump prices posted a strong negative correlation to performance of oil marketing firms as indicated by a Pearson correlation coefficient of -0.721. Firm size posted a weak positive correlation with performance as supported by a coefficient value of -0.064. Foreign exchange rate showed a strong negative correlation with performance as the Pearson Correlation coefficient value was low at 0.874. A weak positive correlation existed between inflation and performance of oil marketing firms as supported by a Pearson correlation coefficient of 0.168. From the regression analysis results, these variables examined explained 79% changes in financial performance of oil marketing firms. From regression analysis, inflation significantly affected financial performance of oil marketing firms. The study established that pump prices significantly determined the performance of oil marketing firms. This study therefore recommends that the Government work on maintaining a moderately stable pump prices which is not too high so that the commodity can remain affordable to the common citizen. This study therefore recommends that the Government of Kenya work hard to maintain the general level of prices for goods and services stable for a stable in demand for fuel products and stable financial performance of oil marketing firms. This study therefore recommends for increased stabilization of exchange rates to reduce the level of volatility in performance.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Petroleum products are a key ingredient to economic growth of Kenya because of its role in the productivity of almost all sectors in the economy. Following high fluctuations in international fuel prices coupled with unstable exchange rate and the desire to make huge profits among oil marketing firms between the periods 2008 to 2009, the Government of Kenya deemed it fit to regulate the price of petroleum products so as to avoid overexploitation of consumers. This followed unprecedented high prices on the local market where the consumers felt exploited. Angelier (1991) supports price regulation of products in economies where there is failure of free market mechanism especially in cases where some of the stakeholders wield more bargaining power than others. In such cases, competitive forces are said to be less developed and thus the fairest thing is for the Government of the day to intervene and introduce price controls so as to shield its citizenry. The mechanisms of price controls normally take into account the costs associated with making the products and services available then allows a profit margin to enable businesses venture into making the goods and services available to consumers as and when needed.

This study was established on a number of schools of thought including: the public interest theory of regulation and the stakeholders' theory. The public interest theory of regulation advocates for optimal allocation of scarce resources across individuals and corporations in an economy so that they are all better off (Pigou, 1932). This theory

mainly applies in circumstances where the market forces do not freely distribute a given good or service to citizens equitably (Shubik, 1970). This theory argues that governments overcome the challenges of competition imperfections and other unwanted market behaviour through regulation of prices to commodities so that majority of citizens can access them (Baumol, 1952). It is argued that public interest theory helps deal with market instabilities. The stakeholders' theory on the other hand holds that no organization exists in a vacuum instead they exist in a society. This therefore means that they have to be considerate of all stakeholders in their endeavour to earn profits (Friedman and Miles, 2006). They have to set prices taking into account the ability of the society to afford their goods and services and at the same time make sure that their activities do not cause un necessary harm to the environment (Freeman, 1984).

Oil industry in Kenya has experienced a number of reforms to improve the efficiency of making oil products available to common citizens. The reforms covered a wide range of processes from refining, distribution and pricing (Ministry of Energy, 2012). Industry enjoyed a liberalized oil industry all the way from procurement, distribution, marketing and setting pump prices. Statistics indicate that in circumstances when international oil prices were raising, the industry was quick to adjust their prices to reflect the changes in the international oil market. However, the same enthusiasm was not noted when the international oil prices dropped. As a result, manufacturers were forced to pass on the additional burden of production to consumers because of the spiral effect. This led to general increase in prices forcing the Government to intervene. The rules governing setting maximum pump prices for petroleum products were introduced in the year 2009

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following lengthy consultations among stakeholders. The regulations were effected in December 2010 up to date (ERC, 2017). This study therefore sought to evaluate the effect of oil pump price on financial performance of oil marketing firms in Kenya.

1.1.1 Pump Price Regulations

Pump regulations describe a scenario where by the Government plays a big role in the establishment of prices to be charged by sellers of a given good or service (Lewis & Noel, 2011). The practice of price control has been found to be most common in situations involving monopolistic and oligopolistic market structures (Bradley, 1993). The process of price regulations can work either way by stipulating the ceiling and the floor of prices for a given commodity or service within a prescribed time period. For the sake of the oil prices in Kenya, a ceiling is always set every 14th of a month to set the maximum pump prices to be charged by oil marketers.

In such markets where maximum prices are set for individual firms, the only option available for optimization of profits is through operational efficiency. Firms that are not efficient in their operations may find it difficult to operate hence close operations. Price controls of setting the maximum ceiling prices are particularly important in protecting the welfare of the citizens by ensuring their access to products at the lowest and affordable prices.

1.1.2 Financial Performance

Financial performance is used to measure the manner in which management of an organization has utilized the resources entrusted in them by shareholders to generate returns (Brigham, 1983). Following the increased separation of management from ownership, the management is entrusted in the day to day operations of the firm hence leaving the shareholders with more time to do other things. Performance presents the position of an organization at a given point in time representing the way in which management has utilized resources over the period. Financial performance is mainly measured using ratios which enable comparison of outcomes at a given point in time within the same organization or over a number of years to track the performance and evaluate whether the organization has been improving or not. Ratios also facilitate the comparison across industries and across firms in different industries. They basically standardize the performance results making it easy for one to compare the results of one firm with another over a period of time.

The most commonly applied ratios in measuring financial outputs of an organization includes: profitability ratios, liquidity ratios, activity ratios, leverage ratios and market value ratios. Profitability ratios are used to draw estimates of how well the resources of the organization have been applied to generate profits within a given time period. Liquidity ratios ascertain the ability of an organization to meet its running operational expenses as and when they fall due without going into financial distress. Leverage ratios seek to establish the proportion of the organization is financed by external finances to that

financed by internal finances. Market ratios measure the worth of the organization at the prevailing market conditions to portray a fair market value of the firm.

1.1.3 The effect of Pump Price Regulations and Financial Performance

Introduction of price regulations in an economy reduces the freedom of the market to set the prices through the interaction of demand and supply. This therefore means that more efficient firms in their production and operational processes are bound to earn higher profits while those that were less efficient may experience operational challenges. According to Misoi (2012), putting a ceiling price for products and services limits the profit margin for firms as they have no control over the selling price instead can only work on improving their level of efficiency.

According to Seo and Shin (2010), price regulations limit the level of innovations and inventions in an economy as they do not promote creativity. This fact explains the reasons as to why price control in some instances are detrimental to development of new knowledge and production processes for efficiency hence poor financial performance. In a highly competitive market, firms are willing to invest in research and development clearly understanding that they will be free to price their products at a price which is commensurate enough for their investment. Africanglobe (2011) notes that price regulations reduce profitability of firms and increases the level of competition among firms.

1.1.4 Oil Marketing Companies in Kenya

Petroleum industry in Kenya can be traced back to 1903 when all petroleum products were imported. In the year 1963, Royal Dutch Shell and British Petroleum Company BP started refining crude oil at Mombasa, initially called the East African Oil Refineries Limited. The industry was not liberalized until October 1994. Since liberalization, the number of oil marketing companies in the Country has continued to increase.

The oil marketing companies were free to fix their retail pump prices but were found to be taking advantage of customers leading to the enactment of the Energy Act No. 12 of 2006 to deal with concerns about over-charging by oil companies had been voiced in several quarters (Muema, 2014). This led to the transformation of the then Electricity Regulatory Board to the ERC to also regulate petroleum and renewable energy sectors in addition to electricity. Currently two oil marketing companies are listed at the Nairobi Securities Exchange. These include: Total Kenya Limited and KenolKobil Limited. Prior to the year 2010, the pump prices in Kenya were determined by the forces of demand and supply with Government only contributing to the price through taxes and levies. However, following lamentation from the public as a result of the oil marketing firms to increase pump prices promptly whenever international oil prices increases and the unexpected delays in lowering the pump prices whenever international oil prices dropped. This led to implementation of laws which introduced the regulation of oil pump prices by Energy Regulatory Commission (ERC) set on every fourteenth day of the month and to become effective every fifteenth of the month.

1.2 Research Problem

Price regulations set ceilings and floor prices of specific goods and services to consumers across different regions in an economy. It is mainly applied to compel business people to take the interests of customers and the entire citizenry into consideration by not loading too high profit margins which would have negative effects on the entire economy (UNCTAD, 2005). The Kenya oil marketing sector experience high turbulences following regular change in the international prices for crude oil (Gatuhi, 2013). The firms quickly responded quickly by raising pump prices whenever international price for crude oil increased but were reluctant to pass on the same benefits to customers when the international prices dropped. This made consumers feel taken advantage of as their interest seemed not taken care of as the general level of prices in the economy kept increasing.

Oil industry in Kenya has experienced a number of reforms to improve the efficiency of making oil products available to common citizens. The reforms covered a wide range of processes from refining, distribution and pricing (Ministry of Energy, 2012). Statistics indicate that in circumstances when international oil prices were raising, the industry was quick to adjust their prices to reflect the changes in the international oil market. This led to general increase in prices forcing the Government to intervene. The rules governing setting maximum pump prices for petroleum products were introduced in the year 2009 following lengthy consultations among stakeholders. The regulations were effected in December 2010 up to date (ERC, 2017).

A number of scholars have examined the relationship between price controls and financial performance of organizations. On the global front, Bushnell, Chon, and Mansur examined how price capping and other trade restrictions affected profitability of firms in the European carbon market. From the findings, it was established that the main focus for investors was on product price and not compliance costs. Dayanandan and Donker (2011) examined how accounting profits of firms dealing in petroleum products was affected by changes in petroleum products prices and established that the price of crude oil significantly influenced the performance of firms. Gupta (2016) examined how stock returns of firms were affected by oil price shocks, and competition in the market. The findings indicated that macroeconomic stress has a negative effect on individual firm returns. However, oil price shocks were found to positively affect the individual firm returns.

Locally, Misoi (2012) examined the effect of petroleum product price regulation and financial performance of marketing firms where it was established that local petroleum product prices in Kenya lagged behind those prevailing on international scale by around 16% as a result of introduction of price controls. Major causes of the differences included fluctuations in foreign exchange rates, and financing costs. This study was carried out soon after the introduction price controls when more firms had not adjusted to cope with the regulations hence the limitations in applying its findings in the current macroeconomic setting. Wanjogu (2013) examined how oil marketing firms were affected by price regulations and established that regulation of maximum pump prices negatively affected the level of profits recorded by oil marketing firms. However, time

has since lapsed and the firms have established several platforms to improve their efficiencies as opposed to the time this study was undertaken. Odongo (2013) examined how an oil price change has impacted the level of general prices in Kenya since 1996 to 2011. The findings indicated an increase in oil prices brought about a general increase in prices in an economy. This study concentrated on inflation and not general financial performance of firms. Njeri and Karanja (2014) examined how regulatory practices affected fuel price of VIVO Energy Kenya Limited. The findings indicated that internal factors are significant in implementation of fuel prices among firms. This study concentrated on regulatory practices on fuel prices.

The reviewed studies above concentrated on different economies and different variables. This study sought to answer one research question: What is the effect of pump price regulations on financial performance of oil marketing companies in Kenya?

1.3 Research Objective

To determine the effect of pump price regulations on financial performance of oil marketing companies in Kenya.

1.4 Value of the Study

This study would be important to various individuals and organizations. First, oil marketing firms would find this study important in analyzing the influence of price regulations on their overall performance. The study would examine how the performance of oil marketing firms has been influenced by price controls especially at a time when the

country relies wholly on imported processed petroleum oils as the refineries in Kenya stopped operations.

The results from this study would also be important to the Government of Kenya through the Ministry of Energy and specifically the Energy Regulatory Commission which is charged with the responsibility of fuel price control in the Country. The findings of this study would outline the ways oil marketing firms have been influenced by the introduction of fuel controls hence inform their future policies and regulations to ensure a stable oil marketing sector in Kenya.

The findings of this study would also be significant to individuals who may want to carry out research in future on price regulations and firm performance as it would serve as a source of reference material by providing empirical evidence besides suggesting areas where the future scholars and researchers can concentrate their research efforts on. This would help grow the literature available on effects of price controls on firm performance. The findings from this study would also be significant to customers of oil marketing firms in that, they would be informed on how the regulation of oil prices is influencing the performance of oil marketing firm. This would help them find ways in which they can collaborate with oil marketing firms to ensure the sector is sustained. They would be in a position to appreciate the different strategies developed by oil marketing firms to improve customer service and overall financial performance.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents literature relevant to the study conducted by other scholars before. It is meant to shade light on the aspects that this study aims to focus on. It is arranged in terms of theoretical review, Factors affecting financial performance of oil marketing firms, empirical literature, research gaps and the conceptual framework.

2.2 Theoretical Review

This section examines various theories that the study anchors on. The specific theories discussed here include: the Public interest theory of regulation, the Stakeholders' theory and the Economic theory.

2.2.1 The public Interest Theory of Regulation

This is an economics school of thought developed by Pigou (1932) to help explain the reasoning behind application of price controls by governments. It is assumed that the regulating agencies have full information of the market dynamics and are in a position to establish perfect enforcement. The regulating agency is also assumed to represent the interest of the community in which it operates and not individual selfish interests of private stakeholders wanting to benefit. The argument put forward for the introduction of public interest theory includes the desire to promote optimal allocation of scare resources among individual for collective goods and services to the citizens. In well advanced markets, resources are optimally allocated across productive functions by market forces.

However, in less developed markets especially in emerging economies, the market forces have been weakened as some stakeholders have more bargaining power hence influence market dynamics (Arrow, 1985).

In situations where market mechanisms cannot optimally allocate the scarce resources within a nation, there comes market failure such that a lot of inefficiencies occur which disrupts the state of the economy. In such a situation, scarce resources fail to be put into optimal uses as they are misallocated. This brings about discrepancies between a products price and its marginal cost (Boadway and Bruce, 1984). In such markets, the marginal cost of producing one unit is not equal to the marginal revenue of that additional unit. Government regulation of prices in such markets has been found to be one of the ways of achieving efficiencies in scarce resource allocation (Baumol, 1952). This theory is relevant for this study because it helps explain the circumstances under which price regulations are effective and how they promote economic development. It helps explain the regulation of fuel pump prices and its impact on the national financial performance of Kenyan oil companies.

2.2.2 The Stakeholders' Theory

Stakeholder theory was developed to advocate for the inclusion of other stakeholders in the interest of a firm as opposed to previously held perspective of shareholders' wealth maximization. It was formulated by Freeman in 1984 to help organizations appreciate the moral obligation they had over other stakeholders apart from the shareholders. The theory is based on the principal that no single organization operates in a vacuum instead; they all operate within a society. The society contributes to growth and survival of the

organization which therefore means that any ignorance to the needs of the society may spell doom for the organization (Freeman, 1993).

The theory made attempts to describe, prescribe, and derive alternatives for corporate governance that ensured that there existed a balance in safeguarding the interests of all stakeholders in an organization as opposed to shareholders. As Frooman (1999) argued, this theory informs management on the importance of strategically engaging and managing the aspirations of stakeholders if an organization is to emerge competitive. Freeman (1984) defines a stakeholder as any group or individual persons who can affect and be affected by the organization's pursuit of its objectives. Berman (1999) established that one of the key pillars of organizational success is good management of stakeholders as it assures an organization of continued profitability and survival. This theory is relevant for this study because it identifies different stakeholders that need to be considered in fixing petroleum product prices. It helps bring the importance of considering the wide effects of regulations on the economy for the public benefit.

2.2.3 Economic Theory

This theory was developed by Posner (1974). This theory is founded on existence of market failures and government efficiencies in availing interventions so that the welfare of common citizenry of a nation is not compromised (Rasmusen and Zupan, 1991). This theory believes that regulation of prices play an important role in increasing the level of social welfare. The theory argues that regulation of commodity prices in an economy

increases the level of fairness and efficiency in distribution of resources in the entire society as a whole (McChesney 1987).

This theory has been successfully applied by Robert (1990) while studying governing the Market: Economic Theory and the Role of Government in East Asian Industrialization. This theory is relevant for this study because it helps in bringing to the fore the reasons as to why governments across the world opt for regulation of prices for common goods and services. For this study, it helps explain the important of regulating pump prices in Kenya so that this regulation can be studied on how it affects financial outcomes.

2.3 Determinants of Financial Performance of Oil Marketing Firms

This section assesses the various determinants of financial performance of oil marketing firms in an economy. The factors looked into include: Pump Prices, general increases in prices (inflation), foreign exchange rate and firm size. They are discussed in detail below:

2.3.1 Pump Prices

The price charged for petroleum products by marketing firms has a great impact on the level of turnover and profits generated. This is because profits are a function of quantity of petroleum products sold and the prices at which they are sold at (Bradley, 1993). In economies where all oil marketing firms imports refined petroleum prices, it becomes difficult for firms to manage their operational costs to ensure that they earn the highest profit. The prices charged for oil products in importing countries are a function of international oil prices (Dayanadan & Donker, 2011). In circumstances where the

international oil prices per barrel increases, local firms are also expected to increase their pump prices if they are to maintain their level of profitability.

The price of crude oil on the international market is set by the forces of demand and supply unlike in different countries where it may be set by government or oil marketing firms (Dodd. 2007). Depending on the expenses incurred by a firm in making the oil products available to consumers at the pump, the profitability will vary (Dayanadan & Donker, 2011). This is because the prices charged on oil prices and the quantities sold will determine the total turnover which when one subtracts the operating expenses, they get the level of profitability (Gatuhi, 2013). Therefore Pump prices play a crucial role in determining the financial performance levels recorded by oil marketing firms.

2.3.2 Inflation

Several studies have examined the relationship between inflation and financial results outcome of oil marketing firms in different economies. For instance, Hamilton (1983) found that a strong negative relationship existed between changes in oil price and real economic activity in the United States of America. This was largely because changes in pump prices affected the turnover sales and profitability depending on the operational costs level (Kimathi, 2017). Changes in oil prices influenced other sectors of the economy which in turn influenced economic development.

The same case was also established, that changes in general prices in an economy also affect financial performance of oil marketing firms. This is because it affects the consumption patterns of citizens (Langat & Manyasa, 2015). Like other sectors in an

economy, the general changes in prices also affect the pump price of oil products (Njeri and Karanja, 2014). In cases where general increases in prices are high, individuals will be left with less income to spare for some items hence led to slow movement and constrained financial performance.

2.3.3 Foreign Exchange Rates

Exchange rate represents the price at which one currency exchanges for another currency. It enables conversion of one country's currency into another without losing or gaining the purchasing power. Khatib (2013) indicates that a direct relationship exists between the trends in fuel price changes and movements of exchange rate in Tanzania. Countries involved in international trade have registered high sensitivity in exchange rates depending on the purchasing power of their local currency. This is because the international trade is facilitated by the foreign currency prices against the local currency. For countries that import petroleum prices, the changes in international prices of oil products have a direct bearing on the prevailing pump prices.

The middlemen always factor in the costs associated with distribution channel until the point of dispensing the products. This therefore means that the pump prices will move in the same direction that international prices move safe for a few currency exchange valuations. Exchange rates play an important role in the free market economy as they facilitate free exchange of goods and services. According to Hango (2009), fuel prices move along with the appreciation in local currency and compare the general dynamics of one economy's currency to the rest of the world.

2.3.4 Firm Size

The size of the firm plays a significant role in determining how much it charges for its products and services. This is largely attributed to economies of scale and high levels of efficiency associated with large firms as compared with small firms. The size of the firm is measured differently in different sectors of the economy. Some authors determine firm size based on asset base controlled and owned by the firm, while other scholars use the number of staff especially for small and medium enterprises SMEs. The level of infrastructure and amount of offered employment can also be used to measure the size of the firm (McMahon, 2001). This is because good infrastructure and a higher number of skilled employees in an organization are often associates with better financial results recorded by organizations. A study conducted by Öner (2015) indicated that larger organizations in terms of assets controlled stood higher chances of recording higher financial outcomes as compared to their competitors with less assets and employee count (McMahon, 2001).

Hennessey and Levy (2002) acknowledges the fact that large firms enjoy the economies of scale with large bargaining and negotiation powers over their stakeholders and this improves the level of their performance as compared to small firms. Contrary to this, Fiegenbaum and Karnani (1991) established that smaller firms are likely to be more profitable as compared to large firms due to their structure of costs. According to them, small firms are in position to change their level of output over time in line with the changing conditions in the market. The mature and stable firms on the other hand require

maintaining relatively stable output levels. Small firms however have less power than larger firms making it difficult to compete in a competitive environment.

2.4 Empirical Literature

A number of studies have been conducted on the relationship between price regulations and firm performance. Dkhil (2014) studied the effect of price regulations on the amount of investments that telecommunication firms invested in their infrastructure facilities in Tunisia. It is argued that the introduction of regulations brought about competition as the new entrants were allowed to access infrastructure of the incumbent. The study acknowledges that developments in information communication and technology had widened the scope of competition and the network facilities could be better utilized if shared. The firms were therefore encouraged to invest more in research and development so as to come up with new products and services besides better ways of meeting the changing needs of their customers. The findings indicated that the relationship between regulation and investment portrayed an inverted U shape in rich countries and a U form in poor countries. The scope and context of this study is different from the current study scope and context thus limiting the application of its result findings.

Coyne and Coyne (2015) examined the extent to which price controls damaged economic development of nations in Great Britain. They trace the origin of price controls in in Great Britain and United States to the period after war. It was established that it is better for governments to implement subsidies instead of enforcing price controls because of its negative effects on the economy. Price controls have been found to restrain research and

development at individual organizational level as firms do not consider research and development worthwhile because the prices of goods and services have been pre-set. Considered in institutions of higher learning, the researchers believe that imposing a ceiling may result in reduced innovations as low cost model alternatives results in low development. The findings indicate that price regulations in the finance sector could reduce the level of competition as firms compete on prices and exceptional service. They further indicate that price controls are mainly aimed at benefiting organized interest groups in an industry especially as they seek to have markets oligopolized because low prices make entry difficult.

Carranza, Clark and Houde (2011) studied the effect of price controls on Quebec's gasoline retail market. They particularly examined how price floors affected performance of markets. It is argued that price controls make it difficult for markets to clear; they therefore lead to higher general prices in a market. They help bring out the negative effects of price floor regulations on prices and overall productivity thereby distorting market structures in the long run. Price floor regulation policies crowd markets thereby creating endogenous restrictions to entry especially by low cost retailers. This is because the price floor regulations lower both price of commodities and general productivity. Their findings show that the introduction of price controls regulation brought about more competition, lower prices for gasoline consumers and lower productivity. In conclusion, they established that general effect of price regulation was that the policy was harmful especially to gasoline consumers in smaller cities but it was neutral to consumers in Québec city which was the only big city in the sample. This therefore shows that within

the same economy, price controls can have a large spectrum of effects in different parties of the country.

Genakos, Koutroumpis, and Pagliero (2015) studied the Impact of maximum mark-up regulation on prices by concentrating on the wholesale and retail mark-up regulation in an oligopolistic and vertically non-integrated market. The reasons advanced for controlling mark-ups include the need to protect consumers from excessive market powers that middlemen may wield. The purpose of exerting controls on the mark-ups is is to put a downwards pressure on the retail prices and protect the final consumers from powerful middlemen. The study compared the prices of affected commodities both before and after the change in policy. The study also made use of uncontrolled products as a control group so as to establish the effect of policy changes on mark-up margins. From the findings, it was established that abolishing regulation led to a significant decrease in both retail and wholesale prices.

Zhang, Guh, Sun, Marra, Lynd and Anis (2016) concentrated on the impact that price-cap regulations had on exit plans by generic pharmaceutical companies in Ontario province, Canada. This followed changes in the way generic pharmaceutical products were prices in relation to the original drug. The study traces regulations to 1998 when the price was capped at "70/90" whereby the first generic entrant was required to price their pharmaceuticals at a price equal or less than 70 percent of the original drug. Subsequent generics were required to be priced at a price equal or less than 90 percent of the first generic. These ratios changed in the year 2006 to 50 percent and later to 25 percent in

2010. The study examined prescription drugs. The findings indicated that exit ratios in the period of 25 percent price cap compared to 70/90 percent cap period was 2.42. The study concluded that lowering the price-cap level led to a higher incidence of generic firm exit from markets. This study was conducted in the pharmaceutical industry in Canada which presents a different contextual setting that limits the application of its study findings to the current study setting.

Dodd (2007) examined the effect of the drug price intervention on retail pharmacies in South Africa following the introduction of a form of price control with the aim of regulating prices at every level of the distribution chain of pharmaceuticals. The reasons advanced for drug price intervention were largely on making the medicines affordable and ensure a reasonable margin for pharmacists on each drug brand. The study used secondary data collected from financial statements of three pharmaceutical companies in South Africa. The findings indicated that after the introduction of price controls all pharmaceuticals posted a decline on profits from 7% to 3%.

Saleh (2015) examined how profitability of oil marketing firms in Tanzania changes following the introduction of price regulations and Bulk Procurement System (BPS). The study made use of secondary data covering the period between 2011 and 2013. The data covered profit margin and return on investments as measures of profitability. The study used descriptive research design as the data was already available. In order to reach inferences on the relationship between study variables, the study used regression and trend analysis covering the period before the introduction of price regulations and after

the introduction of price controls and BPS. The findings indicated that the magnitude of effect varied from one company to another. In conclusion, the study shows that introduction of price control and BPS negatively affected profit of Oil Marketing Companies (OMCs). The study is relevant for this study in informing the extent to which price controls affect profitability of oil marketing firms in a neighbouring country, However, the level of efficiencies in these countries different from the local context hence the need to conduct this study.

Locally, Wanjogu (2013) examined how profitability of oil marketing companies behaved following the regulation of oil product prices in Kenya. This study was informed by the rampant public outcry on the unfair treatment by oil marketing companies which would raise the pump prices immediately international oil prices went up but were too reluctant to lower the pump prices whenever international oil prices per barrel reduced. This meant that the increases were effected immediately taking advantage of the general public. The study applied causal research design with gross margins as set by the price regulatory agency. The study made use of secondary data drawn from published financial statements and internal management reports. The study conducted a multiple regression analysis on each firm under study and established that overall R2 decreased following introduction of price regulations. It was concluded that introduction of price regulations negatively affected the profitability of oil marketing firms. This study through similar to the current study, it considered data until 2012. The period studied was too short hence the current status may have changed as oil marketing companies strive to improve operational efficiency and profitability.

Njeri and Karanja (2014) examined different regulatory practices and how they influenced fuel prices in Kenya using a case of Vivo Energy Kenya Limited. The study traces the performance and controls in the energy sector since 1994 when the industry was liberalized to increase the number of participants. The study applied a descriptive research design and a questionnaire to collect primary data. Data analysis was done using descriptive statistics including standard deviation, mean, frequencies and percentages. The study identified a number of internal factors that affected fuel prices including: organization structure, management experience and expertise, and stakeholder participation.

Langat and Manyasa (2015) examined the effects of price regulation on market structure among oil marketing firms in Kenya. The study was informed by increased divestment among multinational oil marketing firms from a number of markets in Africa. The reasons mainly cited for their exit included stringent operating market and pricing laws which made it difficult for them to continue operating. The study aimed at estimating the effects of price regulations on market concentration, product differentiation, and new entrants and exits in the industry over the study period. The study conducted an analytical analysis on 63 companies using secondary data obtained from the obtained from Petroleum Institute of East Africa. The analysis applied the entry and price competition model using Operating Least Square (OLS) method. The study recommended that regulators should always examine the hidden costs and make sure they are all addressed for effective price regulation implementation.

Kimathi (2017) assessed the effects of price regulation on company performance of oil marketing companies in Kenya using a case study Total Kenya Limited for the period spanning 2008 to 2012. The variables of the study included: return on equity, earnings per share and sales trend. The study adopted a causal research design targeting secondary data collected from published financial statements and management reports. The findings indicate that price regulation had a positive impact on sales. The sales were less in the period preceding regulation introduction. However, using return on equity and earnings per share, the performance of the company had declined following the introduction of price controls.

2.5 Conceptual Framework

A conceptual framework is a pictorial expression of the variables of a study clearly showing the way they interact with one another. The exact independent variables in this study include: pump prices, inflation, foreign exchange rate and firm size while the dependent variable is the financial performance as measured by Return on Assets (ROA). This is well illustrated in the figure 2.1 below:

Independent Variable

Dependent Variable

Pump Price Regulation
- Pump price for Fuel (Gasoline)

Financial Performance
- Return on Assets (ROA)

Control Variable

Inflation

Foreign Exchange rate

Firm Size
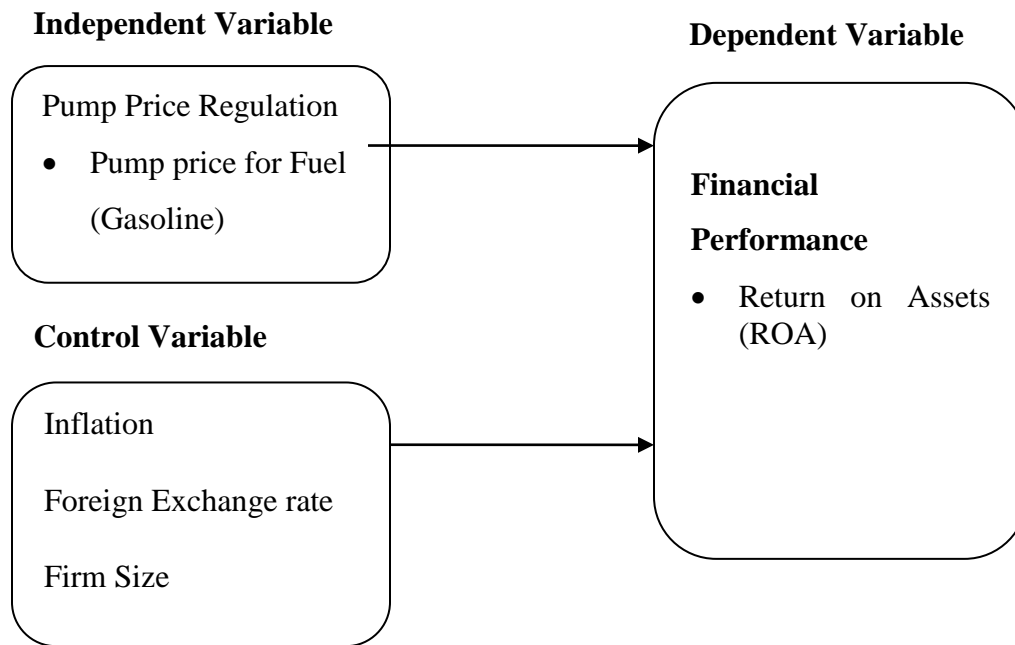
Figure 2. 1: Conceptual Model

2.6 Summary of Literature and Research Gaps

A number of studies have been examined in the empirical literature to help bring out what has been done by previous scholars and how their findings can help improve the current study. On international scale, various studies (Dkhil, 2014; Coyne and Coyne, 2015; Carranza et al. 2011; Genakos et al. 2015; Zhang et al. 2016; Dodd, 2007 and Saleh, 2015) have been conducted to help provide the conceptual understanding from other contexts. The scope of their studies ranged from price regulations in the pharmaceutical industry to middlemen mark-up and gasoline price controls. However, the contextual differences in their studies make it difficult to apply their findings in the local context hence the need to conduct this study. For instance, Dkhil (2014) studied the context of Tunisia using general price regulations as opposed to oil price pump

regulations; Coyne and Coyne (2015) examined the extent to which price controls damaged economic development of nations in Great Britain and established that price controls restrain research and development at individual organizational level as firms do not consider research and development worthwhile because the prices of goods and services have been pre-set. The variables of this study did not include financial performance which is the focus of the current study. Carranza et al. (2011) studied the effect of price controls on Quebec's gasoline retail market. It is argued that price controls bring out the negative effects of price floor regulations on prices and overall productivity thereby distorting market structures in the long run. The study concentrated on price ceilings and floors and not its effects on financial performance as is the case in the current study. Genakos et al. (2015) studied the impact of maximum mark-up regulation on prices by concentrating on the wholesale and retail mark-up regulation in an oligopolistic and vertically non-integrated market. The study concentrated on retail and wholesale market and not how it affected financial performance which is the focus of the current study.

At the local level, a number of studies (Wanjogu, 2013; Njeri and Karanja, 2014; Langat and Manyasa, 2015; and Kimathi, 2017) have been conducted on price regulations and firm performance. Wanjogu (2013) examined how profitability of oil marketing companies behaved following the regulation of oil product prices in Kenya. The scope of this study was on price regulation and competition of oil marketing firms and market structure which are different from the measures of performance from those applied in this study. Njeri and Karanja (2014) examined different regulatory practices and how they

influenced fuel prices in Kenya using a case of Vivo Energy Kenya Limited. This study concentrated on one firm as opposed to industry wide effect as firm size plays a role in the manner in which firms respond to price regulations.

Langat and Manyasa (2015) examined the effects of price regulation on market structure among oil marketing firms in Kenya. The study concentrated on general effects and not those ones on financial performance. Kimathi (2017) assessed the effects of price regulation on company performance of oil marketing companies in Kenya using a case study Total Kenya Limited for the period spanning 2008 to 2012. This study was limited on data as the implementation period was too short. For the studies that were conducted on financial performance, the period under study was too short hence the increased time period could show different findings. In addition, oil marketing firms have adjusted their operations to align them to the changing operating environment hence the need to conduct the study to establish the effects of pump price regulation on financial performance of oil marketing firms in Kenya

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents research methodology that was adopted in this study so as to ensure exhaustive response to research objective. It specifically highlights the design that was adopted, study population, sample, data to be used and how it was collected, how the data was analyzed and presented.

3.2 Research Design

This study adopted a descriptive research design. A descriptive research design ensured collection of data which is quantitative in nature and this enhances quantitative analysis of the collected data using either inferential or descriptive statistics (Saunders, 2007). In addition the study will incorporate both qualitative and quantitative research. This study intended to evaluate the effect of pump price regulations on financial performance of oil marketing companies in Kenya. The findings of the study were illustrated in tables and graphs where applicable.

3.3 Population and Sample

Population refers to the composition of all the events, objects or individuals that the researcher would like to generalize the findings on (Muganda & Mugenda, 2003). It refers to a complete collection of elements of interest in a study that the researcher uses to draw reference. The population of this study comprised all oil marketing in Kenya by the

Ministry of Energy by the end of the year 2016. The study collected secondary data of the licensed firms for the twelve years between 2005 and 2016.

3.4 Data Collection

Data collection occurs when the researcher gathers evidence for gaining different insights concerning a certain situation or event. Data collection helps the researcher to determine answer adequate questions which formed the basis of the study (Wangechi, 2012). Secondary data was collected from the annual financial statements of the licensed firms from 2005 to 2016.

3.5 Data Analysis

Data analysis is the critical examination of the assembled and grouped data for studying the characteristics of the object under study and for determining the patterns of relationships among the variables relating to it. The data collected was analyzed using Statistical Package for the Social Sciences version 23.0 (SPSS) software. To test the effect of pump price regulations on financial performance of oil marketing companies listed at the NSE, a multivariate regression analysis was used to study the relationship between the dependent and the independent variables. The Regression analysis was expected to yield Coefficient of Determination (R^2), Multiple R, and Analysis of Variance (ANOVA) along with relevant t-tests, f-tests and P values. Descriptive statistics were used to summarize qualitative data and the results presented in tables and charts. Inferential statistics were used to draw conclusions at 95% Confidence Level. ($\alpha = 0.05$).

The following multiple regression model was adopted.

Y=f (firm size, inflation, foreign exchange rate and pump price of gasoline)

$ROA = \beta_0 + \beta_1 Pump + \beta_2 SIZE + \beta_3 INF + \beta_4 FXD + + u$

Where;

ROA is the Return on Assets (Profitability)

Pump is the Average changes in monthly pump prices expressed as a percentage of the

previous month pump price

SIZE is Firm size measured by the natural Logarithm of total assets

INF is the Inflation measured by Consumer Price Index (CPI)

FXD is foreign exchange rate

u the error which is assumed to have a normal distribution.

The data was analyzed using SPSS 23.0.

The study made use of Analysis of Variance to help determine the strength of the model in determining the relationship between pump price regulations and financial performance of oil marketing companies.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter presents data as collected from the field for the purposes of responding to study objectives. The study relied on secondary data collected from published financial statements of Oil marketing firms, records of the Energy Regulatory Commission (ERC), Kenya National Bureau of Statistics (KNBS), Central Bank of Kenya (CBK) and Petroleum Institute of East Africa (PIEA). The data is analysed according to key variables before embarking on the inferential statistics that comprise the Pearson Moment of Correlation Analysis and Multiple Regression Analysis.

4.2 Descriptive Statistics

In order to establish the general characteristics of the data used to complete the analysis, the study conducted descriptive statistics. The parameters of descriptive statistics are shown in the Table 4.1 below:

4.2.1 Skewness and Kurtosis

The findings on Skewness and Kurtosis are indicated in Table 4.1.

Table 4.1: Skewness and Kurtosis

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Foreign Exchange Rate (Ksh/ USD)	144	.324	.202	-.654	.401
Inflation (CPI)	144	1.060	.202	-.049	.401
Firm Performance (ROA)	144	-.327	.202	-.600	.401
Firm Size (LN Assets)	144	-.882	.202	-.638	.401
Pump Prize (KSh)	144	-.660	.281	-.992	.555

Skewness is concerned with the symmetry or lack of it in a given data set used in analysis whereas kurtosis is concerned with the weight of the tail in relation to the normal distribution. Skewness can assume positive, negative or amorphous signs. The data used in this study was symmetrical as the statistics on skewness is close to one. However, firm performance, firm size and the level of general increases in consumer prices were skewed to the left as their statistic bore a negative sign. The data used had low kurtosis as the statistics had lower values of below nine.

4.2.2 Mean and Standard Deviations

The study used means to measure central tendency while standard deviations were applied in identifying the spread in terms of dispersion of the observations in the data set. The findings are illustrated in Table 4.3.

Table 4.2: Mean and Standard Deviations

	N	Mean	Std. Deviation
Firm Performance (ROA)	144	.0751	.02836
Pump Prize (Kshs.)	144	91.6555	13.12283
Inflation (CPI)	144	8.3047	4.68490
Firm Size (Ln)	144	7.8829	.19483
Foreign Exchange Rate	144	82.3576	10.97256

From the findings, Return on Assets had a mean value of 0.751 with a standard deviation of 0.02836. This shows that the return on Assets had little variations in figures within the study periods. Average Pump Prices had a mean of 91.6555 with a standard deviation of 13.12283 indicating that pump prices varied widely within the study period. Inflation had a mean of 8.3047 with a standard deviation of 4.68490. This shows that inflation varied averagely within the study period. Firm Size posted a mean of 7.8829 with a standard deviation of .19483 indicating that the variations in firm size were negligible. Foreign exchange rate had a mean of 82.3576 with a standard deviation of 10.97256 indicating that the foreign exchange rates varied widely in the study period.

4.3 Trend Analysis

Trend analysis was carried out on the data collected and the study plotted line graphs to examine the trend of the study variables over the period under analysis. The specific graphs are highlighted below:

4.3.1 Trend Analysis of Inflation for 2005 to 2016

The trend of inflation over the study period in years is highlighted in the Figure 4.1 below:
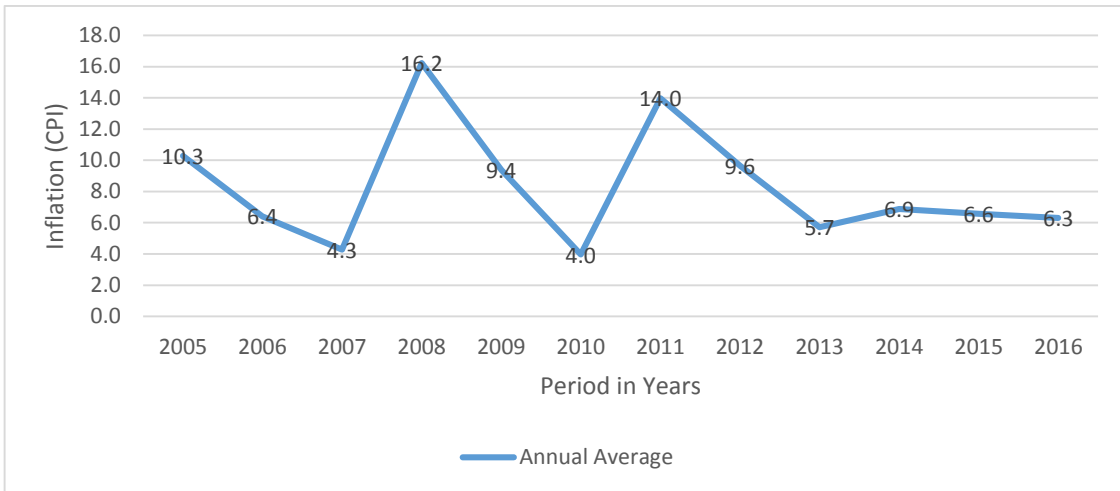
Figure 4.1: Trend of inflation

From the figure 4.1 above, the trend in inflation as measured by the consumer price index indicate that general prices changed over the study period. However, the period of 2008 and 2011 recorded high levels of inflation of 16.2% and 14.0% respectively. The lowest level of inflation was recorded in the year 2010 at 4%. The period from 2013 to 2016 experienced a relative stabilty in general price of goods and services at the levels of between 5.7% to 6.9%.

4.3.2 Trend Analysis of Return on Assets for 2005 to 2016

Results of the trend analysis before and after introduction of pump price regulations are shown in the figure 4.2 below:
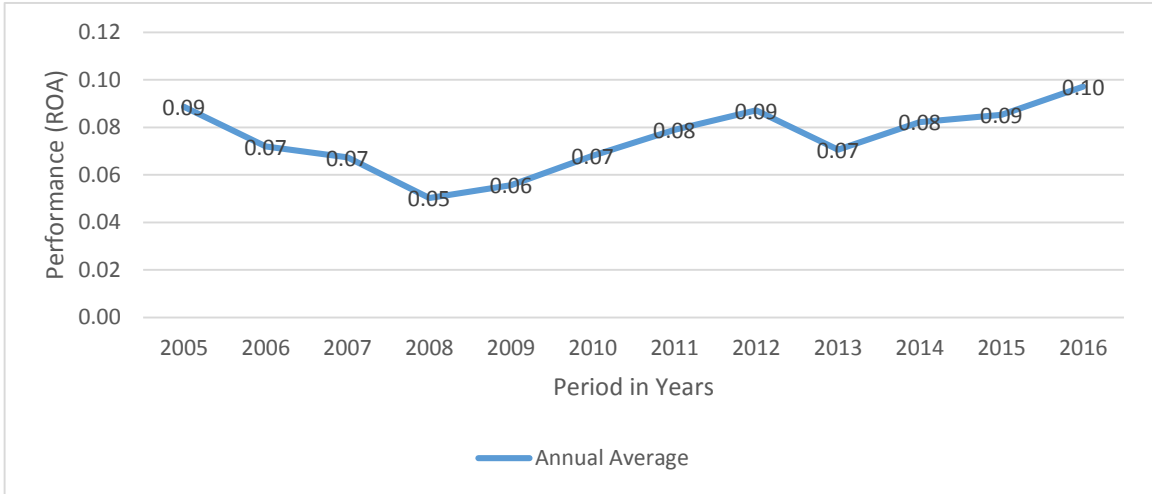
Figure 4.2: Trend of the Return on Assets

Figure 4.2 shows that the return on assets was low for the period prior to 2008 and 2009 prior to introduction of pump price regulations. However the return on assets hit an all time high in the year 2016 at 10%. This can be attributed to the alignment measures taken by the industry in aligning their operations to the changing business environment.

4.3.3 Trend Analysis of Foreign Exchange Rate for 2005 to 2016

The Trend analysis results of foreign exchange rate over the study period were as highlighted in the Figure 4.3 below:
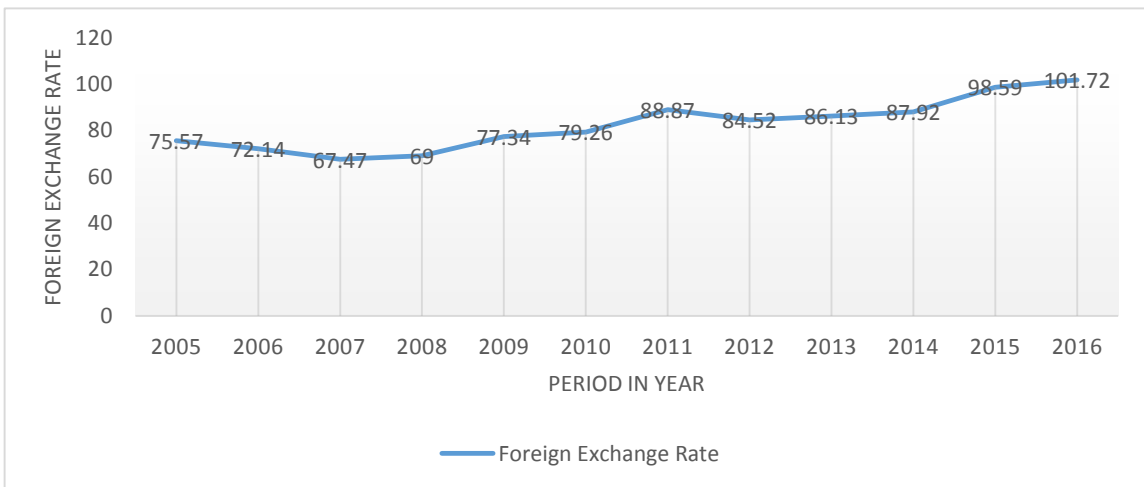
Figure 4.3: Foreign Exchange Rate

From the figure 4.3 above, it can be seen that the exchange rate increased steadily over the study period from 2006 to 2016 from a low of sh. 75.57 in the year 2006 to a high of 101.72 in the year 2016. The year 2006 to 2007 witnessed a decrease in exchange rate as it hit a low of sh. 67.47.

4.3.4 Trend Analysis of Average Pump Price for 2005 to 2016

The trend on the pump price is shown in the figure 4.4 below:
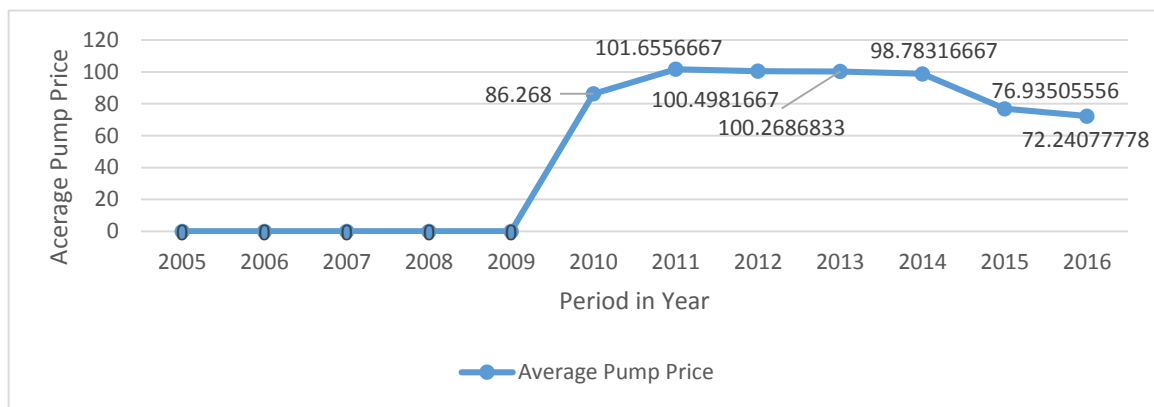
Figure 4.4: Average Pump Price

Pump price regulations were introduced in the year 2010. The introductory average pump price for the year 2010 was sh. 86.27. The average pump price increased over the years to a high of sh. 98.78 in the year 2014 before reducing to to a low of sh. 72.24 in the year 2016.

4.3.5 Trend analysis of Firm Size for 2005 to 2016

Firm size was measured by natural log of total assets. The findings as well illustrated in the figure below:
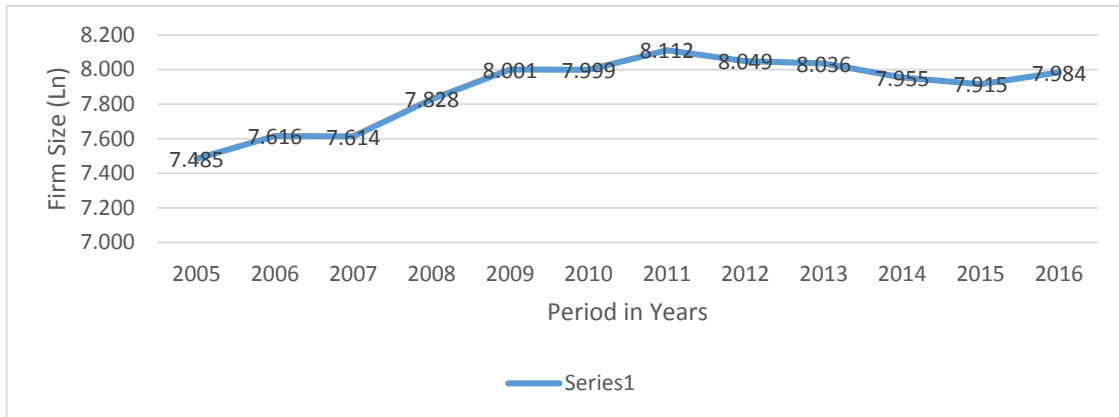
Figure 4.5: Firm size

From the figure above, the total assets of the industry grew over time to a high of 8.112 in the year 2011. It then started a downward trend to a low of 7.485. The assets of the industry were high in the year that the industry recorded the lowest level of perofrmance as measured by return on assets

4.4 Diagnostic Tests

Prior to conducting inferential analysis, the researcher tested the validity of the data set using a number of tests that included: Multicollinearity and Normality test. The Variance inflation Factor VIF was used to detect Multicollinearity; Normality was detected by Skewness and Kurtosis. The findings are indicated in subsequent sections.

4.4.1 Multicollinearity Test

Multicollinearity is concerned with the level of relatedness among study predictor variables (Willis & Perlack, 1978). The study made use of the Variance Inflation Factor VIF to determine Multicollinearity. VIF indicates how much the variance of estimated regression coefficients is increased due to Collinearity (Wooldridge, 2000). If VIF lies

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between 1-10, then there is no multicollinearity while VIF less than 1 or greater than 10

indicates presence of multicollinearity (Cohen, Cohen, West & Aiken, 2013).

Table 4.3: Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	**VIF**
Foreign Exchange Rate	.453	2.209
Inflation	.977	1.023
Firm Size	.991	1.009
Pump Prize	.458	2.184

 Dependent Variable: Firm Performance ROA

From the results, it can be seen that Average pump price had VIF of 2.184, Firm size

1.009, Foreign Exchange rate 2.209 and Inflation 1.023. Since the VIF lies from 1 to 10,

it can be concluded that the data set did not suffer from Multicollinearity symptoms.

4.5 Inferential Statistics

In order to establish the extent to which pump prices affect the performance of oil market

companies, the study conducted two inferential statistics: Correlation analysis and

regression Analysis. These are explained in detail below:

4.5.1 Correlation Analysis

The study conducted Person Moment of Correlation Analysis to help explain the strength

of the relationship between the dependent and independent Variable. The dependent

variable was performance of oil marketing firms measured by return on assets (ROA)

while the independent variable comprised: pump price of oil products, foreign exchange

rates, inflation and firm size. The findings were as illustrated in the Table 4.2 below:

Table 4.4: Correlation Analysis

		Firm Performance	Pump Prize	Firm Size	Foreign Exchange Rate	Inflation
Firm Performance	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	144				
Pump Prize	Pearson Correlation	-.721**	1			
	Sig. (2-tailed)	.000				
	N	144	144			
Firm Size	Pearson Correlation	-.064	.023	1		
	Sig. (2-tailed)	.448	.785			
	N	144	144	144		
Foreign Exchange Rate	Pearson Correlation	-.874**	.731**	.074	1	
	Sig. (2-tailed)	.000	.000	.377		
	N	144	144	144	144	
Inflation	Pearson Correlation	.168*	.017	-.053	-.086	1
	Sig. (2-tailed)	.044	.840	.532	.306	
	N	144	144	144	144	144

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

From the results displayed in the Table 4.2, it can be noted that pump prices posted a strong negative correlation to performance of oil marketing firms as indicated by a Pearson correlation coefficient of -0.721. The pump prices were also significant in explaining the changes in performance of oil marketing firms as the significance value was 0.000 which is less than 0.05. From the Table, it can be seen that firm size posted a weak negative correlation with performance as supported by a coefficient value of -0.064. Firm size was insignificant in explaining the changes in performance as supported by a significance value of 0.448. Foreign exchange rate showed a strong negative correlation with performance as the Pearson Correlation coefficient value was at 0.874. However, it

was significant is explaining the variations in performance as supported by a significance value of 0.000. Finally, The results further indicates that a weak positive correlation existed between inflation and performance of oil marketing firms as supported by a Pearson correlation coefficient of 0.168. Inflation was also significant in estimating the changes in performance as the significance value was 0.044 which is less than 0.05.

4.5.2 Regression Analysis

The study further conducted a multiple regression analysis so as to determine the extent to which the changes in the performance of oil marketing firms can be explained by the changes in pump price of oil products and other control variables. The findings as shown in the Table 4.4 below:

Table 4.5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.889[a]	.790	.784	.01318

a. Predictors: (Constant), Inflation, Firm size, Foreign Exchange Rate, Average Pump Price

From the table 4.3 above it can be ascertained that the value of R is 0.889 while the value for R^2 is 0.790 while adjusted R^2 Value is 0.784. This can be interpreted that the independent variables examined in this study can explain changes in the performance of oil marketing firms up to 79% as illustrated by the R2 value. It can therefore be inferred that there are other factors that explain 21% changes in the performance of oil marketing firms. This therefore shows that the variables examined explain a significance proportion of changes in the performance of oil marketing firms. This is largely because the pump

price determines the total revenue of oil marketing firms holding their market share constant. It is therefore important that oil marketing firms monitor the pump prices and operate at minimal operational costs possible to realize optimal financial outcomes.

4.5.3 Analysis of Variance

In order to test the relevance of the model in estimating the relationship between pump prices and performance of oil marketing firms, the study conducted an Analysis of Variance (ANOVA). The results of the test are shown in the Table 4.5 below:

Table 4.6: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.091	4	.023	130.691	.000[b]
	Residual	.024	139	.000		
	Total	**.115**	**143**			

a. Dependent Variable: Firm Performance ROA

b. Predictors: (Constant), Inflation, Firm size, Foreign Exchange Rate, Average Pump Price

From the findings in Table 4.4, the study processed data at 5% level of significance which shows F calculated as 130.691. The F critical value at (4, 139) is 2.44 which is less than the F calculated figure of 130.691. This implies that the overall regression analysis model used in this study is relevant in estimating the changes in performance of oil marketing firms as a result of changes in the pump prices and other control variables adopted by the study. This therefore shows that the results obtained are significant in estimating the changes in performance as a result of unit changes in the dependent variable.

4.5.4 Correlation Co-efficient

In order to estimate the changes in performance of oil marketing firms as a result of a unit change in the independent variable, the study conducted multiple regression analysis. The results were as shown in the Table 4.5 below:

Table 4.7: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.229	.846		5.000	.000
	Pump Prize	.115	.034	.194	3.382	.001
	Firm Size	.003	.002	.000	1.500	.997
	Foreign Exchange Rate	-.215	.061	-.723	-3.525	.000
	Inflation	.373	.133	.110	2.805	.006

Dependent Variable: Return on Assets

Using the multiple regression model developed in chapter three with the data one gets:

$$Y = 4.229 + 0.115X_1 + 0.003X_2 - 0.215X_3 + 0.373X_4$$

Where Y= Organization Performance (Return on Assets); X_1 = Average Pump Prices; X_2 = Firm Size, X_3 = Foreign Exchange Rate and X_4 = Inflation

Interpretations show that if one were to hold all explanatory variables constant at zero, financial performance of oil marketing firms in Kenya as measured by ROA would be at 4.229. However, a unit increase in average pump prices would lead to an increase in financial performance of 0.115. A unit increase in firm size would lead to 0.003 increases in financial performance of oil marketing firms while a unit decrease in foreign exchange rate would lead to 0.215 changes in financial performance of oil marketing firms in

Kenya. A unit decrease increase in inflation would result into 0.373 increase in financial performance of oil marketing firms.

In regard of significance at 5% level of significance, average pump prices had a significant influence on financial performance of oil marketing firm in Kenya $p=0.001<0.05$. Foreign exchange rate significantly affected financial performance of oil marketing firms $p=0.000<0.05$. Firm Size had insignificant effect on financial performance of oil marketing firms. On the other hand, inflation had a significant effect on financial performance of oil marketing firms in Kenya p=0.046, 0.050 and 0.021 respectively which are less than 0.05. All their individual t values were 3 382, -3.525 and 2.805 respectively which are all greater than 1.96 which supports the significance argument further.

4.6 Interpretation of Findings and Discussions

From the findings highlighted above, the study established that average pump prices had a strong negative correlation to performance of oil marketing firms as indicated by a Pearson correlation coefficient of -0.721. These findings contradicts the argument by Dkhil (2014) who established that regulation of prices makes companies concentrate on operational efficiency and effectiveness in operations which in turn optimizes operational profits hence improved overall financial performance. It is argued that the introduction of regulations brought about competition which then forced companies to concentrate of operational costs as the pump price is regulated and they may not have much effect on it. The firms get encouraged to invest more in research and development so as to come up

with new products and services besides better ways of meeting the changing needs of their customers. Further findings on pump prices in explaining the performance of oil marketing firms indicated that pump prices were significant in explaining the changes in performance of oil marketing firms as the significance value was 0.001 which is less than 0.05. This is consistent with the argument by Coyne and Coyne (2015) that price controls have been found to restrain research and development at individual organizational level as firms do not consider research and development worthwhile because the prices of goods and services have been pre-set. In addition, Coyne and Coyne (2015) argues that price controls are mainly aimed at benefiting organized interest groups in an industry especially as they seek to have markets oligopolized because low prices make entry difficult.

The study further established that firm size posted a weak negative correlation with performance as supported by a coefficient value of -0.349. Firm size was insignificant in explaining the changes in performance as supported by a significance value of 0.027. These findings contradicts with the argument by Öner (2015) who indicated that larger organizations in terms of assets controlled stood higher chances of recording higher financial outcomes as compared to their competitors with less assets and employee count. The size of the firm plays a significant role in determining how much it charges for its products and services (McMahon, 2001). This is largely attributed to economies of scale and high levels of efficiency associated with large firms as compared with small firms.

From the findings, the results show that foreign exchange rate had a strong negative correlation with performance as the Pearson Correlation coefficient value was low at

0.074. However, it was significant is explaining the variations in performance as supported by a significance value of 0.000. Foreign exchange is the price at which foreign currency is purchased. In circumstances where the local currency depreciates against the main currency used to purchase imports, the imports become expensive while exports become cheap. Kenya as a country does not produce petroleum oil hence all its oil is imported in a refined form following the closure of refinery.

From the Regression Analysis, the study established that the variables examined in this study explained 79% changes in performance of oil marketing firms. This shows that pump prices, inflation and exchange rates played a key role in determining the financial performance of oil marketing firms. This is consistent with the findings of Khatib (2013) who indicated that a direct relationship exists between the trends in fuel price changes and movements of exchange rate in Tanzania. Countries involved in international trade have registered high sensitivity in exchange rates depending on the purchasing power of their local currency (Hango, 2009). This is because the international trade is facilitated by the foreign currency prices against the local currency.

From the coefficients, it can be noted that inflation posted the highest effect on performance of oil marketing firms at 0.373 followed by foreign exchange rates at 0.215, pump prize at 0.115 and lastly firm size at 0.003. These findings are consistent with those of Saleh (2015) who examined how profitability of oil marketing firms in Tanzania changes following the introduction of price regulations and Bulk Procurement System (BPS). The findings indicated that the magnitude of effect varied from one company to

another. In conclusion, the study shows that introduction of price control and BPS negatively affected profit of Oil Marketing Firms (OMCs).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings of the study based on the analysis, interpretation and discussions in chapter four. The study uses key findings to draw conclusions. There are also recommendations for policy and future scholars. The chapter also gives limitations faced by the researcher in conducting the study. Suggestions for further studies are presented for future scholars and academicians.

5.2 Summary of the Findings

The purpose of this study was to investigate the the effect of pump price regulations on financial performance of oil marketing companies in Kenya. More specifically, the study sought to determine how firm size, inflation, foreign exchange rate and pump price of gasoline affected financial performance of oil marketing companies in Kenya.

Correlation results indicated that pump prices posted a strong negative correlation to performance of oil marketing firms as indicated by a Pearson correlation coefficient of -0.721. The pump prices were also significant in explaining the changes in performance of oil marketing firms as the significance value was 0.000 which is less than 0.05. From the findings, firm size posted a weak negative correlation with performance as supported by a coefficient value of -0.064. Firm size was insignificant in explaining the changes in performance as supported by a significance value of 0.448. Foreign exchange rate

showed a strong negative correlation with performance as the Pearson Correlation coefficient value was at 0.874. However, it was significant is explaining the variations in performance as supported by a significance value of 0.000. Finally, The results further indicates that a weak positive correlation existed between inflation and performance of oil marketing firms as supported by a Pearson correlation coefficient of 0.168. Inflation was also significant in estimating the changes in performance as the significance value was 0.044 which is less than 0.05.

From the table 4.3 above it can be ascertained that the value of R is 0.889 while the value for R^2 is 0.790 while adjusted R^2 Value is 0.784. This can be interpreted that the independent variables examined in this study can explain changes in the performance of oil marketing firms up to 79% as illustrated by the R2 value. It can therefore be inferred that there are other factors that explain 21% changes in the performance of oil marketing firms. This therefore shows that the variables examined explain a significance proportion of changes in the performance of oil marketing firms.

The ANOVA findings of the processed data showed shows F calculated as 130.691. The F critical value at (4, 139) is 2.44 which is less than the F calculated figure of 130.691. This implies that the overall regression analysis model used in this study is relevant in estimating the changes in performance of oil marketing firms as a result of changes in the pump prices and other control variables adopted by the study.

From regression coefficients, at 5% level of significance, average pump prices had a significant influence on financial performance of oil marketing firm in Kenya $p=0.001<0.05$. Foreign exchange rate significantly affected financial performance of oil marketing firms $p=0.000<0.05$. Firm Size had insignificant effect on financial performance of oil marketing firms. On the other hand, inflation had a significant effect on financial performance of oil marketing firms in Kenya $p=0.046$, 0.050 and 0.021 respectively which are less than 0.05.

5.3 Conclusion

There was a strong negative correlation between average pump prices and performance of oil marketing firms. This relationship between pump prices and changes in performance of oil marketing firms was significant. From regression analysis, average pump prices had a significant influence on financial performance of oil marketing firm in Kenya. This shows that increase in general pump prices leads to a general decline in the performance of oil marketing firms.

There was a weak positive correlation between inflation and performance of oil marketing firms. From regression analysis, inflation significantly affected financial performance of oil marketing firms. This direct relationship indicates that an increase in level of inflation increases performance of oil marketing firms. This is true both theoretically and practically since an increase in inflation signified general rise in prices of goods reducing purchasing power of consumers and this reduces sales revenue hence performance. On the other hand, a reduction in inflation signifies an increase in income

for consumer's hence higher demand. Higher demand means increased sales revenues which increased financial performance of oil marketing firms.

Firm size posted a weak negative correlation with performance. The relationship between firm size and changes in performance was insignificant. Regression analysis established that firm size had insignificant effect on financial performance of oil marketing firms in Kenya. Several indicators can used to determine size of oil marketing firms for example the number of employees, customer base and asset base. A negative relationship between size and performance is impractical and indicates that a decrease in size of oil marketing companies enhances their financial performance. Large firms outperform small firms because of economies of scale that accrue due to large scale of operations.

Foreign exchange rate showed a negative correlation with performance. This relationship was however significant in explaining the variations in performance. From regression analysis, foreign exchange rate had significant effect on financial performance at. Foreign exchange is one of the macroeconomic variables of an economy and it indicates that a local currency fetches from another currency.

5.4 Recommendations

The study established that pump prices significantly determined the performance of oil marketing firms. However, key point to note is that the performance of oil marketing firms declined more in circumstances where pump prices were highest especially in the year 2012. This therefore goes to indicate that high pump prices are synonymous with a

decline in financial performance. This study therefore recommends that the Government

work on maintaining a moderately stable pump prices which is not too high so that the

commodity can remain affordable to the common citizen.

The study further established that general increases in prices of goods and services in the

economy negatively affected the performance of oil marketing firms. This is because

increase in inflation reduces the purchasing ability of individuals hence reduced demand

for fuel against constant operating expenses which lead to poor performance. This study

therefore recommends that the Government of Kenya work hard to maintain the general

level of prices for goods and services stable for a stable in demand for fuel products and

stable financial performance of oil marketing firms.

The study established that foreign exchange rates affected financial performance of

marketing firms though not significantly because the country relies fully on imported

refined petroleum products. This study therefore recommends for increased stabilization

of exchange rates to reduce the level of volatility in performance.

5.5 Limitations of the Study

The study used secondary data compiled from different sources which entailed

publications from the Kenya Bureau of Statistics, Energy Regulatory Commission (ERC)

Central Bank of Kenya (CBK), and Data from Petroleum Institute of East Africa (PIEA).

The spread and different sources of data is because there is no single institution that has

all the data relating to the industry, unlike banks, it's not mandatory for petroleum

companies to submit annual financial statements to the regulatory body thus the limitation in data collection.

Collection of secondary data was also difficult as some oil marketing firms did not keep well-structured financial records as they are not listed. To overcome this, the researcher used data Collected from the petroleum institute of East Africa (PIEA) and the Energy regulatory commission (ERC). Additional data was also gathered from the Ministry of energy publications, publications from the Kenya National Bureau of Statistics and the Central Bank of Kenya.

5.6 Suggestions for Further Research

The researcher recommends further studies in oil marketing firms listed on Nairobi Security Exchange where data collection will be accessed easily. The current study never distinguished between macro-economic variables (inflation and exchange rate) and firm specific variables (size) and therefore future scholars should separate these two variables. Furthermore, only secondary was used in the current study but future studies should improve on this to include primary data to. Coefficient of determination indicated other factors affecting financial performance of oil marketing companies in Kenya which future scholars should carry their studies on.

In addition, the researcher recommends that a research be carried out to examine the relationship between global and local pump prices as set by ERC. This is because the regulator (ERC) derives the local prices from international price trends.

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APPENDICES

APPENDIX 1: LIST OF OIL MARKETING FIRMS IN KENYA, 2017

1. AFRIOIL
2. AINUSHAMSI
3. AL-LEYL
4. ASPAM ENERGY
5. BAKRI
6. BANODA
7. CITYOIL
8. DALBIT
9. EAGOL
10. ENGEN
11. ESSER
12. FINEJET
13. FOSSIL
14. FUTURES
15. GALANA
16. GAPCO
17. GULF ENERGY
18. HASHI ENERGY
19. HASS
20. KENOL KOBIL
21. KENCOR
22. LIBYA OIL
23. MGS
24. NATIONAL OIL KENYA
25. OLYMPIC
26. OYRX ENERGIES
27. ONE PETROLEUM
28. PETRO
29. RANWAY
30. REGNOL
31. RH DEVANI
32. RIVAPET
33. ROYAL
34. SAFARI
35. STABEX
36. TIBA
37. TOSHA ENERGY
38. TOTAL KENYA LIMITED
39. TOWBA
40. TRISTAR
41. TROJAN
42. VIVO ENERGY
43. TEXXAS ENERGY

Source: (Petroleum Institute of East Africa, Petroleum Insight 1st Quarter, 2017)

APPENDIX II: DATA COLLECTION SHEET

	Maximum Pump Prices - Monthly	Petroleum Sales for the Industry	Return on Assets for the Industry	Total Asset base for the industry	Size of The firms Market Share
2005					
2006					
2007					
2008					
2009					
2010					
2011					
2012					
2013					
2014					
2015					
2016					