THE EFFECT OF PRICE REGULATION ON PERFORMANCE OF OIL MARKETING FIRMS IN KENYA

BY

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF MASTER IN BUSINESS ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

2017

DECLARATION

I hereby declare that this research project is my original work and has never been submitted in any institution or college for any academic purposes.

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D61/84056/2015

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

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ACKNOWLEDGEMENTS

My most sincere gratefulness goes to the Almighty God for giving me good health, a sound mind and for His providence throughout the entire Masters programme.

I am greatly indebted to my Supervisor, Dr. Herick Ondigo, for his sustenance, direction and insightful reviews that have helped me to successfully finish this project.

My special acknowledgement also goes to my immediate family and friends for their moral support and standing by me during this research. It is my pleasure to acknowledge the contribution of my fellow students and staff of the University of Nairobi, for providing the reference materials and an enabling environment to use the existing facilities and infrastructure.

Special thanks go to employer Kenya Teachers Sacco Association for allowing and supporting me to further my studies.

DEDICATION

Special dedication to my family and friends for the effort and contribution toward my education.

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ANOVA	Analysis of Variance
ERC	Energy Regulation Commission
ERR	Expenses Revenue Ratio
FAR	Fixed Assets Ratio
GDP	Gross Domestic Product
KPC	Kenya Pipeline Company
KPRL	Kenya Petroleum Refineries Ltd
LPG	Liquefied Petroleum Gas
MOE	Ministry of Energy
NOCK	National Oil Corporation of Kenya
NSE	Nairobi Securities Exchange
OPEC	Organization of the Petroleum Exporting Countries
OTS	Open Tender System
ROA	Return on Assets
SCM	Supply Chain Management
SER	Sales to Equity Ratio
USA	United States of America

ABSTRACT

Petroleum price regulation was introduced in Kenya in December 2010 after Energy Regulatory Commission was granted the mandate. This was after Kenya was faced by stiff price increase of petroleum products between the year 2007 and 2011. It was observed that before regulation was introduced oil firms were taking advantage of international price changes to exploit the general public. Due to the need to protect consumers, public complains and dissatisfaction the government introduced regulation of prices on oil. It is for these reasons and others that this study was conducted with the objective being to establish whether there exists a relationship between price regulation and financial performance of oil marketing firms in Kenya. The study covered 8 years from 2006 to 2013 and secondary data for thirty-one oil firms in Kenya was collected. The chi square test of differences was used to test for significance between introduction of price regulation and the performance of the oil marketing firms in Kenya. The dependent variable was the financial performance of the oil marketing firms in Kenya which were equated to the Return on Assets (ROA). The independent variables were Expenses Revenue Ratio, Sales to Equity Ratio, Fixed Asset Ratio and the Regulatory Regime. The study findings revealed that the introduction of petroleum price regulation has had a negative effect on the financial performance of oil firms in Kenya. The general financial performance of the oil firms as measured by ROA was better/higher in the period preceding petroleum price regulation period than in the period after introduction of the regulation. The local prices were way behind the international price quotations after introduction of price regulations in 2011. The study found that for sure regulation of prices on oil affected performance of oil firms financially in Kenya. Thus, the study recommends refinement of the ERC pricing formula to ensure that it accommodates and addresses the concerns raised thus far by the major stakeholders in the industry to ensure protection of the oil sector's margins and subsequently enhance financial and overall operational performance which is bound to have a trickle-down effect to the whole Kenyan economy. The study also recommends that ERC criteria of regulation be reviewed in the consultation with all oil marketers and stakeholders to cushion them from costs not considered in the gazetted formula.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Pricing is considered to be the most vital pillar among the four pillars of marketing. The other three pillars are the product, the location and promotion. Price regulation is a tool used by the national government to control the maximum prices that certain products or commodities may be sold for in the retail market or at various production stages (Mwangi, 2010). Whenever there is the presence of market inefficiencies such as monopolies or oligopolies, price regulation is used to correct the inefficiencies. In a capitalist market, the law of demand and supply is used to correct the market inefficiencies where the system sets the price and both the sellers and consumers accept it. This price is set in such a way that the sellers are able to make a sustainable profit

In Kenya, price regulations are made by the Energy Regulatory Commission, but in other countries, legal legislations or government agencies are mandated with the regulatory responsibility. Through the Energy Act of 2006, an Energy Regulation Commission was formed and was mandate to formulate, set and implement pricing tariffs. Other functions include reviewing of operators' licenses and the protection of oil consumer groups. (The Energy Act 2006).

For example, increased oil prices mean that the oil marketers will earn more revenue for influencing the buyers to exercise loyalty as they seek the services from the distributors. It means that water, other forms of energy, food, and necessities will equally experience an increase in prices as Barua (2013) affirms. On the other hand, price controls that lower the costs of oil will affect the marketers negatively.

Osoro (2015) indicated that in many developing countries, governments have engaged in the control of prices of petroleum products. This was mainly prevalent in the period preceding mid-2008 when many governments seriously considered different alternatives for reforms in pricing in the face of rising subsidies. The financial pressure to facilitate and implement the pricing reforms reduced in late 2008 after the economic regression which caused a great price collapse (Musau, 2014). Governments all over the world are being urge to ensure that there are institutions that protect the consumers in their domestic markets from the ever-changing oil prices.

1.1.1 Petroleum Price Regulation

Pricing being one of the most crucial pillars of marketing dictates what the consumers need to pay to be able to utilise a product (Laffont, 2014). A buyer will purchase a product out of the need to acquire utility from that particular product. For a person to buy a product, he/she must be having an expectation that the product is beneficial to their needs (Howill and Prantl, 2008). Market positioning, which the strategy a firm employ so as to create and sell its image to existing and potential buyers, is greatly influenced by the pricing strategy of its products (Kotler, 2003).

Petroleum price regulation in Kenya commenced in December 2010. This was through an addition to the Energy Act (2006) via a subsidiary legislation where the Energy Regulation Commission (ERC) was granted authority to regulate petroleum prices in Kenya through the establishment of a formula for the issuance of retail and wholesale maximum petroleum product prices in Kenya. Cost minimization and improved production efficiency are the main consideration when the ERC is setting up a price regulation formula.

Price regulations set by the ministry mainly affects white fuel oils which include petrol, kerosene and diesel. However, these regulations do not affect the following products in the oil industry; fuel oil, liquefied petroleum gas (LPG), lubricants, jet fuel, special fluids, and export sales. The prices of these products are determined by market dynamics which include; the demand and supply forces, the intensity of competition, the movement in international oil price quotations and lastly, the efficiency of the supply chain, (Ministry of Energy, 2012).

The public service is faced with a friction between corporate procedures and the utility interests of the people involved directly and also of those involved indirectly. For this reason, therefore, most governments have come up with unique forms of regulation to mitigate these conflicts (Musau, 2014). These regulation mechanisms ensure the delivery of safe and appropriate services without discouraging the effective and efficient functioning of businesses. Several regulation models have been developed and adopted by the regulators.

The first is the Price Cap Model which according to Dean (1995) it is an approach whereby ceilings caps, on the basis of indices of price and technological changes are imposed, below which the regulated company has full pricing freedom. The second is the Rate of Return Model. This approach is adopted in Canada, Japan, and the United States, where regulatory agencies set the rate of return that a certain utility can earn on its assets. They fix the price the utility can impose so as to allow it to gain a specified rate of return. The Licensing Model is the third model. Under this framework model, government regulation plays a dominant role in regulating and managing the licensing of firms. Lastly, the Industry Self-Regulation Model in which there are no explicit

national rules or regulations exclusively designated for firms. The common commercial principles or acts apply to all operators in the industry.

1.1.2 Financial Performance

Healy (1992) defined financial performance as the level of how assets are utilised by a firm in its process of generating revenues. In other words, it is the general productivity of a company over its productive time period. This measure is mostly used for comparison of different industries in totality or similar firms across the same industry or firms' performance across time; in this case before and after petroleum price regulation in Kenya. It may also be perceived as the direct outcome of the efficient management and utilization of economic resources and financing activities. A company's performance and financial position is portrayed in the financial statements that are filed annually. These statements are mainly used as sources of information that enable the resource management analysis during the process of value creation, (Bradley, 2011).

Baum and Wally (2003) in their study measured firm performance as growth and profit. In the study, self-reported objective measures were used where the respondents were asked in a questionnaire to fill in the figures for total sales and the number of employees for two years as well as profit for the year. Anderson (2003), measured new venture financial performance using return on total assets (ROTA) and return on sales (ROS) based on objective archival measures. Performance measures in this study will be calculated using the Return on Assets ratios.

Various approaches can be used to calculate the financial performance of a company. These methods include; cash flow based methods, stock based methods and accounting based methods. Companies' performance can be evaluated through performing

analytical reviews. Ratio is defined as a simple mathematical statement which displays the relationship between two items listed, for example, in financial statements (Anderson, 2003). Through ratios, it is possible to evaluate the power of the company's liquidity, solvency and its profitability. Profitability reflects to a company's capability in managing its economic risks to the unexpected uncertainties and losses

1.1.3 Price Regulation and Financial Performance

The price regulation has a direct bearing on gross revenues of companies as it determines the price at which the manufacturing companies sell their products and is therefore expected to affect financial performance ultimately. Some other factors also affect the financial performance of manufacturing companies. The efficiency of the supply chain affects the level of service delivery by the companies to its customers. Faster product availability is key to increasing revenues and considerable profit advantage (Sibley et al., 1991).

Excessive price competition reduces the profitability of the companies while low price competition enables the companies to adjust prices in line with their operational strategies. The movement in international product prices and exchange rates between local currency and the foreign currencies impacts on the product cost. The reflection of these costs on the final prices of the product commands the level at which the companies can pass them to consumers, (Aress, 2011).

The stability of macroeconomic variables, for example, inflation, interest rates, GDP growth rate and strength of the local currency with regards to foreign currencies, is another critical factor in the management of working capital. High-interest rates regime combined with volatile local currency interprets to high financing costs and therefore,

foreign exchange losses. On the other hand, high inflation translates to an increase in fixed costs while low and stable inflationary measures reduce the volatility of fixed expenses while enhancing accurate forecasts and budgeting, (Energy Regulation Commission, 2012).

On several occasions, regional and international distributors largely from the Middle East supply the Kenyan oil marketers with the product. When the ERC regulates prices of oil, the companies anticipate an increase to ensure that the marketers can get a high return on investment. However, a reduction in oil prices means that the consumers will gain from such changes. However, everything depends on the costs of the commodity acquisition from the international and regional markets. In the end, profit generation and sustainability remain two of the most important facts for the marketers anytime the ERC advertises new oil prices.

Over the past six years, the direct impact of price regulation policies has had on the productivity and the overall performance of oil marketing firms is clear. When crude oil prices increase, the ERC is likely to regulate the same locally. An increase in oil prices sometimes lowers the demand for the commodity. If the demand remains the same and the ERC increases oil prices, the marketing companies perform well. On the other hand, a reduction of the oil prices increases the demand and sometimes reduces the supply. Price regulations are things that happen cyclically, and they have to affect the financial performance of oil marketing firms in a right or bad way. (Energy Regulation Commission, 2016).

1.1.4 Oil Marketing Firms in Kenya

Kenya is an oil importing nation with refinery factories that are under the management of the Kenya Petroleum Refineries Ltd (KPRL). This institution also manages the operations and running of the Kenya Pipeline Company (KPC). The KPC has an 800-km oil pipeline running across the country starting from Mombasa to Kisumu. The pipeline has three terminals in Nairobi, Nakuru and Eldoret. Kenya's oil industry structure is still oligopolistic in nature both in wholesale and retail level even with the 1992 deregulation initiative, (Government of Kenya, 2005). The Kenya oil industry has more than 30 companies undertaking the role of importation and marketing of petroleum and petroleum products. The largest oil marketing corporations include Shell, Total, Kenol/Kobil and Oil Libya. The state government of Kenya owns one oil marketing corporation known as National Oil Corporation of Kenya (NOCK). The Independent Petroleum Dealers of Kenya has a network of independent service station dealers (Kenya Oil Company Limited, 2008).

Different institutions play different roles in the industry. Policy leadership is provided by the Ministry of Energy (MOE) while the sub-sector's stewardship on the regulatory front is provided by the ERC. Under the Ministry of Energy, The Kenya Pipeline Company (KPC), plays the role of providing the country with the safest, least cost, efficient and safest transport means for the petroleum products countrywide from Mombasa as a state corporation. A pipeline that stretches from Mombasa to Nairobi and is controlled by KPC oversees the entry to Kipevu Oil Storages Facility and other depots used for storage in the inland. The Kenya Petroleum Refineries Limited (KPRL) is a limited company that operates one refinery for skimming in Mombasa.

The supply of petroleum products in Kenya is mainly from refined crude oil imported by Kenya Petroleum Refineries Limited (KPRL) and refined products imported directly (Kieyah 2011). The Ministry of Energy takes charge of importing both refined and crude oil products via an Open Tender System (OTS) before which it apportions the base load based on the licensed importers‟ historical market share. The party that wins the OTS apportions refined product based on cargo participation computation (Government of Kenya, 2005)

1.2 Research Problem

Nowadays, the top topics in public debates in the petroleum retail markets in most countries are the high volatility of petroleum prices, the increase in this price and the suspicion of collusive actions of key players in the industry (Aress, 2011). In an effort to contain the presence of market inefficiencies and consumer extortion, the government of Kenya in collaboration with some other several competition authorities, have set up some restrictions on the prices chargeable for certain products.

Since the introduction of the petroleum retail price regulation policy in Kenya in December 2010, stakeholders in the oil sector have indicated an impending decline in businesses over the skewed application of the petroleum price formula. ERC's pricing formula has constantly been criticised by the major oil companies in Kenya as to not putting all the factors that affect supply chain into consideration. These factors, for example the cost of financing importation and the clearing costs at the depot are not catered for in the formula resulting to a negative impact on the margins in the sector. Most of these critics have attacked the price regulations as they favour some of the stakeholders while burdening the others and hence they would prefer the market forces of demand and supply to set the market prices.

Chelimo (2008) indicates that ERC has failed to live up to its expectations with some consumers lamenting that it usually favours oil marketers. The oil marketing firms from the above statements do not agree with these sentiments. There is, therefore, a disconnect between the initial motivation of introduction of price regulation and the resultant effects of the regulation policy to the various stakeholders.

Limited research has been conducted to empirically scrutinise the consequence of price regulation on the productivity of oil marketing firms in Kenya. Previously, the few studies conducted have been case studies tackling the probability of the firm individually.

Wabobwa (2011) carried out a case study on the state corporation, NOCK. He investigated the impact of the price regulation on the corporation's financial performance from June 2010 to June 2012. On the 2 years' period, he discovered that the company's gross profit declined drastically as a result of the introduction of the price caps regulation introduction. The limitation of this study in explaining the phenomena under study is that it focused on only one corporation. Those that focused on the industry as a whole had limitation in the period of study being not adequate creating the possibility of them having based conclusions on possible transitional responses.

Misoi (2013) did a study on the effect of the introduction of price caps on the financial performance of oil companies in Kenya. In his research, he found out that Total Kenya Limited was the most affected by the introduction of the regulatory regime. This study covered one year before price regulation and one after price regulation starting from January 2010 to December 2012 which may be considered as a transitional time. Further, Wanjogu (2015) in her study that sought to analyse the relationship between

the introduction of price regulation and the profitability of oil marketing firms in Kenya. The study period was a three-year span covering from January 2010 to December 2014. This study only examined the profitability which is just one aspect of assessing financial performance of a company. These factors present knowledge gaps that this research seeks to fill while assessing the financial performance of the oil industry from a more holistic approach other than the previous emphasis on profitability only.

This study was aimed at covering up the research gap that is present on the subject oil price regulation. The oil marketing industry has not been fully explored especially on the topic of oil price caps. There have been quite a few research studies done on the consequences of the price control policies on the productivity and performance levels of the firms involved in the industry. This research gap has dictated the need to conduct this study so as to explain empirically the ripple effect caused by the introduction of price regulations in the oil and petroleum market.

This study was aimed at addressing the question; what is the effect of price regulation on the performance of oil marketing companies in Kenya?

1.3 Objective of the Study

To determine the effect of price regulation on financial performance of oil marketing firms in Kenya.

1.4 Value of the Study

The findings and recommendations of the research study will be of significance to the Energy Regulatory Commission and the government at large in providing objective analysis of the effect that petroleum price cap regulation has had on the financial performance of the major players in the oil industry. This may form a good basis for

new policy formulations or adjustments to the existing policies in the energy sector and other sectors as well.

To the industry's stakeholders and potential entrants to the market, it provides fundamental insights into the challenges and opportunities created by the price regulated regime. It also provides a basis for evaluation of the viability of investing in the oil sector in Kenya. Scholars interested in advancing the theoretical studies discussed herein and engaging in further research in this field or related fields will be able to investigate any knowledge gaps and also make great additions to the already existing research theories either in critique or compliment.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

In this chapter, the literature review relevant to the research will be discussed. The chapter is organised as follows; Section 2.2 presented the theoretical review, Section 2.3 presented the empirical literature, Section 2.4 provided measures of financial performance, Section 2.5 presented the conceptual framework and finally, Section 2.6 is the summary of the literature review.

2.2 Theoretical Review

The theoretical review discussed three models including the institutional theory which focus on the aspects of social structure, the agency theory which concentrates on the relationship between the shareholders and the managers, the stake holder theory. Finally, the economic model will focus on issues of supply and demand, which influence the acquisition and distribution of oil in Kenya.

2.2.1 Institutional Theory

The institutional theory primarily concentrates on the deep rebounding facets of social structure. The institutional principle examines the arrangements that are used to come up with the basic rules for determining, defining and judging social behaviour. These arrangements include set of rules, routines and norms (Scott, 2004). In order to survive and thrive well, organisations must operate within the rules, norms and belief systems that exist in their environment (Scott, 1995). In their study, Dimaggio and Powell (1983) called this occurrence an institutional isomorphism in that the organisations have to earn their legitimacy through both structural and the appropriate procedures.

Oduor (2010) refers to the institutional theory as a traditional theory that examines the various elements of organisations' management operating in different environments with varying rules, norms and beliefs. In his research, Scott (2004) identifies the three main pillars of institutions framework as regulatory, cultural cognitive and normative. Under the regulatory component, he maintains that the use of rules, norms, laws and sanctions as an institutional enforcement mechanism forms the basis for compliance. The social institutions are made up of both the cultural-cognitive and regulative elements which add meaning to life when combined with other interrelated activities and resources (Scott, 2004). On the normative pillar, norms are defined as how things ought to be done and the preferred or desirable values while the social obligation forms the basis of compliance. Finally, the third pillar of cultural cognitive lies on a shared understanding which includes the commonly accepted beliefs, understanding and symbols.

This theory was of great significance to this study as the study tried to examine the impact of regulation in the oil marketing industry. This theory views the regulatory component as one of the tree main pillars that are the backbones of the institutions we have in our modern-day society. This study investigated the importance of regulatory mechanism on the oil marketing institutions.

2.2.2 Capture Theory of Regulation

This theory has been categorised as part of the private interest theories of regulation. Political scientists came up with it after the public interest theory had received a fair share of criticisms, (Posner, 1974). This theory holds the assumption that in due time, regulation will eventually benefit the industry in question. If the presence of any market inefficiencies is detected in an industry, legislators may impose regulation to that

particular industry in an effort to correct the said market failures. However, in due time, other monitoring by the agency is lessened when other priorities mainly political in nature surface. In this case, the said agency will usually aim to desist from conflicts with the company under regulation as it depends on this company for information and prospects for career opportunities among other benefits. With time, the regulatory agency starts representing the interests of the company under regulation.

This theory has been facing a lot of criticism (Posner, 1974). To begin with, the theory lacks a significant difference with the public interest theory as public interest is the initial foundation for both theories. Secondly, it almost does not make logical sense how an industry cannot prevent a regulatory agency from coming into existence yet it eventually makes the agency serve its interests. Thirdly, in most cases, regulation benefits consumers' groups as opposed to promoting the interests of the entire industry and finally, most forms of regulation, do not obtain buy-in by companies' due to the expected negative effect on profitability.

This theory was of significance to this study in trying to identify whether the regulatory policies promoted the interests of the entire industry or only benefited the consumer groups while exposing the firms involved in the industry.

2.2.3. The Economic Theory

This theory also is categorised as part of the private interest theories and it was formulated by Stigler in 1971. It is also referred to as the Chicago theory of government (Noll, 1989). The proponents of this theory hold the proposition that regulation strategy is acquired by an industry only if its operation is designed to benefit the industry. There are quite a number of benefits that an industry can enjoy due to government regulation.

As mechanisms of regulation, the government can give subsidies, restrict competitor entry, provide exemptions from antitrust legislation, to manage the price level.

Joskow and Rose (1989) indicates that with time, politicians start honouring the demands of these interest groups in exchange for political support the result of which is that regulation does not amend the right market failures. This theory formed the foundation of this research study as it examined the importance and role played by the presence of price regulation in the market. The private interest theories hold that regulation regimes are crucial in the wealth distribution in a well setup and organised market. The study will seek to examine the level of truth in this statement.

2.3 Determinants of Financial Performance on Oil Marketing Firms

Petroleum price regulation has a direct bearing on gross revenues of oil companies as it determines the price at which the oil companies sell their products. Other factors that are expected to influence financial performance of oil are as follows;

2.3.1 Supply Chain Efficiency

Supply chain impacts the level of service delivery by oil companies to its customers. Faster product availability is key to increasing revenues and significant profit advantage for the additional time that you are present in the market, and your competitor is not (Sibley et al., 1991). The availability and cost of information between entities in the supply chain allow easy connections that eliminate time lags in the network; increasing government regulations and the competition levels in the market requires organizations to be fast, customer expectations have become greater; an organization's supply chain capacity to react hastily to major disruptions in both downstream product or services and supply will reduce the impact on lost sales. With rising demand, organisations and

their suppliers must be reactive or face the prospect of losing market share, (Chopra and Meindl, 2001).

In today's world, competition is not between firms but is among the supply chains of those said companies. The enterprises that have the best supply chains stand to be the market leaders and gain a competitive edge (Collin, 2004). Implementing effective SCM is not a simple task; it requires coordination between departments within an organisation as well as between partners within the supply chain. Variations in the business external setting like fluctuations in prices and regulations lead to corporations to adopt more flexible supply chain practices. Investment on employees training and development is also a fundamental factor to be considered for effective SCM (Kilian, 2008a).

Angelier (1991) indicates that demand is considered to be more inelastic if a firm act as a monopoly and faces little or no competition. This easily allows the company to upsurge its profits by raising the prices of its products. Google, Microsoft among others are examples of very profitable companies that have a substantial level of monopoly power and are faced with little competition. This is where the government steps in and regulates the market to deal with the monopolies present in the market. In a very competitive market, profits tend to be lower. This is because consumers will have the choice to purchase from the firms with the lowest prices. Contestability also plays a vital role here. This refers to the ease with which new firms can enter the market. Easy entry presents a threat of competition which then decreases attainable profits.

2.3.2 Exchange Rates

The movement of exchange rates between local currency and the US dollar has a direct impact on the product cost. The reflection of these expenses on the costs of the product determines the level at which oil companies can pass them to consumers (Aress, 2011). Today, oil prices are set by the marketplace. In 1987, a free market for crude oil was introduced. The prices in this market act as the benchmark for nearly all international transactions which has culminated to fluctuations in prices which had not been previously experienced in the oil industry, (Kilian, 2008a).

2.3.3 International Oil Prices

International oil prices have a direct impact on the product cost. Angelier (1991) indicates that, in the short-run, supply and demand interaction results to oil price fluctuations whose magnitude and frequency depend on marketing arrangements for crude oil available at a given period. In the medium term, the industry structure may permit the more influential group of players to implement a strategy whose purpose would be to protect the market or industry from forces of competition, resulting in an increase in oil prices. In the long term, the oil prices will tend to reveal the actual cost of producing adequate oil to fulfil demand.

2.3.4 Macroeconomic Variables

The stability of the major macroeconomic variables, for example, inflation, interest rates, GDP growth rate and the strength of the local currency in comparison with other foreign currencies is another decisive factor in the management of working capital. High-interest rates regime coupled with a highly volatile local currency leads to a high financing costs and foreign exchange losses. On the other hand, high inflation translates

to a rise in fixed costs while low and stable inflationary measures reduce the volatility of fixed expenses while enhancing accurate forecasts and budgeting (ERC, 2012).

Economic growth leads to increased demand for a majority of products particularly luxury products which are assumed to have a high-income elasticity of demand. For instance, luxury sports cars manufacturers will benefit in the times of economic growth but will be affected negatively in times of recession.

2.4. Empirical Review

Dalen et al., (2006) carried out a research study on the relationship between the introduction of pricing regulations and competition in the pharmaceutical manufacturing firms in Norway. Their study found out that market shares improved in the pharmaceutical market therefore the profitability levels rose. It follows that the introduction of the pricing regulations had a positive impact on the profitability of the pharmaceutical market.

Carranza et al., (2009) carried out a descriptive study on the impact of price cap policy on the financial performance of petroleum marketing firms in Canada. Their main objective was to illustrate that price caps create crucial unintentional impacts on market prices as well as productivity of firms in the long run by altering the market structure. from their regression analysis, they found that pricing regulation influences the profitability levels of the firms involved in the market as a result of changes in the market structure. The major limitation of this study was its inability to put into consideration the possible equilibrium effects of the price regulation.

Seo et al., (2010) conducted a study among telecommunications manufacturers in the USA. Their study focused on the relationship between price caps and the productivity improvement of the firms involved in the industry. Using a stochastic frontier method, they examined 25 Local Exchange Carriers (LECs). They found a strong positive relationship between the companies' productivity improvement and the price regulation. effect of price cap regulation on the productivity growth. Moreover, out of the 25 firms in the sample, they found that 24 firms experienced a significant increase in technological change. Furthermore, out of the 25 companies, 23 showed an improvement in the annual productivity growth after the introduction and the implementation of regulation incentive.

Khuen (2015) carried out a research on the impact of price regulation on the profitability of the companies in the oil and gas extraction industry of Kuwait. From the findings of his study, he revealed that there was a positive effect of the introduction of price regulation on the profitability of the oil and gas extracting companies. This effect was attributed to the reduction in the cost of production and presence of government subsidies to keep the industry afloat.

Binder (2016) conducted a research study on the effect of price regulation on the financial performance of companies in the depository credit intermediation in the banking industry of Germany. He examined 30 financial institutions in Germany. His research results pointed out that the introduction of price regulations had a negative effect on the financial performance of the financial institutions in the banking industry of Germany.

African Globe (2011) examined the relationship between price caps and the profitability of the major oil marketing firms in Kenya. Their study revealed that there was a significant decrease in the profit margins as a consequence of the introduction of price caps. The decline in profit margin was as a result of increased competition in the industry that increased after the introduction of the oil price caps.

Wabobwa (2011) carried out a case study on the relationship between price regulation and the financial performance of state corporation National Oil Corporation of Kenya (NOCK). He considered data from secondary source and the study covered two years between 2010 and 2012. The findings of his study supported those of Africa Globe (2011) in that the company's gross profit declined drastically after the introduction of price regulations. This was as a result of the reduced gross profit margin.

Misoi (2013) carried out a research study to examine the relationship between the profitability oil marketing firms and the introduction of price regulation in Kenya. The research population for the study was 40 oil marketing companies registered in Kenya. The study concluded that the financial performance of Total Kenya Limited was the most affected by the introduction of price controls.

Wanjogu (2015) conducted a study targeting oil marketing companies in Kenya. Her study was to find out the relationship between the profitability of oil marketing firms and the introduction of price caps in the industry. She analysed data from secondary sources and her findings were that price regulation negatively affects the profitability level of oil marketing firms in Kenya. The study then recommended that oil marketing companies should strive to increase operational efficiencies to increase their profits.

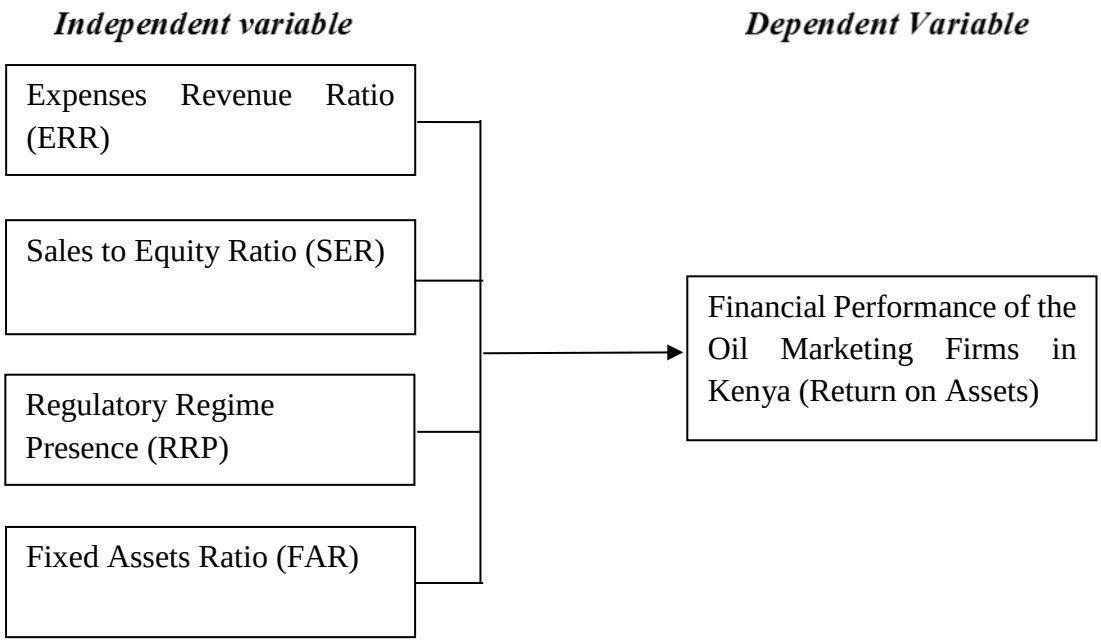
Namiba (2016) did a research on the relationship between price regulation and the profitability of oil marketing firms in Kenya. She found out that the introduction of price regulation in the petroleum market had a negative impact on the financial performance of the oil marketing firms in Kenya.

2.5. Conceptual Framework

A conceptual framework is a widely used research tool which helps a researcher in developing a better understanding of both the independent and the dependent variables of the study (Mugenda & Mugenda, 2003). The dependent variable was the financial performance of the oil marketing firms in Kenya which were equated to the Return on Assets (ROA). The independent variables were Expenses Revenue Ratio, Sales to Equity Ratio, Fixed Asset Ratio and the Regulatory Regime.

Namiba (2016) found that that the Fixed Asset Ratio (FAR) has a negative relationship with the dependent variable, that is, the Return on Assets (ROA). In the study of Seo et al. (2010), they found that there was a positive relationship between the Return on Assets which was the dependent variable and the independent variable of Regulatory Regime. In her findings, Namiba (2016) found that both the Sales to Equity Ratio (SER) and the Expenses Revenue Ratio (ERR) had a positive relationship with the dependent variable, Return on Assets (ROA)

Figure 2.1 Conceptual Model



Source: Researcher (2017)

2.6 Summary of the Literature Review

Several theories have been forwarded in an effort to clarify the drive behind price regulation. These theories have generally been categorised into the public interest theories of regulation and the private interest theories. The public interest theories hold that regulating agencies have satisfactory information as well as the enforcement powers to efficiently stimulate public interest. On the other hand, the private interest theories usually undertake that every commercial manager pursues their own gains. Different procedures of determining regulatory actions have been considered to enable the researcher to make a decision on the methodology to use for this study.

The proponents of the economic theory hold the proposition that regulation strategy is acquired by an industry only if its operation is designed to benefit the industry. As mechanisms of regulation, the government can give subsidies, restrict competitor entry, provide exemptions from antitrust legislation, to manage the price level. It can also discourage the use of substitutes and is in a position to restrict entry more easily than a cartel would. This theory holds that price regulation is not entirely focussed to correct the market inefficiencies but at creating revenue transfers in exchange for political sustenance.

The institutional theory holds organisations tend to have a competitive advantage over other organisations due to the social economic and political factors that constitute its operating environment. The theory maintains that regulatory consists of rules, norms, laws and sanctions as an enforcement mechanism. The capture theory of regulation, on the other hand, holds that over time, regulation will eventually benefit the industry affected. The effects of the regulatory agency will be reduced other priorities especially political interests set in.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

This chapter previewed the research method adopted in the study. Section 3.2 discussed the research design, Section 3.3 presented the population and sample of the study, Section 3.4 discussed the data and data collection methods, and finally Section 3.5 showed the data analysis methods.

3.2. Research Design

The research adopted the event study design. An event study is an investigation of the impact of a precise event in a sector, industry or the general market at large (Kothari, 2003). The phenomena investigated in this study was the introduction of petroleum price regulation in Kenya. This study sought to explore the effect of petroleum price regulation on the financial performance of oil marketing companies in Kenya and the empirical evidences that will help to accomplish the research objective.

In essence, the study used secondary data to assess an existing condition. Already, the study observed and described the performance of the financial oil marketers from a naturalistic point of view. The performance remained determined by the existing price regulatory institutions

3.3 Population of the Study

This study targeted all the oil marketing firms registered in Kenya as at December 2016. According to the Energy Regulatory Commission, there are more than 30 registered oil marketing firms in Kenya (www.erc.go.ke). Mugenda (2003), explained that a research target population should possess some visible characteristics which can help the researcher generalize the findings of the research.

This study adopted a census sampling. Sampling is a method of choosing some homogenous individuals from a population group to represents the population in a study (Bryman, 2008). This used the entire population of 31 oil marketing companies as the sample. A census disregards any sampling error since every member of the population is being studied.

3.4. Data Collection

This study utilised data obtained from secondary sources such as published financial statements of the oil marketing firms, Ministry of Energy statistics, company websites, industry reports and newspapers.

3.5. Data Analysis

This section discusses the data analysis. Section 3.5.1 discusses the conceptual model. Section 3.5.2 discusses the analytical model and Section 3.5.3 presents the test of significance.

3.5.1 Conceptual Model

The financial performance of oil companies registered in Kenya as at December 2016 was analyzed for a period of eight years from 2006 to 2013 so that the study is able to cover the time period of before and after price regulation was introduced. The chi square test of differences was used to test for significance between introduction of price regulation and the performance of the oil marketing firms in Kenya.

The test is called the X^2 test of independence and the null hypothesis is that there is no difference in the distribution of responses to the outcome across comparison groups

H_0: The distribution of the outcome means that it is independent of the presence or absence of a regulatory regime

VARIABLE	Regulated	Unregulated	Total
ROA			
FAR			
SER			
ERR			
Total			

Source; Author 2017

Where:

Return on Assets (ROA) represents Financial Performance

Fixed Assets Ratio (FAR) represents Capital Utilisation

Sales to Equity Ratio (SER) represents Capital Efficiency

Expenses Revenue Ratio (ERR) represents Operational Costs

The Fixed Assets Ratio (FAR) indicates how a company is able to utilize its fixed assets and generate sales of its products. If this ratio is high, it demonstrates an active investment policy. However, if it gets above 50%, there can be a case of inefficient utilization of capital which can in turn restrict the firm's ability to expand its production activities. It represents the weight of fixed assets on the company.

FAR = Fixed Assets/Total Assets

The Sales to Equity Ratio (SER) express how well capital was utilized for generating sales. An increase in this sign over time speaks positively of management's efficiency in creating income using the owner capital. It represents the capital efficiency.

SER = Net Sales/ Total Shareholders' Equity

The Expenses Revenue Ratio (ERR) represents operational costs and indicates the achievement of efficiency by a company through minimization of costs. A decrease in this ratio shows improvement in resource management hence improved in financial performance.

ERR = Operating Costs/Operating Income

The chosen independent variables represented by the above indicators indicate various facets of efficient management of resources which translates to sound financial management hence good financial performance; they will therefore be used in modelling the financial performance for the oil companies

3.5.2 Analytical Model

The analysis of the effects of price regulation on financial performance was done using Chi squared test. The analysis was done to test the null hypothesis;

H_0: The distribution of the outcome means that it is independent of the presence or absence of a regulatory regime.

Test Statistic for Testing H_0

$$X^2 = \sum \frac{(O - E)}{E}$$

and we will find the critical value in a table of probabilities for the chi-square distribution with df =(r-1) *(c-1)

Where

O = observed frequency,

E=expected frequency in each of the response categories in each group,

r = the number of rows in the two-way table and

c = the number of columns in the two-way table.

r and c correspond to the number of comparison groups and the number of response options in the outcome

3.5.3 Test of Independence

The definition of independence is as below:

Two events, A and B, are independent if P(A|B) = P(A), or equivalently, if P (A and B) = P(A) P(B)

To conduct the X^2 test of independence, we need to compute expected frequencies in each cell of the table.

CHAPTER FOUR: DATA ANALYSIS, PRESENTATION AND INTERPRETATION

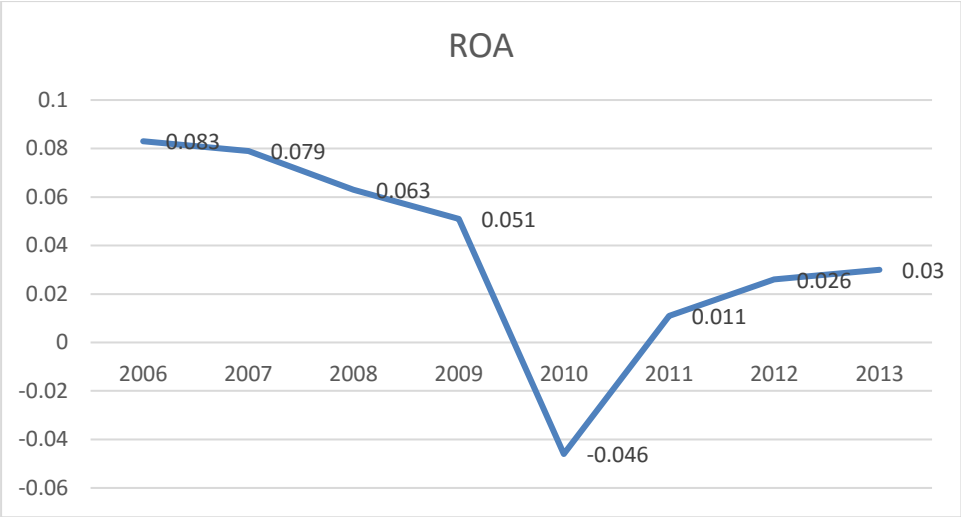
4.1 Introduction

This chapter contains the outcome of the study and data analysis. The study data was obtained from the statements of financial position and the statements of comprehensive income for an eight-year period from 2006 to 2013. The data was analyzed and information presented in a method of, pie charts, bar graphs and cross tables.

4.2 Trend analysis

Trend analysis was used to show the general movement in financial performance of the oil firms as measured by the indicators in the period under review. An analysis of ROA realized between 2006 and 2010 revealed a downward trend. The year 2010 had the all-time lowest which is an indication that there was a decrease in financial performance during the introduction of the price regulation policy. There was an incline however from 2010 through to 2013. This is consistent with findings from Wabobwa (2011) who studied the oil price government regulation impact on the financial performance of (NOCK) for a period June 2010 to June 2012. This study found that gross profit margin reduced tremendously thus shrinking the company's gross profits after introduction of oil price caps.

Figure 4.1 Trend analysis of ROA

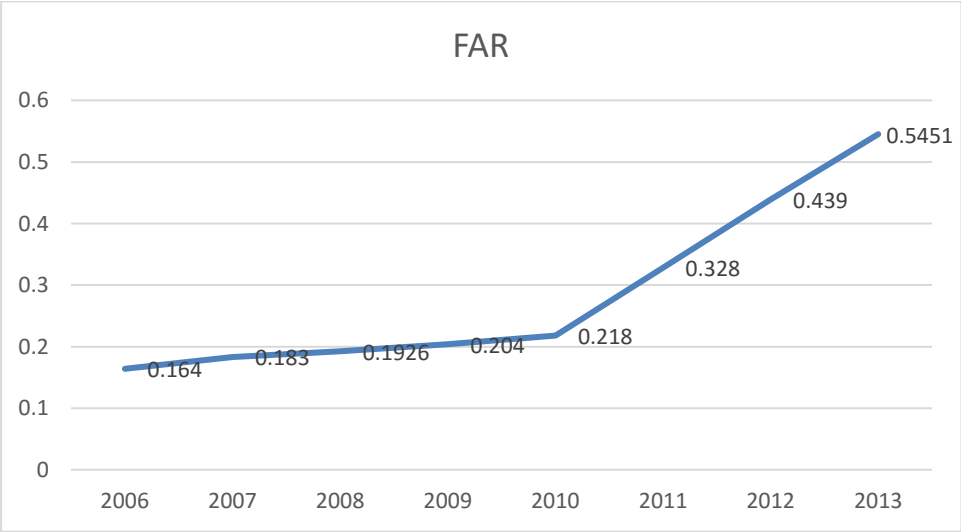


Source: Research Findings.

FAR

An analysis of FAR realized between 2006 and 2013 revealed a upward ward trend. The year 2013 had the all-time highest. The Fixed Assets Ratio (FAR) indicates how a company is able to utilize its fixed assets and generate sales of its products. This demonstrates an active investment policy.

Figure 4.2 Trend analysis of FAR

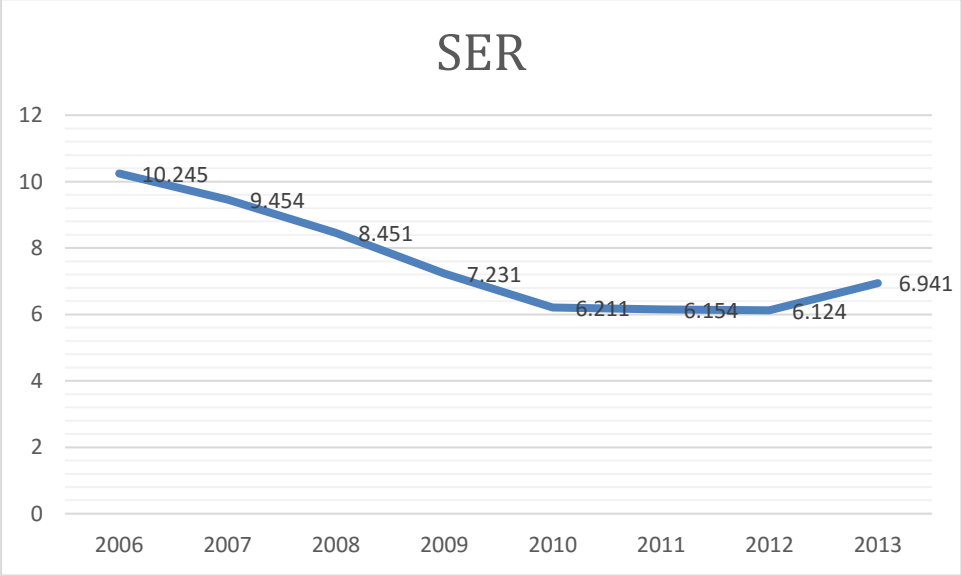


Source: Research Findings.

SER

An analysis of SER realized between 2006 and 2013 revealed a downward trend. The year 2010 had the all-time lowest. The Sales to Equity Ratio (SER) express how well capital was utilized for generating sales. An increase in this sign over time speaks positively of management's efficiency in creating income using the owner capital. It represents the capital efficiency.

Figure 4.3 Trend analysis of SER

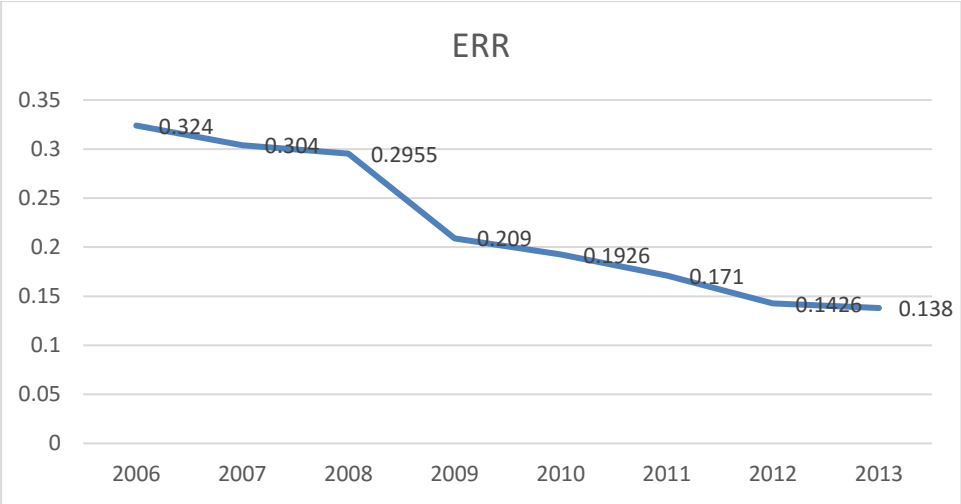


Source: Research Findings.

ERR

An analysis of SER realized between 2006 and 2013 revealed a downward trend. The year 2013 had the all-time lowest. The Expenses Revenue Ratio (ERR) represents operational costs and indicates the achievement of efficiency by a company through minimization of costs. A decrease in this ratio shows improvement in resource management hence improved in financial performance

Figure 4.4 Trend analysis of ERR



Source: Research Findings.

4.3 Descriptive statistics

The section discusses the results of descriptive statistics for the data analysed for the seven-year period. The table below presents the summary of the descriptive statistics for independent variables represented by the indicators of efficient management of resources which translates to sound financial management hence good financial performance before and after the introduction of the oil price caps.

Table 4.1 Unregulated (before price caps)

	ROA	FAR	SER	ERR
Mean	0.0420	0.2082	0.2321	0.2357
Standard Deviation	0.0311	0.0583	0.0504	0.0784
Sample Variance	0.0102	0.0034	0.0025	0.0061
Range	0.3783	0.2141	0.1978	0.2736
Minimum	-0.1040	0.0710	0.0940	0.0690
Maximum	0.2743	0.2851	0.2918	0.3426

Source: Research Findings.

The descriptive statistics results above show that over the study period, the financial performance as indicated by Return on Assets (ROA) had an 4.2% mean plus a standard deviation of 3.1%. The range of the variable is identified by the median row and the table further shows the maximum and minimum figures of the study variable.

The Fixed Assets Ratio (FAR) which represents the weight of fixed assets on the company had a 20% mean plus a standard deviation of 5.8%. This indicates that the oil marketing companies were able to utilize their fixed assets and generate sales of its products before the price regulation policy was introduced. There was a case of efficient utilization of capital.

The Sales to Equity Ratio (SER) which represents the capital efficiency had a mean of 23% and a standard deviation of 5% which expresses that capital was well used in generating sales. An increase in this over time speaks positively of management's efficiency in creating income using the owner capital.

The Expenses Revenue Ratio (ERR) mean was at 23.5% and the standard deviation of 7.8%. this indicates that the companies were able to achieve efficiency by through minimization of costs.

Table 4.2: Regulated (after price caps)

	ROA	FAR	SER	ERR
Mean	**0.0155893**	**0.254540741**	**0.158733**	**0.111993**
Median	**0.0156**	**0.248**	**0.1711**	**0.071**
Standard Deviation	**0.112722**	**0.063854662**	**0.095015**	**0.053013**
Sample Variance	**0.012706**	**0.004077418**	**0.009028**	**0.013927**
Range	**0.324**	**0.403**	**0.314**	**0.4773**
Minimum	**0.0186**	**0.069**	**0.002**	**-0.104**
Maximum	**0.3426**	**0.472**	**0.316**	**0.3733**

Source: Research Findings.

The descriptive statistics results above show that over the study period, the financial performance as indicated by Return on Assets (ROA) had a 1.5% mean plus a standard deviation of 11.2%. The range of the variables is identified by the median row and the table further shows the maximum and minimum values of the study variables. This shows that after the introduction of price regulations, oil marketing financial performance has been on the low.

The Fixed Assets Ratio (FAR) which represents the weight of fixed assets on the company had a 25.4% mean plus a standard deviation of 6.3%. This indicates that the oil marketing companies were able to utilize their fixed assets and generate sales of its products before the price regulation policy was introduced. There was a case of efficient utilization of capital.

The Sales to Equity Ratio (SER) which represents the capital efficiency mean was at 15.8% and the standard deviation at 9.5% which expresses that capital was well used

in generating sales. A decrease in this over time speaks negatively of management's efficiency in creating income using the owner capital.

The Expenses Revenue Ratio (ERR) mean was at 11.1% and the standard deviation at 5.3.%. this indicates that the companies were able to achieve efficiency by through minimization of costs.

4.4 Chi Square Test

The financial performance of oil companies registered in Kenya as at December 2016 was analyzed for a period of eight years from 2006 to 2013 to cover the time period of before and after price regulation was introduced. The chi square test of differences was used to test for significance between introduction of price regulation and the performance of the oil marketing firms in Kenya.

The

> H_0: The distribution of the outcome mean is independent of the presence or absence of a regulatory regime
>
> H1; The distribution of the outcome mean is dependent of the presence or absence of a regulatory regime

In order to prove or deny the null hypothesis the study had to compute;

- expected frequency counts
- the chi-square (X^2) statistic
- Degrees of freedom

In order to obtain the expected frequency counts to be used in the analysis, the observed frequency counts must be obtained. The observed frequency counts are calculated from

experimental data. This means, you actually observe the data happening and take measurements.

Table 4.2 Contingency table (Observed frequency counts)

	unregulated	**Regulated**	**Row Total**
ROA (observed)	0.193	0.021	0.214
FAR (Observed)	0.7436	1.5301	2.2737
SER (observed)	50.381	14.43	64.811
ERR (observed)	1.1325	0.6442	1.7767
Column total	52.4501	16.6253	69.0754

Expected frequencies are considered for *each cell* in a contingency table. The formula for computing the expected frequency counts is:

$$E_{ij} = \frac{T_i \text{ x } T_j}{N}$$

- E_{ij} = expected frequency for the *i*th row/*j*th column.
- T_i = total in the I^{th} row
- T_j = total in the J^h column
- N = table grand total.

Table 3.4 Expected frequency counts

	Unregulated	Regulated
ROA (expected)	0.162494	0.051506
FAR (expected)	1.726458	0.547242
SER (expected)	49.21207	15.59893
ERR (expected)	1.349078	0.427622

Source: Research Findings.

The chi-square statistic for the above table of data will be computed using the formula:

$$X^2 = \sum \frac{(O - E)}{E}$$

Where;

O = observed frequency,

E=expected frequency in each of the answer categories in each and every group

Table 4.4 Chi calculation

		Unregulated	Regulated	X^2
ROA	ROA (expected)	0.162493759	0.051506	
	(O-E)	0.030506241	-0.03051	
	(O-E)2	0.000930631	0.000931	
	(O-E)2/E	0.005727178	0.018068	0.023795
FAR	FAR (expected)	1.726458223	0.547242	
	(O-E)	-0.982858223	0.982858	
	(O-E)2	0.966010287	0.96601	
	(O-E)2/E	0.559532964	1.765235	2.324768
SER	SER (expected)	49.21207016	15.59893	
	(O-E)	1.16892984	-1.16893	
	(O-E)2	1.366396972	1.366397	
	(O-E)2/E	0.027765485	0.087596	0.115361
ERR	ERR (expected)	1.349077858	0.427622	
	(O-E)	-0.216577858	0.216578	
	(O-E)2	0.046905969	0.046906	
	(O-E)2/E	0.034768911	0.10969	0.144459
			X^2	**2.608384**

Source: Research Findings.

The chi-square statistic for the study is 2.608384.

The degrees of freedom will be calculated using the formula;

$$DF = (r-1) * (c-1)$$

Where;

R = the total number of rows in the contingency table

C =the total number of columns in the contingency table

Therefore, the degree of freedom is (4-1) * (2-1) = 3. The P-value is the probability of a chi-square statistic having 3 degrees of freedom is more extreme than 7.81.

Table 4.5 Chi- square distribution table

Chi-square Distribution Table

d.f.	.995	.99	.975	.95	.9	.1	.05	.025	.01
1	0.00	0.00	0.00	0.00	0.02	2.71	3.84	5.02	6.63
2	0.01	0.02	0.05	0.10	0.21	4.61	5.99	7.38	9.21
3	0.07	0.11	0.22	0.35	0.58	6.25	7.81	9.35	11.34
4	0.21	0.30	0.48	0.71	1.06	7.78	9.49	11.14	13.28
5	0.41	0.55	0.83	1.15	1.61	9.24	11.07	12.83	15.09
6	0.68	0.87	1.24	1.64	2.20	10.64	12.59	14.45	16.81
7	0.99	1.24	1.69	2.17	2.83	12.02	14.07	16.01	18.48
8	1.34	1.65	2.18	2.73	3.49	13.36	15.51	17.53	20.09
9	1.73	2.09	2.70	3.33	4.17	14.68	16.92	19.02	21.67
10	2.16	2.56	3.25	3.94	4.87	15.99	18.31	20.48	23.21
11	2.60	3.05	3.82	4.57	5.58	17.28	19.68	21.92	24.72
12	3.07	3.57	4.40	5.23	6.30	18.55	21.03	23.34	26.22
13	3.57	4.11	5.01	5.89	7.04	19.81	22.36	24.74	27.69
14	4.07	4.66	5.63	6.57	7.79	21.06	23.68	26.12	29.14

Source: Research Findings.

If the computed figure of the Chi-Square test is greater than the table value, then the null hypothesis will be rejected. If the calculated value is less, then the null hypothesis will be accepted.

Since the P-value (7.81) is greater than the calculated figure, we cannot accept the null hypothesis. Thus, we conclude that the distribution of the outcome mean is dependent of the presence or absence of a regulatory regime.

4.5 Interpretation of the Findings

Trend analysis was used to show the general movement in financial performance of the oil firms as measured by the indicators in the period under review. An analysis of ROA realized between 2006 and 2010 revealed a downward trend. An analysis of FAR realized between 2006 and 2013 revealed an upward trend. The year 2013 had the all-time highest. An analysis of SER realized between 2006 and 2013 revealed a downward trend. The year 2010 had the all-time lowest. An analysis of SER realized between 2006 and 2013 revealed a downward trend. The year 2013 had the all-time lowest. All the indicators reveal that there exists a change that was brought about by the price regulation policy introduced in 2010.

The results are in Misoi (2011) who studied the oil price regulation effect on the financial performance of oil firms in Kenya from January 2010 to December 2012 whose conclusion that the financial performance of Total Kenya Limited was the most affected by the introduction of price controls implies that price controls have a negative result on financial performance.

It further concurs with Wanjogu (2013) who decided to determine the impact of the government regulating oil prices on the profitability of oil marketing firms in Kenya

and concluded that indeed price regulation on oil pump prices impacted negatively on the profitability of oil marketing firms. The study covered three years from January 2010 to December 2012. It is therefore clear from the results of the analysis and previous studies on the same topic that petroleum price regulation has an effect on the financial performance of oil marketing firms in Kenya.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the study findings and also shows the conclusions and recommendations of the research. The conclusions are derived from the findings of the study which was used to establish the effect of price regulation on financial performance of oil marketing firms in Kenya.

5.2 Summary

The objective of this study was to determine the effect of price regulation on financial performance of oil marketing firms in Kenya. The research used secondary data which was analysed using trend analysis, descriptive statistics and Chi square test of independence. Trend analysis was used to show the general movement in financial performance of the oil firms as measured by the indicators in the period under review. An analysis of ROA realized between 2006 and 2010 revealed a downward trend. An analysis of FAR realized between 2006 and 2013 revealed an upward trend. An analysis of SER realized between 2006 and 2013 revealed a downward trend. An analysis of SER realized between 2006 and 2013 revealed a downward trend. All the indicators reveal that there exists a change that was brought about by the price regulation policy introduced in 2010.

The descriptive statistics analysis was done on two categories, before and after the price caps introduction. Results indicated by Return on Assets (ROA) mean was at 4.2% and the standard deviation was 3.1%. The Fixed Assets Ratio (FAR) which represents the weight of fixed assets on the firm was at 20% mean plus a standard deviation of 5.8%. This indicates that the oil marketing companies were able to utilize their fixed assets

and generate sales of its products before the price regulation policy was introduced. There was a case of efficient utilization of capital. The Sales to Equity Ratio (SER) which represents the capital efficiency was at a mean of 23% and the standard deviation was at 5% which expresses that capital was well used in generating sales. An increase in this over time speaks positively of management's efficiency in creating income using the owner capital. The Expenses Revenue Ratio (ERR) mean was 23.5% plus and the standard deviation was 7.8%. this indicates that the companies were able to achieve efficiency by through minimization of costs.

The descriptive statistics results after the price caps were introduced show that return on Assets (ROA) mean was at 1.5% and the standard deviation was at11.2%. This shows that after the introduction of price regulations, oil marketing financial performance has been on the low. The Fixed Assets Ratio (FAR) mean was 25.4% and the standard deviation was 6.3%. This indicates that the oil marketing companies were able to utilize their fixed assets and generate sales of its products before the price regulation policy was introduced. The Sales to Equity Ratio (SER) mean was 15.8% and the standard deviation was 9.5% which expresses that capital was well used in generating sales. The Expenses Revenue Ratio (ERR) mean was at 11.1% and a standard deviation was at 5.3.%. this indicates that the companies were able to achieve efficiency by through minimization of costs.

The chi square results indicated that the distribution of the outcome mean is dependent of the presence or absence of a regulatory regime. Since the P-value (7.81) is greater than the calculated value (2.6083), the null hypothesis cannot be accepted. Thus, the study concluded that the distribution of the outcome mean is dependent of the presence or absence of a regulatory regime. The results are inconsistent with Namiba (2016)

study, who studied the relationship between price regulation and the profitability of oil marketing firms in Kenya. and found out that the introduction of price regulation in the petroleum market had a negative effect on the financial performance of the oil marketing firms in Kenya.

5.3 Conclusion

The study findings revealed that the introduction of petroleum price regulation has had a negative effect on the financial performance of oil firms in Kenya. The general financial performance of the oil firms as measured by ROA, FAR, SER & ERR was better/higher in the period preceding petroleum price regulation period than in the period after introduction of the regulation.

5.4 Recommendations For Policy and Practice

All major stake holders in the oil industry including the government through the Ministry of Energy, the ERC, the oil companies should have deeper deliberations and focused discussions on refinement oil to industry ensure that it accommodates and addresses the concerns raised thus far to ensure protection of the oil sector's margins and subsequently enhance financial and overall operational performance which is bound to have a trickle-down effect to the whole Kenyan economy. This will serve to ensure that the petroleum price regulation policy has the much-required buy-in from the relevant stakeholders to turn it into a success story.

Conversely, given that this study and other previous empirical studies, local and international, have indicated that government price regulation has a negative effect on financial performance of the sectors on which the regulation is applied, the government may consider a policy change towards elimination of the petroleum price regulation

and allow market dynamics including supply and demand forces, supply chain efficiency, intensity of competition and movement in international oil prices to determine the fuel prices.

The government should come up with measures to create safety buffers to safeguard the oil marketing firms from macroeconomic factors directly affecting the importation of oil products.

5.5 Limitations of the Study

The study is based on data that is historical. Therefore, the findings of the research may not be completely applicable at the time of the study due to the dynamic operating environment in the Kenyan market

Another major limitation in the study was to conclusively obtain financial statement from all of the market players in the oil sector. This is stemmed from the fact that it's only two companies that are listed in the NSE, and as such revealing their annual reports was not a challenge. As for most of the rest, access to annual financial reports was restricted to directors only

Thankfully, apart from the two listed oil companies, we were also able to obtain data from Hass Petroleum and National Oil Corporation of Kenya.

5.6 Suggestions for Further Research

This study recommends a research on the effect of petroleum price regulation on the cost of living of consumers to ascertain whether the regulation has actually served its consumer protection purpose or not.

Another suggested area for further research is a study that focusses on the wins and setbacks that the government has encountered in implementing this policy. The study

also recommends a study of the relationship between the international oil prices and the domestic wholesale and retail prices set by the Energy Regulatory Commission. This should entail a comprehensive study of the composition of the prices set by the commission.

A study on the effect of other types of regulation by the government on the specific affected areas of the economy would also be enlightening so as to compare the effects of different kinds of government regulation on different sectors of the economy.

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APPENDICES

Appendix I: List of Registered Oil Marketing Companies in Kenya as at 31st December 2016?

1. Kenol Kobil
2. Total Kenya
3. Vivo Energy
4. Libya Oil
5. Gulf Energy
6. National Oil
7. Hass Petroleum
8. Dalbit
9. Towba
10. Gapco
11. Hashi Energy
12. Bakri
13. Addax
14. Fossil
15. Royal
16. Galana Oil
17. Oryx Energies
18. Global
19. Eco Oil
20. Ainushamsi
21. Mogas Kenya Ltd
22. Olympic
23. Petro Oil
24. Banoda
25. Al-leyl
26. Oil City
27. Intoil
28. Kamkis
29. Tosha
30. Alba
31. One Petroleum

Source: PIEA, 2016

Appendix II: **Data Collection Form**

Serial Number……

Name of Firm……

	2007	2008	2009	2010	2011	2012	2013
Fixed Assets							
Total Assets							
Net Sales							
Total shareholders' Equity							
Operating Costs							
Operating Income							