

**EFFECT OF COLLATERAL FINANCING AGREEMENTS ON
THE FINANCIAL PERFORMANCE OF PETROLEUM
COMPANIES IN KENYA**

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DECLARATION

Students Declaration

This research project is my original work and has not been presented for a degree in any other University

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Supervisor's Declaration

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

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DEDICATION

I dedicate this project to my parents, Dalmas Ager Nyoturu and Grace Ager and my siblings Elvis, Kevin and Rosemary for the support and encouragement they gave me during my study period.

ABSTRACT

This study sought to establish the effect of Collateral Financing Agreements on the financial performance of firms in the Kenyan petroleum sector. The petroleum sector is becoming more internationalized and thus the financing of the procurement is also evolving. The sector is divided into three main sectors based on the steps from drilling to refinement and selling of the final products; the upstream, midstream and downstream sectors. This study used a quantitative descriptive design. The target population being all petroleum companies in Kenya. As per PIEA publication (2014), there are 35 firms in the sector which are directly and actively involved in downstream operations of petroleum. Both primary and secondary data was used to obtain the needed information. Data from the questionnaires was analyzed using percentage statistical method by the conversion of frequencies into percentages through the use of SPSS. The study concluded that indeed petroleum products purchased under CFA had a stronger and more positive Pearson correlation coefficient influence on the OMCs. Petroleum products purchased on cash was seen to have weak, positive significant correlation coefficient. This study therefore indicated that petroleum products purchased under CFA created a higher financial performance as it had a greater financial base compared to petroleum products purchased on cash. This evidence was also supported by the findings that showed the value of the F-statistic. This value indicated that the overall regression model is significant hence it has some explanatory value. Therefore increasing the volume of petroleum products purchased under CFA increases financial performance to a higher extent in comparison to increases the petroleum products purchased on cash. Based on the study findings, it is recommended that petroleum companies should consider more

implementations of purchase of petroleum products under CFA so as to increase on the financial performance.

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ABBREVIATIONS

CBK	Central Bank of Kenya
CFA	Collateral Financing Agreement
EPS	Earnings per Share
ERC	Energy Regulatory Commission
GDP	Gross Domestic Product
KES	Kenya Shillings
KNBS	Kenya National Bureau of Statistics
KOSF	Kipevu Oil Storage Facility
KPC	Kenya Pipeline Company Limited
KPRL	Kenya Petroleum Refinery Limited
KRA	Kenya Revenue Authority
NOCK	National Oil Corporation of Kenya
OMC	Oil Marketing Companies
OPEC	Organization of the Petroleum Exporting Countries
OTS	Open Tendering System
PAT	Profit after Tax
PBT	Profit before Tax
PIEA	Petroleum Institute of East Africa
ROA	Return on Assets
ROE	Return on Equity
T & SA	Transport and Storage Agreement

CHAPTER ONE

INTRODUCTION

1.1. Background to the Study

The petroleum sector is divided into three main sectors based on the steps from drilling to refinement; the upstream, midstream and downstream sectors. The upstream sector involves the exploration and production activities of the crude oil. Midstream involves storing, transporting and distribution of the crude oil while downstream involves the refining of the crude oil and/or raw natural gases obtained in the upstream sector as well as selling or distributing the final products. In most cases, the midstream sector is included in the downstream sector (Bhardwaj, 2013).

The top world petroleum producers (upstream activities) are Saudi Arabia, Russia, the United States of America, Iran, Mexico, China, Canada, United Arab Emirates, Venezuela, Norway, Kuwait, Nigeria, Brazil, Kazakhstan and Iraq. The Organization of the Petroleum Exporting Countries (OPEC) controls major crude oil by setting production quotas (Barua, 2010).

1.1.1. Collateral Financing Agreements

Kenya Pipeline Company (KPC) and Kenya Petroleum Refinery Limited (KPRL), introduced Collateral Financing Agreements (CFA) to assist local independent Oil Marketing Companies (OMC) access to credit for the financing of imports of petroleum products and participate competitively in a market which was hitherto largely dominated by multinational firms (KPC, 2013). This was after lobbying and benchmarking activities that the independent OMCs carried out.

The CFA enables OMCs to use their stock within KPC transport and storage system and KPRL refinery system as collateral in order to secure financing. Under the scheme, banks issue Letters of Credit committing themselves to pay usually up to 80% of the total cost of the petroleum product imported. In turn, an OMC signs an agreement with KPC or KPRL stating that petroleum product within their systems can only be released with the authority and instructions of the financiers of the consignment. OMCs would only have access to their share of the imported petroleum product from either KPC or KPRL on the written authorization of the financiers after they have paid for their entitlement.

The products secured under the CFA are held in separate accounts from the rest of the products in the KPC and KPRL systems with ownership remaining with the financier until a Release Order has been issued by them. In the event of a loss or un-procedural release of the product while in KPC/KPRL's custody, liability solely rests with KPC/KPRL. This formed the basis of the Triton scandal in 2009 (AfricoG, 2009). The industry rule is that for product that is to be consumed locally, it should be evacuated within seven (7) days while for transit products, evacuation should be within fourteen (14) days, this in most cases does not apply to product under CFA. The Kenya Revenue Authority's (KRA) Customs Services Department is also notified on these stocks as the individual OMC must pay up all the required taxes before any product is released from the storage depots (Shivo, 2012).

Currently, KPRL operations have been halted hence the current OMCs under CFA are those that have signed with KPC. There are twenty three OMCs under CFA with KPC including Kenol/Kobil, Gulf Energy, NOCK, and Hashi Energy among others. As for

the financiers, there are eleven local and international financiers like Gulf African Bank Corporation (GAB), Kenya Commercial Bank (KCB), BNP Paribas, Standard Chartered Bank in Nairobi and Johannesburg among others (KPC, 2013). The multinational OMCs are not on CFA as they are able to finance the purchase of the products that they require through their mother companies who are involved in both upstream and downstream sectors within the OPEC countries.

The big advantage of CFA to OMCs is the shift to the commodity itself rather than on the strength of the balance sheet or other tangible assets. This means that however bad the tangible assets balances are in the OMC's balance sheet, they can still get funding for purchase of petroleum products. This can be considered to be some sort of off – balance sheet financing since it is asset-backed. A total of 559 CFAs were executed in 2013 with an approximate product volume of 2.4 million metric tonnes with an approximate value of USD 2.5 billion or KES212.5 billion (KPC, 2014).

1.1.2. Financial Performance

According to Ojiuko (2001) financial performance is the degree to which financial objectives have been accomplished and thus it is a process of measuring the results of a firm's policies and operations in monetary terms. Manasseh (2007) stated that it is a term used as a general measure of a firm's overall financial health over a given period of time. It is the level of performance of a business over a specified period of time, expressed in terms of profits or losses during that time (Pandey, 2010). Mbugua (2013) added that financial performance is a subjective measure of how well a firm can use its assets from its primary mode of business and generate revenues, it usually relates to how well a firm uses its assets to generate revenue.

Financial Performance is the profitability of a business enterprise measured through various measures mostly return on assets (ROA) and return on equity (ROE). It measures how well a firm is generating value for the owners, shareholders' wealth maximization being the main objective of any firm. It can be measured through various financial measures such as profit after tax (PAT), ROA, ROE, earnings per share (EPS) and any market value ratio that is generally accepted (Ngigi, 2012).

Financial performance analysis is the process of determining the operating and financial characteristics of a firm from accounting and financial statements. The goal of the analysis is to determine the efficiency and performance of firm's management, as reflected in the financial records and reports. The analyst attempts to measure the firm's liquidity, profitability and other indicators with an aim of knowing if the business is conducted in a rational and normal way; ensuring enough returns to the shareholders to maintain at worst, the market value (Bhunias, Mukhuti, & Roy, 2011).

Nura (2000), in his study on the impact of dividend payment on shareholders wealth sought to establish whether there is a relationship between dividend paid and the share price. He found that dividend payment had significant impact on shareholders wealth. So, therefore, dividend payment can also signify good financial performance to shareholders who invest with the aim of getting some income since for them, the higher the financial performance, the higher the dividends.

Brigham and Davis (2002) looking at an investor, concluded that predicting the future is what financial statement analysis is useful for. This helps in anticipating future conditions and more importantly, as a starting point for planning actions that will

improve the firm's future financial performance. Jain (2003) on the other hand, stated that the financial statements of a company contain substantial and extremely useful information about its financial health and that this set of information may also be so useful to the management for judging the company from all perspectives.

In financial performance, the risk-return trade-off also must be considered. The risk-return line shows what the market requires for a particular level of risk. Any strategic move above the risk-return line creates shareholder value, whereas anything which results in a position below the line destroys existing value. However, the risk-return trade-off must be looked at so that not much risk is taken just because the expected return is high. Therefore it is not simply a question of increasing return or reducing risk, but of the level of increased return compared to the increased perception of risk, and vice versa (Bender & Ward, 2009).

A well designed and implemented financial management is expected to contribute positively to the creation of a firm's value (Padachi, 2006). Dilemma in financial management is to achieve desired trade off between liquidity, solvency and profitability (Lazaridis et al., 2007). Ultimate goal of profitability can be achieved by efficient use of resources hence maximizing shareholders' wealth (Panwala, 2009).

1.1.3. Collateral Financing Agreements and Financial Performance of Petroleum Companies

Kenya Institute for Public Policy Research and Analysis - KIPPRA (2011) indicated that the petroleum sector in Kenya has had a lot of challenges. The situation in Kenyan petroleum sector and its environment has been worsened by the introduction

of stringent tax regimes by the KRA. The KRA requires upfront payment of 50% taxes on petroleum product imports. The government had also introduced the OTS, which means that all the crude oil imported is supplied by one OMC to minimize costs and level the retail prices. This meant that the OMCs must have good cash flow to enable them buy the petroleum products and pay the upfront taxes as per the Petroleum Amendment Act, 2006.

CFA, therefore, facilitates OMCs to acquire consignments of petroleum products which the OMC pledges to the financier and products are only released by KPC/KPRL upon receipt of instructions to do so from authorized signatories of the financier. The OMC can then use the funds generated internally to meet the tax obligations and for its day to day operations.

Petroleum products constitute the most significant part of inventory of OMCs. Because of the large size of inventories maintained by these firms, a considerable amount of funds is required to be committed to them. The maintenance of 'adequate' inventories carries a favourable impact on company's financial performance (Pandey, 2010). According to Salawati (2012) study on relationship between inventory turnover and financial performance it was found to be significantly positive.

Chiira (2009) in his survey on Foreign Exchange Risk Management practices by oil companies in Kenya stated that the actions of a firm change the level or uncertainty of cash flows, which is the principal risk to shareholders. An OMC's expected cash flows are a function of its importation costs, overheads and petroleum product prices and have little or no influence over crude oil prices and overall market risk. The cash

flows greatly signify how much they need under CFA and how better the firm's financial performance would be.

1.1.4. Petroleum Companies in Kenya

Kenya's petroleum sector has many players. OMCs form the biggest portion then there is the refinery, storage and transportation companies, the tax collection bodies, the regulatory commissions and the quality assurance companies among many other players. The OMCs are involved in the importation, exportation and distribution of petroleum products to the end-consumers within the Kenyan territory and to its neighbours like Uganda, Tanzania (northern parts), Rwanda, Burundi, Democratic Republic of Congo (eastern parts) and South Sudan. These countries mostly rely on Kenyan petroleum distribution networks and infrastructure (Shivo, 2012).

The importation of petroleum products and the related trading arrangements in Kenya is based on the OTS done monthly, which came into effect through legal notice No. 197 of 2nd December 2003 (AfriCOG, 2009). The Ministry of Energy and Petroleum operates the OTS through the Energy Regulatory Commission (ERC), which requires the OMCs to compete for importation of crude and refined products for the whole industry. The winning OMC imports the monthly petroleum requirements and sells to the others at an agreed price. The logic behind this relates to economies of scale, that is, large volumes allows an importer to get lower prices. It also benefits small players unable to import commercially viable quantities.

In October 1994, the petroleum sector in Kenya was liberalized allowing local independent OMCs to enter the sector (Owino, 2000). Prior to the liberalization, a

significant feature of Kenya's petroleum sector was a relatively high level of government's direct participation and a correspondingly low level of private sector involvement. At the time, there were seven OMCs who procured and imported their own petroleum products (Barua, 2010). This has since changed and the current number of OMCs as per PIEA April – June 2014 publication is 35 plus another group classified as others. These OMCs compete for ullage (storage) at Kipevu Oil Storage Facility (KOSF) in proportion to their market share including exports which between January and December 2013 stood as Total Kenya 16.6%, Vivo Energy 12%, Kenol/Kobil 12%, Libya Oil 6.1%, Hashi Energy 5.8%, Gulf Oil 4.9% and government owned NOCK 3.5% among many others (PIEA, 2014).

In 2012, according to the Economic Survey 2013, the total domestic demand for petroleum products declined by 5.7% from 3,857.9 thousand tonnes in 2011 to 3,638.0 thousand tonnes. This was due to decline in petroleum products consumption mainly used in thermal generation of electricity and reduced demand in irrigation activities due to the poor rains in 2012. Despite the reduction of petroleum products consumption in Kenya, the total pipeline throughput of white petroleum products by KPC rose by 14.2% to 4,855.6 thousand cubic metres in 2012 (KNBS, 2013). This is attributed to increase in demand by Kenya's neighboring countries especially after the secession of South Sudan from Sudan in July 2011.

1.2. Research Problem

Around the world, the cost of purchasing the required petroleum products by companies that are not big multinationals is a feat they cannot achieve. In Kenya, there are many local independent OMCs who would not be able to buy even half the

volume they sell without some sort of financing. It is even worse when these independent OMCs win the monthly OTS where the industry requirements are in the range of millions of tonnes.

Many financiers, who may want to finance such procurement, may not easily find collateral for such huge cash outlay in the assets of the OMCs and also individually may not have the capacity to finance the entire consignment unless done in a syndicated system together with other banks. To avert the default risks involved, such financiers require CFA to be drawn such that the OMC will only draw product from either KPC or KPRL with their authorization. This enables the OMCs to be able to procure the industry requirements and also meet their requirements. Besides, the OMC is able to generate more revenues from increased sales volumes which they would otherwise not have been able to generate using internally sourced financing.

In a KPC risk research of 2013, the research noted that it is difficult to vet the financiers involved in the CFA arrangements since most of them are foreign firms. I would argue that KPC has no grounds to determine the OMCs sources of funding since KPC's claims, which would ordinarily be transportation and storage charges, can easily be secured by a lien over the financed products. KPC would be overstepping their mandate as far as the CFAs are concerned.

This risk research carried out by KPC in 2013, argued that while the CFA accords local independent OMCs opportunities to grow in business and contribute to the country's economic growth, it entails significant inherent risks to KPC, which risks are likely to lead to major losses of revenue and litigation arising therefrom is almost

certain and is usually difficult to defend. In the recent past, CFA transactions have been the basis for litigations which have cost KPC hefty financial losses. The company was recently found liable for KES 3.3 billion in the High Court Award to Glencore Energy (UK) Ltd, this being part of the estimated claims amounting to KES 5.6 billion before interest on claims on Triton related cases (KPC, 2013).

Studies done by PIEA in 2009 on Oil Discovery to Oil Marketing and in 2012 on Financing the Upstream Business Activities delved on CFA on the supply of petroleum products in the East African market and how it affects the financial performance of the OMCs. These both showed that CFA is of great importance to the OMCs' operations, liquidity, debt burdens, credit and working capital management.

The two studies done by PIEA in 2009 and 2012, paint CFA as some sort of saviour for OMCs despite the one done by KPC in 2013 painting it as a very risky venture. KPC's research even recommends stopping to offer CFA to OMCs. This may need to be studied as it also has effects on the Kenyan economy.

This study therefore, sets the stage for further studies on CFA and its effects on the financial performance of the OMCs. CFA in the petroleum sector has been known to accord the OMCs a chance to procure petroleum product and that it has had some effect on the OMC's financial performance over the time it has existed.

1.3. Objective of the Study

To assess the relationship between Collateral Financing Agreement and financial performance of Petroleum companies in Kenya.

1.4. Value of the Study

The CFA accords OMCs the opportunity to grow in business and contribute to the country's economic growth. Availability of stocks is key to any business, especially for a fast moving commodity like petrol. Thus with CFA, even an OMC with financial constraints, can be able to have petroleum products for sale.

High fuel prices reduce the discretionary family income and influences a myriad of spending decisions. For instance, those with cars, they will either only use them when they have received their salaries or will use the cars very sparingly. For those who use kerosene, a family may be forced to use charcoal or firewood to meet domestic needs. With CFA, the supply of petroleum products can be guaranteed and hence the prices of the petroleum products will not sky rocket due to high demand and little supply.

This study is also beneficially to banks as the typical financing request received by commercial banks from small to large sized companies is a loan that is secured by some sort of collateral. CFA gives the banks a chance of unique collateral for the loans advanced to the OMCs. This eliminates the risks of defaults as the release of the product is pegged to authorization by the bank and it is also a new stream of earning additional interest income.

For the government, there is need to ensure that there is sufficient petroleum products available. In periods of high petroleum products prices, there are usually reduced economic growth, a deteriorating foreign balance of trade and rising prices. CFA helps by ensuring that the consignment bought is bought at a reasonably low price as it is done through the OTS. This ensures that there is availability of petroleum

products that are reasonably low priced than would have been if each OMC were to buy their share independently and for cash.

This study contributes to the knowledge base and opens up more areas that require research on CFA and financial performance of the OMCs. The academicians would be able also to add to the factors that impact the financial performance of OMCs in Kenya especially with the pulling out of multinational OMCs. Kenya currently has only two multinational OMCs, namely Total and Vivo (trading as Shell).

To the collateral managers, this study opens a window for them to carry out more research and take in new clients who look at improving their financial performance. Collateral Management enables the lenders to set up operational risk parameters while lending and also to control and monitor these parameters (Ananthakrishnan, 2013). In Kenya, most banks are setting up Collateral Management sections and other companies like SGS Kenya were among the first ones to set up a section to perform the functions of Collateral Management.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter reviews the literature relevant in this study. It embraces defining and highlighting the characteristics of CFA and Financial Performance; understanding the various theories advanced on financial performance as well as empirical studies conducted. According to Eisenhardt (1989) an essential feature of theory building is comparison of the emergent concepts, theory or hypothesis with the extent literature.

2.2. Theoretical Review

2.2.1. Trade-off Theory

The original version of the trade-off theory came out of the Modigliani-Miller theorem. Modigliani and Miller (1963) added to the original irrelevance proposition, corporate income tax which created a benefit for debt by shielding income from taxes. Kraus and Litzenberger (1973) provided a classic statement of the theory that optimal leverage reflects a trade-off between the tax benefits of debt and the deadweight costs of bankruptcy. According to Myers (1984), a firm that follows the trade-off theory sets a target debt-to-value ratio and then gradually moves towards the target. The target is determined by balancing debt tax shields against costs of bankruptcy.

In a model based on the trade-off theory of capital structure, Leland (2007) showed that financial synergies can potentially be obtained by securitization of some of the firm's assets. Both Ayotte and Gaon (2010) and Gorton and Souleles (2005) showed how CFA can reduce bankruptcy costs for some firms. These models make

predictions regarding the conditions under which asset securitization can lower the firm's overall cost of financing. This being one of the main benefits of securitization cited by practitioners (Roever and Fabozzi (2003), Gangwani (1998)).

There is evidence in favor of the static tradeoff and optimal capital structure. Several authors, such as Schwartz and Aronson (1967), have documented evidence of strong industry effects in debt ratios, which they interpret as evidence of optimal ratios. Long and Malitz (1985) showed that leverage ratios are negatively related to research and development expenditures, which they use as a proxy for intangible assets. Smith and Watts (1992) also documented a negative relation between growth opportunities and debt ratios. Mackie-Mason (1990) reported evidence that firms with tax loss carry forwards are less likely to issue debt. This conclusion is consistent with Miller and Modigliani (1966), who detected the positive effects of interest tax shields in the market values of electric utilities.

Bradley et al. (1984) gave an excellent review and synthesis of some of the earlier theoretical and empirical literature on optimal capital structure, and concluded that their findings support the modern balancing (tradeoff) theory of capital structure. More recently, however, Titman and Wessels (1988), using a latent variables approach, found mixed evidence for the role of the factors predicted by the static trade off theory.

2.2.2. Pecking Order Theory

The Pecking Order theory was first developed by Nicola Majluf and Stewart C. Myers in 1984, the theory sought to explain how companies prioritize their financing

sources. This theory stated that companies will tend to take the course of least resistance, obtaining financing from sources that are readily available then steadily move on to sources that may be more difficult to utilize. Myers (1984) argued that adverse selection implies that firms prefer internal to external finance, that is, retained earnings are better than debt and debt is better than equity. This ranking was motivated with reference to the Myers and Majluf's (1984) adverse selection model. The ordering stems from a variety of sources including agency conflicts and taxes.

Suppose that there are three sources of funding available to firms: retained earnings, debt and equity. Retained earnings have no adverse selection problem. Equity is subject to serious adverse selection problems while debt has only minor adverse selection problem. From the point of view of an outside investor, equity is strictly riskier than debt. Both have an adverse selection risk premium, but that premium is large on equity. Therefore, an outside investor will demand a higher rate of return on equity than on debt. From the perspective of those inside the firm, retained earnings are a better source of funds than is debt and debt is a better deal than equity financing. Accordingly, the firm will fund all projects using retained earnings if possible. If there is an inadequate amount of retained earnings, then debt financing will be used. Thus, for a firm in normal operations, equity will not be used and the financing deficit will match the net debt issues (Frank & Goyal, 2003).

2.2.3. Free Cash Flow Theory

Easterbrook (1984) and Jensen (1986) stated that companies with substantial free cash flow always tend to face conflicts of interest between stockholders and managers. Managers once having satisfied all the obligations contracted by the company with

funds generated by operations can use the remaining flows from the treasury for their own benefit instead of the interest of shareholder. Shareholders want managers to invest cash in the projects that maximize their stock value whereas the managers' personal interest is in consuming perks.

Naizuli (2011) postulated that the free cash flow theory states that dangerously high debt levels would increase firm value despite the threat of finance distress when a firms' operating cash flow significantly exceed its profitable investment opportunities.

According to the free cash flow theory, the firm sometimes generates more free cash than is required by the manager to be invested in the positive NPV project. Managers then invest the excessive free cash in non-value maximizing projects with negative NPV because they are seeking prestige as managers of the big firm. This behavior is called the over-investment problem (Khan, Kaleem, & Nazir, 2012).

Harvey et al (2004) stated that managers like to invest abundant cash for their own discretionary purpose. Owner of the firm with more free cash flow monitor the activities of the manager to avoid any wasteful expenditure. This monitoring increase the firm's cost of monitoring hence increase the agency cost of the firm that in turn decrease the value of the firm.

2.3. Determinants of Financial Performance of Petroleum Companies

Fernandez (2002) stated that the financial performance of a firm can be examined through its annual account reports, where information about growth, investments,

earnings and costs, among others are listed. In order to link these data with financial performance, indexes-ratios based in balance sheets are used, considering that a company's value resides in its balance sheet.

The concept of profitability is based on the comparison of the cash outflows required for implementing a strategic alternative with the cash inflows that this alternative is expected to generate (Michael, 1992). Pandey (2006) included profitability in relation to sales and profitability in relation to investment. According to Athanasoglou et al (2008), PAT has been widely used as a measure of financial performance. Though different factors have been used by other researchers such as: shareholders' equity; liquid assets to assets; fixed assets to total assets; total borrowed funds to total assets; per capita Gross Domestic Product (GDP), the cost to-income ratio and customer satisfaction.

In financial management, ratios are used to measure and to gauge the financial performance and position of a company over a specified period of time. ROA evaluates how efficiently assets are used to produce profits. In other words, it shows how efficiently the resources of the company are used to generate the income. It further indicates the efficiency of the management of a company in generating net income from all the resources of the institution (Khrawish, 2011). It is widely considered the best measure of profitability. Wen (2010), stated that a higher ROA shows that the company is more efficient in using its resources. ROA is measured by dividing profit before tax and interest by total assets (Manasseh, 2007). Khrawish (2011) stated that it is a ratio of Income to its total asset.

High growth situations are desirable since growth is consistently related to profit under wide variety of circumstances (Capon, Farley, & Hoenig, 1990). Growth is a vital indicator of a flourishing firm. Firms grow in order to achieve their objectives, including increasing sales, maximising profits or increasing market share. Gilbert et al. (2006) suggested how and where questions are important in the context of the growth of a firm. They suggest that there are many factors like characteristics of the managers, access to resources like finance and manpower which affect the growth of the firm and differentiate it from a non-growing firm.

There are many different theories on identifying the main factors underlying the growth of the firm. One set of theories addresses the influence of firm size and age on growth (Evans 1987; Heshmati 2001; Morone and Testa 2008) and the second set deals with the influence of variables such as strategy, organization and the characteristics of the firm's owners (Fazzari et al. 1988; Lumpkin and Dess 1996; Freel and Robson 2004). Mateev and Anastasov (2010) found that a firm's growth is related to size as well as other specific characteristics like financial structure and productivity. They further added that the total assets which is one of the measure of the firm size has a direct impact on the sales revenue, but the number of employees, investment in Research and Development and other intangible assets have no much influence on the firm's growth prospects.

Market share also, is often associated with profitability and thus many firms seek to increase their sales relative to their competitors. Zagare (1984) while coming up with the game theory, suggested that while there may be uncertainty regarding the expectations and actions of a firm's rivals, a rational firm is expected to overcome

uncertainty by forming competitive conjectures, subjective probability estimates of rivals' expectations and behavior.

2.4. Empirical Review

A study by Kojima (2010) reported that Governments have larger presence in the petroleum market in West Africa than in East and Southern Africa. In Burkina Faso, Côte d'Ivoire and Niger, they use a state-owned monopoly to procure all petroleum products. Kenya has an OTS, whereby crude and refined petroleum products are purchased by a single OMC for the entire market on the basis of a public tender and shared among all marketing companies in proportion to their share of the market (Brew-Hammond, Boakye, & Osei, 2010). The questions with the OTS is how cost-effectiveness is it and what financial benefits does it accord both the OMCs and the economy as a whole.

Sexsmith (2008) while consulting for Energy Sector Management Assistance Program concluded in his study that there are varying degrees of scope to reduce the cost of supplying petroleum products in East and Southern Africa. A clear burden on the economy is protection of domestic refineries that cannot compete with direct product imports. Refinery closure is often politically sensitive, especially if the refinery is government owned, like the KPRL which the government of Kenya owned 50% stake. Globally, the trend over the past three decades has been to replace numerous small, simple refineries with fewer, larger and more complex ones.

Löber (2006) in his research on the legal framework for the European Central Bank stated that the use of securities and cash as collateral is widespread in all areas of

finance. He added that in modern financial markets, collateral financing have become very vital instruments for use in nearly all types of transactions such as bank treasury and funding, payment and clearing systems, repurchase agreements, general bank lending among many other transactions. CFA uses the same methodology but looks at the product that is to be sold by the borrower as the collateral.

Mutungi (2010) sought to find out the relationship between working capital management and financial performance of OMCs in Kenya registered with the PIEA within Nairobi and its environs. Her sample consisted of 59 registered OMCs in Kenya. The study observed that OMCs in Kenya had huge investments in inventory and high level of borrowings and consequently, low net of investments in current assets. More fundamentally, CFA enabled these OMCs to be able to maintain acceptable levels of working capital.

Ileri (2011) in his study on the effects of mergers and acquisitions on the financial performance of oil companies in Kenya found that there was a significant relationship between pre and post-merger of financial performance of oils companies. The study recommended that there is need for companies to merge to enhance creation of economies of scale, a higher bargaining power, business expansions and better financial performance.

Miller (1977) argued that it doesn't matter how a firm finances its operations and that the value of a firm is independent of its capital structure making capital structure irrelevance, suggests that more profitable firms need to shelter their earnings and save taxes by opting for higher leverage in their capital structure. It was found out that

firm's performance and high debt level are positively associated, a hypothesis that is supported by a number of studies including Gosh et al (2000), Hadlock and James (2002), Abor (2005) and Bonaccorsi di patti (2006).

Although measuring financial performance is considered a simpler task, it also has its specific complications. Here, too, there is little consensus about which measurement instrument to apply. Many researchers use market measures (Alexander and Buchholz, 1978; Vance, S. C., 1975), others put forth accounting measures (Waddock and Graves 1997; Cochran and Wood 1984) and some adopt both of these (McGuire, J. B., Sundgren, A., Schneeweis, T., 1988). The two measures, which represent different perspectives of how to evaluate a firm's financial performance, have different theoretical implications (Hillman and Keim, 2001) and each is subject to particular biases (McGuire, Schneeweis, & Hill, 1986). The use of different measures, needless to say, complicates the comparison of the results of different studies.

In other words, accounting measures capture only historical aspects of firm performance (McGuire, Schneeweis, & Hill, 1986). They are subjective, moreover, too biased from managerial manipulation and differences in accounting procedures applied (Branch, 1983; Brilloff, 1972). Market measures are forward looking and focus on market performance. They are less susceptible to different accounting procedures and represent the investor's evaluation of the ability of a firm to generate future economic earnings (McGuire, J. B., A. Sundgren, and T. Schneeweis, 1988). But the stock-market-based measures of performance also yield obstacles (McGuire, Schneeweis, & Branch, 1986). According to Ullmann (1985), for example, the use of

market measures suggests that an investor's valuation of firm's performance is a proper performance measure (McGuire, J. B., Sundgren, A., Schneeweis, T., 1988).

Alexander and Buchholz (1978) and Anderson and Frankle (1980) used risk adjusted measures of investor returns. However, there is a problem with the use of even a "clean" measure of investor returns for this type of study. This problem is summarized by one of the tenets of modern finance theory, the efficient markets hypothesis. Simply stated, this tenet suggests that as information that might affect future cash flows of a firm becomes available, it immediately will be reflected in its current share price. The implication of this is that even if a stock market listed OMC like Kenol/Kobil uses CFA to improve financial performance, as soon as the market becomes aware of any change in its credit rating, it will immediately alter price per share to reflect that information.

However, other evidence is inconsistent with the optimal debt ratios or can be interpreted differently. Myers (1984) pointed that the negative valuation effects of equity issues or leverage-reducing exchange offers do not support the tradeoff story. If changes in debt ratios are movements towards the top of the curve both increases and decreases in leverage should be value enhancing. Jensen (1986) suggested an alternative framework to explain this and other evidence on valuation effects of various transactions. However, Jensen's analysis relied on an agency cost theory. The valuation effects of leverage-altering transactions could also be viewed as an information effect of the kind proposed by Ross (1977), in which a decline in profitability would lead to lower debt ratios and send a disappointing signal about future profitability (Shyam-Sunder & Myers, 1999).

Kester (1986), Titman and Wessels (1988) and Rajan and Zingales (1995) found strong negative relationships between debt ratios and past profitability. Models based on the tradeoff of the tax benefits of debt and the costs of financial distress predict a positive relation. This result could be explained in a tradeoff framework if high past profitability is viewed as a proxy for higher future growth opportunities, which are intangible assets that could be severely damaged in financial distress (Smith and Watts (1992). However, other variables, such as lagged q ratios, that could arguably capture future growth options more directly are not found to be as strongly significant as past profitability (Baskin, 1985).

Walt (2009) investigated that profitability is more important because profit can usually be turned into a liquid asset, and that liquidity is also important but does not mean that the company is profitable. This explains the reason why some OMCs still collapse even with the CFA being in place. Don (2009), while acknowledging the relative importance of both, submitted that liquidity is more important because it has to do with the immediate survival of the company. Dilemma in liquidity management is to achieve desired tradeoff between liquidity and profitability (Rahemanet, 2007). Ignatius Ekanem (2010) examined to focus on liquidity management in small firms such as the independent OMCs.

Omondi (2006) in his study based on 15 companies listed in the Nairobi Securities Exchange (NSE) tested whether there is any correlation between tangibility of assets and leverage. The study showed a positive correlation between the two. It observed that tangible assets are used in Kenya, as a security to secure debt and those firms with adequate tangible assets will easily secure debt. In a way, therefore, tangible

assets can signify a firm that is performing well especially in securing debt to finance expansions and purchase of product, like for the case of OMCs.

2.5. Conclusion

Companies in the petroleum industry are uniquely susceptible to commercial insolvency, restructuring, foreclosure or even bankruptcy. As an industry plagued by ever-present business cycle caused largely by volatile commodity prices and based upon depleting assets, these companies have unique problems (Campbell, 2001).

Reilly and Brown stated that substitute products and services limit the profit potential of firms and their source of value creation. However, petroleum is a dominant and prevailing source of energy, still irreplaceable in many sectors, especially in transportation, electricity generation and industry. Not only has this been the case in the past, but according to the International Energy Outlook 2008 by Energy Information Administration, petroleum is going to stay the predominant energy source for a very long time. This is mostly due to the fact that petroleum is cheaper compared to other fuel types. As drilling and exploitation technology is getting ever more sophisticated, which is going to outpace rising depletion costs, petroleum is still likely to stay one of the cheapest sources of energy in the years to come.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter outlines the research methodology used in this study in collecting and analyzing the data to reach its objectives. It covers research design, target population, data collection methods used as well as data analysis techniques applied.

3.2. Research Design

This research study used a quantitative descriptive design. According to Sarma & Misar (2006), descriptive research is defined as “Fact finding studies conducted to know the state of affairs as it exists”. In descriptive research the researcher has no control over the variables, reports only objectively what had happened and tries to find out the causes of the variables and their behavior. In this study, it was particularly useful to investigate the relationship and strength between the dependent and independent variables.

Sarma and Misar (2006) describe, in the case of cross-sectional data, the researchers observe a set of variables at a given point of time across space or other units of analysis. In cross-sectional data the time element is not taken into account. In the method of time series data, the same units of analysis are observed but over a series of time points, months, years or days. The time series analysis takes into account the change over time. The analysis of time series shows the trend of the movement of variables over time. In this study, the panel data was used.

3.3. Population

The target population of this study is all petroleum companies in Kenya. Cooper and Schindler (2006) described population as the total collection of elements about which one wish to make some inference. According to PIEA April – June 2014 publication, there are 35 OMCs plus the other group classified as others, see Appendix I.

No sampling was done due to the small population size. Also, all the 35 OMCs in the population have their head offices in Nairobi, which made it easy to collect data.

3.4. Data Collection

Data collection involved collecting both primary and secondary data to obtain the needed information. Primary data consists of information to be gathered from the OMCs using a structured questionnaire through ‘drop-and-pick-later’ method.

Secondary data entails obtaining the most recent three year’s financial and annual reports and establishing the trend in movement of the financial performance measures of various firms under the population of study.

3.5. Data Analysis

Data analysis as related to this study involved statistically analyzing the data collected. The data from the questionnaire was coded and tabulated for ease of interpretation then together with the rest of the other data checked for completeness, consistency and accuracy before being analyzed. The analysis used descriptive statistics of mean rating and standard deviation through the use of Statistical Product and Service Solutions (SPSS).

The Regression model was of the form:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Where:

Y = Financial Performance

X₁ = Petroleum Product purchased under CFA

X₂ = Petroleum Product purchased on cash

ε = Error or random term

a, β₁, β₂ = constants

The variables of the study are the independent variable in this case, the CFA and the dependent variable which is the financial performance. The independent variable was measured by the annual throughput in cubic metres of petroleum product bought under CFA. While for the dependent variable, financial performance, ROA was used.

3.6. Data Validity and Reliability

Reliability is the degree to which an assessment tool produces stable and consistent results and Validity refers to how well a test measures what it is purported to measure. The relevance of the questionnaire was subjected to an expert's review in the field of CFA in order for it to be valid in my data collection. The reliability test used was the Cranach's reliability test, used to test the reliability of factors extracted from dichotomous (that is, questions with two possible answers) and/or multi-point formatted questionnaires or scales (with a rating scale of: 1 = poor, 5 =excellent) the higher the score, the more reliable the generated scale is. Where the results obtained from the test is 0.7 and above, then the instrument is reliable (Archibong, 2004). While to take care of sampling validity usually stemming from the selected sample, the study used the entire population of OMCs as per PIEA (2014).

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1. Introduction

This chapter presents analysis and findings of the study as set out in the research methodology, with the following key sections among others Introduction, Data collection, analysis and findings; and Summary of findings and interpretations. The study findings are presented to establish the Effect of Collateral Financing Agreements (CFA) on the Financial Performance of Petroleum Companies in Kenya. The data was gathered from both the questionnaire, as the research instrument and designed in line with the objectives of the study, and secondary sources.

4.2. Response Rate

Table 1: Rate of response

Response rate	Frequency	Percentage
Returned questionnaires	30	85.71%
Unreturned questionnaires	5	14.29%
Total	35	100%

Source: Author (2014)

The Table 1 shows that out of the 35 questionnaires issued 30 were fully filled and returned which accounted for 85.71% of the total questionnaires distributed, while 14.29% were not returned due to some respondents being away from work or unavailable. Bailey (2000) posited that a response rate of 50% is adequate, while a response rate greater than 70% is very good. According to Mugenda and Mugenda (2003) a 50% response rate is adequate, 60% good and above 70% rated very good. This implies that based on these assertions, the response rate of 85.71%, in this case is very good.

This high response rate can be attributed to the data collection procedures, where the researcher pre-notified the potential participants and applied the drop and pick method where the questionnaires were picked at a later date to allow the respondents ample time to fill in the questionnaires.

4.3. Pilot Test Results

To establish validity, the research instrument was given to experts who were experienced to evaluate the relevance of each item in the instrument in relation to the objectives. The same were rated on the scale of 1 (very relevant) to 4 (not very relevant). Validity was determined by use of content validity index (CVI). CVI was obtained by adding up the items rated 3 and 4 by the experts and dividing this sum by the total number of items in the questionnaire. A CVI of 0.854 was obtained. Oso and Onen (2009) stated that a validity coefficient of at least 0.70 is acceptable as a valid research hence the adoption of the research instrument as valid for this study.

The questionnaires used had Likert scale items that were to be responded to. For reliability analysis Cronbach's alpha was calculated by application of SPSS. The value of the alpha coefficient ranges from 0 to 1 and may be used to describe the reliability of factors extracted from dichotomous (that is, questions with two possible answers) and/or multi-point formatted questionnaires or scales (i.e., rating scale: 1 = poor, 4 = excellent). A higher value shows a more reliable generated scale. Cooper & Schindler (2008) indicated 0.7 to be an acceptable reliability coefficient. Since, the alpha coefficients were all greater than 0.7, a conclusion was drawn that the instruments had an acceptable reliability coefficient and were appropriate for the study.

4.4. Descriptive Statistics

The study sought to find out the demographic information of the respondents which included how the organization is incorporated, market service, years of operation in the business and the sources of the products. The findings of the study are discussed in the subsections below.

Table 2: Incorporation of the Organization

Region of incorporation	Frequency	Percentage
Locally incorporated	20	66.67%
Multinational Subsidiary	6	20.00%
Other	4	13.33%
Total	30	100%

From the study it was noted that the highest number of respondents, approximately 66.67% stated that their firms were incorporated locally. This represents the big number of the independent OMCs, whom some do not even have recognized petrol stations. A frequency of 6 respondents from the analysis indicated that their firms were multinational subsidiaries. These covered about 20% of all the respondents while 13.33% of the respondents indicated that their organizations had another form of incorporation that was not either local or multinational subsidiary based.

Table 3: Market of Service

Service of Market	Frequency	Percentage
Local	7	23.33%
Export	3	10%
Both Local and Export	20	66.67%

From the study it was noted that most organizations that were taken in the sample served in both local and export markets. This as shown in the table covered a frequency 20 of the total OMC. OMC whose market service was local was next from the study. This covered 23% of all the responses and this was a frequency of 7 of the

thirty respondents. OMC that covered only export market service had the least respondents covering only 10% and a frequency of 3 OMC.

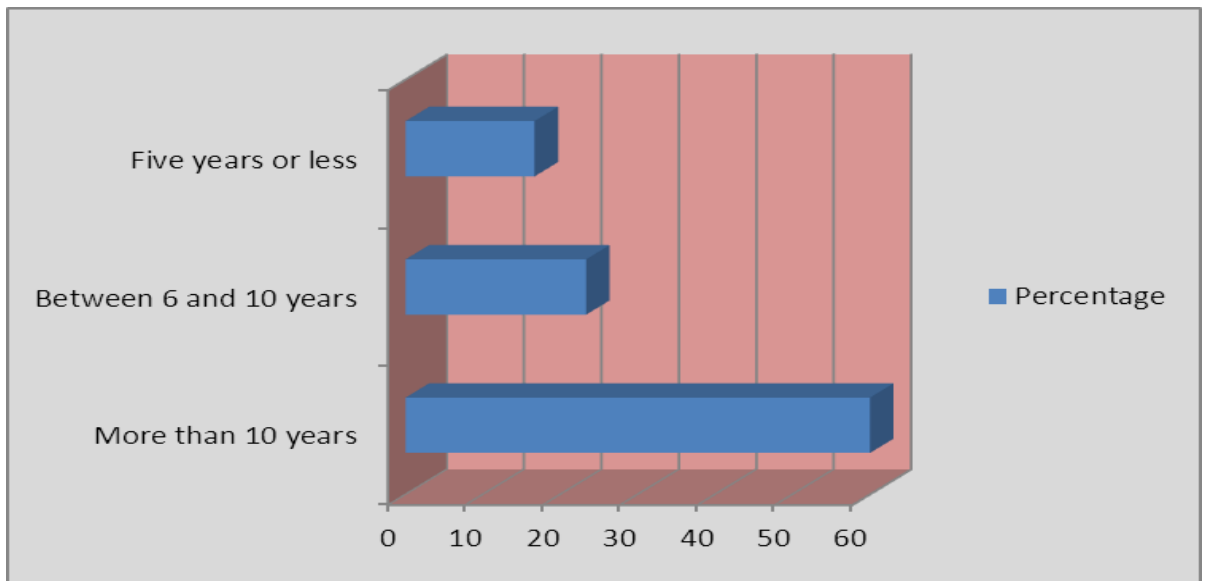


Figure 1: Number of years in operation

From the study it was evident that most OMCs had been in operation for more that 10 years. This covered approximately 60% of all the respondents, that is, a frequency of 18 OMCs. It was followed by OMCs that had been in operation between 6 and 10 years and it covered a frequency of 7, was approximately 23.33%. The last group according to the respondents was of OMCs that had been in operation for less than five years and was about 5 OMCs which was about 16.67% of all the OMCs.

Table 4: Sources of the Products for the OMCs

Sources	Frequency	Percentage
Industrial imports of refined products	15	50%
Private import of refined products	7	23.33%
Purchases from other OMCs	5	16.67%
Other	3	10%

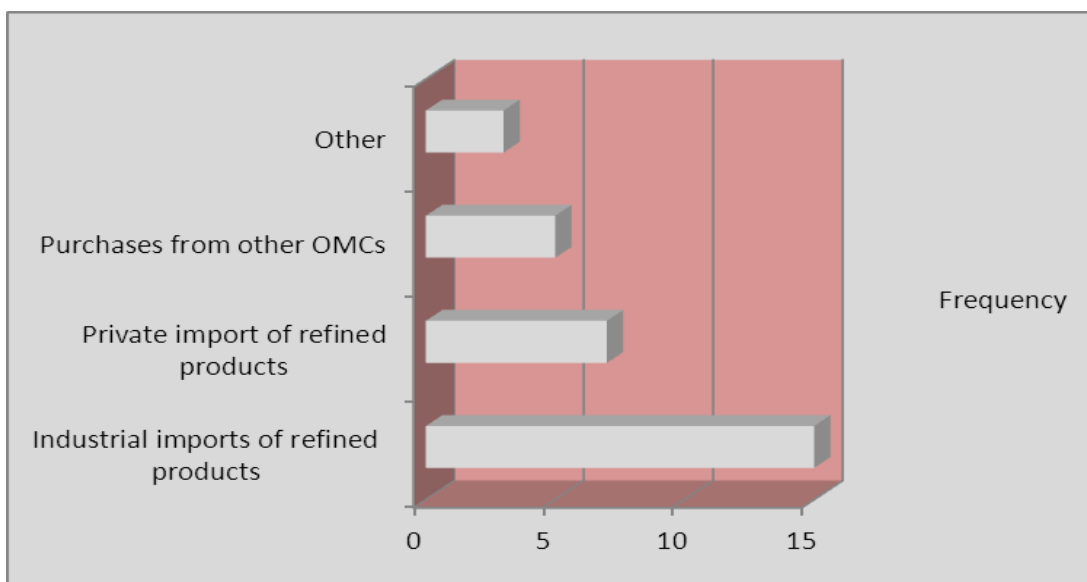


Figure 2: Sources of product for the OMCs

The study showed that most respondents worked in OMCs whose source of product was through industrial import of refined products, mainly the OTS. This covered approximately 50% of all the OMCs in the study with a frequency of 15 OMCs. This was closely followed by OMCs who privately imported refined products. This covered approximately 23.33% of the total OMCs'. Then followed by purchases from other OMCs' which covered about 16.67% of the respondents and had a frequency of 5 OMCs while the least category of OMCs' according to the respondents sourced their products from other sources covered only about 3 OMCs and was calculated to be approximately 10% of the total OMCs.

Table 5: Percentage volume purchased out of the entire total volume turnover

	Percentage
Direct Payment	31%
Under CFA	69%

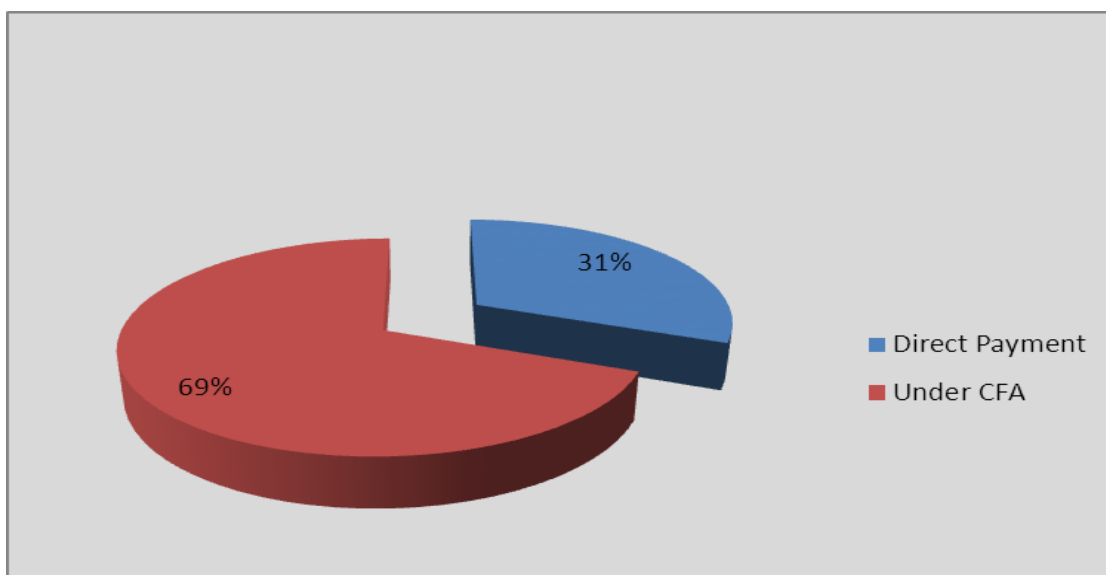


Figure 3: Percentages of purchase options

From the study, it was noted that most respondents believed that most purchases were done under CFA. This had the highest percentage of volume purchased at 69%. The volume of products purchased directly covered approximately 31% which was 38% less than the products purchased under CFA.

4.5. Level of Importance of different variables with regard to CFA

The objective of the study sought to find out the importance of different variables with regard to CFA. From the analysis of the data, the following was established.

The respondents were asked to rate how they felt about different factors affecting CFA in a five point Likert scale. Using the scale of 5 = Extremely Important (EI); 4 = Very Important (VI); 3 = Moderately Important (MI); 2 = Slightly Important (SI) and 1 = Not Important (NI). A standard deviation of >1.5 implies a significant difference on the impact of the factor among respondents.

Table 6: Factors affecting CFA operation

Factor	Mean	Standard Deviation	Skewness	Kurtosis
Need to maintain a separate Transport and Storage Agreement with KPC	2.95	1.343	0.178	-1.401
OMC meeting all costs related to the CFA	3.87	1.414	0.343	-1.226
Financier being the loss payee in the event of product losses	3.46	1.03	-0.344	-0.422

From the study, the factor, need to maintain a separate transport and storage agreement with KPC, was observed to have a mean of 2.95 and a standard deviation of 1.343, the factor of OMCs' meeting all CFA related costs had a mean of 3.87 and a standard deviation of 1.414. The factor, financiers being the loss payees in the event of product losses had a mean of 3.46 and a standard deviation of 1.03. From this analysis it was noticed that the respondents considered generally that the factors had from slight importance to very important significance to CFA. From the study it was noted that the variable, OMCs meeting all CFA related costs had the highest mean values of 3.87. This indicated that most respondents believed that these costs should be shared somehow. The financier being the loss payees in the event of product loss was also considered to be very important motivator to CFA. The need to maintain a separate transport and storage agreement with KPC according to the study was of slight importance to CFA.

Table 7: Determinants in petroleum product pricing

Variables	Mean	Standard Deviation	Skewness	Kurtosis
OMC's market share	4.21	1.185	0.016	-1.151
OTS perceived economies of scale	3.37	1.298	-0.323	-1.004
Mode of product transport	4.08	1.182	-0.077	-1.143
Degree of competition	4.66	1.389	-0.006	-1.219
Clear and stable regulatory framework	3.23	1.285	0.014	-1.150
Disclosure of industry statistics	3.34	1.228	-0.343	-1.104

From the study it was noted that the OMC's market share had a mean of 3.21 and a standard deviation of 1.185. This indicated that most respondents believed that the market share was very important in determining the petroleum prices. It was noted also from the analysis that the mode of transport was also considered to be a very important determinant of petroleum pricing as it was seen to have a mean of 4.08 and a standard deviation of 1.182. The standard deviation calculated indicated an insignificant deviation from the mean. The study also showed that the degree of competition was extremely important factor in petroleum product pricing. This was noted by the mean calculated of 4.66 which when rounded off becomes 5. The standard deviation calculated in the analysis also showed a small deviation from the mean mark. Perceived economies of scale was noted from the study to have a mean of 3.37 which represented moderate importance. Therefore from this it is deduced economies of scale had only a moderate importance on the petroleum pricing.

It is also noted from the study that clear and stable regulatory framework had a moderate significance on petroleum pricing as it had of 3.23 and a standard deviation of 1.285. From this, we could also deduce that there was very little variance from the responses. The disclosure of industry statistics was also seen to have a moderate importance on petroleum pricing due to the mean calculated of 3.34. The standard deviation calculated of 1.228 indicated a very little variance in the responses.

Table 8: Indicators relevant for income generation

Indicators	Mean	Standard Deviation	Skewness	Kurtosis
Turnover	4.27	0.788	-1.348	2.778
Labour cost (including social contributions)	3.78	1.417	0.037	-1.452
Other cost (materials, energy, other)	3.4	1.362	0.473	-1.078
Net interest expenses (Interest Expenses)	2.74	1.317	0.121	-1.239

Minus Interest Income)				
Profit (= Net Income After Taxes)	3.27	0.788	-1.348	2.778

From the study it was noted that the variables turnover (mean 4.27), labor costs (mean 3.78), other costs (mean 3.4), net interest expenses (mean 2.74) and the profit (mean 3.27) all had a significant importance on income generation as they were noted to have a mean greater than 2.5 which represented either slight importance, moderate importance or very important. This showed therefore that respondents believed that these variables had a significant influence on the OMCs' income generation.

Table 9: Correlation Analysis

	Petroleum products purchased under CFAs (X₁)	Petroleum products on Cash (X₂)	Financial performance (Y_i)
Petroleum products purchased under CFAs (X ₁)	1		
Petroleum products on Cash (X ₂)	0.021	1	
Financial performance (Y _i)	0.501	0.221	1

*. Correlation is significant at the 0.05 level (1-tailed).

The analysis above shows that petroleum products purchased under CFAs has a stronger and more positive (Pearson correlation coefficient = 0.501) influence on the OMC's financial performance. Petroleum products purchased on cash was seen to have weak, positive significant correlation coefficient (Pearson correlation coefficient = 0.221).

This indicated that the variable petroleum products purchased under CFA (X₁) had a higher and more significant correlation to the financial performance of OMCs. The positive values in both correlation matrixes indicated the positive relationship that

exists between the independent variables (X_1, X_2) and the dependent variable financial performance (Y).

4.6. Regression Analysis

Regression model is used here to describe how the mean of the dependent variable changes with changing conditions. Regression Analysis was carried out for petroleum products produced under CFAs and petroleum products produced on cash. To test for the relationship that the independent variables have on financial performance of OMCs, the study did the linear regression analysis.

The Regression model was of the form:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

Where:

Y = Financial Performance

X_1 = Petroleum Product purchased under CFA

X_2 = Petroleum Product purchased on cash

ε = Error or random term

a, β_1, β_2 = constants

The study ran the procedure of obtaining the coefficients and the results were as shown on the table below:

Table 10: Multiple regression analysis of petroleum products under CFA (X_1) and petroleum products produced on cash (X_2)

	Unstandardized coefficient		Standardized coefficient		
	Beta	Std. Error	Beta	T	Sig
(Constant)	11.132	0.332		2.311	0.023

Petroleum products under CFA	0.521	0.65	0.002	1.532	0.081
Petroleum products purchased on cash	0.112	0.332	0.076	1.256	0.022

Source: Research Findings (2014)

The study model will therefore be:

$$Y_i = 11.132 + 0.521 X_1 + 0.112 X_2$$

According to the regression equation established, taking the two factors into account the constant in the study is noted to be 11.132. The Standardized Beta Coefficients give a measure of the contribution of each variable to the model. A large value indicates that a unit change in this predictor variable has a large effect on the criterion variable. The t and Sig (p) values give a rough indication of the impact of each predictor variable – a big absolute t value and small p value suggests that a predictor variable is having a large impact on the criterion variable. At 5% level of significance and 95% level of confidence, Product purchased under CFAs had a 0.521 level of significance while petroleum product purchased on cash had a 0.112 level of significance on the dependent variable financial performance of OMCs’.

4.7. Regression Model Summary of the Determinants of financial performance of OMCs in Kenya

Table 11: Coefficient of determination (Regression)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df ₁	df ₂	Sig. F Change
1	.777 ^a	.785	.712	.43829	.975	108.505	3	8	.000

a. Predictors: (Constant) petroleum products under CFAs (X₁) and petroleum products purchased on cash (X₂)
Source: Research Findings, (2014)

Looking at the variables collectively, it is evident from the table that 71.2% of variation or change in the financial performance of OMCs is explained by the variables considered in the model i.e. petroleum products under CFAs and petroleum products purchased on cash as indicated by the coefficient of determination (R^2) which is also evidenced by F change 108.505 > p-values (0.05). This implies that these variables are significant (since the p-values <0.05) and therefore need to be considered in any effort to boost the financial performance of OMCs in Kenya. The study therefore identifies the two options of purchasing of petroleum products as critical determinants of financial performance of OMCs in Kenya.

4.8. Analysis of Variance (ANOVA)

Table 12: ANOVA results for Petroleum products under CFA and petroleum products purchased on cash

	Sum of squares	df	Mean square	F	F-critical value	Significance
Regression	53.22	6	14.93	19.34	88.33	0.00
Residual	3.34	24	4.22			
Total	56.56	30				

NB: F-critical Value 88.33 (statistically significant if the F-value is less than 88.33: from table of F-values).

- a. Predictors: (Constant),** petroleum products under CFAs and petroleum products purchased on cash.

The value of the F statistic, 19.34 indicates that the overall regression model is significant hence it has some explanatory value, that is, there is a significant relationship between the predictors' petroleum products under CFAs, petroleum products purchased on cash and the dependent variable financial performance of OMCs.

4.9. Summary and Interpretation of Findings

Of the 35 OMCs in the PIEA April – June 2014 publication, all were handed the questionnaire and 30 returned the questionnaires. This accounted for 85.71% of the total questionnaires distributed, while 14.29% were not returned. The highest number of respondents, approximately 66.67% stated that their firms were incorporated locally. These are basically the independent OMCs. 20% are multinationals while 13.33% indicated that their organizations had another form of incorporation that was neither local nor multinational subsidiary based.

The study also shows that of the 30 OMCs, 66.67% are involved in both local and export markets while 23.33% are just on the local scene while 10% are purely dealing in the export market. Most of the OMCs had been in operation for more than 10 years, approximately 60% of all the respondents, followed by between 6 and 10 years at 23.33%. 5 years or less were just 16.67% of all the OMCs.

In terms of source of the source of petroleum products, OTS based industrial import of refined products accounted for approximately 50% of all the OMCs in the study with privately imported refined products being at approximately 23.33%. Purchases from other OMCs' accounted for about 16.67% while petroleum products from other sources was approximately 10% of the total OMCs. With this, the petroleum products bought under CFA was at 69% of the total volume. The volume of products purchased directly covered approximately 31%.

The study noted that the turnover had a mean of 4.27, labor costs a mean of 3.78, other costs a mean of 3.4, net interest expenses a mean of 2.74 and the profit a mean

of 3.27. All these have a significant importance on income generation as they were noted to have a mean greater than 2.5. Hence, the respondents believed that these variables had a significant influence on the OMCs' income generation and thus better financial performance.

Correlation analysis shows that petroleum products purchased under CFA (X_1) have a stronger and more positive influence on the OMC's financial performance (Pearson correlation coefficient = 0.501). While petroleum products purchased on cash (X_2) was seen to have weak but positive significant correlation coefficient (Pearson correlation coefficient = 0.221). From all the data gathered and subjected to analysis, there is a significant relationship between the predictors' petroleum products under CFA, petroleum products purchased on cash and the dependent variable financial performance of OMCs. The positive values in both correlation matrixes indicated the positive relationship that exists between the independent variables (X_1 , X_2) and the dependent variable financial performance (Y).

In looking at the three variables collectively, 71.2% of the change or variation in the financial performance of an OMC is expected to be explained by the variables considered in the model i.e. petroleum products under CFAs and petroleum products purchased on cash as indicated by the coefficient of determination (R^2). This is also evidenced by F change 108.505 > p-values (0.05). The study therefore identifies the two options of purchasing of petroleum products as critical determinants of financial performance of OMCs in Kenya. The F-statistic value of 19.34 is indicating that the overall regression model is significant hence giving some explanatory value.

Sexsmith (2008) concluded in his study that there are varying degrees of scope to reduce the cost of supplying petroleum products in East and Southern Africa. From this study, CFA has been proposed as a way of not just bettering the financial performance of an OMC, but it also guarantees a steady supply of petroleum product in the country and to her neighbours.

According to Mutungi (2010), OMCs in Kenya have huge investments in inventory and high level of borrowings and consequently, low net of investments in current assets. This means that they have to manage their working capital so as to have better financial performance. This study recommends that even with lower current assets, the OMCs still can perform better financially as long as they can purchase petroleum products under CFA.

Ileri (2011) in his study on the effects of mergers and acquisitions on the financial performance of OMCs in Kenya recommended that there is need for companies to merge to enhance creation of economies of scale, a higher bargaining power, business expansions and better financial performance. In this study, particularly for better financial performance, CFA is also recommended since merging is not an exercise that would be carried out every other day, but in procuring petroleum products, financing is needed.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Summary of the Study

The objective of the study was to establish the effect of CFA on the financial performance of petroleum companies in Kenya. In this regard, CFA was looked at in the context of petroleum products that are procured under CFA and was compared to the ones procured by direct payment together with the overall turnover in volume.

Both primary and secondary data was used. The primary data provided the information required in terms of the turnover in volumes for both under CFA and cash payment besides other fundamental factors underlying the operation of the CFA. The secondary data provided the financial performance of the OMCs that were under the study. ROA was used as the indicator for financial performance.

The research methodology used was a quantitative descriptive design and panel data was used. There was no sampling since the population of the study was small and easily accessible. Data was analyzed statistically using descriptive statistics of mean rating and standard deviation through the use of Statistical Product and Service Solutions (SPSS).

The results of this study indicated that petroleum products purchased under CFA created a higher financial performance as it had a greater financial base compared to petroleum products purchased on cash. By use of the regression model and looking at the variables collectively, this study showed that 71.2% of variation in the financial performance of OMCs is explained by petroleum product purchased under CFA.

5.2. Conclusions of the Study

From the study we noted that the variables chosen in relation to the financial performance of petroleum companies in Kenya, that is, petroleum products purchased under CFA and petroleum products purchased on cash both had a significant influence on the financial performance of petroleum companies in Kenya.

However, it was noted that the variable petroleum products purchased under CFA was seen to have a higher level of significant in comparison to petroleum products purchased on cash. Therefore increasing the volume of petroleum products purchased under CFA increases financial performance to a higher extent in comparison to the petroleum product purchased on cash.

The study noted that the petroleum products purchased under CFA had a stronger and more positive (Pearson correlation coefficient =0.501) influence on the OMC's financial performance. Petroleum products purchased on cash was seen to have weak, positive significant correlation coefficient (Pearson correlation coefficient =0.221).

This evidence was also supported by the findings that showed the value of the F-statistic to be 19.34. This value indicated that the overall regression model is significant hence it has some explanatory value. Comparatively, the study noted that the independent variable (X_1), petroleum products purchased under CFA, had a higher level of coefficients as shown by the multiple regression coefficients. Product purchased under CFA had a 0.521 level of significance while petroleum product purchased on cash had a 0.112 level of significance on the dependent variable financial performance of OMCs.

5.3. Recommendations to Policy and Practice

Based on the study findings, it is recommended that petroleum companies should consider purchasing more petroleum products under CFA as opposed to purchasing on cash basis so as to increase on the financial performance. This does not mean however that petroleum product purchased on cash basis lead to poor financial performance.

The government needs to come up with regulations around CFA since most of the financiers of petroleum product under CFA are foreign entities. Without such policies, the country risks increases affecting other sectors of the economy, since petroleum products are used by all sectors of the economy.

There should also be clear, effective and simple regimes of CFA. This is to enable all the OMCs that want to participate in purchasing their petroleum products under CFA an equal chance to do so. CFA will help in enhancing the financial performance of these OMCs and also help in availability of the petroleum products in the country and to her neighbours.

Collateral management in general needs also to be thought of and not limited to the banks and financiers only. Regulations especially around the taxes that should be paid on the goods that under CFA should be set up, so that it can be easy to differentiate the ones under CFA and those that are not. Bodies that are none financial should be the key in looking at the policies to be set around collateral financing as they may from time to time be required to report on the movement of the collateral and safety of the same.

5.4. Limitations of the Study

CFA was noted to have some limitations, though it increases the financial performance of the petroleum companies in Kenya more significantly in comparison to cash purchase of petroleum products. CFA was noted to increase operational risks, that is, the prospect of loss resulting from inadequate or failed procedures, systems or policies.

The Kenya petroleum sector and the entire economy as a whole are still growing. This means that for the OMCs wishing to get financiers locally, it becomes a big burden as the banks that operate in Kenya may not want to shoulder the heavy burden associated with the high amount of money required for the consignments of petroleum products. So most OMCs opt for foreign banks who may not understand the dynamics of the local economy, thus making the costs associated with CFA higher.

There is no uniform set of rules and procedures to be followed by both the financiers and the OMCs. This makes the governing of the CFA more haphazard and prone to abuses and under dealings like the case in the Triton Scandal. Its therefore becomes very hard to pin down anyone on the issues that arises daily on the operation of CFA.

CFA was also noted to increase the legal risks, which were risks of loss to the petroleum companies primarily caused by: (a) defective transactions; or (b) a claim (including a defense to a claim or a counterclaim) being made or some other event occurring which results in a liability for the firm or other loss (for example, as a result of the termination of a contract) or; (c) change in the laws.

5.5. Suggestions for Further Studies

This study focused on the assessment of the effects of CFA on the financial performance of petroleum companies in Kenya, it is therefore recommended that similar research should be replicated in other companies which have implemented the CFA and the results be compared to companies that prefer petroleum products purchased on cash so as to establish whether there is consistency on the effects of CFA on financial performance of petroleum companies in Kenya. These researches will greatly contribute to motivation of implementation of the purchasing of products using CFA so as to enhance the financial performance of these firms.

The OMCs purchasing petroleum product under CFA also face some risks. These risks should be researched properly to see how they can be reduced. Cases of financiers losing money under CFA like it happened with the Triton Scandal of 2009 should be thoroughly researched to weed out any possibilities of recurring.

From the banks and financiers point of view, CFA has opened up a new stream of interest income that they may need to have research done on so that it can become one of the new products that they release not only to the petroleum sector but also to the other sectors of the economy where they can be able to use the underlying assets or inventories as a form of collateral.

Now that Kenya is also getting into the upstream sector of the petroleum industry, the effects of CFA on the upstream segment is also an area that can be researched so that the whole benefit that the economy can enjoy in the use of CFA can be assessed and put into practice.

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APPENDIX I – Population of Oil Marketing Companies in Kenya

1. Total Kenya Limited
2. VIVO Energy Kenya Limited
3. Kenol/Kobil Limited
4. Hashi Energy Limited
5. Gulf Energy Limited
6. Libya Oil Kenya Limited
7. Gapco Kenya Limited
8. Regnol Oil Kenya Limited
9. Petro Oil Limited
10. National Oil Corporation of Kenya Limited
11. Hass Petroleum Limited
12. Fossil Fuels Limited
13. Engen Kenya Limited
14. Oryx Energies Kenya Limited
15. Bakri International Co. Limited
16. Royal Energy Kenya Limited
17. MGS International Limited
18. Tosha Petroleum Kenya Limited
19. Ainushamsi Energy Limited
20. Galana Oil Kenya Limited
21. Olympic Petroleum Limited
22. Banoda Oil Limited
23. Ranway Traders Limited
24. Essar Petroleum (EA) Limited
25. Cityoil Kenya Petroleum Limited
26. Ramji Hiribhai Devani
27. East African Gas Oil Limited
28. Dalbit Petroleum Limited
29. Trojan International Limited
30. Global Petroleum Products
31. Axon Energy Limited
32. Tiba Oil Company Limited
33. Futures Energy Co. Limited
34. Tradiverse Kenya Limited
35. Fast Energy Limited

APPENDIX II – Research Questionnaire

I am a student at the University of Nairobi pursuing Master of Science (Msc) in Finance. The purpose of this Questionnaire is to seek information on **Effect of Collateral Financing Agreements on the Financial Performance of Petroleum Companies in Kenya.**

The data collected shall purely be for academic purpose. Confidentiality is assured. For the research to yield valid results, it is important that you respond to all questions as honestly and truthfully as possible. Thank you for your willingness to participate in this study.

Part One

Name of organization _____

Position held (Optional) _____

Department / Function _____

Please tick (✓) as may be applicable to your firm

1. How is your organization incorporated
Locally Incorporated [] Multinational Subsidiary [] Other [] please specify

2. What market do you serve?
Local [] Export [] Both Local and Export []

3. How long has your organization been in the petroleum import and distribution business in Kenya?
 - i. More than 10 years []
 - ii. Between 6 and 10 years []
 - iii. Five years or less []

4. Does your organization own storage facilities in Kenya?
Yes [] No []

5. What are the sources of your products?

How important are the following factors in determining the price of petroleum products?

	EI 5	VI 4	MI 3	SI 2	NI 1
OMC's market share					
OTS perceived economies of scale					
Mode of product transport					
Degree of competition					
Clear and stable regulatory framework					
Disclosure of industry statistics					

The following indicators are relevant for the income generation of any firm. Please indicate whether the following indicators have decreased, remained unchanged or increased over the past 3 years in your company?

	Decreased 1	Unchanged 2	Increased 3
Turnover			
Labour cost (including social contributions)			
Other cost (materials, energy, other)			
Net interest expenses (=Interest Expenses Minus Interest Income)			
Profit (= Net Income After Taxes)			

Over the last three years, how much did your firm grow on average per year in terms of the following parameters?

	Grow substantially over 20% per year	Grow moderately below 20% per year	Stay the same size	Become smaller
Turnover				
Throughput				
Number of employees				
Market share				

Which of the following do you consider to be serious problems for the growth of your company?

Shortage of labour	
Fluctuations in demand for your products	
Obtaining financing	
Government regulations	
Rising cost of operations	
Increasing competition	
Managing debt level	
Maintaining sufficient cash flow	
Lack of monitoring of your business operations to make improvements	
Lack of knowledge about competitors or market trends	
Devoting too much time to day-to-day operations	
Recruiting and retaining employees	

What do you see as the most important limiting factor to get financing?

(You can pick as many as applies to your firm)

There are no obstacles	
Insufficient collateral or guarantee	
Interest rates or price too high	
Reduced control over the firm	
Financing not available at all	
Other	

Please give any other information not captured in this questionnaire or comments that you consider useful for this study.

Thank you for taking time to answer this Questionnaire