EFFECT OF FOREIGN EXCHANGE FLUCTUATION ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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DECLARATION

I declare that this research project is my original work and has not been submitted to any other learning institution for academic credit.

Signature……Date……

Faith Muema

D61/5054/2017

Supervisor's Declaration

This applied research is submitted for examination with my approval as the University Supervisor.

Signature…… Date……

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DEDICATION

This research project is dedicated to my husband, Paul Nyachieo and my child Meghan Zawadi who have been my inspiration. I also dedicate this project to my parents.

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ABBREVIATIONS AND ACRONYMS

BOP	Balance of payment
FDI	Foreign direct investment
GDP	Gross domestic product
IRP	Interest rate parity
PPP	Purchasing power parity
ROA	Return on assets
ROE	Return on equity
ROI	Return on investment
SPSS	Statistical package for social sciences

ABSTRACT

Participation in foreign currencies has not only been effective but has brought various financial risks to the commercial banks including continued fluctuation of forex. Over the years, Kenyan currency has continued to depreciate against strong currencies such as US dollar, and this has made it difficult for making commercial banks to predict the future exchange rates and participate in international market. The current study aimed at finding solution to this problem through determining effects of exchange rate fluctuations on financial performance of commercial banks in Kenya. The study specific variables were interest rate, bank size, inflation rate and exchange rate. The study was anchored on purchasing power parity theory, interest rate parity theory and international fisher effect theory. In research design, the study used descriptive research towards addressing study phenomenon. The target population for the study was commercial banks in Kenya. The study adopted secondary data collection techniques towards collection of past information in relation to interest rate fluctuations, bank size, inflation rate fluctuations, exchange rate and financial performance. The study used a combination of excel and SPPS as data analysis tool where disruptive and inferential statistics were conducted such as minimum and maximum, mean and standard deviation, correlation, regression and multicollinearity statistics. In research findings, quarterly data from 2008-2018 identified that interest rate fluctuation, growth in bank size, inflation rate fluctuation and exchange rate fluctuation has significant relationship with performance of commercial banks in Kenya. At Sig. $P<0.05$, the study concluded that there is relationship between interest rate fluctuation, bank size, inflation rate, exchange rate and financial performance of commercial banks. The study recommended the need for banks to consider advising the government on matters finance and ensure that effective diversification to international have been enhanced as a strategy to beat exchange rate fluctuation.

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

The business environment increasingly involves exchange of one currency for another to make payments (Vines, 2017). With growing demand for improved quality goods and services, the level of international trade market has continued to attract numerous firms, especially commercial banks so as to meet the global demand of provision for improved financial products and services. Commercial banks are very interested in foreign exchange rates in the market to help them make investment decisions. They monitor and analyse the potential effect that slight changes in foreign exchange currency can have on their performance (Adeniran, Yusuf & Adeyemi, 2014).

Foreign exchange has continued to remain the largest trading financial market globally, with the largest currency volume usually sold in the interbank market (Manyok. 2017). Financial institutions are known for largely participating in currency trading across the globe. Commercial banks facilitate foreign exchange transactions on behalf of customers, so as to earn profit from the currency fluctuations. Exchange fluctuations therefore may incur losses in the bank's cash flow, assets and liabilities. Similar studies have been conducted from both global and local contexts thus the scholar will examine recent developments in research topic. The study will adopt three theories explaining the concept of exchange fluctuations including international fisher effect, interest rate parity and purchasing power parity theories (Bakare, 2011). The purchasing power parity theory suggests that there exist a relationship between prices in two countries and the rate of exchange between currencies of both states (Abouwafia & Chambers, 2015). The theory

assumes that the transportation costs of commodity across the two countries is zero, conversion of currencies is zero as well as lack of trade barriers.

Additionally, IRP theory hypothesises a relationship between nominal interest rates in two states and the rate of exchange in their currencies. That is, cash will freely flow between the states since there's no transaction cost, and investors can chose to invest in financial securities that are either denominated in local or foreign currencies in order to hedge his or her foreign exchange risks in the forward market (Ewa, 2012).Kenyan currency to the US dollar has remained unstable over time, and this has forced the Central Bank to occasionally intervene over time so as to provide stability of the shillings. As July 19th 2019, the USD to KES increased by close to 0.34% to 103 from 102.95. Thus, the continuous currency fluctuations have made it difficult for commercial banks to predict future foreign exchange rates with more clarity. As a result, the effect has greatly affected the performance of banks as they seek to transact their businesses in foreign currencies in the international trade (Muchiri, 2017).

1.1.1. Foreign Exchange Fluctuations

Foreign exchange is the conversion of one denomination to another (Ongore, 2013). Valuing of currencies is commonly based on the law of demand and supply. This therefore implies that a country's value of currency can be denominated to another nation's currency including USD. Previous studies established that currency value is influenced by factors including market forces which may be trade (balance of payment), investment level, tourism and geo-political risk. Furthermore, foreign exchange is transacted internationally between financial institutions such as banks (Ongore, 2013).

In a real world scenario, foreign exchange rates fluctuates all the time (daily) and this causes changes in the cash flow (outflow) needed to make certain payments at a particular time (Isola, Oluwafunke, Victor & Asaleye, 2016). Thus, demand and supply of currency is largely controlled by government banker of any country. Two key tools used involve the monetary and fiscal policies. The fiscal policy strives to address the supply of currencies in the country while monetary policies address the demand side of foreign currencies. As such, foreign currency fluctuations arise from the floating exchange rate system. Changes in various factors including inflation and interest rates, price of commodity, supply of currencies and economic growth among others may cause fluctuation of currencies (Otuori, 2013).

The demand for increased financial market has seen a number of firms, especially commercial banks to be actively be engaged in international market. While this has further been created by the growing globalization policy that has created a large global market, one aspect that has remained an interesting area of interest for many scholars is examining foreign exchange patterns in the market given that it enhance level of firm performances either positively or downward(Isaac, 2015). This is possible since in international trade, no county is self-reliant and therefore depend on each other to sell and buy certain commodities. Firms that participate in global market are paid on foreign currencies.

Currencies have value in relation to other currencies, and these values do change constantly. The demand for US dollar in Kenya has continued to rise as investors mostly prefer to invest or buy products in dollars and not the home currency. Thus, this has seen the increase in price of US dollar currency. The changes experienced in the security market

therefore refer to the fluctuations of currencies (Obura & Anyango, 2015). In addition, majority of global currencies are traded on flexible exchange rates indicating that their prices vary depending on the market forces. Intertwining factors that causes fluctuations of foreign currencies may include monetary policies, inflation rate, political and economic instability among others.

1.1.2. Financial Performance

This shows whether firm financial goals have been accomplished over a given time period such as quarterly, semi-annually or annually (yearly) (Kohlscheen *et al.,* 2018). It entails the techniques that measure the results of a firms operation in relation to monetary terms. Competition level has also forced firms to increase their resources so as to achieve maximum profit in the market. While performance may be estimated from the strategic perspective, financial measures have continued to be the dominance measure of company growth. Therefore, financial performance measure a company's overall financial health, and in most cases, used for comparison of similar firms across industries of different industries in the economy.

Financial performance also seeks to provide the answers to the interested individuals such as managers, shareholders, creditors and tax-body in understanding the financial position of the company and the company has been performing for a given time period. Financial performance through financial analysis therefore answers these important questions to the investors (Alessandria & Nelson, 2015). Financial statements therefore form the basis of financial performance of any given firm. Financial statements of a firm comprise of income statement and balance sheet. Income statement entails the company's revenues and

expenses which translate to the period net profit or loss while balance sheet entails an organisation finances which comprise of total assets and liabilities and shareholders' equity (Alessandri & Nelson, 2015).

Understanding the financial performance of a firm therefore require profitability ratio analysis, liquidity performance, working capital ratios, fixed asset ratios, fund flow ratios so as to estimate performance of the company at any given time (Duraj & Moci, 2015). While the traditional goal of any business was purely profit maximization, the modern concept of wealth maximization has gained momentum hence becoming the sole goal of any business. Financial performance is in this respect measured using ratios. Previous researches have clearly provided various financial performance measures including return on asset, return on equity, return on investment and net interest margin. This ratio is essential as they demonstrate efficiently how the management have used company's assets to maximize wealth for their shareholders (Duraj & Moci, 2015). The prevailing research will measure financial performance using ROA and establish how foreign exchange fluctuations affect it.

1.1.3. Foreign Exchange Exposure and Financial Performance

Bank engagement in global trading activities has been the main source of their foreign exchange risks/exposure. Involvement in global trading of foreign currencies can make banks get exposed to a number of risks in various ways (Maigua & Mouni, 2016). If a bank conducts international sales or purchases an asset in foreign currencies, rate of exchange variation between international and domestic countries would affect the value of the

foreign currencies. However, financial institutions mostly banks use hedging to reduce such risks when they are exposed to them (Della Corte, Ramadorai & Sarno, 2016).

In addition, not only companies that participate in international trade of export and import get affected by the foreign exchange fluctuations. Even home companies or domestic firms whose operations are in domestic currencies may face similar challenges of foreign exchange fluctuations that international companies face in any given country (Abouwafia & Chambers, 2015). One key indirect effect of foreign exchange rate is through highly competitive market nature and other domestic macroeconomics factors like development of aggregate demand and supply.

This therefore implies that a wide range of company's performance can be influenced by changes in foreign exchange in the market at any given time (Manyok, 2016).Existing studies on foreign exchange rate and banks organisations financial performance or profitability of companies mostly banks, indicated insignificant effect of uncertainty rate of exchange fluctuations on cash flows and profitability, and their market values (Gabaix and Maggiori, 2015). Nevertheless, other study showed foreign exchange fluctuations are positively correlated with foreign revenues, in that when currency depreciates, they negatively affect the financial performance of the company both in short and in long-term basis (Ahmed, 2015). Even though research on foreign exchange fluctuations and financial performance of commercial banks had already motivated other scholars to look into the phenomenon, this paper seeks to extend the depth of the research knowledge.

1.1.4. Commercial Banks

These are important stakeholders to the growth of any nation's economy. Kenya's economy is estimated to be worth around KES 9 trillion, with gross domestic product (GDP) estimated to be at around 5.5%. The stability of the country for many years has been pegged on the resilience banking sector that has seen increased growth over the years. A significant number of these institutions have been ranked the best performing firms across the regions. The success of banking sector therefore has seen facilitation of a number of high profile commercial banks with big brands so as to increasingly compete for dominance within the local banking industry (Ahmed, 2015).

The growing foreign exchange market is dominated by banks globally. Banks offer foreign exchange services where they sell foreign currencies to the customer both individual and corporate ones at the market value of the currency. Further, the growing international trade has seen demand of goods and services which in most cases, are paid for in foreign currencies. This will require currencies to be exchange from one country to another country's currencies, so as to facilitate the supply and demand side. Kenyan banking sector has been robust in boosting economic growth.

Foreign exchange rate fluctuation usually causes either a direct or indirect effect on commercial banks' performance. Direct effect originates from the institutions holding of assets or liabilities with net payment streams denominated in foreign currencies. As such, foreign exchange fluctuations alter the local currency values of assets held by the banks. In instances where banks have no assets and liabilities overseas and they are prone to

currency risks because the rate of exchange affects financial performance of their local bank activities indirectly (Maigua & Mouni, 2016).

Foreign exchange fluctuations in the banking industry could also be connected to uncertainties in the market including interest and exchange rates. Commercial bank's interest rate position may indirectly influence its total foreign exchange risks. Kenyan banking sector is dominated by forty three banks largely regulated by CBK (Muchiri, 2017). This study will therefore consider forty three listed banks at NSE.

1.2. Research Problem

The growing demand of commodities has seen increased trade in the international market characterised by increased globalization activities. Firms, especially financial institutions actively participate in global trade in which forex trade has dominated for many years. Clearing and forwarding of goods and services require exchange of currencies which must be done in foreign currencies depending on the level of demand (Alessandri & Nelson, 2015). As a result, this has seen increased participation of commercial banks in providing currency exchange to their corporate and individual clients.

However, participation in foreign currencies has not only been effective but has brought various financial risks to the commercial banks including continued fluctuation of forex. Over the years, Kenyan currency has continued to depreciate against strong currencies such as US dollar, and this has made it difficult for making commercial banks to predict the future exchange rates. As a result, it has increased the demand foreign currencies over domestic currencies by the investors, resulting to exchange risk exposure that financial

institutions especially banks must incur. Though PPP and IRP theories assumes that goods of similar characteristics should trade equally across the countries, this has never been the case as most firms use hedging strategies to maximize profit in such scenarios.

Previous studies on foreign exchange exposure in Chinese banks established that bank size positively improves bank's performance by reducing equity values. This occurs with foreign currency appreciation (Wong & Leung, 2008). In their study in Nigerian manufacturing sector on effect of exchange rate fluctuations on organisational performance, Opaluwa, Umeh and Ameh (2010) established a statistical significant positive relationship between foreign exchange fluctuations and organisations performance. Additionally, Owoeye and Ogunmakin (2013) also determined that exchange rates and performance of Nigerian banks are positively correlated.

Locally, Otuori (2013) examined effect of exchange rate risk on economic growth in Kenya while Mbithi (2013) assessed how fluctuations in interest and rate of exchange influence banks' stock returns in Kenya. Results of both researches revealed a positive relationship between rate of exchange, economic performance and stock returns, how the level of relationship varies. A review of this empirical analysis therefore indicates the need to conduct further research on this topic to provide additional knowledge. Such recommendation is based on the current economic conditions which have seen a number of firms exiting the market and other commercial banks shutting down their branches country wide. For purposes of addressing this phenomenon, the research aim was to establish the effect of foreign exchange fluctuations on financial performance of Kenya's commercial banks.

1.3. Research Objective

The study sought to examine effect of foreign exchange fluctuation on financial performance of listed commercial banks.

1.4. Value of the Study

Research findings are useful to the organisations management since it addresses how the impact foreign exchange has on firm performance more so in international market, even without participating in the foreign market.

To the policy makers and investors, the research findings help them understand foreign exchange currency fluctuations and how monitoring their performance can improve the performance of the company. It allows them to develop effective strategies or policies that they can use for hedging so as to maximize more profit.

To the academicians, the study was significant as it provided additional source of knowledge or literature that future researchers can use for their empirical analysis so as to try and solve the growing contemporary management issues in the financial market.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

The chapter discusses existing studies which examines relationship between research variables. It highlights variables adopted by the previous studies, methodologies and their findings which are used in developing this study concept. In addition, this chapter provides theories or models, empirical studies and finally a brief summary.

2.2. Theoretical Review

A theory is basically a model developed to aid in explaining a concept for easy understanding by the intended audience or target population. This study therefore identifies three theories brought forward to explain the concept of foreign exchange fluctuations and financial performance of the study. The three theories under consideration include; the purchasing power parity theory, interest rate parity theory and international fisher effect theory.

2.2.1. Purchasing Power Parity Theory

This theory asserts that exchange rates of currencies between two or more states are in equilibrium especially when their purchasing power is similarly equal across the nations. According to Krugman (1978), purchasing power parity means that the rates of currency conversion strives to equalize purchasing power of different currencies and this is more likely to mitigate variation in level of prices between states. For instance, the rate of converting Kenya shilling to South African rand could be relatively the same in their purchasing power. Whereas the value of a particular currency can be determined by the

prevailing market conditions such as demand and supply, in the long run the exchange rate is determinable by the relative values of many denominations depending on their ability to purchase commodities (Officer, 1976).

Moreover, this theory tend to compare the price levels in different states without considering the differences associated with the pricing of local products and that surcharged on globally traded commodities as such determining the actual trade patterns among states (Frenkel, 1978). According to this theory, global prices of product packages are usually the same in all nations where the local differs across states and in particular different locations within the same state confirming that other factors including market orientation, target customers, economic condition and demographic factors contribute to such variations.

Notwithstanding, this theory assume that there's direct link between purchasing power of currency and exchange rates even though that's fictitious. Pedroni (2001) noted exchange rate is usually influenced by other factors including capital flow, market speculations and tariffs.

Another assumption of the theory is that when transporting commodities between the two countries, the cost of transportation is zero (Coakley, Flood, Fuertes & Taylor, 2005). Further, it assumes that conversion of one currency to another between the two countries should and is always zero. This implies goods can easily move between the countries without trade restrictions.

However, the critiques of the PPP theory such as Keynes, argued that the theory doesn't recognised elasticity of demand and that it ignores the influences associated with capital flow. Therefore, Keynes indicated that foreign exchange rate is influenced by both capital flows as a result of export demand between states with respect to price and demand and supply of foreign exchange (Shapiro, 1983).

This theory is also pegged on the concept of absolute and relative PPP theory. An assumption of absolute PPP theory is pegged on the law of a single price where an identical product have similar price in two countries. This implies that product X should have equal price in two countries such as Kenya and Tanzania. The violation of this rule therefore will see many organizations, especially banks in the foreign exchange market to take arbitrage position. Additionally, relative PPP theory argues that in most cases, prices in different two countries may change, and this is caused by differences in inflation leading to exchange rate changes as the effect (Coakley *et al*., 2005).

The theory therefore connects to the study as it explain why the price of similar commodities are uniform in two countries, and how differences in inflation between the two countries can results to effect of exchange rate changes. It's very clear that states have got different currencies which therefore determine the customers' ability to trade commodities as dictated by the prevailing economic environment.

2.2.2. Interest Rate Parity Theory

The theory reiterates that there exit relationship between nominal interest rate in different states in comparison with exchange rate (Alizeman, 1984). In an environment where

currencies always change over time, it becomes very difficult for most investors to understand the foreign exchange market unless they deeply understand how exchange or currency rates relates to the interest rates of any given country. The theory has three main assumptions. First, it argues that when financial security is bought or sold and as well a currency is converted to another currency given two states and no transaction cost is involved. Second, the theory argues that between the two countries, there is free flow of money, hence resulting to high or full mobility of capital (Balassa, 1964).

Additionally, the theory indicates that the forward exchange rate for currencies of many states is dictated by their current spot and nominal interest rates. In relation to this study, the theory suggests that investors would be willing to inject resources in viable investment vehicles that promise future return. As a result, invest may switch when the investment is slightly higher so as to earn maximum returns from their investments. Stoll (1972) suggested that interest rate parity explains exchange rate movements by return of interest from investors.

In cases where the foreign investment is higher than that of domestic investment, a rational investor prefers investing in international market. As such, the concept of foreign exchange market has increased due to favourable investment rates offered in international market as opposed to local markets which is prone to severe uncertainties including political instability and hostile policies (Taylor, 1987).

Moreover, this will cause increase in flow of money in the foreign market as a result of more capital movements, while decreasing the flow of money supply in local market. The changes in the foreign exchange market will be as a result of changes in the spot market

(Mayfield & Murphy, 1992). When these effects occurs, normal markets reacts to price adjustments that approximate the final value of the domestic investment of foreign investment. Additionally, this theory connects interest, spot exchange and foreign exchange rates. This makes it important provided the role it plays in forex market.

This theory is related to the current research since it analyses the relationship between spot rate and the relevant forward (future) rate currencies. Based on the theory, there will be no arbitrage in interest rate differentials between two different currencies and the differential will be reflected in the discount or premium for the forward exchange rate on the foreign exchange (Helpman, 1981). In conclusion, the theory emphasises that the size of forward premium or discount on foreign currency is the same as the difference between spot and forward interest rate of states under consideration.

2.2.3. International Fisher Effect Theory

This theory was cited after US economist who was known as Irving Fisher. According to this theory, differences in investment returns between states is said to be the same to variation in inflation level. This implies that nominal interests contains real rate of return in addition to anticipated inflation implying that investors expectation is influenced by the differences in interest rates. The theory also provides that currencies with high interest rates will likely to depreciate due to inflation (Shapiro, 2007). Besides, the interest rates incorporate default risk of investment. Even though this theory is limited by various factors other than inflationary effect, it remains relevant in explaining how it's used to help predict currency movements and also provides indication of the health of particular currency within a global market. Stable denominations provide buyers capacity to purchase

commodities at relatively affordable prices unlike weak currencies with low value (Staikouras & Wood, 2004).

2.3. Determinants of Financial Performance

Economists explain financial performance as a measure a company's overall financial health used for comparison of similar firms across sectors of different industries in the economy (Kohlscheen *et al.,* 2018). It shows whether a firm is able to meet its intended obligations including salary and debt payments.

2.3.1. Inflation rate

This factor affects consumer prices, financial markets such as shares, bonds and forex. It remains one of the important aspects that investors and traders are interested in so as to understand the performance of the market (Arghyrou & Pourpourides, 2016).

Causes of inflation in the economy can be government/public debt, monetary and fiscal policy, increase in input costs, currency devaluation and increasing consumer confidence and demand. Public debts cause inflation when the governments spend more than they take. As such, they must either borrow or print money to cover their operating expenses. When a country borrows its debt increases. Debt repayments will require the government to increase taxes which increases commodity prices. The central bank can also lower interest rates to create an expansionary environment to increase the flow of money and create liquidity surplus. This creates greater purchasing power and increase in aggregate demand and this creates increase in prices of goods leading to inflation (Arghyrou & Pourpourides, 2016).

Higher inflation rates have negative effects on firms' financial performance. Inflations weaken the currency value of domestic state compared to another currency of the foreign countries (Muchiri, 2018). This implies that when the domestic currency is weak, it buys less of other foreign currencies. Every investor dealing with international goods and services are affected by foreign exchange rates. As such, firms must take the value of all the currencies that they do business with into account. Inflation therefore must be watched closely. This is because other commercial banks trade currencies to help in balancing the risk. A study by Muchiri (2018) established a positive relationship between inflation and foreign exchange rates in Kenya. Besides, inflation hinders buyers' purchasing power limiting profitability of organisations due to sales reduction.

2.3.2. Interest rate

High interest rate is prone to increase currency value implying that a country with high interest rates supports high level of savings, which in turn results to high returns for the investors. As such, investors often move their investments to countries with high interest rates so that they can earn more returns (Engel, 2014). With globalization and growth of foreign exchange market, countries with high interest rates have witnessed a rise in foreign direct investments (FDI). As a result causing high demand of currency of that country which has high interest rates, hence money supply increase in terms of paying returns to the investors. This will significantly increase the currency value of that country; which has high interest rate (Khin *et al.,* 2017). Engel (2014) established that high interest rate increases the currency value of state. Research findings also established lower interest rates to be unattractive for foreign investment and decreases relative currency value.

Rossi (2013) also concluded that high interest rate is prudent in attracting foreign resource investment since it causes the currency value to hike. The effect of interest rate is commonly eliminated if there's high inflation or if other factors serve to lower the currency. The opposite relationship exists for decreasing interest rates i.e., lower interest rates reduces exchange rates. Even with low interest rates, most currencies such as US dollar have continued to enjoy favourable exchange rates in relation to other currencies including Kenya shilling. This is partially due to the fact that the US currency is perceived to be a reserve currency for much of the world. In other words, high interest rate discourages borrowings while moderate rates encourage investors to borrow funds for investment hence interest rate becomes a key source of income for these institutions and it determines their financial performance.

2.3.3. Balance of payments

A country's balance of payment measures all economic activities between that country such as Kenya and another state e.g. USA. A county that spends on imports than it exports from its products will most likely have a trade deficit on its balance of payment accounts (Hook & Boon, 2017). Such imbalances may have long-term effects on the exchange rates of that country.

As commodities flow between states in international market, the exchange rate of states involved in the international transactions would fluctuate to enhance balanced trade among states. In cases where fiscal policies may not be effective, a state's central bank may as well through monetary policies. Such interventions would normalise and moderates effect

that increasing and decreasing exchange rate has on trade flows is disrupted and trade imbalances become persistent (Hook & Boon, 2017).

Countries with large trade account such as US would therefore insert pressure on its currency exchange rate against other denominations. Balance of payment is dictated by the import and export business of states involved (Clements, 2017). This factor contributes to performance of firms to an extent that it facilitates the flow of cash in the economy while also encouraging traders to expand operations to global markets to fetch additional profits.

Balance of payments also ensures efficient flow of foreign currencies in the economy and therefore establishes a base that monitors inflations and other factors that would negatively influence the economy.

2.3.4. Bank size

Bank size determines an organisations financial performance depending on the economies of scale available to improve efficiency and effectiveness. For instance large banks can exploit economies of scale including technology and labour to become more efficient compared to small financial institutions (Ahmed, Ahmed and Ahmed, 2010). Bank size is usually determined net premium earned by the bank less reinsurance ceded. Generally, established banks enjoy market share and they trade variety of products and services which tend to serve nearly all customers thereby increasing their performance.

Banks like Equity and KCB have established branches beyond the region and as a result they control regional market compared to small banks with few less synergy. Besides, large banks have financial muscle to acquire technology to drive operations hence enhancing

innovation that introduces new brands on a regular basis. These efforts all aim at improving financial performance.

2.4. Empirical Studies

A study conducted by Leung and Wong (2008) investigated foreign exchange exposure among fourteen listed China financial institutions establishing positive relationship with financial performance. Research revealed that foreign exchange exposure of government agencies and joint stock banks in China seems to be higher than banks in Hong Kong since they participate in global markets. The research further showed that negative forex exposure is common in larger Chinese financial institutions due to externalities which hinder banks performance. This study hence connects to the prevailing research which examines the Kenyan situation unearthing possible factors prone to banks performance specifically foreign exchange rates.

Furthermore, Osundina (2016) studied rate of exchange fluctuations performance of Nigerian banks for a period of 10 years. The study measured volatility rate average annual returns. Exchange rate volatility was tested to prove the level of fluctuation. Besides, Hausman test was conducted where fixed and random effect preferred option were determined. Results revealed exchange rate fluctuations possess low impact on institutions performance. Research deduced exchange rate fluctuation and firm performance is subjective on specific measure of performance as have been illustrated in the paper.

Amenawo *et al.,* (2016) studied impact of currency fluctuation on banks performance in Nigeria by adopting various characteristics including bank size and divestment, non-performing loans and capital adequacy into the model. This particular research applied balanced panel methodology where data was gathered from twelve banks. Research findings showed that bank featured especially bank size and capital adequacy positively influences performance while non-performing loans and bank divestment created negative impact on banks' profits.

Regionally, Manyok (2016) examined exchange rate fluctuations on financial performance of banks in South Sudan adopting descriptive design to comprehend the study. All financial institutions were considered and quantitative data derived from published financial statements and disclosures. Descriptive analysis was performed to establish measures of central tendency while relationship was performed using correlation and regression analysis.

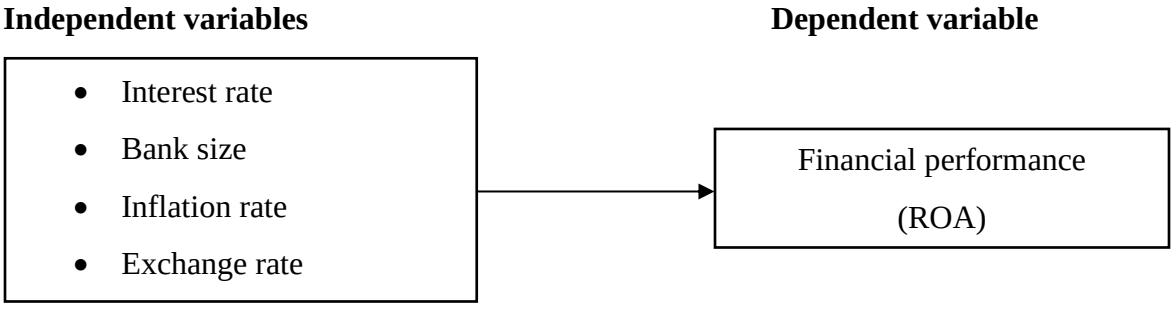
Research results showed revealed negative association between exchange rate fluctuation and financial performance. This outcome may not hold since foreign exchange trade is among the businesses undertaken by banks to generate profits required for sustaining operations. Locally, a study by Muchiri (2017) researched on impact of macroeconomic factors on forex trade in Kenya where descriptive design was employed quarterly secondary data retrieved for a period of 10 years (2007 – 2016). Testing for the goodness of fit of the model was done using normality test, autocorrelation and multicollinearity.

Descriptive statistics was applied in data analysis with the aid of multiple regression and Pearson correlation. Results revealed consumer price index significantly and positively affects exchange rates while foreign direct investments (FDI) negatively hinder foreign exchange rates. The findings also established that interest rate and gross domestic product have insignificant relationship with foreign exchange rates. Money supply had insignificant positive effect.

Lagat and Nyandema (2016) investigated foreign exchange rate fluctuations on performance of listed banks at NSE. Study largely adopted time series correlation design with target population comprising of listed commercial banks at NSE. Secondary data drawn from the financial statements and the NSE websites for a period of 2007 – 2013 was used for the study. A multivariate linear regression was used to examine the relationship between study variables. Based on the findings, there exist positive relationship between foreign exchange rates and financial performance.

2.5. Conceptual framework

This represents the relationship between study independent and dependent variables. Independent variables include interest rate, bank size, inflation and exchange rates while dependent variable is financial performance measured by ROA as shown in Figure 2.1.



2.6. Chapter summary

This section explains existing literature on study topic. It identified theories related to the study and critically explained how the identified models/theories relate to the study objectives. The chapter further briefly explained determinants of foreign exchange fluctuations. In addition, empirical analysis was determined. This section illustrated the previous methodologies and the findings used to indicate the research findings of those studies. The PPP theory explained that similar commodities commonly have identical prices across two states, but due to inflation, prices tend to change. As for IRP theory, interest rates should be equal for both domestic and foreign countries, however exchange rates causes disparity. It is on this note that investors would prefer to invest in countries with high interest rates so as to earn high returns.

Various previous studies have been discussed in relation to foreign exchange fluctuation and financial performance. Muchiri (2017) researched on influence of interest rate and inflation on financial performance. Ahmed (2015) assessed how foreign exchange fluctuation relates to financial performance of financial institutions. Amenawo (2016) and Osundina (2016) both researched on foreign currency exposure and performance of Nigerian commercial banks.

Lagat & Nyandema (2016) examined the relationship between foreign exchange exposure and financial performance while Manyok (2016) analysed how foreign exchange fluctuation relates to financial performance of South Sudanese banks. Research findings of

these studies produced mixed results. This research will hence utilize this gap to establish effect of foreign exchange fluctuation on financial performance of listed banks in Kenya.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

This section presents methodology that the researcher employed to obtain data for analysis. Research methodology basically provides procedures on data collection and analysis clearly recognising statistical software employed in generating useful information that answers research questions. The chapter detailed research design, population size, data collection technique and analytical model.

3.2. Research Design

This refers to technique that the researcher uses in establishing the research objectives (Kumar, 2019). Importantly, research design provides means for collecting and analysing data. As such, the researcher applied descriptive study design. This technique is effective since it easily articulates research questions and aides in identifying data for study.

Moreover, the above technique was suitable for the research because it brought effective understanding of the phenomenon that the study sought to establish. It described things as they are based on how, when, what and which without being affected by external forces (Creswell & Creswell, 2017). This design therefore involved data collection sheet that included all research variables of the sampled population (43) in order to gather quantitative secondary data for the study period.

3.3. Population

Gray and Malins (2016) defined population as the entire elements or objects that the study is interested in deriving adequate responses that will answer research questions. The prevailing research targeted forty three licensed and listed commercial banks in Kenya. A substantive population should be accessible to enable the researcher gather adequate information for the study on time and at no extra cost (Flick, 2015).

3.4. Data Collection Method

These are the procedures outlining the process the study will use in collecting data in proving some facts relating to the research objective (Taylor, Bogdan & DeVault, 2015). The prevailing research relied on secondary data that's to be collected from banks consolidated financial statements. To gather data efficiently, data collection sheet was developed to facilitate collection of required information essential for analysis. The researcher strived to gather secondary information including return on assets to measure financial performance; interest rate, bank size, inflation and foreign exchange as a measure of independent variables. Quarterly data was gathered for a period of ten years i.e. from 2008 – 2018 to aid analysis. Thus, secondary data was collected for the research.

3.5. Data Analysis Technique

Quantitative data was gathered using designed collection sheets. Once data was collected, they were coded using excel worksheet to describe the data. Tabulation and analysis was conducted using descriptive and inferential statistics. Correlation analysis described the strength of relationship between variables while regression analysis showed relationship between study variables.

The researcher used STATA and SPSS software and excel in analysing data for the study (Quinlan *et al.,* 2019). A multiple regression equation model was developed where dependent variable was financial performance (ROA) while foreign exchange fluctuation variables such as interest rates, size of the banks, exchange rates and inflation formed the study independent variables.

This study conducted multicolinearity test to determine whether there exists relationship between the variables. A VIF of <4 will be recommended or > 4 but not >10. The appropriate model was determined for research.

3.5.1. Analytical Model

Multiple regression models expressed as indicated;

$$\gamma = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_{34} + \varepsilon$$

Where; γ =financial performance (ROA) this is the dependent variable which will be measured by (ROA) which basically measures the how well a company is generating profits from its total assets while the rest down here are the independent variables.

$\beta_1 - \beta_3 =$ Regression coefficients measure the association between the risk factor and outcome.

X_1 =Interest rate spread, this can be measured by calculating the total loans ratio, banks liquidity ratio and return on average assets.

X_2 =Size of the bank (logarithm of total assets) this can be measured by looking at the revenue turn over, annual growth, profitability (EBIT) or even the market share.

X_3 =Exchange rate (standard deviation against USD) measured by use of mean, mode, median, and variance.

X_4 =Inflation rate (CPI) measures the change of living cost or typically change of raise of prices of goods and services.

ε = Error term (This can be best measured by presentation of histogram graph which has superimposed normal curve or a normal P-P plot of studentised residual.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents findings on the effects of foreign exchange fluctuations on financial performance of commercial banks in Kenya. The findings were retrieved from secondary data analysis: tool while the study combined excel analysis and SPSS to deliver effective data. The secondary data focused on interest rate fluctuations, Bank size through measuring returns in specific financial year, inflation rate, exchange rate fluctuations and financial performance (ROA). Data was collected in quarterly basis from 2008-2018. Data analysed was based on a confidence level of 95% and standard error of 5%.

4.2 Descriptive Statistics

This section presents descriptive statistics on foreign exchange fluctuation factors and financial performance of commercial banks.

4.2.1 Interest Rate fluctuations

Results in Table 4.1 present descriptive statistics in relation to interest rates fluctuations

Table 4.1 Interest Rates

Category	Interest rates 2008
N	40
Mean	7.65
Std. Deviation	1.196
Minimum	5.0
Maximum	11.02
Skewness	0.366

From Table 4.1, quarterly data from 2008-2018 (N=40) identified that interest rate fluctuated from a minimum level of 5.0 % while the maximum level was 11.02%. The findings identified that since 2010, interest rates in Kenya fluctuated with 6.02%. The finding of the study had a mean and standard deviation of 7.65 and 1.196 respectively. A low standard deviation was an indication of normal distribution of data. The data was skewed to the right with a skewness of 0.366, close to the mean.

4.2.2 Bank Size

This section presents descriptive statistics in relation to the second variable of the study, which was to determine bank size fluctuation. Bank size was measured through average net returns in a financial year as shown in Table 4.2.

Table 4.2 Bank Size

Category	Bank size (000Ksh)
N	40
Mean	1032.27
Std. Deviation	500.05
Minimum	180.00
Maximum	2000.00
Skewness	0.249

Results in Table 4.2 on bank size identified that in quarterly basis since 2008-2018, banks recorded a very high fluctuation of returns from a minimum level of 180,000ksh to 2,000,000 Ksh. The study identified that the data had mean and standard deviation of 1032.27 and 500.05. A high standard deviation was an indication that there was a very high fluctuation of bank size within a period of 10 years. The data was skewed to the right with a skewness of 0.249.

4.2.3 Exchange Rate

The purpose of this section was to present fluctuation in interest rates in quarterly basis for years (2008-2018). Exchange rate was measured through comparing a pair of Ksh/Usd.

Table 4.3 Exchange Rate

Category	Exchange rates (KSH/USD)
N	40
Mean	90.0936
Std. Deviation	10.74729
Minimum	77.50
Maximum	105.20
Skewness	0.265

Results in Table 4.3 established that from 2008-2018 in quarterly basis, exchange rates fluctuated from a minimum of 77.50Ksh to a maximum of 105.20 Ksh with respect to $ 1. The study produced a minimum exchange rate of 77.5Ksh and a maximum of 105.5Ksh. The findings of the study had mean and standard deviation of 90.0936 and 10.74729 respectively. Low standard deviation denoted moderate deviation of exchange rate. The research findings were skewed to the left with a skewness of 0.265

4.2.4 Inflation Rate

This section presents findings in relation to fluctuations in inflation rate as recorded from the financial year 2008 to 2010 as shown in Table 4.4.

Table 4.4 Inflation Rate

Category	Inflation rate (%)
N	40
Mean	4.14
Std. Deviation	1.97
Minimum	1.96
Maximum	9.07
Skewness	1.332

In Table 4.4, findings pointed out that the minimum inflation rate in quarterly basis from 2008-2018 was 1.96 while the maximum was 9.07. The results identified a fluctuation of 7.11 within a period of 10 years. The data had mean and standard deviation of 4.14 and 1.97 respectively. A low standard deviation identified that the data was normally distributed hence close to the mean. The data was skewed to the right with a skewness of 1.332.

4.2.5 Financial Performance

The purpose of this section is to present results in relation to financial performance of commercial banks in Kenya as presented in table 4.5 of the study.

Table 4.5 Financial Performance

Category	Financial Performance (ROA)
N	40
Mean	1.69
Std. Deviation	.46
Minimum	1.0
Maximum	2.50
Skewness	0.252

Results in Table 4.5 indicate that performance of commercial banks (Ration of return on asset) ranged between 1 and 2.5 in quarterly basis. The findings of the study noted a low deviation of 1.15. The data had mean and standard deviation of 1.69 and 0.46 respectively. Low standard deviation was an indication that the data was close to the mean. The data was right skewed with a skewness of 0.252.

4.3 Correlation Analysis

The section presents correlation analysis. Correlation analysis is part of inferential statistics and is used to determine relationship between tow variables (Independent and Dependent variables). Existence of relationship is determined if Sig. P<0.05 (5%).

Table 4.6 Correlation

		Financial performance	Interest rate	Bank size	Exchange rates	Inflation rate
Financial performance	Pearson Correlation	1				
	Sig. (2-tailed)					
Interest rate	Pearson Correlation	6.740**	1			
	Sig. (2-tailed)	.023				
Bank size	Pearson Correlation	5.154*	.205	1		
	Sig. (2-tailed)	.032	.545			
Exchange rates	Pearson Correlation	4.258*	.139	.950**	1	
	Sig. (2-tailed)	.043	.684	.000		
Inflation rate	Pearson Correlation	6.032*	.250	.609*	.585	1
	Sig. (2-tailed)	.025	.458	.047	.059	

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

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

Results in Table 4.6 were meant to determine relationship between independent and dependent variables. According to the finding in the first variable, the study identified that at Sig. P<0.05(r=6.740**) there is relationship between interest rates fluctuations and financial performance of commercial banks in Kenya. Findings in the second variable of the study also pointed out that at Sig. P<0.05(r=5.154*) there is relationship between bank size and financial performance of commercial banks in Kenya. In the third variable, the study identified that at Sig. P<0.05(r=4.258*) there is relationship between exchange rate and financial performance of commercial banks in Kenya. In the fourth variable, the findings identified that at Sig. P<0.05(r=6.032*) there is relationship between inflation rate and financial performance of commercial banks in Kenya.

4.4 Regression Analysis

Regression is a measure of inferential statistics, which determines association among variable, and the Beta effects of each independent variable on dependent variable. The study used Model summary table, ANOVA and Coefficients to determine association among variables.

Table 4.7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.884[a]	.781	.634	.49627

a. Predictors: (Constant), Inflation rate , Interest rate , Exchange rates, Bank size
b. Dependent Variable: financial performance

Model summary determines relationship among variables through comparing standard variance of 0.51(51%) and the study variance. Variance measures variation among variables. The more variables vary, the higher the relationship. R Square represents

variation between variables in relation to confidence level of 100% while adjusted R-Square take into consideration standard error of 5% hence a confidence level of 95%. In relation to the findings of the study, the results produced a standard variation of 63.4% hence indicating that there is relationship between variables.

Table 4.8 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.259	4	1.315	5.338	.035[b]
	Residual	1.478	36	.246		
	Total	6.736	40			

a. Dependent Variable: financial performance

b. Predictors: (Constant), Inflation rate , Interest rate , Exchange rates, Bank size

Analysis of variance (ANOVA) is a collection of statistical models and their associated estimation procedures used to analyze the differences among variables. ANOVA determines variation or differences through computing the Significance level. In relation to the findings in table 4.8, the study identified that there is variation between combined independent and dependent variable since Sig. P<0.05.

Table 4.9 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.560	3.452		2.190	.021
	Interest rate	.379	.093	.817	4.050	.007
	Bank size	.001	.001	1.353	2.111	.029
	Exchange rates	-.126	.048	-1.651	-2.642	.038
	Inflation rate	-.107	.070	-.377	-1.539	.017

a. Dependent Variable: financial performance

Results in Table 4.9 were meant to determine association among variables through identification of the beta coefficient or rather the effects independent variables have on dependent variable. Association is determined if the Beta value of any independent variable has significant effect on financial performance. The results were retrieved through representation of Beta value in a linear equation.

$$\gamma = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_{34} + \varepsilon$$

Thus; Financial performance= $7.560+0.817X_1+1.353X_2-1.651X_3-0.377X_4$

The findings of the study identified that a constant value of 7.560, 0.817 Beta value of Interest rate, 1.353 Beta value of Bank Size, -1.651 Beta value of exchange rate and -0.377 Beta value of inflation adjustment affect financial performance.

The findings identified that there is association among independent variables and dependent variable of the study. Thus, increase in interest rate has positive increase on financial performance; increase in bank size had positive influence on financial performance, decrease in exchange rate has positive influence on financial performance and decrease in inflation rate has positive influence on financial performance.

4.5 Multi collinearity Test

Multi collinearity (also collinearity) is a phenomenon in which one predictor variable in a multiple regression model can be linearly predicted from the others with a substantial degree of accuracy and relationship between the variables. A VIF of <4 is recommended or > 4 but not >10. The results of the study are presented in table 4.10 of the findings.

Table 4.10 Multi collinearity

Model		Collinearity Statistics	
		Tolerance	**VIF**
1	Interest rate	.406	2.463
	Exchange rates	.500	2.001
	Inflation rate	.464	2.156
	Bank size	.382	2.615

a. Dependent Variable: financial performance

In relation to the findings in Table 4.10, results produced a VIF value of <4 which indicated high level of accuracy and relationship between independent and dependent variable. The results were retrieved after numerous tests through adjusting independent and dependent variables of the study. Interest rate had VIF value of 2.463, < 4, exchange rate had VIF value of 2.001<4, inflation has a VIF value of 2.156 <4 and Bank size had a VIF value of 2.615< standard VIF value of 4.

4.6 Discussion

The findings of the study were meant to determine the effects of exchange rate fluctuations on financial performance of commercial banks in Kenya. The affect identified were interest rates fluctuation, exchange rates, and inflation rate and bank size in quarterly basis from 2008-2018.

In relation to the first variable of the study, which was to determine the effects of interest rate on financial performance, the findings of the study identified that interest rates fluctuation affects financial performance of commercial banks in Kenya. In relation to the findings, interest rates fluctuated within a period of 10 years with a fluctuation rate of

6.02%. The findings of the study were in agreement with Engel (2014) who revealed that high interest rate is prone to increase currency value implying that a country with high interest rates supports high level of savings, which in turn results to high returns for the investors. As such, investors often move their investments to countries with high interest rates so that they can earn more returns.

In relation to the second variable of the study which determined the effects of bank size on performance of commercial banks in Kenya, the findings of the study identified that over a period of 10 years, returns in commercial banks have grown from an average of 180,0000ksh to 2,000,000 Ksh. The results of the study established close relationship between growth of returns and financial performance. These findings were in agreement with Ahmed, Ahmed and Ahmed (2010) who added that Bank size determines an organisations financial performance depending on the economies of scale available to improve efficiency and effectiveness. For instance large banks can exploit economies of scale including technology and labour to become more efficient compared to small financial institutions.

In relation to the third variable, which was inflation rate, finding of the study identified that in a period of 10 years, inflation rate has fluctuated with a fluctuation rate of 7.11. The study noted that high fluctuation of inflation rate has an effect on financial performance. A high fluctuation rate results to decrease in financial performance and vice versa. The findings of the study were in agreement with Muchiri (2018) who identified that higher inflation rates have negative effects on firms' financial performance. Inflations weaken the currency value of domestic state compared to another currency of the foreign states.

In the last variable of the study, which was to determine the effects of exchange rate on financial performance of commercial banks in Kenya, the findings of the study identified that exchange rates (KSH/USD) have fluctuated within a period of 10 years from 77.5 to 105.2. The study identified that increase in exchange rate has a negative effect on performance of commercial banks. The findings of the study were in agreement with Muchiri (2017) who established that there is negative association between exchange rate fluctuation and financial performance.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary, conclusion and recommendations in relation to the effects of exchange rate fluctuation on financial performance of commercial banks in Kenya. Summary and conclusions were conducted in relation to the findings of the study while recommendations were made to address areas of improvement towards policy change and performance.

5.2 Summary

Findings in the first variable of the study identified that fluctuation in interest rate has affected financial performance of commercial banks in Kenya. According to the findings, high interest rate resulted to high performance of commercial banks in Kenya while low interest rate affected the ability of commercial banks to advance loans to SMEs hence affecting performance negatively. The study also noted that in the last 2 years, commercial banks have recorded low performance rate of ROA ranging between 1 and 2.5 because of interest rate capping imposed by the government. The researcher therefore noted that the higher the interest rate, the higher the performance of commercial banks in Kenya and the lower the interest rates, the lower the performance of commercial banks.

This section addresses summary in relation to the second variable of the study, which was meant to determine the effects of Bank size on the performance of commercial banks in Kenya. Findings of the study identified that commercial banks have grown in size since 2008. The growth has been tremendous with increasing margin every single year hence

resulting to normality of data and distribution of data. Growth in bank size such as growth in revenue, annual growth, revenue turnover and profitability has resulted to improved financial performance of commercial banks in Kenya. The findings identified that banks have grown at a growth rate of 12% in the last 10 years hence indicating improvement in financial performance.

The third variable of the study determined the effects of inflation rate on performance of commercial banks in Kenya. Findings identified that in the last 10 years, Kenya has witnessed fluctuation in inflation rate with 7.11%. The findings acknowledge that inflation rate has negative relationship with financial performance of commercial banks. Increases in inflation rate means that loans and other commodities are expensive to afford and that the country currency has become weak hence affecting investment and business growth. High inflation rate was matched with low bank performance.

This section presents summary of findings in regard to the last variable of the study, which was exchange rate fluctuations. The findings of the study denoted that fluctuation in exchange rate resulted to fluctuation in financial performance of commercial banks in Kenya. The findings identified that Ksh/Usd rate has changed in the last 10 years with 36%. The study also denoted that high exchange rate has affected the ability of commercial banks to invest in foreign nations.

5.3 Conclusion

The researcher concluded that fluctuation in interest rate results to fluctuation in financial performance of commercial banks in Kenya. A high interest rate enhances banks performance while a low interest rate affects bank performance negatively. Low interest rate means that commitment of financial resources in short-term debts has limited benefits

on return on assets. In low interest rate, banks consider holding their resources or investing on other business opportunities for the purpose of expanding return on asset.

Bank size has direct relationship with financial performance of commercial banks in Kenya. Aspects of bank size such as revenue turnover, annual growth, profitability and market share ha significance influence on financial performance of commercial banks in Kenya. Through enhanced annual growth in revenue, commercial banks have reported high performance.

Inflation rate has inverse relationship with performance of commercial banks in Kenya. The higher the inflation rate, the lower the performance of commercial banks and vice versa. In Kenya, high inflation rate has affected commercial banks return on assets and financial performance in general. When inflation is beyond 2%, investors are discouraged towards investment hence resulting to minimum flow of financial resources in the economy.

Lastly, the researcher concluded in contemporary banking activities, increase in exchange rate has inverse relationship with performance of commercial banks in Kenya. High exchange rate is an indication that the local currency is losing value hence requiring more financial resources than average to invest in foreign market. During this period, commercial banks decide to hold back their resources for a rainy day. The holding period in this case affects return on assets.

5.4 Implications for policy and practices

In relation to the fact that commercial banks have limited control to interest rate, inflation and exchange rate, commercial banks in Kenya should consider implementing a serious diversification policy, which allow them to invest in foreign markets such as stock market, forex market and real estate. Diversification will allow the banks to still recoup benefits even when there is a high exchange rate fluctuation in the country.

Commercial banks should keenly forecast the direction of the market before it happens. This can be done through effective research. Forecasting allow financial institutions to determine the direction of the exchange rate hence helping in appropriate decision making

Other than looking into personal benefits, provision of financial advisory to the government on the aspect of financial market and banking can really help in matters of inflation, interest rate fluctuations and exchange rate fluctuation.

5. 5 Limitations of the Study

The current was only limited to effects of exchange rate fluctuations on financial performance of commercial banks in Kenya. This clearly means that recommendations and conclusions were only limited to the aspect of exchange rate fluctuations.

Secondary data collection was quite ambiguous because of lack of appropriate systems to store information in a uniform way. The researcher had to go through calculations and adjustment of findings to come up with analysable data.

Privacy was a major concern from some of the banks. The researcher had to go through vetting process to determine the key aim of the study and the reason behind official data enquiry.

5.6 Suggestions for further research

The researcher suggests that future studies should consider investigating beyond exchange rate fluctuations through focusing on factors affecting financial performance of commercial banks. The current study was limited to effects of exchange rate fluctuations on financial performance of commercial banks and this limit the study to provide general recommendations on how commercial banks can enhance their performance.

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APPENDIX

APPENDIX: QUARTELY DATA COLLECTION SHEET

Year 2008-2018	Interest rate %	Bank size (asset growth) (000Ksh)	Exchange rate KSH/USD	Inflation rate (%)	Financial performance (ROA)
Q1 08	5.5	180	77.5	3	1
Q2 08	8.5	220	77	3.13	1.7
Q3 08	6	200	77	8	1
Q4 08	8.2	270	78	8.28	1.5
Q1 09	7	560	77.9	8	1
Q2 09	7.8	440	78	9.07	1.6
Q3 09	8	650	78.7	4.5	1.2
Q4 09	6.3	550	76.3	4.7	1.6
Q1 10	5	700	79	3.03	1.7
Q2 10	7.35	600	80.1	4	1.6
Q3 10	7	700	80.4	1.96	1.4
Q4 10	7.8	700	80.7	2	1.5
Q1 11	8.05	600	80.7	2	2
Q2 11	7	800	81	2.49	2.3
Q3 11	8.5	700	81.7	7.02	2.2
Q4 11	7.05	800	82.5	7	2.3
Q1 12	8.7	800	81	8	2.4
Q2 12	11.02	800	81.4	8.45	2.4
Q3 12	9	770	84.6	4.5	2.2
Q4 12	10	900	85.56	4.8	2.5
Q1 13	9.3	880	87	3.3	2.1
Q2 13	8.01	1000	86	3.03	2.5
Q3 13	7.7	900	87.0	3.5	2.3

Year 2008-2018	Interest rate %	Bank size (asset growth) (000Ksh)	Exchange rate KSH/USD	Inflation rate (%)	Financial performance (ROA)
Q4 13	9.3	1000	86.5	2.22	2.5
Q1 14	8.5	1000	88	3.09	1.5
Q2 14	8.01	1000	91	3.3	2
Q3 14	7.5	1200	90	3.08	1.3
Q4 14	8.5	1300	92.67	3.8	2
Q1 15	7.2	1500	96	3.6	1
Q2 15	7.3	1050	99	3.03	1.8
Q3 15	8.1	1700	102.3	3.5	1.2
Q4 15	9.5	1000	103	3.08	1.7
Q1 16	8.6	1400	102	3.8	1.2
Q2 16	8.06	1500	103.4	3.08	1.2
Q3 16	6.7	1500	102.8	3.04	1.4
Q4 16	7	1500	102.4	3.3	1.9
Q1 17	7.5	1600	103	3.7	1.2
Q2 17	6.2	1650	103.5	3.06	1.6
Q3 17	6.5	1700	103.7	4.51	1.3
Q4 17	7	1800	103.3	3.64	1.3
Q1 18	7	1500	102.3	3.81	1.2
Q2 18	6.5	2000	102.1	3.09	1.9
Q3 18	6.4	1800	102.4	2.6	1.4
Q418	6.5	2000	102.5	2.09	1.9