THE EFFECT OF EXCHANGE RATE VOLATILITY ON MARKET VALUE OF LISTED COMMERCIAL BANKS IN KENYA

BY

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DECLARATION

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

Signature…… Date…….

HABIBA AHMED HAJI ALI **D61/64630/2013**

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

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DEDICATION

This project is dedicated to my family members for support and encouragement.

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ABSRACT

The theoretical and empirical relationship between market value and exchange rates has been debated for many years. Although scholars and practitioners have studied the subject extensively, the effects of monetary developments on stock markets are not completely understood. It has been argued that a change in capitalization could change exchange rates or a change in exchange rates could change capitalization. The study sought to determine the effect of exchange rate volatility on market value of listed commercial banks in Kenya. This study was guided on purchasing Power Parity (PPP), the comparative advantage theory, and the arbitrage-pricing theory.The study used a descriptive research. The study population was all the listed banks in NSE, eleven of them. Secondary datamarket value from financial statements of listed commercial banks in Kenya was collected. The study collected secondary data for the last five years starting year ist January 2012 to 31st December 2016 from the monthly reports remitted to the Central Bank of Kenya available on the CBK website and Central Bank of Kenya Resource Centre. The study conducted a regression analysis to establish the extent of relationship between volatility in exchange rate and market value. The study also concluded that there was positive correlation between the variables total market capitalization and monthly exchange rate volatility. The independent and control variables were found to be statistically significant determinants of market capitalization of commercial banks listed at the Nairobi Securities Exchange. In this study, a conclusion was drawn that exchange rate volatility is a major determinant of the market capitalization at the commercial banks listed at the Nairobi Securities Exchange. The study recommends that the management of the firms should implement policies on growth of the market value of the firm during the periods of high exchange rate to enjoy the benefits that come with such seasons. This study also recommends that the Central Bank of Kenya (CBK) and other regulators should plan and influence the macro-economic variables such as money supply. For instance, the economy should have sufficient money supply to ensure that there is enough money to conduct trade in the economy.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Exchange rate shows a country's competitiveness in global markets. The exchange rate between one currency and another currency determines how much the first currency is worth when compared to the second one. As is usually the case, the exchange rate specifies how much the foreign currency is worth in comparison to the national currency. The exchange rate is calculated by exploring how the foreign currency's demand and supply in the interbank market interact with each other for foreign exchange.

The foreign exchange market is similar to the stock exchange market in that investors can gain profits or suffer losses by buying at the right and wrong times respectively. (O'Sullivan &Sheffrin, 2013). According to Benita and Lauterbach (2014), firm profitability and economic stability are significantly affected by the economic costs that emanate from exchange rate volatility. A national economy which is heavily dependent on capital a market is prone to be affected the fluctuation of foreign exchange. Thus, this makes market value to suffer considerable cost implications as a result of foreign exchange market developments.

This study was based on three finance theories, purchasing power parity (PPP), comparative advantage theory, and the arbitrage pricing theory. Purchasing power paritymeans that proportionate alterations in nominal exchange rates between the applicable currencies are the determinants of the national prices. Recent research on the theme of PPP has been heavily influenced by econometric issues related to panel and univariate unit root tests of the essential specifications (Coakley, Flood, Fuertes& Taylor, 2005). The comparative advantage theorymaintains that the distinction between proportional production costs is the essential requirement for the continuation of international trade. However, this disparity is an indication of the variation in production techniques. In a practical basis, the application of the arbitrage pricing theory can demonstrate its productivity in the process of boosting the value of stock portfolio in the long-run. For instance, the utilization of APT when current prices are on a low level would yield an uncomplicated process which would in turn produce a positive result while protecting the portfolio. The Central Bank of Kenya (CBK) uses monetary policy to guard the economy

against inflation as well as to ensure that prices, exchanges rates, and interest rates remain stable. It also plays a key role in smoothing out unpredictable exchange rate volatility, which further helps in maintaining systematic market conditions that are crucial for the stability of the Kenyan shilling. Ultimately, CBK, through these efforts, protects the purchasing power of the Kenyan currency and stimulates economic growth (Ndung'u, 2011).

1.1.1 Exchange Rate Volatility

Exchange rate volatility is a consequence of the floating exchange rate system which many economies have implemented. In economics, the exchange rate is the rate at two currencies is exchanged for each other. Exchange rates are affected by the demand, supply, and inflation of each currency. Other factors that influence this exchange include the performance of the economy, national debt, and interest's rates, among others (Mishra, 2014).Since these factors are bound to change frequently, the value of one currency may fluctuate with time. Although in resemblance the level of one currency considerably depends on the underlying economy, it is possible to observe the reverse because significant movements in one currency can determine an economy's fortune (Morley & Pentecost, 2010).

Foreign exchange volatilityinduces foreign investors to become more risk averse to the impact of the volatility. This is attributable to the declining value of their investments associated with foreign exchange volatility. This leads to portfolio diversification of investments to stave off the effects of dwindling returns on investments. Returns on investments do not only depend on domestic economic performance of the asset but also on currency volatility (Ambunya, 2012). Therefore, appreciation of local currency results in investment gains, where as a depreciation decreases the gains.

1.1.2 Market value

Market valuerefers to the aggregate value of a firms' shares. It is obtained by computing the product of all shares by the price of each stock (Barberis, 2003).Market value helps to measure the value of a firm in the open market as well as to determine the market's perception of the firm's future prospects. Companies can be classified in terms of their market value into three broad categories: small cap, mid cap, and large cap. While investing, it is imperative for investors to bear these categories in mind because each category bears its own level or risks and

returns depending on the market conditions. Nevertheless, these categories are not separated by strict rules – the ceilings for each has progressively soared high in the past (Capstaff et al., 2004).

Apart from helping investors in choosing stock that meets their risk and diversification criterion, market value is a key determining factor in terms of the returns and the risk involved in their share. Checking of monetary states of any given nation through expanded returns is normally implied by higher benefits to firms and shows how the share trading system assumes a urgent part in this procedure which thusly induces financial development and the other way around (Corradi, Distaso&Mele, 2009). The channel through which surplus assets are exchanged from people who lend and save to those who borrow, spend and have stores deficiencies is the stock trade (Mishkin, 2010). Unpredictability in the stock costs can to a great extent influence the money related area's execution including the whole economy overall. An economy's budgetary position is vulnerable to its outside trade instability on the off chance that it is chiefly or to a great extent dictated by the capital market. Along these lines, remote trade showcase improvements are made to have fetched suggestions for all the financial operators.Market value can be perceived as a measure of company value and stock markets and assumes a persistent valuation of a specific firm that has stocks which are publicly traded in a stock exchange(Gitman, 2014).

1.1.3 Exchange Rates Volatility and Market value

Current literature in financial economic offers varying findings about the connection between trade rates and market value. Economic proposes that there ought to be a causal connection between market value and trade rates (Caporale, Pittis&Spagnolo, 2012). Notwithstanding, there is no agreement on the way of this relationship. The hypothetical and experimental connection between market value and trade rates has been discussed for a long time. In spite of the fact that researchers and experts have concentrated the subject broadly, the impacts of money related improvements on securities exchanges are not totally caught on. It has been contended that a change capitalization could change trade rates or an adjustment in return rates could change capitalization. This contention depends on the idea that varieties in return rates change company's benefits (Hashemzadeh& Taylor, 2013).From static, crawling peg to floating rate and the broad macroeconomic policies approved since independence are the exchange rate regimes by which the foreign exchange market in Kenya has been virtually tested. In the 1960s and

1970s, Kenya's economy was primarily branded by controls in nearly all key sectors. Among other controls were domestic prices, foreign exchange transactions, interest rates and import licensing. With an average GDP growth rate of 6.6% during the period from 1964 to 1973, this outstanding economic growth witnessed in the first decade after independence proofs that this approach appears to have attended to the economy well(Ndung'u, 2011).

The hypothetical and exact connection between advertise esteem and trade rates has been wrangled for a long time. Despite the fact that researchers and professionals have considered the subject broadly, the impacts of money related improvements on securities exchanges are not totally caught on. It has been contended that an adjustment in capitalization could change trade rates or an adjustment in return rates could change capitalization. This contention depends on the thought that varieties in return rates modify company's benefits (Hashemzadeh& Taylor, 2010).

1.1.4 Commercial Banks in Kenya

Commercial banks and the entire banking industry is falls under the control of the Central Bank of Kenya (CBK) and the Banking Act cap 188. the Central Bank of Kenya Annual Report (2006) states that the Kenyan banking sector comprises 41 commercial banks, one non-bank institution, 3 mortgage finance firms, and one building society. Nevertheless, in December 2007, the number rose to 47 institutions as soon as the gulf African banks Ltd commenced its banking operations. Out of the 45 commercial banks, 34 are local while 6 are foreign institutions that are locally incorporated. The rest are branches of foreign institutions. Nairobi Securities exchange records reveal that 11 commercial institutions are listed. Although local banks account for the largest past of the Kenyan banking industry, they only make up 48.2% of the industry's assets. On the other hand, foreign-owned banks represent a small part of the sector but constitute 43% of the assets (CBK, 2014).

Commercial banks are engaged in accepting deposits and providing loans to consumers, real estate businesses, and other commercial ventures (Saunders,1949). Commercial Banks are further classified into three different classes depending on the market share by net assets, advances, customer deposits and pre-tax profits by Central Bank of Kenya. Large banks have asset size of over 15 billion Kenya shillings, medium more than 5 billion shillings and small with asset size of less than 5 billion shillings. Six banks are classified as large, fifteen as medium and twenty three as small (CBK, 2015). According to CBK Annual Report (2014), Kenyan banks

have fully adopted the use of IT for the provision of banking services. They have heavily capitalized on the implementation of virtual and self-banking services with an end goal of creating quality services for their customers. Examples of common ICT based services include SMS balking, online banking software, ATMs, and electronic clearing systems, and so on.

The NSE 20-share file recorded sharp drop to 3531 focuses by end of December 2014 (KNBS, 2005). The NSE 20 Share Index fell by 7.8% to remain at 3,247 indicates in December 2015compared 3,531 focuses December 2008 (KNBS, 2015). The Nairobi Securities Exchange (NSE) 20 share file climbed consistently finished the initial seventy five percent of 2015 to achieve a pinnacle of 4,630 focuses amid the second from last quarter. The record edged downwards somewhat in the final quarter yet remained moderately high at 4,433 focuses toward the finish of December 2013 contrasted with 3,247 focuses in December 2014 (KNBS, 2016). Since February 2009 there has been an expansion in net remote value inflow at the NSE with the most elevated figure of Kshs 1 billion recorded in September 2014. Add up to for the year 2009 to date is Kshs 4 billion indicating expanded certainty by outside financial specialists (CMA, 2009). Outside financial specialist investment at the NSE as measured by normal turnover figures dropped by 9%, from a normal of 52% in the principal quarter, 2015 to a normal of 43% in the second quarter, 2010. In the principal quarter, 2015, the NSE understood a Kshs. 5 billion net remote speculator money inflow. The second quarter, 2015, saw that remote financial specialist inflow shrunk by Kshs. 3.6 billion to Kshs. 1.4 billion. Nonetheless, in June 2015 the inflows got (CMA, 2015).

1.2 Research Problem

Market value provides an important tool to investors for measuring the return on investment. Habitual volatility of stock prices provides free helpful information about the wellbeing of a company. The volatility of exchange rates influences firm’s value and operating cash flows via the economic effects of exchange rates, transaction, and translation. Compared to historical cost based income, income that is based on fair values has considerably more reflection of income volatility. Depreciation of the local currency could lead to improved stock performance since this depreciation could lead to cheaper exports hence more demand of commodities leading to increased cash flows and profits due to increased sales hence share price. Depreciation could also lead to increased interest cost on loans hence a reduction in cash flows and as a result share price

demand. An increase in the stock market index will attract foreign investors to diversify shares in that stock market leading to investors demanding that currency hence currency appreciation.

Because of various dynamics that operate in it, the stock exchange is an exceptionally fluid and engaging unit. Within it, thousands of transactions which occur at the same time are facilitated from many traders who are usually fixated in outbidding and outselling each other. Consequently, stock prices gain much volatility and are utilized in controlling the market value of firms (Ologunde, Elumilade&Saolu, 2010).Changes in the prices of stock normally reflect the expectation of investors about the future performance of a particular stock and are the factor that guides investors on what stocks to incorporate in their portfolios.

The Kenya shilling has registered mixed performances against the USD. The volatility ranged between 35 in 1994 when the Kenya shilling was strongest and 105 in 2011 when it was at its weakest (CBK, 2015, 2014). Recently, the range stood at 98 in 2015 (CBK website). This shows the volatility of the exchange rate between the Kenyan Shilling and the U.S dollar. The risk of market value tends to increase with the increase of this volatility.Taking into account the monetary policy for the fiscal year 2011/2012, the Central Bank of Kenya linked the appreciation of the Shilling to the stringent monetary policy adopted. Additionally, further funds released by the IMF along with a syndicated loan of USD 600 million provided a cushion to the Kenyan currency (CBK, 2013).

Since exchange volatility heavily impacts the operation of investors and policy makers, there is a need to conduct more research in this area in order to boost future decision-making. A weak shilling exposes Kenyan stocks to negative impacts with regard to their weaker prices in the international markets and vice versa.

Past research regarding exchange rate and market value has considerably laid emphasis on the linkage between foreign exchange and stock in developed countries but has failed to consider developing economies (Aggarwal 1981, Soenen&Hennigar 1988, and Chow, Lee &Solt, 1997). Furthermore, the findings of many studies conducted in the past have found varying results regarding these variables. For instance, Aggarwal (1981) and Roll (1992), found that there was a positive relationship between stock returns and exchange rate volatility. Soenen and Hennigar (1988) found a significantly negative relationship. In another study, Chow, Lee and Solt (1997) used monthly data between the years 1977 and 1989 and found that there was no linkage

between excess stock returns and real exchange rate volatility. After repeating their study with horizons of over six months, they concluded that there was a positive correlation between a strong dollar and stock returns.

Locally, Cherop (2010) did a survey to explore the fluctuation of exchange rates of earnings earned through the export of tea among stakeholders of Kenyan tea factories

where she established that the exchange rate volatility greatly affected the earnings of smallholders at tea factories. During the time of depreciating local currency, the export earnings were higher even with low export quantities while export earnings reduced when the currency was appreciating. Maina (2010) did a study onthe effect of the variability of exchange rates on investment in the Kenyan electric power sector. Maina's findings show that the investments were high in the power subsector when the exchange rates were stable as compared to times of high volatility. Ambunya (2012) explored the connection between exchange rate developments and securities exchange returns unpredictability of recorded business banks in Kenya. The review built up that with high instability in the trade rates, the trade rates development wound up noticeably greater joined by a colossal securities exchange return unpredictability. Wamukhoma (2014) analyzed the impacts of foreign exchange rate instability on horticultural export revenues in Kenya.The study concluded that the exchange rate is associated with horticultural export earnings in Kenya (Pearson correlation was 0.689). From the above studies, few studies if any have been done on the effect of volatility in exchange rate on market valueof listed commercial banks in Kenya. This study therefore aimed to fill this research gap by examining the effect of volatility in exchange rate on market value. This study sought to answer the following question: What is the effect of exchange rate volatility on market valueof listed commercial banks in Kenya?

1.3 Objective of the Study

To determine the effect of exchange rate volatility onmarketvalueof listed commercial banks in Kenya.

1.4 Value of the Study

The findings of this research will contribute to the existing body of knowledge concerning the impacts of volatility in exchange rate on market value in the Kenyan banking sector. The results

can further aid interested stakeholders and stock investors to develop ways of coping with future uncertainties.

This will also inform the government and related agencies especially in the securities exchange, in coming up with policies to boost market value in Kenya. The information will guide these firms in planning and will inform their strategies when coming up with such policies.

Researchers and students will benefit from this study in that they will be in a position to get information that can help them while carrying out research work in related fields to advance their research papers and projects respectively. This study will likewise expand the information base concerning the impact of instability in conversion scale on market value of commercial banks in Kenya. Speculators and financial experts are altogether worried with the conduct of the exchange rate, as it influences them directly or indirectly. The pattern of the conversion standard is, along these lines, a helpful marker of capital markets performance that should be caught on.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the theories and previous literature related to the relationships between volatility in exchange rate andmarket value and empirical studies concerning the same.

2.2 Theoretical Framework

Various scholars including Branson (1977),Fama (1965),Ross (1976),and Fischer (1980) have formulated theories to clarify the dynamics behind exchange rates and market value. Nevertheless, there is no universally accepted model to explain the connection between the two variables or even towards such a correlation. In order to aid the reader to comprehend forces at work, this section delved into the concepts of purchasing Power Parity (PPP), the comparative advantage theory, and the arbitrage-pricing theory.

2.2.1 Purchasing Power Parity

The Purchasing Power Parity (PPP) theory asserts that a currency's exchange rate against a second one achieves a state of equilibrium once the purchasing power of both currencies is equal in the two countries under comparison. In other words, the PPP is an association between the exchange rate of a country and volatility of is national price compared to that of another country.According toCoakley, Flood, Fuertes, and Taylor, (2005)thePPP statement maintains that the purchasing power of a currency is equivalent to that of another country when it is exchanged to the foreign currency at the agreed PPP exchange rate. Usually, the nominal exchange rate between one currency and another is the same as the collective price level ratio between the countries under comparison. This supposition is held by the PPP theory and aims at ascertaining that the power of a currency maintains its purchasing power across borders(Taylor and Taylor, 2004).It is necessary for one unit of a local currency to purchase the same amount of goods in a foreign country as those that it purchases locally. Thus, the idea behind Purchasing Power Parity is to allow the purchasing power of a currency to remain the same across two

economies. One way to detecting divergences from the Purchasing Power Parity is to compare the prices of identical goods in the two countries.

The theory is relevant to the current study because when viewed in relation with exchange rates, PPP portends that the exchange rates between two currencies should equal the ratio of the countries' price levels. The 'law of one price', which states that prices of similar goods from different countries remain the same after adjusting the exchange rates of those countries, borrows from Purchase Power Parity theory.

2.2.2 The Comparative Advantage Theory

The trade theory was the first to indicate the significance of specialization underway and division of work in light of the possibility of theory of absolute advantage. Smith (1776) in his renowned book: "The Wealth of Nations" shared the thoughts regarding total preferred standpoint were essential for the early advancement of established idea for universal exchange. It is for the most part concurred that David Ricardo is the maker of the established hypothesis of global exchange, despite the fact that many solid thoughts regarding exchange existed before his standards.

Ricardo (2004)demonstrated that the potential increases from exchange are far more noteworthy than Smith imagined in the idea of absolute advantage. In this hypothesis the vital variable used to clarify worldwide exchange examples is innovation. As per this hypothesis, innovative contrasts between nations decide global division of work and utilization and exchange designs. It holds that exchange is useful to all participating nations. This conclusion is against the perspective about exchange held by the precept of mercantilism where it is contended that the direction and arranging of monetary action are productive methods for cultivating the objectives of a country. Ricardo's hypothesis shows that nations can pick up from exchange regardless of the possibility that one of them is less beneficial then another to all products that it creates.

2.2.3 Arbitrage Pricing Theory

The Arbitrage Pricing theory, according to Ross (1977), can be used in the place of the Capital Asset Pricing Model (CAPM). It is particularly helpful in establishing the type of type of pricing for different shares of stock. The underlying principle of the theory is that it is necessary to recognize that the expected return on asset can be monitored as the linear calculation of the

applicable macro-economic factors in conjunction with the market indices. All the factors or at least, the majority of them have some rate of exchange. This model enables inventors to run scenarios in order to arrive at equitable prices with relation to the asset’s performance.

Drake and Fabozzi (2012) maintain that there are various risk factors that determine the expected return of assets in the APT model. This is the opposite of what is observed with the market risk of CAPM. Precisely, the return on assets is linearly related to H factors in the APT model. However, there is no specification of the mentioned factors although it is speculated that there is a linear relationship between returns on asset and these factors (Drake &Fabozzi, 2011).As given, the APT model proclaims that investors prefer to receive compensation for all risk factors affecting the return of a particular security.

This theory is relevant to this study because simulating scenarios using this model assists in arriving at prices which are equitable to the anticipated performance of the asset. Arbitrage pricing would be used to stabilize asset prices when they go beyond the parameters.

2.3 Determinants of Market value

Market value is the value the stock market places on the entire company or, simply, market gauge of an organization's esteem, in view of saw future prospects, financial and money related conditions (Woo, 1981). It is, nonetheless, not really the value a purchaser would pay for the whole firm and isn't a sensible gauge of the association's genuine size, in light of the fact that an offer's market cost depends on exchanging just a small amount of the company's aggregate extraordinary offers. Additionally, favored offers are excluded in the computation. Market esteem in this way remains a basic piece of any stock valuation equation as it speaks to the aggregate market estimation of all the organization's remarkable offers. As remarkable stock is purchased and sold out in the open markets, capitalization could be utilized as an intermediary for the popular

2.3.1 Interest Rate

The interest rate is dependent on a country's income. The main principal role of interest rates is to mobilize and redistribute financial resources and facilitate the optimal allocation and use of these funds to enhance economic development. Excessive shifts of interest rates can pose significant threats to earnings and capital base of an organization as well as increase its operating

expenses. Interest rate changes may have an impact on asset valuation, liabilities and the present value of expected cash flows (Osoro&Ogeto, 2014). Higher rates of interest humpers the present value of cash flows, which would reduce the viability investments, hence, shrinks valuation of stock returns (Rahman, et al. 2009)

2.3.2 Economic Growth

Many scholars agree that an upward rise in economic activity causes growth in market returns since the level of real economic activity is a major factor in determining the stock market returns (Rahman et al. 2009). GDP (Gross Domestic Product) is the most used measurement of economic growth. A growing economy exhibits positive GDP which raises demand for loans (Osoro&Ogeto, 2014). The level of Gross Domestic Product (GDP) affects the profitability of firms.

2.3.3 Money Supply

Supply of money is the total amount of liquid currency circulating or in existing in an economy. Monitory base M1 and M2 is the standardized measurement of the money supply. The monetarybase is the total of reserve balances and the total amount of currency in circulation. The increase in money supply leads to a more liquid economy with excesses which can be invested. The long term result will be monetary policy benefiting both the economy and investors in general. On the on hand, an increase in the supply of money results in the availability of liquidity at lower rates of interest (Shrestha&Subedi, 2014). Inflation is brought about by increased supply of money in the economy which increases the rate of discount at the end affecting returns. As such, the Central Bank of Kenya is tasked with the sole responsibility of regulating the supply and demand for money circulating in Kenyan economy. Controlling money supply affects disposable cash which in turn affect share prices and expected returns (Kirui et al., 2014).

2.4 Empirical Review

Alagidede, Panagiotidis and Zhang (2010) studied the relationship between stock markets and foreign exchange markets in Canada, Japan, Switzerland, Australia, and UK in the period between 1992 and 2005. The research employed cointegration tests and found no correlation between the variables. Further, the scholars applied the Granger causality test and found out that there was causality from exchange rates to stock prices for Switzerland, Canada, and United

Kingdom; they also found a weak causality in the case of Switzerland. By using a linear and non-linear framework the whole study sought to determine the causality between exchange rates and stock prices in the aforementioned countries. The findings indicated that there was no correlation between the variables.

Sekmen (2011) studied the relationship between the exchange rate volatility and sock market returns in the United States for the period between 1980 and 2008 by using autoregressive moving average (ARMA) model. The researcher tested the influence of firm's exchange rate volatility of the revenues of American companies using the squared residuals from the applied model in order develop estimates of volatility. Altogether, the research found out that returns were negatively influenced by the exchange rate volatility owing to the inability of hedging instruments to minimize the negative impacts of the exchange rate volatility on the trade volume.

In a similar research project, Turkey, Yıldiz and Ulusoy (2011) investigated how exchange rate volatility in the returns of the Turkish Stock market by the use of monthly data collected between the years 1987 and 2010. The three researchers applied Autoregressive Moving Average (ARMA) models to find squared residuals which were used in the generation of a measure of exchange rate volatility and later analyzed against the stock returns. The values of the monthly closing index obtained from the Istanbul Stock Exchange 100 Index (ISE) were then utilized in order to obtain the stock returns. According to the findings, Turkish exporters did not pay much attention to the uncertainty of the exchange rates as a considerable problem.

Olugbenga (2012)Performed an analysis of short-term and long-term impacts of the exchange rates on development of the stock market in Nigeria between the years 1985 and 2009. The experimental findings of the study indicated that there was a considerable positive correlation between the two in the short-run and a significant negative one in the long-run. By use of a Granger causality test, the researcher concluded from the evidence that the interconnection ran from the exchange rate toward the performance of the stock market. The implication of the findings was it was possible to predict the variations in the studies stock market by the use of exchange rate vitality. The ultimate conclusion of the research was that heavy devaluation of the currency since the commencement of the structural adjustment program in 1986 could have been a valid reason for the negative influence that was observed on the Nigerian Stock Market.

Barasa (2013) carried out a study to examine whether the exchange rate vitality has any connection with the balance of payments in Kenya between 2001 and 2012 by collecting monthly exchange rates data in the period of study and conducting a regression analysis in order to the degree of correlation between the two variables. His findings reflected that, in the same way as the forces of demand and supply are crucial to the understanding of a product and its prices, the influence of the demand and supply for foreign exchange is fundamental to understanding the value of a foreign currency. Essentially, exchange rates are critical to international trade of a country as well as to its formulation of policies and economic analyses. From the findings that were discussed in Chapter, the research concludes that foreign exchange rates and the balance of payments are directly correlated.

Bilawal et al., (2014) explored whether vulnerability or changes in swapping scale influenced the macroeconomy in Pakistan. The examination depended on auxiliary and time arrangement information. A 32 years information of swapping scale and FDI for the time of 1982 to 2013 was utilized and was gathered from the site of State Bank of Pakistan. The trial of Correlation and relapse examination were connected utilizing the SPSS programming to check the connection between Exchange rate and FDI. The connection comes about demonstrated that there was a huge positive relationship between conversion scale and outside direct venture

In Kenya, Rutto and Ondioek (2014) did a study on the influence of exchange rate volatility on Kenya's tea exports. They looked at the contribution of tea exports earning to Kenya's economy and draw policy recommendations emanating from empirical findings for enhancing tea exports. Johansen and Julius Multivariate co-integration technique was applied to annual time series data from 1970-2008 in order to recognize the short term versus the long term behavior of the variables in the study Co-integration and error technique (ECM) developed by Engle and Granger was used. Phillips, Perron (PP) on the first difference was adopted to test stationarity in their first difference and co-integration feasibility. The results indicate that exchange rate volatility, negatively affects performance of tea exports in the country. This paper recommends periodic monitoring of the exchange rate so as to reduce its impact and drawing of monetary and fiscal policy that would make FX rate manageable.

Wanjau; researcher (2014) scrutinized the correlation between real income, exchange rates and current account balances. His study was founded on 2 main theories: BOP (balance of payment)

constrain and the neoclassical elasticity approaches. The study first aimed at identifying the impact in Kenya that current account balances and real exchangerate changes have on the country. The study was also conducted to identify the consistence of imports growth rate if Kenya was experiencing a stable growth in her economy. A regression analysis was first conducted for the first objective between the trade balance and real exchange rate, level of transparency and government expenditure, foreign income and comparative prices. To determine whether the Marshal-Lerner condition was viable, the signage and importance of real exchange rate coefficient was put to test.

A study by Musa (2014) sought to establish the effect of changes in foreign exchange rate on the financial performance of oil marketing companies in Kenya. The findings showed there exists no significant relationship between changes in foreign exchange rate and performance of oil marketing companies in Kenya

Majok (2015) studied the effects of exchange rate fluctuations on the financial performance of 43 commercial banks operating in Kenya from 2002 to 2014. Sheexamined the ROA of the 43 commercial banks as a performance indicator and used a descriptive research design and ANOVA to investigate the significance of the effects of changes exchange rate on financial performance of commercial banks. The study used secondary data collected from the banks' consolidated financial statements and the Central Bank of Kenya. The results revealed a weak negative relationship between exchange rate fluctuations and the financial performance of commercial banks in Kenya.

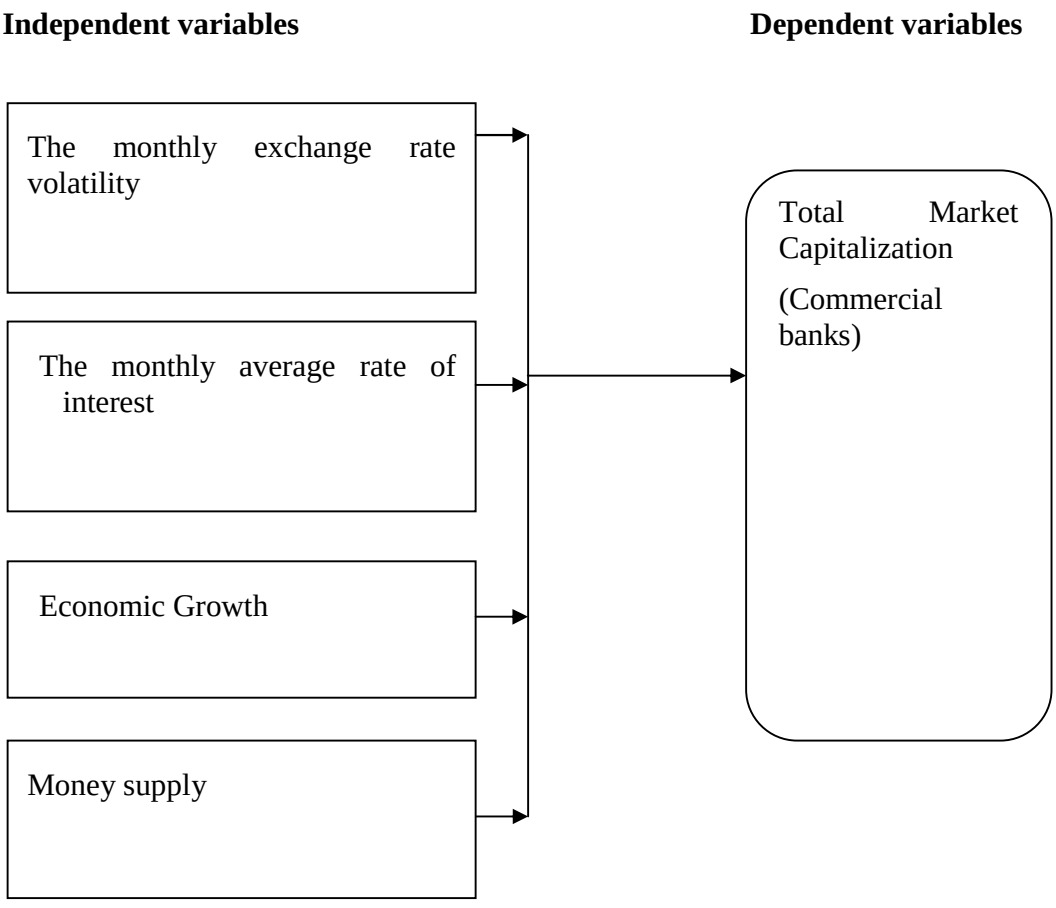
2.5 Conceptual Framework

Figure 2.1 presents a conceptual framework model of relationships among exchange rate volatility and bank Market value. The figure shows that exchange rate volatility influences Market value in several ways. First, exchange rate volatility can directly influence bank Market value. In other words exchange rates cannot be underrated in a country's economy because it affects price level, productivity of firms, distribution of resources and investment decision (Taiwo et al, 2013). This proposition, supported by the arbitrage pricing theory, is shown in hypothesis one in the diagram.

Exchange rate volatility can influencebank Market valuethrough interest rate. A rise in the rate of interest raises the cost forgone on holding money, resulting in substitution actions between equity stocks and bonds; which bear interest. Hypothesis two therefore proposes that the interest rates would influence Market value.

Exchange rate volatility can also influence bank Market value through the moderation of the Economic Growth.Any rise in economic output may raise expected cash flows and, hence, trigger a rise price of shares, with the reverse impact during recession is justified (Kirui et al., 2014). Finally, Money supply as a determinant of Market value can influence the bank Market value. increase in the supply of money results in the availability of liquidity at lower rates of interest (Shrestha&Subedi, 2014).The conceptual model relating the study variables is presented in figure 2.1 below:

Figure 2.1: Conceptual model



Source: Researcher

2.6 Summary of Literature Review

This chapter has discussed literature related to market value and its determinants. It commenced by examining the theoretical review where it reviews three hypotheses including stock oriented, arbitrage pricing, and flow-orientedmodels.

The chapter also delved into the findings of various studies concerning the themes of market value and exchange vitality. Nigerian scholars Oluwatoyin and Gbadebo (2009) examined how market share capitalization impacted a firm's performance in the Nigerian confectionary industry. In another study, Alam and Taufique (2007) investigated whether exchange rates influenced stock prices on the JSE.

Locally scholar Barasa (2013) examined the connecting factors between the vitality of exchange rates and the balance of payment in Kenya between 2001 and 2002. In a similar study concerning the Nairobi Stock Exchange in Kenya, Ambunya (2012) assessed the correlation between exchange rate movement and the vitality of market returns. Anene (2011), on the other hand, studied how the exchange rates of the Kenyan shilling against the USD affected stock prices in Kenya between 2005 and 2009. The three researchers cited that there was a need to carry out further studies in order to establish how the vitality of exchange rates affects market value in all listed commercial banks in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter expounds on the methodology of the research, including the research design, the target population of the study, data collection methods, as well as data analysis.

3.2 Research Design

The studyuseda descriptive research. Glass & Hopkins (1984) define a descriptive research design as the mode of gathering data that outline happenings and then systematizes, tabularizes, illustrates, and explains the data collected and frequently uses graphic assistances e.g. charts and graphs to aid the users in appreciating the data dissemination. It also uses other measures that show difference and correlations between various variables (Cooper & Schindler, 2013). What is more, the use of a descriptive research turned out useful in the analysis of information in methodical manner when drawing valuable conclusions and recommendations (Mugenda&Mugenda, 2008).

The descriptive research is most useful especially in cases where ‘why’ or ‘how’ question is under scrutiny in a current set of phenomena that the researcher has little or no controlGray (2004). Additional statistical procedures were applied when answering the research question.

The use of this research designwas justified by its power in letting the researcher carry out the desired measurements and analyze the observations in order to study the phenomena in detail and draw accurate conclusions and findings from the research.

3.3 Target Population

The population is defined in terms of the number of commercial banks established under the banking Acts of Kenya as at December 31st, 2016. The population frame data was from the Central Bank of Kenya. According to the Central Bank of Kenya (2015) report, there are 44 established commercial banks in Kenya by December 31st 2016. Eleven of the 44 commercial

banks have been listed on the Nairobi Securities Exchange. The study population was all the listed banks in NSE, eleven of them.

3.4 Data Collection

Secondary data market valuefrom financial statements of listed commercial banks in Kenya was collected. The study collected secondary data for the last five years starting year 1st January 2012 to 31st December 2016 from the monthly reports remitted to the Central Bank of Kenya available on the CBK website and Central Bank of Kenya Resource Centre with regards to monthly exchange rate volatility, monthly average rate of interest, GDP growth on monthly basis and broad money (M3) on monthly basis

3.5 Data Analysis

The researcher collected data on exchange rate volatility for the Kenyan currency (Kshs) against the United States dollar (USD).The market valuewas obtained by computing the monthly market value of outstanding shares for all the 11 listed commercial banks in Kenya, for the period 2012 to 2016 from the banks financial statements. Using this data, the study conducted regression analysis to establish the extent of relationship between volatility in exchange rate and market value.

3.5.1 Analytical Model

The studyapplied the following regression model

$Y= \beta_0+\beta_1X_1 + \beta_2X_2+ \beta_3X_3+\beta_4X_{4+} \varepsilon$

Where

$$Y = \text{Market Capitalization to GDP} = \frac{\text{Stock Market Capitalization}}{\text{Market GDP}} \times 100$$

StockMarket bank capitalization= (stock prices X number of outstanding shares)

X_I = exchange rate volatilitycalculated by the annual standard deviation of the direct quote between the USD and the KES currencies

X_2= the monthly average rate of interest

X_3= Economic development will be measured using GDP growth on monthly basis

X_4=Money supply will be measured using broad money (M3) on monthly basis

B_0 isthe constant

β1, β2, and β3 are co-efficient of the variables

εis the error term

3.5.2 Significant Test

The study utilized a T-test at 95 percent confidence level in order to determine the level of significance in which the independent variable attempts to account for variations in the dependent variable.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents findings from analyzed secondary data. Descriptive statistics and model results are presented. This chapter also includes results interpretation and summary of the findings.

4.2. Descriptive Statistics

Descriptive Statisticsshows the mean, most extreme and least estimations of factors utilized as a part of this examination together with their standard deviations.

Table 4.1: Total Market Capitalization

	Minimum	Maximum	Mean	Std. Deviation
2012	3224.20	4147.30	3735.8250	324.47162
2013	4417.00	5101.00	4784.0833	201.49868
2014	4856.00	5256.00	5018.0000	142.32677
2015	5576.73	5970.40	5794.8110	126.01278
2016	6119.20	6759.95	6435.8985	211.07421

Research findings, (2017)

Table 4.1 presents the findings on the descriptive statistics for total market capitalization for the years 2012-2016. Market capitalization is the total value of all of a company's shares of stock given by multiplying the price of a stock by its total number of outstanding shares. The means portray a steady increase in the market value for all the 11 banks listed at the Nairobi Securities exchange with the lowest being 3735.8250 in the year 2012 and the highest being 6435.8985 in 2016. Additionally the scores of standard deviation indicate variation in market capitalization for the various listed banks statistically.

Table 4.2: Exchange rate Volatility

	Minimum	**Maximum**	**Mean**	**Std. Deviation**
2012	74.70	101.20	84.6583	7.08577
2013	80.50	95.40	86.0500	4.03000
2014	78.20	105.50	87.9333	7.53794
2015	72.93	110.87	89.4892	10.74217
2016	67.58	120.02	91.1267	15.17283

Research findings, (2017)

The findings in Table 4.2 represent the descriptive statistics findings for the monthly exchange rate volatility at the banks listed at Nairobi securities exchange. According to the findings, the exchange rate Volatility was highest in 2016 as indicated by the mean score 91.1267, followed by 2015 mean score of 89.4892 and lastly in 2012 with a mean score of 84.6583. The low standard deviation indicates a low variation in monthly exchange ratevolatility for the periods statistically.

Table 4.3: Monthly average rate of interest

	Minimum	Maximum	Mean	Std. Deviation
2012	11.09	12.78	12.2548	.51512
2013	10.37	11.07	10.6400	.22658
2014	9.96	10.70	10.2608	.24711
2015	9.60	11.61	10.2333	.57696
2016	9.58	11.42	10.8042	.56408

Research findings, (2017)

As per the findings, monthly average interest rate at the banks listed at the Nairobi Securities Exchange reflects an decrease over the 4 year period, with the highest being 12.2548 in 2012, followed by 10.8042 in 2016 and 10.6400 in 2013. Moreover, the standard deviation shows a variation in monthly average interest rate in the different 11 banks listed at NSE.

Table 4.4: Gross domestic product growth

	Minimum	Maximum	Mean	Std. Deviation
2012	3.10	6.70	4.5800	.80599
2013	3.49	7.54	5.1525	.90712
2014	3.22	6.97	4.7625	.83921
2015	3.29	7.11	4.8600	.85546
2016	3.88	8.39	5.7350	1.00910

Research findings, (2017)

The study established that gross domestic product per capita generally fluctuated through the period exhibiting a sluggish growth as shown in the Table 4.4 above. The highest GDP growth is noted in year 2016, a GDP growth of 5.7350, while year 2012 portrayed the lowest GDP growth of4.5800.

Table 4.5: Money supply (M3) millions

	Minimum	Maximum	Mean	Std. Deviation
2012	984036.00	1213212.00	1083255.5000	79047.54754
2013	1216829.00	1412702.00	1303468.6667	59134.95616
2014	1436877.00	1612994.00	1522680.6667	48435.23395
2015	1638459.00	1846754.00	1751110.7500	64466.86679
2016	1864880.00	2046645.00	1970823.6667	50593.32058

Research findings, (2017)

The study results revealed that the amount of money supply in the country has grown throughout the study period. Notably, the means portray a steady increase in the money supply for all the 11

banks listed at the Nairobi Securities exchange with the lowest being 1083255.5000 in the year 2012 and the highest being 1970823.6667 in 2016. Additionally the scores of standard deviation indicate variation in money supply for the various listed banks statistically.

4.3 Inferential statistics

In determining the effect of exchange rate volatility on market capitalization for all banks listed at the NSE, the study conducted a multiple regression analysis to determine the nature of relationship between the variables. The regression model specification was as follows;

$Y= \beta_0+\beta_1X_1 + \beta_2X_2+ \beta_3X_3 +\beta_4X_{4+} \varepsilon$

Where Y = Total Market Capitalization [Total stock prices X number of outstanding shares]

And X_I = exchange rate volatility

X_2= monthlyaverage rate of interest

X_3= GDP growth on monthly basis

X_4= Money supply

β_0 is the constant

β_1, β_2, and β_3 are co-efficient of the variables,

ε is the error term

The study applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study. Findings are presented in the following tables;

Table 4.6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.958619	0.918951	0.864918	1.117338

a. Predictors: (Constant), exchange rate volatility, monthly average rate of interest, GDP growth and Money supply

Research findings, (2017)

In this case, the coefficient of assurance (the rate variety in the needy variable being clarified by the adjustments in the autonomous factors) R2 rises to 0.918, that is, month to month swapping scale unpredictability, month to month normal rate of swelling, month to month normal loan fee clarify 91.8 percent of the difference in absolute market capitalization for the period under survey.

Table 4.7: ANOVA[a]

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	127.396	4	31.849	17.0073	0.00200018
	Residual	102.997	55	1.872667		
	Total	230.393	59			

a. Dependent Variable: Total Market Capitalization

b. Predictors: (Constant), exchange rate volatility, monthly average rate of interest, GDP growth and Money supply

Research findings, (2017)

From the examination of change in table 4.7, the F Test of 17.0073indicates that the relapses informative power on the general criticalness was solid. The hugeness estimation of 0.002 got infers that the relapse show was huge in anticipating the connection between conversion scale instability on showcase capitalization for every business bank recorded at the NSE and the

indicator factors as it was not exactly α = 0.05. This significancelevel implies that the odds are right around zero that the consequences of the relapse show were because of irregular exogenous occasions rather than the genuine relationship existing in the model.

Table 4.8: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	22.916	0.451		50.81153	0.000000
	exchange rate volatility	-0.153	0.071	0.146	-2.15493	0.037401
	monthly average rate of interest	-0.134	0.047	0.045	-2.851064	0.006931
	GDP growth	0.463	0.213	0.126	2.173709	0.035861
	Money supply	0.111	0.048	0.142	2.3125	0.026117

a. Dependent Variable: Total Market Capitalization

Research findings, (2017)

Table 4.8 deciphers the institutionalized relapse coefficients (Beta). In assessing the commitment of each of the autonomous factors to the investigation it was built up that all the free factors had a noteworthy commitment to the difference of the reliant variable at a noteworthiness level of 0.05.

The relative significance of each of the autonomous factors was however unique. According to the equation, taking all factors (exchange rate volatility, monthly average rate of interest, GDP growth and Money supply) constant at zero, market capitalization will be 22.916. The data findings also show that a unit increase in monthly exchange rate volatility will lead to an 0.153 decrease in market capitalization; a unit increase in monthly average rate of interestwill lead to a

0.134 decrease in market capitalization, a unit increase in GDP growth will lead to a 0.463 increase in market capitalization while a unit increase in money supply will lead to a 0.111 increase in market capitalization.

4.4 Interpretations of the Findings

The objective of the study was to assess the effect of exchange rate volatility on market value of commercial banks listed at the Nairobi Securities Exchange. The goal was evaluated by utilization of auxiliary information and the ensuing examinations in view of the factors of the investigation.

The coefficient of assurance (the rate variety in the needy variable being clarified by the adjustments in the autonomous factors) R2 was observed to be equivalents to 0.9189, that is, conversion scale instability, month to month normal rate of premium, GDP development and Money supply clarify 91.89 percent of the difference in absolute market capitalization for the period under audit. This diverge from Morales (2007) who analyzed the dynamic connection between trade rates and market capitalization in four Easter European markets, Czech Republic, Hungary, Poland and Slovakia, utilizing stock cost and conversion scale information from these nations, and additionally showcase capitalization from the United States, Germany and the United Kingdom. The discoveries of the investigation demonstrated that there is no proof of market capitalization and trade rates moving together either over the long haul or in the short-run, except for Slovakia, where co-incorporating connections were found.

From the investigation of change, the F Test of 17.0073indicated that the relapses illustrative power on the general criticalness was solid. The centrality estimation of 0.002 got suggests that the relapse show was huge in foreseeing the connection between swapping scale unpredictability on showcase capitalization and the indicator factors as it was not exactly $\alpha = 0.05$. This importance level implies that the odds are right around zero that the consequences of the relapse display were because of irregular exogenous occasions rather than the genuine relationship existing in the model in assessing the commitment of each of the free factors to the examination it was built up that all the autonomous factors had a huge commitment to the fluctuation of the reliant variable at a criticalness level of 0.05. The relative significance of each of the free factors

was however unique. Taking all elements (swapping scale instability, month to month normal rate of premium, GDP development and Money supply) steady at zero, showcase capitalization will be 22.916. The information discoveries likewise demonstrate that a unit increment in month to month swapping scale instability will prompt a 0.153 abatement in showcase capitalization; a unit increment in month to month normal rate of premium will prompt a 0.134 reduction in advertise capitalization, a unit increment in GDP development will prompt a 0.463 increment in advertise capitalization while a unit increment in cash supply will prompt a 0.111 increment in showcase capitalization. Essentially, Sekmen (2011) on looking at the impacts of conversion standard instability, utilizing the squared residuals from the autoregressive moving normal (ARMA) models, on stock returns for the U.S. for the period 1980 to 2008 found that conversion standard unpredictability contrarily influenced U.S. stock returns.as inconstancy of supporting instruments couldn't diminish the negative impact of swapping scale instability on exchange volume.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECCOMENDATIONS

5.1 Introduction

This part compresses the examination and makes conclusions in light of the consequences of the investigation. Approach suggestions, restrictions of the investigation and proposals for additionally inquire about are likewise introduced. This segment additionally displays the discoveries from the investigation in contrast with what different researchers have finished up as noted under writing survey.

5.2 Summary

From the findings the total market capitalization for the years 2012-2016 experienced a steady increase for all the 11 commercial banks listed at the Nairobi Securities exchange with the with the lowest being 3735.8250 in the year 2012 and the highest being 6435.8985 in 2016. This implies that the firms underwent growth in terms of their market value.

The exchange rate had increased over the years under study, the exchange rate Volatility was highest in 2016 as indicated by the mean score 91.1267, followed by 2015 mean score of 89.4892 and lastly in 2012 with a mean score of 84.6583

The study determined that the monthly average interest rate at the banks listed at the Nairobi Securities Exchange reflects an decrease over the 4 year period, with the highest being 12.2548 in 2012, followed by 10.8042 in 2016 and 10.6400 in 2013.

The study established that gross domestic product per capita generally fluctuated through the period exhibiting a sluggish growth. The highest GDP growth is noted in year 2016, a GDP growth of 5.7350, while year 2012 portrayed the lowest GDP growth of4.5800.

The study results revealed that the amount of money supply in the country has grown throughout the study period. Notably, the means portray a steady increase in the money supply for all the 11 banks listed at the Nairobi Securities exchange with the lowest being

1083255.5000 in the year 2012 and the highest being 1970823.6667 in 2016. Additionally the scores of standard deviation indicate variation in money supply for the various listed banks statistically.

The coefficient of determination (the percentage variation in the dependent variable being explained by the changes in the independent variables) R^2 was found to be equals to 0.9189, that is, exchange rate volatility, monthly average rate of interest, GDP growth and Money supply explain 91.89 percent of the variance in total market capitalization for the period under review.

From the examination of change, the F Test of 17.0073 demonstrated that the relapses informative power on the general noteworthiness was solid. The importance estimation of 0.002 acquired suggests that the relapse demonstrate was noteworthy in foreseeing the connection between swapping scale unpredictability on showcase capitalization and the indicator factors as it was not exactly $\alpha = 0.05$. This centrality level implies that the odds are right around zero that the consequences of the relapse display were because of arbitrary exogenous occasions rather than the genuine relationship existing in the model. In assessing the commitment of each of the free factors to the investigation it was built up that all the autonomous factors had a huge commitment to the change of the reliant variable at an essentialness level of 0.05. The relative significance of each of the autonomous factors was however extraordinary.Taking all factors (exchange rate volatility, monthly average rate of interest, GDP growth and Money supply) constant at zero, market capitalization will be 22.916. The data findings also show that a unit increase in monthly exchange rate volatility will lead to an 0.153 decrease in market capitalization; a unit increase in monthly average rate of interest will lead to a 0.134 decrease in market capitalization, a unit increase in GDP growth will lead to a 0.463 increase in market capitalization while a unit increase in money supply will lead to a 0.111 increase in market capitalization.

5.3 Conclusion

This study examined the effect of exchange rate volatility on market capitalization at the listed banks using monthly time series data from 2012-2014. In this study, the dependent

variable was market capitalization; monthly exchange rate volatility was the independent variable, while monthly average rate of interest, monthly GDP growth and monthly money supply were control variables.

The study concluded that there was a steady increase in the market value, exchange rate volatility from the year 2012 to 2016. The interest rate on the other hand decreased over the five year period. The study further concluded that the five-year period experienced fluctuations in the rate of GDP growth.

The study also concluded that there was positive correlation between the variables total market capitalization and monthly exchange rate volatility. The independent and control variables were found to be statistically significant determinants of market capitalization of commercial banks listed at the Nairobi Securities Exchange. In this study, a conclusion was drawn that exchange rate volatility is a major determinant of the market capitalization at the commercial banks listed at the Nairobi Securities Exchange.

5.4 Policy Recommendations

According to the regression results, an increase in monthly exchange rate volatility would lead to a significant positive influence on market capitalization. The study therefore recommends that the management of the firms should implement policies on growth of the market value of the firm during the periods of high exchange rate to enjoy the benefits that come with such seasons.

An increase in the monthly average rate of money supply was found to positive affect market capitalization. This study therefore recommends that the Central Bank of Kenya (CBK) and other regulators should plan and influence the macro-economic variables such as money supply. For instance, the economy should have sufficient money supply to ensure that there is enough money to conduct trade in the economy.

Finally, an increase in the monthly average interest rates was also found to negatively affect market capitalization of the firms. In light of this, the study recommends that the management of the listed banks should address or monitor the levels of debt financing

utilized by their firms in order to ensure that it does not adversely affect their firm's market capitalization.

The government should aim to grow the country's GDP as it positively influences stock market capitalization.

5.5 Limitations of the Study

This study was limited to the extent that not all the factors affecting market capitalization of the listed banks at the Nairobi Securities Exchange in Kenya were considered in the model basically because of confinements of information.

The examination depended on a five year time span from 2012 to 2016. A more drawn out span of the investigation would have caught times of different financial importance, for example, blasts and subsidence. This would have given a more extended time concentrate subsequently it would have given a more extensive measurement to the exploration issue.

The time taken to complete this examination was in no methods adequate for the measure of detail and investigation the investigation included. With additional time, nitty gritty tests could be led to decide if similar conclusions could have been inferred with more factors incorporated into the examination show.

5.6 Suggestions for Further Studies

The study suggests that further readings should explore on the specific factors that affect each of the study variables. For instance, further studies should aim to establish the determinants of monthly exchange rate volatility, monthly average interest rate, GDP growth and money supply.

In addition, future studies should include comparison of a simultaneous comparison of the effect of the exchange rate volatility variables on market capitalization performance.

Other studies can perform a comparison of different markets as this study only looked at listed banks in the Nairobi Securities Exchange. This can help reach concrete conclusions as regards the subject of the study.

This study covered a five year period, it is therefore suggested that other study be undertaken on effect of exchange rate volatility on market capitalization at the Nairobi Securities Exchange for longer periods of time, for instance 10 year period.

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Appendix I: Listed Commercial Banks in Kenya as at 31st December 2016

1. Barclays Bank of Kenya Limited
2. CFC Stanbic of Kenya Holding Limited
3. I&M Holdings Ltd
4. Diamond Trust Bank
5. Housing Finance
6. Kenya Commercial Bank Limited
7. National Bank of Kenya
8. NIC Bank Limited
9. Standard Chartered Bank Limited
10. Equity Bank Limited
11. Co-op Bank of Kenya Limited

Source: Researcher

Appendix II: Market Capitalization

	2012	2013	2014	2015	2016
December	3224.2	4417	4856	5797.533	6613.433
November	3303.8	4519	4933	5881.133	6695.733
October	3366.9	4861	4946	5970.4	6759.95
September	3546.7	4765	4949	5822.533	6523.683
August	3650.9	5006	4882	5744.067	6359.617
July	3703.9	4598	4885	5576.733	6167.283
June	3832.4	4788	4906	5582.4	6119.2
May	3865.8	4698	5139	5840.8	6477.4
April	3972	4793	5256	5957.667	6599.667
March	4147.3	4936	5195	5807.133	6330.983
February	4083	5101	5156	5853	6389.5
January	4133	4927	5113	5704.333	6194.333

Appendix III: Exchange rate volatility

	2012	**2013**	**2014**	**2015**	**2016**
December	80.4	84.9	79.7	80.97	80.62
November	79.6	85	87.6	92.07	96.07
October	83.8	89.5	86.8	89.70	91.20
September	92.7	83.8	87.8	83.20	80.75
August	101.2	84.6	91.4	82.60	77.70
July	78.7	80.5	78.2	78.63	78.38
June	83	83.7	87.5	89.23	91.48
May	88.9	83.8	78.2	72.93	67.58
April	87.2	85	105.5	110.87	120.02
March	74.7	85.2	91.4	100.47	108.82
February	82.1	91.2	93.7	100.60	106.40
January	83.6	95.4	87.4	92.60	94.50

Appendix IV: Monthly average rate of interest

	2012	**2013**	**2014**	**2015**	**2016**
December	11.09	10.433	10.13	11.61	10.21
November	11.71	10.395	9.96	10.82	10.33
October	11.66	10.505	9.99	10.65	10.28
September	12.12	10.368	10	10.61	9.58
August	12.47	10.47	10.12	10.02	10.93
July	12.51	10.563	10.49	9.87	11.06
June	12.5	10.568	10.08	10.06	11.16
May	12.64	10.778	10.7	9.6	11.11
April	12.78	10.86	10.29	9.86	11.13
March	12.65	10.81	10.38	9.83	11.13
February	12.628	10.86	10.5	9.84	11.31
January	12.3	11.07	10.49	10.03	11.42

Appendix V: GDP Growth

	2012	**2013**	**2014**	**2015**	**2016**
January	3.10	3.49	3.22	3.29	3.88
February	4.60	5.17	4.78	4.88	5.76
March	6.70	7.54	6.97	7.11	8.39
April	4.30	4.84	4.47	4.56	5.39
May	4.30	4.84	4.47	4.56	5.39
June	4.20	4.72	4.37	4.46	5.26
July	4.40	4.95	4.58	4.67	5.51
August	4.49	5.05	4.67	4.76	5.62
September	4.58	5.15	4.76	4.86	5.73
Octomber	4.67	5.25	4.86	4.96	5.85
November	4.76	5.36	4.95	5.05	5.96
December	4.86	5.47	5.05	5.16	6.08

Appendix VI: Money supply (M3) millions

	2012	**2013**	**2014**	**2015**	**2016**
December	984,036	1,216,829	1,436,877	1,638,459	1,864,880
November	986,901	1,243,601	1,484,198	1,670,865	1,919,514
October	1,006,009	1,254,488	1,513,656	1,702,545	1,956,369
September	1,022,424	1,258,812	1,489,751	1,740,178	1,973,842
August	1,045,657	1,271,638	1,514,152	1,727,324	1,961,572
July	1,067,271	1,285,452	1,505,764	1,729,606	1,948,853
June	1,084,345	1,306,395	1,504,776	1,747,622	1,957,838
May	1,107,896	1,324,685	1,517,126	1,755,476	1,960,091
April	1,122,790	1,334,898	1,536,287	1,802,006	2,008,755
March	1,159,595	1,351,392	1,561,573	1,823,130	2,024,119
February	1,198,930	1,380,732	1,595,014	1,829,364	2,027,406
January	1,213,212	1,412,702	1,612,994	1,846,754	2,046,645