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EFFECT OF MACRO-ECONOMIC VARIABLE VOLATILITY ON THE FINANCIAL PERFORMANCE OF COMMERCIAL BANKS LISTED AT THE NAIROBI SECURITIES EXCHANGE

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Abstarct:

The general objective of the study was to investigate the effect of macro-economic variables volatility on the financial performance of commercial banks listed at the Nairobi securities exchange (NSE). The specific objectives were to establish the effect of volatility of the macro-economic variables which included interest rate, inflation rate, GDP and exchange rate on the financial performance of commercial banks listed at the Nairobi securities exchange. The study employed secondary data covering a ten-year period from 2009 to 2018. The target population of study constituted the eleven banks listed at the NSE covering a 10 years period of observation, thus making the total units of analysis in the study to be 110. The study used census technique so as to obtain data from these commercial banks. Reports from the Kenya National Bureau of Statistics (KNBS), Central Bank of Kenya (CBK) and the Nairobi Securities Exchange (NSE), were reviewed so as to obtain the commercial banks' financial performance data, inflation rate data, exchange rate data, GDP data and Interest rate data. The study used descriptive research design. Data was analyzed using quantitative techniques. Descriptive analysis generated descriptive statistics in form of mean, variance and standard deviation. Inferential analysis namely correlation and multiple linear regression analysis was conducted. Correlational analysis was conducted so as to determine whether multicollinearity problem was there and the Multiple Liner Regression Model was used so as to test the hypothesis. Correlation results found negative relationship between interest rate, inflation rate and GDP and financial performance. Hypothesis findings at 95% found significant effect on interest rate, inflation rate and GDP with financial performance hence rejecting H01 , H02 and H04: null hypothesis. Finally H03 was accepted at 95% level of confidence finding no significance effect on exchange rate with financial performance of commercial banks. Conclusion, recommendations and further studies were suggested.

INTRODUCTION

The banking industry is an integral component and key player in any given economy (Muchiri, 2017). The existence of a robust, efficient and effective banking system is very imperative for economic expansion of a country (Fasil & Merhatbeb, 2012). This is because it influences the life of many people and institutions through its numerous services that the banking industry offer, which ranges from taking deposits, to giving out loans, mortgage processing and project financing (Fasil & Merhatbeb, 2012).

It is comprehended that companies do not operate in a vacuum, the environment in which a firm undertakes its business transactions is surrounded by several factors that may influence and, or affect the outcome of the business venture (Murungi, 2014). Illo (2012) argues that several macroeconomic variables such as Interest rates, Inflation rates, GDP fluctuations, and Exchange rates, play a fundamental role in shaping an economy. This is because they influence business activities undertaken in a given country (Illo, 2012). A slight change in these macro-economic variables with uncalculated move by firms may be detrimental since it may affect their profitability (Murungi, 2014). For instance, increase in loan interest rates offered by a lending institution may have a ripple effect on several stake-holders in the economy, such as an increase in the final consumer products manufactured by a firm which obtained a loan at higher interest rates (Mwangi, 2013).

It is further augmented that financial performance of any entity is a key factor towards depicting whether a company will continue with its operations or it may consider winding up, shedding light whether an investment project should be undertaken this current year or requiring postponing to the next fiscal year (Njuguna, 2013).

Mwangi (2013) depicts that profitability, which is a key indicator of financial performance, is a significant pointer of industry performance and has profound implication on other sector undertakings. Financial performance also plays a key role in determining whether a company will be able to secure finances for its endeavors or not (Mwangi, 2013). The same author further articulates that

financial performance plays a significant role in determining whether share-holders will receive dividends and by how-much, even the adoption of a particular dividend policy peculiar to that firm. Murungi (2014) holds that financial performance of an institution aids in determining   payment to its other stake-holders such as the company's creditors and management as well as monitoring the agency cost that comes with running the business, and finally outlining how the capital of the firm will be structured.
Thus, with this in mind, the financial performance of banks ought to be monitored intimately, and consequently, all the factors that affect it. This study investigated the effect of macro-economic variables volatility on the financial performance of commercial banks listed at the Nairobi securities exchange.

Firms as well as individuals ought to be enlightened about the financial performance of the banking industry (Chimkono, 2015). This is in quest of enabling them plan and make informed decisions with regard to the investment options financed by the banks as well as being able to determine whether the bank will be able to pay dividends to the investors and other stake-holders or not (Emase, 2017). The major key indicator of organization's performance is its financial performance (Murungi, 2014). This is because financial performance measures the profitability, appreciations in value and the earning power of an organization as evidenced by the rise in its share price (Mwangi, 2017). However, the banking sector's financial performance, similar to other industries in the economy is affected by an assortment of economic-wide variables including interest rate, inflation rate, exchange rate, and GDP fluctuations (Chimkono, 2015).

Kenya as a country has undergone significant changes over the last 10 years which has affected the banking industries financial per-fomance. For instance the public debt rose from 1.0 trillion in September 2009 to 5.1 trillion in September 2018 (CBK, 2018). This period witnessed a great volatility in the macro-economic variables for instance in July 2015, the KES depreciated by 14.45% against the USD (Muchiri, 2015). The USD/KES mean Exchange rate deflected from 78.2678 in January 2009 to 101.8461 in December 2018 (CBK, 2018). In September 2016 the commercial bank lending Interest rate capping came into force, and the inflation rate rose by 39% between January 2008 and February 2008 (KNBS, 2019).

The above events affected the banking industry financial performance extensively, for instance Chase bank and Imperial bank went into receivership, National bank of Kenya closed most of its branches, and CBA and NIC bank started negotiations on merger possibil-ities (CBK, 2019) Kaushik (2011) maintains that high volatility in Inflation rates, Exchange rates, GDP and Interest rates is a significant indicator of economic imbalance and a major concern to governments, investors, analysts, as well as other stake-holders. This is be-cause it increases the uncertainty of employment, investment and saving, cash flows, profits, dividends, purchasing power and eco-nomic growth, thus leading to a reduction of the implementation of sustainable development projects. The volatility in the macro-economic variables, and the recent economic-wide instances witnessed in the country and in the banking industry over the last 10 years triggered this research study.

The recent studies reviewed in this research study, mainly focused on the relationship between these macro-economic variables on the insurance industries (Murungi, 2014), aviation industries (Mwangi, 2013), the security exchange market (Muchiri, 2012), micro-

finance (Njuguna, 2013), among other sectors with insignificant focus on the banking industry, yet it is a key player in the economy of any given country. Thus there was a gap requiring a current study on these variables and the banking industry as well as a review on literature to the extent that the study on effect of macroeconomic variables volatility and financial performance of commercial banks at the NSE is concerned.

Therefore, this study sought to fill the research gap as well as coming up with a current study that will be instrumental to governments, scholars and stake-holders in the banking industry by answering the question: "What is the effect of the macro-economic variables volatility on the financial performance of commercial banks listed at the Nairobi Securities Exchange?

RESEARCH METHODS

Research Design
Research design is the general strategy and structure which facilitates the researcher to answer the research hypotheses (Cooper & Schindler, 2006). This study used descriptive research design. This approach enabled the use of descriptive statistics such as mean, mode and variance, and also facilitate the development of the multiple linear regression model, which was employed in carrying out the study which investigated the effect of macro-economic variables volatility on the financial performance of commercial banks listed at the NSE.

Target Population of Study

Population is the entire group of interest which the researcher desires to examine (Sekaran, 2010). It refers to clearly defined elements, service, people, things or households under investigation (Emase, 2017). The target population in this study constituted the eleven banks listed at the NSE for a period of 10 years between 2009 and 2018 as indicated in appendix 3, thus making the units of analysis in this study to be 110 units.

Data Collection Instruments

These are means in which information from the subject under inquiry is acquired (Creswell, 2003. Secondary data will be used in this study, since it is the most appropriate in collecting reliable data which relate to the variables under investigation. The data collected was in form of audited and published financial reports from CBK, KNBS and NSE for the 11 commercial banks listed at the NSE for the dependent variable (commercial bank's financial performance)

Additional data, particularly with respect to inflation rate, exchange rates, GDP and interest rate was acquired from various sources including the Kenya National Bureau of Statistics (KNBS) and the Central Bank of Kenya (CBK). The financial statements from the banks under research and reports from CBK, NSE and KNBS were reviewed and data extracted and filled in the observation schedule provided in appendix 2, before processing and analyzing the data.

Data Collection Procedures

An authorization letter from the School of graduate studies was obtained after proposal approval so as to commence the data collection process and compile the whole research project. Additional letter for the research was also obtained from the National commission of science and technology (NACOSTI). Audited financial statements of the 11 commercial banks listed at the NSE for the period ranging from 2009 to 2018 (10 years period) were reviewed so as to obtain data for determining their financial performance. The commercial banks' financial performance was measured using ROA. Documents from the KNBS, CBK and NSE were reviewed so as to obtain the Inflation rate data, Exchange rate data, Interest rate data and GDP data.

Measurement of the variables

Variables are concepts which can take on different quantitative values, whether in quantitative or qualitative research, they are the things we measure, control or manipulate in research (Vinold & Mnyamawi, 2014) Measurement on the other hand is the assignment of numerals to objects or events according to given rules (Vinold & Mnyamawi, 2014) The commercial banks' financial performance was measured using Return on Assets (ROA) (Ratio of net income to total value of assets). The Consumer Price Indices (CPI) from KNBS was used in measuring inflation rate, commercial banks' lending rate was used to measure interest rate, the annual average exchange rate from CBK was used to measure exchange rate and the annual GDP values from the KNBS was used to measure GDP. Table 3.1 below shows the measurements of variables which were employed in operationalizing the study variables in this research and facilitate the application of the multiple linear regression analysis model.

Variables	Variables measurement approach
Commercial Banks' Financial Performance	Net profit/Average total assets (ROA)
Inflation rate	Average annual Inflation rat
Interest rate	Average annual lending interest rates.
Exchange rate	Average annual Exchange rate fluctuations USD/KES
	Average annual GDP growth rate
Gross Domestic Product	

Table 3.1: Measurement of variables

Data Processing and Analysis

The filled in observation schedules were checked so as to verify completeness. In case of incomplete observation schedules, repeat exercise was conducted so as to ensure complete information was obtained.

Data Processing

The raw data gathered was converted into computer usable form through the following stages: first, categorization of the observation schedule was done to ensure uniformity during the coding process. Coding process, with categories established for each response, a master codebook was established which was then used to code the rest of the observation schedules. Third stage involved transfer of codes from the serialized observation schedules into a worksheet having responses as variables against schedule serial numbers as identities.

Finally, data was entered into Statistical Package for Social Sciences (SPSS). With data in the SPSS program, each variable name and label was defined. SPSS has been credited because it can take data from almost any type of file and use them to generate tabulated reports, descriptive statistics, inferential statistics, charts and plots of distribution (Kothari, 2008).

Data Analysis

The data collected was modified to ensure that they are correct and complete, which reduces bias, increases accuracy and achieves consistency to ensure correct entry of data. Data was analyzed using quantitative techniques. Descriptive analysis generated descriptive statistics in form of mean, variance and standard deviation.

Quantitative analysis was in form of inferential analysis namely correlation and multiple linear regression analysis. The correlational analysis was conducted so as to determine whether multicollinearity problem exists before ultimately running the multiple linear regression analysis model. A multiple linear regression analysis model was applied so as to analyze the relationship between dependent variables (financial performance of commercial banks) and independent variables (inflation rate, interest rate, exchange rate and gross domestic product). The regression coefficients generated was fitted in the regression model shown below to generate the coefficient of determination coefficients. The multiple linear regression model was established in the following manner:

$$FP = \beta_0 + \beta_1 CPI + \beta_2 IR + \beta_3 EX + \beta_4 GDP + \varepsilon.$$

Where:

FP: Is the Annual financial performance of the banks

CPI: Is the Annual consumer price indices as a measure of inflation

IR: Is the Annual weighted average lending interest rates

EX: Is the Annual USD/KES rate as a measure of exchange rates

GDP: Is the Annual Gross Domestic Product growth rate as a measure of Economic growth

β_0:   Is the constant or the y intercept

β_1, β_2, β_3, and β_4: Are the Beta coefficients of the regression equation.

ε: Is the error term.

A series of diagnostic tests were conducted before analyzing and interpreting the above model. The first test was the normality test (Skewness and Kurtosis) , which was used to evaluate the distribution pattern of the data (Holland & Campbell, 2005).

These coefficients generated were used to test the four null hypotheses at five percent (5%) significance level as shown in Table 3.2 of summary of the hypothesis, regression test statistics, and decision rule. The regression coefficients generated were presented in tables. The study used tables to represent the general trend of the data from 2009 to 2018 (10 years' data) of the commercial banks listed at the NSE. Correlation matrix was employed in examining the relationship between the dependent and the independent variables.

Table 3.2: Summary of Hypothesis, Model, Test Statistics and Decision Rule

HYPOTHESIS AND MODEL	TEST STATISTIC	DECISION RULE
H01: Interest rate volatility has no significant effect on the financial performance of commercial banks listed at the Nairobi Securities Exchange FP = β_0 + β_1CPI + ε Where FP -Dependent variable, β_0 is Y Intercept, β_1 is the slope of Inflation and ε is the regression residual or error term	Karl Pearson Correlation product Moment and linear regression (relationship between Inflation rate and Financial performance)	Ho1: β_1 = 0 HA1:$\beta_1^{/}$ = 0 Accept H01 at ⍺ = 0.05 if Ho1: β_1 = 0 denoting there is a relationship between variables Reject H01 if $\beta_1 \neq 0$
H02: Inflation rate (Consumer Price Index) volatility has no significant effect on the financial per-	Karl Pearson Correlation product Moment and linear regression	Ho2: β_2 = 0 HA2: $\beta_2^{/}$ = 0

formance of commercial banks listed at the Nairobi Securities Exchange FP = β0 + β2IR + ε Where FP -Dependent variable, β0 is Y Intercept, β2 is the slope of Commercial Bank Interest Rate, ε is the regression residual or error term	(Relationship between Interest rate and Financial performance)	Accept H02 at ⱅ = 0.05 if Ho2: β2 = 0 denoting there is a relationship between variables Reject H02 if β2 ≠ 0
H03: Exchange rate volatility has no significant effect on the financial performance of commercial banks listed at the Nairobi Securities Exchange FP = β0 + β3EX + ε Where FP -Dependent variable, β0 is Y Intercept, β3is the slope of Foreign Exchange rate and ε is regression residual or error term	Karl Pearson Correlation product Moment and linear regression (Relationship between Foreign Exchange and Financial performance)	Ho3: β3 = 0 HA3: β3 ≠ 0 Accept H03 at ⱅ = 0.05 if Ho3: β3 = 0 denoting there is a relationship between variables Reject H03 if β3 ≠ 0
H04: Gross Domestic Product (GDP) volatility has no significant effect on the financial performance of commercial banks listed at the Nairobi Securities Exchange FP = β0 + β4GDP + ε Where FP -Dependent variable, β0 is Y Intercept, β4 is the slope of Gross Domestic Peoduct and ε is regression residual or error term	Karl Pearson Correlation product Moment and linear regression (Relationship between competitive Gross domestic Product and Financial performance)	Ho4: β4 = 0 HA4: β4 ≠ 0 Accept H04 at ⱅ = 0.05 if Ho4: β4 = 0 denoting there is a relationship between variables Reject H04 if β4 ≠ 0

RESULTS AND FINDINGS

Descriptive Statistics

Descriptive analysis shows the average and standard deviation of the different variables of interest in the study which show the variance between the independent variables. It also presents the minimum and maximum values of the variables which help in getting a picture about the maximum and minimum values a variable can achieve.

Table 4.1 Descriptive Statistics of Interest Rate, Inflation, Exchange Rate and GDP for 110 Observations

	N	Range	Min	Max	Mean	Std. Dev	Var	Skewness		Kurtosis	
	Stat	Stat	Stat	Statistic	Stat	Stati	Statistic	Stat		Stat	Std.
									Std.		Error
									Error		
INTERESTRATE	10	7	13	20	15.71	1.94	3.77	.672	.68	.54	1.33
INFLATION	10	8.87	5.41	14.28	8.05	3.34	11.21	1.501	.68	.84	1.33
EX. RATE	10	26.07	77.34	103.41	90.90	9.62	92.72	.043	.68	-1.62	1.33
GDP	10	5.70	2.70	8.40	5.4470	1.43	2.05	.214	.68	2.56	1.33
Valid N (listwise)	10										

The study conducted a descriptive analysis on the data collected from secondary sources using the observation schedules form shown in appendix 2. Table 4.1 represents descriptive statistics for KNBS, interest rate, inflation, exchange rate and GDP. The average monthly interest rate, inflation rate, exchange rate, and GDP for the period 2009 to 2018 was 15.71, 8.05, 90.90 and 1.41 respectively. The maximum value for the interest rate, inflation rate, exchange rate and GDP for the 10 years was 20, 14.28, 103.41. and 8.40 respectively. The minimum value of interest rate, inflation, exchange rate and GDP was 13, 5.41, 77.34 and 2.70 respectively. The deviation from the mean value was 1.94, 3.34, 9.62 and 1.43 for interest rate, inflation, exchange rate and GDP respectively.

Interest rate had mean value of 15.71 and standard deviation of 1.94 and maximum and minimum values of 20 and 13 respectively. The variability was acceptance in that distribution was normal at 96% and observation was within +/- 2 standard deviations from the mean. This means that interest rate influences financial performance of commercial banks.

Results of Correlation Analysis

Table 4.2 Correlation Coefficient of Interest Rate, Inflation, Exchange Rate and GDP for Financial performance for 110 Observations.

		ROA	INTERESTRATE	INFLATION	EXCHANGERATE	GDP
ROA	Pearson Correlation	1	-.228	-.493	.938**	-.041
	Sig. (2-tailed)		.526	.148	.000	.911
	N	10	10	10	10	10
INTERESTRATE	Pearson Correlation	-.228	1	.393	-.274	-.057
	Sig. (2-tailed)	.526		.261	.444	.875
	N	10	10	10	10	10
INFLATION	Pearson Correlation	-.493	.393	1	-.459	-.700*
	Sig. (2-tailed)	.148	.261		.182	.024
	N	10	10	10	10	10
EXCHANGERATE	Pearson Correlation	.938**	-.274	-.459	1	-.009
	Sig. (2-tailed)	.000	.444	.182		.980
	N	10	10	10	10	10
GDP	Pearson Correlation	-.041	-.057	-.700*	-.009	1
	Sig. (2-tailed)	.911	.875	.024	.980	
	N	10	10	10	10	10

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

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

Relationship between Interest rate and Financial Performance

Results from the table 4.2 above indicated negative relationship between Interest and financial performance of -0.228. The interpretation is that there was a very weak association between interest and financial performance which is not significant 0.05. When real interest rate increases by one percent, on average, financial performance will decrease by 22.8 percentage point, holding other variables constant.

Relationship between Inflation and Financial Performance.

Correlation table 4.2 above gave relation results between inflation and financial performance. Negative relationship was revealed of -0.493 which was not significant at 0.05. When inflation increases by one percent, financial performance decreases by 49.3 percent when all other factors are held constant.

Relationship between Exchange Rate and Financial Performance.

Correlation table above (4.2 above) indicated strong positive relationship between exchange rate and financial performance of 0.938 which was significant at 0.05 having p-value of 0.000. This means that when exchange rate increases by one percent financial performance increases by 93.8 percent when all other factors are held constant.

Relationship between GDP and Financial Performance.

Relationship between GDP and financial performance was analyzed using table 4.2 above. Very weak negative relation of -0.041 was revealed which was not significant at 0.05. the interpretation was when GDP increases by one percent financial performance decreases by 4.1 percent when all other factors are held constant.

Multicollinearity Test

Table 4.3: Pairwise Correlation between Independent Variables

Model		Collinearity Statistics	
		Tolerance	VIF
1	INTERESTRATE	.748	1.337
	INFLATION	.238	4.203
	EXCHANGERATE	.572	1.749
	GDP	.333	3.003

Multicollinearity was done in the above table 4.3 to test the relationship between independent variables used in the study. Multicollinearity test was done by both collinearity statistics of tolerance and Variance Inflation Factors (VIFs). Table 4.3 presented the tolerance and variance inflation factor (VIF), according to the Ghazali (2010) the multicollinearity problem exist when VIF is more than 10 and tolerance level is greater than 1, however the table showed the level of VIF is less than 10 and tolerance is less than 1 which indicates that there is no serious multicollinearity problem and no serious increase the variance of regression coefficients and inter-

preting the results, this conclusion support the use of logistic regression analysis and help in obtaining accurate results about the

relationship between the variables.

Regression Analysis

Table 4.4 Multiple linear Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.958a	.917	.851	1.17057	.917	13.802	4	5	.007

a. Predictors: (Constant), GDP, EXCHANGERATE, INTERESTRATE, INFLATION

Regression output was run and results were given in table 4.4 above. In simple regression analysis, p-value of the F-test is used to see

if the overall model is significant. With a p-value of zero to three decimal places, the model of this study was statistically significant at

0.05 because p-value was 0.007 (0.007< 0.05). The R-squared was 0.917, meaning that approximately 91.7% of the variability

of financial performance was accounted for by the variables in the model namely interest rate, inflation, exchange rate and GDP. Ad-

justed R-squared indicated that about 85.1% of the variability of financial performance of commercial banks was accounted for by

the model, even after taking into account the number of predictor variables in the model assuming that other variables affecting

financial performance are held constant.

ANOVA Analysis

Table 4.5. ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.649	4	18.912	13.802	.007b
	Residual	6.851	5	1.370		
	Total	82.500	9			

a. Dependent Variable: FINANCIAL PERFORMANCE

b. Predictors: (Constant), GDP, EXCHANGERATE, INTERESTRATE, INFLATION

Table 4.5 above on ANOVA results, researcher gets results from the predictors variable, interest rate, inflation, exchange rate and

GDP to study financial performance of commercial banks. Significance results confirmed that all the predictors had significantly rela-

tionship on financial performance at confidence level of 95%; (P= 0.007< 0.05).

Multiple Linear Regression Model Analysis.

Table 4.6 Multiple linear Regression Model Analysis.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	1993.968	8.082		246.729	.000
	INTERESTRATE	.191	.232	.123	.823	.448
1	INFLATION	-.346	.239	-.382	-1.446	.208
	EXCHANGERATE	.250	.054	.794	4.657	.006
	GDP	-.620	.471	-.294	-1.316	.245

a. Dependent Variable: Financial Performance

Multiple Linear Regression Analysis Model Equation

From the regression model analysis table 4.6 above, model equation was;

FP = 19993.968 + 0.191CPI – 0.346IR + 0.250EX - 620GDP + ε.

Where:

FP: Is the Annual financial performance of the banks

CPI: Is the Annual consumer price indices as a measure of inflation

IR: Is the Annual weighted average lending interest rates

EX: Is the Annual USD/KES rate as a measure of exchange rates

GDP: Is the Annual Gross Domestic Product growth rate as a measure of Economic growth

Regression results the coefficients on inflation and GDP were negative while about interest rate and exchange rate was positive. The interpretation is that a unit change in interest rate leads to increase of financial performance by 19.1 units. A unit change in exchange rate leads to increase in financial performance by 25.0 units. In addition a unit change in inflation leads to decrease in financial performance by 34.6 units. Lastly a unit change in GDP leads to decrease in financial performance by 62.0 units.

Hypothesis Testing for Relationship between Interest Rate, Inflation, Exchange Rate and GDP.

Table 4.7 Hypothesis Testing for Relationship between Interest Rate, Inflation, Exchange Rate and GDP.

Hypothesis	T Stat	Sig.	Conclusion
H01: Interest rate volatility has no significant effect on the financial performance of commercial banks listed at the Nairobi Securities Exchange.	.823	.448	Reject H01 Since (0.448 > 0.05)
H02: Inflation rate (Consumer Price Index) volatility has no significant effect on the financial performance of commercial banks listed at the Nairobi Securities Exchange.	-1.446	.208	Reject H02 Since (0.208 > 0.05)
H03: Exchange rate volatility has no significant effect on the financial performance of commercial banks listed at the Nairobi Securities Exchange.	4.657	.006	Accept H03 Since (0.006 < 0.05)
H04: Gross Domestic Product (GDP) volatility has no significant effect on the financial performance of commercial banks listed at the Nairobi Securities Exchange.	-1.316	.245	Reject H04 Since (0.245 > 0.05)

Conclusion

In the review of empirical studies, the researcher reviewed research works done by: Kipngetich (2011), Akotey et.al (2012), Muchiri (2012), Gikungu (2012), Illo (2012), Ghimire (2013) Mwangi (2013, Murungi (2013), Kaluba & Chirwa (2015) and Chimkono (2016)

The reviewed literature evidently established a gap in Kenyan research since majority of the research conducted considered variables in different sectors, or used a single variable. This present research consequently constricts the gap by establishing the effect of macro-economic variables volatility on the financial performance of commercial banks at the Nairobi Securities Exchange.

According to research findings, table 4.2 above indicated negative relationship between Interest and financial performance. The interpretation is that there was a very weak association between interest and financial performance which is not significant 0.05. Correlation results in table 4.2 gave relationship results between inflation and financial performance. Negative relationship was revealed of -0.493 which was not

significant at 0.05.

The findings revealed strong positive relationship between exchange rate and financial performance of 0.938 which was significant at 0.05 having p-value of 0.000. This means that when exchange rate increases by one percent financial performance increases by 93.8 percent when all other factors are held constant.

Relationship between GDP and financial performance was analyzed and very weak negative relation of -0.041 was revealed which was not significant at 0.05. The interpretation was when GDP increases by one percent financial performance decreases by 4.1 percent when all other factors are held constant.

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