THE EFFECT OF SELECTED MACROECONOMIC VARIABLES ON EARNINGS MANAGEMENT: A CASE STUDY OF CO-OPERARIVE BANK OF KENYA.

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DECLARATION

I hereby declare that this dissertation entitled "THE EFFECT OF SELECTED MACROECONOMIC VARIABLES ON EARNINGS MANAGEMENT: A CASE STUDY OF CO-OPERARIVE BANK OF KENYA" has not been previously submitted and accepted by this or any other university for the award of a degree. This research project contains, to the best of my understanding and belief, no material previously published or written by another author, except where due reference is made in the thesis itself.

Mungai Naomi Wacuka.

Approval

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ABSTRACT

There has been a rise in the cases of big companies losing their upward trajectory and eventually falling off the market space. Industry reports have shown that most of the big companies that were flourishing have now lost their pace and are unable to make profits let alone paying their debt as and when they fall due. This study is aimed at investigating whether the selected macroeconomic variables; interest rates, inflation and money supply have an effect on the choice by managers to manage the earnings of Co-operative Bank of Kenya. A recent study already concluded that banking institutions engage in earnings management therefore the main aim of this study is to investigate the possible effects that these selected macroeconomic variables have on earnings management in the bank. This study focused on a descriptive research design. The company the study is Co-operative Bank of Kenya that is one of the banks listed on the Nairobi Securities Exchange (NSE). This study used secondary data from the financial statements and financial reports and notes of Co-operative Bank to gather the required data. Regression modelling was used by using a regression equation to evaluate the strength of the independent variables through the multi-collinearity diagnostic test. The regression analysis of the total current accruals (constant) and the other independent variables indicated a weak relationship between the independent variables and earnings management. This concluded that there could be other factors that affect the decision of managers to manage the earnings in Co-operative Bank Limited other than the factors considered herein.

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ABBREVIATIONS AND ACRONYMS

FIFO	First in First Out
LIFO	Last in First Out
IFRS	International Financial Reporting Standards
VIF	Variance Inflation Factor
NSE	Nairobi Securities Exchange
INT	Interest rate
INF	Inflation
MS	Money Supply
NASI	Nairobi All Share Index

DEFINITION OF TERMS

IFRS	A set of financial reporting standards developed in 2010 (IASC, 2010)
REM	The alteration of the real business transactions of the company. (Roychowdhury, 2006)

CHAPTER ONE: INTRODUCTION

1.1 Introduction

Earnings refer to a company's profits in a given financial year and it can be expressed quarterly, semi-annually or annually. Earnings therefore direct the allocation of resources in capital markets. This also affect the stock prices of the company and therefore they are prone to manipulation. Earnings management is the failure of the management to report the true short-term, value maximizing earnings of the company such that is does not represent the true position of the company. This alters the information that is available to the general public who subscribe to the shares of the company. There are various accounting standards in place that have been implemented to ensure that firms in different parts of the country can adhere to the accounting rules that have been placed. In Kenya, there is the International Accounting Standards (IAS) that have been implemented since 1973 but was later replaced by a more efficient and effective body, IFRS (International Financial Reporting Standards) that was adopted in 1999. This was done with the aid if the Institute of Certified Public Accountants of Kenya to ensure that the accounting Act was adhered to. Some of the macroeconomic variables that can be examined to find out whether they have an effect on earnings management may include: interest rates, inflation and money supply. This could therefore lead the manipulation of stock prices since the company is not earning what is being portrayed. One of the biggest scandals that involved earnings management involved Enron Corporation. Enron was considered one of United States' biggest and innovative corporation for its massive sales. The lack of true and fair representation by the management about the financial performance of the company is the reason for the downfall of such an industry giant.

1.2 Background of the Study

Management of earnings is not discussed very much, particularly in Kenya. This is because the general public subscribe to the shares of these particular companies and falsifying the reports, earnings and the disuse of the required international accounting standards and or International Financial Reporting Standards, could mislead the public into buying stock in a "profitable" company which is technically not profitable. There are three forms of earnings management, including: a) Real earnings management deals specifically with the shift in the underlying businesses in an attempt to improve current period earnings. Janin (2000) states that the control of real earnings requires real business processes that have a direct effect on operating cash flows. (Ewert & Wagenhofer, 2005) defined real earnings management changes or structuring of real business activities. This may involve altering the level of discretionary expenditures such as Research and Development. There are three types of real earnings management, they include; Sales manipulation, overproduction and abnormal reduction of discretionary expenditures. Sales manipulation as the word suggests involves increasing sales which can be attributed to discounted prices or overproduction. (Roychowdhury, 2006) describes sale manipulation is as accelerating the timing of sales by increased price discounts or more lenient credit terms and/or producing additional unsustainable sales. Overproduction, in economics, can be defined as the oversupply of a particular good over its demand. This is mainly to increase the production while trying to reduce the cost of goods sold. With overproduction levels, fixed costs are spread over a large number of units produced therefore lowering the fixed costs per unit of product.

Abnormal reduction of discretionary expenditures, some discretionary activities involve research and development costs, advertising costs among others. Generally a reduction in expenses increases the income for that financial year, therefore reduction of the discretionary expenditures will result in increased earnings for the period. (Dechow & Sloan, 1991) find that CEOs reduce spending on research and development towards the end to increase their short-term earnings. Accrual earnings management involves the recording of accruals as prepayments to manipulate earnings. This involves the manipulation of the set of accounting standards to increase the earnings of the company. There are two types of accrual earnings management, they include: Non-discretionary accruals and these are factors outside the control of managers for instance; economic growth, electricity bill. The other type of accrual earnings management is discretionary accruals which involves factors that are under the control of management and therefore can be manipulated. This, however, is different from real earnings management (REM) as it involves the accounting standards while REM involves the operating activities of the entity. The main difference between the two types of earnings management is that the decision to use real earnings management has to be made early in the year/ during the year while accrual management occurs past the year. That is real management is ex ante and accrual management is ex post. Earnings management can be detected using various models such as; Healy model, Jones model, DeAngelo model as well as the industry models.

1.3 Statement of the Problem

Different research studies on earnings management have been done across the world. (Tabassum et al., 2013) studied the impact of real earnings management on Subsequent Financial Performance. This is however on way that a company can falsify their financial statements. There are other ways in which companies can carry out earnings management which haven't been mentioned in any research. In Kenya, a few research studies have been done involving earnings management for instance; (Mwangi et al., 2015) the effect of earnings management on corporate governance. However, this study focuses on a specific company, Co-operative Bank Limited, that is listed on the NSE, to find out the effect of selected macroeconomic variables on the engagement of earnings management in the bank.

Earnings management is not a topic that is often discussed in developing countries like Kenya but some companies in the country might be practicing it for their own benefit. Earnings management is carried out by the management of the company for various reasons. Some of the reasons why managers manage earnings are: To have a positive effect on stock prices by meeting the earnings standards of the market, to raise management incentives based on earnings or stock price, to receive debt funding at a lower cost by looking more profitable or less risky and to influence the outcome of transactions that affect corporate power, such as repurchases of shares, initial public offers (IPOs), takeovers among others.

This study is being done to find out the effect of selected macro-economic variables on earnings management in Co-operative Bank of Kenya which is one of the companies listed on the NSE under banking institutions. Therefore, it's set to investigate how the interest rate cap affected the bank during that period and also after the interest rate cap was repealed. This is to find out whether the bank was carrying out earnings management during this period therefore having changes in their stock prices which can affect investor decisions to invest in their company.

1.4 Research Objectives

1.4.1 General Objective

1. To find out the effect of selected macroeconomic variables on earnings management in Co-operative Bank of Kenya.

1.4.2 Specific Objectives

2. To investigate the effects of interest rates on earnings management in Co-operative Bank of Kenya.
3. To establish the effects of the inflation variable on earnings management in Co-operative Bank of Kenya.
4. To find out the effects of money supply on earnings management in Co-operative Bank of Kenya.

1.5 Research Questions

1. What are the effects of interest rates on earnings management?
2. What are the effects of inflation variable on earnings management?
3. What are the effects of money supply on earnings management?

1.6 Scope of the Study

The scope of this research study is as under functional scope. This study is to analyze the effect of selected macroeconomic variables on earnings management in Co-operative Bank of Kenya. This study is set to take a total time span of one academic year. The time period that will be selected by the researcher is from 2014- 2019. This has been specifically chosen to identify the effect that the interest rate cap had on earnings management in the bank. This is to show the comparison before the interest rate cap was implemented between 14th September 2016 and November 2019.

1.7 Significance of the Study

This study is set to investigate the effect of selected macroeconomic variables (interest rate, inflation and foreign exchange rate) on earnings management in Co-operative Bank of Kenya. In a study done by (Wasike, 2014), there was an indication of earnings management being carried out in a selection of 8 banks that are listed NASI (Nairobi All Share Index) also known as the Nairobi Securities Exchange(NSE). Earnings management is occasionally pointed out in a negative way so that its effect is linked to corporate governance (Abdallah, 2018). This can be justified by looking at the numerous studies that have been done to link earnings management with corporate governance as it affects it adversely. Companies with weak corporate governance are more vulnerable to managerial opportunism and benefit management can be detrimental to the value of the business. (Tangjitprom, 2013)

This study is set to help policy makers, the Capital Markets Authority (CMA) in formulating efficient and effective policies, rules and regulations that need to be adhered to by the companies that are listed on NSE which will also inform the banks that have been practicing earnings management. This is important, especially now, because of the different changes facing organizations and businesses today due to the pandemic (COVID-19). This is because it will be likely to cause inflation and companies will tend to engage in earnings management to try and curb the effects that may come with inflation.

Lastly, this study is set to add to the pool of knowledge for any researcher who is interested in this field of study. This may be important because there are few studies that have been done on how macroeconomic variables can have an effect on the companies that are engaging in earnings management.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter is going to look into the various literatures that will guide this research study. First, it looks into the various studies that have a contribution to the research study being carried out. This will explain extensively how the research topic is related with the studies that are going to be covered herein. Second, it takes a look into the variables in question and how they are related. This helps to show the correlation of the variables in the research topic. Lastly, it sets to look into the research gaps that are present in other literatures and is to be addressed in this study.

2.2 Theoretical Review of Literature

2.2.1 Agency Theory

Earnings management can be attributed to the management of earnings by the managers of a company. Managers can choose to engage in either real EM or accrual EM by gauging which one suits the company the most. As stated, real earnings management involves the manipulation of the operating activities of the company which can be done mainly through sales manipulation or overproduction while accrual earnings management deals with the International Accounting Standards that are put in place or GAAP that is used in the US (Jiraporn et al., 2008). Earnings management can be viewed by the managers as an opportunistic behavior that can deceive the shareholders of the company on the firm's value. This can be done so that they can receive bonuses, promotions and other incentives in their lines of business. The agency theory has to main parties, that is: a) The principal who is the owner of the reserve/asset and or company and controls how the asset will be managed and b) The agent who is appointed by the principal to run and or manage the asset/company with the responsibility of accounting to the principal on how they have used the asset. The main types of agency relationships include: a) the relationship between the shareholders and management, the shareholders are the owners of the company and therefore implies that they are the principal. b) the managers are the people who are appointed by the shareholders to manage and or run the company thus having the responsibility to account to the shareholder on how they have managed the business by preparing annual financial report that are indicative of the firm's value and financial performance in the market. This shows how the managers play a key role in the determination of the company's performance as they are responsible for the day to day running of the business. Throughout the running of the business, agency conflicts may arise where the agent pursues their own interest as opposed to the agreed-upon objectives that were set out by the principal. This brings about the concept of agency costs that was defined earlier. Therefore, if managers use earnings management only opportunistically, businesses with more extreme agency costs should have a higher degree of earnings management (Jiraporn et al., 2008). This means that in the firms where agency conflicts primarily between the shareholders and the managers is seen, managers are said to engage in earnings management thus the extent of earnings management is positively related to the gravity of agency conflicts. (Jiraporn et al., 2008), On the contrary, the object of earnings management may be to transmit private information and thus improve the content of information that may be beneficial to shareholders. This clearly shows that earnings management can take two sides of either being opportunistic thus managers gain private benefits through it or it can be beneficial to the shareholders where private information is being conveyed to them thus enabling them to respond to the information set out to them.

2.2.2 Catering Theory.

The catering theory is a theory in finance that is more inclined to dividends in which the decision to pay dividends is based on the investor demand. The catering theory takes into consideration that there is a possibility that the investor's demand can be affected by sentiment. It also focuses largely on the investors demand for shares that often are linked to payable dividends. The shareholders who invest their money in the company could possibly be waiting for the dividends that are paid out at year end. Earnings management is often described through the manager's opportunistic view in that the managers will receive private benefits after engaging in earnings management although different research studies have showed that earnings management can be beneficial to the shareholders in cases where the managers are trying to disclose confidential information to the shareholders. This, however, might not be the case for all instances where managers have thrived in earnings management that may cause the company to fall. Investor preference on earnings will have a larger impact on the prices of smaller stocks and the ones that have subjective valuations. Since the investor demand is mostly driven by sentiment and the investor wants to invest in dividends that earn profits, the managers can engage in earnings management in different ways such as; discretionary accruals in stocks that are likely to be sensitive to the investor demand. This might be done for the benefit of both the shareholder and the managers. For investors who are arbitrageurs, they tend to take advantage of some loop holes that are available in the market for their own benefit and to increase their profits through dividends (Rajgopal et al., 2007). The loop holes might be existing due to managerial functions since they are doing things differently with those in that market and certain loop holes were created. For investors who are for reward positive earnings surprises, they buy stocks that they think will deliver maximum profit or higher earnings and they sell the stocks that the think will not deliver the best earnings for them. Therefore, confirming the statement that; with the catering theory, the investor demand for stocks is highly determined with their sentiments and the earnings that they generate. In this theory, managers can be thinking of catering to the earnings demand. Managers are responsible for the short-term determination of the prices as well as the long-term determination although this might be interfered with by their short term and independent benefits. The link between the catering theory and earnings management is through the manager's ability to cater for the investor demands by abnormal accruals that result in the positive reward earnings surprises for the investor/shareholder.

2.3 Empirical Review of Extant Literature

2.3.1 The effect of interest rates on earnings management.

The interest rate capping was implemented on 14th September 2016 and later repealed on November 2019. The Central Bank of Kenya put a maximum lending rate of no more that 4% above the CBK base rate. According to (Munguti, 2015), the interest capping law meant that the lowest interest rate banks can offer on deposits is 70% of the Central Bank rate and the lending rates are above 4% of the Central Bank rate. This should mean that with a Central Bank rate of 10%, the commercial banks will be required to pay an interest of 7% for a savings account and therefore charge the rate of 14% on issuance of loans. This meant that the banks had a hard time in getting revenues through loans since the interest rate cap has been implemented to reduce the cost of credit to their customers. Since banks suffer low profits through the capping of interest rates, investors sell overvalued stocks when it is speculated that share values will collapse in the future in order to prevent any losses.

2.3.2 The effect of inflation on earnings management.

In economics, inflation is the continuous improvement over a time in the value level of an economy's goods and services. Each part of the currency purchases less goods and services as the value point rises; thus, inflation represents the decline in purchasing power per currency unit -the loss of true value in the system's medium of exchange and unit of account. The primary indicator of inflation costs is the inflation rate, the annualized percentage difference in the national price index, typically the index of consumer prices over time. This may cause a company to engage in earnings management to ensure that they are earning relatively the same number of profits than before. This also has an effect on the stock prices therefore affecting the investor decisions based on the reported stock prices.

2.3.3 The effect of money supply on earnings management.

The provision of money refers to the entire reserve of a country's economy in currencies and other liquid instruments. The narrow aspect of money can be classified as M0 and M1 includes; notes, coins and other money equivalents that can easily be converted to cash. The broad aspect of money on the other hand (M2, M3, M4) may include other variations of long-term less liquid bank deposits. These should be aspects that can be converted to cash. There exists two aspects about excess cash: one is an opportunity cost (Opler et al., 1999) and the other is private benefits (Jensen, 1986). Excess cash can reduce the rate of return on investment and lead to the self- interest behavior of controlling shareholders in a firm. According to (Thenmozhi et al., 2019), managerial opportunism will be less for firms that are transparent and safeguard shareholder rights. In an emerging economy like China, where there is weak investor protection and corporate governance, there’s a possibility that controlling shareholders will use excess cash for their own benefits by manipulating the financial statements. This therefore concludes that excess cash holding leads to earnings management. This study investigates whether Co-operative Bank of Kenya had excess cash that led to the engagement in earnings management by the managers of the Bank.

2.4 Research Gap(s)

There are various research studies that have been done in relation to earnings management, although most of the studies have not focused on the effect that macroeconomic variables have on earnings management for financial firms in the banking industry. This study is conducted for a specific company that is listed on the Nairobi Securities Exchange, Co-operative Bank limited, to see the effect that the interest rate cap had on the management decisions to manage earnings during that period and how other macroeconomic variables had an effect on the earnings and change on the stock price during the period.

2.5 Conceptual Framework

A diagrammatic representation of the variables in the analysis reveals the conceptual framework. In this study the independent variables are interest rates, money supply and inflation and the dependent variable is earnings management.

This is illustrated in Figure 2.1 below.

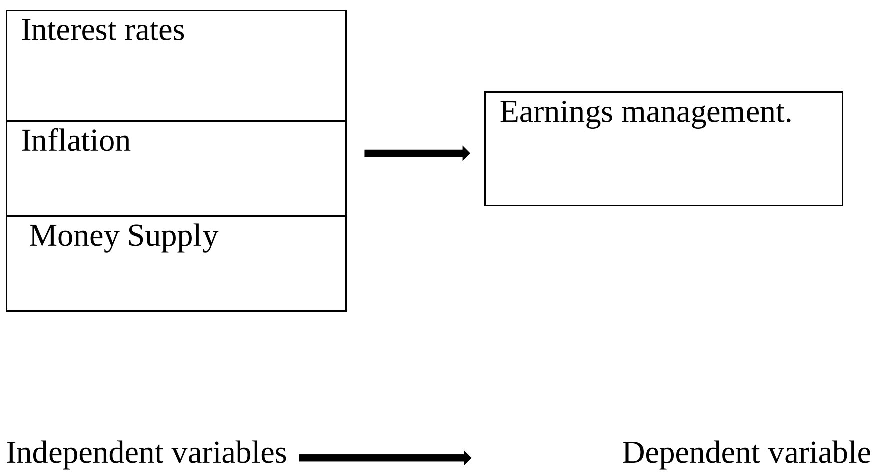


Figure 2.1: Conceptual framework

2.5.1 Discussion of the Variables

There are three variables in this study namely; interest rate, inflation and money supply (the selected macroeconomic variables to be used in this study). Consistent with my earlier discussion, earnings management can be described as the falsifying of the company's financial reports and therefore misrepresentation of the company's earnings. Interest rate can affect the choice of a company engaging in earnings management in that it affects the profits the company is generating when the Central Bank of Kenya imposes interest rate caps on the bank's services. Inflation is the continuous improvement over a time in the value level of an economy's goods and services. This could influence the management's choice to engage in earnings management in order for the company to increase profits through the manipulation of the stock prices that in turn yield more profits for the company thus being able to curb the effect that inflation has by reinvesting the profits back to the business. This will create a false image to investors and other third parties that are likely to invest in the company since their stock prices have been manipulated. Money supply involves the currency in a country's economy as well as how the money is distributed in the economy. The Central Bank of Kenya regulates how the money in a country is distributed. Excess money in a given period of time would reduce the return on investment for the investors. In this study, interest rates, inflation and money supply are the independent variables that could be affecting the dependent variable, earnings management through the analysis of the total current accruals in a company. If the managers of the company participate with an opportunistic mind in earnings management, the operations of the company are interfered with and thus, in most instances, the recorded income is overestimated. The management engages in earnings management independently without any insight from the shareholders but the action might benefit the managers, shareholders or even both. The engagement of earnings management by managers can be done to avoid the adverse effects that come with factors such as interest rate caps that will have an adverse effect on the profits on the company therefore a company may falsify the financial statements to look more profitable to the investors.

2.6 Summary of the Chapter

This chapter gives evidence from existing literatures that investor demand is driven by shares that are backed up by payable dividends. This means that the stock price is greatly considered by the investors as well as the third parties involved. Firstly, a change in the stock price due to falsification of the company's accounts can affect the investors decision and therefore could lead to few investments (if the investors and third parties find out about the false presentation of the financial statements as well as the stock prices). Lastly, since excess cash in an economy leads to a reduced return on investment for the shareholders of a company, there is a high likelihood that managers can engage in earnings management to ensure that they try to serve the best interests of the shareholders which is shareholder wealth maximization. This, however, may be done through the falsification of the company's accounts to generate more revenues for the shareholder as well as for the managers themselves.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter encompasses the research methodology that was used in the research study. It shows the steps that were used to solve the research problem that was highlighted. This chapter therefore involves the research design, population and sampling, the data collection methods that were applicable in this study, data analysis from the data collected, research quality and also including the ethical issues that are raised in research.

3.2 Research Design

A research design is used to coordinate the research study and clarify how all major parts of the research study work together to address the research questions in the study and hence the research issue, including the sample, interventions, and assignment methods. This therefore gives an experienced investigator sufficient and reliable information to replicate the study. This study takes the approach of a descriptive research design that ensures that data collection is carried out effectively to respond to the research problem. The data will be collected from the audited financial statements and notes for Co-operative Bank of Kenya. Descriptive research designs give an in-depth view of the research study, the selected macroeconomic variables and the effect it has on earnings management in Co-operative Bank.

3.3 Population and Sampling

The target population of this study was the Co-operative Bank of Kenya that is among the eleven (11) commercial banks listed on the NSE as at 31st December 2016. This period has been chosen since it encompasses the time the Central Bank of Kenya (CBK) implemented the interest rate cap on all the commercial banks listed on the NSE.

3.4 Data Collection Methods

This study mainly focuses on secondary data collection from other studies that have been done. In this study, the measurement of earnings management was done through the measuring of the discretionary accruals using (Dechow et al., 1995) models of calculation. He looked into comparing the mean cumulative accruals in the partitioning variable of earning management, by using the Healy model. In this study, the variables are the selected macroeconomic variables that include: money supply, inflation and interest rates. (Wangui, 2017) also focused on how earnings management influences the financial performance of a firm through practices such as revenue management, expense management and asset and liability management in organizations. This study will analyze the impact on earnings management of interest rates, money supply and inflation, especially the time between when the interest rate limit was introduced and when it was repealed.

This study will focus on a time period before the interest rate cap was imposed by the Central Bank of Kenya to when it was withdrawn. This is to find out whether, during that period, the companies have been engaging in earnings management and if so, the variables that led to the management practicing earnings management. This study will focus on three selected macroeconomic variables that include; Money supply (MS), inflation and interest rates

3.5 Data Analysis

Data analysis is the processing of the collected data to get meaningful information from it (Saunders et al., 2000). This therefore depicts that the data collected is analyzed to give the study as solution to the gap that was there initially. Descriptive statistics is used to describe the population and sample size characteristics numerically and hence more precisely in accordance to (Saunders et al., 2000). Inferential statistics will be used to determine the relationship between the variables in the study. The regression analysis will therefore be used to determine the effect that interest rates, inflation and money supply have on the decision to manage earnings by the management of a company.

This study will use the model (Dechow et al., 1995) earnings management tool that is based on accruals. Therefore;

ACCRUAL = (ΔCA-Δ Cash) - (ΔCL - ΔSTD - ΔTP) - DEP.

Where-;

ΔCA = Change in Current Assets.

Δ Cash=Change in Cash/ Cash equivalents.

ΔCL= Change in Current Liabilities.

ΔSTD= Change in Short-Term Debts included in Current Liabilities.

ΔTP= Change in Income Taxes Payables

DEP= Depreciation and Amortization Expense.

The Regression equation will be modeled as follows;

$$E.M= (\beta_0+\beta_1 I+\beta_2 INF+\beta_3 MS+\varepsilon)$$

Where-: E.M is the current accrual variable representing Earnings Management.

β represents each variable's parameters

ε is the error term representing variations in the dependent variable not explained by the independent variables.

INF= Inflation.

I = Interest Rate.

MS= Money Supply

3.6 Research Quality

This can be determined through the validity and reliability of the data collected. Validity can be described as the degree to which the researcher, in the first place, calculates what he wanted to measure. (Mugenda & Mugenda, 2003) explains validity as the degree to which the results that are obtained from the data analysis represent the subject under study. Internal validity can be assured in both the quantitative and qualitative data. Some tests can be done to ensure the validity of the data such as pilot testing among others. On the other hand, reliability requires a state in which a measurement process generates reliable scores over repeated measurements. A research study is reliable if the same researcher would get the same results if he/ she did the same study in a different time.

3.7 Ethical Issues in Research

Ethical issues/ considerations in research are the steps the researcher takes to protect the confidentiality of the participants during the data collection process. Some of the ethical issues that needed to be addressed were in the data collection process. This study mainly focused on secondary data therefore making all the efforts to reference the work of the individuals and ensuring that they were all valid. This was one of the ethical considerations that were taken into place to ensure that this study is valid and uses reliable information to resolve the research problem.

CHAPTER FOUR: PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

This chapter explains the research findings that were found in the data analysis process while also looking at the descriptive statistics as well as the correlation analysis that have been done to find out the relationship between earnings management and the selected macroeconomic variables. It will also look into the correlation analysis to find out the strength of the relationship between the quantitative variables at hand.

4.2 Diagnostic tests

4.2.1 Multicollinearity test.

A multicollinearity test is done to show the strength of the various independent variables in the study and therefore to show how and/or if they are related. This test can be done by the identification of the variance inflation factor (VIF). The variance inflation factor assesses how much the predictors are associated; the variance of an expected regression coefficient increases. The VIFs would all be 1 if no variables are associated.

Below is the simple linear regression that was carried out in order to derive the variance inflation factor. It calculated the VIF as 1- (1/ R-Square). Therefore, the variance inflation factor for the independent variables are as follows: Interest Rate: 1.12, Inflation: 1.56 and Money Supply: 1.74. Since the variance inflation factors are close to 1, the multicollinearity is not a problem and therefore the independent variables show correlation

Regression Statistics	
Multiple R	0.934804
R Square	0.873859
Adjusted R Square	0.369294
Standard Error	1682217
Observations	6

Table 4.1 Regression Statistics

4.3 Descriptive statistics

Descriptive statistics are used to explain the fundamental characteristics of the data in a study. They provide the sample and the steps with simple summaries. They form the foundation of, along with simple graphics analysis, practically every quantitative data analysis.

The table below indicates the output of the descriptive statistics generated for each variable that affects earnings management. The lowest mean being the current accruals and the highest being money supply. In terms of the standard deviation derived from the descriptive statistics, current accruals have the highest standard deviation while interest rate is having the lowest.

Table 4.2 Descriptive Analysis

	Mean	Standard deviation
Current Accruals	-7162354	19150334.53
Interest Rate	8.424667	0.514389
Inflation	152.2	25.33827
Money Supply	2303.737	393.9559

4.4 Correlation analysis

The correlation analysis illustrates the association between the independent variables and the dependent variables concerned. In this study, the dependent variable is earnings management and the independent variables being investigated to see the effect they have on the dependent variables are interest rates, inflation and money supply in the country.

Table 4.3 Correlation analysis

	N. I	*T. A*	*INT*	*INF*	*MS (M3)*
N. I	1				
T. A	0.050697297	1			
INT	-0.825752307	0.196941512	1		
INF	-0.145749743	-0.191802932	-0.284722713	1	
MS (M3)	0.885831302	-0.150998383	-0.85648087	-0.129983456	1

The correlation analysis above indicates that there is a weak relationship between the macroeconomic variables and earnings management represented by the negative Pearson correlation coefficient (r).

4.4.1 Regression analysis

A simple regression analysis was used to analyze the data collected from the financial statements and documents of Co-operative Bank of Kenya. This helps to assess the prediction of the ANOVA (Analysis of Variance)

Below is a table showing the analysis of variance and the significance level. Beyond the 0.01 mark, the regression is not significant: ($p>0.05$). i.e., not meaningful.

Table 4.4 Regression Analysis (ANOVA)

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	1.96041E+13	4.90104E+12	1.731904621	0.510345214
Residual	1	2.82985E+12	2.82985E+12		
Total	5	2.2434E+13			

Do all the independent variables contribute significantly to the predictive strength of the equation for regression? The magnitude of their regression is answered by looking at; the table below, the coefficient. For this clarification, the values of the partial regression coefficients have an effect on the original units in which the variables were measured are expressed. The money supply coefficient is higher than that of the inflation rate so it cannot be concluded that the money supply is a better predictor due to the high coefficient. The below table shows the beta Coefficient and other corresponding statistics of regression.

Table 4. 5 Correlation Coefficient

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	36986918	56090561.94	0.659414283	0.628873017
T. A	0.019629	0.040761431	0.481547432	0.714299764
INT	-2938257	4480365.67	-0.655807317	0.630476048
INF	23442.2	48064.99425	0.48771942	0.711117883
MS (M3)	1425.116	5684.44809	0.250704449	0.843619723

4.5 Multivariate results.

From the discussion above, there’s evidence of a weak correlation between the selected macroeconomic variables in the study; inflation, interest rate and money supply with earnings management in Co-operative Bank of Kenya. The Pearson correlation coefficient calculated with the data was negative therefore showing a weak relationship between the independent and the dependent variables. This could mean that earnings management in Co-operative Bank of Kenya was influenced by a number of other factors not considered herein.

The f-value used to show the significance was 0.5103 and the p-value for this regression was 0.6288. This means that at the 5 percent stage, the regression is not important. The rule of thumb is that if the p-value (sig) is greater than 0.05, the null hypothesis that when faced with an uncertain macroeconomic environment, managers of Co-operative Bank Limited will not engage in earnings management as expected.

On further analysis on the t-values and p-values, it was noted that they were not significant at the 5 percent stage since the interest rate, inflation and money supply t-values were -0.655, 0.488 and 0.251 respectively while the p-values were 0.6304, 0.7111 and 0.8436 respectively.

4.6 Summary of Results

The data analysis shows that the null hypothesis when faced with an uncertain macroeconomic condition, managers are less likely to engage in earnings management as evidenced by the insignificance of the p-values being less than 0.05 at 5%. There is a weak relationship demonstrated by the selected macroeconomic variables (inflation, interest rates and money supply) and earnings management hence showing that there could be other factors that lead to the engagement of earnings management in Co-operative Bank Limited.

The variance inflation factor (VIF) indicated a strong relationship between the independent variables (interest rate, money supply and inflation) although there was a weak correlation between the constant (total current accruals) and the independent variables; interest rate and inflation.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter focuses on discussing the findings that were generated from the data analysis above as well as giving recommendations for further research on such a topic. It also concludes the study indication the limitations that were faced while conducting the research study. It has been broken down to; summary of findings, conclusion, recommendation for further research and lastly the limitations of the research.

5.2 Summary of the Findings

This section presents a description of the results from the data review performed in the previous chapter for each particular purpose under investigation in the research study.

5.2.1 Summary of the effect of interest rate on earnings management.

In the previous part, the regression analysis shows that there is a poor relationship between interest rate and earnings management (total current accruals). This shows that Co-operative Bank's engagement in earnings management could have been influenced by other factors and not interest rate. However, when the interest rate cap was implemented, there was a drop in profits in the company and an increase in profits a year later before the interest rate cap was repealed by the Central Bank of Kenya.

5.2.2 Summary of the effect of inflation on earnings management.

The inflation rate has been increasing from 2014-2019. This could lead to more companies engaging in earnings management to look profitable for the purposes of the investor decision or to debt providers. The data analysis above indicated that the p-value for the inflation variable was 0.7111 thus indicating a weak correlation between inflation and the total current accruals that was used as the dependent variable representing earnings management. Co-operative bank managers didn't engage in earnings management as a result of the increase in inflation rate that was measured using the consumer price index from the Kenya National Bureau of Statistics.

5.2.3 Summary of the effect of money supply on earnings management.

Money supply is the availability of currency in an economy. Excess cash could lead to a lower return on investment hence encouraging managers of a company to engage in earnings management. An evidence of a higher correlation coefficient from the money supply variable did not indicate that it was the best macroeconomic predictor that it affects how Co-operative Bank engages in earnings management. This was concluded by looking at the t-values and the p-values as they indicated that it was not significant by the values obtained from the regression analysis above.

5.3 Conclusions

In order to consider the intensity of the variables, the correlation coefficient was below 75%, in which 75% is the rule of thumb. This also concludes that there are other variables other than macroeconomic factors affecting the success of earnings management by managers. The organization's corporate governance system may be one of these variables.

Although Co-operative Bank has experienced lower profits throughout the interest rate cap time, Co-operative Bank Limited's management cannot achieve much in an effort to protect the banking institution from volatility in the company's macroeconomic environment through earnings management.

By looking at the predictive power of the regression equation, the researcher finds that the inflation, money supply and interest rate independent variables have a low significant f-value of 0.51, which is not significant/important at 5%, thus showing a semi-strong to weak relationship between these variables.

5.4 Suggestions for Further Research

The regression analysis indicated a weak correlation between the selected macroeconomic variables (interest rate, inflation and money supply) and the engagement of earnings management by the management of Co-operative Bank of Kenya. (Wasike, 2014) noted that the companies in the banking industry listed in the NSE engage in earnings management therefore indicating that there are other factors that motivate/ influence the management to engage in earnings management.

More research can be done on earnings management in Kenya and more so reviewing other factors that can have an effect on earnings management. These factors could include; the board size, CEO ownership, Institutional ownership, board independence among other factors that deal with the corporate governance of an institution as evidenced by a semi-strong relationship by (Bulle, 2014). Other studies can also review whether foreign exchange rate can have an effect on the earnings management of an institution whether financial or non-financial firms.

5.5 Limitations of the Research

A linear regression approach was adopted by the researcher for this kind of research study on the premise that there is a linear relationship between earnings management (current accruals) and the macroeconomic variables used in the research study. It evidenced a weak correlation coefficient therefore indicating that the earnings management carried out in Co-operative Bank could be influenced by other factors that have not been considered herein.

REFERENCES

Bulle, M. K. (2014). The Effect Of Corporate Governance On Earnings Management Of Companies Listed At The Nairobi Securities Exchange. 49.

Dechow, P. M., & Sloan, R. G. (1991). Executive incentives and the horizon problem. Journal of Accounting and Economics, 14(1), 51–89. https://doi.org/10.1016/0167-7187(91)90058-S

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting Earnings Management. American Accounting Association, Vol. 70(No. 2), 193–225.

Ewert, R., & Wagenhofer, A. (2005). Economic Effects of Tightening Accounting Standards to Restrict Earnings Management. The Accounting Review, 80(4), 1101–1124. https://doi.org/10.2308/accr.2005.80.4.1101

Jensen, M. C. (1986). Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. American Economic Association, Vol. 76(No. 2), 323–329.

Jiraporn, P., Miller, G. A., Yoon, S. S., & Kim, Y. S. (2008). Is earnings management opportunistic or beneficial? An agency theory perspective. International Review of Financial Analysis, 17(3), 622–634. https://doi.org/10.1016/j.irfa.2006.10.005

Mugenda, O. M., & Mugenda, A. G. (2003). Research Methods, Quantitative and Qualitative Approaches.

Munguti, S. (2015). The impact of interest rate capping on the stock returns of Commerial Banks listed at the Nairobi securities exchange. 56.

Mwangi, D. M., Iraya, C., & Wanjohi, G. (2015). The Effect Of Corporate Governance Practices On Earnings Management Of Companies Listed At The Nairobi Securities Exchange. 10.

Opler, T., Pinkowitz, L., & Williamson, R. (1999). The determinants and implications of corporate cash holdingsଝ. Journal of Financial Economics, 44.

Rajgopal, S., Shivakumar, L., & Simpson, A. V. (2007). A Catering Theory of Earnings Management. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.991138

Roychowdhury, S. (2006). Earnings management through real activities manipulation. Journal of Accounting and Economics, 42(3), 335–370. https://doi.org/10.1016/j.jacceco.2006.01.002

Saunders, M. N., Lewis, P., & Thornbill, A. (2000). Research Methods for Business Studies (Second). FT Prentice Hall.

Tabassum, N., Kaleem, A., & Nazir, M. S. (2013). Impact of Real Earnings Management on Subsequent Financial Performance. Middle East Journal of Scientific Research, 17(4), 9.

Tangjitprom, N. (2013). The Role of Corporate Governance in Reducing the Negative Effect of Earnings Management. International Journal of Economics and Finance, 5(3), p213. https://doi.org/10.5539/ijef.v5n3p213

Thenmozhi, M., Saravanan, P., & Sasidharan, A. (2019). IMPACT OF EXCESS CASH ON EARNINGS MANAGEMENT AND FIRM VALUE: EVIDENCE FROM CHINA. Corporate Ownership & Control, 17(1), 245-254.

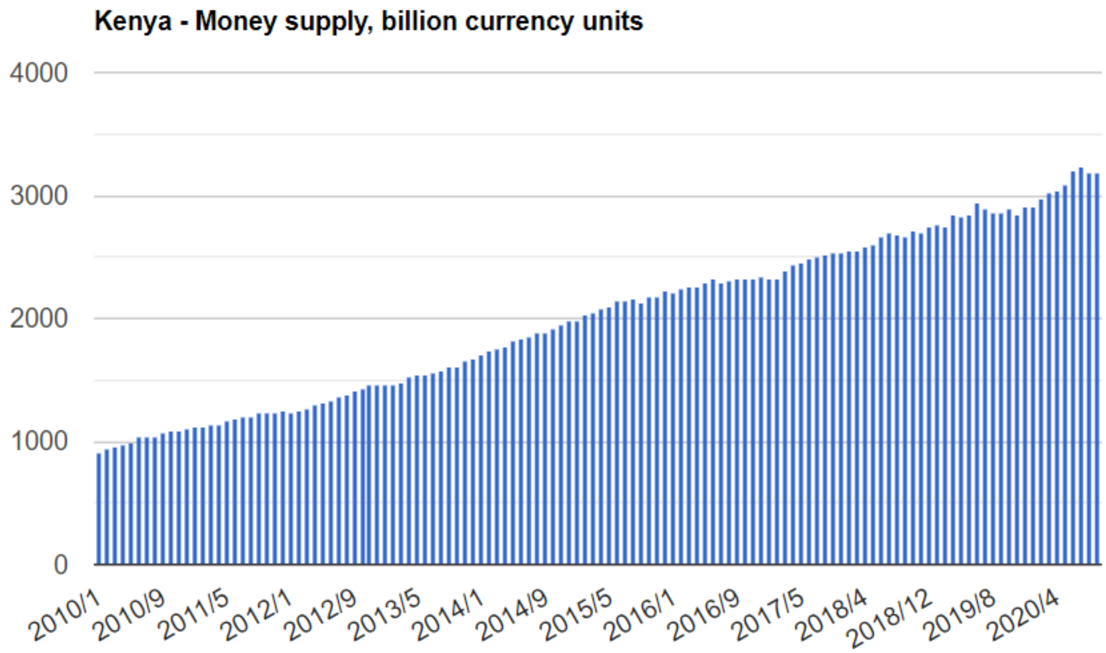
Wangui, N. M. (2017). EARNINGS MANAGEMENT AND FINANCIAL PERFORMANCE OF LISTED NON FINANCIAL FIRMS IN NAIROBI COUNTY, KENYA.

Wasike, M. N. (2014). Study of relationship between Earnings Management and Corporate Governance Case: Nairobi All Share Index Banks.

APPENDICES

Appendix 1: Co-operative earnings graph during the interest rate cap period.

Appendix 2: Kenya's money supply graph over the last 10 years.



Measure: billion Kenyan Shilling
Source: Kenya National Bureau of Statistics

Appendix 3: Consumer Price Index Value in Kenya for the last 10 years.

Data	Value	Change %
2019	190.6	5.23
2018	180.5	4.69
2017	172.4	8.01
2016	159.6	6.3
2015	150.2	6.58
2014	140.9	6.88
2013	131.8	5.72
2012	124.7	9.38
2011	114	14.02
2010	100	3.96

Source: Kenya National Bureau of Statistics.

Appendix 4: Total current accruals of Co-operative bank of Kenya from 2014-2019.

Years	T.C. A
2014	- 6,244,813
2015	- 18,456,274
2016	27,313,501
2017	- 9,699,925
2018	- 29,728,898
2019	- 6,157,715