EFFECTS OF MONETARY POLICY RATE ON INTEREST RATE AND LEVEL OF CUSTOMER BORROWING

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THIS LONG ESSAY PRESENTED IS SUBMITTED TO THE UNIVERSITY OF GHANA LEGON IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN ACCOUNTING AND FINANCE

AUGUST, 2019
DECLARATION

I the undersigned hereby declare that this Long Essay is the result of my own original work towards the degree of Master of Science in Accounting and Finance and that no part of it to the best of my knowledge has been presented for another degree in this university or elsewhere except where acknowledgement has been made in the text.

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CERTIFICATION

I hereby certify that this long essay was supervised in accordance with the procedures laid down by the University.

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DEDICATION

I devote this project to Almighty God for Bestowing on me the grace, favour, opportunity and making this project a success. I dedicate this work also to my family especially my parents, Mr. Samuel Kofi Adu (late), Deaconess Comfort Yaa Asor, Mr. Nimako Siaw Richard and Mr. Adu Reynolds Addo and to all sundries whose names could not be mentioned for their profound love and support throughout my stay in school.
ACKNOWLEDGEMENT

I express my heartfelt gratitude to God Almighty for giving me the grace to commence and complete this thesis successfully. Appreciation and gratitude goes to my supervisor, Dr. Cletus Agyenim Boateng, whose awesome supervision coupled with his constructive criticisms have helped reshaped the entire work.

This project would not have been successful without the support and assistance of the following Deaconess Comfort Yaa Asor, Mr. Nimako Richard Siaw, Mr. Adu Reynolds, Ms. Mary Boamah, Ms. Beatrice Oppomeah, Mrs. Vida Adjeiwa and Mr. Alexander Akyeampong Boateng whose encouragement and support in diverse ways brought my goal of climbing higher on the academic lather to fruition.

I am also thankful to all my lecturers and colleague students for their guidance, critics and sustenance which has helped me come this far. Even though the research is centered largely on the result of my study, I have obtained a great deal of guidance from a wide range of personalities, books and publications, the sources of which are acknowledged in the text.
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ABSTRACT

The study sought to investigate the effects of monetary policy rate on interest rate and level of customer borrowing in the banking industry with evidence GCB Bank from 2013-2017. The study outlined some specific objectives such as; to assess the effects of Bank of Ghana’s Monetary Policy Rate on lending rate of GCB Bank and to assess the effects of lending rate on the level of customer borrowing at the GCB Bank. The study also measured the impact of external factors such as inflation rates and GDP growth rate on the banking sector.

The study adopted the quantitative approach to research. The study used descriptive and cross-sectional designs. The data was sampled from financial statements of GCB bank, the BoG fact file and Ghana statistics Service for the period under review. A regression analysis (Ordinary Least Square Method) was conducted to test the effects, relationship and significance of the level of customer borrowing, lending rates and policy rates. Results were mainly presented in charts and tables. The study found a strong effects and significant association between BoG’s policy rate and GCB bank lending rates at P<0.05. Also lending rates have a negative influence on the level of customer borrowing. Inflation rates have a negative influence on client borrowing. This project concludes that monetary policy rate and lending rate can affect level of customer borrowing.
CHAPTER ONE

INTRODUCTION

1.1: Background of the study
Monetary policy has been defined by (Gertler & Gilchrist, 1993) as monetary tools used by the Central Bank of a country to achieve its set objective of regulating liquidity or interest rate. According to (Abor, 2004), commercial banks serve as intermediaries between customers and the central bank by borrowing at the prevailing policy rate and in turn lending it to individuals and organizations.

The central Bank (BoG) Monetary policy has undergone some transition; over the past decades from the earlier times of direct monetary controls to the time where monetary policy operates under a liberalized environment. Not until 1983, where the central bank worked with direct controlled monetary system, this period involved mainly a dependence on direct monetary support instruments which imposed ceiling on commercial bank’s lending. The commercial banks’ interest rate had to be in line with the central bank’s macroeconomic targets (Khandkar, 1995).

There was an urgent need for the direct control system to be replaced with the current liberalized monetary system, since the direct control system proved to be ineffectives. The central bank (BoG) uses indirect instruments such as the Prime rate as a tool for guaranteeing solidity of the economy during the implementation of the liberalization system. (Kwakye, 2012).

According to (Diamond, 1984), Individual customers and businesses rely on commercial banks to finance projects that their saving is not enough to support. Regardless of the fact that other options are available to these customers, majority of them still rely on bank loan as their principal source of credit to fund their projects. Loans from banks attract interest because the banks also borrow
from the central bank. What this simply means is that as the central bank’s prime rate goes higher, the higher the financial institutions’ loan rate and vice versa.

Monetary policy rate means the borrowing rate of which financial institutions borrows from the apex bank (BoG). The BoG’s monetary policy rate serves as control mechanism for setting the interest rates of other markets like wholesale rate (interbank rate and Treasury bill rate) and retail rate (deposit rate and lending rate). The determination of the short term interest rate is made by the Monetary Policy Committee of the central bank from which various commercial banks and other financial institutions also operate with. The interest rate of commercial banks is therefore invariably determined by the BoG’s monetary policy rate. Beyond that, other economic activities in the country are affected by the policy rate that is determined by the Monetary Policy committee. (De Gregorio & Sturzenegger, 1997).

Gertler and Gilchrist (1994) opined that economic activities in a country are impacted by the decisions about the monetary policy committee’s short term interest rate. The effects normally occurs through several channels like the exchange rate channel, interest rate channel etc. which is collectively known as “transmission mechanism”.

According to (Huybens & Smith, 1999), The Monetary Policy Rate (MPR) is used as a substitute for interest rate, since it is officially monetary instrument used mainly by the BoG and as a priced based monetary policy variable. Since commercial Banks borrow at the prevailing Monetary Policy Rate, The Monetary Policy Committee is expected to publicly announce any change in the rate, so as to guide commercial banks in their interest rate decision (Bank of Ghana, 2015).

MPR of the BoG has significant consequences on the availability of funds to borrowers. Although the BoG is not responsible for the general fixing of commercials Banks’ interest rate, the BoG is
indirectly in control of it, since the central bank determines discount rate and any slight change of it can have negative or positive impact on other rates (Kashuliza, 1993).

As the regulator and mother of all banks in Ghana, the BoG is also responsible for recapitalizing commercial banks and also fixing minimum reserves of commercial banks. The commercial banks Minimum Reserve simply means the percentage of deposits commercial banks must be retain as backup. When the central bank makes an upwards adjustment of the commercial banks reserve, the amount of money available to the banks to lend to their customer is reduced. This requirement eventually leads to interest rate increase (Abor, 2004).

According to (Brissimis, 2003), the BoG’s regulations through its open market operations can also influenced the Market interest rates. This could occur through the central bank’s open market operations which have an impact on government securities’ rate, other market rates are also influence by the Open Market operations. Secondly, the level of commercial banks reserve can also be affected by the BoG’s open market operations which could in turn have an adverse effects on rates charged by banks on loans.

The interest rate on a credit facility (loans) is also influenced by increased menace allied with the loan. This is likely to deter customers for accessing loans from commercial banks. The GCB bank is one of the most prestige state-owned banks with a large customer base, spread across all sectors of the economy. Individuals and organizations decision to access a loan is invariably determined by the rate of interest attached. On the other hand interest rate of banks is also determined by the stability of the BoG’s monetary policy rate. The study is therefore envisioned to assess the effects of MPR fluctuation on the interest rate charged on loans given to customers by commercial banks and also how the interest rate charged by the commercial banks affect the level of customer
(individual or organization) borrowing from banks, with special emphasis on GCB. The study will examine the trajectory of the events from the year 2013 to the year 2017.

1.2 Statement of the Problem
The number of commercial banks and financial institutions in Ghana continue to increase day by day. The increase has created a massive competition among these firms. It is expected that this competition of the commercial banks for customers will result in a substantial fall in the lending rate of these institutions, but the contrary is true in the case of Ghana. The effects of this phenomenon is that according (Michael, 1992) discourages both individual who are willing to start their own businesses and the organizations that need loans to expand their businesses from borrowing from the commercial banks.

According to (Musinguzi & Bategeka, 1994) this is one of the major causes of unemployment. They argued that young graduates with entrepreneurial ideas are unable to raise the needed funds from commercial banks to start their own businesses because of the discouraging interest rates of the commercial banks in Ghana.

According to Ghanaian Times edition of 4th October, 2018, Nana Akufo-Addo the president of Ghana, called on the commercial banks to cut their lending rates to customers (individuals and businesses). According to the president, inflation rate has over the last 21 months decline from 15.4 percent in 2016 to 11.8 percent in December 2017, and currently at 9.9 percent while the monetary policy rate had fallen from 25 percent to 17 percent, yet lending rates still remained high, averaging between 31.7% and 29.3% within the same period.

Michael (1992) argued that high interest rate leads to an upturn of non-performing loans at the commercial banks and discourages borrowing. The commercial banks also blame the central bank
for the high volatility of its MPR. The instability of the central bank’s MPR also makes it difficult for the commercial banks to maintaining a low lending rate. GCB is one of the oldest and biggest commercial bank with a largest customer base with presence in almost every district in Ghana. The customers of GCB include public service workers, civil servants, students, organization, state owned enterprises etc. The current study seeks to investigate how the BoG Monetary Policy Rate volatility affect the loan rate of Ghana’s arguably biggest bank (GCB) and how the lending rate also affects the level of customers borrowing.

1.3 Objectives of the study
The general objective of the study is to assess the effects of the BoG monetary policy rate fluctuation on interest rate and the level of customer borrowing in GCB bank.

Specific Objectives

1. To assess the effects of the Monetary Policy Rate fluctuation on interest rate of the GCB Bank.

2. To assess the effects of interest rate on the level of customer borrowing at the GCB Bank.

1.4 Research Questions
The following questions represent the research questions for the current study;

1. What is the effects of Monetary Policy Rate fluctuation on interest rate of the GCB Bank?

2. How does interest rate affect the level of customer borrowing at the GCB Banks?

1.5 Scope of the study
This study covered the effects of the BoG monetary policy rate fluctuation on interest rate and the level of customer borrowing in GCB bank.
1.6 Significance of the Study
The research is important in numerous ways. The foremost significance of the study is that it will add on to the existing literatures on the effects of the MPR on the interest rate of commercial banks. The study will also offer commercial banks with a deeper appreciation of the effects of their interest rate on customer borrowing. Generally the study is significant and timely because the rate of unemployment in Ghana is increasing at an exponential rate and as such, interest rate should not deter private businesses from borrowing from banks to expand their business in order to employ more youth.

1.7 Organization of the Study
This research will be structured or organized in five principle sections (chapters). The first chapter gives a general idea of the system of the research which incorporates the background of study, problem statement, research questions, research objectives, methodology, justification and organization of study. Chapter two is mainly literature review; chapter three is essentially on the methodology use which manages look into structure and information gathering. Chapter four depends on the investigation of the information and the last part finishes with outline of discoveries, conclusion and recommendations.
CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Literature
In the field of finance countless theories have tried to assign explanations to interest rates and its effects on economies, among which include the rational expectation theory, the traditions theory, loanable funds, Preferred habitat theory of Interest Rate, Market segmentation theory of Interest Rate, the classical theory and liquidity theory. Each of the aforementioned theories try to makes assumptions about what determines the prevailing interest rates (Gorder 2009). This study will review the traditional theory and rational expectations theory of interest rates.

2.1.2 Traditional Theory:
According to the proponents of the Traditional theory, the forces of Demand and Supply determines the interest rate of loanable funds. At this interest rate savings are equal to investment supposing the existence of a capital market. According to the traditional philosophy, invariably, interest rates is not determined by monetary factor vis-à-vis MPR but rather demand and supply forces which are nonmonetary in nature. Theory seems to assign the responsibility of interest rate determination on neither the commercial banks nor the central bank’s MPR. The traditional theory argues that nominal interest rates react to the expected inflation rate leaving real interest rates constant.

2.1.3 Rational Expectations Theory
As said by Gorder (2009) the rational expectations theory of interest rates is founded on the principle that individuals express their anticipations on the basis of the existing information in the market. The rational expectation theory assumes that the most accurate standard for estimating
future interest rates is the current spot rate which varies in relation to the unforeseen information or possibly variation in economic factors.

2.2 The Effects of MPR Fluctuation on Interest Rate of the Commercial Banks
A study conducted by Michael Pedersen found that interest rate changes are influenced by Policy rate expectations, however the interest rate change does not affect nominal consumer loans with long prospects and mortgage loans. He also point to the fact that expectations interacts directly with interbank rate.

Further studies by (Besley & Coate, 1995) looked into how (MPR), expectations and other risk factors affect loan rate in the commercial banks. The study considered nominal lending, real lending and deposit rates, as the maturity period for this variable are not the same. The outcome point to the fact that there is pass-through of monetary policy rate instability is symmetric and rapidly widespread for the significant majority of the loan horizons of commercial loans and consumer loans that have nominal rates. The study further points to the fact that commercial banks in setting their interest rates usually consider factors like credit risk, liquidity and market conditions. The research also discovered that consumer loans and deposits are affected by interest rate risks also mortgage loans are significantly affected by MPR expectations.

2.2.1 Evolution of monetary policy framework in Ghana
According to (Bawumia, 2001), in most countries, monetary policy structure has undergone series of changes or evolutions of which Ghana is not in any way an exception. In the case of Ghana most of the reforms have been Financial Sector Reform Programme (FINSAP) 1988 – 2000) and also Financial Sector Strategic Plan (FINSSIP, 2001 – 2008)
2.2.2 Monetary Policy Regimes

Bawumia (2001) postulates that since Ghana attained independence in the year 1957, several monetary regimes have been undertaken and implemented by Ghana’s central bank which are targeted at the key macroeconomic variable like inflation. According to him, these regimes have produced good outcomes. In (2001 – 2008), the regime was targeted at dealing with inflation, the regime is therefore described as inflation targeted regime. The inflation target regime is described as being more flexible than the earlier regimes which are the monetary policy regime (1983-2001) and the direct controls regime (1957-1983). Section 3, sub section 1 of the BoG Act 2002 (ACT 612) makes maintenance of price level stability the main duty of the central bank. The history of the central bank’s monetary policy management can be placed under two phases. Under the phase one, the focus of the monetary policy management was on monetary controls and the phase two is the period within which the environment was liberalized. Direct control system was the monetary management system which the Bank of Ghana used to apply until 1983. According to (Abradn-Otoo et al, 2003) this is the period within which the central bank started most of its major reforms. The system used direct credit controls and other interventional instruments. However, the credit control system was replaced with the liberalization of the economy in 1983. After the liberalization of the economy, the earlier credit control system was abandonment by the Bank of Ghana. The liberalization of the economy resulted in a gradual deregulatory processes which brought about the institutionalization of monetary management in early 1992 and then started the use of market based instruments in steering monetary policy. The BoG continues to roll out dimensions of monetary policy management with strong underpinning from the IMF.
2.3 The Effects of Monetary Policy Rate on Interest Rates of Commercial Banks

Some studies have focus on determining how lending rates of commercial banks are affected by the BoG’s Monetary Policy Rate. According to (Keeton, 1979) monetary policy determines the willingness of financial institutions to loan to their customers.

In a study conducted by (Gertler & Gilchrist, 1994) to investigate how commercial banks respond to the central bank’s MPR concluded that financial institutions’ loaning does not drop when MPR is constricted by BoG. Contrary to that (Kashyap & Stein, 2000) found that commercial banks are likely to react to a tightening of MPR by increasing their lending rate. They concluded that an upturn in MPR results to a fall in total loans and that business loans in small banks, on the other hand, the increase in MPR does not affect large banks. The outcome shows that small financial institutions do not have enough access to other funding sources as compared to large banks. The small banks are therefore unable absorb the shocks on deposits when MPR is increased.

Ngugi and Kabubu (1998) conducted a study on the reforms of the financial sector and the liberalization of the financial sector. The study intended at examining the sequence of action taken in the process of liberalizing the Kenyan financial sector. The study considered the level of kenya’s interest rate and also to determine the factors that determine the response of the financial performance in the response process. The study considered a sample size was 20 commercial banks in Kenya. The research also considered the Central Banks reports. The study concluded that the Kenyan financial sector was characterized by suppression influences such as negative interest rates, underdeveloped financial and inefficiency.

Further studies by (Gavin, 2010) also to assess the factors that influenced loan rate in Kenya’s banking sector, which considered a sample size of 15 commercial banks in Kenya. The research was conducted using Quantitative research design and secondary data obtained from the banking
survey was used. The study identified capital adequacy ratio, Treasury bill rate and discount rate as the key factors which determined the interest rate spread.

Amidu and Wolfe (2008) also considered the negative repercussion of MPR of central banks on financial institutions’ loaning in Ghana. The study considered the year 1998 and 2004. The outcome of their study shows that, the Ghanaian banks’ lending behavior is considerably determined by the country’s economic support and change in money supply. The outcome of the study also gives credence to the finding of earlier studies which concluded that the lending rate is affected by the MPR and inflation. The study also shows that Prime rate had significant impact on lending rate while inflation was insignificant. The outcome points to the fact that bank size and liquidity also affects bank’s capacity to give loans when demanded.

A publication between 2 February and 8 February, 2010 by Graphic Business informed the Ghanaian public that Commercial banks in Ghana had been offered a waiver by the central bank, the step according to the publication was to serve as an incentive for banks to reduce the rate at which they lent to their customers. According to the publication, since the Bank of Ghana served as the lender of last resort, it is important for the central bank to lend to the banks at a lower rate in order to prevent the commercial banks from lending to their customers at higher rates.

Amidu (2010) Posits that commercial banks in Ghana assign several reasons for charging high interest rates and the factors are mainly external in nature which are beyond their control. For instance in the year 2009, inflation rate was relatively lower. The year 2009 ended with an inflation rate of 15.97%, the rate is considered as the lowest in the year 2009. In October, 2009 there was a decrease in the prime rate from 18.50% to 18% by the central Bank of Ghana but this action by
BoG did not have a corresponding decrease in the commercial banks’ lending rates. The available records indicate that the lending rate kept hovering around 32%.

According to (Bernanke, 2007), some countries’ commercial banks have adopted the strategy of introducing new products or charging less interest/lending rate in their banking sector. Reduction in lending rate has the tendency of offering the economy with a short run-boost. Under normal circumstances, macroeconomic models like the IS-LM model, consider interest rate as a prime monetary instrument. It has been argued by many economists that cut in interest rates is not a long term solution to macroeconomic stability, since it is normally offset by inflation. Politician use the boost as a bait to canvass votes during election season. It has been suggested by economists that there is the need for the central bank to exercise its independent supervisory role and should not allow politician to use them as a tool to influence the public.

### 2.3.1 The effects of high lending rates on the bank

According to Leisenring (1980) the immediate effects of an increased MPR is not on the stock market but rather commercial banks’ lending rate. He argued that a rise in MPR makes it costly for financial institutions to borrow from the BoG. This leads to the situation where moneys are withdrawn from the monetary mediators into the financial market. This reduces the money available to be lend to the general public by financial institutions which is termed as disintermediation. Leisenring (1980) has argued that disintermediation leads to the reduction the money available for financial institutions to lend out to their customers.

### 2.3.2 The effects of high lending rates on the economy

The foremost impact of an upturn in the central banks’ prime rate is that commercial banks are forced to rise the lending rate on the loans given to customers. An upsurge in the lending rate on credits also indirectly reduces the disposable income of consumers in the economy. The impact of
an increase in interest rate massively affects businesses since they also depend on commercial banks to fund their activities. An upsurge in the loan rate makes it expensive for companies to borrow from commercial banks which eventually affect the growth of companies and decrease their profit (Leisenring 1980).

2.4 Factors Which Account for High Lending Rate
According to (Huybens & Smith, 1999) high interest rates is a major challenge facing most economies but the contributing factors are many, the multiplicity of the causes makes it extremely difficult to deal with the problem.

2.4.1 The impact of inflation on interest rates
Morris and Morris (1999) explained that inflation is the sustained increase in the aggregate price level of commodities. Amassoma and Olaiya (2011) held that inflation portrays the strength of an economy; it could be measured by using the Consumer Price Index (CPI).

According to (Archer & Karim, 2007), there are basically three descriptions of inflation depending on the cause; balance of payments aspects, fiscal and monetary. Under the monetary aspect of inflation, the rise in cost of goods and services is as a consequence of an upsurge in money supply in the economy. The fiscal inflation is caused by budget deficits whiles balance of payments inflation is caused by exchange rate.

Olomola, (2000) postulates that inflation basically diminishes the procuring power of money, the probability is that inflation rate increase induce commercial banks to charge higher interest rates on loans. Lenders anticipate that the power of money reduces within the period when the money will be in the hands of the customer (borrower). Because banks want to be compensated for the risk of inflation, they make provision for it through the interest attached. The commercial banks in charging their interest rates on loan take into consideration the current inflation rate as well as the
expected inflation rate. If the probable inflation rate is higher, they are forces to charges higher interest rate on credit facilities; in another way banks will charge lower when they expect a future decrease in inflation rate.

2.4.2 The impact of risk of investment on interest rate
David and Phil Molyneux (2010) held that financial institutions face a lot of risks which may, include the fact that a borrower may die; a borrower may go bankrupt, default the loan or possibly abscond. In order for commercial banks to cover all these uncertainties, they factor in risk premium to enable them to compensate for those that fail.

2.4.3 The impact of taxes on interest rates
According to (Fiordelisi & Molyneux, 2010), insolvencies in the financial sector affect equity and debt holders of banks and also taxpayers. In order to provide for such risks, the state impose taxes on the financial institution and commercial banks, the result of these taxes is that the commercial bank in turn shift the tax burden on the borrower, which leads to high interest rates.

2.4.4 The influence of the central bank’s Polices on the lending rate
Leisenring (1980) explained that policies implemented by the BoG have significant consequence on the interest rate and the money offered to commercial banks to lend out to debtors. Although the apex bank does not set interest rates for commercial banks, its decision largely affect the commercial banks interest rates charged. The BoG’s discount rate could affect other market rates.

2.5 Interest Rate Risk
Amidu and Hinson (2006) postulate that Interest rate risk is the dangers associated with an adverse movement in a bank’s interest rate. In order for commercial banks to protect the interest of their owners and make gains, they have to focus their attention on interest rate risk and institute
measures to avert them. That notwithstanding, disproportionate and high interest rate risk could be detrimental to the profitability and capital base of commercial banks.

Onyuma and Ouma (2005) posits that a changes in commercial banks interest rates can affect their profitability by varying the net income and other income which are sensitive to the bank’s interest rate as well as the bank’s operation expenses.

Orodho (2003) held that interest rates changes have effects on the value of commercial bank’s asset, the bank’s liability level as well as their off balance sheet instrument. The underlining reason for this is that the present value of the bank’s future cash flow changes whenever there is an interest rates change (Kashuliza, 1993). According to Matin (1997), this makes it incumbent on banks to put in place measures that will keep their interest rate within a range that will make it safer for the banks’ operation.

2.5.1 Sources of interest rate risk

Repricing risk: The role of banks as financial intermediaries exposes them to risk in so many ways. Among all the risks, the one that is often discussed is the interest rate risk which comes about as a result of difference in timing between the periods of maturity (in the case fixed rate) and reprising (in the case of floating rate) in the position of banks’ assets and liabilities. Although there is the need for banks to consider repricing mismatches, it could cause interest rate variations and in the income of the bank and their economic value.

It could also lead to a drop in short-term deposit as well as long-term fixed rate loan. These declines occur as a result of the fact that whereas the interest paid on the fund varies; cash flows on the loan are fixed throughout its lifetime (Khandkar, et.al.1995)
Yield curve risk: a mismatch in reprising can also make banks vulnerable to the slope and shape of the yield curve. The risk of yield curve may happen in situations where an unanticipated shift of the yield curve can have hostile effect on the underlining income and economic value of the bank.

Basis risk: This rises from deficient link in the modification on rates paid and received on various instruments which have comparable repricing features. In an event of variations in interest, the difference lead to surprise deviations in the cash flows.

Optionality: This interest rate risk occurs when commercial banks’ options are implanted in several bank assets and liabilities. Legally, an alternative offers the holder, the right but not the obligation, to purchase, sell, or in some way alter the cash flow of an instrument or financial contract. As far as trading and non-trading accounts are concerned, commercial banks use exchange traded and OTC-options. These comprises of various forms of bonds and notes which have call or put provisions, credit facilities which offer the customer the right to pay and advance, and many types of non-maturity deposit instruments. These non-maturity deposit instruments offer depositors the opportunity to withdraw funds at any time it pleases them. These withdrawals come with no penalties.

2.5.2 Effects of interest rate risk
Amidu and Hinson (2006) held that interest rates variations can have an unfavorable impact on earning and economic value of banks. This serves as basis for two perspectives which could be used in the assessment of risk exposures of the Commercial banks.

Earnings perspective: This is said to be suitable for evaluating the risk of interest rate taken by many, banks under this standpoint, the impact of interest rate on reported earning is the focus of
the analyses. To the extent that interest rate risk analysis is concerned, variations in income or complete loss of the banks are the main factor that poses threat to banks’ financial stability. This makes the earning component the central focus of this perspective of interest rate risk assessment. This emphasis reflects on the significance of commercial banks’ net interest income in banks’ total income and its direct and simply understood link to disparities in interest rates. Though as banks continue to expand and broaden their horizon and scope to engage in activities that help them to generate income through fee and other non-interest income, there is equally an increase in the focus on overall net income. Some non-interest income sources like loan servicing and asset securitization programs could be responsive to commercial banks’ interest rates. In an event of a fall in interest rate of banks, the servicing bank could face a short fall in the income it generates from fees.

Berger and Udell (1992) posit that transactions processing which are also classified under none-interest rate sources of income to commercial banks have in recent times become interest rate sensitive. Management of commercial banks are becoming increasingly aware of the consequence of variations in interest rate on the earning of the banks and are beginning to take into consideration additional factors which were hitherto ignored in their estimation of earnings.

*Economic value perspective:* The fluctuations in interest rates at the stock market could also affect the value of commercial banks’ assets and liabilities. Therefore, the sensitivity of a bank’s economic value to instability in interest rates is a major deliberation of stockholders and management.

Ronge et.al. (2002) held that since the perspective of economic value takes into consideration the likely effects of changes in interest rate on the present value of commercial banks’ future cash
flows, and offers a far more complete and expansive understanding of the long-term impact of changes in interest rates than that of the earnings perspective. Berger and Udell (1992) held that since fluctuations in near-term earnings does not offer a clear indication of the effects of the changes of interest rate on the commercial banks’ total positions, this broader view is important.

*Embedded losses*: The incomes and economic value standpoints discussed how future variations in interest rates may distress the financial performance of banks. Specifically, instruments that are not marked to market may have entrenched profit or losses resulting from the previous rate movements. Over time the profit or losses may be reflected over the earning of the banks.

### 2.6 Monetary Policy and Bank Lending

In order for monetary policy to function through a credit channel, the monetary policy essentially affect bank willingness to lend to their customers and also there have to be a banks dependent borrowing. In order to establish the association between the central bank’s monetary policy and bank lending, some researchers analyzed in what way commercial banks regulate their portfolios during times when the apex bank constricts its monetary policy, (Keeton, 1979; Stiglitz and Weiss, 1981; Romer and Romer, 1990).

#### 2.6.1 Bank portfolio behavior

The manner in which commercial banks change their assets and liabilities in times of monetary restriction is one of the most accurate means of identifying the lending channel of commercial banks. Quite a number of researchers have devoted their time to scrutinize how banks alter loans and non-deposit liabilities to meet changes in monetary policy. Out of this research have emerged detailed facts about bank portfolio behavior (Bernanke & Blinder, 1992).
Abor (2004) held that banks experience a fall in transactions and core deposits whenever MPR is tightening which subsequently lead in bank loans decline. In terms of a decrease in core deposits, commercial banks are able to maintain lending by selling securities.

Cukierman and Hercowitz (1989) opined that the decline in bank loan is roughly concurrent with a drop in economic activity as calculated by production.

De Gregorio and Sturzenegger (1997) concluded that although there is some evidence to support the fact that banks’ lending declines when there is an increase in MPR, the time lags appear quite long.

It has also been established that continuous drop in loans and output is constant with a decline in lending as a result of a fall in output. Morris and Sellen (1995) also held that it is also consistent with a decline in output causing a fall in loan demand.

On the contrary (Gertler & Gilchrist, 1993) steered a study that explicitly observed at how financial institution loaning responds to MPR increases. The outcome of the study shows that businesses lending does not fall when MPR is tightened. The outcome also shows that the whole drop in aggregate loaning of commercial banks was as a result of a decrease in customer and real estate loans. The work also included that after the discussion is pointed to credits to giving to manufacturing firms, the loaning of commercial banks really displays a substantial rise in response to tighter MPR. On the part of manufacturing firms, a significant number of the recorded increased lending seems to go to large companies; while there seem to no impact of increased monetary policy rate on small manufacturing compares.

Kashyap and Stein (1995) on the contrary establish that commercial banks’ lending to businesses may react to an increase of monetary policy rate. Relatively loans received by small and large
firms, their study investigated the lending behavior of both small and large banks. The outcome of the study indicates that in times of rise in policy rate of commercial banks, large banks are not affected but the total loans as well as business loans at small banks drop significantly. The variation in responses in the case of small banks is a sign that they don’t have access to other source of finance than large banks and are therefore unable to elude the loss on core deposits in invent of constricted MPR. Due to the fact that small banks invariably give loans to smaller companies, their outcome is in line with the opinion that MPR may react. A study by Kashyap and Stein (2000) which examined the performance of business loans which are not secured under conditions of a loan covenant concluded that loans which are not secured appeared to be highly defenseless to MPR tightening. The study further points to the fact that uncommitted loans fall in times of MPR tightening, whiles MPR had no effects on loan secured under existing commitment. The means that restrictive monetary policy may work predominantly by limiting the accessibility of loans from commercial banks to businesses deprived of a loan obligation.

2.6.2 Terms of bank lending
Most researchers seem to have reached a common consensus that in order for aggregate balance sheet of banks to be properly analyzed, there is the need for detailed supplementary information on bank lending behavior to be included. Kiiru (1991) posits that the balance sheet is not enough for an effective analysis because it does not include relevant details like the bank’s rates on new loans or other conditions of the loan contract.

Also, the loan amount as stated on the balance sheet is likely to vary for several reasons other than the monetary policy. For instance, whiles restrictive monetary policy could possibly result in a decline of the value of loan as stated on the balanced sheet, nonperforming loans could also lead to a drop as a result. In order to clearly distinguish between commercial banks’ lending view and
credit rationalization, there is the need for information on the agreements on the banks’ lending. (Kashyap & Stein, 1995) explained that the loaning opinions are a declaration of the extent of changes in the demand and supply of loans resulting from the tightening of the monetary policy. The lending view holds that the size of new credits should fall and interest rates on loan should increase relative to market rates in times of restrictive monetary policy. This behaviour gives an indication of the fact that as compared to loan demand shifts, loan supply shifts are lesser. Contrary to the above, other theories of credit rationing hold the view that, while new loans volume should drop in times of tightened policy, there should rather be less increase in the market rates.

Berger and Udell (1992) specifically, pointed out that lending rates on commercial bank loans that are made under conditions which are as inactive as rates on uncommitted loans.

2.6.3 The impact of high lending rates on borrowers.
It has been argued by many researchers that some section of borrowers is affected by tightened credit and rise in interest rate than others. The consequence of increased interest rate on Small scale organizations, public utilities as well as State and local governments and consumers is quite severe. The effects is severe on those who find themselves in the construction industry and mortgage market as they are hardly affected by a scarce and expensive loan.

2.7 The effects of high lending rates on the borrowers
An increased lending rate by financial institutions simply means as increased cost of borrowing, which makes it difficult for some section of borrowers to afford loans; they are therefore discouraged from gain access to loans from commercial banks because of a high cost of borrowing. Small and medium scale enterprise, individual consumers and public utilities as well as mortgage borrowers are said to be extremely subtle and susceptible to a marginal rise in cost of credit. For small and medium scale enterprises, most of them get a small margin of profit on their operations.
Therefore when cost of borrowing is slightly increased, their profit margin is significantly reduced. Kandie (2005) explained that since most consumers of capital goods like cars rely on loans to purchase them, an increase in cost of borrowing discourages them from borrowing from commercial banks, which consequently affect their ability to buy such goods.

This is likely to happen during inflationary periods, when increasing prices are already putting pressure on consumers' budgets. Kurwijila and Due (1991) held that interest charges account for a significant proportion of monthly payment of mortgage, hence an increase in lending rate can cause significant upturn on payments. Due to this, in times of interest rates increase, many home buyers are affected and they are priced out of the market.

2.7.1 The effects of high lending rates on the bank
Longeneckere et.al (2006) held that the effects of increased lending rates on the stock market does not occur immediately. But the direct effects of an increase in MPR is that it disheartens commercial banks from lending from the apex banks.

An Upsurge in MPR also leads to disintermediation which denotes the removal of moneys from financial intermediaries. Disintermediation occurs by way of much moneys is supply into financial markets as a result of increase interest rates (Ayyagari & Demirguc-Kunt, 2006).

When market rates increase above the rate which is officially to be paid on deposits, investors prefer to invest in the money market instruments, such as Treasury bills or commercial paper, than deposits into banks. Disintermediation decreases the total funds in supply for the various kinds of monetary mediators to loan, then in prior times of tightened MPR and increased lending rates, savings and loan associations and mutual savings banks have been victims of severe removals of depposits. Most of these financial intermediaries are heavy mortgage institutions, and due to
disintermediation the aggregate of funds accessible for mortgages has been reduced (Leisenring, 1980).

2.7.2 The effects of high lending rates on the economy
Once the apex bank’s MPR is high, the impact of the rise in the interest is not felt immediately. Instead, the direct effects of a rise in the MPR is that borrowing becomes more expensive in the economy. However when the discount rate increases it has an immediate effects on both customers and institutions.

The consequence of a toughened MPR is that commercial banks increases their interest rate charged on credit to consumers. The effects of this on Individuals is that interest rate on credit cards and mortgages will increase. Those who are mostly affected are those whose interest rates are variable. This leads to a decrease in the purchasing power of consumers thereby spending less. Increases in the MPR also affect businesses as they lend from the commercial banks to operate and enlarge businesses. As soon as commercial banks increase their lending rates, borrowing become more expensive, consequently companies might be discourages from borrow. The end result is that businesses spend less which can dawdle the growth of the business, leading to a rise in profit in the short period. (Leisenring, 1980).

2.7.3 Stock Price Effectss
Variations in the MPR obviously disturb the stock market as well as consumer behavior. In valuing a company, one of the methods is to find the difference between the sums of the company’s estimated future cash flows from the company’s discounted back to the present value. The prices of a share is also calculated by the total shares available over the total future discounted cash flow. The variation in prices resulting from the disparities in people’s expectations about the company at different time. Because of the variation, the public would be ready to buy or sell stock at various
prices. Other things being equal the share price of a company will reduce if people speculates that a company is making less profit. If many companies witness a drop in their share values, the whole market indexes that many individuals associate with the market will decrease (Leisenring 1980).

2.7.4 Investment Effectss
When stock price decline is loss to many investors because they expect a growth in the value of their investment. A rise in the value of an investment comes from the increase of stock price or the receipt of dividends. When there is a fall in anticipation that future cash flow of the company will increase, stockholders will loss much from stock price appreciation, which will discourage stockholders (Leisenring 1980).

2.7.5 The General Population
Leisenring (1980) held that borrowers are mostly affected by a rise in interest rate; this can decrease the disposable income of consumers. This is because the customers also settle their bills, and when the bills become too costly for them to bear, individual households then get their disposable income reduced. What this means is that individuals will not spend more discretionary money, this also has effects on both the revenue and profit of businesses. People with intention to start their own businesses will be limited by capital and a significant fraction of the gains made by businesses will be spent on interest charged on credit.

2.8 Ways to Address the Effects of High Lending Rates on Borrowers, Banks and the Economy.
The central banks could diverse mechanisms to mitigate high interest rates on loans in their countries. Researchers have suggested that high interest rate could be managed in the following ways:
2.8.2 Reduction of the interest rate
According to (Bernanke, 2007), central banks in some countries may choose to either decrease their lending rate or bring innovative products into the banking system. A reduction in the lending rates can boost the economy in the short period.

In ordinary situations, conservative macroeconomic model like the IS-LM model, the channel of the lending rate is a normally financial contrivance; Economists are of the view that economic activities will have a short-run boost when lending rate reduces, this will eventually be eroded by inflation in the long run. This spontaneous boost can have effects on elections outcome. Since this tool is often used to score political points during elections, most economists have called for the need for central banks to be politically neutral and act with independent in their monetary policy decisions.

2.8.2 Usury laws
The Usury laws placed cap on the interest that commercial banks should put on loans; the usury ceilings are usually used when commercial banks are dealing with consumer loans. When there is an increase in market rates beyond that legal ceilings, banks are motivated to give their scarce credit to customers who apply for other types of loans. This is mostly common in some states in the Unites States of America. (Leisenring, 1980).

2.8.3 Credit rationing
Credit rationing is the procedures that commercial banks follow in allocating credit to their borrowers in situations whereby there is high demand for loans than the commercial bank can supply to the customers. Before commercial banks ration credit, they first raise their criteria for risk and credit-worthiness. In some cases banks assess the records of their customers and offer certain credit facilities to certain preferred types of customers.
Many researchers have argued that credit rationing is discriminatory since banks usually give huge sums of loans to large firms at the disadvantage of individual consumers and small and medium scale businesses. (Leisenring 1980)

Kimuyu and Omiti (2000) postulates that when there is a credit supply constrain it leads to a fall in funds demand by enterprises a consequence of the three-dimensional structure in the credit market.

Mpuga (2004) investigated the request for loan in rural Uganda and it was found that those rural families were at handicap in terms of demand for loan facilities. Although living in the villages has no substantial influence on the possibility of taking loan and the success of the loan submissions for persons in the countryside are about 44% lesser in size than those from the cities.
CHAPTER THREE

METHODOLOGY

3.0 Introduction
This chapter explained the procedures and techniques that was employed by the researcher to collect, process, analyze and present the data. This chapter highlights the research design that was employed, the target population of the study, the sampling design and the sample, the data collection instruments and the data analysis techniques that was used. The chapter has section 3.2 which covers the research design, section 3.3 source of data, section 3.4 Data analyses presentation, 3.5 Analytical models and 3.6 Test of significance.

3.1 Research Design
The research design is a plan for conducting the research that identifies the measures needed to obtain the information to answer the research questions (Kumar, 2008). The study used the descriptive research design in order to analyze the topic thoroughly. This method of research is chosen because it enabled the researcher to gather the needed data, describe the prevailing issues and answer questions regarding the subject of the research. Descriptive research defines and reports the way things are and also aids a researcher to describe an event in terms of attitude, values and characteristics (Mugenda & Mugenda, 1999).

3.2 Source of data
The study basically used secondary data from the Bank of Ghana Records, GCB banks’ financials, Ghana Statistical Service, internet sources, books and publications such as journals, periodicals and magazines. Fundamentally, the use of secondary data made it easier for the research to consider the year–by-year effects of monetary policy fluctuations on interest rates of GCB bank and on customers level of borrowing from the year 2013 to 2017.
3.3 Data analyses and presentation
After collecting the data, the researcher used statistical programs for the analyses and demonstration of data in this study. The Statistical Package for the Social Sciences (SPSS) version 20 and Microsoft Excel 2013 was used for the data analysis. The presentation starts with an analysis of the descriptive statistics on the variables under consideration. For easy conduct of the empirical analyses, the results of the descriptive analyses are presented first, followed by the inferential statistical analysis. Data analysis involves examination of data gathered and making assumptions and extrapolations. The data gathered was edited, sorted for completeness and analyzed using ordinary least squares (OLS) and Pearson correlation using the statistical package for social studies.

3.4 Analytical Model
In establishment of the relationship between study variables comprising of independent variables including Monetary or Bank Policy rate and Customer Borrowing dependent variable (lending rate) the study used a linear regression model.

A multi-linear regression model was used to test the effects between variables:

\[ LR = \beta_0 + \beta_1 (P) + \beta_2 (CB) + \varepsilon \]

Where;

- \( LR \) = Lending Rate of GCB Bank (Dependent variable)
- \( P \) = Bank of Ghana Policy rate
- \( CB \) = Customer borrowing (log of Loans and Advances to customers)
- \( \beta_0 \) = Constant
- \( \beta_1 \) - \( \beta_2 \) = Coefficients of the regression
- \( \varepsilon \) = Probable Error
3.5 Test of Significance
At 95% confidence level, the t and F-test were used in determination of statistical significance of this study. Significance of regression coefficients was tested by t – test whereas determination of significance of regression equation was tested by F-test.
4.0 Introduction
This segment of the project provides secondary data analysis on the key variables mentioned in the previous chapter. Analysis of independent variables including policy rate and customer borrowing and the dependent variable (Lending rate) was used. This segment is divided into three divisions; trend analysis section of key variables and other external variables (such as GDP and Inflation rates), regression analysis section and discussion of key findings in line with the research objectives.

4.1 Trend Analysis
Figure 1

![Inflation rates graph]


Figure 1 showed an external macroeconomic indicator, namely inflation rates for the period 2013-2017. The inflation rate of an economy depicts the rise and fall or fluctuations in the value of goods and services. The period under review showed a marginal fluctuation in the inflation rates of
Ghana’s economy. From 2013 to 2017, the economy experienced a rise in inflation rates from 13.8%, 15.5%, 17.2% to 17.46% (the highest in the years under review). There was a drop in the inflation values to its lowest (12.37%) since 2013. A low inflation rate normalizes prices and is best for investor confidence. A low inflation rate provides a strong and resilient currency coupled with very good value on goods and services.

Figure 2


Figure 2

Demonstrates another macroeconomic variable (GDP growth rate). The growth rate of GDP depicts the economic growth of any country. The higher the rate of Gross Domestic Product, the better the conditions for individuals/nations. In 2013, when a growth rate of 7.33 was achieved; it fall in 2014 to 4.00 and from 2014 to 2016 there was a stable economic growth. In 2017, however GDP growth rise to the highest point of 8.5. Therefore Ghana experienced a marginally prudent growth in its GDP values.
Figure 3 demonstrates customer borrowing trends in GCB Bank from 2013 to 2017. The figure showed largely an upward trend of customer borrowing from 2013 to 2015 with a marginal dip in borrowing to about 6.15 in 2016 and a continuous rise to 6.32 in 2017. The graph showed high levels of customer borrowing from the Bank.

Figure 4
Figure 4 demonstrates the approved Bank of Ghana policy rates for banks over the period 2013-2017. The policy rate is the amount of value placed on monies the apex bank give as credit to regulated banks. In 2013, the BoG’s prime rate was 16% (the lowest within the period under review). From 2014 to 2015 there was an increase in the policy rate between 21% and 26% with a marginal fall in 2016 to about 25.5%. There was a further decline in the policy rate to about 20% in 2017. Based on the policy rates regulated banks such as GCB bank adjust their subsequent lending rates to final customers.

Figure 5 demonstrates the lending rates of GCB bank over the period under review. GCB Bank is usually known by the business community as having very low lending rates compared with other lending rates offered by competing banks. In 2013, GCB bank offered a lending rate of 20.14% to customers while an upward review in 2014 moved the lending rate to 23.56%. In 2015 however, the lending rates moved further higher (28.5%) and remained the highest under the period reviewed. In 2016, the lending rates was reviewed downwards to about 26%. There was a further downward review to about 22.75% in 2017. The variations in the lending rates can have a huge effect on customer borrowings and managers of GCB Bank often take that into notice before reviewing the lending rates.

4.2 Descriptive Analysis

Table 1

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP growth rate</td>
<td>5</td>
<td>4.00</td>
<td>8.50</td>
<td>5.5860</td>
<td>2.16633</td>
<td>.770</td>
<td>.913</td>
</tr>
<tr>
<td>Customer Borrowing</td>
<td>5</td>
<td>5.98</td>
<td>6.32</td>
<td>6.1420</td>
<td>.12398</td>
<td>.278</td>
<td>.913</td>
</tr>
<tr>
<td>Inflation rates</td>
<td>5</td>
<td>12.37</td>
<td>17.46</td>
<td>15.2660</td>
<td>2.18773</td>
<td>-.383</td>
<td>.913</td>
</tr>
<tr>
<td>BoG Policy rate</td>
<td>5</td>
<td>16.00</td>
<td>26.00</td>
<td>21.7000</td>
<td>4.14729</td>
<td>-.328</td>
<td>.913</td>
</tr>
<tr>
<td>GCB lending rate</td>
<td>5</td>
<td>20.14</td>
<td>28.50</td>
<td>24.1900</td>
<td>3.19081</td>
<td>.209</td>
<td>.913</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Table 1 indicates the descriptive statistics of the key variables in this study as well as the external/macroeconomic factors such as Inflation rates and GDP growth rates. The minimum GDP growth rate for the period under review was 4% while the maximum GDP growth rate was 8.5%. Meanwhile the average or mean GDP growth rate over the period under review was 5.586%. The minimum Customer borrowing value was 5.98 while the maximum was 6.32. The average or arithmetic mean for customer borrowing over the period under review was 6.142. This means that borrowing amongst customers is marginally average among customers of GCB Bank. Inflation rates over the period was marginally high. The minimum inflation rates was 12.37% while the maximum was 17.46%. The arithmetic mean inflation rates over the period in review is 15.266% which summarizes the high fluctuations in the value of goods and services over the period. The Bank of Ghana (BoG) policy rates was minimum at 16% but maximum at 26%. The average policy rate in the period under review is 21.7% indicating a very high policy rate in comparison with other growing economies. Based on the policy rates of the regulator, the minimum lending rate was 20.14 while the maximum lending rate was 28.5%. The average lending rate over the period is 24.19%. 

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4.3 Inferential Analysis

This section analyses the relationship and effects of key variables and external variables in the banking system. This section is relevant because of the nature of the specific research objectives of the study.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Correlation Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inflation rates</td>
</tr>
<tr>
<td>Inflation rates</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>GDP growth rate</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Customer Borrowing</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>BoG Policy rate</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>GCB lending rate</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
</tbody>
</table>

From the Pearson correlation analysis, the relationship and significance among key variables such as customer borrowing, Bank of Ghana (BoG) policy rates, GCB bank lending rates, GDP and inflation rates are assessed. From the correlation analysis, Inflation rate is negatively correlated with GDP growth of Ghana. The correlation value of -0.935* showed that there is a negatively strong correlation between Inflation rates and GDP growth. This means that as Inflation rate rises
the economic growth/GDP of the country falls subsequently causing poor growth. Also as Inflation rate is reduced the GDP growth is increased causing high economic growth. Inflation rate was also found to be significant with GDP growth. Inflation rate was found to have a negative correlation with customer borrowing at -0.201. This means that as inflation rate increases there will be a downward trend in customer borrowing. And as inflation rate decreases there will be an increase in customer borrowing from GCB Bank. Also as inflation rate increases the policy rate of the central bank increases causing a positively strong correlation between inflation and policy rate. The relationship between policy rate and inflation rate was found at 0.820. Also as inflation rate increases, GCB lending rate also increases at a correlated value of 0.797. From the correlation values BoG policy rates is positively correlated with GCB Bank’s lending rate at 0.971**. This value showed that there is a very strong and near perfect positive association amid BoG policy rate and GCB Bank lending rate. The correlation between the two variables is highly significant. GCB lending rate and customer borrowing have a negative correlation at -0.359. This means that as GCB lending rate is increasing, customer borrowing declines but as the lending rate decreases, customer borrowing also increases. There is also a positive relationship between customer borrowing and GDP growth at 0.246. As customers borrow there is high likelihood that the economy will expand.
4.4 Regression Analysis

Table 3 Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.971&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.943</td>
<td>.886</td>
<td>1.07759</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), BoG Policy rate, Customer Borrowing

Table 3 provides a model summary investigation between key indicators such as BoG Policy rate, Customer Borrowing and GCB lending rates. The R value of 0.971 indicates the overall relationship that exist between the independent variables (BoG Policy rate, Customer Borrowing) and dependent variable GCB lending rate. The R value showed the strong relationship that BoG Policy rate and Customer Borrowing have with lending rate of GCB Bank. The value of R<sup>2</sup> showed the coefficient of determination at 0.943. The coefficient of determination showed that 94.3% variation in GCB Bank lending rate is factored by the BoG Policy rate and Customer ability to Borrow. Therefore any value indicated as the lending rate is largely influenced by the BoG policy rate and customers’ potential and ability to borrow at that set rate.

4.5 ANOVA Analysis

Table 4 ANOVA<sup>a</sup>

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>38.403</td>
<td>2</td>
<td>19.201</td>
<td>16.536</td>
<td>.047&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Residual</td>
<td>2.322</td>
<td>2</td>
<td>1.161</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40.725</td>
<td>4</td>
<td>1.161</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: GCB lending rate
b. Predictors: (Constant), BoG Policy rate, Customer Borrowing

The Analysis of Variance spells out how significant the independent variables are to the banks’ levels of lending rate. The significant level of 0.047 indicates that BoG Policy rate and Customer Borrowing play a significant role in decisions on lending rates. At P<0.05 the P value of 0.047 is significant.
Table 5 depicts the individual effects, relationship and significance of Customer Borrowing and BoG bank Policy on GCB lending rate. The B value of -0.688 showed that customer borrowing has a negative effects on Lending rates. This means that as lending rate rises customers borrow less and as the lending rate declines customers borrow less. The beta value of -0.027 showed the regressed relationship between customer borrowing and lending rates of GCB Bank. The BoG lending rate was found to have a positive effects of 0.755 on lending rates. This means that as Policy rate of the central bank rises, the lending rate of GCB bank rises. As the Policy rate declines the lending rate also declines indicating this strong effects. The beta value of 0.981 showed that there is a positive and strong relationship between lending and policy rates. The significant value of 0.033 showed that BoG policy rate is significant to GCB lending rate at 0.033. This value is significant because the P value is less than 0.05. The Ordinary Least Square regression model indicated in the previous chapter is modified based on the new analysis conducted in table 5.

\[
LR = \beta_0 + \beta_1 (P) + \beta_2 (CB) + \varepsilon
\]

\[
LR = 12.034 + 0.755 (P) - 0.688 (CB) + \varepsilon
\]

The model assumes that lending rate (LR) is equivalent to 12.034 if independent variables such as Policy rates (P) and customer borrowing (CB) are non-existent/zero. The quantitative parameters
of 0.755 and -0.688 showed the extent to which either of the independent variables will influence LR given that one of the independent variables is made constant at a time. This multi-linear regression model can be used to forecast future behavior of customer borrowings, policy rate or lending rate given that all factors remain constant.

4.6 Discussion of Results

4.6.1 Effects of Bank of Ghana’s Monetary Policy Rate fluctuation on lending rate of GCB Bank.

From the analysis conducted it was found that BoG’s monetary policy rate has a strong positive consequence on lending rates. However as the policy rate rises so will the lending rate of the commercial bank. On the other hand as the policy rate of the central bank declines so will the GCB’s lending rate. Further analysis showed a strong and favorable connection between monetary policy rate and lending rates. From a test score, the central bank’s monetary policy has a significant association with the lending rate of GCB Bank. This results that policy rate is very crucial to the variations in lending rates set by GCB Bank. Meanwhile some studies have largely agreed with the outcomes of this study. The findings of policy rate and lending rate confirms general economic theories and assumptions about the impact policy rates have on lending rates. When the apex bank’s MPR is high, the effects of the upsurge in interest rate is not felt immediately. Instead, the direct effects of a rise in the MPR is that borrowing becomes more expensive in the economy (Stiglitz & Weiss, 1981). However when the discount rate increases it has an immediate effects on both individuals and businesses (Keeton, 1979). The first effects of a toughened MPR is that when commercial banks increase the rates on loans to their clients (Romer & Romer, 1990). The effects of this on Individuals is that it brings about an upturn in credit card and mortgage interest rates. De
Gregorio and Sturzenegger (1997) concluded that although there is some proof backing the fact that bank loaning declines when there is an increase in MPR, the time lags appear quite long. Similarly, (Gertler & Gilchrist, 1993) found that policy rate is largely significant with commercial lending rates. The above study’s verdict is largely consistent with the finding of this study.

4.6.2 Effects of lending rate on the level of customer borrowing at the GCB Bank.
From the analysis conducted it was found that lending rates have a negative and strong effects on level of customer borrowing in GCB Bank. This indicates that as lending rate of GCB increases the level of customer borrowing declines. Alternatively, as lending rates decreases there is a corresponding increase in level of customer borrowing. The analysis also showed that there is an adverse correlation of lending rates with level of customer borrowing. Previous studies conducted on this subject is in line with the findings obtained in this current study. Kandie (2005) explained that since most consumers of capital goods like cars rely on loans to purchase them, an increase in cost of borrowing discourages them from borrowing from commercial banks, which consequently affect their ability to buy such goods. This is probably to occur for the duration of inflation, once climbing prices are already putting pressure on customers' finances. Kurwijila and Due (1991) held that interest charges account for a significant proportion of monthly payment of mortgage, hence an increase in interest rate can create significant upturn in monthly payments. Dues to this, in times of interest rates increase, many home buyers are affected and they are priced out of the market.

Abor (2004) held that banks experience a fall in transaction and core deposits whenever MPR is tightening which subsequently lead in bank loans decline. A drop in core deposits, commercial banks are capable to sustain lending by selling securities. Cukierman and Hercowitz (1989) opined that the drop in bank loan is unevenly concurrent with a drop in economic activity as calculated
by production and lending rates. It has also been established that continuous drop in credits and output is consistent with an increase in lending rates. Morris and Sellen (1995) also posit that it is also regular with a drop in outcome instigating a fall in borrowing.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary
The aim of this study was to investigate the effects of monetary policy rate on interest rate and level of customer borrowing in the banking industry with evidence from GCB 2013-2017. The study outlined some specific objectives such as to assess the effects of Bank of Ghana’s Monetary Policy Rate on lending rate of GCB Bank and to assess the effects of lending rate on the level of customer borrowing at the GCB Bank. The key variables in this study include policy rate, lending rate and customer borrowing. The Project also measured the impact of external factors such as inflation rates and GDP growth rate on the banking sector. Various prior studies have been conducted with respect to the usage of these variables in isolated cases and their effects and or influence on Ghana’s economy. Therefore their impact in this study cannot be underestimated.

The study was conducted mainly to fill the knowledge gap on this subject that have been left out of Ghanaian literature for some time. The study elaborated on the theoretical and empirical literature in order to discuss the key variables in the study. The empirical study provided some information on previous studies which is later compared to the findings of the current study. The study adopted the quantitative approach to research. The study used descriptive and cross sectional designs. The panel data was sampled from GCB bank’s financial statement. A regression analysis (Ordinary Least Square Method) was conducted to test the effects, relationship and significance of policy rate, lending rate and level of customer borrowing. Results were mainly presented in charts and tables. Interpretations were given to each finding. The discussion of the study was done in line with the literature of the study. Conclusions and recommendations of the study are outlined based on the findings of the study.
5.2 Conclusions
From the analysis conducted it was concluded that; Bank of Ghana’s monetary policy rate has a strong positive effect on lending rates. This indicate that as the policy rate surges so will the lending rate of the commercial bank. On the other hand, as the policy rate of the central bank declines so will the commercial bank’s lending rate. The examination further showed a strong and affirmative correlation between monetary policy rate and lending rates. From a test score, the central bank’s monetary policy has a significant association with the lending rate of GCB Bank. The research resulted that policy rate is very crucial to the variations in lending rates set by GCB Bank.
Lending rates have a negative and strong effects on level of customer borrowing in GCB Bank. This means that as lending rate of GCB Bank rises the level of customer borrowing declines. Alternatively, as lending rates decreases there is a corresponding increase in level of customer borrowing. The analysis also showed that there is an adverse correlation of lending rates with level of customer borrowing.

The study further concludes that there is an adverse impact of inflation rate on the level of customer borrowing. This means that as there is more circulation of money customer borrowing declines and as there is less circulation of money in the economy customers borrowing levels increase. The study further found that inflation rate has an unfavorable and significant impact of the gross domestic production of the country. Inflation according to the analysis slows down economic growth.

5.3 Recommendations
The recommendations were based on the analysis conducted for this study;
The study recommends that all forms of macroeconomic indicators should be weighed before policy rates are set. This is because policy rates can highly influence the banking sector specifically the ability of customers to borrow.

The study also recommends that Banks should not be too quick to increase their lending rate. Analysis showed that lending rates negatively impact on the level of customer borrowing. All other peripheral costs that comes with customer borrowing should be reduced. Especially the effective interest rates that banks charge.

Since the BoG is the final regulator of the monetary flow in the country, the amount of money flow and the consistent check on the inflation rate figures should be made a priority. From the analysis inflation rates negatively influence the economic growth. Therefore the bank of Ghana should apply all stringent measures on the flow of money to ensure economic growth.

5.4 Limitations of the Study

The research is restricted in scope because it did not cover entirely the potential factors that could influence the banking sector of Ghana. Again, due to constraint in resources (such as time) the study focused on a few macroeconomic indicators. Also the data set used for the study may be considered not large (5years) to draw conclusions.
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