

APPROVAL FORM

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DEDICATIONS

I dedicate this study to my family and friends!

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I would like to express my heartfelt gratitude to God Almighty, with his guidance and protection which enabled this project to be completed successfully. Special thanks go to my family and my classmates for their support throughout the course of my study. I would also want to extend my sincere gratitude to my supervisor Mr J.T Mabonga for his unwavering support from the start to the end of the project. My final remarks go to the entire Banking and Finance department lecturers who I greatly appreciated for mentoring me throughout my studies at Midlands State University.

ABSTRACT

The study focused on the determinants of bank interest rate spreads in Zimbabwe's commercial banking sector during the multiple currency period from 2009 to 2012. The study was based on the hypothesis that bank interest rate spreads are determined by banks specific factors and macro economic factors. Several theories including the Loanable funds, Liquidity preference, Loan pricing, Signaling arguments and Credit market theories were propounded to explain the determinants of interest rates and interest rate spread. A descriptive research design was chosen and is used to show trends and comparative analysis of interest rate spreads and other variables of interest. The design is also quite employable when there is a specific question for study and the methodologies to be done are already known which the case in this study was. An econometric model which employed panel data techniques to analyze the influence of bank specific and macroeconomic factors on bank spreads and the variables were chosen based on findings from both empirical and theoretical literature. The variables chosen were liquidity, operating costs, non-performing loans, growth in gross domestic product and inflation. Results obtained indicated that bank spreads are high in Zimbabwe and they are mostly driven by non-performing loans, growth in gross domestic product and inflation. The other variables which were liquidity and operating costs proved not to be significant in determining interest rate spreads. Foreign banks charged lower spreads than local banks in the same period. Lending rates were highly volatile as compared to deposit rates. The study recommends policies to increase competition, operational efficiency, coping foreign legislation, strengthening local banks, and improving international relations. Further studies were recommended in the areas of the impact of market specific factors in determining spreads in a stable environment, whereby regulatory policies don't frequently change

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LIST OF ACRONYMS

RBZ: Reserve Bank of Zimbabwe

ZIMSTATS: Zimbabwe National Statistics Agency

GDP: Gross Domestic Product

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CHAPTER ONE: INTRODUCTION

1.1 Introduction

This chapter lays the foundation as the precedent chapter and it outlines, defines and addresses the basic concepts of the research. It gives in brief an overview of the study and introduces the thrust for the project by identifying its main areas and the likely subjects and the beneficiaries of the study. The chapter also outlines the background of the existence of a disparity between savings and lending rates, clearly outlines the problem statement, and states the objectives of the study and the hypothesis statement. The chapter will act as a pilot for the study by determining the significance of the study, limitations of the study as well as definition of terms. In short it is the foundation upon which the rest of the project is going to lay on and acts as the compass, which will guide the researcher in carrying out the project. The chapter concludes by summarizing the chapter and introducing the next chapter.

1.2 Background of the Study

The growth of the banking sector in Zimbabwe has been highly dependent on the financial institutions' ability to adapt to turbulent economic conditions characterized by uncertainty and unfavorable operating conditions. Just like other banks operating in other parts of the world, banks in Zimbabwe mainly depend on the spread between lending and borrowing rates to make profit. But with the turn of the millennium banking operations were faced with critical challenges that threatens their profit making ability and survival. The 2003 banking crisis seriously threatened operations with economic conditions such as high inflation, unstable borrowing and lending rates threatening savings and bank lending.

According to the World Bank website under country analysis in the crisis period banks had to charge as high as 100% interest on loans and pay average interest on deposits of 40%, which results in a spread of 60% (<http://www.worldbankorg.com>). Robinson (2002) defines the banking spread as a reflector or indicator of the costs that banks incur in intermediation, inclusive of their normal profits. Though the spread prevailing was unrealistic it had to be that high for the bank to foster any reasonable chance of survival. In normal circumstance spreads in the southern region according to the Africa Development Bank (ADB) have always been between 5 to 6 percent in

stable economies like South Africa and Botswana. According to the international monetary fund – International statistics and data files, the interest rate spread over the past 29 years excluding 2008 the spread reached a maximum value of 457.46% in 2007 and a minimum of -8.85% in 1992.

This posed challenges to different players in the financial sector with those with surplus funds unwilling to save in the banking sector and the deficit units unwilling to borrow at very high rates from the financial institutions. In cases where surplus units committed their funds the nature of their deposits was relatively short term or transitory in nature thereby reducing the banks' ability to lend.

With the adoption of the multi currency system all financial players thought the disparity will be a thing of the past but it's actually puzzling to realize that the mismatch still exists. Another worry fact is that the interest rate spread is still widening, dampening the already weak savings culture and in a long way stifling economic growth. In 2011 in its review the Africa development bank revealed that the average base lending rates increased from 12, 6% per annum in September to 13,1% per annum in October. The deposit rate remained unchanged at 8.6% per annum whilst the savings rate increased from 1% in September to 2.6% in October ([http: www.africa developmentbank.com](http://www.africadevelopmentbank.com)). Local banks insisted that the fluctuation of the interest rates spread is as a result of the risk they face when borrowing funds.

With the promise of banks willing to pay 12% interest on three months deposits bank deposits increased by 31% last year to 4.4 billion(RBZ Midterm Monetary policy 2012). However the tenure of the deposits is of great concerns the lengthiest term that savers are prepared to lock up their funds or money is for 90 days thereby implying that banks have to loan for shorter periods. The Reserve Bank of Zimbabwe in its midterm monetary policy statement in 2012 noted that it continues to receive complaints from the transacting public regarding the high service charges and lending rates which are being levied by bank institutions and low interest rates payable on deposits, savings and current accounts.

There was an economic wide foul cry about the unfair funding and lending practices by financial institution prompting the then finance minister Hon Tendai Biti to warn banks against failure to comply with an agreement reached between the central bank and the bankers association of Zimbabwe that pegged interest rates and other charges for the sector so as to achieve fairness. He

told journalists at his monthly state of the economy address that financial institution which continues to flout measures agreed in the Memorandum of Understanding (MOU) would face stern penalties from the government (Fiscal Policy, 2011)

Under the MOU, bank were required to pay an interest 4% for deposits of \$1000 maintained in the banks for over 30 days while at the same time most banks were paying according to the Africa Development Bank between 1-2.6%. at the same time the MOU required the lending rates for banks to be subject to a maximum rate of not more than 12.5% which some banks complied with though the Reserve Bank noted that the average lending rate was 13.15% from 2011 until 2013 reaching an all time high of 16.04% in March 2012 and a record low of 9.50% in January 2011(2012 Midterm monetary policy statement). Here the Reserve Bank insisted of using the Weighted Lending Rate which is the sum of nominal lending rates weighted by the individual bank's loan book sizes and is published by the RBZ.

Against this background lending rates charged by banks in 2012 averaged over 22% per annum as revealed by independent observers and economic analysts and they say that this compares unfavorably with deposit rates which averaged below 4% per annum in 2012 (<http://www.africadevelopmentbank.com>).lending rates reported by banks remained very high in 2012 reflecting high premiums charged by some banks irrespective of cost structure. The other setbacks prior to 2013 were liquidity challenges coupled with the absence of the lender of last resort role which was supposed to be played by the central bank.

In consequence according to the 2012 midterm monetary policy statement deposits in the banking sector increased appreciably by 30,07% from \$3.376 million in 2011 to \$4.411 million in 2012 whilst loans and advances increased by 27,50% from \$2,761 million in 2011 to \$3,519million in 2012 (Midterm monetary policy, 2012). The loans to deposit ratio however marginally declined from 81,79% to 79,79 during the same period. Notably loans and advances remained largely short term in nature and channeled towards the financing of working capital with limited funding going towards capital investments.

1.3 Problem statement

The interest rate spread in Zimbabwe is continuing to widen prompting the need to research the causes of this troubling development in Zimbabwe's financial sector. An increase in the lending rates is not leading to a corresponding increase in deposit rates creating wide spread that has led

to high borrowing costs that are mismatched with the existing low return on savings. Consistently wide bank spreads in the credit market have been observed and banks are finding it difficult to mobilize savings from households and corporate clients whilst investors find it difficult to access credit for productive uses.

1.4 Objectives of the Study

Against the background of a poor savings culture and high unwillingness of some banks to lend, this research will try to investigate and analyze the driving factors behind the disparity between lending and borrowing rates or the widening of interest rate spreads in Zimbabwe. The major objective of this study is to reveal the underlying causes or the driving factors behind the existing mismatch in lending and borrowing rates which is resulting in a wide interest rate spread. However in order to achieve the main objective the following sub objectives were also analyzed:

- To assess the implications of a relatively high interest rate spread to banking performance
- To assess how poor savings culture affects banking operations.
- To analyze how high interest spreads affect customer behavior.
- To study the interest rate valuation methods or factors banks consider in determining borrowing and lending rates.

1.5 Hypothesis

In order to investigate the driving factors behind the disparity in lending and deposit rates in Zimbabwe it was important for the researcher to come up with a hypothesis during the course of research which was as follows:

H0: Interest rate spread is a function of bank specific factors and macro economic factors

H1: Interest rate spread is not a function of bank specific factors and macro economic factors

1.6 Significance of the Study

The significance of this study is evaluated according to the following stakeholders: To commercial banks, the findings from this research will help them in formulating policy in terms of the composition structure of interest rates, on both lending and deposit rates. In this regard it must be clear to their clients how they derive the rates they charge and how they intend to reward savings which helps the banks in justifying whatever the charges and premiums they require on loans and deposits. By knowing the driving factors behind the interests rate disparity the banks

can easily address each of the factors separately and come up with meaningful and justifiable rates.

From the findings of this research, customers will benefit in terms of improved knowledge of the determinants of both borrowing and lending rates and this enables them to make fully well informed decisions on what to do with their funds if they wish to invest. This research intends to voice the concerns of the customers on the terms of the rates existing and also add to the voice of the central bank in terms of the worrying state of the savings culture in the nation. This study is important to the university in that the material to be provided in this research can be useful to other researchers who would want to carry out further studies on this topic in future so this study will act as a base for future research. The study can also be useful to the university in that the material can be used by other students as reference material which can be used by other students as reference material.

1.7 Assumptions of the Study

The researcher faced some constraints and limitations in carrying out the research hence had to make some assumptions which were meant to guide the study. Below are the assumptions to the study:

- Information collected from the secondary data which included financial statements by banking institutions and reports and policy statements by the Reserve Bank of Zimbabwe would contain comprehensive and accurate interpretation of the financial institutions and the state of the financial sector. This implies that the reports will be factual and free from bias.
- The sample of the commercial bank population used to carry out the research would truly reflect the true positions of the Zimbabwe banking sector unless otherwise stated.
- Secondary data which is relevant for the study will be readily accessed

1.8 Delimitations of the study

The research is going to be confined to commercial banks in Zimbabwe, however the findings could, to some extent apply to a wider spectrum of corporate organizations in the economy especially those in the financial services sector. This has prompted also the researcher to take his research population as commercial banks that existed and thrive from the beginning of the multiple currency era up to 2012.

1.9 Limitations of the Study

A number of challenges and constraints were encountered while carrying out the research. Below are some limitations.

Financial constraints – Funding for the research required financial resource which was scarce, this had a bearing on the ability to conduct a full research. But measures were put in place to cut costs so as to ensure that financing for the research was adequately provided for.

Confidentiality-Due to the subject matter respondents were not comfortable with disclosing certain information regarding their interest rates and in some cases they only disclosed average lending and deposit rates. But all information disclosed by respondents was dealt with in strict confidentiality. Other banks in their financial reports only revealed how they derive their lending rates and not provide the actual figure.

Time constraints- This research was done under a limited time frame with regards to its submission therefore, the limited time made it difficult to obtain all the information that was required to make this dissertation as the researcher intended. The researcher had to work long hours to compensate for the limited time.

1.10 Definition of terms

Interest rate spread - The difference between lending and deposit interest rates

Ex-ante spreads - spreads that show the difference between the actual interest rate paid on loans and the actual interest rate paid on deposits that is they use the actual data or rates quoted on loan products or savings products when calculated.

Ex-post spreads – defined as the difference between the interest revenues and interest expense paid on deposits and loans.

Net interest margin - a proxy for measuring intermediary efficiency computed as net interest income over total interest bearing assets.

Financial intermediation – refers to the provision of financial products and services, notably credit and savings.

Dollarization - the adoption of another country's currency as official currency.

1.11 Organization of the study

In this introductory chapter, a brief introduction was given about the background of the study. The background was further furnished by the statement of problem. Objectives and research questions were also formulated and highlighted, to give a project guideline to the underlying objective of the study. The scope of study, significance of this project and limitations were also stated in this chapter. In order to effectively accomplish the objectives of the study, studies by other researchers were also considered, forming the literature review section of chapter two. Thereafter, relevant research approaches were selected and used to collect necessary data, which included secondary data and this, formed the research methodology section of chapter three. In chapter four, collected data was further analyzed and presented in different forms of data presentation methods such as graphs and tables. Research findings were further clearly analyzed and interpreted. Conclusions, recommendations and further study suggestions form the components of chapter five.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter discusses theoretical and empirical literature concerning borrowing and lending rates relationships and factors that influence interest rate spreads. The chapter also focuses on points of divergence and convergence among various authors and also includes the author's own input with reference to causes of interest rates disparity or simply the widening of borrowing and lending spreads.

2.2 Conceptual framework of bank interest rate spreads

Interest rate is the price a borrower pays for the use of money they borrow from a lender/financial institutions or fee paid on borrowed assets (Crowley, 2007). The difference between lending and deposit interest rates is known as the interest rate spread which is an important determinant of the efficiency of the financial system in a country. There are alternative ways of measuring interest rate spread in the literature, such as the difference between interest income received and interest paid by a bank as a ratio of total assets or difference between the ratio of interest received and all interest bearing assets and the ratio of interest paid and all interest earning liabilities. For instance, the banks may compute spread as the difference between their cost of funds and loan rates. In this respect, cost also includes the need to set aside required reserves that earn no interest, hold excess reserves, and low yielding reserves.

Bank spreads can be categorized into two groups namely ex-ante spreads and ex-post spreads depending on the method and type of data that has been used to calculate them (Grenade, 2007). Felawawo and Tenant (1998) defined ex-ante spreads as spreads that show the difference between the actual interest rate paid on loans and the actual interest rate paid on deposits, that is they use the actual data or rates quoted on loan products or savings products when calculated. These are the rates that are clearly observable and are mostly used by the public for decision making when shopping around for financial products, (Samuel and Valderama, 2006) and (Grenade, 2007). Ex-post spreads on the other hand calculates spreads as the difference between the interest revenues and interest expense paid on deposits and loans. Ex post spreads are calculated using financial statement data from banks hence they are not readily available to the public because of their complexity in computation. An additional distinction between the two is

that ex ante spreads incorporate an unrealized default premium whilst ex post spreads takes account of the actual default realized on loans, (Samuel and Valderama, 2006).

A high interest rate spread acts as an impediment to the expansion of financial intermediation necessary for growth and development of an economy. It is often argued that the higher the spread, the higher would be the cost of credit to the borrowers for any given deposit rate. Alternatively, a high spread could mean unusually low deposit rates discouraging savings and limiting resources available to finance bank credit. From the perspective of the banks, interest rate spread shows the additional cost of borrowing that the banks take on to perform intermediation activities between borrowers and fund lenders. The spread is also a premium for the risk that the banks undertake and it compensates for loan defaults and for risk related to cost of funding. As such, interest rate spread acts as a measure of bank efficiency and a determinant of intermediation cost and profitability of the banks.

Despite the widespread financial sector reform programs implemented in developing economies banking sectors in many developing countries are still characterized by persistently high interest rate spreads. This is a very worrying phenomenon as the difference between cost of borrowing and cost of lending is regarded as a good measure of financial intermediation efficiency. It came also to the attention of the author that the issue of widening spreads is a huge challenge to the developing economies prompting so many researchers to also look into the issue. Spreads are seen in economic sense as the costs that banks incur in intermediation, inclusive of their normal profits according to Robinson (2002). This means that within the spread there is an element of cost recovery and profit marking so as to make the major duty or traditional role of banks profitable. Different authors who include Randall (1998), Gelbard and Leite (1999), and Brock and Rojas-Suarez (2000) have all revealed or shown that interest rate spreads in Sub-Saharan Africa, Latin America and the Caribbean are wider than developed economies.

This development is theoretically explained as a significant indicator of inefficiency in the banking sectors of developing countries, as interest rate spreads are widely regarded as an adequate measure of bank intermediation efficiency (Sologoub, 2006). With so many developing countries facing this spread nightmare Zimbabwe has not been spared and is also facing a similar challenge and it is very imperative to find out about the possible cause of the problem before trying to identify the possible solutions. In trying to explain the existence of the problem and its

possible causes the researcher has used available literature that seek to explain how interest spreads are determined and the variables or factors that affect them and this has prompted the author to research both empirical and theoretical literature.

2.3 Theories of interest rate determination

So many theories have been propounded to explain determination of interest rates and interest rate spreads and the following are some of the theories that the researcher has identified as relevant to the area of research under his consideration.

2.3.1 Loan Pricing Theory

The first theory of interest rate determination is the loan pricing theory which states that banks in most cases don't always set high interest rates which means that they don't try to earn maximum interest income when lending. There are other factors that banks should consider like the problems of adverse or unfavorable selection and the moral hazard associated with borrowing behavior since it is very difficult to predict the borrower type at the beginning of the banking relationship (Stiglitz and Weiss, 1981). The borrower type highly affects the pricing of loans as the borrower's interests and intended use of the loan very much determine the possibility of the bank recouping both the principal and the accrued interest payments expected from the borrower.

If in any case banks set interest rates that are too high, they may face adverse selection problems because high-risk borrowers are the only ones willing to accept these high rates. Once these borrowers receive the loans, they may develop moral hazard behavior since they are likely to take on highly risky projects or investments which will have greater potential to recoup the required high interest payments (Chodecai, 2004). This leads to the rational approach in reasoning by Stiglitz and Weiss(1981) that in some cases we may not find that the interest rate set by banks is commensurate with the risk of the borrowers. Here the bank tries by some means to realize or recognize the potential risk the borrower bears and therefore the bank tries to charge a lower rate so as to reduce the interest burden on the borrower and also reducing the borrower's chances of default. The bank in this sense fore goes the profit maximization objective whilst retaining surety in loan repayment and timely reception of interest income.

2.3.2 Firm Characteristics Theories

These are a collection of theories that argue that there are certain factors or predetermined conditions that have to do with the firm in the banking relationship that affect the terms of lending for example the number of borrowing relationships will be significantly decreasing for relatively small, high-quality, informationally opaque and constrained firms, all other things been equal (Godlewski & Ziane, 2008). This reduction in borrowing relationships is as a result of the high risk associated with the organizations and if credit is to be granted a higher interest incentive is required so as to cover for a higher risk element. This result in movement in the lending rate without a corresponding move in the deposit rates resulting in wide spreads.

The issue of the bank actually analyzing the intended borrower leads to discretionary lending whereby there are some terms that can be arrived at with certain clients whilst some clients won't be subject to similar conditions or terms. This type of lending will mainly be based on credit analysis which is the best foundation of discretionary lending as borrowers or firms portraying the best qualities like high profitability and liquidity are the ones most likely to benefit from low rates whilst others portraying poor attributes are likely to be denied credit or to receive credit on unfavorable terms like high interest rates and or secured lending and this is done to reduce non performing loans. A non-performing asset (NPA) is the money lent to an individual that does not earn income and full payment of principal and interest is no longer anticipated, principal or interest is 90 days or more delinquent, or the maturity date has passed and payment in full has not been made (Boudriga et al 2009). However this sort of interest rate movement happens without any respect to movement in deposit rates meaning it is highly likely that spreads will widen.

2.3.3 The Signaling Arguments

Another set of arguments put forwarded are classified as signaling arguments and state that good companies should provide more collateral so that they can signal to the banks that they are less risky type borrowers and then they are charged lower interest rates. Here a firm exploits its capital and asset muscle to secure a much friendlier and cheaper deal from the financial institution. Secured lending is in most cases cheaper than unsecured lending especially when companies are borrowing for larger projects like construction or expansion of operations which require larger capital outlays of capital.

However the reverse signaling argument in contrast states that banks only require collateral and or other security covenants for relatively risky firms that also pay higher interest rates (Chodechai, 2004) and (Ewert and Schenk, 1998). In lending collateral is regarded as a possible or alternative source of repayment but it in most cases works as a sign of good faith or as a sign of willingness to pay. In this sense collateral is required from those that pose a possible threat in inability to pay but it should not be considered as the basis for lending and due to the borrower's risky character he has to bear a higher level of interest and provide reasonable security. Here the firm in need of credit can forward a set of properties or assets it holds or owns as collateral in order to reduce lending risk and in some way boost its risk profile, which in the end will enable the firm to receive favorable rates.

2.3.4 Credit Market Theory

This is a model of the classical credit market that argues that the terms of credits clear the market. It states that if collateral and other lending covenants if held constant, the interest rate ultimately becomes the only pricing mechanism. If there is an increase in demand for credit at a given customer supply, the interest rate is likely to rise, and vice versa. It is thus believed that the higher the failure risk of the borrower, the higher the interest premium (Ewert et al 2000), this is a clearly market based determination of interest rates.

The interest rate level is the only influencing factor in loan pricing as the other variables like the lending covenants and collateral security are held constant. Here the interest rate will also determine the borrower's credit worthiness as an interest rate premium will be effected on risky borrowers whilst those that have a good credit standing won't be affected.

2.3.5 Theory of Multiple-Lending

It is found in literature that banks should be less inclined to share lending (loan syndication) in the presence of well developed equity markets and after a process consolidation, mergers and acquisition (Degryse et al 2004). If equity markets are well developed and liquid it therefore implies that any companies wishing to borrow for long-term or wanting to raise larger amounts of capital will do so on the capital market than to approach a banks that won't be having bigger lending capacities. The other fact is that banks have the ability to sources outside equity and or employ mergers and acquisitions which, if done on merit, will increase banks' lending capacities,

thus reducing their need of greater diversification and monitoring through shared lending that is according to (Ongene & Smith, 2000).

However mergers and acquisitions sometimes do not lead to a corresponding increase in the capacity as this is only determined by the resultant bank's size. For example banks under the Zimbabwe Allied Banks Group didn't have capacity though they were merged for this theory to apply merging would be done on merit not as a survival option. This theory has a great implication for banks in Zimbabwe in the light of the recent merging and acquisition exercise done in order to fulfill capital requirement regulations. As some of the local banks failed to meet minimum capital requirements it is widely acknowledged that they sought strategic means to overcome the problem by merging and therefore the exercise resulted in increased lending capacities and therefore reduced multiple or loan syndication. Loan syndication results in higher lending rate as more entities will be inclined to earn profits from a single lending venture.

2.3.6 The Loanable funds theory of interest rates

Rates of return are measured with regard to real purchasing power and the theory of loanable funds propounds the determination of real interest rates based on the above condition. The theory is derived from the fact that the savers have to consider between current or future consumption prior to saving, therefore implying that the funds available from savings are determined by the need for future or present consumption. The more savers intend to have current consumption the less the funds available for investment and this affects or reduces the future. Thus, there is an existence of a trade off between present consumption and future consumption. Based on the assumption that people always prefer current consumption there exists an apparent need to pay an attractive incentive to persuade them to forgo this present consumption and prefer a much deferred consumption date. Therefore the real interest rate is the rate needed to persuade people to forgo present consumption and it is sometimes referred to as the reward for waiting. This implies that the savings level will be positively related to the rate of interest paid on the savings.

However according to the theory real investment, is a negative function of the interest rate since the interest rate reflects the productivity of investment projects (McConnel and Bruce, 1995). The lower the rate of interest the more investment projects become profitable and the more willing investors will be to borrow in order to invest. Thus, the real interest rate is determined by the willingness to forgo present consumption - sometimes referred to as thrift and the demand for

investment. This all assumes that present income and the rates of return on investment projects are known, allowing people to make a rational choice between goods now and goods in the future.

The major drawback of the above mentioned approach is that the available interest rates that are quoted every day are expressed in nominal terms and not in real terms. These rates only provide information on the money return on savings and investment whilst the effects of inflation are not adjusted in the nominal rates therefore giving rise to the need to provide more comprehensive information based on the real interest rate, which is adjusted for inflation. This is based on the argument that a saver wanting a real rate of return will take into account the rate of inflation over the period of the loan he is making (Kroeger 2000). Actually, the nominal rate of interest should equal the real rate of interest plus the expected rate of inflation. Due to the fact that savers don't know the rate of inflation that will prevail in the future real interest rates are always different from what savers want.

2.3.7 Liquidity Preference theory

As the Loanable funds theory tries to marry the rates of return to future inflation adjusted income so as to strike the balance in having to make informed decisions on whether to prefer present or future consumption, potential investors must have considerable knowledge of the expected productivity of the future periods. This however in the practical world is difficult to determine with certainty and also the provision of only nominal rates makes it also difficult for the laymen saver or investor to predict real rates of return in the future implying that the loanable funds theory exists in equilibrium which is rarely achieved in the practical world.

The liquidity preference theory considers the fact that in as much as interest rates have an impact on savings levels the likely amount of savings is likely to be derived from the prevailing change in income levels. This shows that most people make saving plans based on the expected level of income adjusted to the prevailing expected rate of inflation (as in the loanable funds model) but these plans are often not fulfilled because their expectations, especially about the level of income, are frequently wrong according to Friedman 1957. Under these circumstances, the most pressing question does not concern current and future consumption but is about the way in which to hold the existing level of wealth. In an uncertain world, people seek a degree of liquidity and it is this demand for liquidity that is a major element in the determination of interest rates. This

gives us the model with the rate of interest being determined by the demand for money (liquidity preference) and the supply of money.

It is theoretically possible to bring the two theories together by suggesting that liquidity preference is a short-run or disequilibrium theory while loanable funds provides a long-run theory. In other words, loanable funds theory operates in equilibrium when people's expectations are correct. Under these circumstances, we are back in a world of certainty and people are able to make plans about the future and can assume that these plans will be fulfilled. However, bringing the theories together in this way is artificial since the proponents of liquidity preference theory do not believe that the world is ever in long-run equilibrium. In their view, people make decisions in a constantly changing series of short-run situations in which they are always uncertain about the future and cannot depend on their plans being fulfilled.

Equally, the supporters of loanable funds theory argue that the short-run in Keynesian economics is unimportant. The basis of economics, they argue, is the allocation of scarce resources - a real decision. Concentrating on the short run, they would say, is simply confusing real decisions with temporary factors. In the short-run people might act irrationally. They might suffer from money illusion (confusing monetary values with real values) but this does not mean that economic decisions should be based on the short run Modigliani (1986). To do so is likely to lead to an inefficient use of resources in the economy.

This is a very old battle. Keynes, who first stated the liquidity preference theory of interest rates in a fully developed way, argued that 'in the long run we are all dead'. What he meant was that economic analysis and economic policy should be based on the world as it is rather than on some theoretical model of a world in equilibrium that does not exist. People live in the short run. Thus, to attempt to combine the two interest rate theories is to misunderstand the reason for the distinction between them. In practice, one can of course adopt some sort of half-way position suggesting that people try to take account of the trade-off between present and future consumption and the productivity of investment but that interest rates vary quite a lot from the rates that would equate the rate of time preference with the marginal productivity of investment because of the factors that enter into the liquidity preference model.

2.3.8 Monti-Klein model

This is an advanced model that was born from the works of Klein (1971) and Monti (1972). It is a derivative of the industrial organization approach to banking. The basic hypothesis of the model is that a banks' motive is to earn maximum profits in any given trading period. This motive is driven by shareholders who expect the highest possible rate of return on their investments hence would push the firm to earn maximum profits.

Secondly, banks are not complete price takers, that is, banks have some degree of control over the setting of prices in both the deposit and loan markets, Linda et al (1999). Banks control over prices is limited by the existence of regulation or competition in the market. The power of banks to control prices is increased by market imperfections such as market power and information asymmetries.

The third assumption is that banks do not have control over the interbank money market rate and bonds interest rate, and the interbank market rate affects the rates on deposit and loans, Gropp et al (2007). The bonds and interbank markets are there to finance liquidity gaps in the banks. Linda et al (1999) discovered that a rise in the interbank market rate is associated with a corresponding increase in lending rates and deposit rates. Hutchinson (1995) cited in Gropp et al (2007) articulated that the gap between the deposit rate and the market rate represents the opportunity cost of deposits by depositors and this represents profits to the bank.

The major thrust of the model is on the cost of funds as the major determinant of a banks' consideration in setting prices. The cost of funds is determined by the movement in the interbank market rate. A rise in the interbank market rate is expected to raise lending rates which in turn can raise spreads because banks are profit maximizers.

The Monti-klein gives a clear account of the relationship of the bank lending and deposit rates with other markets rates. However, the applicability of the model can be difficult in cases when the economy is dollarized. Quinspe-Agnoli and Whisler (2006) realized that full dollarization of the economy can result in an inactive interbank market therefore the rate will have little bearing on spreads charged by banks. An alternative model to the Monti-Klein model is the Ho and Sanders (1981) dealership model.

2.3.9 Ho and Saunders dealership model (1981)

The dealership model identifies the provision of liquidity to the market as the major role of banks in the financial system. This is done by matching the deposits with the loans. However banks fail to balance the two due to an irregular arrival of depositors and borrowers, Brock and Franken (2000). Therefore the bank has to determine the rate of return which can close the gap created by the asymmetrical arrival of loan demands and supply of funds, Gropp et al (2007).

The theoretical construction of the model according to Brock and Franken (2000) begins with banks trying to balance deposits (D) and loans (L), but due to asymmetrical arrival of loans the original balanced position which is ($D = L$) is offset and the resulting position will be ($F = L - D$), where (F) is the difference between loans and deposits. Thus banks using the money market rate as the benchmark will try to determine the value (R) which will be enough to strike the balance or narrow (F) and also achieve wealth maximization for the bank.

In the model, banks use the money market rate as the reference rate which can cause problems in its applicability in the Zimbabwean economy because the Government has not been issuing out Treasury bills (TB) since 2009. However, the strength of the Ho and Saunders model should not be totally disregarded in the Zimbabwean scenario because it is able to show that banks take advantage of arbitrage opportunities caused by the asymmetrical arrivals of loan demands and deposits to set prices which clearly shows the function of a bank as a dealer

2.4 Borrowing and lending rate relationship

The lending and borrowing rates are the main determinants of the interest rate spread of the banking system which primarily but not wholly represents the profit of the bank in carrying out its traditional roles of accepting deposits and provision of credit. This is clearly articulated by Robinson (2002) who defines the banking spread as a reflector or indicator of the costs that banks incur in intermediation, inclusive of their normal profits.

Interest rate spread is often affected or defined by market micro structure characteristics of the banking sector and the policy environment (Ngugi, 2001). Risk-averse banks operate with a smaller spread than risk-neutral banks since risk aversion raises the bank's optimal interest rate and reduces the amount of credit supplied. Actual spread, which incorporates the pure spread, is

in addition influenced by macroeconomic variables including monetary and fiscal policy activities (Emmanuelle 2003).

The understanding that spreads incorporate cost and a profit element has implications for the growth and or development of national and international economies, as numerous authors suggest that there is a link between the efficiency of bank intermediation (efficiency of bank intermediation is revealed by the spread. High spreads show inefficiency whilst low spreads show efficiency) and economic growth. The nature and efficiency of the financial sectors have been found to be the major reasons behind differences in spread in countries across the world. In economies with weak financial sectors, the intermediation costs which are involved in deposit mobilization and channeling them into productive uses, are much larger (Jayaraman and Sharma, 2003).

Quaden (2004), for example, argues that a more efficient banking system benefits the real economy by allowing “higher expected returns for savers with a financial surplus, and lower borrowing costs for investing in new projects that need external finance.” This results in a sound financial system that will be friendly to both savers and borrowers. The reverse is also true in that if the banking sector’s interest rate spread is large, according to Ndung’u and Ngugi (2000), it discourages potential savers due to low returns on deposits and thus limits financing for potential borrowers. The existence of savings from surplus units creates the base of lending as one of the bank’s functions is pooling of resources and surplus funds and the creation of credit to deficit units in the economy.

Valverde et al (2004) elucidate by noting that because of the costs of intermediating between savers and borrowers, only a fraction of the savings mobilized by banks can be finally channeled into investments as some of the savings will be absorbed by costs. An increase in the inefficiency of banks increases these intermediation costs, and thereby increases the fraction of savings that is ‘lost’ in the process of intermediation. Inefficient intermediation will ultimately result in the reduction of funds available for lending and investment and therefore will impact negatively on economic growth. These implications of banking sector inefficiency have spurred numerous debates in developing countries about the causes of wide interest rate spreads, with some suggesting that the spreads are imposed by the macroeconomic, regulatory and institutional environment in which banks operate. With the above understanding it is imperative to analyze

the factors or the possible causes of wide interest rate spreads. Different authors have brought forward or identified significant causes of interest rate disparity that result in wide or increasing spreads. It has been suggested that interest rate spreads are widened by:

2.5 Industry specific factors

The industry specific factors are those prevalent to the whole banking sector and can be analysed as affecting the whole sector and these include the regulatory requirements like minimum capital requirements and statutory reserve requirements, other factors that include bank sector development level, market size and the efficiency of the regulatory environment.

2.5.1 Market size

The market- specific determinants of commercial bank interest rate spreads highlighted in the literature typically include lack of adequate competition in the banking sector which leads to interest rate spreads widening due to dis-economies of scale due to the small size of markets (Robinson, 2002) and (Jayaraman and Sharma, 2003). The authors further note that consequent market power of commercial banks leads to influential banks dictating the pace for the whole economy and not market determination of rates

Greater market power or dominance by some few individual commercial banks was also noted by Barajas et al (2000) as one of the major causes of wide interest rate spreads. This ultimately leads to less competition on the loan market and therefore results in the leading banks dictating the pace in lending and in rate determination. Lack of competition and market power of a few large dominant banks enables them to manipulate industry specific variables including lending and deposit rates to set prevailing spreads without any macro economic factors contributing to the level of the spreads. These banks can also use their size and economies of scale to influence both deposit and lending rates in such a way that the two rates will end up mismatched resulting in wide spreads. The presence of competition will on the other hand influence banks to offer competitive return on deposits and ultimately lower borrowing rates as there will be so many sources of credit for customers.

2.5.2 Under developed banking sectors

Banking sectors that are poorly developed according to Demirguc-Kunt and Huizinga (1998) also results in inefficient intermediation. The degree of development of the banking sector also

plays a part as development leads to efficiency. If intermediation (which means the collection of surplus funds from surplus units and their transfer to deficit units) is inefficient it leads to increased costs of operation and therefore increase in interest rate spreads to cover for intermediation costs. The cost of intermediation resemble the greater but variable part of the cost incurred by operating banks and though the costs can be controlled the inability of banks to do so increases cost of operation resulting in banks charging higher interest on loans.

2.5.3 Reserve requirements

According to Barajas et al (2000) relatively high reserve requirements and explicit and implicit taxation - such as profit taxes and reserve requirements, will result in the widening of interest rate spreads. This leads to more deposit or capital funds remaining idle for the purposes of disaster cushion and regulatory purposes so for banks to cover for the opportunity costs they reduce deposit rates and or subsequently increase lending rates. The existence of high reserve requirements makes it difficult for banks to lend more and gain from economies of scale and therefore results in possible loss of revenue and an increase of non interest bearing funds further crippling the bank's profitability. This result has however prompted the RBZ to repeal reserve requirements in order to increase lending capacity for banks (RBZ Midterm Monetary Policy Statement, 2010).

2.5.4 Inefficient regulatory systems

Inefficiency of regulatory system and wide spread corruption was identified by Demirguc-Kunt and Huizinga (1998). The existence and the extent to which corruption affects banking operations, the perpetuation of cases of fraud and inadequate control systems erode profits as these increase operating risk. To cover for the possibility of these losses happening risk premiums are included in the spreads. Inadequate controls may be a result of incompetent management, poor employee selection and induction or lack of robust information technology facilities leading to more costs in operations and poor execution of duties.

There are other factors that are industrial in nature that cause interest rate spreads to fall. Such factors include the efficiency of the legal system and adequate risk control supervision and regulation, contract enforcement on the part of employers as they have to analyze if their employees are adhering to the terms of their contract as these ensure efficiency in carrying out

tasks and this also decreases levels of corruption, which are all critical elements of the basic infrastructure needed to support efficient banking.

2.6 Macro economic factors

Macroeconomic factors have been shown to explain significant variation in commercial bank interest rate spreads. Brock and Franken (2003) quote from a Moody's report which argues that, "macroeconomic factors are certainly among the most influential sources for variations in credit spreads." Chirwa and Mlachila (2004) concur and assert that macroeconomic instability and the policy environment have important impacts on the pricing behavior of commercial banks. Macro economic factors affect spreads in different ways as some give rise to uncertainty or increase in cost of operation and intermediation and in most cases it will not be in the capacity of the banks to control these factors.

2.6.1 Inflation

The macroeconomic variables which have been empirically shown to increase interest rate spreads include high and variable inflation and real interest rates (Demirguc-Kunt and Huizinga, 1998) which leads to currency losing its value against other currencies and the erosion of buying power of the currency. Ramful (2001) indicated that high spreads are associated with low developing countries and they indicate an economy characterized with high inflation. This however is not always the case that high spreads are as a result of high inflation as in Zimbabwe high spreads exist but in an economy that has a very low inflation rate. An increase in the real interest rate results in the nominal rates charged on loans being insignificant as the level of return they initially represented will have been eroded. Interest rate uncertainty proxied by inter-bank interest rate volatility according to Brock and Franken(2002) is part of the influence that real interest rates have on the interest rate spread. With this in mind the banking entities will significantly increase lending rates to cover for possible increase in inflation or real rates.

2.6.2 Gross domestic product (GDP) growth

Changes in business cycle impact the creditworthiness of borrowers in terms of repayment capacity. Business cycle effects are measured by the growth in an economy's GDP. In order to compensate against expected default emanating from changing business cycles, banks are likely to impose higher lending rates. In case of accelerating GDP growth, banks tend to charge lower spreads while in periods of stagnant or low growth, banks' spreads are expected to increase

(Saunders & Schumacher, 2000). Increased economic activity can heighten demand for loans leading to higher lending rates. However increased economic activity can make projects more profitable, reduce defaults, and increase deposits, all of which reduce the spreads.

2.6.3 Increase in money supply

Broad money growth according to Crowley (2007) affects interest rate spreads. For instance, lowering interest rates spurs investments subsequently. Business firms then respond to increased sales arising from the excess money supply by ordering more raw materials and increasing production. The spread of business activity increases the demand for labor and raises the demand for capital goods. In a buoyant economy stock market prices rise and firms issue equity and debt. If the money supply continues to expand, prices begin to rise especially if output growth reaches capacity limits. As the public begins to expect inflation, lenders insist on higher interest rates to offset the expected decline in purchasing power over the life of their of their loans. Opposite effects occurs when the supply of money falls or when its rate of growth declines. In this case, economic activity declines leading to either a disinflation (reduced inflation) or deflation (falling prices).

2.7 Bank specific factors

Studies have shown that there is a pervasive view amongst some stakeholders that high interest rate spreads are caused by the internal characteristics of the banks themselves, such as their tendency to maximize profits in an oligopolistic market (Demirguc-Kunt and Huizinga, 1998) and Sologoub (2006) note that the specific characteristics of commercial banks that are usually theorized to have an impact on their spreads include the size of the bank, ownership pattern, the quality of the loan portfolio, capital adequacy, overhead costs, operating expenses, and shares of liquid and fixed assets. Robinson (2002) further notes that the incidence of fraud, the ease with which bad credit risks survive due diligence, and the state of corporate governance within banks all lead to higher operating costs, asset deterioration and ultimately wider interest rate spreads.

2.7.1 Liquidity

Liquidity measures the extent to which a bank is able to meet the withdrawal of funds and meeting other financial obligations when they fall due. There is a tradeoff between liquidity and interest rate margins, and banks with a higher proportion of liquid assets are likely to generate lower spreads (Sologoub, 2006). Liquidity is measured as the ratio of liquid assets to demand

deposits. Liquid assets include cash and bank balances, deposits with banks, government securities, listed term finance certificates, listed equity investments, and net reverse repos. Risk absorption capacity refers to the cushion that banks have against unforeseen losses. The cushion against possible losses is central to the financial structure of commercial banks.

2.7.2 Risk

The 2007 to 2009 global financial crisis was triggered by the financial sector's excessive risk taking, which became worse with the simultaneous erosion of banks' capacity to absorb various risks. This has warranted the increased significance of risk absorption capacity for banking operations. A bank with a higher risk absorption capacity is perceived as resistant against credit and market risks and ultimately enjoys a competitive borrowing profile both in deposit and interbank markets with a low rate of return for lenders. Therefore, a strong cushion is likely to positively impact interest rate spreads.

2.7.3 Non performing loans

A non-performing asset or loan is the money lent to an individual that does not earn income and full payment of principal and interest is no longer anticipated, principal or interest is 90 days or more delinquent, or the maturity date has passed and payment in full has not been made (Boudriga et al 2009). A higher share of non performing loans can impair bank performance in at least two ways which are the loan losses immediately reduce the interest revenue, bringing spreads under pressure and simultaneously, banks are required to make provision for classified loans, thus increasing non interest expenses and resulting in lower profitability. This was a variable of interest to the author as so many commercial banks in Zimbabwe are struggling because of non performing loans.

2.7.4 Asset quality

The analysis of asset quality has revealed an inverse relationship between asset quality and banking margins. However, Angbazo (1997) argues that a diminution in asset quality calls for increasing loans' loss provisions. Banks are likely to charge higher spreads to compensate for the increase in loan loss reserves and consequently an increase in credit risk would result in increasing spreads. This shows that non performing assets play a significant role in eroding the profit margin of banks and the profitability capacity of banks as to cover for it there must be loan loss provision.

The factors above all show that such bank-specific factors impact significantly on commercial banks' net interest margins. Notwithstanding this, Brock and Franken (2002) note that the results of many other studies suggest that individual bank characteristics are often not tightly correlated with interest rate spreads. It is asserted that this may be because spreads are largely determined at the industry level, thus making individual bank characteristics more relevant to other variables, such as bank profitability.

2.8 Empirical evidence

The literature is replete with empirical studies on the causes of disparities in spreads or differences between various types of interest rates. Interest rates and interest rate spreads are the subject of numerous empirical analyses, both for developed and developing countries. Depending on the purposes of the research as well as on data availability and the specific characteristics of a particular banking system, the studies are carried out in various manners, ranging from simple accounting identities through to regression techniques and other more sophisticated econometric models.

2.8.1 Studies conducted in less developed economies

Crowley (2007) conducted a study of bank spreads in developing African states using a large set of countries in Africa. The study made use of a pool of 18 English speaking African nations and the sample period was 1974 to 2004. The study made use of a pooled estimation technique to run a regression on a large set of micro and macro-economic variables. The results of the study showed that higher spreads were attributable to factors such as high inflation rates, the concentration of publicly owned banks and finally the greater number of banks. Also other factors such as poor corporate governance, poor regulatory structures and higher financial taxes through increased reserve required ratios were identified as other drivers of spreads. The need to strengthen the regulatory framework was sighted as the best measure to drive the interest rates to lower levels that is necessary to foster economic growth.

Beck and Hesse (2006) conducted a similar study to the one conducted by Crowley (2007). Their study focused on the factors behind the consistently high interest rate spreads and margins in the Ugandan banking industry compared with peer African countries. The study adopted the use of the Ho and Saunders (1981) dealership model to model a panel dataset of 1390 banks from 86

countries over the period 1999 to 2005 .The Ho and Saunders model was used to enable cross country comparisons of bank spreads and variables. The results showed that there are high spreads in banks within countries and across countries. Both macroeconomic and bank specific variables were found to be of relevance in explaining variations in bank spreads. Bank size, high Treasury bill rates and institutional deficiencies explained a greater proportion of spreads in Ugandan banking industry. Although it was found that foreign banks charge low bank spreads, market structure and the presence of foreign banks had no significant relationship with interest rate spreads.

Brock and Rojas-Suarez (2000) made an assertion that a study of interest rates that makes economic sense is the one done in a decontrolled economy. Hence, Chirwa and Mlachila (2004) conducted a study of the causes of high spreads in a financially liberalized economy which is Malawi. The study made use of bank specific, industry level and macroeconomic variables. Net interest margin were employed as an alternative definition of spreads and monthly panel data regression on commercial banks over a period 1989-1999.The study results showed that bank spreads increased significantly after financial liberalization; high spreads were attributed to high monopoly power, high required reserves, high inflation and high central bank discount rate. They concluded that bank spreads in developing countries will continue to rise if financial liberalization fails to alter market structure such as increasing market competition as was the case in Malawi. This assertion was supported by Brock and Rojas-Suarez (2000) who realized that spreads in financially liberalized economies are generally higher as compared to the one which are controlled.

2.8.2 Studies of other non African countries

Perez (2011) used accounting data and employed a dynamic panel regression model to ascertain the factors affecting bank spreads in the developing nation of Belize. The results showed that adversely classified loans and market share were the factors explaining a greater proportion of spreads. Increases in the level of non-performing loans were associated with increases in credit risk which is passed to the customers through spreads. Reduction of information asymmetries and increasing market competition were sighted as remedies to lowering spreads.

Younus and Mjeri (2009) conducted an analysis on bank spreads for the period 2004 to 2008 in Bangladesh by employing the use of the profit maximization model that is based on the industrial

organization approach in an environment where lending and deposit rates are decontrolled. They begin the construction of their model by specifying the spread as a function of bank specific variables, bank industry variables and macroeconomic variables as follows:

$$IRS_{jt} = f(BSV_{jt}, BIV, RMV, u_t) \quad (1)$$

Where: IRS_{jt} is the interest spread of bank (j) at time (t); BSV is the vector of bank specific variables for bank (j), BIV is the vector of bank industry variables, RMV is the vector of regulatory and macroeconomic variables and finally u_t represents the error term. Alternative definitions of the spreads were used in modeling the dependent variable as defined below:

$$IRS (1) = (\text{interest received} - \text{interest paid}) / \text{total assets}$$

$$IRS (2) = (\text{interest received} / \text{all interest bearing assets}) - (\text{interest paid} / \text{all interest earning liabilities})$$

When the two definitions were used, a number of coefficients turned out to be insignificant meaning they were not proper definitions for calculating spreads in Bangladesh. An alternative was to use the narrower definition calculated as the difference between the lending rate for large and medium sized industries and the interest rate on deposits at the individual bank level.

The vector for bank specific variables contained 5 variables such as the adversely classified loan (CL) which measure the quality of assets, operating costs (OC), the market share of each bank in the deposit market (MS), a measure of power and bank size, the ratio of non-interest income (NII), and the deposit interest rate (DR). For bank industry variables the reserve required reserve requirements (SRR), National Savings Directorate (NSD) certificate rate were included. The vector for regulatory and macroeconomic variables comprised of the inflation rate (INF) and finally the ratio of taxes paid by the banks to net income before provision and tax (TAX).

Thus their final model turned out as follows:

$$IRS_{it} = \alpha + \alpha_1 CL_{jt} + \alpha_2 OC_{jt} + \alpha_3 MS_{jt} + \alpha_4 Tax_t + \alpha_5 NII_{jt} + \alpha_6 DR_{jt} + \alpha_7 SRR_t + \alpha_8 NSD_t + \alpha_9 INF_t + \epsilon_t (2).$$

The results of the study showed that the level of bank spreads was affected by the level of non-interest income earned, market share of a bank, statutory reserves and NSD. The study concluded that profitability at the bank level was an essential tool in reducing spreads.

The State Bank of Pakistan used panel data regression analysis on commercial banks to ascertain the degree of efficiency of the Pakistan financial sector over a period of 1997 to 2007. They made use of bank level variables such as provision for loan losses, non-interest income, administration costs, foreign ownership, industry specific variable of bank concentration using the Herfindal index and macro-economic variables of interest-rate sensitivity and growth in real GDP. The study revealed that all the factors were significant in explaining the high interest spreads in Pakistan. Administration costs and foreign ownership had a high significance in comparison with other variables.

Grenade (2007) observed that bank spreads are consistently wide and do not show any signs of narrowing. The results showed that the observed spreads can be attributed to high market concentration, high non-performing loans, operating costs and the central banks' regulated savings rate. In order to reduce spreads, particular attention was focused on reducing non-performing loans and enhancing the competitiveness of the market.

Brock and Rojas-Suarez (2000) made use of the Ho and Saunders model to run two stage regressions on variables that were premised to cause high spreads in a set of 7 developing countries in the Latin America in the 1990's. In the first stage, micro variables were regressed on individual bank spreads and it was found out that non-performing loans, liquidity ratio and capital ratio were significant in explaining spreads.

Spreads = f (capital-assets ratio, liquidity ratio, cost ratios, non-performing loans ratio)

In the second regression macro variables were used to explain the pure spreads. Pure spreads to those spreads that cannot be explained by the microeconomic variables. The model specification is as follows:

Spreads=f (interest rate volatility, inflation rate, GDP growth rate)

These variables were able to explain spreads bank spreads in most countries. The two stage regression model was necessary in facilitating comparisons between countries. The study concluded that both micro and macro factors have an impact on bank spreads in most countries.

Dermigurc-Kunt and Huizinga (1998) employed a large set of data to study the factors that determine bank spreads and profitability in 80 countries and covering the period from 1988 to 1995. They found out that variations in interest margins reflect a number of determinants: bank characteristics, macroeconomic conditions, and the financial industry structure. Adjusting for differences in banking activity, leverage and the macroeconomic environment, it was found that banks with a large asset base and lowly concentrated industries are associated with lower margins. Foreign banks had higher spreads as compared to domestic banks in developing states and the opposite was observed in developed states and there was evidence of passing of the tax burden to customers by increasing spreads amongst banks. Reduction of spreads was linked to lowering of operating costs and lowering financial taxes. The results concurred with Barajas et al (1999) who asserted that Colombia's efforts in reducing operational costs, financial taxation and enhancing loan quality will determine whether it will be able reduce spreads.

A follow up study from the one done by the State bank of Pakistan was done by Afzal and Mirza (2010) who explored the causes of high spreads in Pakistan for the period 2004 to 2009 using an exhaustive body of bank level and macro variables that explain intermediary efficiency. Net interest margins and spreads were used as proxies to measuring intermediary efficiency. They introduced two completely innovative variables namely the default likelihood indicator and the share of public sector deposits to total bank deposit in their research. The results showed that spreads are affected by bank size, asset quality, operational efficiency, liquidity, risk absorption capacity and GDP growth rate, evidence to support the impact of financial development indicators on bank spreads could not be established. Prudent credit risk policies to reduce non-performing loans and strengthening central authority surveillance forwarded as ways to reduce spreads and improve on efficiency.

A very interesting finding was revealed by Cihak in his study of interest rate spreads in Croatia when he concluded that capital adequacy has a different effect on lending rates. 'Banks with higher capital adequacy have lower lending rates, but they have even lower deposit rates, so that their spreads are higher than in banks with lower capital adequacy' Cihak (2004). Claey's and

Vennet (2003) carry out a systematic comparative analysis of the determinants of interest rate spreads of banks in Central and Eastern European and Western European countries. According to their results, concentration levels, operative efficiency, capital adequacy and risk management are important determinants of interest rate spreads in both groups of countries. Institutional reforms initially cause risky bank behavior, which is manifested in higher interest rate spreads. However, as institutional reforms advance, they result in narrower spreads as a result of greater competitive pressure.

The researcher has found out during the course of his research that different researchers have come up with different conclusions. Randall (1998)'s study on the Small Island Developing States (SIDS) note that interest rate spreads are widened by scale diseconomies due to the small size of markets. Market size is based on the number of players in the banking sectors, in the study the market size was small and banks were likely to charge lending rates that were relatively determined by policy rather than charging competitive rates, this therefore means that the rates won't be determined by market forces but by the bank's discretion. In this instance it is likely that the bank with the highest market share will greatly influence the interest rates and ultimately the spread. Randall (1998)'s inclusion of macro economic factors is similar to the additional variables suggested by stakeholders in Jamaica, as Tennant (2006) showed that macro- policy variables, such as public sector domestic borrowing, discount rates and Treasury bill rates, are commonly perceived to impact on commercial bank spreads.

The research by Saunders and Schumacher (2000) on a sample of seven countries for the 1988-1995 period concludes that bank capitalization, market structure and interest rate volatility are the main determinants of interest rate spreads, whereas according to Afanasieff et al. (2002) macroeconomic variables appear to be the most important factors in the case of Brazil. Similar to this is Naceur's (2003) research on Tunisia for the period from 1980 to 2000, which comes to comparable results.

The research is heavily based on the work by Cihak (2004), who analyses the determinants of lending rates and interest rate spreads in Croatia between 1999 and 2003. Cihak supposes that interest rate spread is a function of the deposit rate, total assets, market share, and the share of non-performing loans in total loans, liquidity, capital adequacy, dummy variables for privatized and green-field banks, as well as the Treasury bill rate and the EURIBOR rate as general factors.

The empirical results show the existence of an inverse relation between lending rates and interest rate spreads, on the one hand, and bank size (total assets), liquidity and foreign ownership, on the other. In addition, he finds that market share, non-performing loans, deposit rates and money market rates have a positive effect on lending rates and interest rate spreads.

2.9 Summary

This chapter reviewed literature about interest rate spreads and their determinants in perspective. Within the course of the chapter determinants of interest rate spreads were derived from theory and empirical studies and the included bank specific determinants, industry or market wide factors and macro economic factors. The bank specific factors included operating costs, non performing loans, liquidity and asset quality. These were also identified in various empirical studies as proven determinants of spreads and these studies include the one done by Randall (1998) in the Caribbean and Claeys and Vennet (2003). Other determinants were industry specific which included reserve requirements and bank size. The last type of determinants is macro related factors which included inflation, real interest rates and growth in Gross Domestic Product. Effects or economic implications of wide spreads have been noted as loss in savings culture and intermediation inefficiency. The next chapter will be focusing mainly on research designs, model specification and techniques used to collect data by the researcher.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives a detailed account of the methodology used to carry out the research and introduce the data collection and analysis methods that were adopted. The researcher will clearly outline and specify the model he is going to use and justify its variables based on the understanding that the model will clearly be a useful tool in data analysis and interpretation. Though in some instances accounting models have been used in similar researches, an econometric model seems to be the most relevant model to use in this type of study. In the course of the chapter the researcher will clearly outline the target population being studied and the data collection techniques used.

3.2 Research design

The research design minimizes the danger of collecting haphazard data and makes sure that data collected meets the objectives of the research. A descriptive research design was chosen and is used to show trends and comparative analysis of interest rate spreads and other variables of interest. The design is also quite employable when there is a specific question for study and the methodologies to be done are already known which the case in this study was. Regression analysis is undertaken or used in this research. Regression analysis is undertaken to empirically investigate the determinants of interest rate spreads by employing panel data estimation methodology on a panel of commercial banks using annual data for the period 2009 to 2012.

3.3 Research population

The target population of the study used was thriving commercial banks operating in Zimbabwe since 2009 as these operated in the period of interest to the researcher. The researcher chose this population because they play a major role in determination of interest rate spreads in their financial intermediation role. Commercial banks were also targeted as these do not offer sophisticated services unlike merchant and building societies and also the researcher targeted these due to time and resource constraints and therefore a total of ten thriving commercial banks were used and this excludes failed banks and those under curatorship as their inclusion would distort data as they are under controlled operation.

3.4 Model specification.

Panel data model enables regression analysis to be undertaken to empirically investigate the causes of interest rate spreads disparities. According to Hsiao (2003) panel data models provide superior insights than time series models or cross section data models because it is theoretically possible to isolate the effects of specific variables and other actions. The model is very relevant as it takes into account bank specific factors as ignoring them can lead to biased or misleading results. In the model interest rate spreads are hypothesized to be a function of bank specific factors, as well macroeconomic factors, which is in line with other studies in the literature like Siddiqui (2012); Demirgüç-Kunt and Huizinga (1999) and others.

Demirguc Kunt and Huizinga (1999)'s model provided a foundational bearing to the model adopted for the current research though the major difference is that the current research intends to decompose the major variables in the model to bank specific and macro-economic variables and not microeconomic and macroeconomic variables. The researcher has noted that the above variables affect interest rate spreads in different ways therefore there is a need to separate them. Industry or regulation related variables were not considered because of the inconsistency of the RBZ policy inconsistency for example the repealing of reserve requirements in mid in July 2010 and the changes of minimum capital requirements from \$12.5 million to \$100 million. With the changes the data wouldn't be balanced as some years wouldn't be including another important variable.

The general form of the model would take the following form:

$$\text{Wide IR Spread}_{it} = C_0 + B_1 SP_{it} + B_2 MC_{it} + e_{it}$$

Where:

SP are the bank specific variables

MC is the macroeconomic variables.

C₀ is a constant and e_{it} is the error term.

i denotes banks and t denotes time

To further decompose the model into its actual variables it takes the following form:

$$\text{IRSit} = C + \text{npl} + \text{efr} + \text{lta} + \text{inf} + \text{ggdp} + e$$

It is also imperative to outline the non performing loans ratio to total loans (npl), liquid assets to total assets ratio (lta) and operating expenses (efr) as a percentage of income makes up the bank specific variables, whilst the macroeconomic variables are made up of the inflation rate (inf) and the growth in gross domestic product (ggdp).

3.5 Justification of variables

As the study involved the selection of key variables that affect bank spreads in Zimbabwe in the multiple currency environments and the selection of these variables was influenced by previous studies done on bank spreads in other developing countries. The variables included measure the contribution of bank size, operational efficiency, asset quality, ability to absorb risk and stability in the macro economy in the widening of spreads

3.5.1 Dependant variable

The spread which is the dependant variable is calculated as the difference between the average lending rate and average deposit rate that the commercial banks in Zimbabwe were charging. Literature shows that the spread is a good measure of banking efficiency.

3.5.2 Non performing loans

Asset quality refers to the performance of the loan portfolio. A higher share of NPLs can impair bank performance in at least two ways. The loan losses immediately reduce the interest revenue, bringing spreads under pressure or simultaneously, banks are required to make provision for classified loans, thus increasing non interest expenses and resulting in lower profitability. This explanation of asset quality warrants an inverse relationship between asset quality and banking margins. However, Angbazo (1997) argues that a diminution in asset quality calls for increasing loans' loss provisions. Banks are likely to charge higher spreads to compensate for the increase in loan loss reserves and consequently an increase in credit risk would result in increasing spreads. Non performing loans to total loans ratio is used to estimate asset quality in the research.

3.5.3 Operating costs

Operating costs arise in processing loans and the servicing of deposits and they refer to staff costs, audit fees, administrative costs and rent expenses amongst other costs that are incurred by commercial banks in Zimbabwe. The ratio of operating costs to total earnings is used as a proxy to measure operational efficiency in the banks. That is banks that incur higher costs are considered inefficient and are likely to increase margins on bank spreads to compensate for the extra costs incurred. Studies by (Grenade, 2007) showed that a positive relationship is expected between bank spreads and the ratio of overhead costs to total assets. A positive relationship between this variable and bank spreads is expected.

3.5.4 Liquidity

Liquidity measures the extent to which a bank is able to meet the withdrawal of funds and meeting other financial obligations when they fall due. There is a trade off between liquidity and interest rate margins, and banks with a higher proportion of liquid assets are likely to generate lower spreads. We measure liquidity as the ratio of liquid assets to total assets. Liquid assets include cash and bank balances, deposits with banks, government securities, listed term finance certificates, listed equity investments, and net reverse repos. Liquidity affects risk absorption capacity which refers to the cushion that banks have against unforeseen losses. A bank with a higher risk absorption capacity is perceived as resistant against credit and market risks and ultimately enjoys a competitive borrowing profile both in deposit and interbank markets with a low rate of return for lenders. Therefore, a strong cushion is likely to positively impact interest rate spreads

3.5.5 GDP Growth [gGDP]

Business cycle effects are measured by the growth in an economy's GDP. Changes in business cycle impact the creditworthiness of borrowers in terms of repayment capacity. In order to compensate against expected default emanating from changing business cycles, banks are likely to impose higher lending rates. In case of accelerating GDP growth, banks tend to charge lower spreads while in periods of stagnant or low growth, banks' spreads are expected to increase (Saunders & Schumacher, 2000). Increased economic activity can heighten demand for loans leading to higher lending rates. On the other hand, increased economic activity can make projects

more profitable, reduce defaults, and increase deposits, all of which reduce the spreads. For both variables, negative as well as positive parameters have been observed.

3.5.6 Inflation

Inflation refers to the change in the price level in the economy as measured by the consumer price index compiled by the ZIMSTATS. Inflation is used in this study to measure stability in the macroeconomic environment. High inflation is considered a reflection of the high costs of doing business and can also indicate the riskiness of conducting business in the economy. When there is high inflation, borrowers are likely to default because the costs of borrowing will be high which makes it difficult to service the loans. Hence, banks are expected to increase spreads to cushion themselves against the adverse effects of possible loan defaults. Brock and Rojas-Suarez (2000) employed the use of inflation in his studies as a tool to measure economic stability and found a positive relationship between bank spreads and inflation

3.6 Diagnostic Tests

Diagnostic tests are to be performed to check for the validity of the parameters. The researcher is to test for multicollinearity and heteroscedasticity and also is going to perform maximum likelihood tests.

3.6.1 Multicollinearity

The term multicollinearity is due to Ragnar Frisch (1934). Originally it meant the existence of a “perfect,” or exact, linear relationship among some or all explanatory variables of a regression model (Gujarati 2004). If it exists the remedy is to drop a variable with a high R² or do nothing.

H₀: There is no perfect linear relationship among regressors.

H₁: There is a perfect linear relationship among regressors.

3.6.2 Heteroscedasticity

According to Gujarati (2004) this is a situation whereby the error variances are not constant. This is a violation of one important assumption of the classical linear regression assumptions. To detect heteroscedasticity the researcher employs the Whites test for heteroscedasticity. The problem of continuing to use data that suffers heteroscedasticity is that whatever conclusion or inferences, they will be misleading.

H0: The variance of the error term is constant

H1: The variance of the error term is not constant.

3.6.3 Autocorrelation

The violation of the basic assumption that residuals are mutually independent results in serial autocorrelation. In time series data the successive residuals will tend to be highly correlated. Autocorrelation can also be extended to cross section data where the residuals are correlated with those of the neighbouring units, Maddala (1977). The Durbin-Watson method is used to test for autocorrelation. A Durbin Watson statistic around two is generally accepted though there are zones of indifference and zones of both positive and negative correlation.

3.7 Data sources and collection techniques

3.7.1 Secondary data

It is from this study that the researcher will draw his conclusions and therefore to make valuable conclusions the researcher mainly used secondary sources of data as these had direct bearing with his line of research and also to overcome various constraints associated with primary data sources and the sensitive nature of the research. Using the secondary data the researcher will be well equipped with reliable information to determine the actual causes of the widening spreads in Zimbabwe and draw valuable conclusions. The researcher will use the following information sources:

3.7.1.1 Published financial statements

Financial statements are a very important source of data as they report the financial year proceedings of banks and they also provide detailed numerical account of operations. The financial statements enable the researcher to analyze and draw conclusions on different bank specific aspects highlighted in the model and this also enables panel analysis. Variables like non performing loans, liquidity and operating costs are directly available from financial statements. The major downside of financial statements is the possibility of the reporting entity to “window dress” its statements thereby misrepresenting the financial position of the bank.

3.7.1.2 RBZ Monetary policy statements and the RBZ website

Monetary policy statements also give a detailed account of industrial based factors as most if not all of the regulation of commercial banks is done by the RBZ. The aspects of reserve requirements and interest rate caps are done by the central bank so its reports and policy statements are very relevant for industry specific factors. The website also provides vital information concerning the GDP and inflation which are very important macroeconomic indicators to be used in the model.

3.8 Data Presentation and Analysis Plan

Analysis of the data collected was based much on descriptive and quantitative techniques which fully brought to attention the various findings. Statistical analysis was incorporated into the analysis as well. Descriptive statistics were used to explain quantitative data and also allowed the most significant observations to emerge from all the data gathered thereby reducing the volume of data.

3.9 Summary

The aim of this chapter was to describe the research methodology that was used in the study. It dealt with the research methods, data collection techniques and data analysis techniques used. The research design to be used is a descriptive research design and regression analysis is also included in analysis techniques. Unit root tests and diagnostic tests are also going to be conducted and the data sources are secondary. The following chapter which is chapter four focuses on the data presentation techniques, discussions and interpretations of findings.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Introduction

In this chapter, the regression results of the estimation of the causes of widening interest rate spreads in Zimbabwe which were obtained from linear regression analysis are presented and analyzed. The researcher will also consider if estimated parameters are consistent with theories for which it is derived. The tables of results are derived from Eviews commands and all the parameters needed for interpretation are given. Outlined in this chapter are results of multicollinearity, heteroscedasticity and regression. The chapter also presents and discusses the study's results and is concluded by a summary of the chapter.

4.2 Diagnostic tests results

The researcher conducted diagnostic tests to guard against the possibility of obtaining and interpreting spurious regression results. The results of the tests are presented in the tables that follow.

4.2.1 Multicollinearity test.

The results for the test for severe multicollinearity are presented in the correlation matrix in table 4.1:

Table 4.1 Correlation matrix

	Irs	Ggdp	Efr	Inf	Lta	npl
Irs	1.0000					
Ggdp	0.132217	1.0000				
Efr	-0.27954	-0.12863	1.0000			
Inf	-0.61199	0.36854	-0.02412	1.0000		
Lta	0.254561	0.02246	0.03031	0.41112	1.0000	
Npl	0.176055	-0.20597	-0.47689	0.12203	0.41173	1.0000

Source: Authors estimates

The results showed that the problem of multicollinearity did not exist because all the correlation coefficients were within the recommended range of no multicollinearity which is -0.8 to 0.8. Hence all the variables were retained for use in estimations. In the above correlation matrix there is no pair-wise relation that exceeds 0.8 which compels the researcher to reject the alternative hypothesis (H0) which supposes that pair-wise relationship among regressors exists and we do not reject the null hypothesis (H1) which supposes that there is no perfect pair-wise relation among regressors. The correlation matrix shows tests results for multicollinearity where diagonal entries shows a variable's own correlation whilst the off-diagonal entries shows pair-wise correlations between different explanatory variables (multicollinearity). The least correlation (-0.0241) is between inflation and operating cost, while the highest (0.47689) is between non performing loans and operating expenses. All of the off-diagonal entries are below 0.8 which is not suggestive of multicollinearity.

4.2.2 Heteroscedasticity test

The Whites' test was used to check for the presence of heteroscedasticity in the residuals. According to E-views 5.0, the test can also be used to test for model misspecification since it is conducted under the null of homoskedastic errors and that the linear model is correctly specified. A significant test statistic shows the failure of any one of the assumptions:

H0: homoscedasticity, linear model correctly specified

H1: heteroscedasticity, linear model incorrectly specified

Obs (R^2) = 13.98521

Probability = 0.784553

The test statistic is not significant hence the model is free from heteroscedasticity and it is correctly specified.

4.2.3 Autocorrelation test

The Durbin Watson statistic result for autocorrelation showed that the residuals were indifferent to autocorrelation a result which meant the data didn't suffer from autocorrelation. The statistic of 1,559823 shows that though the value doesn't lie in the no correlation zone it lies just outside the zone in the zone of indecision which simply means that the data was indifferent or was not affected by autocorrelation. Table 4.2 shows the results of the autocorrelation test

Table 4.2 Results of the Durbin Watson test

Positive autocorrelation	Zone of indecision	No autocorrelation	Zone of indecision	Negative autocorrelation
0 ↔ 0,7	1 ↔ 1.8 1,559823	1.9 ↔ 2,1	2,2 ↔ 3,8	3,9 ↔ 4

Source: author's estimates

4.3 Regression results

The model was estimated using pooled ordinary least squares and the results are presented in table 4.3 below

Table 4.3 Summary of the regression results

Variable	Coefficient	t-statistic	P-value
C	0.251805	27.17967	0.0010
Npl	-0.080170	-3.036450	0.0126
Lta	0.006906	-0.733431	0.9576
Inf	0.309062	8.084590	0.0105
Ggdp	-0.358328	-5.59327	0.0318
Efr	-0.013139	-1.755674	0.0364

$R^2 = 0.690393$

F-statistics = 19.62314

Adjusted R² = 0.655211

Prob (F-statistics) = 0.00000

Using the statistics in the table above to fit in the model specified in chapter three, the resulting model becomes:

$$\text{SPREAD} = 0.2518 + 0.0801\text{npl} + 0.0069\text{ita} - 0.30906\text{inf} - 0.358328\text{ggdp} + 0.013139\text{efr}$$

4.3.1 Interpretation of R²

An R² coefficient of 0.690393 obtained from the estimated model means that 69.04% of the independent variables used to estimate the model were able to explain the dependent variable. The result makes sense because there are other factors such as overhead costs and reserve requirements input that were not included in the model but could help in explaining spreads. These factors were accounted for the in remaining 30.96%.

4.3.2 Interpretation of the Adjusted R²

The adjusted R² measures the proportion of the dependent variable that explains the independent variables. An adjusted R² of 0.655211 shows that 65.52% of the dependent variable was able to explain the independent variables which makes it a good model

4.3.3 Overall Model Significance (F- statistic).

In general the whole model is statistically significant. Since the model's F-statistics tests the fitness of the model and a recommended F-statistics should be greater than 5 for it to be considered fit, the study obtained an F-statistic of 19.62314 which is greater than 5 hence the model was fit for estimation.

4.4 Interpretation of regression results

According to the regression estimated results, bank specific factors and macro economic factors determine the width of interest rate spreads. From the results the macroeconomic related variables used which is inflation and growth in gross domestic product had the greatest influence on bank spreads whilst non performing loans was the only bank specific variable that was significant in influencing spreads. A detailed analysis is done below.

4.4.1 Non-performing loans and bank spreads

The relationship of non performing loans to the interest rate spreads shows that an increase in the unit quantity of non performing loans leads to a decrease of the interest rate spread. A unit

increase in the non performing loans brings about -0.0861361 decrease in the interest rate spread. Though the banking system of Zimbabwe seems to be very efficient it still remains a very shocking development on the rate at which non performing loans are increasing especially based on the fact that this is a very significant variable in the model as it has a t-test of over 2. This increase in non performing loans can be attributed to poor credit analysis by local banks and general low liquidity levels in the economy.

Non-performing loans were found to be significant in explaining bank spreads in Zimbabwe though a negative relationship was expected from the regressions, the study produced a positive relationship. This relationship shows that the banks are passing on the costs of credit risk to customers by raising bank spreads. The costs of non-performing loans occur in the form of increases in the costs of provisioning which greatly reduce profitability. Crowley (2007) and Grenade (2007) found a positive relationship between non-performing loans and bank spreads citing the need for banks to cushion themselves from increased credit risk as the major reason for increasing spreads.

4.4.2 Inflation and bank spreads

A unit increase in the level of inflation results in a 0.304781percentage points increase or widening of interest rate spreads. This shows that inflation has a direct relationship with spreads just like liquidity and these are the only two variables that have a positive influence on the interest rate spread whilst the other three remaining variables have a negative relationship. The impact of inflation was able to explain why bank spreads are widening in Zimbabwe. This result was most expected in Zimbabwe because the single digit inflation rate regime that was prevalent since the adoption of dollarization failed to normalize the prices of other goods and services in the economy.

For instance, the financial statements of banks showed an increase in the salaries of bank personnel which raised staff costs despite a general stabilization in the prices of foodstuffs. Banks therefore continued to suffer from high costs of doing business although there were lower levels of inflation recorded in the economy. This being the case, banks was very sensitive to slight changes in the inflation rate. The result shows that lower inflation did not benefit much for the banking industry in terms of cost reduction during the period. These findings are in line with

rest of the literature which premises that the spreads are likely to rise in the event that there are high costs of doing business.

The general inflation rate has been significant according to the t- test and the coefficient having a positive sign. This bares it all that the general performance of the price index plays a very crucial role in the width of the interest rate spreads. The inflation rate is quite significant as in some other studies it was also realized as one of the determinants of spreads like in the using panel estimation Demirgüç-Kunt and Huizinga (1999) related to bank specifics, macroeconomic indicators, operating costs, inflation and the short-term money market real interest rate. By contrast, they find a negative effect of inflation on interest rate spreads whilst the current study has found a positive relationship and they found operating expenses relevant whilst in the current study they were insignificant with a t statistic of less than 2.

4.4.3 Growth in gross domestic product

The last variable is the real growth in gross domestic product which is denoted by ggdp in the model. This variable has a negative relationship with the interest rate spread. From the results a unit increase in the real growth in gdp is leading to a -0.3615784 decrease in the interest rate spread. As the growth in the gdp represents an increase in production and economic capacity in a nation it is for the Zimbabwean case revealing that its increase leads to a probability of narrowing of the spreads. This is very consistent to literature as with the case of accelerating gross domestic product growth, banks tend to charge lower spreads while in periods of stagnant or low growth, banks' spreads are expected to increase (Saunders & Schumacher, 2000)

Growth in the gross domestic product and non performing loans are very significant variables in finding the causes of the wide interest rates spreads in Zimbabwe which also matches some other researcher findings in other nations. The difference might only be the signs the other researchers came out with as the current findings reveal a negative coefficients though other researchers found positive ones. During the course of the study the author realized that increase in growth of the gross domestic product has led to increased lending capacity for banks and also increase in deposits which therefore imply that interest rate spreads had to decrease with these changes in fortunes. However such a development has to be met with an increase in intermediation efficiency as inefficiency as Valverde et al (2004) noted that because of the costs of intermediating between savers and borrowers, only a fraction of the savings mobilized by banks

can be finally channeled into investments as some of the savings will be absorbed by costs. This therefore implies that inefficiency can result in a reversal or offsetting of the gains of ggdp. This seems to be one of the reasonable reasons why the Zimbabwean banks interest rate spread continues to widen even if ggdp is growing.

4.4.4 The link between the deposit and lending rate relative to the bank spreads

The lending rate was found to be highly correlated with the bank spread as compared to the deposit rate. This finding is very similar to the findings of Brock and Rojas-Suarez (2000) during the mid-ninety's. This implies that any shock that raises spreads in Zimbabwe tends to raise lending rates and increase bank spreads because the deposit rate will not be rising fast enough to offset the proportionate increase in the lending rate. The relationship also serves to explain the absence of regulation such as lending rate ceilings during the period 2009 to 2012 which help in slowing down the growth rate in the lending rates. Hence the increase in the lending rates contributed much to the widening of the bank spreads as compared to very stagnant movements of the deposit rate.

Table 4.4 Correlation of bank spreads with its components

Variable	Correlation coefficient	Strength of relationship
Deposit rate	+0.204934	Weak positive
Lending rate	+0.912633	Strong positive

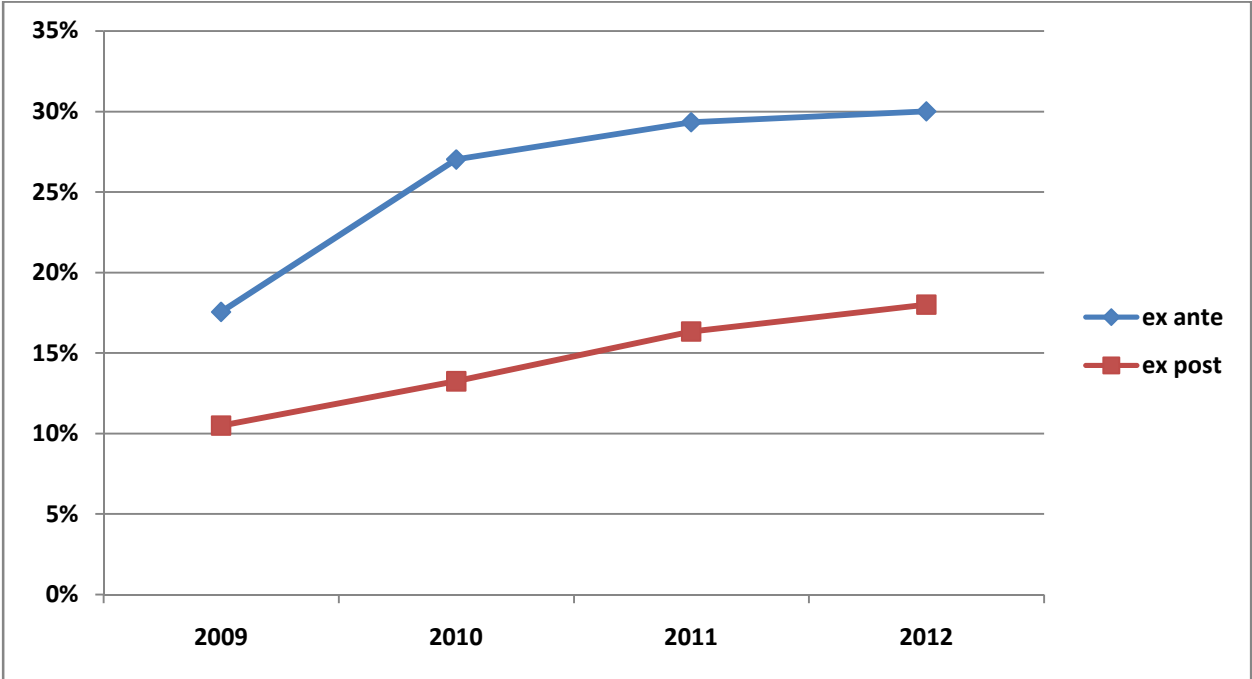
Source: Reserve Bank of Zimbabwe

4.4.5 Trends of increases in bank spreads from 2009 to 2012

From the findings the study established that bank spreads have been on the rise since the adoption of multiple currencies and they were showing no signs of converging to lower levels.

The difference between the ex-ante and ex-post spreads show the extent to which banks were realizing the revenues on loans made. The results show that banks were facing difficulties in recovering debts which resulted in them realizing less interest revenues on loans than what was expected. Figure 4.1 show the growth of bank spreads since 2009 to 2012.

Figure 4.1 Growth in bank spreads 2009 to 2012



Source: ZIMSTATS and financial statements

4.5 Summary

The chapter looked at the results of the study. It was found that bank spreads in Zimbabwe were on the rise since 2009 and they were mainly driven by inflation, growth in gross domestic product and non performing loans. During the period 2009 to 2012 local banks charged higher spreads than foreign banks as a result of high holding of bad assets of 7% compared to foreign banks’ 5%. This resulted from cautious lending approach that was being taken by foreign banks which enabled them to have a good loan book. From the analysis it can be clearly observed that local banks could have contributed greatly to widening bank spreads. The results for the interest rate spread determinants variables were relatively consistent with literature though the insignificance of operating costs and liquidity contrast the results found by Cihak (2004), who supposes that interest rate spread is a function of the share of non-performing loans in total loans,

liquidity, capital adequacy, dummy variables for privatized and green-field banks, as well as the Treasury bill rate and the EURIBOR rate as general factors. In his study liquidity and operating costs were very significant variables. During the same period, lending rates were highly volatile as compared to deposit rates and local banks were found to have contributed immensely to the growth in bank spreads. The next chapter will look at the summary, conclusions and recommendations to the study

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter looks at the overall research project. It sums up the research by giving a summary of the study, recommendations, conclusions and suggested areas for future research. The chapter mainly sums up the study by giving comparative conclusions and policy recommendations that are aimed at improving the nature of spreads in Zimbabwe. As the author didn't exhaust all the other areas of the research he has suggested areas for future study to other aspiring academics who want to pursue the spread determinants research area.

5.2 Summary of the study

The study focused on the widening of interest rate spreads in Zimbabwe and this is regarded as a highly problematic area as it is hampering economic growth and highly influencing banking sector's rather mild performance. The major objective of the study was to establish the causes of the spreads and based on the theories propounded by different authors and findings of precedent researchers the research managed to achieve its major objective to a greater extent as the study revealed that the existing spreads are determined by both bank specific factors that include level of non performing loans and macro economic factors like inflation and growth in gross domestic product. This was made easier by the use of an econometric model and regression techniques that were derived from E-views commands. The results were used to describe the findings of the research.

Whereas the causes of interest rate spreads widening are likely to be multifaceted, the study provided some insights from an empirical viewpoint, based on bank-specific and macroeconomic factors along similar approaches that have been undertaken in the literature. Using panel data analysis, the empirical results show that macro economic factors play a significant role or contribute significantly to the determination of interest rate spreads in the banking sector in Zimbabwe and these factors include real GDP growth and inflation rate. Liquidity and operating costs as a ratio of total income are the bank specific variables that have been found as insignificant in the determination of interest rate spreads.

The macroeconomic variables and the non performing loans as a percentage of the total loan book were also found to be statistically significant in explaining interest rate spreads across banks. If the higher spreads are merely interpreted as an indicator of inefficiency, one can easily be tempted to conclude that big banks are less efficient, which may not necessarily be the case. The results are not surprising given that big banks are associated with market power they control a bigger share of the market both in terms of deposits and loans and advances. They also enjoy good reputation and trust (perceived to be more stable, reliable, well-managed, among other positive attributes) and hence can easily mobilize deposits even at lower rates and attract higher loan demand even at higher rates. The bigger banking institutions are capitalizing on this to influence their market power in driving the lending interest higher and the borrowing rate significantly low.

This research therefore contributes to the literature on the determinants of interest rate spreads by using actual loan and deposit interest rate data to examine the macroeconomic and bank -specific causes of banking sector spreads in Zimbabwe. A number of variables, exogenous to the operations of commercial banks, have been widely touted in academic literature and popular discourse to be important factors causing the typically high spreads in developing countries. This research has tested such claims using panel data econometric techniques. In addition to the market characteristics of banking sectors and the indicators of macroeconomic instability typically included in studies of this nature, this study also examines the impact on banking sector spreads of macroeconomic policy variables widely referred to by stakeholders, but not usually included in econometric tests.

5.3 Conclusions

The results clearly indicate that many of the factors commonly believed to be critical determinants of interest rate spreads may not be in fact relevant to the size of the banking sector spreads in developing countries.

- Possibly most surprising was the statistical insignificance of the operating costs. Although this bank specific variable has been highlighted in the literature as one of the determinants of interest rate spreads in numerous countries, it was unable to explain the variation in banking sector spreads of the Zimbabwean economy studied.

- Randall (1998) finds a dominant influence of operating costs on high interest rate spreads in the East-Caribbean region. According to him, operating costs accounted for 23% of interest rate spread in the 1991-1996 period. The failure of significance of operating costs might be due to the inadequacy of the proxy used to represent the variable to accurately reflect its perceived effects. In the research literature highly recommended the use of operating cost as a ratio or fraction of income and the author adopted the ratio for his study but yielded different results from other studies.
- The general inflation rate has been found to be significant according to the z rule of thumb with the coefficient having a positive sign. This bares it all that the general performance of the price index plays a very crucial role in determining the width of the interest rate spreads. The inflation rate is quite significant as in some other studies it was also realized as one of the determinants of spreads. Using panel estimation Demirgüç-Kunt and Huizinga (1999) related to bank specifics, macroeconomic indicators, operating costs, inflation and the short-term money market real interest rate. By contrast, they find a negative effect from non-interest-bearing assets, whereas the rate of economic growth has no effect on interest rate spreads.
- Macroeconomic factors have been shown to explain significant variation in commercial bank interest rate spreads. Brock and Franken (2003) quote from a Moody's report which argues that, "macroeconomic factors are certainly among the most influential sources for variations in credit spreads."As the growth in the gross domestic product represents an increase in production and economic capacity in a nation it is for the Zimbabwean case revealing that its increase leads to a probability of narrowing of the spreads.
- Lending rates are very volatile in Zimbabwe as compared with the deposit rate. This was shown by a strong correlation between the lending rate and bank interest rate spreads.
- The study was successful in identifying the main causes of widening bank spreads in Zimbabwe. However, it can be difficult to make future predictions using the study because the economic, political and the legal environment changes rapidly from time to time. The period 2009 to 2012 was generally deregularized but towards the end of 2013 the Central bank is moving towards regulation of interest rates.

5.4 Recommendations

The empirical findings of the research have prompted the researcher to suggest the following policy recommendations:

5.4.1 Developing alternative risk assessment mechanism

As local banks seem reluctant to apply effective credit analysis and generally set very high lending rate to get rid of risky borrowers, it is of paramount importance for the RBZ to assist in developing sound institutions that are willing to employ efficient methods of measuring and identifying risk and this can be done by creating efficient credit rating agencies and the creation of the adoption of rigorous accounting standards and clear disclosure requirements. Such efforts should also include appropriate legal measures, transparency and rating of professional competence to ensure accountability and transparency in the banking sector.

5.4.2 Ensuring better liquidity management

Reinstating statutory reserves and fostering compliance with capital requirements would increase stability in the banking sector but in some way lead to increase in spread to cover the higher cost of loanable funds. On the other hand, measures like introduction of deposit insurance should contribute to reducing the spread. Similarly, resuming on a better scale the role of lender of last resort and ensuring greater predictability of Reserve Bank's stand on inflation, statutory requirements and the extended use of multiple currency regime and monetary policy is a prerequisite for stability and improved liquidity.

5.4.3 Improving institutional efficiency

Since the financial sector reform programme aims at bringing a competitive and liberalized environment leading to more integrated and efficient functioning of the financial markets, it is important for Reserve Bank Zimbabwe to adopt deposit and lending rates (and hence spread) of different bank groups as important indicators, monitor their movements regularly, and adopt appropriate measures to bring convergence toward competitive rates except for risk and other real differences. For ensuring such a competitive level of spreads, the banking sector needs to move toward achieving a level of institutional efficiency that would ensure effective competition, efficient banking operations, and credible risk and portfolio management within an

environment characterized by high standards of regulation and supervision by Reserve Bank of Zimbabwe.

5.4.4 Strengthening local banks

As the present analysis shows, the local banks (Interfin, POSB, Allied bank and Agribank) are weak compared with the foreign banks on most counts of earning and profitability indicators and hence face unfair competition from foreign owned banks. For these banks, the better return on capital is mainly interest rate spread due to their small paid up capital relative to total equity. It is important therefore for the Reserve Bank to use its regulatory power to strengthen the capital base of the local banks. This is necessary to strengthen the local banks especially in view of the increasing competition that the local banks will have to withstand as the banking sector opens up through reform and liberalization enabling greater participation of the foreign banks.

5.4.5 Improving on bank efficiency

Banks need to improve on their operational efficiency for bank spreads to lower. Improved efficiency in terms of costs reduction and improvement in asset quality can produce economic gains for banks leading to offering of cheap financial products. These gains can be realized by encouraging customers to use mobile banking facilities rather than the conventional banking methods which are expensive to run. It can be viewed that almost all the banks in Zimbabwe have a mobile money transmission service in place, what is needed is to place greater emphasis on the use of these products for their increased use. Econet Wireless engaged in a vigorous campaign of the use of Ecocash and the product has many users. The banks can use the same strategy to market their mobile services.

5.4.6 Introduction of interest rate controls

The high degree of correlation between the bank spread and the lending rate shows that the pursuit of a market determined interest rate policy regime by the RBZ was not effective in bringing spreads down. The higher volatility of the lending rate shows that it is easy to transfer the costs of inefficiency to the customers by raising lending rates and lowering the deposit rate. When market forces fail to instill efficiency as in this case, there is need for the RBZ to reintroduce interest rate ceilings to limit the growth in the lending rates. This strategy should be

approached with caution since the country is operating under extreme liquidity shortages and imposition of tight controls can harm the industry.

5.4.7 Spreads must cover costs

Many of the findings of this paper suggest that higher spreads should not always be viewed negatively. In many cases they may simply reflect a shifting of costs to banks from depositors or governments. A large inefficient bank that dominates a financial sector might charge low spreads and then require periodic bailouts. In a better functioning banking sector with proper oversight there may be fewer bailouts partly because spreads are adequate to cover costs and risks to the banking sector.

5.4.8 Strengthening international relations

There is need to adopt a global focus when it comes to establishing relationships with other countries. This is in view of the Look East Policy which has its prime focus on Asian investors. Extending relations beyond Asia can greatly improve investments which will improve the financial pool for banks to source funds.

5.5 Suggestions for further study

The research mainly centered on investigating the underlying causes of the widening disparity of borrowing and lending rates in Zimbabwe mainly employing panel regression techniques and therefore there are other areas that the research didn't cover like other bank specific variables like and other macro-economic variables like exchange rates that are not really meaningful with regard to the Zimbabwean situation as we are using a multiple currency regime. In cases of studying in countries where reserve requirements are consistent industry specific variables will be very relevant. With the inclusion of these other variables the results can be comparable to the other precedent researches including this one. Other researches can be aimed at assessing the likely implications of the wide interest rate spreads.

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Appendix 1: Correlation matrix

	IRS	GGDP	EFR	INF	LTA	NPL
IRS	1.000000	-0.132217	-0.279547	0.611997	0.254561	-0.176055
GGDP	-0.132217	1.000000	-0.128638	0.368542	0.022466	-0.205970
EFR	-0.279547	-0.128638	1.000000	-0.024120	0.030305	0.476891
INF	0.611997	0.368542	-0.024120	1.000000	0.411125	0.122039
LTA	0.254561	0.022466	0.030305	0.411125	1.000000	0.411731
NPL	-0.176055	-0.205970	0.476891	0.122039	0.411731	1.000000

Appendix 2: Summary of regression results

Dependent Variable: IRS
Method: Least Squares
Date: 10/11/13 Time: 18:03
Sample: 2009 2058
Included observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.251805	0.009264	27.17967	0.0000
NPL	-0.080170	0.026402	-3.036450	0.0040
LTA	0.006906	0.009417	0.733431	0.4672
INF	0.309062	0.038228	8.084590	0.0000
GGDP	-0.358328	0.064340	-5.569327	0.0000
EFR	-0.013139	0.007484	-1.755674	0.0861
R-squared	0.690393	Mean dependent var	0.216158	
Adjusted R-squared	0.655211	S.D. dependent var	0.017183	
S.E. of regression	0.010090	Akaike info criterion	-6.242412	
Sum squared resid	0.004479	Schwarz criterion	-6.012970	
Log likelihood	162.0603	F-statistic	19.62314	
Durbin-Watson stat	1.559823	Prob(F-statistic)	0.000000	

Appendix 3: Heteroscedasticity test

White Heteroskedasticity Test:

F-statistic	0.613135	Probability	0.866576
Obs*R-squared	13.98521	Probability	0.784553