CHALLENGES OF CREDIT CREATION BY COMMERCIAL BANKS IN KENYA: AN EMPIRICAL REVIEW

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ABSTRACT

The paper delved in an empirical review to assess the challenges of credit creation by commercial banks in Kenya. The findings indicated that though regulations, laws and requirements aim at ensuring the stability of the banking sector, it is notable that literature supports their negative influence in credit creation by commercial banks. In addition to the systematic challenges (regulations, laws and requirements), other challenges that are act externally to the banking sector, specifically, economic structure driven challenges such as high interest rates, fluctuating exchange rates multi-currency economy among others affect credit creation by commercial banks. The analysis determined that despite the fact that regulations, rules, and requirements seek to ensure the stability of the banking sector, it is noteworthy that literature supports the detrimental effect that regulations, laws, and requirements have on commercial banks' capacity to create credit. Other challenges that act externally to the banking sector, specifically economic structure driven challenges such as high interest rates, fluctuating exchange rates, multi-currency economies, and others, affect credit creation by commercial banks. These challenges are in addition to the systemic challenges.

Keywords: Credit creation, Commercial banks, Capital adequacy

INTRODUCTION

Among the most important functions of banks is credit creation (Schafer, 2019). This takes place through expansion of demand deposits which is a multiple of the cash reserves held by the banks. According to Werner (2014), credit creation is a process where loans that are multiple times greater as compared to the deposit held by the banks are advanced to lenders. Thus, a bank credit comprises of loans and advances arising from excess reserves, after the bank has fulfilled its depositors' demand, with an aim of generating extra income for the institution. Through the process of credit creation, banks are thus seen as credit manufacturers or credit creation factories. A major portion of banks' deposits is advanced to borrowers while smaller portions are kept for customers on demand. It is worth noting that a single bank cannot on its own create credit; rather, it is the banking system which can extend loans multiple times its excess reserves (McLeay, Radia & Thomas, 2014).

Globally, creation of credit by banks drives financial development and overall economic growth (Werner, 2014). However, it has been facing several constraints. For instance, in European countries, credit creation has been facing robust banking regulations by the Basel Committee on Banking Supervision (BCBS) whose aim has been to strengthen capital and liquidity positions by the banks. The BCBS, notably Basel III, Basel II and Basel I have come up with regulations such as the capital adequacy ratio (CAR), leverage ratio (LR), liquidity

coverage ratio (LCR), net stable funding ratio (NSFR) as checks for the banks' capital and liquidity profiles under financial crisis (Oino, 2021). Banks, especially in Europe, have to adhere to regulations by the Basel committee which impacts their credit creation capacity (Castellano & Dubovec, 2018).

In India, the Reserve Bank of India (2018) noted that credit creation by banks should adhere to capital adequacy prudential norms. This implies that credit creation in India is driven by capital adequacy requirements that refer to ratio of the capital of the bank to the bank's assets for example which requires banks to maintain a minimum capital in relation to risk weighted assets ratio a CAR of 9% while Indian public sector banks are emphasized to maintain a CAR of 12%. Non-bank subsidiaries shall maintain the capital adequacy ratio prescribed by their respective regulator (Lessambo, 2013). Capital adequacy in India influences credit creation by fixing least capital balances that should be held by each bank at a given time for the purpose of risk mitigation from operations' risks, credit risk and other forms of risks that can arise from the wider market. In India, banks are required to provide sufficient capital, not falling below a certain level, to caution the bank against failures. The objective is to prevent banks from incurring very high risks and enhance financial stability that acts as a safeguard against system driven crises.

In developing countries such as those in South America and Africa, credit creation faces additional challenges apart from the Basel Committee regulations and capital adequacy restrictions. One such challenge, for example, in Panama is how distribution of base money takes place from the country's central bank to other commercial banks. As compared to developed countries that are industrialized thus relying on indirect instruments, the open market operations, to enhance liquidity in the system of banks, Panama lacks a financial market that is deep to rely on operations of open market and has to rely on direct monetary policy tools, most notable, rediscount quotas and credit restrictions which are an impediment to credit creation (Doumpos, Gaganis & Pasiouras, 2015).

In Ecuador, credit creation faces restrictions from the economy's structural features, the most common being a dollarized economy. The nation's central bank therefore has little or no control since it is not mandated to supply the base money but acts only in over sighting the nation's payment system. The base money in Ecuador is imported, making the country dependent on capital imports in financing credit creation. Additionally, the country has in place a currency-board arrangement whose mandate is to legally, through the central bank, expand the supply of base money in local currency in exchange of reserves that are in foreign currency. Therefore, the country's base money supply is completely supported by foreign currency in central bank's vault. The impression is that, under such an arrangement credit creation might hit the country's dollar limits making the commercial banks exhaust their loans' potential at the given base money level (Edwards, 2019).

A similar argument applies in African countries. For instance, according to Umoru and Aghedo (2017), though the currency-board arrangement does not exist in Nigeria, the Central

Bank of Nigeria is not at freedom to expand its base money supply at will due to the dollarization of the economy. Therefore, credit expansion at times leads to depreciation of the set limits and depends too much on gross capital inflows in foreign currency. Further, most African countries have their credit creation influenced by the economy's structure (Maturu, 2021). For example, in Senegal, Tanzania, and Uganda the relevant central banks have fixed exchange rates making credit expansion limited to only what aligns with the target exchange rate. According to Lisimba and Lisimba (2020), Rwanda's credit creation by banks is however dependent on its crawling exchange rate which is highly dependent on the dollar. In case the domestic currency in Rwanda depreciates, the domestic debt burden by banks increases while dollar inflows remain unchanged. This often leads to a "twin crisis" where the central bank in Rwanda is limited in its ability to enhance credit expansion with an aim to stabilize the exchange rate.

The Regulatory Structure of the Kenyan Banking Sector

The central bank of Kenya (CBK) determines the reserve requirements as part of regulations for commercial banks, it has significant influence on the operations and profits of appendage commercial banks. The central bank can simply regulate the behavior of the commercial banks to suit the national interests by modifying the reserve requirement rates**.** In Kenya, laws, regulations and requirements by commercial banks have always been revised to avoid collapse of the banking sector (Maturu, 2021). For instance, the Central Bank of Kenya has been revising capital requirements by commercial banks to avoid banking crises and has also been fixing interest rates below which banks cannot lend at (Munywoki, 2017). A good example is the Central Bank rate (CBR) which is the lowest rate of interest charged by central bank for loans advanced to commercial banks. The reforms are always in tandem with the then prevailing global financial conditions to ensure that banks are mitigated against risks that are inherent in their lending business (Maturu, 2021). Though the regulations, laws and requirements are essential and critical to the stability of the banking sector, they set a framework on how commercial banks should handle their operations, most notably, credit creation or expansion. Much as they provide cushion by enabling commercial banks to continue operating, it is prudent if a research is conducted to establish whether they also act as challenges in the operations of commercial banks.

Camel Prudential Guidelines

CAMELS is an accredited international evaluation system that bank supervisory authorities utilize in order to rank commercial banks and other financial institutions based on six factors mapped up by its acronym. Supervisory authorities assign each bank a score on a scale. A rating of one is considered the best, and a rating of five is considered the worst for each factor. (Damak, 2018).

The CAMELS descriptor stands for capital adequacy, asset quality, management, earnings, liquidity, and sensitivity. Bank rating using CAMELS system are awarded an average score.

Banks that are awarded an average score of less than two are considered to be high-quality institutions. Banks with scores greater than three are considered to be less-than-satisfactory institutions (Masood, Ghauri, & Aktan, 2016).

Throughout Kenya's history, the financial markets have often been divided up according to industry. As a result, there is and has been a Banking Sector, an Insurance Sector, and, more recently, a Capital Markets Sector and a Retirement Benefits Sector. Other subsectors of the financial system include building societies and microfinance institutions, both of which, despite their presence, have a very limited impact on the formal sector. The financial markets that Kenya is a part of are classified as what are known more broadly as Emerging Markets. These are markets that have not yet reached their full potential but are experiencing very rapid rates of expansion. These markets are differentiated from the financial markets of developed nations such as the United States of America, Western Europe, and Japan by their high level of sophistication as well as their slower rate of growth.

The preceding sectoral categorization serves as the foundation for the regulatory framework that underpins Kenya's financial markets. As a result, each industry is governed by a set of laws and regulations that are exclusive to itself. The Central Bank is responsible for overseeing the banking industry, which is subject to the provisions of the Banking Act, which may be found in volume 488 of the Laws of Kenya. The Insurance Act, Cap. 487 is the piece of law that is in charge of regulating the insurance industry, which is overseen by the Commissioner of Insurance. The Capital Markets Authority is in charge of overseeing the securities industry, and the Capital Markets Act, Chapter 485A, is the piece of legislation that governs it. On the other hand, the Retirement Benefits Authority is in charge of overseeing the pensions industry, and the Retirement Benefits Act, Act No. 3 of 1997, is the piece of legislation that governs it.

Both the Banking Act, which can be found in Chapter 488 of the Laws of Kenya, and the Central Bank of Kenya Act, which can be found in Chapter 491 of the Laws of Kenya govern the operations of the Banking Sector. The Building Societies Act, Chapter 489 of the laws of Kenya is applicable, even if only to a limited degree. The Central Bank of Kenya is the primary regulatory body in charge of overseeing the country's banking industry. The Central Bank is charged with the responsibility of regulating and supervising financial institutions such as banks, financial institutions, and mortgage financing firms, as well as ensuring that these entities, in general, conform with the requirements of the Banking Act. However, it is important to remember that in addition to playing a leading role in the regulation of the banking industry, the Ministry of Finance also performs this function. In point of fact, a significant number of the tasks that are carried out by the Central Bank over the banking sector are just meant to make it easier for the Ministry of Finance to carry out their ultimate responsibilities. The licensing of banks is a good illustration of this principle. The Ministry of Finance is responsible for the distribution of banking licenses; the Central Bank's role is limited to the review of applications and the transmission of those documents, together with its recommendations, to the Minister.

Camel Prudential Guidelines in Kenya

CBK has for long time used the CAMEL rating to determine an institutions' financial soundness. As defined above CAMELS is an acronym for Capital adequacy, Asset quality, Management, Earnings, Liquidity and Sensitivity. The composite CAMELS rating is a combination of the ratings achieved on the individual CAMELS elements. The CAMEL (individual and composite) ratings is referred to as "strong" (1), "satisfactory" (2), "fair" (3), "marginal" (4) and "unsatisfactory" (5). The rating is compiled on a monthly basis on an off-site basis, and is verified during on-site examinations.

When rating using CAMELS for bank rated "1" has the highest and best rating, and confounds the least supervisory concern. When a bank is given "5" rating is then that is the lowest and worst rating, indicating a critically deficient level of performance and is reflective of inadequate risk management practices taken by the bank management. The institution is at risk of failing and will lays the greatest supervisory concern (Gheewala, 2021).

Central Bank of Kenya report (2013) illustrated that in order for CAMELS to be effective the CBK has implemented the consolidated supervision framework and also established supervisory colleges which will assist in reinforcement of CAMELS results based on each individual institution. This in essence helped in development of risk based supervision (RBS). This approach focuses on understanding the adequacy of an institution's risk management systems on an going basis and encourages greater interaction between an institution's management and the CBK.

The development of RBS began with a survey in September 2004 to define status of acceptance of risk management patterns by institutions in Kenya. The results showed encouraging trend of absorption in institutions with respect to existence of policies and procedures, organizational structures, independent reviews, awareness of risks and techniques for managing risks.

i. Nevertheless, the survey also spots lit the following failings:
ii. Deficiency of risk management practices and procedures for non-credit risks;
iii. Reliance on CBK prudential guidelines to monitor risks e.g. the use of liquidity and foreign exchange exposure ratios alone to determine the level of risk;
iv. Lack of dedicated risk management functions and risk management tools e.g. stress testing, modelling and gap analysis in most banks;
v. Miss of specific budget allocation for risk management activities.

The current and former rules and recommendations published by the Central Bank of Kenya are: Guideline on Non-Operating Holding Companies ; Guideline on Incidental Business Activities, 2013 ; Risk Management Guidelines, 2013 ; Prudential Guidelines, 2013. According to CBK (2013d), the guideline on Non-Operating Holding Companies enables non-operating holding companies to obtain control of an institution as part of an initiative to

strengthen capital requirements at the consolidated level, reduce complexity of structures to enable efficient resolution of financial institutions and to contain risks within the groups.

The Risk Management guideline has identified the following categories of risks as critical risks in financial institutions: Strategic Risk, Credit Risk, Liquidity Risk, Market Risk, Operational Risk, Information and Communication Technology Risk, Reputational Risk, Compliance Risk, Country and Transfer Risk. CBK (2013f) highlighted the following factors as necessary for an effective risk management system. They include: Active Board and Senior Management Oversight, Adequate Policy Procedures and Limits, Adequate Risk Monitoring and Management Information Systems and Adequate Internal Controls.

The goal of Incidental Business Operations guideline is to specify the activity activities a Bank may conduct in addition to its primary banking and financial business. Formulation of this guideline was motivated by the objective to improve financial access by permitting the pooling of infrastructure by financial sector actors to provide a range of financial services and products (CBK, 2013c).

Prudential guidelines are provided by CBK to limit the degree of risk to which bank creditors are exposed while Bank supervision comprises not only enforcement of rule and regulation, but also judgment about the soundness of bank asset, its capital sufficiency and management. It's thus vital that an effective supervision is anticipated to lead to a healthy banking business that holds the capacity to accelerate the economic progress (Soludo, 2007). The reform project is also anticipated to create a diverse, powerful and dependable banking industry in the nation. Studies have indicated that the aims of financial sector reforms are basically the same in most nations of Sub-Saharan Africa (Balogun, 2007).

Drivers of Credit Creation in Kenya

This discusses what drives the credit creation in Kenya
According to Damak (2018), commercial banks as a creator of financial intermediaries tries to maximizes profits through banks loans and advances from deposits. These banks have deposits as basis for credit creation in two types which are primary and secondary deposits, in primary deposits the commercial bank accepts cashes from customer and hence opens the account of deposits in him names; deposits from savers; -mobilization of funds by commercial banks; other sources of funds; projects i.e. needs to invest capital in businesses and other investments.

The provision of new credit by financial institutions serves as the primary motive force behind both the financial development and inclusive expansion of any economy. The foundation of modern banking regulation is comprised of minimum capital requirements, and the maintenance of such capital comes at a cost. This cost includes the sacrifice of financial stability in exchange for reduced liquidity (and efficiency), as well as the incentive for banks to maximize the amount of risk they take. In relation to this, (Blum, 2019) discovered data

that suggests a bank may value an extra unit of stock in the future at a higher price when there are minimum capital requirements in place, as opposed to a situation in which such requirements do not exist.

In order to cut down on the number of failed financial institutions, the Basel Committee on Banking Supervision suggested that banks should maintain a certain amount of capital. This is referred to as a "capital adequacy requirement," and it stipulates a minimum capital to assets ratio that must be met in order for banks to continue business as usual. If more capital was required, then perhaps the banks would be safer; but, this would result in an increase in the effective cost of capital for the banks. Since there is risk sharing between a bank's owners and depositors, the objectives of the requirement can result in either preventing banks from taking high risk to increase their profits or promoting financial stability that acts as a safeguard against systemic crises. Both of these outcomes are possible depending on how the requirement is implemented (Gunadi et al, 2011).

The effectiveness of banks in managing their credit risk is contingent on a wide range of internal and external variables. The internal variables are the determinants that are unique to the bank, while the external factors are the determinants that are connected to the economic environment (Naceur & Omran, 2011). It is generally agreed that factors affecting the economy as a whole have the most significant bearing on a company's creditworthiness. According to Figlewski, Frydman and Liang (2012), the determinants of the macroeconomy may be broken down into three distinct categories. The first group consists of broad macroeconomic determinants like inflation and unemployment rates, the second group consists of directional determinants like GDP, and the third group consists of market conditions determinants like interest rates and the stock market index. If macroeconomic circumstances are favorable, then there will be less loans in banks that are failing to be repaid, which will result in a reduced credit risk. Because of this increased risk of default, there is a corresponding rise in the total amount of loans that are considered to be nonperforming.

The pace of growth of the GDP is a major factor of the performance of banks. When the economy is booming, people make more money, and the amount of their portfolio that is at risk is lower. When the economy is in a recession, people have less disposable income, so they put more of their focus on meeting their essential financial responsibilities rather than their credit obligations. There is a connection between GDP and NPL that works in the other direction (Vazquez, Tabak & Sauto, 2012). On the other hand, contrary to what was said before about GDP, research shows that inflation, unemployment, and interest rate all have a positive link with NPL. Inflation, unemployment, and interest rates that are all at high levels go hand in hand with high credit risk inclinations. These factors make it more difficult for the borrower to get financing while simultaneously driving up the cost of that financing (Derbali, 2011).

Another important factor that determines credit risk for commercial banks is the index of the stock market. The amount of discretionary money that is now accessible for investment has a direct correlation with the rise and fall of the stock index. A negative correlation exists between the quality of the loan portfolio and the stock index determinant, much as the one that exists between GDP growth and inflation. When the stock return improves, this indicates that the capacity to meet financial commitments has also improved, which in turn lowers the credit risk (Wong, Wong & Leung, 2010). The internal credit risk determinants of commercial banks are related to the management inefficiencies that exist inside such institutions. Poor credit management procedures are primarily characterized by agency conflicts on insider lending, imbalanced sectarian lending, speculative lending, and a number of other lending activities. Particularly noticeable throughout the latter half of the 1990s in significant nations such as Mexico, Venezuela, Zimbabwe, and Kenya was the occurrence of this phenomena. Efficiency ratios are used to evaluate banks to determine whether or not management inefficiencies are a contributing element to the credit risk of the firm (ration of total cost to total revenue). The credit risk increases in direct proportion to the value of the ratio, and inversely.

Statement of the Problem

Banks utilize approximately 85% of their deposits to advance credit to their borrowers (DiSalvo & Johnston, 2017). Owing to the fact that credit creation is an income generating activity for commercial banks, the entire process exposes banks to high risks of default that can result to crisis including total collapse of the bank. However, this does not halt the banks' process of credit creation in order to make profit, grow and make them endure competition arising from the market.

Adherence to regulations, laws and requirements during credit creation is crucial for commercial banks due to the riskiness of the venture. A bank with low adherence is more likely to be exposed to higher risks with a higher likelihood of collapsing or turning insolvent as compared to banks that have higher adherence. For example, adherence to capital adequacy requirements and regulations by the central bank is an important variable that significantly determines the capital structure of a bank and credit policies for the intention of credit creation and shareholder wealth maximization (Dao & Nguyen, 2020). This and other variables such as CBR and structure of the economy have serious implications when the bank is allocating its resources for credit expansion.

In modern Kenya, the banking sector has witnessed enormous growth with capital reserves multiplying. The banking sector has also embraced innovation and re-invention in value addition to their products and efficiency increment in their operations. However, the sector has been characterized by challenges such as transaction costs that are high due to interest rates that are ever rising, high asymmetry of information among banks, depositors and borrowers, low liquidity, and ever changing regulations, laws and requirements from government. Studies have been conducted in developed countries banking sector and their

role on credit creation. For developing countries with almost similar experiences to that of Kenya, studies have also been conducted on credit creation and the challenges experienced in credit expansion by commercial banks. However, Kenya lacks recent studies on banks' credit creation. Based on this, the current study seeks to conduct an empirical review on credit creation, with a focus on challenges faced by commercial banks in the process of credit creation.

Objectives of the Study

The general objective of the study is to assess the challenges of credit creation by commercial banks in Kenya.

THEORETICAL LITERATURE

Credit Creation Theory

The theory is credited to MacLeod (1906) who initially proposed that individual banks do not just lend to borrowers what has been deposited by depositors. The money that can be created by a bank is thus not restricted to deposits taken, and bank lending creates extra purchasing power that never existed previously. Therefore, banks' existence is not just for financial intermediation but lending money for nothing (Berger, 2015). Based on this theory, lending out of funds in form of loans by banks create a portfolio that is increasing with time, thus enhancing borrowers who need funds for various purposes to access funds. Therefore, the amount of money that a bank holds is not just dependent on deposit taking.

However, the theory has been criticized for failing to connect the source of funds that are extended as loans and those deposited to the banks through savings mobilization from depositors (Schumpter, 2016). The theory has been hailed by Jakab and Kumkof (2014) who points out that it acknowledges that credit creation process does not entail physical resources, but money creation via expansion of both ends of the balance sheet of a bank. Money itself is thus not a physical resource and can be created at an almost zero cost. This theory is applicable in the current study since it will help in explaining the credit creation process by banks by emphasizing that adjusting of liabilities depends on assets needed, the impression that credit creation occurs first and then funding is sourced.

Rational Expectation Theory

Muth (1960) proposed rational expectation theory by stating that economic occurrences in the future can be determined by prevailing situations. It is founded on an economic concept where choices made by consumers are founded on existing information, past experiences and an outlook that is rational. According to Nazir (2010), changes that are unexpected in economic factors will result to changes in the future financial occurrences, for example, changes in interest rate in the future. Therefore, regulations, laws and requirements in addition to policies by institutions such as central banks come in handy to mitigate against

risks and do away with extreme speculations on the expected direction of the banking sector. Mutemi and Makori (2019) applied this theory by stating that expectations by the banks that loans issuance to certain borrowers will be significantly affected by any form of regulation, laws and policies makes banks reassess such loans, especially the ones perceived to be of high risk. This means that there is pessimism by the banks on the effect of regulations, laws and policies on their operations making them initiate techniques that reduce cost such as reducing the amount of credit. This theory will be applicable in this study as it will explain the challenges faced by commercial banks in credit creation such as policies and capital adequacy requirements

Empirical Literature

Structure of the Economy

One of the aspects that might have an effect on the overall health of a bank is its exposure to credit risk. To the degree a bank is exposed to credit risk is directly proportional to the value of the assets in its possession. Exposure to certain risks, trends in non-performing loans, as well as the health and profitability of bank borrowers all have a role in determining the quality of the assets that are held by a bank (Baral, 2005). According to Aburime (2008), the capacity of a bank to anticipate, prevent, and manage risks—possibly even to cover losses brought about by risks that have already materialized—is essential to the bank's profitability. Therefore, a bank has to take into consideration the amount of risk associated with the assets before making any judgments about the allocation of resources to asset transactions. Banks often collapse due to a combination of two primary factors: inadequate levels of liquidity and poor asset quality. During the early 1980s in Kenya, a number of financial institutions failed due to poor asset quality. During that time, 37 banks failed as a direct result of the financial crises that occurred between the years 1986 and 1989, 1993 and 1994, and 1998 (Mwega, 2009).

According to Waweru and Kalani (2009), the majority of the bigger bank collapses featured considerable insider lending, often to politicians. This was the case with many of the financial institutions that fell in 1986 owing to non-performing loans (NPLs). The ratio of net non-performing loans to gross loans is the yardstick that the CBK uses to evaluate the quality of assets. However, Koch (1995) argues that a good measure of credit risk or asset quality is the ratio of loan loss reserve to gross loans because it captures the expectation of management with regard to the performance of loans. This assertion is based on the fact that the ratio of loan loss reserve to gross loans has been shown to be a reliable indicator of credit risk. Hempel et al. (1994) made the observation that banks with strong loan growth often accept greater risk since credit analysis and review processes are less stringent. On the other hand, returns are high in such loans, suggesting a risk and return trade-off for the institution.

According to the market power theory, which was covered in the section on bank performance theories, the degree of market competition is reduced when there is a greater

degree of market concentration (Tregenna, 2009). According to Nzongang and Atemnkeng (2006), high levels of market share concentration are inextricably linked to high levels of profits at the expense of the efficiency and effectiveness of the financial system as a result of decreased competition. This is because high levels of market share concentration are associated with fewer firms competing for those profits. Second, given that commercial banks are the primary providers of funds to business firms, the accessibility of bank credit at reasonable interest rates is of the utmost significance for determining the level of investments made by businesses, and consequently, for determining the state of the economy. When there is a higher degree of concentration, there is a lower demand for bank loans and an overall lower level of company investment. This is because there is a risk that the cost of credit will rise. When bank management takes use of the market share concentration factor, the result increases several times over and has a multiplicative effect.

Tregenna (2009) used a sample of United States commercial banks and savings institutions from 1995 to 2005 and a linear regression panel model to find robust evidence that concentration increases profitability in United States banks. He then came to the conclusion that the high profitability of banks in the United States prior to the 2007–2008 financial crisis was not earned through efficient processes, but rather through market power, and that the profits were not reinvested to strengthen the capital base of the financial institutions. Tregenna's findings were published in 2009. Nzongang and Atemnkeng (2000) studied the impact of concentration on the profitability of Cameroonian commercial banks from 1987 to 1999. Their research focused on the period of time between those two years. Nzongang and Atemnkeng (2000) employed the Herfindahl-Hirschman index to evaluate market concentration in Cameroon. This is in contrast to Tregenna (2009), who modeled market concentration by using the concentration ratio of the three biggest banks in the United States of America. According to the findings, the degree to which a market is controlled by a few large players is of the utmost significance in determining how profitable a bank is.

Capital Adequacy

Mendoza and Rivera, (2017) studied credit risk and capital adequacy of the 567 rural banks in Philippines to discover how these factors impact bank profitability using the Arellano-Bond estimated. They found out that credit risk has a negative and statistically significant association with profitability. Their research results showed that it is necessary for banks to identify which risk variables have higher influence on performance and utilize better risk-adjusted performance assessment to support their strategy.

Taiwo et al (2017) investigated the quantitative impacts of credit risk management on the performance of Nigeria’s deposit money bank (DBMs) and bank loan growth over the period of 17 years (1998 - 2014). Their research employed the multiple linear regression model to assess the five series data. The research revealed that excellent credit risk management may promote investors and savers’ trust in Banks consequently causing rise in funds for loans and

advances which leads to greater bank profitability. They determined that credit risk has a minimal influence on the growth of loans and advances of MDBs in Nigeria.

Thilo, and Welzel, (2002) analyzed credit risk and the effect of capital adequacy regulation using the industrial organization approach to the micro economics of banking and modeled a major banks which is risk neutral and encounters credit uncertainty in its loans business. The research indicated that capital adequacy requirement causes the bank to act as if were risk averse. Risk management was evaluated in the perspective of the proposed new Basel capital agreement. It was revealed that capital adequacy hedging activities are expressly accounted for decreasing the risk position of a bank.

Thumbi (2014) investigated the impact of credit risk and working capital on capital adequacy on commercial banks in Kenya. The purpose of the research was to explore variables impacting capital adequacy in commercial banks in Kenya. They employed the descriptive study design on the 43 banks in the investigated nation. The research revealed a direct association between capital sufficiency, credit risk, working capital and bank size. Poudel (2012) analyzed the influence of credit risk management on bank's financial performance in Nepal using time series data ranging from 2001 to 2011. The conclusion implies that credit risk management is a major predictor of banks' financial success.

Sentero (2013) intended to find out the influence of capital adequacy rules on the efficiency of commercial banks in Kenya. This study employed a descriptive research approach. The population of interest in the research consisted of all 43 commercial banks operating in Kenya that had been in existence in the previous five years, authorized and registered under the Banking Act Cap.488. To quantify economic efficiency the research employed the Data Envelopment Analysis (DEA) approaches. The result of the F statistic suggested that the total regression model was significant signaling that there is a meaningful association between the predictor variables of capital adequacy ratio and the efficiency of commercial banks in Kenya. The report advises that central bank should be attentive on commercial banks capital adequacy ratio by laying down financial laws on liquidity as the purpose of financial regulation is to allow banks to enhance liquidity and solvency. Stricter regulation may be helpful for bank stability, but not for bank efficiency, limiting banks may not only impair bank efficiency but also raise the chance of a financial crisis.

Odinga (2010) conducted out a research attempting to find out the association between capital adequacy and stability of Commercial Banks of Kenya. All Commercial Banks in Kenya were evaluated. Secondary data was utilized and this was acquired from the financial statements for the year ending 31 December 2009. On the face value Kenyan banks are on average well capitalized meaning that they have satisfied all the standards (statutory) as specified by the Central Bank of Kenya. However, on closer investigation, tier I commercial banks have a substantially better capital position than tier II and III commercial banks. Not all commercial banks have attained the necessary core capital of Kshs. 1 billion. With regard to

supplemental capital, most of Banks were found to have supplementary capital reserves. However, very few were found to have no additional capital.

Wachiuri (2012) intended to examine the influence of capital adequacy rules on loan generation by commercial banks in Kenya. Data over a period of 11 years from 2001 to 2011 was investigated where an econometric model was applied. For this objective, data from 43 commercial banks in Kenya was gathered from CBK annual bank supervisory reports. The research indicated that capital adequacy criteria implemented by Basel 1 had a detrimental effect on loan generation by banks in Kenya. This was visible notably in 2000 when the requirements were imposed in Kenya and in 2009 when additional expansion of minimum statutory capital requirements from Kshs. 250 million to 350 million (all the way to 1 billion by December 2012) was introduced. The trend in credit produced has been shifting direction every four years a fact that may be linked to shocks emanating from the ongoing growth of capital adequacy standards by the Central Bank of Kenya. Results demonstrated that the level of existing bank capital may operate as binding limitation on liquidity and loan development. However, there might have been other causes accounting for fluctuations in credit creation patterns other than the capital adequacy criteria as observed in 2005, a fact that could be linked to other factors such as high interest rate and lower demand for loan. The report stated that policy makers be ensuring that commercial banks have appropriate capital to improve trust of depositors, but capital adequacy criteria should not be extremely high as to constrain bank operations and the performance of the general economy.

A research was conducted to examine the role of capital requirements on bank stability and competition by Gudmundsson, Kisinguh and Ondongo (2013) over the period of 2000 to 2011. To measure the level of competition in Kenya's banking industry they used the Panzar and Rosse H-statistic as well as the Lerner index. To measure bank stability and performance they used Return on Equity (ROE). The study found that the core capital increase reduces competition up to a certain point after which competition starts to increase again. This show that the moment consolidation in the banking sectors starts to take place benefits start to be realized. The study concluded that there is an evidence supported by a positive relationship that capital regulation improves financial stability and performance of banks.

Central Bank Policies

Because interest income is one of the primary sources of revenue for banks, the capping of interest rates will have an immediate and direct impact on the income that banks generate. It is important to investigate how interest rate regulations will affect the margins of interest revenue. By assessing return on asset, which indicates how efficiently management makes use of a bank's resources to generate profits, we may determine both profitability and financial success (Rug, 2013). The interest rate restriction has a direct impact on bank profits (Aren & Duhn, 2016). According to Hurn and Farl (2013), interest rates may either directly or indirectly have an effect on the profitability of banks. When market interest rates are low, a greater number of individuals will borrow money; conversely, the greater the number of

people who borrow money, the more the banks will gain from interest revenues. When interest rates are higher, fewer individual customers will take out loans, which results in lower interest revenue and, as a result, a reduction in the profitability of lenders (Teern & Regina, 2012). Because fewer individual customers are encouraged to apply for loans when banks establish a high level of bureaucracy in obtaining loans, this results in a reduction in demand, which in turn leads to reduced interest revenues for the banks. The capping of interest rates results in an increase in the amount of informal borrowing because clients choose loans that are easier to get. This, in turn, has an influence on the credit demand of formal banks, which in turn affects the profitability of those institutions (Rosenberg, Gonzalez & Narain, 2014).

In Kenya, Deposit-Taking Microfinance Institutions (DTMs) were analyzed by Mureithi as part of a research project to determine the impact that financial regulation has on the institutions' financial performance (2012). In the design of the study, the methods of descriptive surveying and cross-sectional surveying were applied. The target population consisted of 6 DTMs located throughout Kenya. According to the findings of the research, the Deposit Taking Microfinance Regulations of 2008 were responsible for the improvement in the financial performance of DTMs. These regulations led to an increase in the shareholders' equity of DTMs, profit, total assets, and the value of outstanding loans. As a result, the researchers came to the conclusion that regulations do have a positive impact on the profitability of commercial banks.

According to Ongore and Kusa (2013), liquidity is defined as the capacity of banks to pay their commitments, the majority of which are to depositors. The ratio of a bank's total customer deposits to its assets and the ratio of its loans to its customer deposits together reflect the bank's liquidity. Guidelines issued under Section 33(4) of the Banking Act give the Central Bank of Kenya the authority to issue regulations that financial institutions are required to follow in order to keep the nation's banking and financial system reliable and effective. These regulations must be followed by financial institutions. internal controls, management information systems, procedures, and policies, ensuring accuracy and uniformity in the computation of the liquidity ratio in the banking sector and guiding institutions in the formulation of liquidity management strategies, provision of guidance on compilation of liquidity returns, and ensuring that each institution maintains an adequate level of liquidity to meet its obligations as they fall due are some of the responsibilities that need to be addressed.

Summary of Empirical Literature

Topic	Author,	Objectives	Methodology	Findings and Recommendations
Prudential policies and their impact on credit in the United States	Calem, Correa & Lee (2020)	To examine the impact of Comprehensive Capital Analysis and Review (CCAR) stress	Quantitative research which collected secondary data Descriptive	The findings indicated that regulations especially based on Basel Committee negatively influence credit creation by commercial banks. It is evident from the literature reviewed that credit

		tests in 2011 on the share of jumbo mortgage originations To examine the impact of the 2013 Supervisory Guidance on Leveraged Lending and subsequent 2014 FAQ notice	statistics, and linear regression analysis were adopted for analysis	creation significantly reduced as banks dedicated their resources in compliance rather than expanding their investment in credit
capital adequacy and its influence on credit creation in 179 banks in the EU	Oino (2021)	To examine the effect of liquidity on credit creation To examine the effect of regulatory requirements of capital on credit creation	The study used secondary data. The data was analyzed using pooled fixed-effects model	The study revealed that banks in Europe struggled to expand credit while at the same time meeting the hurdles in regulation. The findings also indicated that, though higher capital requirements implied better liquidity for the banks an inverse relationship existed between credit expansion and achievement of total regulatory capital. Banks preferred to dedicate their resources in ensuring that their capital base quality was enhanced and putting buffers surpassing the minimum regulatory requirements rather than extending credit
banking reforms and policies and how they influence credit creation by banks in Nigeria	Onoh and Iheanacho (2016)	To examine the effect of banking reforms on credit creation To examine the effect of structure of the economy on credit creation	The study estimated panel OLS collecting data from annual reports of the banks in Nigeria	The study found that credit creation capacity for banks in Nigeria increased post-reforms as compared to pre-reforms. However, the study demonstrated that spiraling economic occurrences such as inflation rates, increasing unemployment rates, depreciating naira, and reduced foreign direct investment had a significant negative effect on credit creation by the banks
challenges that Zimbabwean banks faced in credit creation due to the introduction of a multi-currency system	Dube and Muzvidziwa (2015)	To examine the challenges that Zimbabwean banks faced in credit creation	The study employed primary and secondary data Multiple regression analysis	From the findings, it was evident that banks faced challenges such as interest rate capping, reduced capitalization levels and a highly politicized economy. Such challenges reduced credit creation by banks in Zimbabwe making sectors such as manufacturing to be undercapitalized. The result in Zimbabwe has been that due to reduced credit creation

				capacity, the banks have not helped the country recover fully from economic downturn.
interest rate capping by commercial banks and how it affected performance of commercial banks in Kenya	Mutemi and Makori (2019)	To examine the effect of interest rate capping by commercial banks on performance of commercial banks in Kenya	Secondary data spanning from 2013-2017 based on quarterly series was employed for the study Regression analysis was used to analyze the data	the study found that credit cost based on interest rate capping by the central bank negatively affected credit creation by commercial banks in Kenya. Higher interest rates by the central bank lend to low credit expansion. The study thus recommended that the government through the Central Bank should cap interest rates at friendly levels so as to increase commercial banks' credit creation capacity, thus making loans available to borrowers
influence of capital adequacy on credit risk management across commercial banks in Nigeria; under the Basel capital adequacy framework	Adamgbo, Toby, Momodu and Imegi, (2019)	To examine the effect of capital adequacy on credit risk management	The secondary time series data were gathered from annual report of the fifteen (15) listed commercial banks in Nigeria as reported in the Nigeria Stock Exchange Fact book for the period 1989 to 2015 The multivariate regression approach was outlined and results produced based on E-views version 9.0	The variance decomposition result discloses that credit risk accounted for own shocks up to 79.30 percent , which testifies to the vital significance of credit risk to bank survival and development. This analysis suggests that transition from Basel II to Basel III would further lessen risk management under Basel III capital framework and will help avoid systemic collapse in banks in Nigeria. It is advised that risk manage
influence of capital requirements on bank competitiveness	Gudmundsson, Ngoka-Kisinguh and Odongo (2013)	To examine the effect of capital requirements on bank competitiveness	Lerner index and the Panzar and Rosse H-statistic panel	The panel estimates suggested that there was a strong non-linear influence of core capital on competitiveness. The log of core capital was positive and significant

and stability in Kenya during the period 2000-2011			regression model	whereas squared log of core capital was negative and significant which is an indicator that an increase in core capital decreases competition up to a point and then boosts competition

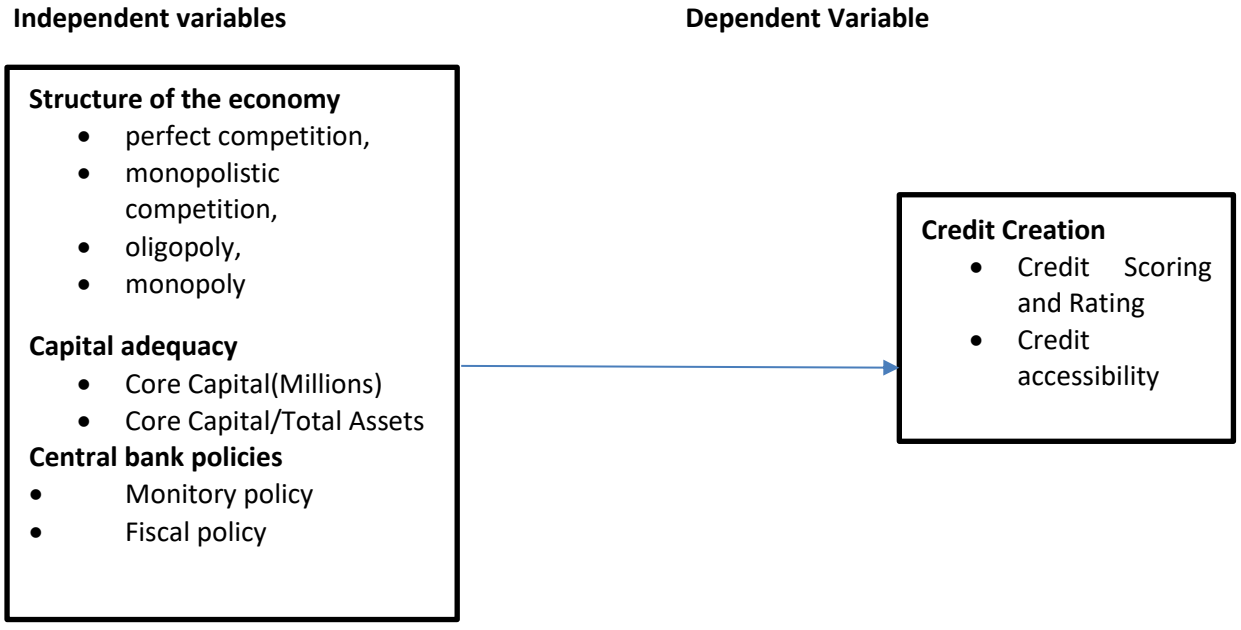
Critique of the Literature

Stanghellini (2013) observed that consumer credit is any of the many forms of commerce under which an individual obtains goods or services on condition of a promise to pay for their value, along with a fee (interest), at some specific future date. He further acknowledges that the need to cope up with a vast demand for credits forced the lenders to implement automatic techniques for deciding with to lend loan or not. Risk is exposure to a proposition of which one is uncertain (Holton, 2014). The Basel Committee (2019) states that a number of major worlds commercial banks have developed sophisticated systems to quantity and aggregate credit risk upon which their lending is determined.

Large foreign banks with a limited knowledge of local markets, may, for instance prefer to grant credit on a transaction by transaction basis using standardized decision rules when assessing creditworthiness. This may especially be the case if the foreign head office is chartered in a country with significantly different culture and serving multinational corporations from their home country (Sabi, 2018). Contrary smaller domestic banks, with more knowledge of the local business sector will base their credit decisions on idiosyncratic and sort information and will build up client relationships

According to Nduba (2010), in the current environment where banking is now characterized by cutthroat competition the challenge for any loan officer is to do a thorough credit assessment of the customer to ensure safety of the loan and more importantly this assessment has to be done fast to avoid losing the deal to the competitor.

Conceptual Framework



Findings and Conclusion

Empirical studies conducted provide mixed findings on the role of capital adequacy, laws, regulation and requirements. In developed countries, studies such as Calem et al., (2020) and Oino (2021) revealed that regulations especially based on Basel Committee negatively influence credit creation by commercial banks. It is evident from the literature reviewed that credit creation significantly reduced as banks dedicated their resources in compliance rather than expanding their investment in credit. Additionally, studies conducted in developed countries, Oino (2021) and Reserve Bank of India (2018), reveal the significant challenge posed by capital adequacy requirements in credit creation by banks. In this case, banks preferred to invest in ensuring that their capital base is broadened and putting in place buffers so as to exceed the minimum capital requirements as required in law rather than in credit expansion.

In developing countries, such as those in Latin America and Africa, the empirical literature revealed that in addition to compliance to regulations, policies by relevant central banks were a challenge in credit creation by commercial banks. Main challenge found was on interest rate capping and central bank rates which are in most cases unfriendly making the banks not venture in credit creation activities (Mutemi & Makori, 2019). It is also evident from the empirical literature that structures of the economy such as interest rate, exchange rate systems, inflation rates among others (Onoh & Iheanacho, 2016), and presence of multicurrency system (Dube & Muzvidziwa, 2015) also act as challenges in credit creation by commercial banks.

Evident from credit creation theory is that banks should not only act in financial mediation, but should also create money by expanding both ends of the balance sheet. Credit creation theory thus explains the role of banks in supplying money to the economy through credit creation where funds are sourced after a need has been created. On the other hand, rational expectation theory brings in the challenges faced by banks in the process of credit creation by indicating that banks by nature are pessimistic on the effect of laws, regulations and policies, rather than treating them as enablers, commercial banks view them as challenges and invest their resources in compliance rather than credit creation.

Though regulations, laws and requirements aim at ensuring the stability of the banking sector, it is notable that literature supports their negative influence in credit creation by commercial banks. In addition to the systematic challenges (regulations, laws and requirements), other challenges that are act externally to the banking sector, specifically, economic structure driven challenges such as high interest rates, fluctuating exchange rates multi-currency economy among others affect credit creation by commercial banks.

Scope for Further Research

Further research on the process of credit generation by commercial banks in Kenya is something that may be done for a variety of reasons, some of which are outlined below. To establish additional elements that impact credit creation by banks such as the quantity of nonperforming loans or losses, interest rates, and demand given that the researcher has mostly approached the subject from a supply side perspective as opposed to a demand side one.

In the interest of further study, it could also be worthwhile to examine classifying the banks in Kenya according to their size as large, medium, or small in order to investigate the impact that capital adequacy rules have on each of these categories.

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