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Financial Sector and Economic Growth in Kenya: The Case of Credit Reference Bureaus (CRBs)

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Abstract: **This study aimed at establishing the impact of Credit Reference Bureaus on the Kenyan financial sector. This sector has several performance indicators such as financial intermediation and access to credit. The contribution of this sector to economic growth has been tremendous. Central Bank of Kenya introduced CRBs in the financial system to mitigate risk and enhance financial stability. However, the role of Credit Reference Bureaus in the country has been underrated. The study objectives were to establish the determinants of financial sector growth in Kenya and the role of the CRBs in financial sector growth. These objectives are important since they enhance the investigation of how the presence of Credit Reference Bureaus has created change in the financial sector. Literature relating to financial sector and CRBs was reviewed to help in achieving the study objective. Times series data was collected from journals from Kenya National Bureau of Statistics and Central Bank of Kenya. It was shown that the main determinants of financial sector growth were interest rate, non-performing loans, access to credit and profitability in the banking sector. All these factors are affected by Credit Reference Bureaus, which indicates that these institutions are important in financial sector growth.**

Keywords: **Access to Credit, Banking Sector, Central Bank of Kenya, Credit Reference Bureaus, Economic growth, Financial sector growth, Financial Intermediation.**

1. INTRODUCTION

The Kenyan financial sector is comprised of commercial banks, SACCOs, development finance institutions, forex bureaus, mortgage companies, non-bank financial institutions, pension schemes, stock market and the insurance sector[1]. These institutions enhance the movement of money in the economy and mobilization of savings and investments. The Central Bank of Kenya is a key player since it regulates, supervises and monitors banks and microfinance institutions.

The financial sector makes a contribution to economic growth in various ways. Financial services help in the running of other economic sectors such as tourism, manufacture and agriculture through provision of funds and financial risk management. If there is no access to finance, there would be no investments to increase the Gross Domestic Product. Through the financial sector, savings are mobilized, and these are used for future consumption and investment. Change in the money supply is usually done by the Central Bank through monetary policies that relate to this sector[2]. This is a sector that creates unemployment indirectly from the funds advanced to individuals and institutions. The financial institutions are also a source of employment for many people in the country.

Financial reforms allowed the formation of many financial institutions to meet high credit demand. However, this transformation came at a cost. As the number of loans given out by financial institutions increased, banks started worrying of the increasing number of non-performing loans (NPL). Some of the reasons that led to increased NPLs include poor

appraisal, improper client selection and lack of monitoring. NPLs led to losses in banks[3]. The existence of this kind of loss prompted Central Bank to form Credit Reference Bureaus.

A Credit Reference Bureau is an institution that collects information about borrowers from various lenders and gives it out to authorized users upon request[4]. The existence of CRBs created a platform through which credit information sharing (CIS) could take place. Credit information sharing is the exchange of credit information between lenders. These institutions are licensed by Central Bank. Kenya has 3 Credit Reference Bureaus; Metropol, CRB Africa and Credit Info Credit Reference Bureau.

Financial sector growth refers to the increase in financial contracts and markets, growth of intermediation and increased number of financial services offered in the financial sector[5]. It also describes the positive transformation of institutions, policies, instruments and markets in the financial sector. This growth can be measured by financial intermediation, which is a key economic activity in the country. Financial intermediation is the process by which lending institutions take deposits from their customers and use them to advance credit to borrowers. Profit is made by these institutions by charging a higher lending rate than the deposit rate.

The Kenyan financial system has undergone continuous growth over the years. This growth has been partly attributed to innovation, globalization and the need for credit. This growth has brought a positive effect on economic growth. This is because of increased business activity in this sector. Currently, there are over forty banks that operate in Kenya. The increase in lending institutions has helped in meeting the high demand for credit. Central Bank of Kenya has played a great role in enhancing financial stability by supervising and monitoring the operation of banks and microfinance banks. CBK publishes financial stability reports on a regular basis to show periodic performance of the sector[6]. Key areas that do not perform well in a certain period are scrutinized to enhance future growth.

Over the years, the Central Bank has sought ways of improving the financial sector. Part of the strategy was to license the operation of Credit Reference Bureaus, which were tasked with the provision of platforms for credit information sharing and other financial-related services. The Credit Reference Bureau Regulations of 2008 only allowed banks to share information regarding non-performing loans to the Credit Reference Bureaus[7]. This painted a bad image of the CRBs as people thought that these institutions were there to threaten defaulters. It also indicates that people had little knowledge of the importance of CRBs in the economy.

This study is important since it has established the specific roles of CRBs and their impact in the financial sector. The enactment of the Credit Reference Bureau Regulations of 2013 allowed banks and other lending institutions to share full file credit information (both positive and negative). Negative credit information indicates that a borrower has a default credit history while positive credit information indicates good repayment behavior. Studies by Nelson & Victor[8] and Sigei[9] were done at a time when banks were submitting negative credit information only. This study has bridged this gap by showing how the sharing of both positive and negative credit information has increased the role of the CRBs in the financial sector. The specific objectives of the paper are: To examine the role of financial sector in economic growth in Kenya; and to examine the roles of CRBs in financial sector growth.

The operation of the CRBs has been entrenched in the CRB regulations of 2013. In these regulations, one of the roles of these institutions is to collect information from various sources[10]. Amendments had been made, and currently, CRBs collect additional information such as utility payments, personal information, credit history and previous loan requests. The systems in the CRB have been integrated with the government registry system to search for a customer's information. Sources of customer data include the government, financial institutions and public utility companies. Compiling and maintaining a database of the information collected is also done by CRBs. The Central Bank requires CRBs to maintain quality standards in the storage and dissemination of customers' information. Various reports can be generated from this database, which includes credit report, certificate of clearance and credit scores. A credit report is one that shows the customer's personal information and his credit history. A certificate of clearance shows that a customer has no negative listing. A credit score is an assessment of a customer's creditworthiness.

Before the emergence of credit reference bureaus, borrowers had no idea on the impact of defaulting on loans. Some of the assets submitted by borrowers as collateral were unrecoverable, which made financial institutions to incur losses. Some of the borrowers defaulted on loans deliberately since they could somehow escape the consequences of defaulting.

During this period, there was existence of serial defaulters. Some of the defaulters borrowed in many financial institutions since the latter had no clue of whether the customer had defaulted[11]. The existence of non-performing loans was injuring the financial sector. Some of the banks reported losses as a result of high numbers of defaulters. Infant microfinance institutions feared to advance loans to borrowers since there was a high credit risk.

Before the introduction of CRBs, banks and other lending institutions were few. Even with the small number of lenders in the financial sector, the rising number of non-performing loans was alarming. Initially, credit expansion was low, and there were few players in the market. This indicated that there was little competition in the financial sector. Some banks closed down. The existence of CRBs has highly influenced the financial sector. Firstly, non-performing loans have reduced substantially. It is difficult for one to get a loan facility from another lender if he has not cleared with the first lender. This aspect ensures that all debts are cleared before subsequent loans are advanced to borrowers. The existence of credit information sharing has reduced the risk of default among lending institutions[12].

The introduction of CRBs has also helped in increasing access to credit. Initially, the Kenyan financial system was in such a way that a borrower had to underwrite assets such as land, property and vehicles to form as collateral when borrowing. This indicates that people with such assets had the highest probability of getting high-valued loans. If one didn't have adequate collateral, then he could qualify for a smaller amount of loan, which may be inadequate for viable investments[13]. A borrower that did not have these assets could be denied access to credit because there was no item to be sold in case of default.

With positive information now being shared, borrowers who are not well endowed with large assets can still access credit. In this case, positive credit history can act as a good reputation for the borrower[14]. Although the customer will get a lesser amount than the person with large assets, it is undisputable that this is a step ahead since he would not have gotten anything if there was no positive information about the customer. Increased credit in financial institutions has increased profitability for most of them, which has seen them expand to various regions across the country.

Another reason for increased access to credit is because lending institutions have the confidence to give out loans. They can now make prompt decisions on the creditworthiness of borrowers. Increased credit in financial institutions has increased profitability for most of them, which has seen them expand to various regions across the country. The expansion of lending institutions has enabled rural residents to access financial services, which is a boost to Kenya's economic growth. The expansion of credit in the financial sector has a positive effect on economic growth[15]. Most of the money borrowed in the private sector is used for business purposes. This creates opportunities for investment. Investment has a multiplier effect because it creates consumption demand, which contributes towards our GDP.

Credit expansion has also ensured that there is enough money circulating in the economy. Credit used for expanding businesses leads to growth of businesses, which increases the income of households[16]. This has the potential of growing the financial sector further because with increased income, households will see the need of saving excess income in financial institutions. Increased savings in these institutions create adequate funds to provide financial services and to expand. This is a major indicator of economic growth.

Credit information sharing is an important function that CRBs support. In this case, banks and other users such as SACCOs and microfinance institutions generate reports each time a borrower requests for a loan. The credit officers can see whether the customer has defaulted or whether he had made a request from other borrowers[17]. Without the CRBs, there would be no other suitable platform to support credit information sharing. CRBs have improved decision-making in the lending institutions, increased profitability and enhanced growth of businesses through expansion of credit.

CRBs help in reducing information asymmetry[18]. The storage of data in the CRB has ensured that most borrowers in the country have a known profile. These profiles help in the generation of credit scores, which are important in forming various risk profiles of borrowers. Good borrowers can now bargain for better credit terms such as lower interest rates and larger amounts of loans. This indicates that CRBs can help in reducing the cost of borrowing.

The introduction of CRBs prompted all banks to change their credit policies. This was a requirement by Central Bank, which is the commercial banks' regulator. In this case, all banks were mandated to share information about a lender's credit history. Many banks were also prompted to get reports from CRBs every time a borrower requests for a loan. This

policy has helped in reducing uncertainty in the banking system. The banking system consists of a pool of borrowers' information stored in the CRBs[19]. Information is sent to all CRBs to prevent one from getting clearance from the CRB that does not have information. The impact of CRBs on credit management is largely felt on banks than other lending institutions. This is because it is mandatory for banks to submit full file information to all CRBs. SACCOs and other microfinance institutions share information to the CRB, but this is not mandatory. These institutions are required to seek consent from their customers before sharing positive information. However, they don't need to seek consent for the submission of negative information.

The presence of CRBs has enabled many lending institutions to recover their debts. Credit information sharing has played a key role in this. If one is listed in the CRB for defaulting on a loan, he is denied another loan from other lenders[20]. This has worked so well for Commercial Bank of Africa (CBA), which operates M-Shwari Loans. Many M-shwari defaulters find it difficult to access loan facilities from other lenders until they have cleared outstanding amounts. CBA takes advantage of the sharing of information in the CRB and uses it to recover its debts.

Past researchers have done well in giving out information about CRBs and their operation in the financial sector. The role of CRBs has been explained in a clear manner. The relationship between CRBs and lending institutions has also been explained well to show causal relationship. This has included the transformation in the banking sector caused by the existence of CRBs. Although past editions regarding CRBs have notable strengths, there are still gaps that need to be bridged. Previous researchers such as Greuning (2013), Nelson (2009), and Sigei (2010) have focused on banks and left out other lending institutions, which are equally important in the financial sector. Martin et al. (2007) and Padilla (2000) have turned their attention to CIS as an important function of CRBs and left out important roles such as market research and statistical research.

2. METHODOLOGY

This study used the model that was employed by Ayadi et al.[21]. The author used a causal relationship model to explain the causal relationship between financial development and its determinants. The main independent variables included private sector credit, bank deposits, stock market capitalization, GDP per capita, inflation and financial reform index. The author has also shown the interrelation between these variables. A similar model has been employed in this study because both cases have causal relationships between the independent and dependent variables. In addition, some of the parameters used in measuring financial development and financial sector growth are similar.

In this study, growth in the financial sector is highly attributed to increased GDP. Employing a causal relationship has helped in showing the relationship between the financial sector growth (GDP) and its determinants. The model and the independent variables have been modified to fit the context of Credit Reference Bureaus. The causal relationship concept explains the relationship between the variables. The dependent variable is financial intermediation in GDP terms, which is an indicator of financial sector growth. The independent variables in this study include access to credit, cost of credit, credit risk, private sector credit and profitability of lending institutions.

Access to credit indicates the availability of funds to carry out income generating investments. The cost of credit affects borrowing behavior. If credit cost is low, people will be attracted to take loans, which will affect income positively. The level of credit risk affects the credit decisions made by lending institutions, which in turn affects the number of loans advanced to borrowers[22]. If this risk is low, then banks and other lending institutions will give out more loans, which may translate to growth in the financial sector. If lending institutions are profitable, it means that there is increased income in the financial sector, and there are available funds to stimulate investments in the sector. Credit in the private sector enhances private sector development, which leads to increased business activity. This is positively related to growth of the financial sector.

Access to credit was measured by the loans advanced to borrowers while the cost of credit was measured by interest rates. Credit risk was measured by the non-performing loans while private sector credit was measured by the loans advanced to the private sector. Profitability of the lending institutions was measured by averaging the performance of all banks in the country.

All the independent variables have a causal relationship on the level of GDP, which is the dependent variable. The model can, therefore, be specified as:

$$Y=\beta_0+\beta_1 L+\beta_2 r+\beta_3 NPL+\beta_4 PN+\beta_5 P+\varepsilon$$

…… (1)

Where;

Y- This is the real GDP.

r-This is the rate of interest at which loans are advanced to borrowers.

L-Number of Loans advanced to individuals and businesses

NPL- Non-performing loans

P- Profitability of the banking sector

PN-Number of loans advanced to the private sector

ε is the error term

β0 is a constant

β1, β2, β3, β4 and β5 are the estimation parameters

Gross domestic product is the value of all finished goods and services that have been produced within the boundaries of a country in a specific period of time. Real GDP is the value of GDP adjusted to inflation. This can be used to measure financial sector growth. Interest rate is the amount of loan charged. This is a cost to the borrower and a benefit to the lending institutions. Interest rate is affected by demand and supply of credit, credit risk and inflation.

The total number of loans signifies the level of access to credit. Non-performing loans are ones that have not been repaid by borrowers within the payment period. They are measured by the number of loans defaulted. The profitability and performance of banks and microfinance institutions is assessed on returns on investment. This shows that it is a key indicator of growth of the financial sector. The number of loans advanced to the private sector shows the value of money for private consumption and private investments. It is a good measure of financial sector growth because it affects the level of income generated from business entities.

This study used time series data. Data was collected six years before introduction of CRBs and four years after their emergence. Time series data was collected from quarterly periods. The entire coverage period was from 2005 to 2015 quarter 1. This shows that there were 41 data points. The target population was banks and microfinance banks since they are the main institutions in the financial sector. CRBs were also targeted because they provided information regarding their role in the financial institutions and how they cause financial sector growth.

Journals and articles from the Kenya Bureau of Statistics, Central Bank of Kenya and World Bank were the sources of data for the six variables in the model. Data was analyzed using linear regression tools. This was important in making a comparison of the financial sector prior to the existence of CRBs and after their introduction. The model in the study was estimated by regressing equation 1 on time series data using Stata software. The estimation technique that was used was based on OLS estimation method, which is unbiased and easy to use. Stata was used because it is ideal for time series data, and offers a broader range of statistical functions. Estimation of data was done after conducting certain diagnostic tests.

A number of tests were done. These include linearity, stationarity, multicollinearity, homoskedasticity, autocorrelation and test of best fit. Private sector loan, which was affected by multicollinearity, was removed from the model. Heteroskedasticity was solved by using robust standard errors. Autocorrelation was solved using the Praise-Weinsten regression. Non-stationarity was solved by differencing the affected variable (bank profitability). The test of best fit showed that the model had a good fit.

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3. RESULTS AND DISCUSSION

The statistics of the data have been summarized in table 1.

TABLE 1: SUMMARY STATISTICS

Variable	Obs.	Mean	Std. Dev.	Min	Max
Financial Intermediation	41	15.37234	3.670809	10.831	23.98
Interest Rate	41	15.19146	2.153224	12.83	20.34
No Of Loans	41	958.1561	498.6864	393.8	2039.1
Non-Performing Loans	41	8.582927	6.025857	3.5	27.9
Bank Profitability	41	43.87317	33.83142	7.9	140.9
Private. Sector. Loans	41	903.0805	485.4002	271.2	1930.7

Table 1 shows that there were 41 observations made. The data was collected from 2005 to 2015 in quarterly periods. There was one dependent variable and five independent variables. Financial sector, measured by the level of financial intermediation in GDP terms, was the dependent variable. The independent variables were number of loans, lending rate, non performing loans (as a percentage of total loans), bank profitability and private sector loans.

Financial intermediation had a standard deviation of 3.670809. The standard deviation of lending rate, number of loans, non-performing loans, bank profitability and private sector loans were 2.153224, 498.6864, 6.025857, 33.83142 and 485.4002 respectively. The minimum and the maximum values indicated in the table have helped in showing the range. The mean values were 15.37234 (financial intermediation), 15.19146 (interest rate), 958.1564 (number of loans), 8.582927 (non-performing loans) and 903.0805 (private sector loans)

Trend analysis of the variables used is important since it will help in ascertaining whether CRBs have led to any change after its introduction. The financial sector has attained continuous growth over the years except for a few cases where the values reduced by a short margin. Noticeable decreases were in 2008 and 2011. It is also noticeable that from the year 2011, the values of financial intermediation were high, and the average growth rate was higher than in the earlier years. Higher growth rates in financial intermediation have been achieved after the emergence of Credit Reference Bureaus.

The lending rate has been fluctuating over the years. The highest increase was experienced from 2011 to 2012. After this period, the interest rate started falling significantly until the first quarter of 2015. Generally, the number of loans increased throughout the whole period, with negligible exceptions. This is an indication that access to credit has been on the rise. After the existence of CRBs, access to credit was higher than in the previous years.

Non-performing loans has been taken as a percentage of the total loans advanced. This value was initially high, and fluctuated until the third quarter of 2006. From this time, the percentage of total loans defaulted has been decreasing, with few exceptions.

Bank profitability was registered in quarters. Therefore, comparison should be made on the quarters. For instance, the first quarter of 2005 registered a profitability of 13.1 billion, which has increased to 37.30 in the first quarter of 2015. After the existence of the first CRB in 2010, growth of profitability was higher than the previous years. The number of loans advanced to the private sector has increased in most years. This signifies that there has been increased mobilization of funds for investment over the years.

After conducting diagnostic tests, it was important to drop one of the variables that caused multicollinearity. After private sector loans were dropped, the model was now fit for regression. Table 2 shows the results after a regression was made using Stata software.

TABLE 2: REGRESSION RESULTS (DEPENDENT VARIABLE= REAL GDP)

Variables	coefficients	Robust S.E	t	P>t	(95% conf. interval)	
Interest Rate	-0.221	0.039	-5.654	0.000	-0.300	-0.142
No. of Loans	0.008	0.000	26.110	0.000	0.007	0.008
Non-Performing Loans	-0.017	0.013	-1.288	0.206	-0.043	0.010
dBank Profitability	0.007	0.003	2.614	0.013	0.002	0.012
Constant	11.556	0.571	20.246	0.000	10.397	12.714

The constant coefficient was 11.556. The coefficients for lending rate, number of loans, non-performing loans and difference of profitability were -0.221, 0.008, -0.017 and 0.007. The results also show that R-squared was 0.9853. Prob>F=0 indicates that the model is significant.

The constant coefficient is positive. This indicates that holding all other variables constant, financial intermediation will increase by 11.556. This coefficient is statistically significant at 5% significance level since the value of P is less than 0.05 (P=0).The coefficient for lending rate is negative. This shows that holding all other variables constant, an increase in the interest rate by 1 unit will lead to a decrease in financial intermediation by 0.221. Lending rate is statistically significant at 5% significance level since the value of P is less than 0.05 (P=0).

The coefficient for number of loans is positive. Holding all other variables constant, an increase in the number of loans by 1 unit will lead to an increase in financial intermediation by 0.008. This coefficient is statistically significant at 5% significance level since the value of P is less than 0.05 (P=0). The coefficient for non-performing loans is negative. Holding all other variables constant, an increase in the non-performing loans by 1 unit will lead to a decrease in financial intermediation by 0.017. This coefficient is not statistically significant at 5% significance level since the value of P (0.206) is more than 0.05.

The coefficient for differenced profitability is positive. Holding all other variables constant, an increase in the differenced bank profitability by one unit will increase financial intermediation by 0.007. Differenced profitability is statistically significant at 5% significance level because the value of P (0.013) is less than 0.05. This indicates that bank profitability has a major effect on financial sector growth. This conforms to economic expectation since profitability signifies increase in income, which translates to increased movement of money in the financial sector.

4. CONCLUSIONS AND POLICY IMPLICATIONS

Information collected from the literature review and the regression results help in arriving at a strong conclusion. It is evident that only three variables are statistically significant. These are number of loans, interest rate and bank profitability. Although non-performing loan is not statistically significant, it has a negative effect on the financial sector. Ideally, non-performing loans lead to losses in lending institutions, which hinder financial intermediation.

Information from literature review show that Credit Reference Bureau helps in increasing access to credit. This is because banks have the profile of borrowers, which makes them advance more loans to them. From the findings, it is evident that access to credit, measured by the number of loans, has a positive relationship with financial intermediation. This relationship shows a positive contribution of Credit Reference Bureaus towards growth of the financial sector.

Access to credit is related with profitability. This is because the more a bank advances credit to its customers, the more it gains from the interest rate charged. The interest income collected from borrowers contributes to the profitability of a bank. If CRBs contribute positively towards access to credit, then it means that their effect is extended to the profitability of banks.

Credit Reference Bureaus help in the reduction of credit risk. This is measured by the non-performing loans. Existing borrowers cannot risk defaulting on their loans since they fear being locked out from accessing further credit. Certificate of clearance is only given to people who have cleared their outstanding loans, which prompts defaulters to clear their loans. The results showed that non-performing loans have a negative effect on financial intermediation. Banks will incur losses due to the number of loans that have gone bad. This money would have been used to give out loans to other borrowers. This analysis indicates that Credit Reference Bureaus can cause positive impact on the financial sector by reducing non-performing loans.

The lending rate is affected by some factors that include the KBRR rate, inflation and credit risk. CRBs play a big role in reducing information asymmetry, which translates to reduced credit risk. This mostly causes an effect towards the cost of borrowing. At times the lending rate may increase, but this may be because of other factors other than credit risk like inflation and macro-economic policies. To a great extent, the existence of Credit Reference Bureaus has helped in reducing interest rates and maintaining sustainable interest rate levels. Reduced interest rate leads to improvement in the financial sector, and Credit Reference Bureaus have played a great role in this.

In conclusion, growth in the financial sector is affected by four factors; interest rate, number of loans, non-performing loans and profitability in the banking sector. All these are variables that are affected by the existence of Credit Reference Bureaus. The sharing of both positive and negative credit information has expanded the impact of CRBs on the financial sector. This is because access to credit increased after banks were mandated to share full file information in the CRBs. Therefore, the existence of CRBs has created a positive effect on financial sector growth. There is a positive correlation between growth in the financial sector and economic growth. This shows that Credit Reference Bureaus are important in fostering economic growth in the country.

The study therefore recommends that; the government, through the Central Bank, should strengthen the existence of Credit Reference Bureaus in the country. This will enable the CRBs to execute their mandate effectively. The Central Bank should strengthen its supervision to ensure that all banks submit all the relevant credit information to the CRBs on time. This will enable lenders in the banking system to make prompt credit decisions based on real time information.

Credit Information Sharing, an important aspect in the financial sector, is not fully adopted. This phenomenon is mostly used in the banking institutions more than any other institutions. Some of the borrowers may default and borrow loans from other lending institutions that do not share credit information with the CRBs. Credit risk and the cost of borrowing can be further reduced if CIS is fully utilized. The government should pass a regulation that mandates all other lending institutions to share credit information with all CRBs. This would increase the importance of CRBs in the financial sector.

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