

# THE IMPACT OF BANKING ON ECONOMIC GROWTH IN DEVELOPING COUNTRIES, EMPIRICAL EVIDENCE: SUB-SAHARA AFRICA

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## **ABSTRACT**

African countries are developing better economic and monetary reforms so as to gain the status of an emergent country over a certain period of time. This study seeks to shed light on the development of the banking sector in African countries, as well as studying the relationship between the development of the banking sector and the economic growth. This study was based on quantitative data available through the World Bank for The 32 African countries for the period 1993-2016.

The results of the study showed a positive relationship between the granting of credit to the private sector by banks and the growth in GDP. The granting of credit encourages investment, reduces unemployment and increases per capita income. While there was a negative correlation between inflation and growth in GDP due to the inflation that causes investors to refrain from founding projects in inflationary countries because of the high risk of investment which affects GDP growth. There was also a negative correlation between trade balance and growth in GDP. Africa continent is mostly poor, developing and heavily dependent on exports, making the trade balance is not in its favor.

**Keywords:** Banking, economic growth, developing countries.

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## **INTRODUCTION**

In the past few years, there have been renewals of interest in the factors of long-term economic growth in Africa. There were new endogenous theories of economic growth have enthused research in which they seek to detect the factors that could arouse long-term growth rates in countries across Africa. This would result in a decrease of their dependency on assistance and stimulate operation of their own resources volume in order to improve their economic situation. Consequently, that led to a reduction in poverty. Many studies indicate that the best way for African countries to achieve 4 to 5% economic growth per year is to improve the development of their financial sectors (Mandiefe, 2015).

Financial intermediation is the procedure through which financial organizations transmit financial resources from extra units of the economy to deficit ones. Nevertheless, for financial organizations to release this role efficiently, they should be developed in terms of fluidity, diversity of financial properties and competence in credit allocation. Rajan and Zingales (2002) stated that a developed financial sector should reflect the affluence with which entrepreneurs with complete projects can get financial incomes, and the sureness with which stakeholders expect satisfactory revenues. The system should also be able to gauge, partition, and spread problematic risks, letting them rest

anywhere they can best be borne and should be able to do all these at low cost. Doing this, more reserves, asset and high output will be confirmed and therefore economic growth (Abubakar & Gani, 2013).

In recent years, a growing number of studies have inspected the link between the financial part and the real economy. Two opinions have been accordingly interrupted: the first one shows a favorable effect of banking and financial market development on economic growth. The second one is supporting the completely opposite view. The former was first studied by the financial repression school (McKinnon RI, 1973; Shaw, 1973) and the liberal school, which showed that a complete system based on capital accumulation and investment stimulus leads to economic growth. However, other studies have found that developing and inspiring financial systems, the banking sector in particular, could through their openness cause financial instability and banking catastrophes that are likely to slow economic growing (Boukhatem and Ben Moussa, 2018).

The results of several empirical studies (Gheeraert & Weill, 2015; Abubakar & Gani, 2013; Piabuo, 2015) point to the significance of the banking sector in strengthening the economies of countries and contributing to the development and growth of the economy. There is scarcity in the empirical studies that study the impact of the The banking sector on economic growth, especially in the countries with developing economies. Therefore, this paper examines the impact of the banking sector on economic growth in the African countries.

The aim of this paper is hence to investigate the macroeconomic impact of The banking sector by analyzing the relation between this development and and the economic growth. To our knowledge, this is the first paper providing empirical results on the role of banking finance for economic development in African countries. We thus provide a contribution on the “banking sector and economic growth”.

## **THEORETICAL LITERATURE**

Not until the German economist Schumpeter noticed the great roles banks play in the growth of the real economy early in the twentieth century, the link between the financial banking sector and the real sector had received less attention. Schumpeter believes banks fund and provide the necessary credit to entrepreneurs to finance their investment in physical capital. Sufficient financial resources and good financial services help entrepreneurs utilize new production techniques using recent technological innovations that consequently lead to creative and efficient production processes. To sum up, economic growth is an apparent effect for financial development (Abubakar and Gani, 2013).

Generally, as a result, in case of consistent income level, education, political ambiance, and monetary policies, studies have revealed the level of initial financial development gives a good predicting signal for the upcoming economic growth rates and for the accumulated physical capital and also for productivity growth rates. However, it is definitely unclear which leads to the other. Is financial development a result of economic growth or vice versa? In fact, financial services grow with income growth, and economic growth increases the demand for financial services. Countries need to work towards both an economic growth and financial development as they are reciprocal. (Blum et al., 2002).

Furthermore, a repressed financial system which is full of interest rate ceiling, directed credit policies and high reserve requirement impedes economic growth. This leads to low saving level, credit rationing and low investment, as a result. Financial liberalization, thus, is suggested to allow the real rate of interest to rise and by this means raising the financial savings (McKinnon and Shaw, 1973). The increase in saving in comparison to real economic activity leads to an increase in

financial intermediation which also leads to an increase in productive investment and economic growth. (Abubakar and Gani,2013).

The hypothesis of mutual dependency or interdependency is a way to have a compromise between the two view points above. It assumes that the relation between financial development and economic growth is reciprocal. The idea is that underdeveloped countries can considerably get benefit from the development of their financial sectors (supply-leading), yet highly developed economies become more demand-following. These distinct views on the finance-growth chain lead to the hypothesis of extreme neutrality in which financial sector development is not significantly connected to real growth (Blum et al,2002).

As an apparent example, some African countries have had a reform in their financial sectors over the past three decades; however, their efforts to have a rapid reform and growth in other countries have failed, and that worsens the situation and increases the challenge for policymakers in their efforts to promote the financial and economic sector.

(Financial Development in the Middle East and North Afric,2003)

## **LITERATURE REVIEW**

### **First, Studies Deal with the Traditional Banking Sector.**

The study of Kalpana and Taidala (2017) aimed to test the role of Indian banks in the formation of capital money through the customers' cash deposits. The study found that there is an effect to the credit and loans on the formation of the capital money, and thus positively affects the gross national product.

Wilms, et al, (2017) study examines which variables are robust in explaining cross-country differences in the real costs of banking crises. We identify 21 variables frequently used as determinants of the severity of banking crises. After a discussion of five measures based on cumulative output (or output growth) lost after a banking crisis, we examine the drivers of the real impact of banking crises for two preferred measures. Our results suggest that fixed investment and financial openness affect losses in output levels, while fixed investment, the current account balance, liquidity support, monetary policy and financial freedom affect losses in output growth after banking crises

Rafay, A. & Farid, S. (2017) examines the rapid expansion and diffusion of Islamic banking and its relationship with real economic activity in Pakistan. Additionally, the study also highlights the functional role of Islamic banking for greater economic activity and growth in Pakistan. Two major balance sheet items of Islamic banks (Islamic deposits and Islamic financing and investment) were used as proxies for Islamic banking development. The findings of the study unveil a significant positive and dynamic long term bi-directional causal relationship between Islamic banking and real economic activity. Furthermore, the findings also reinforce that the State Bank of Pakistan should continue promoting Islamic banking as a parallel banking system to the conventional system as it exerts a substantial positive impact on real economic activity in Pakistan.

Kenzaa & Salah Eddineb (2016) aimed to examine the impact of financial development on economic growth in the context of the MENA countries. The study considers a number of measures of financial development that are: private credit to GDP, M2/GDP, the ratio of commercial bank assets to the total of commercial bank assets and central bank assets. and take growth rate of real GDP as dependent variable and few core control variables of economic growth. This study employs as well panel time series data over the year of 1980-2012 for each indicator for a split sample of 11 MENA countries. In order to measure the impact, this study analyzes the data by applying panel

autoregressive distributed lag (ARDL) framework of pooled mean group (PMG), mean group (MG) and Dynamic fixed effect (DFE) estimators. The result obtained from PMG estimators demonstrates that the financial intermediary has a negative effect on the growth rate in the MENA countries in the short and long run. The paper concludes by pointing out directions to improve financial development in the MENA countries by applying more financial reforms to promote competition in the financial sector and financial structure expansion that reflects in the improvement of the quality and quantity of financial services. On the other hand, taking further steps to create an appropriate legal environment may further help the MENA countries to reap the utmost benefits by maximizing the potential role of the financial system in the real sector.

Piabuo (2015) checked the impact of short and long-term financial sector development on economic growth and also to check the financial development gap separating Cameroon and an emerging country such as South Africa. The study has shown a long-term relation between the variables of financial development (loans, deposits of the private sector, cash and cash equivalents) and economic growth in Cameroon, while there is short-term relation in South Africa, particularly between bank deposits and economic growth.

Abubakar and Gani (2013) study re-examined the long-term relation between the indicators of financial development in the banking sector and economic development in Nigeria between 1970-2010, using Johansen and Juselius (1990) approach and Vector Error Correction Modeling. The study found that the liquid liabilities of commercial banks and commercial openness have a positive impact on economic growth in the long term, while credit to the private sector, interest rate and government expenditure have a negative impact on economic growth. Credit to the private sector has problems, and government borrowing and high interest rates undermine investment and growth. Burzynska (2009) examined the long-run relationship between economic growth and financial development in China for the period 1978-2005. The focus was put on effects of different kinds of banks as well as different types of loans. The Johansen test for co-integration rejected the null hypothesis of no co-integrating relations, which implies that there is a long-run equilibrium relationship between economic growth and financial development. I use Granger causality test in VAR framework in order to determine causality between the variables. There is bidirectional Granger-causality between economic growth and credit extended by policy banks. Similar causality exists between economic growth and operations of rural credit cooperatives. Also state-owned commercial banks and other commercial banks are economically related to economic growth. However, there is only a unidirectional causality from economic growth to financial development in their case. The effects of activity of distinct banks is partially mirrored in the results of Granger-causality for different types of loans. Loans to construction sector, which can be linked to policy banks' projects, are proved to Granger-cause economic growth. And there exists unidirectional causality from economic growth to loans to commercial sector, which are a large part of operations in commercial banks.

Hshin and Alan (2006) examined the causal relationship between changes in The financial development division and the average of the economic growth. The study analyzed two sets of data: the first included 70 emerging countries, and the second included 20 developed countries. The results show a causal relationship between GDP and the development of the financial sector. This causal relationship stems from the economic development and the financial development. The effect of financial development today is less widespread than in the study of Odedokun's study. This refers to the time lapsing in which the level of financial development has become more homogenous with the increasing level of international trade.

## **Second: Studies deal with Islamic Banking**

Gheeraert and Weill (2015) examined whether the development of Islamic banking affects macroeconomic efficiency. That helps to analyze the relationship between Islamic finance and economic growth in 70 countries between 2000-2005. This is by examining the impact of indicators of Islamic banking development such as: "credit, credit, Islamic credit and deposits" on the GDP as an indicator of economic development. The study proved that there is a beneficial effect of Islamic banking development on GDP. There is also a non-linear relationship between the development of Islamic banking services and its efficiency. The study also shows that despite the increase of the further development of Islamic banking in enhancing the economic efficiency, the expansion of Islamic banking is detrimental to efficiency if it exceeds a certain point.

Boukhatem and Ben Moussa (2018) study aimed to establishing a consistent theoretical framework on the relationship between Islamic finance and economic growth, and then experimentally test the impact of Islamic banking loans on economic growth in 13 countries in the Middle East and North Africa region during 2000- 2014. The study also found a comparison between conventional banks and Islamic banks in terms of their impact on the global financial crisis. The study indicated no evidence that the financial crisis affected the safety of Islamic banks differently from traditional banks. The study found strong evidence that the development of the financial system stimulates economic growth, while Islamic financial development can boost economic growth in the Middle East and North Africa. However, this positive impact is hampered by the institutional contexts, as the countries of the Middle East and North Africa do not get benefit from the large payments resulting from the export that is likely to increase the volume of loans.

## **OBJECTIVES OF THE STUDY**

This study seeks to shed light on the development of the banking sector in African countries, as well as studying the relationship between the development of the banking sector and the economic growth.

## **METHODOLOGY**

### **Data and Variables Description**

This study was based on quantitative data available through the World Bank for The 32 African countries for the period 1993-2016. After reviewing the study literature, the researcher used a range of variables to achieve the objectives of the study:

**Banking sector:** Banking system activity: In theory, there is agreement concerning the role played by financial development in encouraging economic development (Levine 1997, 2005; Beck and Levine 2004; Eggoh 2010, etc.). For this issue, we use the domestic credits that are extended by profitable banks to the private sector (in % of GDP) as a measure of the development (size) of the overall banking sector (traditional and Islamic banks).

**Economic Growth:** As mentioned in the literature of the study, the present study relied on GDP as an indicator of the economic growth of the study countries.

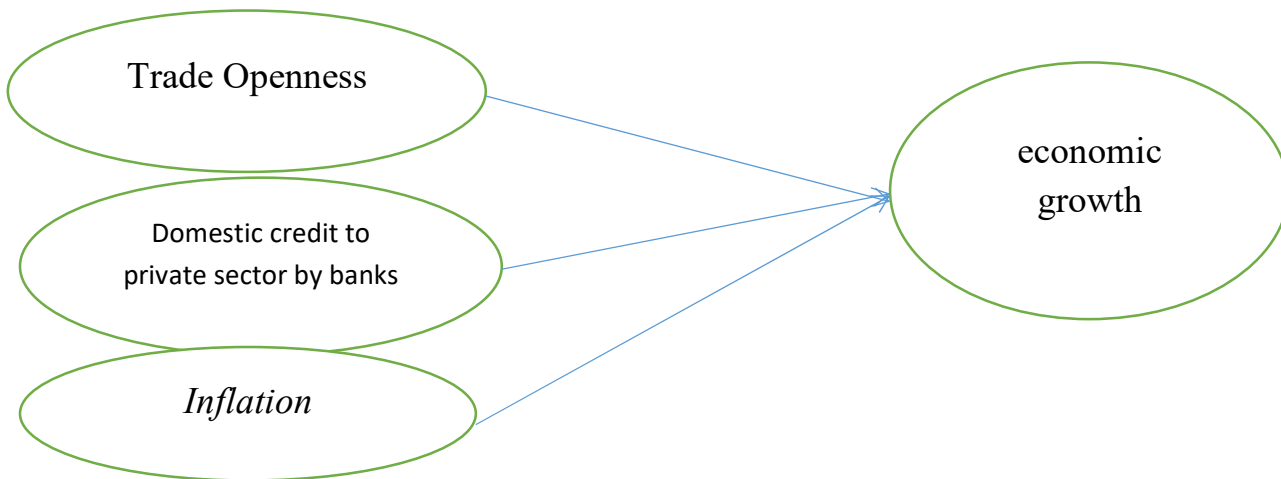
### **Ruling variables**

**Inflation:** It is one of the most important macroeconomic variables. The results of many studies indicated that there is a negative impact of inflation on economic growth, and inflation is distorting the price indices.

**Trade Openness:** The theoretical relationship between trade liberalization and growth has long been topic of disagreement in the literature of global trade. Most studies provide support that trade honesty affects economic growth definitely. In this way, more open states have experienced faster efficiency growth, as they have greater ability to catch up to leading technologies, take better benefit of economies of scale in manufacture, endorse efficient resources allocation through relative advantage, and encourage competition in domestic and international markets. However, the opposite

view recommends that trade openness can make states more susceptible to exogenous shocks making growth more unstable and weaker in the long-term

### The Framework of Study



### STUDY MODEL

the standard model was constructed using the following equation:

Equation (1)

$$GDP = B_0 + B_1DCP_t + B_2TRD_t + B_3INF_t + \epsilon_t + T \quad 1, 2, 3 \dots 24$$

GDP = Gross domestic product

TRD = Trade Balance

DCP = Domestic credit to private sector by banks

INF = inflation rate

The natural logarithm function of the variables is used to minimize the data values. Therefore, it reduces the value of the variance or dispersion. This, in turn, affects the assumption of constant variation of the random error limit. Another advantage in logarithm is that the variation can be expressed using percentages rather than units used.

Thus, the standard model in equation (1) becomes as follows:

$$\text{Log}(GDP) = B_0 + B_1\text{Log}(DCP_t) + B_2\text{Log}(TRD_t) + B_3\text{Log}(INF_t) + \epsilon_t + T \quad 1, 2, 3 \dots 24$$

The value of ( $B_1 > 0$ ) determines the flexibility of the domestic average of credit of private sector by banks. It is expected that if the domestic credit of the private sector increased by banks, the gross domestic product would be increased, and the value of ( $B_2 > 0$ ) determines the flexibility of the foreign trade balance. Thus, if the foreign trade balance is increased, GDP would increase. The value of ( $B_3 > 0$ ) represents the flexibility of the increase in inflation. Thus, the higher inflation means the lower GDP.

### MODEL ESTIMATION

To estimate the regression model in equation (2) using the program "EViews7" to clarify the relationship between the independent variables and the dependent variable by Least Square Method in the case of the availability of its the assumptions of this method. The assumptions to be used for

the use of the Least Square Method of the model (2) were verified by the stage of evaluating the model capabilities.

**Unit Root Test**

The unit root test was used to verify the stability of time series and to determine the degree of integrity of each series (stability degree). The stability condition is a prerequisite for the chronological series to reach sound and logical results. Augmented Dickey Fuller test (ADF) was used. The results of the test indicated that all variables are stable at logarithmic levels at the level of significance of 5%, and thus it is concluded that all variables are integrated.

**Co-integration Test**

The Johnson method of co-integration was used where it can be used and relied on in the case of simple and multiple regression models. The value of the effect count was greater than the critical value at the significance level 5% which told the null hypothesis was rejected at the level of 5% that assume there were two trajectories, at most, for co-integration and the acceptance of the alternative hypothesis, that is, the existence of a relationship of co-integration and the number of integration trajectories are three. Thus, it is possible to say that there is a co- correlation between the study variables, and therefore, the long-term relationship between these variables can be estimated to determine the effect of the independent variables on the dependent variable.

**SELF-CORRELATION OF STUDY VARIABLES**

Self-correlation of the variables of the study was tested. Table (1 ) shows that there is no correlation between the variables of the study and therefore there is no problem in the multiple data.

**Table ( 1) Self-correlation between study variables**

	<b>lnDCPSB</b>	<b>lnTRD</b>	<b>lnINF</b>
<b>lnDCPSB</b>	1.000		
<b>lnTRD</b>	0.1987	1.000	
<b>lnINF</b>	-0.2855	-0.0949	1.000

**ESTIMATING THE PARAMETERS OF THE MODEL**

The three longitudinal data models: the aggregate regression model, the static effects model, and the random effects model, were used. Table ( 2) shows the estimation results of the parameters when using the three models, depending on the EViews7 program.

**Table (2) the estimated sample study parameters using the three models**

	<b>Pooled Regression</b>	<b>Fixed Effect Model</b>	<b>Random Effect Model</b>
<b>lnDCPSB</b>	0.480266	0.584861	0.573337
<b>LnINF</b>	-0.107074	-0.122459	-0.122599
<b>lnTRD</b>	0.977213	-0.515544	-0.401981
<b>constant</b>	1.636657	7.678152	7.213327

The estimated aggregate regression model equation, the estimated static effect model equation, and the estimated random effects model can be written as follows:

$$GDP = 1.636657 + 0.480266DCP - 0.107074INF + 0.977213TRD$$

$$GDP = 7.678152 + 0.584861DCP - 0.122459INF - 0.515544$$

$$GDP = 7.213327 + 0.573337DCP - 0.122599INF - 0.401981TRD$$

After estimating the three models of the studied model, there will be selection among the three models through the Hausman test as shown in Table ( 3 )

**Table ( 3 ) Hausman test**

Test Summary	Chi-Sq. Statistic	Prob.
Cross-section random	39.5605	0.00

Based on the results of the table, it is noticed that the appropriate model for the study studied data is the fixed effects model. The Hausman test value was 39.5605 at a level of 0.00 which is less than 5%. The following is the appropriate regression model for the study data as shown in Table (3)

**Regression model**

Dependent Variable: LNGDPPC\_CUR

Method: Panel Least Squares

Date: 05/11/18 Time: 15:17

Sample: 1993 2016

Periods included: 24

Cross-sections included: 32

**Total panel (unbalanced) observations: 711**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNDCPSB	0.584861	0.041550	14.07610	0.0000
LNINF	-0.122459	0.017793	-6.882474	0.0000
LNTRD	-0.515544	0.075560	-6.822946	0.0000
C	7.678152	0.312545	24.56652	0.0000

**Effects Specification**

**Cross-section fixed (dummy variables)**

R-squared	0.851938	Mean dependent var	6.694468
Adjusted R-squared	0.844491	S.D. dependent var	1.223175
S.E. of regression	0.482355	Akaike info criterion	1.427702
Sum squared resid	157.2826	Schwarz criterion	1.652503
Log likelihood	-472.5479	Hannan-Quinn criter.	1.514538
F-statistic	114.4012	Durbin-Watson stat	0.315971
Prob(F-statistic)	0.000000		

We noticed through the table that the correlation coefficient is 0.0851, and the adjustment factor is 0.844. In other words, 84.4% of the value of the change in GDP is explained by the linear



relationship, and the rest is due to other factors. The calculated F value is 114 and the probability value is 0.00, which means rejecting the null hypothesis and accepting the existence of a statistically significant relationship between the independent variables and the dependent variable. The local credit variable for the private sector by banks is t value 14.07610 and the probability value is 0.00, which is less than 0.05. This means that there is a positive correlation between the local credit of the private sector by banks and the growth in GDP. This can be explained by the fact that the private sector uses credit to construct economic projects and stimulate investment, and that unemployment will be decreased and increasing household income. Thus, that enhances the country's GDP. This is a result that is consistent with the findings of several studies such as Abu bakar and Gani (2013), Gheeraert and Weill (2015), Kpodar (2016).

The inflation variable was T-value of -6.882474, and the probability value is 0.00, which is less than 0.05. This means that there is a statistically significant negative correlation between inflation and growth in GDP. This is because inflation causes banks to decline credit and investors abandon, and the low ability to establish investment projects. Thus, it increases unemployment and impact on the GDP negatively. These results are consistent with the findings of the study Boukhatem and Ben Moussa (2018).

The trade balance variable was T-value of -6.822946, and the probability value was 0.00, which is less than 0.05. This means that there is a statistically significant negative correlation between the trade balance and growth in GDP. This is because the African countries, which are mostly developing countries, and trade balance are not in its favor as it imports more than exports. This means that there are no industrial or agricultural works that are exported abroad and contribute to raising domestic output, which is a logical result.

Finally, the impact of private sector credit granted by banks, inflation and the trade balance on GDP growth can be predicted by the following equation:

$$GDP = 7.678152 + 0.584861DCP - 0.122459INF - 0.515544$$

## CONCLUSION

The objective of this study was to identify the impact of the banking sector on economic growth, as the banking sector was expressed through credit granted to the private sector by banks. Economic growth was expressed through growth in GDP. Inflation and trade balance were considered as control variables of the benchmark model.

The results of the study showed a positive relationship between the granting of credit to the private sector by banks and the growth in GDP. The granting of credit encourages investment, reduces unemployment and increases per capita income. While there was a negative correlation between inflation and growth in GDP due to the inflation that causes investors to refrain from founding projects in inflationary countries because of the high risk of investment which affects GDP growth. There was also a negative correlation between trade balance and growth in GDP. Africa continent is mostly poor, developing and heavily dependent on exports, making the trade balance is not in its favor.

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**APPENDIX:**

Liberia, Chad, Gambia, Eritrea, Equatorial Guinea, Cote d'voire, Island of the moon, Central Africa, Cameron, Burkina Faso, Botswana, Benin, Angola, Madagascar, Mali, Mauritius, Mozambique, Nigeria, Niger, Senegal, South Africa, Zimbabwe, Tanzania, Togo, Uganda, Zambia, Sudan, Ronda, Kenya, Guinea-Bissau, Namibia, Swaziland.