Journal of Economics and Sustainable Development
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.8, No.20, 2017

Determinants of Credit Growth in Nigeria: A Multi-Dimensional Analysis

Henry Waleru Akani, Dr. Joseph I. Onyema
Department of Banking and Finance,
Rivers State University
Nkpolu - Port Harcourt, Rivers State, Nigeria

Abstract
This study examined the determinants of credit growth in Nigeria. Annual time series data were sourced from Central Bank of Nigeria statistical bulletin from 1981-2016.Three multiple regression models were formulated to examine the effect of macroeconomic variables, monetary policy variables and international variables on the growth of Nigeria's net domestic credit. The unit root test indicates that all the variables are stationary at first difference using the Augmented Dickey Fuller (ADF) test. The Johansen Cointegration test result shows that there exists a positive long run dynamic relationship between the dependent and the independent variables. The Granger causality test shows a uni-variate relationship from the independent to the dependant variable. From the macroeconomic variable, public expenditure, inflation rate and capital formation have a negative relationship with growth of Nigeria net domestic credit while real gross domestic product, government revenue and balance of payment have a positive impact on the dependent variable, we conclude that macroeconomic variables have significant effect on the growth of Nigeria's net domestic credit. From the monetary policy variables, treasury bill rate, interest rate and compliance to credit rules have a negative effect on net domestic credit while monetary policy rate, financial deepening and growth of broad money supply have a positive effect on the dependent variables. We also conclude that monetary policy variables have no significant relationship with the growth of net domestic credit in Nigeria. While from the international variables, exchange rate, international liquidity, foreign direct investment and openness of the economy have positive effect on net domestic credit whereas cross boarder credit and net foreign portfolio investment have negative relationship with net domestic credit. From the result, we conclude that international variables have no significant relationship with the growth of net domestic credit in Nigeria. We therefore recommend that macroeconomics, monetary and external policies should be formulated to achieve equilibrium level of net domestic credit in the economy.
KEYWORDS: *CREDIT GROWTH, MACROECONOMIC VARIABLES, MONETARY POLICY VARIABLES, INTERNATIONAL VARIABLES.*

Introduction

Credit is a financial market activity where financial institutions are empowered by law with credit functions to extend credit facilities to deficit economic units. The monetary authorities use credit policies to achieve macroeconomic growth. For instance, credit policies are used to achieve growth in some sectors of the economy. Credit represents the bulk of the institution's assets, while interest on the credit represents the major source of income to the financial institutions. Credit is the aggregate amount of funds provided by financial institutions empowered with credit function to individuals, business organizations and government (Timsina, 2014).

The growth in domestic credit provides several benefits to the economy, especially to the developing economies like Nigeria. Efficient allocation of credit bolsters private investment and boosts economic activity (Luca and Spatafora, 2012). Reliable supply of domestic credit relieves local firms from pressure coming from exchange rate risk especially during an economic downturn. It is also important to note that, credit growth can have deleterious effects on financial stability. Credit growth is used as one of the single-variable-based indicators of financial stability (Gadanecz and Jayaram, 2009, Gosh, 2010). Thus, factors that affect credit growth should be given due consideration as excess can affect negatively the financial sector and too little credit affect negatively macroeconomic indicators such as growth.

In view of the above scenario, factors that determine credit growth can be divided into domestic and foreign factors. The domestic determinants comprise real and monetary factors. The real factors are real GDP growth and the inflation rate. Bakker and Gulde (2010) found that inflation is a significant cause of credit booms. Aisen and Franken (2010) finding hinges on the validity of the finance-growth nexus as viewed through the lens of the demand-leading hypothesis; this implies that as the economy grows the demand for credit increases. Guo and Stepanyan (2011) asserted that volatility of domestic credit depends on both the rate of inflation and economic growth. Mendoza and Terrones (2012) noted that there is a strong relationship between significant receipts of foreign capital and credit booms in emerging economies. Furceri *et al*. (2012) provides some evidence that even

though foreign direct investment and portfolio equity flows do not appear to have a statistically significant effect on domestic credit growth to economy but there exist a positive relationship within the period under study. Elekdag and Wu (2011) observed that global money supply expansion spills over into the domestic economy in the form of credit expansion. Obsfeld (2012) suggests the ability to borrow abroad at lower rates of interest and allocate resources locally at higher rates has implications for domestic credit growth. Gozgor (2014) finds that global financial market conditions influence domestic credit fluctuations. Financial integration makes it possible for regional monetary policy decisions to transmit signals which affect patterns of domestic credit growth (Roman and Bilan, 2012). Edwards (2012) indicates that both trade and current account balances are associated with domestic credit growth.

The above empirical studies on the determinants of credit growth are focused on developed and industrialized countries with many institutional structures that are different from developing countries. The results obtained from the developed countries cannot be applied in Nigeria. Apart from the above, the findings of the studies has been controversial and inconclusive as some report positive effect, others report negative which also differs in time period and methodologies, giving need for further study. Similar studies in Nigeria examined factors that determine commercial banks credit (Olokoyo, 2011; Akinlo and Oni, 2015). These studies failed to capture other financial institutions such as microfinance banks, merchant banks and other development banks that are empowered with the credit functions and therefore fall shorts in establishing factors that determine credit in Nigeria. Again the studies also failed to include monetary, macroeconomic and international factors as the determinants of credit growth. Therefore, this study intends to examine the determinants of credit growth by modeling net domestic credit as the function of monetary policy, macroeconomic and international variables. However, it is expected that an increase in credit growth will result to increase in net domestic credit. The implication is that a rise in monetary policy variable of interest rate will in turn positively reduce cost of borrowing and increase domestic growth for investment purposes.

Empirical Literature

Hoffman (2001) through a co-integrating VAR for 16 industrialized countries, found a significant positive relationship between real credit to real GDP and property prices, and a negative correlation with real interest rates. Calza, *et. al.*(2001) using VECM for the euro area data, model the factors that affect the demand for credit and found that in the long run, the latter are positively related to real GDP growth and negatively to short term and long term real interest rates. Cotarelli, *et. al.* (2005) identified long-run relationship between bank credit to the private sector to GDP ratio and a set of economic and institutional variables, for a panel of non-transition developing and industrialized countries. Then they use these estimates for an equilibrium level of credit to GDP in Central and Eastern European (CEE) and the Balkans. They conclude that: there is an evidence of a crowding out effect (because of a negative coefficient on the public debt ratio); a positive and significant relation of lending to GDP per capita; inflation above a certain threshold negatively affects the dependent variable; greater financial liberalization and transparency in accounting standards lead to higher bank credit to GDP ratio.

Égert, *et. al.* (2006) investigated the determinants of the domestic bank credit to the private sector as a percentage of GDP in 11 Central and Eastern European (CEE) countries. They used three alternative techniques for estimation: fixed-effect ordinary least squares; panel dynamic OLS and the mean group estimator, for 43 countries, which are then grouped into other small panels. The authors first estimated a baseline model and found a negative relations of private credit to GDP ratio (dependent variable) with bank credit to the public sector, lending rate, inflation and spread between lending and deposit rates, a proxy for financial liberalization. The GDP per capita was found to have a positive effect on the dependent variable. Then, checking the robustness of variables in the baseline model, they use alternative measures for some of the explanatory variables. They replaced in the baseline equations: GDP per capita by real GDP growth and real industrial production; long term by short term lending rates; and PPI by CPI. In the last equations, they add house prices and a dummy for credit registry.

Rosenberg and Tirpák (2009) examined the determinants of foreign currency lending in new EU member states of the Central and Eastern European (CEE) countries and found significant positive relations with the share of foreign deposits and the interest rate differential (difference between domestic and foreign currency interest rates). On the other hand, they conclude that foreign currency borrowing is negatively affected by net foreign assets of the banks, exchange rate volatility and regulatory measures that discourage borrowing in foreign currency.

Albulescu (2009) evaluated two equations through OLS. The growth rate of credit granted in domestic currency and of those denominated in foreign currency serves as dependent variable, respectively, for Romania. In the

first equation, the researcher found that credit growth rate is linked positively with economic growth, deposits in domestic currency growth and unemployment rate, but negatively with net wages growth and interest rates. In the second equation, foreign currency credit dynamics are explained by net wages and foreign currency deposits. The ratio of foreign currency credit to deposit is an important factor, negatively related to growth rates of foreign currency credit.

Guo and Stepanyan (2011) identified both demand-side and supply-side factors of credit growth, with a focus on supply side for 38 emerging market economies. They covered both pre-crisis and post-crisis periods (2002-2010). The researchers found that domestic deposits and non-residents liabilities positively contribute to credit growth and that they symmetrically serve as funds for the latter, whether domestic or foreign sources. GDP growth and inflation also increase credit; while higher deposit rates, signaling tighter monetary conditions and a tighter monetary policy in the U.S., will decrease credit growth. In another alternative equation, they add other factors such as: exchange rate (to pick up the effect of foreign currency credit); initial credit to GDP ratio (the higher the ratio, the lower the subsequent credit growth); NPLs (a higher level of NPLs would reduce credit). Vika (2009) through the GMM method, identified several factors that affect total credit to private sector and credit denominated in domestic currency 'Albanian lek' (during 2004-2006), found a positive correlation of the dependent variable with NEER, GDP, liquidity of the banking system and the interaction term between monetary policy indicator and liquidity (although the last two factors are statistically insignificant). On the other side, the relation is negative with the repurchase agreement rate (REPO), size of banks and interaction term between monetary policy and size in contrast to expectations for a positive sign of the last two variables.

Suljoti and Hashorva (2012) empirically evaluated the relationship between house prices and mortgage loans for the 1998-2010 periods. These indicators affect positively each-other on both directions. Also, mortgage loans are positively correlated with income, but negatively with the interest rates.

Note and Suljoti (2012) identified the determinants of credit growth, after 2008, for a panel of 10 CEE countries for the period 2008 Q_4 - 2011 Q_3. Lending to these economies in the years after the crisis is negatively influenced by NPLs and interest rates. Meanwhile, the economic growth, he pace of funding sources (deposits) and foreign borrowings of the banking system has had a positive impact on lending. Hoffman (2001), through a cointegrating VAR for 16 industrialized countries, finds significant positive relations of real credit to real GDP and property prices, and a negative correlation with real interest rates. Calza, *et. al.* (2001) using VECM for the euro area data, model the factors that affect the demand for credit and find that in the long run, the latter are positively related to real GDP growth and negatively to short term and long term real interest rates.

Takats (2010) found that supply shock was the main determinant of slowdown in cross-credit border lending to emerging markets during the crises. Barajas, et al (2010) found that banks level fundamentals- capitalization and loan quality explained the differences in credit growth across Middle Eastern and North African Countries.

Aise and Franken (2010) prior to financial crisis the bank credit growth was larger as compared to post crisis period. The authors showed that countercyclical monetary policy and liquidity position of the banks played a crucial role and lessened the bank credit reduction in the post crisis era.

Moreno *et al.* (2012) study for Colombia found that interbank rate, national-debt-to- GDP, household-consumption-to-GDP and the level of investment-to-GDP were the main determinants of credit portfolio-GDP. The result showed that financial deepening variable was positive and significant. Sharma and Gounder (2012) study for six Pacific Island countries (Fiji, Papua New Guinea, Solomon Islands, Vanuta, Samao and Tonga) found that rising average lending and inflation rate could be detrimental to credit growth, while deposit and asset size would contribute positively to credit growth. The results equally showed that stronger economic growth would lead to higher credit growth.

Imran (2011) for Pakistan showed that foreign liabilities, domestic deposits, economic growth, exchange rate and monetary conditions had significant impact on credit particularly in the long run. However, inflation and money market rate had no effect on private credit. Asides, the results showed that the financial wealth and liquidity as well as economic condition measured as GDP of the bank were significant determinants of credit.

Akinlo and Oni (2015) analyzed the dominant factors influencing bank credit to private sector in Nigeria over the period 1980-2010 using the error correction modeling technique. The results show that broad money, cyclical risk premium and liquidity ratio tend to increase credit to the private sector. However, prime lending rate and reserve ratio lead to a reduction in credit to the private sector. Private credit increases with inflation, but not one

to one, meaning that inflation tends to dampen real bank credit to the private sector. Olokoyo (2011) investigated the determinants of commercial banks' lending behaviour in the Nigerian context. The model used the Nigerian commercial banks loan advance (LOA) and other determinants or variables such as their volume of deposits (Vd), their investment portfolio (Ip), interest (lending) rate (Lr), stipulated cash reserve requirements ratio (Rr) and their liquidity ratio (Lr) for the period; 1980 – 2005. The model hypothesized that there is functional relationship between the dependent variable and the specified independent variables. From the regression analysis, the model was found to be significant and its estimators turned out as expected and it was discovered that commercial banks deposits have the greatest impacts on their lending behaviour.

Moussa and Chedia (2016) used financial data over the period from 2000 to 2013 concerning a sample of 18 Tunisian banks to identify the impact of some internal and external factors on bank credit. The study concluded that among external factors, only inflation has a significant impact on loans, while return on assets, net interest margin, and liquidity as internal factors have had a significant impact on the volume of bank loans.

Ayieyo (2016) identified the effect of deposit size and interest rate on total loans from nine commercial banks in Kenya over a ten-year period from 2002 to 2011. Using the multiple regression analysis, the results indicated that interest rates were negatively correlated and significantly affected the total loans provided. In addition, the volume of deposits has a significant and direct impact on the total loans provided.

Malede (2014) conducted a study using financial data for eight Ethiopian commercial banks over a period of seven years from 2005 to 2011. This study showed evidence of the effect of size, credit risk, GDP ratio and liquidity on lending in commercial banks, while it did not show any evidence of the effect of deposits, investment, cash reserve required and interest rates.

Hanh (2014) used financial data for 146 different countries at the level of economic growth and for twenty-four years in the period 1990–2013 in an attempt to study the determinants of bank credit. This study found that the country's economic growth affects bank credit. The study also found that the strength of the banking system has had an impact on the bank's progress. By contrast, dependence on foreign capital inputs makes its banking sector more vulnerable to external turmoil. Amidu (2014) through bank statements, of 264 banks spread across 24 sub-Saharan African countries showed that regulation of the banking market affects the provision of credit in an environment in which the financial sector is improved and banks are allowed to operate freely. In contrast, there was a sign of a relationship between bank credit and financial strength of banks.

Ladime, Sarpong-Kumankomah and Osei (2013) conducted a study on the determinants of bank lending behavior in Ghana. Where they found that the behavior of bank lending is directly and positively affected by the size of the bank and the structure of bank capital and also found evidence of the negative impact of the central bank lending rate and exchange rate.

Tomak (2013) used quarterly data for fifteen commercial banks and three state banks from 2003 to 2012 to find that the performance of the commercial loans depends on size, total liabilities, and bad loans on total loans, as well as inflation rate. Sharma and Gounder (2012) inspected the bank credit delivered to the private sector in seven countries in the South Pacific during the period 1982–2009. The results showed that the average interest rates and the rate of inflation may have a negative impact on the rate of growth in loans, while strong economic growth, the volume of deposits and assets had a positive impact on credit growth. Moreno *et al.* (2012) indicated that interbank rate, national debt to GDP, household consumption to GDP and the level of investment to GDP were the key determinants of credit portfolio.

Chernykh and Theodossiou's (2011) study showed that the bank's ability to provide more long term loans is affected by the capital, the size and availability of long term liabilities. It also found that banks are reluctant to grant loans with a repayment period of more than 3 years. In addition, the study stated that banks with a low level of capital provide shorter term loans, and that banks operating in highly competitive regions are reluctant to grant long term loans. The study also indicated that the bank owners had no impact on loan volume.

Stavárek and Vodová (2010) used quarterly data from 1994 to 2007 to study the determinants that affect the total volume of loans provided to residents and nonresidents in the Czech Republic. The authors demonstrated the positive impact of lending capacity (deposits, funds obtained from the interbank market or issue debt securities) and interest margins on lending volume. In addition and as against general expectations, the study found that return on average assets ratio was a negative impact on the volume of loans but there was a positive effect of return on equity.

Rababah (2015) reviewed the banking lending factors in Jordan during 2005–2013 by using the ratio of credit facilities to total assets as a response variable. The study showed that the ratio of non-performing loans, liquidity ratio and window rate have a negative impact on credit facilities. However, the study showed that the size of the bank and economic growth have a direct and significant impact on the ratio of loans as well.

Alkilani and Kadummi (2015) indicated that the behavior of lending is heavily influenced by internal factors such as net profit after tax and is influenced by external factors such as GDP. The study also pointed out that the volume of loans provided by Jordanian banks is not affected by the interest rate. Ayman and Khalaf (2017) aimed at explaining the impact of some factors proposed as determinants of bank lending in Jordanian commercial banks by benefiting from the financial reports of thirteen banks during the period 2010-2016. The most important results of the study are a statistically significant adverse effect of both credit risk and liquidity on bank lending, while there is a significant positive effect of the return on assets, size of the bank measured by assets, inflation, money supply and growth in gross domestic product in determining the level of lending. In addition, the study does not show a significant statistical effect between investments, the volume of deposits and bank lending in the same time frame. The studies examined above failed to examine aggregate credit in the economy but only focuses on credit of commercial banks. This study therefore intend to bridge this gap by modeling net domestic credit as the function of monetary, macroeconomic and international variables that determine credit growth in Nigeria.

METHODOLOGY

This study intend to examine the determinant of credit growth in Nigeria from 1981 – 2016. The relevant data were sourced from Central Bank of Nigerian Statistical Bulletin. Time series data were used and econometric method of data analyses which involves Ordinary Least Square (OLS) were employed. The multiple regressions formulated in this study are based on the various schools of thought on macroeconomic factors, monetary policy factors and international factors.

Model I: Macroeconomic factors

$$NDC/GDP = f(PEX, RGDP, INFR, GR, GFCF, BOP) \quad (1)$$

Transforming equation 1 into a testable form, we have;

$$NDC/GDP = \beta_0 + \beta_1 PEX + \beta_2 RGDP + \beta_3 INFR + \beta_4 GR + \beta_5 GFCF + \beta_6 BOP + \mu \quad (2)$$

Where

NDC/GDP	=	Net domestic credit to gross domestic product
PEX	=	Public expenditure to GDP
RGDP	=	Nigeria real gross domestic product
INFR	=	Nigeria real inflation rate
GR	=	Government revenue
GFCF	=	Gross fixed capital formation proxy by domestic investment to GDP
BOP	=	Balance of payment
μ	=	error term
$\beta_1 - \beta_6$	=	Coefficient of Independent Variables to the Dependent Variable
β_0	=	Regression Intercept.

Model II: Monetary policy factors

$$NDC/GDP = f(TBR, MPR, M_2/GDP, INTR, G\text{-}M_2, CR) \quad (3)$$

Transforming equation 3 into a testable form, we have;

$$NDC/GDP = \beta_0 + \beta_1 TBR + \beta_2 MPR + \beta_3 M2/GDP + \beta_4 INTR + \beta_5 G\text{-}M2 + \beta_6 CR + \mu \quad (4)$$

Where:

NDC/GDP	=	Net domestic credit to gross domestic product
TBR	=	Treasury bill rate proxy for asset price channel
MPR	=	Monetary policy rate proxy for interest rate channel
M2/GDP	=	Financial deepening proxy by broad money supply to GDP

INTR = Real interest rate
G-M2 = Growth rate of broad money supply
CR = Credit regulation proxy by dummy variable
μ = Error Term
$\beta_1 - \beta_6$ = Coefficient of Independent Variables to the Dependent Variable
β_0 = Regression Intercept.

Model II: international factors

NDC/GDP = f (EXR, INLIQ, CBC, FDI, NFPI, OPE) (5)

Transforming equation 5 into a testable form, we have;

$$NDC/GDP = \beta_0 + \beta_1 TBR + \beta_2 MPR + \beta_3 M2/GDP + \beta_4 INTR + \beta_5 G\text{-}M2 + \beta_6 CR + \mu \quad (6)$$

Where:

NDC/GDP = Net domestic credit to gross domestic product
EXR = Naira exchange rate per US dollar
INLIQ = International Liquidity
CBC = Cross Boarder Credit Proxy by External Debt to GDP
FDI = Foreign Direct Investment
NFPI = Net Foreign Portfolio Investment
OPE = Openness proxy by(Import + Export/GDP) of Nigeria Economy
μ = Error Term
$\beta_1 - \beta_6$ = Coefficient of Independent Variables to the Dependent Variable
β_0 = Regression Intercept.

Table I: Analysis of Variable's A priori Expectations

Variables	Notation of Variables	Description	A-priori expectations
Model I: Macroeconomic Variables			
NDC	Net domestic credit	NDC/GDP	Dependent variable
PEX	Public expenditure	PEX/GDP	+
RGDP	Real gross domestic product	Growth rate	+
INFR	Real inflation rate	Rate	+
GR	Government revenue	GR/GDP	+
BOP	Balance of payment	BOP/GDP	+
Model II: Monetary Policy Variable			
TBR	Treasury bill rate	Rate	-
MPR	Monitory policy rate	Rate	-
G-M2	Growth of broad money supply	Rate	+
INTR	Real interest rate	Rate	-
CR	Compliance to credit rules	Dummy	-
Model III: International Variables			
EXR	Real exchange rate	Rate	+
WLIQR	International liquidity	EXR/GDP	+
CBC	Cross borders credit	EXTD/GDP	+
FDI	Foreign direct investment	FDI/GDP	+
NFPI	Net foreign portfolio investment	NFPI/GDP	+
OPE	Openness of the Economy	Import/Export/GDP	+

Source: Authors' research desk, 2017

ESTIMATION TECHNIQUES

i. Stationarity Test:

Time series data are assumed to be non-stationary and this implies that the result obtained from Ordinary Least Square (OLS) may be misleading (Suleman and Azeeze, 2012). It is therefore necessary to test the stationarity of the variables using the Augmented Dickey Fuller 1979 test to both level and first difference. The ADF test constructs a parameter correction for higher order correlation by assuming the times series follows an auto regressive process. Mathematically expressed as

$$\Delta y_t = c + \beta_t + \alpha y_{t-1} + \sum_{t-i}^{k} \gamma_j \Delta y_{t-j} + \varepsilon_t \quad 7$$

$$\Delta y_t = c + \alpha y_{t-1} + \sum_{t-i}^{k} \gamma_j \Delta y_{t-j} + \varepsilon_t \quad 8$$

Equation 1 is used to test for the null hypotheses of non-stationarity or unit root against trend stationarity alternative in Y_t where y refers to the examined time series. Equation 2 tests the null hypotheses of a unit root against a mean stationarity alternative.

ii. Johansen Cointegration Test

The cointegration test established whether a long run equilibrium relationship exists among the variables. It is generally accepted that to establish a cointegration, the likelihood ratio must be greater than the Mackinnon critical values. The model can be stated as

$$\Delta X_t = \mu + \Psi_1 \Delta X_{t-1} + \Psi_2 \Delta X_{t2} + \ldots + \Psi_{p-1} \Delta X_t - p + 1 \quad 9$$

Where μ is a constant term.

ΔX_t Represents the first cointegrating differences

iii. Granger Causality

To determine the direction of causality between the variables, the study employed the standard Granger causality test (Granger, 1969). The test is based on Vector Error Correction Model (VECM) which suggests that while the past can cause or predict the future, the future cannot predict or cause the past. Thus, according to Granger (1969) X Granger cause Y if past value of X can be used to the past value of Y, the test is based on the following regression model.

iv. Vector Error Correction Model

Co-integration is a prerequisite for the error correction mechanism. Since co-integration has been established, it is pertinent to proceed to the error correction model. The VECM is of this form:

$$\Delta y_t = \alpha\beta y_{t-1} + \sum_{i=1}^{j=1} \Gamma_j \Delta y_{t-1} + \pi + \varsigma_t, t = 1,\ldots..,\ T \quad 10$$

Where Y_t is a vector of indigenous variables in the model. α is the parameter which measures the speed of adjustment through which the variables adjust to the long run values and the β is the vectors which estimates the long run cointegrating relationship among the variables in the model. π is the drift parameter and is the matrix of the parameters associated with the exogenous variables and the stochastic error term.

PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

The following tables explain the dynamic relationship between the dependent and the independent variables.

Table 1: Level Series OLS multiple Regression

VARIABLE	COEFFICIENT	STD ERRS.	T-STATISTICS	PROB.
MODEL I:MACROECONOMIC VARIABLES				
PEX	-29.67446	3.774968	-7.860849	0.0000
RGDP	0.303875	1.217250	0.249641	0.8049
INFR	-0.471522	4.252097	-0.110892	0.9126
GR	3.328358	2.577585	1.291270	0.2084
GFCF	-0.910080	0.461727	-1.971035	0.0599
BOP	1.574089	1.093357	1.439685	0.1624
C	1701.779	144.8062	11.75212	0.0000
R^2	0.907358			
Adj R^2	0.885124			
F-STATISTICS	40.80925			
F-PROB	0.000000			
Durbin-Watson stat	1.109923			
MODEL II:MONETARY POLICY VARIABLES				
TBR	-1.356740	4.110090	-0.330100	0.7441
MPR	0.917752	6.652078	0.137965	0.8914
M2_GDP	0.823435	2.581019	0.319035	0.7524
INTR	-0.649382	3.771297	-0.172191	0.8647
G_M2	1.757688	0.794290	2.212905	0.0363
CR	27.35917	20.42921	1.339218	0.1925
C	-18.72720	41.00746	-0.456678	0.6518

R2	0.236268			
ADJ. R2	0.052972			
F-STATISTICS	1.288998			
F-PROB	0.298161			
Durbin-Watson stat	2.476196			
MODEL III:INTERNATIONAL VARIABLES				
EXR	0.141474	0.775118	0.182519	0.8566
INLIQR	0.489754	4.155014	0.117871	0.9071
CBC	-0.408422	0.718129	-0.568731	0.5746
FDI	0.171303	0.432285	0.396274	0.6953
NFPI	-0.059969	0.084761	-0.707506	0.4858
OPE	0.155404	0.188574	0.824101	0.4177
C	27.37640	43.19244	0.633824	0.5320
R2	0.072102			
ADJ. R2	0.150593			
F-STATISTICS	0.323770			
F-PROB	0.918233			
Durbin-Watson stat	2.179919			

Source: Extracts from E-view print out and author's computation.

Model I which examines the extent to which macroeconomic variables determine credit growth reveals that 90.7% and 88.5% variations on net domestic credit can be explained by the macroeconomic variables formulated in the regression model. This includes public expenditure, real gross domestic product, inflation rate, government revenue, gross fixed capital formation and Nigeria balance of payment. The remaining 9.3% and 11.5% can be traced to variables not captured in the model. The coefficient of the F-statistics and probability justifies that the model is significant at 5% level of significance while the Durbin Watson statistics of 1.109925 is greater than 1.00 but less than 1.50 this implies the presence of positive serial autocorrelation.

However, the implication of this to the study is that the macroeconomic variables are expected to have positive effects on the growth of credit in Nigeria economy within the period under review. Evidence from the table above also shows that public expenditure, inflation rate and government revenue have negative relationship with growth of Nigerian credit while real gross domestic product and balance of payment have positive impact on the dependent variable. While the positive effects of the variables confirm to a priori expectation, the negative effect is contrary to expectation and could be traced poor implementation of national budgets, policies directed towards to contract credit such as the single treasury account, high rate of inflation that discourage savings and excessive consumption expenditure in place of investment. The positive relationship between RGDP and credit growth confirm the findings of Hoffman (2001) that real credit to real GDP are positively related, Calza, *et. al*. (2001) found that in the long run, credit growth is positively related to real GDP growth and negatively to short term and long term real interest rates, Égert, *et. al*., (2006) whose finding proved that GDP per capita have positive effect on credit growth.

Model II examined the relationship between monetary policy variables and growth of credit in Nigeria. It is evident from the results that monetary policy variables can explain 23.6% and 5.2% variation in the growth of Nigerian net domestic credit. The F-statistics and probability show that the model is not significant. The Durbin Watson statistics of 2.476196 is greater than 2.00 but less than 2.50, which implies the absence of negative serial autocorrelation within the time series. Increase in Treasury bill rate, monetary policy rate and real interest rate is expected to have a negative effect on growth of credit while growth of broad supply, growth broad money, and supply to GDP as a measure of financial deepening is expected to have a positive effect on the dependent variable. From the table Treasury bill rate, real interest rate and credit regulations have negative relationship with growth of Nigerian net domestic credit. The negative effects of the variables confirm the a priori expectation of the result. However, monetary policy rate financial deepening, growth of broad money supply have positive effect on the dependent variable while the positive effect of the variables confirm the a priori expectation of the result, the positive effect of monetary policy rate is contrary to expectation and could be traced to poor compliance of the credit institution to monetary policy rules, the positive effect of the variables confirm the findings of Moreno et al. (2012) that financial deepening variables have positive and significant effect on credit growth, Sharma and Gounder (2012) that rising average lending and inflation rate could be detrimental to credit growth, while deposit and asset size would contribute positively to credit growth and that stronger economic growth would lead to higher credit growth, Akinlo and Oni (2015) whose results show that broad money, cyclical risk premium and liquidity ratio tend to increase credit to the private sector while prime lending rate and

reserve ratio lead to a reduction in credit to the private sector.

Model III modeled credit growth as the function of international variables. The result reveals that the variables can explain if 7.2% and 1.52% the F-statistics and probability indicate that the model is statistically not significant at 5% level of significance. However the explanatory variables are expected to have positive effect on the growth of Net domestic credit. The β coefficient as shown above indicate that exchange rate, international liquidity, foreign direct investment and openness of the economy have positive effect on net domestic credit which confirm the a priori expectation of the result while cross border credit and net foreign portfolio investment have negative relationship with the dependent variable. The negative effect of the variables is contrary to the expectation of the results and could be traced to international financial crisis. The above results enable us to rest for stationarity of variables using augmented Dickey Fuller statistics.

.

Table 2: Unit Root Test Summary Results at First Difference

VARIABLE	ADF STATISTICS	MACKINNON			PROB.	ORDER OF INTR.
		1%	5%	10%		
MODEL I:MACROECONOMIC VARIABLES						
NDC/GDP	-9.439534	-3.679322	-2.967767	-2.622989	0.0000	1(1)
PEX	-5.795986	-3.670170	-2.963972	-2.621007	0.0000	1(1)
RGDP	-5.406869	-3.661661	-2.960411	-2.619160	0.0000	1(1)
INFR	-5.460495	-3.589194	-2.971853	-2.625121	0.0001	1(1)
GR	-5.164824	-3.689194	-2.971853	-2.625121	0.0000	1(1)
GFCF	-5.895351	-3.670170	-2.963972	-2.621007	0.0000	1(1)
BOP	-7.809970	-3.679322	2.967767	-2.622989	0.0000	1(1)
MODEL II: MONETARY POLICY VARIABLE						
NDC/GDP	-9.348529	-3.670170	-2963972	-2.621007	0.0000	1(1)
TBR	-6.112765	-3.670170	-2.963972	-2.617434	0.0000	1(1)
MPR	-5.734927	-3.679322	-2.967767	-2.622989	0.0000	1(1)
M2/GDP	-8.552868	-3.679322	-2.967767	-2.622989	0.0000	1(1)
INTR	-8.547221	-3.689194	-2.971853	-2.625121	0.0000	1(1)
G-M2	-7.226036	-3.670170	-2.963972	-2.621007	0.0000	1(1)
CR	-1.28E+17	-2.647120	-1.952910	-1.610011	0.0000	1(1)
MODEL III: INTERNATIONAAL VARIABLE						
NDC/GDP	-9.348529	-3.670170	-2963972	-2.621007	0.0000	1(1)
EXR	-7.443891	-3.670170	-2.963972	-2.963972	0.0000	1(1)
INLIQR	-8.696842	-3.670170	-2.963972	-2.621007	0.0000	1(1)
CBC	-6.715470	-3.711457	-2.981038	-2.629906	0.0000	1(1)
FDI	-8.065037	-3.769597	-3.004861	-2.642242	0.0000	1(1)
NFPI	-6.949659	-3.689194	-2.971853	-2.625121	0.0000	1(1)
OPE	-4.735564	-3.737853	-2.991878	-2.635542	0.0000	1(1)

Source: Extracts from E-view print out and author's computation.

From the table above, time series ofthe variablesare stationary at first difference, since the ADF at the first difference is greater than the McKinnon 5% critical values concluding that the variables are integrated of order 1 this means that the variables are cointegrated in the order of 1(1). In this case the null hypothesis of non-stationarity is rejected in favor of the alternate.

Table 3: Johansen Co-Integration Test Results: Maximum Eigen

Hypothesized No. of CE(s)	Eigen value	Maximum-Eigen	0.05 Critical Value	Prob.**	Decision
MODEL I:MACROECONOMIC VARIABLES					
None *	0.943563	214.6805	125.6154	0.0000	Reject H0
At most 1 *	0.832958	128.4417	95.75366	0.0001	Reject H0
At most 2 *	0.621182	74.75638	69.81889	0.0191	Reject H0
At most 3	0.553253	45.63536	47.85613	0.0796	Accept H0
At most 4	0.284012	21.46246	29.79707	0.3294	Accept H0
At most 5	0.240163	11.43972	15.49471	0.1859	Accept H0
At most 6	0.101180	3.200184	3.841466	0.0736	Accept H0
MODEL II:					
None	0.728469	45.11040	40.07757	0.0040	Reject H0
At most 1	0.478552	39.53436	33.87687	0.0081	Reject H0
At most 2	0.384986	14.58330	27.58434	0.7804	Accept H0
At most 3	0.342502	12.57940	21.13162	0.4916	Accept H0
At most 4	0.260692	9.061231	14.26460	0.2811	Accept H0
At most 5	0.000126	0.003779	3.841466	0.9498	Accept H0
MODEL III:					
None *	0.961859	97.99370	46.23142	0.0000	Accept H0
At most 1 *	0.852496	57.41695	40.07757	0.0002	Accept H0
At most 2	0.665260	32.83205	33.87687	0.0662	Accept H0
At most 3 *	0.608700	28.14839	27.58434	0.0423	Accept H0
At most 4 *	0.512260	21.53920	21.13162	0.0438	Accept H0
At most 5	0.319178	11.53362	14.26460	0.1294	Accept H0
At most 6	0.018237	0.552163	3.841466	0.4574	

Source: Extracts from E-view print out and Authors' computation

Co-integration was determined using Johansen's Maximum-Eigen and the results are presented in Table 3 above. The results show that, there are at least two co-integrating vectors, from model I, one cointegrating equation in model II and three cointegrating equation in model III. Since, there is co-integration relationships among the variables, there is a prima facie case (econometric justification) for specifying a vector error correction model (VECM).

Table 5: Presentation of Normalized Cointegrating Equation

MODEL I:						
NDC_GDP	PEX	RGDP	INFR	GR	GFCF	BOP
1.000000	32.22359	0.090576	18.92510	-6.309543	25.23670	0.425847
	(3.33003)	(1.27485)	(4.01846)	(2.65705)	(1.52139)	(1.30816)
MODEL II:						
NDC_GDP	TBR	MPR	M2_GDP	INTR	G_M2	
1.000000	8.659436	-6.433082	1.045014	-2.002798	-1.228555	
	(3.12284)	(4.76263)	(1.30502)	(2.87467)	(0.43512)	
MODEL III:						
NDC_GDP	EXR	INLIQ	CBC	FDI	NFPI	OPE
1.000000	6.217047	-0.845988	-5.965871	-2.888722	-3.683160	-1.627790
	(0.64904)	(4.41765)	(0.57185)	(0.38126)	(0.26856)	(0.22482)

Source: Extracts from E-view print out and Authors' computation

The inability of the cointegration test to establish the direction oflong run relationship between the dependent and the independent variables enable us to test normalized equation of the models. Evidence from model I proved that all the variables have positive long run relationship with the dependent variable except government revenue. This implies that increase on the independent variables will have significant positive effect on net domestic credit. Model II found that Treasury bill rate and financial deepening have positive long run relationship while monetary policy rate, interest rate and growth of broad money supply effect negatively on net domestic credit. Model III found that all the independent variables have negative impact on the dependent variable except public expenditure.

Table 6 Parsimonious Error Correction Results

VARIABLE	COEFFICIENT	STD ERRS.	T-STATISTICS	PROB.
C	10.98787	64.41717	0.170574	0.8670
D(NDC_GDP(-2))	-0.377772	0.319396	-1.182769	0.2566
D(PEX(-1))	-9.399945	4.841156	-1.941673	0.0726
D(PEX (-2))	-0.910413	6.580347	-0.138353	0.8919
D(PEX(-3))	1.163493	3.863393	0.301158	0.7677
D(RGDP(-2))	-0.149197	0.659214	-0.226326	0.8242
D(INFR(-1))	-8.338700	4.474852	-1.863458	0.0835
D(INFR(-3))	-0.717477	6.755935	-0.106200	0.9169
D(GR(-2))	1.325115	4.023600	0.329336	0.7468
D(GR(-3))	-3.427905	3.029861	-1.131374	0.2769
D(GFCF(-1))	-0.321142	6.577122	-0.048827	0.9617
D(GFCF(-2))	-4.968132	3.217086	-1.544296	0.1448
D(BOP(-2))	3.164313	0.857476	3.690263	0.0024
ECM(-1)	0.852034	0.319357	2.667968	0.0184
R^2	0.714204			
Adj R^2	0.448821			
F- Stat	2.691226			
F-Prob	0.038597			
DW	2.111918			
	MODEL II:			
C	3.491570	11.22739	0.310987	0.7604
D(NDC_GDP(-1))	-0.102063	0.208984	-0.488377	0.6328
D(NDC_GDP(-3))	-0.409191	0.183276	-2.232654	0.0424
D(TBR(-1))	1.332590	9.359613	0.142377	0.8888
D(TBR(-2))	-3.119873	9.085933	-0.343374	0.7364
D(TBR(-3))	-8.121627	3.665281	-2.215826	0.0438
D(MPR(-1))	0.209172	6.690809	0.031263	0.9755
D(MPR(-2))	10.26678	10.08227	1.018301	0.3258
D(M2_GDP(-1))	-5.900781	5.864101	-1.006255	0.3314
D(M2_GDP(-2))	7.531032	4.657936	1.616817	0.1282
D(M2_GDP(-3))	3.319060	3.858499	0.860195	0.4042
D(INTR(-1))	1.526572	5.939383	0.257025	0.8009
D(G_M2(-1))	-0.274542	0.772867	-0.355225	0.7277
ECM(-1)	-1.018861	0.399501	-2.550332	0.0231
R^2	0.795543			
Adj R^2	0.605690			
F- Stat	3.985643			
F-Prob	0.002765			
DW	1.549808			
	MODEL III:			
C	-2.510189	9.902209	-0.253498	0.8042
D(NDC_GDP(-1))	-0.067563	0.181175	-0.372917	0.7157
D(NDC_GDP(-3))	-0.142467	0.115049	-1.238312	0.2393
D(EXR(-1))	-0.225581	0.912532	-0.247203	0.8089
D(EXR(-2))	0.623622	0.847093	0.736191	0.4758
D(EXR(-3))	-4.075246	0.887877	-4.589879	0.0006
D(INLIQ(-1))	-4.776428	2.616184	-1.825723	0.0929
D(INLIQ(-3))	-1.993739	2.422636	-0.822963	0.4266
D(CBC(-3))	0.060201	0.605886	0.099360	0.9225
D(FDI(-1))	0.192185	0.373415	0.514668	0.6161
D(FDI(-3))	0.740095	0.372446	1.987122	0.0702
D(NFPI(-1))	0.009850	0.800945	0.012298	0.9904
D(NFPI(-3))	0.012232	0.301727	0.040541	0.9683
D(OPE(-1))	-0.183219	0.116179	-1.577039	0.1408
D(OPE(-2))	-0.019515	0.124071	-0.157293	0.8776
ECM(-1)	-0.544635	0.299213	-1.820229	0.0937
R^2	0.874932			
Adj R^2	0.718598			
F- Stat	5.596539			
F-Prob	0.002338			
DW	1.736871			

Source: Extracts from E-view print out and Authors' computation

The parsimonious error correction model results indicate that the model is heteroscedastic and serial correlation free; and that, it is also stable. Additionally, the results revealed that the major determinants of credit in Nigeria among the macroeconomic variables are inflation with negative coefficient, capital formation with negative coefficient and balance of payment with positive coefficient at lag II. The R^2 and the adjusted R^2 shows that the variables can explain 71.4% and 44.8% variation on the dependent variable, the F-statistics proved a coefficient of 2.691226 and the probability of 0.0038597 which means it is significant. The ECM (-1) indicates that the

model can adjust at the speed of 85.6% annually.

The monetary policy determinants of credit growth shows that the variables that determine credit are exchange rate at lag II and III as the coefficient of the variables at t- statistics proved significant. The R^2 and the adjusted R^2 shows that the variable can explain 87.4% and 71.8% variation on the dependent variable, the F-statistics proved a coefficient of 5.596530 and the probability of 0.002338 which means it is significant. The ECM (-1) indicates that the model can adjust at the speed of 54.4% annually.

The international factors that determine credit growth shows that the variables that determine credit are Treasury bill rate at lag III, financial deepening at lag I and lag II as the coefficient of the variables at t- statistics proved significant. The R^2 and the adjusted R^2 shows that the variables can explain 79.5% and 60.5% variation on the dependent variable, the f-statistics proved a coefficient of 3.985643 and the probability of 0.0027659 which means it is significant. The ECM (-1) indicates that the model can adjust at the speed of 27.4% annually.

Table 7: Presentation of Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.	Remark
MODEL I				
PEX_TA does not Granger Cause NDC_GDP	30	1.41733	0.2612	Not Sig No Causality
NDC_GDP does not Granger Cause PEX_TA		2.26853	0.1244	Not Sig No Causality
RGDP does not Granger Cause NDC_GDP	30	0.00052	0.9995	Not Sig No Causality
NDC_GDP does not Granger Cause RGDP		1.54972	0.2320	Not Sig No Causality
INFR does not Granger Cause NDC_GDP	30	0.56746	0.5741	Not Sig No Causality
NDC_GDP does not Granger Cause INFR		1.59826	0.2222	Not Sig No Causality
GR_TA does not Granger Cause NDC_GDP	30	0.77999	0.4692	Not Sig No Causality
NDC_GDP does not Granger Cause GR_TA		2.39464	0.1118	Not Sig No Causality
GFCF_TA does not Granger Cause NDC_GDP	30	0.36934	0.6949	Not Sig No Causality
NDC_GDP does not Granger Cause GFCF_TA		0.62263	0.5446	Not Sig No Causality
MODEL II				
TBR does not Granger Cause NDC_GDP	30	0.98981	0.3857	Not Sig No Causality
NDC_GDP does not Granger Cause TBR		0.39293	0.6792	Not Sig No Causality
MPR does not Granger Cause NDC_GDP	30	1.47378	0.2483	Not Sig No Causality
NDC_GDP does not Granger Cause MPR		0.06272	0.9393	Not Sig No Causality
M2_GDP does not Granger Cause NDC_GDP	30	1.53621	0.2348	Not Sig No Causality
NDC_GDP does not Granger Cause M2_GDP		6.82706	0.0043	Sig Causality
INTR does not Granger Cause NDC_GDP	30	2.02121	0.1536	Not Sig No Causality
NDC_GDP does not Granger Cause INTR		0.00301	0.9970	Not Sig No Causality
G_M2 does not Granger Cause NDC_GDP	30	4.31909	0.0245	Sig Causality
NDC_GDP does not Granger Cause G_M2		1.72014	0.1996	Not Sig No Causality
CR does not Granger Cause NDC_GDP	30	NA	NA	Not Sig No Causality
NDC_GDP does not Granger Cause CR		NA	NA	Not Sig No Causality
MODEL III				
EXR does not Granger Cause NDC_GDP	30	0.02773	0.9727	Not Sig No Causality
NDC_GDP does not Granger Cause EXR		0.07647	0.9266	Not Sig No Causality
INLIQ does not Granger Cause NDC_GDP	30	0.13308	0.8760	Not Sig No Causality
NDC_GDP does not Granger Cause INLIQ		0.89523	0.4212	Not Sig No Causality
CBC does not Granger Cause NDC_GDP	30	0.16836	0.8460	Not Sig No Causality
NDC_GDP does not Granger Cause CBC		0.15426	0.8579	Not Sig No Causality

FDI does not Granger Cause NDC_GDP	30	0.49504	0.6154	Not Sig	No Causality
NDC_GDP does not Granger Cause FDI		2.52252	0.1005	Not Sig	No Causality
NFPI does not Granger Cause NDC_GDP	30	0.29468	0.7473	Not Sig	No Causality
NDC_GDP does not Granger Cause NFPI		0.09091	0.9134	Not Sig	No Causality
OPE does not Granger Cause NDC_GDP	30	0.02406	0.9762	Not Sig	No Causality
NDC_GDP does not Granger Cause OPE		0.57369	0.5707	Not Sig	No Causality

Source: Extracts from E-view print out and Author's computation

From table (7) above shows there is unidirectional causal relationship of net domestic credit to financial deepening and also unidirectional causal relationship of growth of broad money supply to net domestic credit, while other variables have no causal relationship.

CONCLUSION AND RECOMMENDATIONS

This paper examined the determinants of credit growth in Nigeria, from the macroeconomic variables; public expenditure, inflation rate and capital formation have negative relationship with growth of Nigeria net domestic credit while real gross domestic product, government revenue and balance of payment have positive impact on the dependent variable. The variables can explain 90.7% and 88.5% variation on the dependent variable; we therefore conclude that macroeconomic variables have significant effects on the growth of Nigeria credit.

From the monetary policy variables; treasury bill rate, interest rate and compliance to credit rules proxy by duming have negative effect on net domestic credit while monetary policy rate, financial deepening and growth of broad money supply have positive effect on the dependent variables. The variables can explain 23.6% and 5.2% variation on the dependent variable; we therefore conclude that monetary policy variables have no significant relationship with the growth of net domestic credit in Nigeria.

While from the international variables; exchange rate, international liquidity, foreign direct investment and openness of the economy have positive effect on net domestic credit while cross boarder credit and net foreign portfolio investment have negative relationship with net domestic credit. The variables can explain 7.2% and 1.5% variation on the dependent variable; we therefore conclude that international variables have no significant relationship with the growth of net domestic credit in Nigeria. From the findings, we make the following recommendations:

1. Nigerian economy is a developing economy that needs increase in domestic credit, therefore macroeconomic policies should be formulated to equilibrate increase in credit with needs to avoid the negative effect of credit growth on the economy.
2. Growth in domestic credit should be directed to the preferred sectors of the economy more especially the industrial sector to achieve set macroeconomic goals and policies to cushion its effect such as inflation should be formulated.
3. The monetary authorities should formulate monetary policy that that will enhance credit growth and also policies that will cushion that negative effect on the economy.
4. All monetary policy variables that discourage credit growth should be harmonized with the objectives of credit growth.
5. Domestic policies aimed to attract foreign credit and investors should be formulate with the objective of achieving set goals and the growth in credit should be well managed to avoid its negative effect on the economy especially the financial market.

REFERENCES

Aisen, A., and Franken, M., (2010). Bank credit during the 2008 financial crisis: a crosscountry comparison. *IMF working paper No. 10/47, Washington DC, USA*

Akinlo, A. E., & Oni, I. O., (2015). Determinants of bank credit growth in Nigeria 1980-2010. *European Journal of sustainable development, 4(1), 23-38.*

Albulescu, C. T., (2009). Forecasting credit growth rate in Romania*: from credit boom to credit crunch?, Munich Personal RePEc Archive, MPRA Paper No. 16740.*

Al-Kilani, Q. A., &Kaddumi, T. A., (2015).Cyclicality of Lending Behavior by Banking Sector for the Period (2000-2013).Evidence from Jordan.*International Journal of Economics and Finance, 7(4), 57-79.*

Amidu, M., (2014). What Influences Banks Lending in Sub-Saharan Africa? *Journal of Emerging Market Finance, 13(1), 1-42.*

Ayieyo, J. O., (2016). Determinants of Lending Behavior in Selected Commercial Banks in Kenya.*International Journal of Economics, Commerce and Management, 2(9),45-69.*

Ayman, M., &Khalaf, A., (2017). Factors may derive commercial banks lending. Evidence from Jordan. *Journal of bank and banking system 2(2),31-38.*

Baker H.K., Nofsinger J.R. (2010): Behavioral Finance: An Overview, in: H.K. Baker, J.R. Nofsinger (eds.), Behavioral Finance, Wiley, New Jersey.

Barajas, A.,& R., Steiner, (2002). Why Don't They Lend? *Credit Stagnation in Latin America, IMF Staff Papers 4(9), 156-184*

Berkelmans, L., (2005). Credit and Monetary policy: *An Australian SVAR. Reserve Bank of Australia. 3(4), 47-67.*

Calza, A., C. Gartner, and J. Sousa, (2001).Modelling the demand for loans to the private sector in the Euro area.*ECB Working Paper Series, No. 55;*

Chernykh. L., Theodossiou., A. (2011). Determinants of bank long term lending behavior: Evidence from Russia.*Multinational Finance Journal, 15(1), 193-2.*

Cottarelli, C., G. Dell'Ariccia, and I. Vladkova-Hollar, (2003).Early Birds, Late Risers, and Sleeping Beauties: Bank Credit Growth to the Private Sector in Central and Eastern Europe and the Balkans. *IMF Working Paper no.03/213.*

Edwards, S., (2012). The Federal Researve, emerging markets and capital controls: A high frequency empirical investigation. *Journal of Money Credit bank, 44 (2), 151-184*

Égert, B., P. Backé, and T. Zumer, (2006).Credit growth in central and eastern Europe new (over)shooting stars?*ECB Working Paper Series No 687*.

Elekdag, Selim, and Wu, Y., (2011). Rapid Credit Growth: Boon or Boom-bust?*IMF Working Paper No. 11/241.*

Furceri, D., Guichard, S., and Rusticelli, E., (2012).The effect of episodes of large capital inflows on domestic credit.*North American Journal of Economics and Finance, 23 (3), 325-444*

Gadanecz, B. and K. Jayaram (2009).Measures of Financial Stability – A Review‖.*IFC Bulletin No 31.*

Ghosh, S., (2010).Credit Growth, Bank Soundness and Financial Fragility: Evidence from Indian Banking Sector, *South Asia Economic Journal*, 11(1), 69-98.

Granger, C. W. J., (1986).Development in the study of cointegrated economic variables.*Oxford Bulletin of Economic and Statistics, 48, 213-228*.

Gujarati, D., N. (2004), *Basic Econometrics*, 4th edition, New York: McGraw-Hill.

Guo, K., and V. Stepanayan, (2011).Determinants of Bank Credit in Emerging Market Economies.*IMF Working Paper WP/11/51.*

Hanh, P. T. H. (2014). Determinants of bank lending. LEMNA, Institute of Economics and Management University of Nante.

Hofmann, B., (2001). The determinants of private sector credit in industrialized countries: do property prices matter?.*BIS Working Papers No 108*.

Ladime, J., Sarpong-Kumankomah, E., and Osei, K. A. (2013).Determinants of bank lending behavior in Ghana.*Journal of Economics and Sustainable Development, 4(17), 42-47.*

Luca, O., and Spatafora, N., (2012). Capital inflows, financial development and domestic investment: determinants and inter-relationships. *IMF working paper No. 12/120, Washington DC, USA Maddala,*

Malede, M. (2014). Determinants of Commercial Banks Lending: Evidence from Ethiopian Commercial Banks.*European Journal of Business and Management, 6(20), 109-117.*

Mendoza, E. & Terrones, M. (2008), An Anatomy of Credit Booms: Evidence from Macro Aggregates and Micro Data, *IMF Working Paper, No. 08/226.*

Moreno, C. A. Q., Moreno, D. F., and Estrada, D. (2012).Credit determinants and their impact on firm's growth in Colombia.*Temas, 67, 1-24.*

Moussa, M. A. B., and Chedia, H. (2016). Determinants of Bank Lending: Case of Tunisia. *International Journal of Finance and Accounting, 5(1), 27-36.*

Note, S., and Suljoti, E., (2012). Determinants of the performance of private sector credit in Central and South East Europe.*Bank of Albania Annual Report.*

Obstfeld, M., and Rogoff, K. S., (2010). Global imbalances and the financial crisis: products of common causes,In: Glick, R Spiegel, M.M. (Eds), *Asia and the Global financial crisis. Federal Reserve Bank of San Francisco, San Francisco Roman,*

Rabab'ah, M. (2015). Factors Affecting the Bank Credit: An Empirical Study on the Jordanian Commercial Banks.*International Journal of Economics and Finance, 7(5), 166-178.*

Suljoti, E., and G. Hashorva, (2012).House prices and mortgage loans - Empirical analysis for Tirana.*Bulletin of the Bank of Albania (H I, 2012*).

Tomak, S. (2013). Determinants of commercial bank lending behavior: Evidence from Turkey. *Asian Journal of Empirical Research, 3(8), 933-943.*