IOSR Journal of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 6, Issue 4. Ver. III (Jul. - Aug. 2015), PP 32-43
www.iosrjournals.org

Does Bank Credit Have Any Impact on Nigeria's Domestic Investment?

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Abstract: *There is an extensive literature on the role of the bank lending and credit facilities in Nigeria but most of these literature concentrate on its impact on the gross domestic product. This study focuses on the impact of Nigeria's banking sector on domestic investment from 1980 to 2012 bearing in mind that funding is one of the major challenges of domestic entrepreneurs in Nigeria. A domestic investment model was adopted and the unit root test was first applied to the data set. All the data are stationary and the ordinary least square method was used to identify the impact of capital market activities on domestic investment in Nigeria using the cointegration technique. Findings reveal that bank credit negatively though significantly impacted on domestic investment in the long run while its short run impact is both positive and significant. This is an indication that financial intermediation (captured by bank credit to private sector) is a strong driver of domestic investment in Nigeria only in the short run. The study thus recommends amongst others, the strengthening of Nigeria's banking system with more funds and supervisions as well as the encouragement of both foreign and domestic investments through government's creation of a more conducive political and economic climate.*

Key words: *bank credits, domestic investment, private sector, small and medium scale enterprises*

I. Introduction

Domestic investment as defined by Uchendu (1993) is an increase in human, social, technological and physical capital of a nation brought about by the residents of that nation. It is usually noted as gross domestic investment and is separated into private and public domestic investments. While private domestic investment as expenditures made by private citizens of a nation for the acquisition of capital goods and services, public domestic investment equally refers to expenditures made by the government (on behalf of the state) for the acquisition of capital goods and services. Both private and public domestic investments are usually measured either as aggregates, growth rates or as ratios to the gross domestic product (Iyoha, 1998). In Nigeria, private domestic investment is often discussed within the context of Micro, Small and Medium Scale Enterprises (Nwabude, 2014).

The private sector of any economy is its production engine (Haveman, 1976). Micro, Small and Medium Scale Enterprises (SMEs) constitute the most dynamic and heterogeneous sub- sector in the Nigerian industrial sector (MAN, 2000; Adelaja, 2005 cited in Nwabude, 2014). Between 1990 and 1995, an average of 84% of new jobs created in Nigeria was generated by SMEs. The GDP of the sector is harder to estimate because of its scale and widespread informality. Policies oriented towards supporting and promoting SMEs in Nigeria have three major fonts: microfinance, changes in regulatory framework and business development services. Others include infrastructural development and childcare programmes for female workers.

According to Nnanna (2003) and Salako (2004), SMEs are generally acknowledged as the bedrock of industrial development of any country. Apart from the numerous commodities produced by SMEs, they provide veritable means of large scale employment as they are usually labour intensive. They also provide training grounds for entrepreneurs even as they generally rely more on the use of local inputs. Moreover, if well managed, SMEs can turn into giant corporations of tomorrow. These contributions explain why governments and international agencies mobilise efforts towards the realization of sustainable industrial growth and the creation of mass employment through the rapid growth and development of SMEs.

Sule (1986) and World Bank (1995; 2006) all cited from Nwabude (2014) assert that SMEs provide an effective means of stimulating indigenous entrepreneurship, enhancing greater employment opportunities per unit of capital invested and aiding the growth of local technology. Adelaja (2005) declared that SMEs account for more than 60% of all regional entrepreneurship and up to 50% of paid employment. According to Okonkwo (1996) and Okonjo-Iweala (2005) a strong entrepreneurial base is an essential driver of economic growth and prosperity in a modern economy; it empowers the populace and provides greater possibilities for the use of available local raw materials and this goes a long way in encouraging vertical and horizontal linkages. In the words of Harper and Finnegan (1998), from the World Bank to the tiny local government organizations, development interventionists have embraced domestic enterprises as the key to unlocking the potentials of stagnant economies and improving the livelihood of the poor.

But Jhingan (2003) and Metu & Nwokoye (2014) have observed that a low entrepreneurial ability is a strong factor responsible for the low rate of capital formation in LDCs. He recognised that, LDCs are characterized by small size of the market, lack of private property and deficiency in capital and funds, In developing countries firms rely mostly on internal sources and informal credit markets for funds because their money and capital markets are not well developed (Osei, 2002). As a result of this, long term investments are discouraged. The role of capital in the growth of an economy cannot be over emphasized. Most entrepreneurs recognize that a well organized money market is crucial for mobilizing domestic capital for short and medium-term investments.

Lending is one of the most important services that banks render to their customers. It refers to a situation where banks grant credit facilities, loans and advances to individuals, business organizations as well as the government, in order to facilitate their investment and development activities. Lending, which may be on short, medium or long-term basis, is also a mean of aiding the growth in aggregate output of a nation thereby contributing toward the economic development of a country.

Banks are the formal financial intermediary machinery in any market-orientated economy. They are the most important savings, mobilization and financial resource-allocation institutions. Consequently, these roles make them an important phenomenon in economic growth and development because in performing their role, banks have the potential, scope and prospects for allocating scarce financial resources to productive investments. Banks are not the only financial intermediaries in the economy but are they widespread and their liabilities are both the greatest and the most recognized. In accepting demand and time deposits, banks differ from other financial intermediaries in that their liabilities are readily acceptable and are liquid since demand deposits are a medium of exchange and are in essence money. Furthermore, another of their liability (time deposits) is a very close substitute for currency and demand deposit. By comparison, the liabilities of non-bank financial intermediaries are not directly a medium of exchange nor are they perfect substitutes for it. This special role of the liabilities of the banks in the economy makes them a rather distinctive type of financial intermediary and makes a study of their behaviour and reaction to monetary policy especially important.

Globally, the activities of banks reflect their unique role as the engine of growth in any economy. The importance of the financial sector which comprises banks and non-banks financial intermediaries, the regulatory framework and the ever increasing financial products, in stimulating economic growth, is widely recognized especially in development economics. Banking institutions perform crucial roles for economic growth. Conventionally, they create money and help in mobilizing funds from the surplus spenders to the deficit spenders fro the purpose of capital formation and investments. As an active participant in Nigeria's financial market, banking institutions are appropriate channels for spreading the financial rules and regulations of the central bank to the entire economy.

Financial intermediation which is defined as the mobilization of excess funds from the surplus-spending unit and channelling of such funds to the economic activities of the deficit-spending unit of an economy is an index for measuring the extent to which the financial sector of an economy is developed and alive to its responsibilities. A well-functioning banking system, by increasing the spectrum of sources of finance for domestic entrepreneurs, also play an important role in allowing them source for long term credit facilities considering the fact that the greater the technological-knowledge gap between their current practices and new technologies, the greater the need for external finance. In most cases, external finance is restricted to domestic sources. Furthermore, low level of financial intermediation can also limit potential entrepreneurs especially when the arrival of a new technology brings with it the potential to tap not just domestic markets but export markets.

In particular, to take advantage of the new knowledge, domestic firms need to re-organize their structure, buy new machines and hire new managers and skilled labour. Although some domestic firms are strong enough to finance new requirements with internal funding, it is essential to understand that the spillovers for the host economy may critically depend on the extent of the development of domestic financial markets. This is because a well-developed financial intermediation enhances technological innovation, capital accumulation, and economic growth because well-functioning financial markets, by lowering costs of conducting transactions, ensure that capital is allocated to the projects that yield the highest returns.

The extent of financial intermediation in Nigeria may be a decisive factor in determining the extent to which domestic investors have access to finance with which to begin and sustain their business enterprises and also the extent to which these investors can access new techniques and methods of production. This is the crux of the matter and informs the basis for the present study as it sets out to determine if bank credits have any impact on Nigeria's domestic investment. The specific objective of this paper is to determine the existence of a long run relationship between bank credit and domestic investment in Nigeria.

In a bid to achieve this aim, this paper is structured as follows: section one has introduced the paper, section two looks at the theoretical and empirical issues surrounding this study, section three contains the

methods adopted for this study, section four documents the data analyses and interpretation / discussion of results while section five summarises and concludes the paper.

II. The Literature

The concept of small and medium scale enterprises have been widely discussed in the literature. For instance, Obitayo (1991,2001) and Anyanwu (2001) both cited in Nwokoye, Onwuka, Uwajumogu, & Ogbonna, (2013), asserts that there is no universally acceptable definition for Micro, Small and Medium Scale Enterprises (MSMEs); the terms micro, small and medium are relative and their meanings differ from industry to industry, and from country to country. Its definition changes from time to time and depends, to a large extent, on a country's level of development. For instance, a firm regarded as micro or small in an advanced economy like the United States of America or Japan (given their high level of capital deepening and advanced technology) may be classified as medium or even large in a developing country like Nigeria. While some analysts define these terms in terms of their total working capital, others use the number of employees and/or the maximum turnover as an indicator. For instance,

The Centre for Industrial Research and Development (CIRD) defines an MSME as any business enterprise which has a working capital base not exceeding twenty-five thousand naira and employs fifty persons or less on a full time basis. The Nigerian Bank for Commerce and Industry (NBCI) adopted the definition of an MSME as one with a total capital not more than seven hundred and fifty thousand naira (excluding cost of land but including working capital) while the Nigeria Industrial Development Bank (NIDB) defined an MSME as one with a total capital not more than seven hundred and fifty thousand naira.

Section six of the Bankers' Committee Guidance for Beneficiaries of SME Equity Investment Scheme (SMEEIS) defines an SME as any enterprise with a maximum asset base of three hundred million excluding land and working capital and with staff strength of between ten and three hundred. This scheme has however been revised to reflect a maximum asset of five hundred million. But the Central Bank of Nigeria in 1989 issued its credit guidelines to commercial banks clarifying SMEs as those enterprises with annual turnover not exceeding five hundred thousand naira while the merchant banks were to regard SMEs as those with capital investments not exceeding two million naira (excluding cost of land) or with a maximum turnover of not more than five million naira.

The European Union defines MSMEs as thus

- Micro-enterprises: maximum of 10 employees with an annual turnover of Euro 2 million.
- Small enterprises: maximum of 50 employees with an annual turnover of Euro 40 million or less and/or a balance sheet valuation not exceeding Euro 27 million.
- Medium enterprises: maximum of 250 employees with an annual turnover of Euro 40 million or less and/or a balance sheet valuation not exceeding Euro 27 million.

Whereas the World Bank Micro, Small and Medium Enterprise Development Group broke down MSMEs according to the following parameters:

- Micro Enterprise- up to 10 employees, total assets worth up to $100,000 and total annual sales of up to $100,000
- Small Enterprise- up to 50 employees, total assets worth up to $3million and total sales of up to $3million.
- Medium Enterprises-up to 300 employees, total assets worth up to $15million and total sales of up to $15million.

Despite the disparity in the comparative definition of Micro, Small and Medium Scale Enterprises, they are bounded by some common characteristics which include

i. High level of labour turnover
ii. A higher labour investment ratio
iii. Wide dispersal in any economy owing to the intensive use of local raw materials
iv. Less organizational differences

Salako (2004) documents the common characteristics of SMEs to include

i. Personal commitment of the proprietors whose life savings usually form the bulk of the start-up capital
ii. Low initial capital requirement
iii. Ease of entry or exit
iv. Adoption of simple technology
v. High content of local inputs in the production process
vi. High potentials for employment opportunities
vii. Lack of managerial skills

viii. High potentials for foreign exchange earnings through export.

As recorded by Uwatt (2010), the objectives of existing small and medium scale enterprise policy as contained in the various national development plans, budget speeches and official publications are summarized as follows

a. Ensuring increased self-reliance in the supply of consumer and industrial goods.
b. Raising the proportion of indigenous ownership of industrial establishment.
c. Promoting even development and fair development and fair distribution of industries in all parts of the country.
d. Promoting rapid expansion and diversification of the industrial sector.
e. Increasing the total value added in the manufacturing sector by 20% by 1979-1980 and 25% by the end of 1985.
f. Development and use of local raw materials and technology to replace/complement foreign ones.
g. Development of indigenous manpower.
h. Creation of more employment opportunities; and significance
i. Mitigation of rural-urban migration.

In the words of Salako (2004), SMEs are recognized as the bedrock of development in the advanced economies. They are better placed for meeting the dynamics and challenges of globalization due to the following reasons

a. SMEs are better positioned for the exploration of comparative advantage principle through greater reliance on local resources and reduced import dependence on materials and skills.
b. They promote industrial linkages because they possess the potentials for the production of less expensive inputs for economic integration of large scale enterprises through sub-contracting arrangements.
c. They also possess higher potentials for enhanced local value-added and international competitiveness.
d. They provide better training grounds for indigenous entrepreneurial development.
e. SMEs stimulate faster growth in employment: this means more employment per unit of capital employed.
f. They are invaluable in stemming rural-urban migration thereby providing a potent tool for achieving the much desired balanced development.

The role of SMEs cannot be overemphasized in economic growth. Accordingly, Chibundu (2006) stated that it is encouraging to note that research findings and empirical evidences shows that significant poverty reduction are possible and have occurred in many countries where SMEs are encouraged. To him, SMEs stimulate private consumption, ownership and entrepreneurial abilities, generate employment, help diversify economic activities and make significant contributions to export and domestic trade while utilizing local raw materials. The objective of government has been to promote growth in industrial sector which contributes significantly to economic growth and thus, increase the wealth of the country. Most of these plans were to increase self-reliance in the supply of industrial products and factor inputs and to develop and support micro-industries and their contributions to the manufacturing subsector. Today, domestication of the entrepreneurial process and enhancement of economic efficiency have pre-occupied government policy thrust towards capacity utilization in the industrial sector, employment generation and poverty alleviation.

To Ewurum and Ekpunobi (2008), SMEs are universally acknowledged as effective instruments for economic growth. According to the Manufacturers Association of Nigeria (2000), SMEs are the backbone of the economy as they account for 95% of manufacturing activities and 70% of industrial jobs. SMEs have been recognized as the key to unlocking the potentials of stagnant economies and improving the livelihood of the poor (Harper and Finnegan, 1998 cited in Nwabude, 2014). Most integral community development programmes worldwide now include an enterprise component. SMEs are generally expected to provide employment and thus sustainable income, as well as lower cost commodities for poorer people. In addition, profits generated from SMEs are likely to stay local and create a flow-on benefit in disadvantaged areas.

The basic theory underlying this study is the profit and residual hypothesis which is credited to Meyer and Kuh, and Duesenberry. The principle argues that investment depends not only on the technical relationship between output and capital stock (as advanced by the accelerator principles and the stock adjustment hypothesis) but also on alternative financing arrangements for investments. Invariably, the hypothesis argues that retained earnings and the expected profit of an investment proposal are the major determinants of investment. Hence, the availability, sources of and costs of funds as well as finance mix available to the firm are relevant determinants of investment. The profit and residual hypothesis recognizes the role of the financial market in investment decisions.

The internal funds of a firm are made up of the equity and retained earnings. The retained earnings depend on the profit made by the firm and the profit in turn depends on the development made within the firm and the economic climate. The profit and residual hypothesis appears more relevant to the investment behaviour of firms in developing countries where there is limited external finance.

Most empirical works on the impact of financial intermediation / financial development on the macroeconomy are concentrated on economic growth, measured by the gross domestic product while fewer of them pay attention to its impact the growth and welfare of the domestic investors. For instance;

Guryay, Safakli & Tuzel (2007) examined the relationship between financial development and economic growth in Northern Cyprus using the OLS on time series data and finds a negligible but positive impact of financial development (bank credit) on the growth of Cyprus. The granger causality results further show that causality runs only from economic growth to financial development.

Obamuyi, Edun and Kayode (2012) investigates the effect of bank lending on Nigeria's manufacturing output using time series data from 1973 to 2009 using the cointegration and error correction mechanism techniques and finds that bank lending rates negatively but significantly impacts on Nigeria's manufacturing outputs.

Adekule, Salami & Oluseyi (2013) employed the ordinary least square method of regression in order to examine the impact of financial sector development on economic growth and discovered a weak relationship between financial intermediation (proxied by ratio of credit to private sector to GDP, real interest rate and ratio of liquidity liability to GDP) and economic growth (proxied by real GDP). The findings reveal that bank credit coefficient, though positive was statistically not significant.

Onodugo, Kalu and Anowor (2013) looks at the contributions of financial intermediation to economic growth in Nigeria using a multivariate model. The result shows that financial intermediation had a negative relationship with domestic investment and economic growth and significantly retarded domestic investment in Nigeria.

III. Research Methods And Procedures

This study borrows its empirical model from Nwabude (2014) which modelled domestic investment in line with the endogenous growth model of the AK type in a bid to investigate the impact of FDI inflow, amongst other macroeconomic variables, on domestic investment in Nigeria. The empirical model in its log form is presented as

$$Lninv = \beta_0 + \beta_1 Lnfdi + \beta_2 Lnhc_t + \beta_3 Lngpc + \beta_4 Ln\inf_t + \beta_5 Ln\inf r_t + \beta_6 Lnbcr_t + \beta_7 dm_t + \mu_t \quad 3.1$$

where inv, fdi, hc, gpc, inf, infr, bcr and dm are domestic investment, foreign direct investment inflow, human capital development, growth in per capita income, cost of living, infrastructural development, bank credit to the private sector and presence of democracy respectively while $\beta_0, \beta_1, \ldots\ldots\ldots$ to β_7 are parameters to be estimated. B_1, β_2, β_3 β_5 and β_6 are expected to be positively signed while the expected signs for β_4 and β_7 are indeterminate. Equation 1 is apt in finding answers to the these three null research hypotheses:

i. There is no long run relationship between bank credit and the advancement of domestic investors in Nigeria?
ii. Bank credits have no short run impact on domestic investment in Nigeria?
iii. Variations in FDI inflow are not largely explained by Nigeria's absorptive capacity

This study is designed as an econometric study; the data set covers between 1975 and 2012 in line with availability of data and concentrates on the Nigerian economy. The time series data used in this study were sourced from the CBN Statistical Bulletin (2012) and the World Development Index while democracy has a dummy variable. This study is based on time series data and for this reason, the time series properties that need attention are those of stationarity and cointegration.

The **Augmented Dickey-Fuller (ADF) test** was employed, as a pre-estimation technique, to test if the variables are stationary or not. The unit root test was necessary because regressing a non-stationary data set on another may yield false results. The unit root test was also employed in order to determine the order of integration of the variables. This is important because it helps in determining the long run relationship among the variables. The ADF test consisted of estimating the following regression:

$$\Delta Y_t = \beta_1 + \delta Y_{t-1} + \sum_{i=1}^{n} \phi \Delta Y_{t-i} + \mathrm{E}_t \quad 3.2$$

$$Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \sum_{t-1}^{m} \alpha_i \Delta Y_{t-1} + \mathrm{E}_t \quad 3.3$$

where (E) is the error term, (Y) is a time series, (t) is a linear time trend, (Δ) is the first difference operator, (β_1) is a constant, (δ) is a parameter to be estimated while (m) is the optimum number of lags on the dependent variable. The number of lagged difference terms to include is often determined empirically, the idea being to include enough terms so that the error in Equation 2 will not be serially uncorrelated and an unbiased

estimate of (δ) (the coefficient of lagged Y_{t-1}) obtained. The difference between Equations 2 and 3 is that the former has only an intercept while the later has both intercept and trend.

The **Johansen-Juselius Procedure for cointegration test** was employed in order to determine if there is a long-run relationship amongst the variables for each of Equations 3.9 and 3.10. In the words of Johansen (1992), a cointegration means that a stationary long run relationship exists amongst the data sets and the absence of a cointegration means that the linear combination is not stationary and the variables do not have a mean to which they return. The cointegration equation of order p is given as:

$$Y_t = A_1 Y_{t-1} + \ldots + A_p Y_{t-p} + BX_t + \mathrm{E}_t \qquad 3.4$$

where (Y_t) is a k-vector of non-stationary 1(1) variables, (A_p) is a d-vector for deterministic variables and (E_t) is a vector of innovations that may be contemporaneously correlated with their own lagged values and uncorrelated with all the right hand side variables. If all the variables are not cointegrated of the same order, then the vector auto-regression test (VAR) can be applied. Hence Equation 4 is re-presented as:

$$\Delta Y_{t-1} = \Pi\, Y_{t-1} + \sum_{t=1}^{p-1} \Gamma_t \Delta Y_{t-1} + \beta_{xt} + \varepsilon_t \qquad 3.5$$

$$\text{where } \Pi = \sum_{t=1}^{p} A_{t-1} \text{ and } \Gamma = \sum_{j=i+1}^{p} A_t \qquad 3.6$$

The VAR approach captures the feedback effects, allowing for interactions between the current and past values of the variables in the system. It sidesteps the need for structural modelling by modelling every endogenous variable as a function of the lagged values of all the endogenous variables within the system.

The appropriate lag lengths are determined using either the Akaike Information Criterion or the Schwarz Bayesian Criterion.

The **Error Correction Mechanism (ECM) model** showed the short run dynamics of the domestic investment equation and enables one to observe the long run convergence (that is the speed of adjustment of any distortion in the economy).

Variance Decomposition Analyses: This provided information about the relative importance of each random innovation in affecting the other variables.

IV. Results Presentation And Analyses

a. Unit Root Tests

The Microfit 4.0 interactive econometric analysis software was used for data analyses. The tests for stationarity of the data (unit root test) were conducted using the Augmented Dickey Fuller (ADF) test so as to avoid spurious regressions and the ADF results are presented in Table 4.1. All the variables are integrated of order one except human capital variable which is stationary only of order zero. Therefore the null hypothesis of non stationarity is rejected for the entire data in favour of the alternative hypothesis which says that the time series data used in this study are stationary.

Table 4.1 Unit Root Test Results

Variables	Level		First Difference	
	No trend	With trend	No trend	With trend
LNINV	-1.8827	-2.7668	-5.4244*	-5.3813*
LNFDI	-1.7604	-2.5285	-5.6279*	-5.5382*
LNHC	-3.3256*	-3.5518*	-2.4775	-2.4834
LNTGAP	-2.1065	-4.0682*	-6.0905*	-6.0257*
LNINF	-3.7738*	-3.8861*	-6.3419*	-6.2351*
LNGPC	-3.5555*	-4.5136*	-9.4070*	-9.2883*
LNINFR	-3.7445*	-3.5140	-6.8654*	-7.0687*
LNBCR	-2.3966	-2.4670	-3.3993*	-3.3585
Critical Value at 95% CI*	-2.9446	-3.5386	-2.9472	-3.5426

Source: Researchers' computation using Microfit 4.0

The Akaike Information Criterion (AIC) selected two lag lengths against the Schwarz Bayesian Criterion (BCI) which selected none for both the domestic investment. The Johansen-Juselius procedure was used for the cointegration tests. This is in consideration of the fact that the model contains multiple variables and may invariably contain more than one cointegrating vectors (relationships).

The test for cointegration with unrestricted intercepts and no trends was conducted for the domestic investment equation. These tests are based on the maximal eigenvalue and the trace tests with a view to determining the number of cointegrating vectors (relationships) and the results are reported in Table 4.2.

Table 4.2 Unrestricted Cointegration Rank Test for Domestic Investment Model

Null	Alternative	Statistic	95% Critical Interval	90% Critical Interval
Maximal Eigenvalue Statistic				
r = 0	r =1	52.4097*	39.8300	36.8400
r <= 1	r =2	40.2939*	33.6400	31.0200
r <= 2	r =3	11.8878	27.4200	24.9900
r <= 3	r =4	8.7314	21.1200	19.0200
r <= 4	r =5	4.9156	14.8800	12.9800
r <= 5	r =6	1.7467	8.0700	6.5000
Trace Statistic				
r = 0	r >=1	119.9851*	95.8700	91.4000
r <= 1	r >=2	67.5754	70.4900	66.2300
r <= 2	r >=3	27.2815	48.8800	45.7000
r <= 3	r >=4	15.3937	31.5400	28.7800
r <= 4	r >=5	6.6623	17.8600	15.7500
r <= 5	r >=6	1.7467	8.0700	6.5000

Source: Researchers' computation using Microfit 4.0

Results in Tables 4.2 imply that the maximal eigenvalue detects two cointegrating vectors while the trace has one. This suggests that there exists a unique long run relationship between domestic investment and its explanatory variables at 95% confidence level of statistics. This long run relationship is consistent with macroeconomic theories and further analyses are based on the Trace Statistics.

b. Long Run Normalized Cointegrating Coefficients for Domestic Investment Model

Since one cointegrating vector exists, the determinants of long run growth of domestic investment in Nigeria can be obtained by normalizing the estimates of the unrestricted cointegrating vector using the vector autoregressive (VAR) Model. The long run elasticities of the cointegrating vector for the domestic investment model are presented in Table 4.3

The low standard errors of the estimated parameters are indicators that all the estimated coefficients are significant except infrastructure. The coefficient of bank credit (-0.81123) is negative and significant with a t-value of -3.71190 as shown in the table.

Table 4.3 Normalized Cointegrating Coefficients for Domestic Investment Model

Explanatory variables	Long-run coefficients	Standard errors	t- values
LNFDI	2.4114	0.39620	6.08632*
LNHC	-2.3062	0.26020	-8.86318*
LNINF	-1.3062	0.23020	-5.67420*
LNGPC	-1.2374	0.33336	-3.71190*
LNINFR	2.1524	1.6957	1.26933
LNBCR	-0.81123	0.26891	-3.01673*
DM	-0.30956	0.16892	-1.83258**

Source: Researchers' computation using Microfit 4.0

This is an indication that the financial intermediation (which is captured by bank credits to the private sector) is still underdeveloped and does support Nigeria's domestic investors in the long run. This result contrasts with that obtained for Ghana by Asante (2000) where the financial intermediation coefficient is positive and very significant.

The infrastructure coefficient (2.1524), though positive, is not significant (with a t-value of 1.26933 which is less than 1.96). This is an indication that in the long run, infrastructure (which is measure for electricity production) is too low to encourage domestic investors in Nigeria. This result agrees with that obtained for Ghana by Asante (2000) and Amakom (2007) for the Nigerian economy. The coefficient of FDI inflow (2.4114) is positive and significant (with a t-value of 6.08632). This indicates that in the long run foreign direct investment inflow significantly encourages domestic investment in Nigeria.

The coefficient of human capital (2.3062) is negative and significant with a t-value of 8.86318. This indicates that the domestic human capital stock significantly discourages domestic investors in Nigeria in the long run. The coefficient of inflation rate (-1.3062) is negative and significant with a t-value of -5.67420. This indicates that a high inflation rate discourages domestic investment in Nigeria in the long run. This is in line with results obtained for Ghana by Asante (2000) and Abdul-Salem (2012) and contrasts with that of Naa-Idar (2012) and Djokoto (2012) who both studied the impact of inflation on domestic investment in Ghana.

The coefficient of per capita income (-1.2374) is negative and significant with a t-value of -3.71190. This indicates that per capita income (which measures the market size that is aggregate demand) is low and will discourage domestic investment in Nigeria in the long run. This finding is contrary to the accelerator principles of investment. The coefficient of political stability (-0.32983) is negative and slightly not significant with a t-value of (-1.83258). This implies that though democracy (which is a measure for political stability) is being practiced in Nigeria, it is infested with political and economic crises and as such can not fully propel domestic investment in Nigeria in the long run. This result agrees with that obtained for Ghana by Asante (2000) and Abdul-Salem (2012) and contrasts with that of Naa-Idar (2012) which shows that democracy impacts positively on domestic investment in Ghana.

c. The Short run Dynamics for Domestic Investment

The error correction mechanism (ECM) model shows the short run dynamics of the domestic investment and enables one to observe the long run convergence (that is the speed of adjustment to any distortion in the economy). The results are presented in Table 4.4.

The diagnostic tests for heteroscedasticity, normality, functional form and serial correlation were conducted and the null forms of each test was accepted if the p-value is greater than 0.05 (Gujarati & Porter, 2009). In summary, results of the diagnostic tests appear satisfactory. This study accepts the null hypotheses of constant variance for all the variables used in the model, normal distribution of the error term, correct specification of the domestic investment model and absence of serial correlation and this means that there are enough evidences to prove that the estimates are unbiased and can therefore be relied upon to for policy making.

Table 4.4 Short Run Dynamics for Domestic Investment

Parameters	Coefficients	Standard errors	T-Ratio	P-value
Intercept	-2.3617	0.67927	-3.4769	0.002
dLNINV(-1)	0.26025	0.15758	1.6516	0.110
dLNFDI(-1)	0.62605	0.16773	3.7325	0.002*
dLNHC(-1)	0.63990	0.15003	4.2651	0.001*
dLNINF(-1)	-0.28113	0.099095	-2.8370	0.009*
dLNGPC(-1)	-0.089262	0.070726	-1.2621	0.218
dLNINFR(-1)	-0.62496	0.40173	-1.5557	0.131
dLNBCR(-1)	0.50163	0.24202	2.0727	0.048*
dDM(-1)	0.26471	0.16940	1.5626	0.130
ecm1(-1)	-0.28318	0.084446	-3.3534	0.002*
Model Fit				
R^2	0.74539			
Adjusted R^2	0.69106			
F-Statistic	2.7104			0.002*
Summary Statistics of Diagnostic Tests for Domestic Investment Model				
Serial correlation	0.0055611			0.941*
Functional form	1.4077			0.562*
Normality	2.9557			0.428*
Heteroscedasticity	2.2684			0.461*

Source: Researchers' computation using Microfit 4.0

The adjusted R^2 value of 0.69106 (69%) indicates that variations in domestic investment is accounted for by 69% variations in its explanatory variables: foreign direct investment inflow, human capital, inflation rate, per capita income, infrastructure, bank credit to private sector and political stability. This means that there are some other variables which may explain changes in domestic investment but have not been included in the model.

The explanatory power of the equation is above average and the F-Statistic with a probability value of 0.002 also shows that the model has a goodness of fit. On this account, this study rejects the null hypothesis of statistical insignificance and accepts the alternative hypothesis which says that the joint influence of the regressors is statistically significant and cannot be ignored in explaining the variations in the growth of domestic investment in Nigeria.

The error term coefficient of -0.28318 indicates that 28% of equilibrium error in domestic investment is corrected per year. Its negative coefficient further confirms the existence of long run equilibrium between domestic investment and other explanatory variables, bank credit inclusive. It further shows that the domestic equation is able to provide solution(s) to any deviations from the long run relationship between domestic investment and other explanatory variables.

On the performance of the individual explanatory variables, Table 4.4 discloses that financial intermediation coefficient is significant and positively signed with a coefficient of 0.50163 and a p-value of 0.048. This is an indication that in the short run, financial intermediation (captured by bank credit to private

sector) is a strong driver of domestic investment in Nigeria. The long run response of growth in domestic investment to financial intermediation in Nigeria is also significant but negative in the long run.

Table 4.4 also reveals that the coefficient of FDI is highly significant and positively signed with a coefficient of 0.62605 and a p-value of 0.002. This is an indication that in the short run, foreign direct investment inflow strongly propels of domestic investment in Nigeria. The long run response of growth in domestic investment to foreign direct investment inflow in Nigeria is also positive and significant. The human capital coefficient is significant and positively signed with coefficient of 0.63990 and p-value of 0.001. This is an indication that in the short run, human capital (stock of knowledge) is a strong driver of domestic investment in Nigeria. But growth in domestic investment responds negatively to human capital in the long run. The coefficient of inflation rate is highly significant and negatively signed with a coefficient of -0.28113 and a p-value of 0.009. This means that in the short run, inflation (which a measure of price stability) strongly retards domestic investment in Nigeria. This is also applicable to the long run situation.

Table 4.4 also contains information which shows that per capita income is not significant with a negative coefficient of -0.089262 and a p-value of 0.218. This means that in the short run, per capita income (which captures aggregate demand or market size) does not significantly influence the growth of domestic investment in Nigeria. But the long run response of growth in domestic investment to per capita income in Nigeria is significant even though it is negative.

Infrastructure is also not significant with its negative coefficient of -0.62496 and a p-value of 0.131. This means that in the short run, infrastructure (captured by electricity production) does not significantly influence the growth of domestic investment in Nigeria. The long run response of growth in domestic investment to infrastructure in Nigeria is also not significant even though it is positive.

The coefficient of political stability is not significant with a negative coefficient of 0.26471 and a p-value of 0.130. This means that in the short run, political stability (which is captured by democracy) does not significantly influence the growth of domestic investment in Nigeria. The long run response of domestic investment to political stability in Nigeria is also negative and not significant.

d. Variance Decomposition Analyses for Domestic Investment

The variance decomposition analyses for domestic investment are presented in Table 4.5.

Table 4.5: Domestic Investment Variance Decomposition

Horizon	LNINV	LNFDI	LNHC	LNINF	LNGPC	LNINFR	LNBCR	DM
0	1.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.000000	0.00000
1	0.74758	0.060915	0.15084	0.11777	0.078521	0.070662	0.076636	0.017064
2	0.59843	0.061888	0.15082	0.31928	0.14289	0.083544	0.064092	0.020374
3	0.53606	0.11182	0.11888	0.43856	0.15963	0.081741	0.060768	0.023701
4	0.53516	0.12863	0.10815	0.067810	0.14681	0.084035	0.057303	0.022468
5	0.53063	0.14399	0.09896	0.011407	0.13831	0.087132	0.050553	0.020082

Source: Researchers' computation using Microfit 4.0

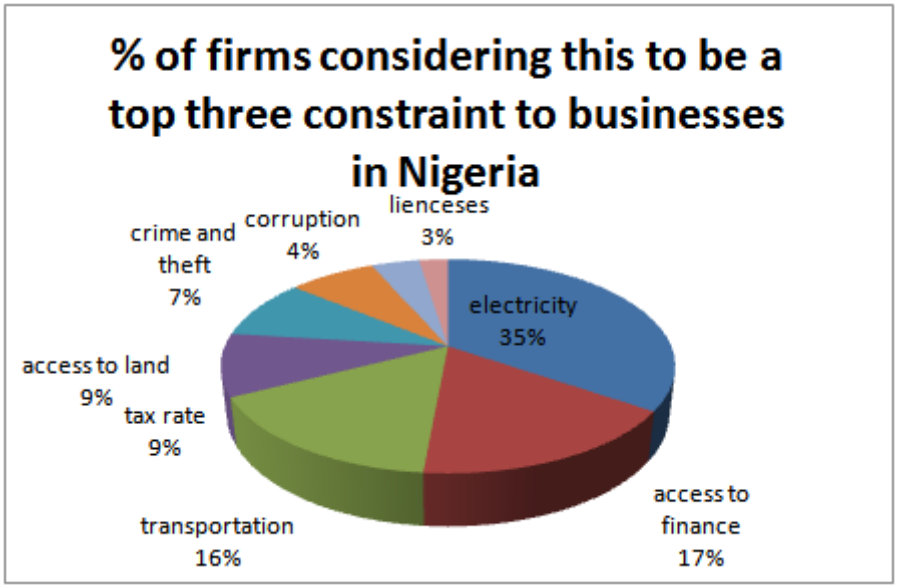
The analyses show that bank credit to the private sector accounted for only 6% and 5% variations in domestic investment for the fourth and fifth periods respectively. This is an affirmation that bank credit to the private sector does not significantly affect the growth of domestic investment in Nigeria.

e. Discussion of Findings

The findings of this study have been able to provide answers to the research hypotheses. First, it has been established that there is a long run relationship between bank credit and the advancement of domestic investors in Nigeria and this relationship is significant but negative. Second, it established that bank credits have a positive and significant short run impact on domestic investment in Nigeria and third, it can be observed that in Nigeria, variations in domestic investment are not largely explained by bank credit to the private sector.

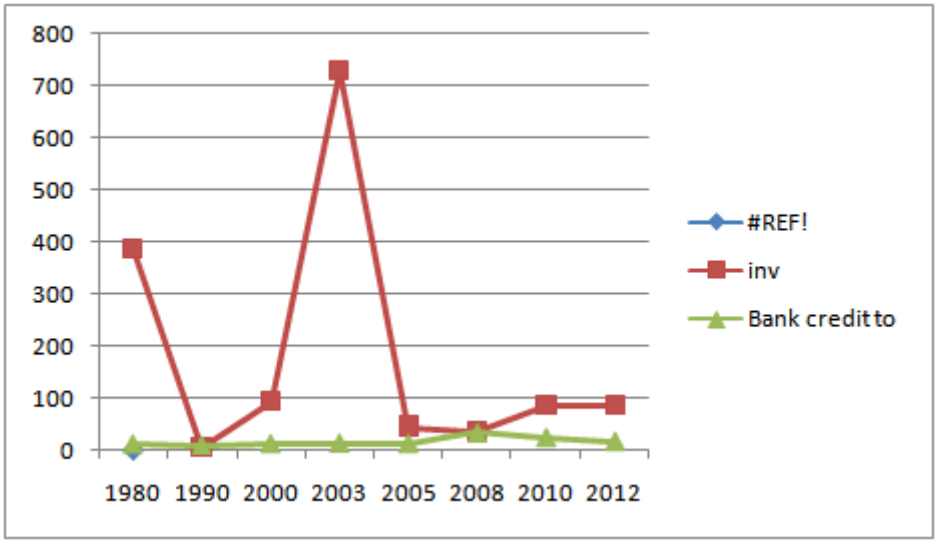
Amongst other constraints, access to finance has been indicated as a major constraint to industrialists and businesses in Nigeria as indicated by results from the 2008 Nigeria Enterprise Surveys illustrated in Figure 4.1. Seventeen percent of the respondents fingered unavailability of finance as one of the top three constraints to businesses in Nigeria. In the short run, domestic investors rely on the formal domestic financial system for credit facilities and these credit facilities propel domestic investment but in the long run, there are indications that domestic investment is discouraged by financial market activities. The short term lending profit which associate with the short term deposit profile in Nigeria's the money market is evidenced. High lending rates are also evident in the Nigerian economy.

Figure 4.1 Ratings of Major Constraints to Businesses and Entrepreneurship in Nigeria.



Source: 2008 Nigeria Enterprise Surveys cited in Radwan & Pellengrini (2010)

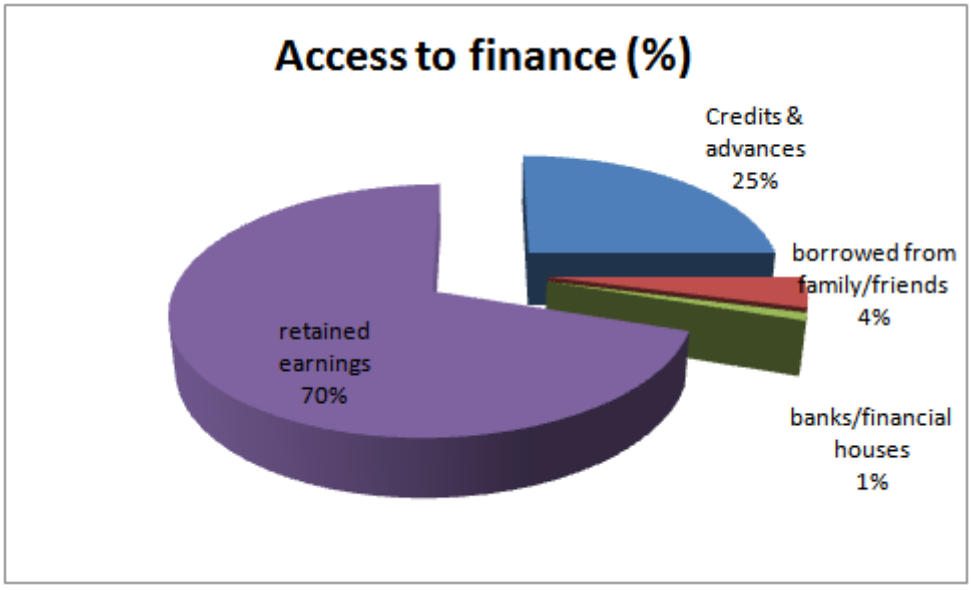
Figure 4.2 Domestic Investment and Bank Credit to Private Sector in Nigeria (₦m): 1980-2012



Source: Researchers' illustration using data from WDI and CBN

In the long run, financial intermediation in Nigeria crowds out domestic. Figure 4.2 shows the graphical relationship between domestic investment and commercial bank credits to the private sector in Nigeria. Evidences show that the ratio of bank credit to the private sector is growing at 72% per annum but the outreach to the domestic investors is on the decline. The implication is that the Nigerian financial sector is not efficient. This is why either the investors' are not patronizing them or the banks are not allocating financial resources quickly (and cheaply) to their most productive users. As a result, domestic entrepreneurs rely heavily on internal funds and retained earnings in addition to credit purchases from their suppliers and credit advances from their consumers and Figure 4.3 contains information on this.

Figure 4.3 Sources of Finance to Business and Entrepreneurs in Nigeria (%).



Source: 2008 Nigeria Enterprise Surveys cited in Radwan & Pellengrini (2010)

If banks' credits to the private sector are inadequate, it means that domestic investors will be short of cash, may fold up and invariably, add to the growing unemployment rate in Nigeria.

V. Summary and Recommendations

This paper set out to look into the impact of bank credit on Nigeria's domestic investors and principally engaged the cointegrating approach in establishing a long run relationship between bank credits and growth in domestic investment in Nigeria. Results show that Nigeria's absorptive capacity is low and each of human capital, bank credit to the private sector, political stability and infrastructure account for less than 10% of variations in domestic investment

The results obtained also show that there is a clue that bank credit to private sector is a strong driver of domestic investment in Nigeria only in the short run because the long run results show a significant but negative impact on domestic investment. This is an indication that Nigeria's banking sector is inclined to short term banking and therefore can only give short term credit facilities. This study then notes that this may not provide the much needed financial support for the growth and stability of domestic entrepreneurship in Nigeria.

Consequently, monetary policy which directs credits to the private sector should be tailored towards boosting both domestic and foreign direct investments in Nigeria. Nigeria's banking system should be strengthened with more funds and supervisions. This will make for stronger intermediation and wider availability of credit for domestic entrepreneurs. The consolidation exercise has given the banks the opportunities to recapitalize with stronger balance sheets, assets base and the vigour to search for new and profitable markets for credits. If they are strongly supervised with standard accounting and auditing frameworks, there will be a decline in the lack of fidelity (which has led to reductions in lending operations).

The 21st century is knowledge driven and being a part of it is very necessary for Nigeria to remain significant in the international field of play. Industrialization is the key: industrialization creates ample employment opportunities and increases earnings; it assures the citizens of essential amenities; it increases the need for the expansion of the agricultural sector; it leads to social transformation and acquisition of new skills; it increases the people's standard of living and invariably reduces poverty levels; it is the only way out of Nigeria's quagmire of underdevelopment. In its pursuant to industrialization. Nigeria needs to encourage its small and medium scale enterprises to grow into multinational enterprises of tomorrow.

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