

Effect of Financial Development on Macro-Economic Variables in Nigeria

by

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Abstract

There has been an increasing build-up of studies that focus on suspected relationship between developments in Finance and economic development variables. While some studies sought to establish the causation between the two variables, some others focus on the aspect or extent of development in Finance, or exact variables in Finance that could ignite growth in the economic sector. Yet some others examine those macro-economic variables, which financial growth could ignite their performance. Undoubtedly, the quest to proffer logical answer to the fundamental economic development question on why countries grow at different rates has undoubtedly digressed researchers to further investigate the causal factors of influence among growth variables in finance and the real economy. Moreover, dearth of studies on correlation that exists amidst real and financial growth variables in Nigeria necessitated this study. The paper aims at investigating the impact and trend of developments in the finance and real sectors of the Nigerian economy. The study examines the long-run effects and two potential causal variables of influence on economic development; using Vector Error Correction Model. It finds that growth effect of finance is bias to choice of macro-economic variables regressed. The results suggest that the influence of growth in finance on macro-economic variables depends on measures used to proxy for financial growth.

Keywords: economic development variables, financial growth, national income, mart capitalisation

Introduction

It is considerably wise for resource managers to have at least a good analyses conducted on their individual business units; even if they lack the requisite expertise of business portfolio matrix. In like manner, it is equally wise of public functionaries to periodically identify and conduct periodic assessments tailored at improving the various variables that aid the performance of the economy that they govern. In other words, it is pertinent to identify and further develop such variables that could play pivotal roles in aid of performance of cogent macro-economic variables. This study chose the Gross Domestic Product and the National Income to proxy macro-economic development on one side; and loans to the private sector and capitalization of stock mart as proxy to developments in finance. Macro-economic variables are economic aggregates via which economic development and performances are measured. These are aggregates like total output of an economy, general price level in an economy, inflation rate, rates of interest, national income and exchange rate. National outputs are measured by the GDP, which represents the value of all final products in the mart produced at a particular time. That is, national income connotes earnings of producers and suppliers of productive resources. It is the net national income at factor cost, which excludes transfer earnings (Ajayi and Ojo, 1980).

Meanwhile, according to Falaye (2014), the following indicators enunciated by Khan and Senhadji (2000) are good measures of developments in finance. The sum of loans and advances to private sector as a percentage of Gross Domestic Products; the sum of domestic credits lent to the private sector as a percentage of the GDP plus the stock mart capitalization as a share of the GDP; the sum of domestic credits lent to the private sector as a share of GDP plus the stock mart capitalization as a share of GDP, and non-public and public bond marts capitalization as a share of GDP; and the stock mart capitalization. Out of the four, the most exhaustive is the sum of domestic loans lent to non-public segment of the economy relative to domestic products plus the stock mart capitalization as a percentage of GDP, and the bonds mart's capitalization as a percentage of gross domestic products. Where the capital mart is still emerging however, the ratio of private credits to the GDP could be used to measure financial depth. In sum, financial growth is easily noticeable via increased change in financial structures over periods of time. Hence, the rate at which financial structure increases can be deduced by comparisons at different points in time. Some other measures of financial growth that may prove useful in less developed economies include liquid liabilities of banks and non-bank institutions as a percentage of GDP, the ratio of banks' credit to the sum of banks and central bank's credit, the ratio of private credits to domestic credits, the measure of financial assets in the economy, and commercial banks deposits as a ratio of GDP.

Related works

Moreover, it is not out of place to further probe Schumpeter's view on the constructive effect of financial growth on economic development. This is in consonance with the articulate models of King and Levine (1993a), (1993b), Shaw (1973) and McKinnon (1973). In sum, the

correlation between pecuniary development and economic growth variables must be established to enable fair comparison among countries in investigating the reasons nations grow at diverse degrees. Shaw (1973) and McKinnon (1973) built on the work of Schumpeter (1883-1950) and propounded the financial liberation thesis of 1973 that higher degree of financial growth that results from financial liberalization would accelerate growth in outputs. They further maintained that financial sector could raise not only the volume of savings, but also the quality and quantity of investments. In support of their view, growth and endogenous financial growth models emerged in 1990s. These models clearly indicate that financial growth occasions long run growth; and that financial distribution lessens economic development rate.

In the words of Goodhart (2004), progress causation between real and financial growth variables runs in either of the two directions. This is equally the report of Demetriades and Hussein (1996). Goodhart however submits that a more domineering research finding is that financial growth promotes economic development. According to him, the most functional financial marts are found mostly in very successful economies. More importantly, his submission implies the existence of a linear relationship between the two.

As Das (2005) puts it, ‘a well-developed financial sector plays an important role in the overall economic development.’ In his words, literature has exposed some ways via which the financial sector supports macro-economic development. Das submits that the financial sector does not only mobilise and channel funds into investments, but also optimizes resources allocation. Yet, a well-functioning finance sector lowers costs of financial intermediation and reduces the risks inherent in financial transactions. His submission is in tandem with King and Levine (1993) that a well-functioning finance system quickens economic development via successful brilliant innovations. Some other studies that report financial growths positive impact on economic development include Claessens and Feijen (2006), Uddin et al (2013), Durusu-Ciftci et al (2017), Assefa et al (2015), Bayar (2014), Ben-Jedidia et al (2014), Bijlsma et al. (2018) and Yang (2019) among many others.

Nevertheless, some researchers hold the opinion that even though there exists a fundamental connexion between growth in finance and economic development, the rapport is negatively linear. They maintain that financial growth impacts negatively on economic development. Studies in support of the report that financial growth has negative impact on economic development include D -Gregorio and Guidotti (1995), Ductor and Grechyna (2015) and Samargandi et al (2014). Conclusively, while some other studies like Hassan et al (2011), Ang and McKibbin (2007) and Ibrahim (2007) report that it is even economic development that influences financial growths; some like Adu et al (2013) even report that variations in those reports base on variables used to proxy financial growth.

Goldsmith (1969) presents data from 35 nations for a period of 103 years (1860 to 1963), applying the OLS and graphical exploration. The study establishes distinct association between finance growth and developments in the economy. King and Levine (1993a) use a sample of 77 countries for 29 years (1960 to 1989). They conclude that finance is crucial for economic development. In the same vein, Atje and Jovanovic (1993) investigate the impact of stock marts and banks on economic development, based on 94 countries for a period of 25 years (1960 to 1985). They find that stock markets have non-negative and growth impact on economic activities. Equally, Levine and Zervous (1996) obtain data for a period of 29 years (1960 to 1989), apply OLS estimation technique to a sample of 49 countries. The study finds stock mart liquidity positively and significantly correlated with economic development.

Objectives of study

To investigate if there is an underlying relationship between the finance growth and developments in Nigeria’s economy.
To find the trend of the fundamental association between the two variables; if there exists any in Nigeria.

Methods

Model specification

$$GDP, Y = f (M_C, C_P, i+ ecm)$$

Where:

GDP	=	Gross Domestic Product
NI	=	National Income
MC	=	Market Capitalization
CP	=	Credit to the private Sector
i	=	Prime interest rate
ecm	=	error correction term

Hypotheses of study

H01: There exists no significant connection between finance growth and developments in Nigeria’s economy.

H02: The relationship between National Income and Financial Performance is not significant.

Scope of study

The study based its data usage on the Nigerian economy only. It’s a collection of a period of 35 years; starting from 1984 to 2018. We decided to analyse two independent and two dependent variables for study.

Table 1: Unit Root Augmented Dickey-Fuller test

Variables	ADF@ levels	ADF@1 st diff and Intercept	Order of Integration
National Income(NI)	-0.429414* ** ***		I(0)
Market Capitalization(MC)	-1.841954* ** ***		I(0)
Credit to private Sector (CP)	-1.549822 * ** ***		I(0)
Gross Domestic Product (GDP)	-2.834029* **		I(0)

Evidence from our unit root test shows that all the data variables in our study are stationery at first difference. This implies that the data variables are efficient for further analysis; hence, we proceed to regression analysis.

Test of hypotheses

H0₁: There is no substantial connexion between financial performance and economic advancement in Nigeria.

Table 2: Regression results showing the effect of financial performance on economic growth in Nigeria.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.497706	0.049865	30.03546	0.0000
MC	0.196856	0.060995	3.227432	0.0029
CP	0.631695	0.068543	9.215990	0.0000
R-squared	0.991550	Mean dependent var		3.883827
Adjusted R-squared	0.991005	S.D. dependent var		0.919947
S.E. of regression	0.087252	Akaike info criterion		-1.955945
Sum squared resid	0.235998	Schwarz criterion		-1.821266
Log likelihood	36.25106	Hannan-Quinn criter.		-1.910015
F-statistic	1818.770			
Prob(F-statistic)	0.000000			

From Table 2, mart capitalization (MC) indicates a coefficient of regression value of 0.196856. This means that MC is confident and substantial determinant of economic advance in Nigeria as measured by Gross Domestic Product (GDP). It also means that a unit variation in MC will bring about equal change in economic growth in Nigeria. As seen in the table, credit to private sector (CP) has a coefficient of regression value of 0.631695. This indicates that CP is positive and significant; hence, a function of GDP in Nigeria.

H0₂: The relationship between National Income and Financial Performance is not significant.

Table 3: Regressions results showing relationship between National income and Economic growth in Nigeria.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.519932	0.113386	4.585513	0.0001
MC	-0.048661	0.138694	-0.350852	0.7281
CP	0.513235	0.155859	3.292943	0.0025
R-squared	0.943146	Mean dependent var		139.7684
Adjusted R-squared	0.939225	S.D. dependent var		170.3217
S.E. of regression	41.98880	Akaike info criterion		10.40174
Sum squared resid	51128.72	Schwarz criterion		10.53916
Log likelihood	-163.4279	Hannan-Quinn criter.		10.44729
F-statistic	240.5380			
Prob(F-statistic)	0.000000			

Evidence from Table 3 indicates that market capitalization has a regression value of -0.048661. This value is seen to be negative and insignificant at a 0.5% level, implying that national income is not a function of mart capitalization in Nigeria. Again, the Table 3 also shows that credit to private sector (CP) has a coefficient of regression value 0.513235. Permit to say that this value is positive and significant at a 5% level. It indicates that CP is a determinant of economic growth as measured by national income in Nigeria.

H01: There is no significant influence between financial performance and economic growth in Nigeria.

Table 4: *Regression result showing the influence of financial performance on economic growth in Nigeria*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-933.2059	410.9096	-2.271074	0.0305
EG	0.392053	0.010108	38.78518	0.0000
R-squared	0.980447	Mean dependent var		8991.254
Adjusted R-squared	0.979795	S.D. dependent var		12795.19
S.E. of regression	1818.753	Akaike info criterion		17.91015
Sum squared resid	99235880	Schwarz criterion		18.00176
Log likelihood	-284.5624	Hannan-Quinn criter.		17.94052
F-statistic	1504.290			
Prob(F-statistic)	0.000000			

Statistical evidence from Table 4 shows that economic growth in Nigeria is a function of financial performance. This assertion is validated by a coefficient of regression value of 0.392053, which is momentous at a 5% level. It means that pecuniary performance effects economic growth in Nigeria.

Results

As seen in Table 2, mart capitalization is indicated to have a coefficient of regression value of 1.369411. This means that mart capitalization is positive and significant determinant of economic development in Nigeria as proxied by GDP. Thus, a unit change in mart capitalization will bring about equal change in economic development in Nigeria. Equally, the Table 2 shows that credit to private sector has a coefficient of regression value of 3.590826. This is an indication that credit to private sector is confident and substantial; hence, a determinant of economic development in Nigeria.

In Table 3, it is evident that mart capitalization has a regression value of 0.011911. This value is seen to be positive and significant at a 0.5% level; implying that national income is a function of mart capitalization in Nigeria. Equally shown in the Table 3 is the fact that credit to private sector has a coefficient of regression value fo0.013927. Permit to say that this value is confident and substantial at a 5% level. It indicates that credit to private sector is a determinant of economic development as proxied by national income in Nigeria.

Summarily, the statistical evidence from Table 4 shows that economic development in Nigeria is a function of financial performance. This assertion is validated by a coefficient of regression worth of 0.392053 that is significant at a 5% level. This means financial growth stimulates economic development in Nigeria. Hence, there exists substantial correlation of influence amid financial performance and economic development in Nigeria. Hence, we equally discard the third null proposition.

Discussion and conclusion

Specifically, that result in Table 2 is akin to Ben-Jedidia et al. (2014), which reports that domestic loans to the private sector has positive effect on the economic development of Tunisia. The result is tenable because money lent to operators in private sector of Nigeria are seen to be competed for among various applicants and won over by the most lucrative and most prudently managed business proposals. After being awarded such credit facilities, loan officers still monitor the beneficiaries' engagement of such opportunities to avoid the incidences of bad loans. Hence, the productivity of credits lent to the non-public sector is sacrosanct to increased domestic products; and even the GNP. Ben-Jididia et al. surmised that notwithstanding the fragility at the short-run, financial growth positively affects economic development in the long-run.

Generally, results of the study are in tandem with the bulk of empirical literature, which submits that good functioning financial system plays a vital and causal role in augmenting long-run economic development (Demirguc-Kunt, 2012. This is an indication that the Nigeria financial system is fast developing, influencing innovations in the tangible sector of the economy (King and Levine, 1993). It is a fast departure from Ojo (1990) as cited by Falaye (2014), and therefore a good an indicant of improved efficiency in financial contracts enforcement; and strong legal right of foreign investors.

Moreover, we acknowledge the finance approved for publishing this article, which Landmark University, Nigeria supplied. It is our hope that tertiary institutions in and around Nigeria will emulate and adopt the laudable gesture.

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Appendix

Table 5:

S/No	Year	GDP (Billion)	MC (Billion)	CP (Billion)	NI (Billion)
1	1984	170.38	5.50	12.46	27.72
2	1985	192.27	6.60	13.07	27.85
3	1986	202.44	6.80	15.25	19.29
4	1987	249.44	8.20	21.08	21.69
5	1988	320.33	10.00	27.33	22.76
6	1989	419.20	12.80	30.40	22.15
7	1990	499.68	16.30	33.55	27.87
8	1991	596.04	23.10	41.36	24.94
9	1992	909.80	31.20	58.12	26.35
10	1993	1,259.07	47.50	127.12	13.44
11	1994	1,762.81	66.30	143.42	15.73
12	1995	2,895.20	180.40	180.00	26.33
13	1996	3,779.13	285.80	238.60	32.76
14	1997	4,111.64	281.90	316.21	33.59
15	1998	4,588.99	262.60	351.96	29.18
16	1999	5,307.36	300.00	431.17	34.39
17	2000	6,897.48	472.30	630.37	40.24
18	2001	8,134.14	662.50	764.96	40.04
19	2002	11,332.25	764.90	930.49	53.02
20	2003	13,301.56	1359.30	1,096.54	59.99

21	2004	17,321.30	2112.50	1,421.66	77.99
22	2005	22,269.98	2900.10	1,838.39	98.88
23	2006	28,662.47	5120.90	2,290.62	140.79
24	2007	32,995.38	13181.70	3,680.09	154.61
25	2008	39,157.88	9563.00	6,941.38	192.91
26	2009	44,285.56	7030.80	9,147.42	154.92
27	2010	54,612.26	9918.20	10,157.02	349.55
28	2011	62,980.40	10275.30	10,660.07	389.09
29	2012	71,713.94	14800.90	14,649.28	438.87
30	2013	80,092.56	19077.40	15,751.84	489.45
31	2014	89,043.62	16875.10	17,131.45	549.53
32	2015	94,144.96	17003.40	18,675.47	468.41
33	2016	101,489.49	16185.70	21,082.72	395.95
34	2017	113,711.63	21128.90	22,092.04	364.28
35	2018	127,762.55	21904.04	22,521.93	378.95

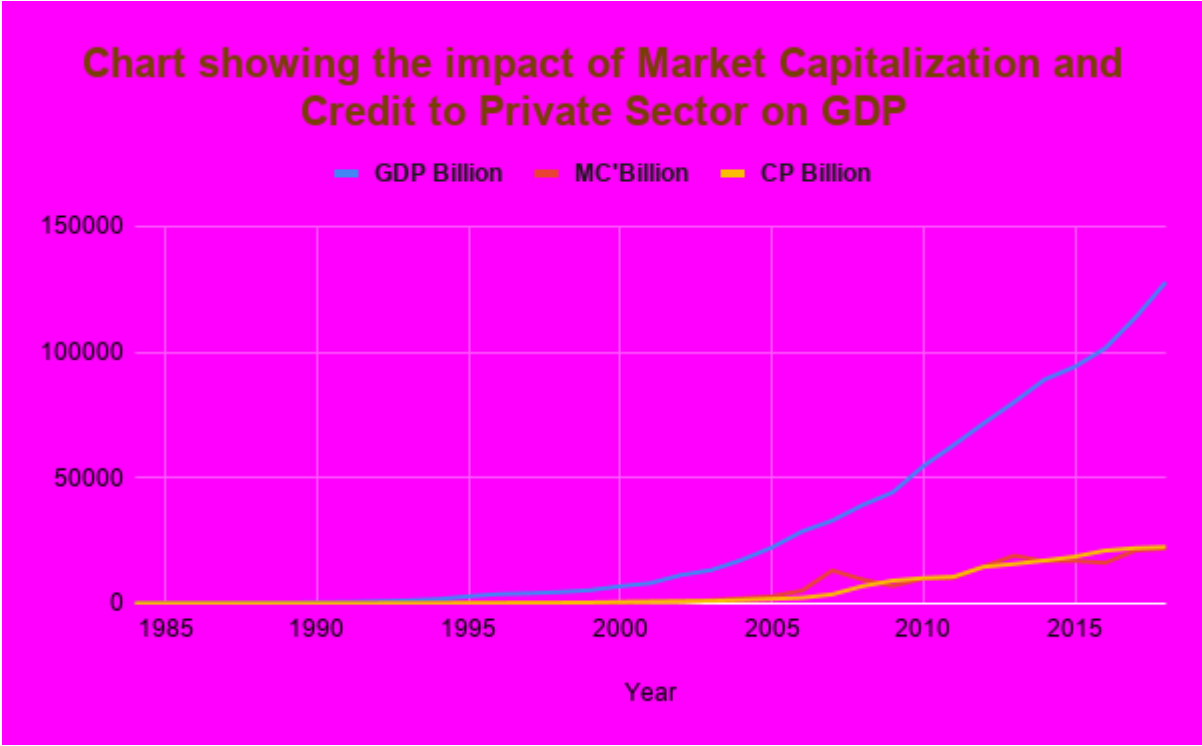


Chart showing the impact of Market Capitalization and Credit to Private Sector on National Income

