

Financial Market Instruments and Economic Development: A Dynamic Ordinary Least Square Approach

Chidi Wosu^{1*}, Memoye Suotor²

Abstract: This study examined the relationship between financial market instruments and economic development in Nigeria using a dynamic Ordinary Least Square approach. The variables engaged are per capita income (a proxy for economic development), bonds/debentures, commercial papers, certificates of deposit, equities (stocks) and treasury bills. The result revealed that all variables are positively related to per capital income except commercial papers, equities (stocks), bonds and debentures. The result indicates that is 0.634627 or 63 % meaning that when all else equal, the entire regression is 63 %. The Durbin-Watson value is 1.525566 and is close to 2 and is statistically significant at 5 % level of significance. The study concludes that financial market instruments have positive and significant effect on per capita income in Nigeria within the period under review and equally supports the view that financial market instruments plays more positive role in economic development of Nigeria financial system. The study recommends in line with the findings of the study that appropriate regulatory agencies in the financial market should be emphasized towards improving the efficacy and pellucidity of the market in order to advance investor's self-confidence as these has acted as the foremost setback in the Nigerian financial environment. There is the need to ensure that the channels of financial market induced growth are built around effective systems.

Keywords: Bonds, commercial paper, Equities (Stocks), stock market and Treasury bills

^{1,2} Department of Economics, Faculty of Social Sciences, Ignatius Ajuru University, Rumuolumeni, Port Harcourt, Rivers State, Nigeria

Correspondence: wosuchidi73@gmail.com¹

INTRODUCTION

Background the study

Financial market instruments drive economic development by channeling funds from savers to borrowers, funding infrastructure, and providing business liquidity. Key mechanisms include capital formation, risk management, and efficient resource allocation [1]. Financial market instruments drive economic

development by moving funds from savers to borrowers, funding business growth, and building public infrastructure [2]. Key instruments include treasury bills (short-term government debt), equities (company shares), and bonds (long-term loans). Financial markets are institutions or arrangements which facilitate the exchange of financial assets such as deposit and loans, stock and government securities [3]. The market is classified into money market and capital market. Financial markets are vital components of the financial system of every country. In Nigeria, the financial market constitutes primarily of money and capital market [4]. Capital market provides long-term funds with maturity period of over one year through bonds and equity, thus it serves as the mechanism by which the savings of surplus economic units may be used to finance medium and long-term investments [5]. Financial markets are vital components of the financial system of every country. In Nigeria, the financial market constitutes primarily of money and capital markets. Onyido opined that the money market primarily exists as a means of liquidity adjustment. In other words, it provides the mechanism for short-term funds of less than one year [6]. Economic development is regarded as the major goal of national policy in any economy, while capital accumulation or formation is also seen as a potent factor in the process of economic development [7]. It is regarded as the core process by which all other aspects of growth are made possible and feasible. Nevertheless, the rate of economic development is always limited by shortage of productive factor and if any scarce factor linked with development should be singled out, it will be finance. A key engine of economic growth and development of a nation is its capital. It impacts positively on the economy by providing financial resources through its intermediation process for the financing of long term project. The projects could be promoted by government or private sector institutions [8]. They are usually in such areas as infrastructure, agriculture, solid minerals, manufacturing, banking and other financial services and other real sector areas. Thus, without an efficient capital market, the economy may be starved of the required long-term fund for sustainable growth [9].

Statement of Problem

The pursuit to balance the financial disequilibrium that exists within an economy remains the center for the existence of financial markets. Financial markets is seen as an institutions or measures which expedites the exchange of financial assets such as deposit and loans, stock and government securities. The market is classified into money markets and capital markets. Numerous empirical reviews on the effect of financial market instruments on the performance of deposit money banks in Nigeria have shown conflicting findings. A number of the findings suggest a significant impact from financial market instruments especially the moderating effect of market capitalization. Despite the believe that economic development responds to financial market instruments variables, these studies have shown serious discrepancy to the direction of the impacts. This conflict makes it incredible to employ financial market instruments for sound deployment management and decision [10]. For instance, it was averred that all the financial market instruments it employed has a negative effect on economic development in both long and short run which suggests that growing financial market instruments and credit extension will rather impede economic development in Nigeria as against the believe from studies that financial market instruments boosts the performance of deposit money banks in Nigeria. The review had pointed out a strong divergence on the effect of financial market instruments on economic development in Nigeria. This discrepancy comes in the form of the direction of relationship as well as the level of significance of the effects [11]. Additionally some of the studies did not use the standard econometric methodology which leads to structural problems given the fact that the time frames considered in some of the past studies were short and not extensive enough and gave contradictory findings. These inadequacies have led to the gap in empirical literature hence necessitating more efficient study on the impact of financial market instruments on economic development in Nigeria [12]. The present study aims to include the entire core financial market instruments such as all share index, bonds/debentures, certificates of deposit, commercial papers, equities (Stocks) and Treasury bills to determine the actual effect of financial market instruments on economic development in Nigeria from 1980-2024.

METHODOLOGY

This study is anchored on the financial intermediation theory of Schumpeter which regarded financial markets and the operating institutions therein as recognized formal institutions that function to accelerate efficient fund intermediation at optimal prices foreseen for rapid performance of financial development. The theory investigated the varying capacities of financial markets and essential financial institutions to function in different standpoints. The theory was among the first to point out that banks expedite technological innovation in their role of financial intermediaries. Through this function, banks assemble savings, evaluate investment projects, monitor managers and expedite transactions and through these functions, banks are able to acquire detailed information about firms at a lower cost. Banks therefore become the authorized agents of the society to distribute savings to entrepreneurs and to innovate firms. Thus, Schumpeterian view is that the development of financial intermediaries has a direct influence on the pace of technical change and productivity growth thereby becoming the first articulated statement about how financial transactions take central stage in economic development.

Ismail, Bappayo, and Gombe found that government debt securities significantly enhanced Nigeria's economic growth by mobilizing domestic savings and reducing the economy's dependence on volatile oil revenues, though they cautioned that high short-term yields on treasury bills may divert resources from longer-term productive investments. Etsemitan study assessed the effect of financial market instruments on economic development in Nigeria. Precisely, the studies examined the impact of stock market instruments on standard of living in Nigeria. Econometric techniques, including Augmented Dickey Fuller and Philip Perron Tests for Unit Roots and Ordinary Least Square (OLS). The result of the study had shown that stock market instruments, debt instruments, commercial instruments and treasury instruments has positive and significant effect on per capita income. The study concludes that financial market instruments have positive and significant effect on standard of living of average in Nigeria citizen. We recommend that the relevant regulatory agencies in the capital market should be focused on enhancing the efficiency and transparency of the market in order to improve investor's confidence. The relevant regulatory agencies in the capital market should be focused on enhancing the efficiency and transparency of the market in order to improve investor's confidence, effective social economic and political institutions and this is a major setback in the Nigerian environment. There is the need to ensure that the channels of capital market induced growth are built around effective systems and that the policy institutions are actively involved in making systemic checks and appropriate policy innovations to ensure capital market led economic development and that government should try to give adequate publicities to the activities of the market, most especially emphasizing it as a source of cheap long-term funds compared to the money market for industrial growth that will ripple to economic development in Nigeria. Mbanefo noted that financial market provide institutional and instrumental framework that facilitates the mobilization of short to long term funds from the surplus units (savers and lenders) and allocate such mobilized funds to the deficit and real sector of the economy for productive purposes. The main objectives of this study is to examine the effect of financial market instruments on the economic development in Nigeria. The specific objectives are to determine, examine, ascertain and assess the effects of stock market instruments, debt instruments, commercial instruments and treasury instruments respectively on economic development in Nigeria which is proxied by per capita income. Econometric techniques including Augmented Dickey Fuller (ADF) and the Philip Perron Tests for Unit Roots and Ordinary Least Square (OLS) were applied on data sourced from the Stock Exchange Daily Official Listing (SEDOL) and fact book. The result of the study show that stock market instruments, debt instruments, commercial instruments and treasury instruments have positive and significant effect on Per Capita Income. The study therefore concludes that financial market instruments have positive and significant effect on per capita income and standard of living of average Nigerian. This study recommends that the relevant regulatory agencies for the capital market should focus on enhancing the efficiency and transparency of the market in order to boost and strengthen investors' confidence which had regrettably posed a major setback to the Nigerian business environment. Egbuche and Nzotta, explored the effect of stock market on manufacturing sector output in Nigeria between the period of 1981-2018 using

used sourced from Central Bank of Nigeria (CBN) Statistical Bulletin 2018. The dependent variable are the performance of manufacturing sector output, while, Market capitalization, total new issues, volume of transaction and equity stock were used as the independent variables. The study employed unit root test, to determine the stationarity of the variables, co-integration approach to determine the long run equilibrium relationship of the variables and Error Correction Model (ECM) to determine the speed of adjustment. Ordinary Least Square (OLS) method of data analysis was adopted. From the model it was found and concluded that stock market has a positive significant effect on the performance of manufacturing sector output. Olakanmi, ascertained the structural conduct of the Nigeria's capital market and the effect of its performance on manufacturing sector output in Nigeria. The study sought to identify how various factors like structural operations of the market and the environmental factors affect the performance of the market and its effect on the manufacturing sector output. The study adopted a time-series research design relying extensively on secondary data covering 1991 -2018. The study utilized the method of regression analysis, incorporating multivariate co-integration to examine the long run relationship between the dependent variable manufacturing sector output and the independent variables Market Capitalization (MC), Total New Issue (TNI), All Share Index (ASI) and Quoted Companies (QC). The result showed that three variables (MC, TNI, and QC) exhibited direct positive relationships, while ASI exhibited inverse and statistically insignificant relationship with manufacturing sector output. Nicodemus, Oluoch and Paul evaluated the impact of branchless financial innovation on Market capitalization of listed Commercial Banks in Kenya. The data obtained was cleaned; coded and statistical outputs generated using SPSS version 24 statistical packages. Descriptive and inferential analysis was employed to analyze the data where Pearson's and regression analysis were used. The findings revealed that branchless banking innovation had a statistically significant effect on the market capitalization of the listed commercial banks in Kenya. Odo, Anoke, Onyeisi, and Chukwu studied the impact of capital market indicators on economic growth in Nigeria from 1986 – 2016. The study adopted Auto Regressive Distributed Lag bound testing and VAR Granger causality econometric tools of estimation to test the variables in the model. The result of the estimation showed a stable long run relationship between the dependent and independent variables as supported by the greater bound value of 10.58. The result of the ARDL revealed that market capitalization has positive significant relationship with economic growth; also, stock traded total value indicated a negative insignificant link with economic growth, all in the short run. Ndugbu, Duruechi, and Josephine, examined the relationship between money market instruments and bank performance in Nigeria. The data for the study were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin and was analyzed with the e-view 7.1 statistical package in line with Ordinary Least Square (OLS) estimations. Results obtained showed that stationarity of the data were established with the Augmented Dickey Fuller (ADF) Unit Toot test, the Johansen Co-integration test indicated the existence of long-run relationship between the variables. Granger Causality as revealed by the Pairwise tests runs uni-directionally and bi-directionally from Performing Loans and Advances to Money Market Instruments. The Variance Inflation Factor test for multicollinearity shows that multi-collinearity is not severe and therefore can be tolerated. The ordinary least square model estimation revealed specifically that money market instruments (treasury bills, commercial papers, and federal government bond) have positive relationships and significant effects on bank performance in Nigeria. Kenn-Ndubuisi, and Henry investigates the effects of recapitalization on commercial banks survivals in Nigerian: pre and post camel analysis. The study used an Ex-post-facto research design comprising of pooled data which employs the use of secondary data covering a thirteen years period pre and post recapitalization using 10 out of the 25 banks that emerged after the transformation to test the effect of the reform. The result of the regression model of Minimum capital base on capital adequacy, asset quality, management quality and earnings quality and liquidity indicated an increase after recapitalization and consolidation but only Capital adequacy and management quality had a structurally difference with the increment.

RESULTS AND DISCUSSION

Model specification

The model used for the study was adapted from the work of Etsemitan who examined the effect of financial market on economic development in Nigeria [13]. The functional form is

$$PCI = f(SMI, DTI, CI, TR) \dots \dots \dots (1)$$

Where:

PCI = Per Capita Income, SMI = Stock Market Instruments, DTI= Debt Instruments, CI= Commercial Instruments and TI= Treasury Instruments

The econometric model is

$$PCI_t = \beta_0 + \beta_1 SMI_{t-1} + \beta_2 DTI_{t-1} + \beta_3 CI_{t-1} + \beta_4 TR_{t-1} + \mu_t) \dots \dots \dots (1)$$

PCI = Per capita income at time “t”, SMI = Stock Market Instruments at time “t”, DTI= Debt Instruments at time “t”, CI= Commercial Instruments at time “t” and TI= Treasury Instruments at time “t”

The model was adapted and modified. The functional model is

$$PCI = f(CIM, COD, BDS, EQS, TRI) \dots \dots \dots (3)$$

Where

PCI= per capita income, a proxy for economic development, CIM= Commercial papers, COD = Certificates of deposit, BDS = Bonds/debentures, EQS = Equities (stocks) and TRI= Treasury instruments [14].

The mathematical model is

$$PCI = \alpha_0 + \alpha_1 BDS + \alpha_2 COD + \alpha_3 CIM + \alpha_4 EQS + \alpha_5 TRI + \mu_t) \dots \dots \dots (4)$$

Where

PCI= per capita income at time “t” a proxy for economic development, BDS = Bonds/debentures at time “t”, CIM= Commercial papers at time “t”, COD = Certificates of deposit at time “t”, EQS = Equities (stocks) at time “t” and TRI= Treasury bills instruments at time “t”. α_0 and μ_t are the constant and error term respectively. $\alpha_1 - \alpha_5$ are the coefficient of financial market instruments on economic development in Nigeria [15].

DYNAMIC ORDINARY LEAST SQUARE ANALYSIS

Results and presentation

Table 1. Dynamic Ordinary Least Squares (DOLS) Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PCI	-13.79943	20.58077	-2.270501	0.0564
CMI	-0.031647	0.480333	-3.042263	0.0322
COD	3.043600	1.324521	3.060486	0.0540
BDS	-0.038771	0.466346	-2.043345	0.0335
EQS	0.043832	1.190097	2.144150	0.0453
TRI	0.029833	0.286868	2.131462	0.4688
$R^2 = 0.634627$	$F^* = 4.023326$	$DW = 1.525566$		

Source: E-view 9.0

The R^2 value is 0.634627. This means that 63% of total variation in per capita income (PCI) can be explained by the explanatory variable such as stock market instruments, commercial instruments, treasury instruments, equities (Stocks), bonds and debentures on per capita income while the remaining 37% is due to other stochastic variables [16]. The Durbin-Watson statistics of 1.525566 is within the critical threshold implying that the model is free from autocorrelation [17],[18].

Bonds/Debentures and Per capita income

Arising from the results of the DOLS, it was discovered that the coefficients of Bonds is -0.038771 units [19]. This means that an increases in Bonds/ debentures by -0.038771 units decreases per capita income by -0.038771 units. It appear negative and statistically significant at -2.043345 with the Prob value of 0.0335.

Commercial Papers and per capita income

From the results of the DOLS, it was observed that the coefficients of commercial instruments is -0.031647 units [20]. This means that an increases in commercial instruments by -0.031647 units decreases per capita income by -0.031647 units . The link appear negative and statistically significant at -3.042263 with the Prob value of 0.0322.

Certificates of Deposit and per capita income

From the results of the DOLS, it was observed that the coefficients of Certificates of Deposit 3.043600 units. This means that an increases in Certificates of Deposit by 3.043600 units increases per capita income by 3.043600 units [21]. It appear positive and statistically significant at 3.060486 with the Prob value of 0.0540.

Equities (Stocks) and per capita income

From the results of the DOLS, it was observed that the coefficients of Equities (Stocks) is 0.043832 units [22]. This means that an increases in Equities (Stocks) by 0.043832 units increases per capita income by 0.043832 units. It appear positive and statistically significant at 2.144150 with the Prob value of 0.0453.

Treasury instruments and per capita income

From the results of the DOLS, it was observed that the coefficients of Treasury instruments is 0.029833 units [23]. This means that an increases in Treasury instruments by 0.029833 units increases per capita income by 0.029833 units. It appear positive and statistically significant at 2.131462 with the Prob value of 0.4688[24] [25].

Stability Tests

Table 2. CUSUM Stability Test Results

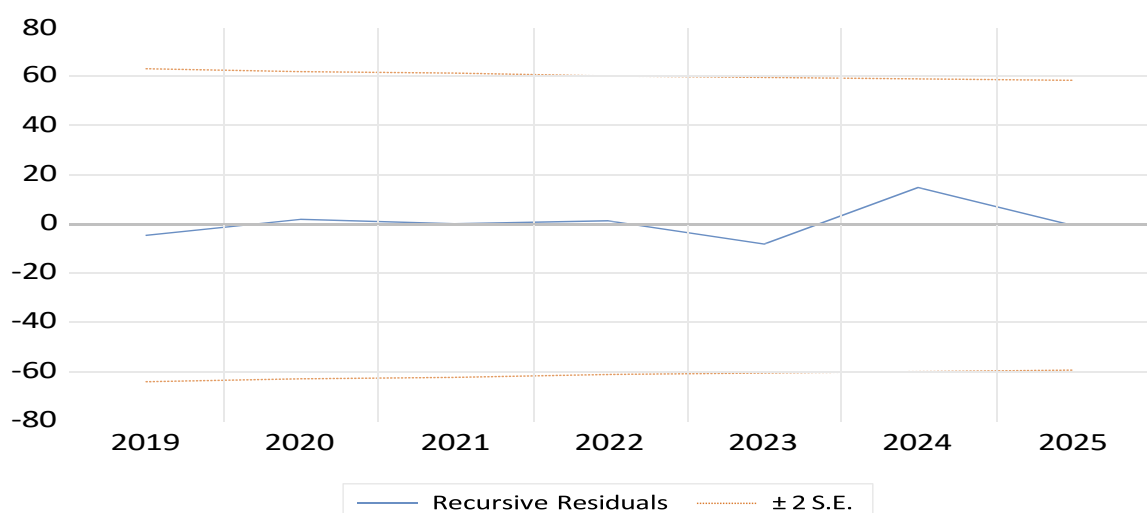
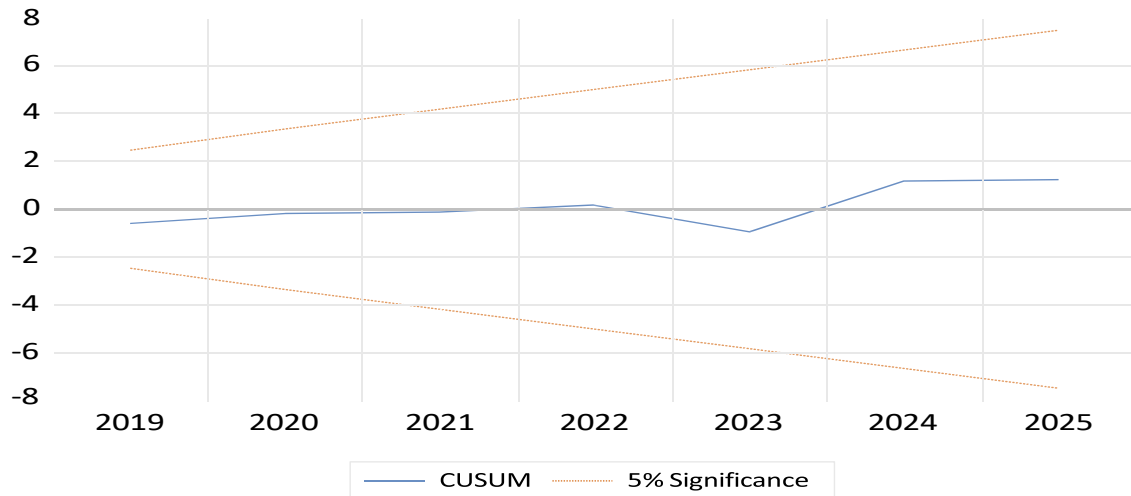


Table 3. CUSUM of Squares Stability Test Results

CONCLUSION

The result of the study had shown that financial market instruments such as certificate of deposit, equities, stock market instruments and treasury certificates has positive and significant effect on per capita income while bonds and commercial bank instruments has negative relationship but statistically significant on per capita income in Nigeria within the period under review and supports the view that financial markets play more positive role in economic development on Nigeria's financial systems. In line with the findings of the study, we recommend that the appropriate regulatory agencies in the financial market should be focused on improving the efficacy and limpidity of the market in order to advance investor's confidence. The relevant regulatory agencies in the financial market should be focused on boosting and improving the effectiveness and pellucidity of the market in order to improve investor's confidence to ensure that the channels of financial market impelled growth are built around effective systems and that the policy institutions are actively involved in making appropriate policy innovations.

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