

THE EFFECT OF STOCK MARKET ON ECONOMIC GROWTH IN NIGERIA

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Abstract

This study examines the effect of stock market on economic growth in Nigeria. Ordinary least squares regression (OLS) was employed using the data from 1989 to 2008. The results indicated that there is a positive relationship between economic growth and all the stock market development variables used. With 99 percent R-squared and 98 percent adjusted R-squared, the result showed that economic growth in Nigeria is adequately explained by the model for the period between 1989 and 2008. By implications 98 percent of the variation in the growth of economic activities is explained by the independent variables. The study affirmed positive links between the stock market and economic growth; and suggests the pursuit of policies geared towards rapid development of the stock market.

Keywords: Growth, market, stock, economic

Introduction

A well developed financial system is often at the centre of any modern free enterprise economy. An efficient financial system helps to increase the standard of living and thus the society's well-being, by providing an efficient system of allocation of available resources or funds for the production of goods and services. The financial markets bring together the savers and the investors and by interaction of these two groups in an open market, the accumulated aggregate savings are channelled into viable and most desirable investment for the growth and development of the economy. In financial markets, financial assets are exchanged. A stock market is a public market for the trading of company stock and derivatives at an agreed price; these are securities listed on a stock exchange as well as those only traded privately.

Mobilization of resources for national development has long been the central focus of development economists. The stock market is an economic institution, which promotes efficiency in capital formation and allocation.

The stock market enables governments and industry to raise long-term capital for financing new projects, and expanding and modernizing industrial/commercial concerns. If capital resources are not provided to those economic areas, especially industries where demand is growing and which are capable of increasing production and productivity, the rate of expansion of the economy often suffers. A unique benefit of the stock market to corporate entities is the provision of long-term, non-debt financial capital. Through the issuance of equity securities, companies acquire perpetual capital for development. Through the provision of equity capital, the market also enables companies to avoid over-reliance on debt financing, thus improving corporate debt-to-equity ratio.

Stock market and economic growth

In recent times there was a growing concern on the role of stock market in economic growth. The stock market is in the focus of the economist and policy makers because of the perceived benefits it provides for the economy. The stock market provides the fulcrum for

capital market activities and it is often cited as a barometer of business direction. An active stock market may be relied upon to measure changes in the general economic activities using the stock market index (Obadan, 1995). The stock market is viewed as a complex institution imbued with inherent mechanism through which long-term funds of the major sectors of the economy comprising households, firms, and government are mobilized, harnessed and made available to various sectors of the economy (Nyong, 1997). The development of the capital market, and apparently the stock market, provides opportunities for greater funds mobilization, improved efficiency in resource allocation and provision of relevant information for appraisal (Inanga and Emenuga, 1997).

There is a boom in the developed and emerging stock market with a substantial part of the growth accounted for by the emerging market. The reasons adduced for this are that: one, investing firms enjoy lower cost of equity when the stock market functions efficiently; two, the opportunity to trade securities and also hedge allows for relative reduction in risk; three, the ability of the market to adjust share prices almost instantaneously imposes control on the investment behavior of firms; and lastly, countries that are desirous of foreign investment are able to secure it, through the stock exchange (Demirgüç-Kunt and Levine, 1996).

Stock market contributes to economic growth through the specific services it performs either directly or indirectly. Notable among the functions of the stock market are mobilization of savings, creation of liquidity, risk diversification, improved dissemination and acquisition of information, and enhanced incentive for corporate control. Improving the efficiency and effectiveness of these functions, through prompt delivery of their services can augment the rate of economic growth.

At any stage of a nation's development, both the government and the private sectors would require long-term capital. For instance, companies would need to build new factories, expand existing ones, or buy new machinery. Government would also require funds for the provision of infrastructures. All these activities require long-term capital, which is provided by a well functioning stock market.

Stock market may also affect economic activities through the creation of liquidity.

Liquid equity market makes available savings for profitable investment that requires long-term commitment of capital. Hitherto, investors are often reluctant to relinquish control of their savings for long periods. As asserted by Bencivenga, Smith and Starr (1996), without liquid capital market there would be no industrial revolution. This is because savers would be less willing to invest in large, long-term projects that characterized the early phase of industrial revolution.

Closely related to liquidity is the function of risk diversification. Stock markets can affect economic growth when they are internationally integrated. This enables greater economic risk sharing. Because high return projects also tend to be comparatively risky, stock markets that facilitate risk diversification encourages a shift to higher-return projects (Obstfeld, 1994). The resultant effect is a boost in the economy leading to growth through the shifting of society's savings to higher-return investments. Accelerated economic growth may also result to acquire information about firms. Rewards often come to an investor able to trade on information, obtained by effective monitoring of firms for profit. Thus, improved information will improve resource allocation and promote economic growth.

Demirguc-Kunt and Levine (1996) observed that there are some channels through which

liquidity can deter growth: Firstly, savings rate may be reduced, this happens when there is increasing returns on investment through income and substitution effect. As savings rate falls and with the existence of externality attached to capital accumulation, greater stock market liquidity could slow down economic growth. Secondly, reducing uncertainty associated with investment may impact on savings rate, but the extent and the direction remain ambiguous. This is because it is a function of the degree of risk-averseness of economic agents. Thirdly, effective corporate governance often touted as an advantage of liquidity of stock market may be adversely affected. The ease with which equity can be disposed off may weaken investors' commitment and serves as a disincentive to corporate control and vigilance on the part of investors thereby negating their role of monitoring firm's performance. This often culminates in stalling economic growth.

Edo (1995) asserts that securities investment is a veritable medium of transforming savings into economic growth and development and that a notable feature of economic development in Nigeria since independence is the expansion of the stock market thereby facilitating the trading in stock and shares. Osinubi (1998) reported that Harry Johnson in 1990 recognized that one of the conditions of being developed pertains to having a large stock of capital per head, which must always be replaced and replenished when used up. Where this is lacking the condition of being under developed prevails. The Structural Adjustment Programme (SAP) promoted by the World Bank and the International Monetary Fund, embarked upon by the developing countries, according to Soyode (1990) emphasized that self-sustained growth process requires substantial investible resources, which are readily available at the stock market.

Model formulation

The linkage between stock market and economic growth has occupied a central position in the development literature (see Samuel, 1996; Demirguc-Kunt and Levine, 1996; Akinifesi, 1987; Levine and Zervos, 1996; Obadan, 1998; Onosode, 1998; Emenuga, 1998; Osinubi, 1998). In examining this on Nigeria's data, the study use the neoclassical growth model, otherwise referred to as the growth accounting framework, to explain the source of growth in an economy. The national accounts form the basis of the economies to be analyzed and it is used in conjunction with the aggregate production function. This approach has got a wide application in econometric analysis (for example, Akinlo and Odusola, 2000; Levine and Zervos, 1996; Obstfeld, 1994).

Using a production function approach, it states that the growth rate of output (GDP) is principally determined by the following factors: the rate of growth of gross labor and/or the rate of growth of its quality, multiplied by the labor income share; the rate of growth of gross capital input and/or the rate of growth of its quality, multiplied by the capital income share; and change in technology or total factor productivity (TFP).

This is given as: $g = f(L, K, T)$ (1)

Where: g = growth of GDP

L = labor

K = capital formation / investment

T = technology

The application of this method, however, has been extended to incorporate other determinants of economic activities such as financial sector development (proxy: by stock market development index); trade (openness); debt overhang; state of political stability; public policy (proxy: by public investment); and country/ policy dummies (for example, Collier and Gunning, 1998; Demirguc-Kunt

and Levine, 1996; Emenuga, 1998; Filler et al., 1999).

In line with the above specification, our model is specified thus:

$$g = f(gpci, cmi, gk, pce, debthang, openes, polca, sapd) \dots \dots \dots (2)$$

Where:

g = growth rate of GDP;
 gpci = growth rate of per capita income;
 cmi = capital market index proxy by growth of market capitalization (glmcap), new issues (ni), and growth of value traded ratio (grv)

gk = gross capital formation;
 pce = public capital expenditure;
 debthang = debt overload proxy by export - GDP ratio;
 openes = openness proxy by the sum of export and imports as a ratio of GDP;
 polca = political dummy (coup or no coup);
 and
 sapd = Structural Adjustment Programme dummy (changes in government policy).

The estimate form of the model is as given below:

$$g = (\alpha_0 + \beta_1 gpci + \chi_2 cmi + \delta_3 gk + \phi_4 pce + \gamma_5 debthang + \eta_6 openes + \square_7 polca + \psi_8 sapd + \epsilon_t) \dots \dots \dots (3)$$

Where α_0 , β_1 , χ_2 , δ_3 , ϕ_4 , γ_5 , η_6 , \square_7 , ψ_8 are the parameter estimates and ϵ_t is the error term. Equation 3 will be estimated using ordinary least squares technique (OLS). The equation will also be subjected to a dynamic estimation, using the lagged structure of the variables. There will be the determination of the existence of substantial co-movements among time series variables. The reason for this is that when the dependent and independent variables have unit roots, traditional estimation method, using observations on levels of those variables, would likely find a statistically significant relationship, even when meaningful “economic” linkage is absent (Akinlo and Odusola, 2000).

To determine the time series properties of the variables the data will be subjected to Augmented Dickey-Fuller Unit Root Test (Dickey and Fuller, 1981). The Uni-variate time series behavior will therefore be determined.

This study used data covering 1989 to 2008 mainly from the secondary sources on the Nigerian economy and the Nigerian stock market. The choice of these secondary sources is based on their authenticity and reliability. The sources are the Nigerian Stock Exchange Fact Book 2008, The Nigerian Stock Exchange Annual Report and Accounts (for various years), Central Bank of Nigeria Statistical Bulletins and Federal Office of Statistic Statistical Bulletin.

Regression results

Explaining the process of economic growth is an intricate issue. This is because many variables can be used to explain economic growth. However, the link between stock market development and economic growth is derived from the services the stock market provides to the economy as a whole. For instance, it helped in mobilizing resources in the economy and allocates such resources in the most efficient ways to competing sectors of the economy.

The confirmation or otherwise of this assertion as pertains to Nigeria, for the period between 1989 and 2008, was set out in a model of four equations which has as its dependent variables the growth rate of gross domestic product (g).

In the model some variables are common to all the equations and they served as the control variables. These variables are per capita income (**pci**), political stability (**polca**), gross capital formation (**gk**), lagged growth rate GDP and SAP dummy (**sapd**).

$$g = \alpha_0 + \beta_1 dgpci + \chi_2 dgpci (-1) + \delta_3 dgk (-1) + \phi_4 gy (-1) + \gamma_5 grv (-1) + \eta_6 polca + \psi_7 sapd + \epsilon_t \dots\dots\dots 4$$

In equation 4, the lagged growth in value traded ratio (grv) and the growth in gross domestic product (g) showed positive relationship such that an increase in value

traded ratio will lead to 1.85 increases in growth rate of the GDP. This conforms to theory but the statistical significance is low. The results are contained in Table 5.

$$g = \alpha_0 + \beta_1 dgpci + \chi_2 dgpci (-1) + \delta_3 dgk (-1) + \phi_4 gy (-1) + \gamma_5 dni (-1) + \eta_6 polca + \psi_7 sapd + \epsilon_t \dots\dots\dots 5$$

The use of new issues (which was lagged: dni) as an indicator of stock market development in equation 5 also indicated the existence of a positive relationship with economic growth as expected. Though the result is in line with the

theoretical proposition, the statistical significance of the relationship could not be established. The results are contained in Table 5.

$$g = \alpha_0 + \beta_1 dgpci + \chi_2 dgpci (-1) + \delta_3 dgk (-1) + \phi_4 gy (-1) + \gamma_5 glmcap + \eta_6 polca + \psi_7 sapd + \epsilon_t \dots\dots\dots 6$$

Growth in market capitalization, as reflected in equation 6, also conforms to the theory by showing a positive relationship, but is very

weak both in parameter estimates and statistical significance. The results are contained in Table 5.

$$g = \alpha_0 + \beta_1 dgpci + \chi_2 dgpci (-1) + \delta_3 dgk (-1) + \phi_4 gy (-1) + \gamma_5 glmcap + \eta_6 polca + \psi_7 sapd + \square_8 gpcexp + \mu_9 debtexpot + \partial_{10} ar (1) + \epsilon_t \dots\dots\dots 7$$

The pattern followed by other equations was also reflected in equation 7. The introduction of growth in public capital expenditure showed that there is positive relationship between public capital expenditure and economic growth. This relationship is however, not statistically significant. Debtexpot, a proxy for debt overhang, is nevertheless statistically

significant though the positive relationship is weak. The results are contained in Table 5. Generally, there is a positive relationship between per capita income and economic growth. The model proved this to be statistically significant in all the equations at one percent level. Also, political instability (polca) conforms to theoretical explanations of

negative relationship with economic growth. The period between 1980 and 2000 witnessed more of political instability than stability, thereby resulting in a negative relationship with growth. Furthermore, the Structural Adjustment Programme (SAP) dummy used shows a positive relationship with the growth of economic activities. The relationship is however, not statistically established, even at 10 percent level.

With 99 percent R-squared and 98 percent Adjusted R-squared, the result indicated that economic growth in Nigeria is adequately explained by the model for the period between 1989 and 2008. By implications 98 percent of the variation in the growth of economic activities is explained by the independent variables.

Table 1: Regression Results

Variables	Equation 4	Equation 5	Equation 6	Equation 7
Constant	0.222 (1.515)	0.222 (1.506)	0.087 (1.929)	0.455 (3.209)
DGPCI	0.002 (13.477)*	0.002 (14.534)*	0.002 (28.107)*	0.002 (15.308)*
DGPCI(-1)	0.001 (1.196)	0.001 (1.1586)	6.780 (0.143)	0.001 (2.585)
POLCA	-0.000 (-0.603)	-0.000 (-0.528)	-0.001 (-0.577)	-0.000 (0.299)
DUMMY	0.001 (0.771)	0.001 (0.940)	0.001 (0.389)	0.001 (0.723)
DGK(-1)	1.430 (1.177)	1.620 (1.180)	1.340 (0.992)	3.400 (2.311)
GY(-1)	0.779 (5.343)	0.779 (5.341)	0.910 (19.072)	0.543 (3.840)
GRV(-1)	1.850 (0.341)			
DNI(-1)		2.210 (0.357)		
GLMCAP			0.004 (0.529)	0.001 (0.183)
GPCEXP				2.210 (0.263)
DEBTEXPOT				0.001 (2.437)
AR(1)				0.226 (2.135)
R-squared	0.993	0.993	0.992	0.995
Adjusted R-squared	0.982	0.982	0.985	0.983
S.E. Regression	0.001	0.001	0.001	0.001
Sum of squared	8.220	8.200	1.160	5.150

residual				
Durbin-Watson statistic	1.25	1.300	1.446	1.603
Mean Dependent variable	1.007	1.08	1.007	1.008
S.D. Dependent variable	0.009	0.009	0.010	0.009
F-statistic	90.077	90.39	130.925	78.627
Prob.(F-statistic)	0.00	0.00	0.00	0.000

Note: t-values are in parenthesis

* indicates significance at 1 percent

Findings and conclusion

The study examines the effect of stock market on economic growth in Nigeria between the period 1989 and 2008. The study, from the regression results, confirms that there exist positive relationship between the economic growth and the measures of stock market development used. However, these relationships are statistically insignificant. This in essence means that the effect of stock market on economic growth is weak and insignificant. This is in line with Alile (1984) assertion that the Nigerian stock market contribution to gross fixed capital formation was very minimal fluctuating between 2.9 percent and 15.3 percent between 1971 and 1980.

This result is a reflection of the structural rigidities prevailing in the economy which makes the stock market more of an appendage of the government institutions rather than a market driven by efficiency through the interplay of the forces of demand and supply. This is even more pronounced in the nonchalant reactions of the stock market index to shocks in the economy contrary to what obtain in the developed economies. To buttress this point, the neutrality of the dummy used to represent government policy, (the Structural Adjustment Programme) showed the degree of

insensitivity of stock market development to macroeconomic and sectoral policies.

The overbearing influence of the per capita income in the model indicates that an increase in per capita income is very crucial for economic growth and it may increase savings, which may in turn help in boosting stock market activities, other things remaining the same. The place of political stability is well pronounced by the result. For an economy to growth there must be political stability, which was lacking in the period covered by the study. Political stability helps in instilling confidence in the market operators thereby enhancing the development of the market.

Another major outcome of the study was the fact that the stock market during the period was faced with legislation and policy instability. Thus, the enabling environment was not so conducive and this partly affected the activity of the market and its slow development as witnessed during the period under study. The attractiveness of the stock market as a veritable source of funds was therefore jeopardized.

The results of the study invariably showed that some serious policy issues will have to be put in place to promote stock market development

and stimulate economic growth. For example, the liberalization of restriction on portfolio and dividend flow must be high on the agenda of reform (Nyong, 1997). Also, the international integration of the stock market must be vigorously and relentlessly pursued.

Recommendations

The findings from this study raise some policy issues and recommendations, which will reinforce the link between the stock market and economic growth in Nigeria.

Given that the stock market operate in a macroeconomic environment, it is therefore necessary that the environment must be an enabling one in order to realize its full potentials. The demand for the services of the stock market is a derived demand. With the existence of a positive relationship between stock market development and economic growth, it is pertinent to recommend that there should be sustained effort to stimulate productivity in both the public and private sectors. The determination of stock prices should be deregulated. Market forces should be allowed to operate without any hindrance. Interference in security pricing is inimical to the growth of the market.

The stock market is known as a relatively cheap source of funds when compared to the money market and other sources. The cost of raising funds in the Nigerian market is however, regarded to be very high. There should be a review downward, of the cost, so as to enhance its competitiveness and improve the attractiveness as a major source of raising funds.

Considering the benefits being enjoyed by the stock market through the internationalization of its operations, there should be no policy-turn around but a sincere pursuit of this policy.

Though the recent legislations on the stock market have been hailed in many quarters as one of the best thing to happen to the stock market in recent times, there are still some gray areas. For instance, the removal of the double taxation effects on the returns of the investors in the stock market must be effected if the market is to develop as envisaged.

Given the present political dispensation, all the tiers of government should be encouraged to fund their realistic developmental programmes through the stock market. This will serve as a leeway to freeing the resources that may be used in other sphere of the economy.

The stock market promotes economic growth in Nigeria. It serves as an important mechanism for effective and efficient mobilization and allocation of savings, a crucial function, for an economy desirous of growth. The Nigerian stock market has a bright prospect given the recent policy direction especially the abrogation of all laws that hitherto hamper its effective and efficient functioning. Also, the internationalization, the improvement in the infrastructural facilities in the market in line with what obtains in the developed market and also the present democratic dispensation will all work individually and jointly to ginger the prospect of the stock market.

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