Appraisal of the Effect of Savings on Stock Market Development in Nigeria

Nsofor Sabina Ebele Caritas University Amorji-nike Emene, Enugu State

Abstract

Mobilization of savings has been regarded as a veritable factor in stock market development and a crucial variable for development economists. The attainment of efficient developed stock market as a stimulus to economic growth in Nigeria may lack adequate viability without desired level of savings. The objective of this study was to empirically appraise the impact of savings on the Nigerian stock market development from 2001 to 2010. Data for the study were gathered from central bank of Nigeria statistical bulletin. From Ordinary Least Square (OLS) regression model, findings show that savings has significant and positive impact on stock market development in Nigeria.

Keywords: savings, stock market, development

1. Introduction

As a crucial variable of financial and economic development, economists and policy makers have accorded a great attention to savings owing to its importance in the development of the financial system, particularly stock market as well as in nation building. Economic development is regarded as the foremost goal of national policy in any economy. Rapid savings accumulation and tuning it through better resource allocation can foster economic growth in the long run through stock market. Through mobilization of domestic savings, long term funds are gathered from surplus to deficit sectors of the economy by provision of facilities to the public for purchase and sale of financial instruments of various kinds. Required funds are not only provided for investment but are efficiently allocated to projects of best returns to fund owners. Absence or inadequate provision of fund to those areas, especially industries where demand is growing and which are capable of increasing production and productivity, retards the rate of economic development.

While accumulation of savings is seen as a powerful factor in the process of stock market development; it is regarded as the core process by which all other aspect of growth is made possible and feasible. Notably, stock market development is an important function of savings mobilization; hence mobility of domestic savings is an important prerequisite for capital accumulation and stock market development. In underdeveloped and emerging economies, a vicious cycle of poverty (low income, low savings, low investment and in turn, low income, ...) will recur continually if individual savings are not invested to income generating assets to enhance their earnings and improve their standard of living. Without the possibility for households to have a secure place to save their accumulated income, they would be forced to have it in another form of wealth rather than cash. In line with the above, Saksouk and Pires, (2007) opines that stock market serves as a secure venue where individuals invest their accumulated income, without which they would be forced to have it in the form of wealth rather than cash. This will result in most of the income in an economy being converted into illiquid securities with low risks and low return. As savings are mobilized, it is channeled to financial institutions for investment. Particularly, stock market acts as one of the conduit pipes through which the accumulated savings are invested in various types of financial instruments for future returns and subsequent intermediation to deprived units.

The efficiency and effectiveness in performing the intermediation function is limited by the low level of banking habit witnessed in most developing economies' including Nigeria which have resulted in the under- performing of these countries' economies. Hence, the benefits which could accrue to nations as a result of creating national banking awareness have eluded such nations as a result of poor banking habit resulting from lack of illiteracy. Low level of savings by the populace poses influence on stock market development. This could be attributed to several factors. Nigeria as a developing country is characterized by unemployment, low per capita income, retrenchment of staff, and nonpayment of salary and as at when due, even where these employees are under paid, high rate of inflation, low capacity utilization and all sorts of bottleneck that hinder savings. In fact, over 70% of populace lives in poverty (Sanusi, 2010). Nigerian economy consists of individuals who either consume or save from their meager income or firms that borrow unconsumed income as loans and invest. It means that whenever individuals and firms save, capital is generated. This income is either consumed and the remaining part saved. As they save, borrowers will borrow from this pool of savings in order to invest. The amount of savings by institutional and individual investors determines the amount of capital flow to stock market.

The achievement of high rate of domestic savings in the long run is necessary for effective functioning of policy instruments. Availability of savings for profitable investment that requires long-term commitment of capital is necessary for adequate market activity. The surplus in savings-investment gap can be filled through increase in both the public and private savings. The public saving is expanded through policy instruments such as; the government surplus budget; tackling inflation, creating employment, monetary policy measures and savings via government-linked companies. The private saving, on the other hand, is heavily contributed by the National Provident Fund (NPF), which is forced-saving scheme primarily aimed at providing for retirement needs. The voluntary private saving is mobilized through commercial banks, finance companies and insurance companies with stock market known function of channeling savings to investment. The increase in investment enhanced aggregate output and national income, which in turn induce further savings. The future repercussions of economic reform suggest likely implications for future saving, investment, and international capital flows (Dekle, 1996).

The rest of the paper is organized as follows; section II provides a brief theoretical review on the impact of savings on stock market development. Section 111 provides empirical review while Section IV presents the methodology and describes the data for the analysis. Data were analyzed and empirical results presented and discussed in section V. Section V1 summarizes and concludes the paper.

11. Theoretical Review

It is extremely important to understand the significance of savings in stock market development with its empirical linkage to economic growth. The increasing relationships between savings and stock market development has been acknowledged in academic literature including the studies of

(Laurencesen, 2001, Osinubi, 1998, Yartey and Adjasi, 2007, Ben Naceur et. al. 2007, Cherif and Gazdar, 2010) and linkage between stock market development and economic growth (Adefeso, et.al. 2013, Nyong, 1997, Filler, et. al. 1999, Deb and Mukherjee, 2008, Ujunwa and Salami, 2010, Shabbaz, et.al. 2008, Kirankabes and Basarir, 2012, Ezeoha, et. al. 2009, Adenuga, 2011, El Wassal, 2005, Riman, et. al. 2008, Chakraborty, 2010) have been acknowledged in literature over the years. Hence, mobilization of resources for national development has long been the central focus of development economists. As a result of this, emphasis on savings and investment in economic growth has been given great consideration (Demirguc-Kunt and Levine, 1996).

However, financial institutions exist to perform the intermediation role of mobilizing scattered savings in the country and channeling same to stock market for investment and eventual development in the economy. Accordingly, the development of financial sectors has followed a trend beginning with channeling savings and investments through banks followed by the development of capital markets as savers search for higher returns and firms seek cheaper capital (Kibuthu, 2005). Domestic savings are channeled through Commercial Banks while some seek investment in stock market. In this view (Saksouk and Pires, 2007) affirm that one of the roles of a financial system is to act as the entity allowing for the secure deposits of savings from the households. Ordinarily, the majority of a population is expected to have short term liquidity needs, less than the full amount of deposits. Thus, a portion of these savings can be offered for investments.

Moreover, the quantum of money and participation of these households will generate an increase in the amount of money saved in an economy, which in turn will mean more capital available for investments and growth. Ilmolelian, (2005) asserted that the increased wealth of local investors is likely to induce an expansion of their consumption, encourage domestic production and investment. Ojo and Adeusi (2012) observed that market capitalization increases as total new issues increases as a result of increased domestic savings channeled into investment to boast economic activities level.

Without a doubt, boosting domestic savings is likely to induce stock market and economic growth by increasing the quantity and the quality of investment. It will also induce stock market investment by providing individuals with sets of financial instrument to suit their choice of risk preferences and liquidity needs. In doing so, an important source of investment capital is obtained at relatively low cost (Dailami and Aktin, 1990). Through the mobilization of capital, financial markets and institutions create small denomination instruments that provide opportunities for households to hold diversified portfolios, invest in firms, and increase their asset liquidity (Yartey and Adjasi, 2007). Hence, without pooling of resources, the stock market may be starved of the required long-term fund for sustainable growth and households would have to hold their wealth in form of cash without return. Therefore, to arrest this situation, effort must be geared towards effective resources mobilization. Pooled resources of individuals are chanelled to financial sector which acts as an efficient intermediary and provides incentives for individuals because these savings are converted into credit for borrowers (Caporale, et. al. 2004).

By mobilizing financial capital, households are able to widen their risk diversification and liquidity preferences and in turn promote the productive sector of the economy by inducing efficient resource allocation.

For sustainable growth and development, funds must be effectively mobilized and allocated to enable businesses and the economy harnessed their human, material, and management resources for optimal output (Osinubi, 1998). As the stock market mobilizes savings, it concurrently allocates a larger proportion of it to the firms with relatively high prospects as indicated by its rate of returns and level of risk (Beck and Levine, 2004).

Saving accumulation is a distinguishing feature of development and ingredient for urgent revamp and transformation of declining stock market. This view supports the importance of savings as agent for growth hence Yartey, (2008) emphasized that stock market is improved through physical capital accumulation and allocation of savings among competing uses which are critical to the growth and efficiency of the economy. Domestic Savings accelerate economic growth through boosting stock market. It also increases quantity of investment and improves that investment. Liu and Garcia, (1999) affirm that the larger the savings, the higher the amount of capital flows through stock markets. In the above scenario, it is sufficient to say that better savings mobilization may increase the rate of savings into stock market for effective market activities. Absence or inadequate provision of fund to those areas, especially industries where demand is growing and which are capable of increasing production and productivity, retards the rate of economic development. Without adequate savings mobilization, stock market activities will cripple.

Equality of savings and investment

Equality of savings and investment has gained a considerable debate in literature. The link between savings and investment is becoming increasingly debated. Undoubtedly, there is a link but the argument that savings is equal to investment does not hold. Economic effect of savings is to reduce consumers' demand for goods and services. Consumers can reduce their propensity to consume by denying themselves of some purchasing power in order to voluntarily save. The implication of this is that the factors of production are released when there is saving. These factors of production are then used for the production of capital goods-investment. The rationale behind this view is that it is only planned savings that is equal to planned investment. That portion of savings not planned is probably consumed. Notably, regarding this work, not all saving are channeled to market based financial system for investment.

Contributing to the debate and in effort to reconcile the two views, Sir Dennis Robertson in his **period analysis** opined that in a monetary economy, savings at a particular period does not equal investment. He explained that income earned in one period may become available for savings and consumption in the next period, thus making it possible for investment to be greater than savings in one period. A similar opinion was held by group of economists- Scandinavian school lead by Professor B, Ohlin. Recognizing the fact that savings and investment are undertaken by different group of people a distinction was drawn between proposed level of saving and investment(the ex ante savings and ex ante investment) on one hand and the actual or realized saving and investment(ex post saving and ex post investment) on the other. They argued that at a proposal stage, it is unlikely that the projected savings will be equal to the projected investment but that the realized (actual) savings will be equal to the investment actually undertaken when the plan are fully carried out. If the proposed investment was smaller than the proposed saving and this proposed investment was greater than proposed saving. The reverse would be the case if proposed investment was greater than proposed saving. The summary of this view is, ex ante saving is not likely to be equal to ex ante investment, ex post saving must be equal to ex post investment and ex post saving is not likely to be equal to ex ante saving.

111. Empirical Review

Several papers highlighted empirically the effect of savings on stock market development. (Andrianaivo and Yartey, 2009, Yartey, 2008) found that domestic savings among other macroeconomic variables determines stock market development in Africa. Adjasi and Biekpe (2005) found a significant positive impact of stock market development on economic growth in developed countries through savings enhancement. Yartey and Adjasi, (2007) revealed that savings determine stock market development. Liu and Garcia (1999) examined the macroeconomic determinants of stock market development in a sample of Latin American and Asian countries using pooled data from 15 industrial and developing countries from 1980 to 1995. The paper revealed that, real saving rate among other macroeconomic variables as important determinants of stock market capitalization.

Ben Naceur, et. al., (2007) investigated the role of stock markets in economic growth using an unbalanced panel data from 12 Middle Eastern and North African (MENA) region countries. They stressed further on the

macroeconomic determinants which according to them must have an important influence on stock markets development. It was found that savings rate among other macroeconomic variables are important determinants of stock market development. Kalim and Shahbaz (2009), found a positive significant relationship between Domestic Savings and Stock Market Development. This is supported by the study of Maku and Atanda (2010) which examined the long run performance of stock market development in Nigeria from 1984-2007. Result revealed that the stock market performance in Nigeria is mainly determined by macroeconomic forces in the long-run.

Asongu (2010) study brings light to some financial intermediary development factors that could negate stock market development, as well as those that could improve it. He found that banks support stock market by pooling savers deposits to firms which are subsequently channeled to security market through equity issue. Raza, et. al., (2012) aims to investigate the effect of foreign direct investment along with domestic savings in developing Pakistan stock markets applying Ordinary Least Square (OLS) method of regression by using annual time series data for the period 1988-2009. With Domestic Savings, the results show that with an increase in Domestic savings the Stock Market Development increases by 1.356. Thus, domestic savings has a positive impact over stock market development. Ali et. al., (2015) examined the macroeconomic indicators of stock market development with annual data from 1973 to 2012. Gross domestic savings, used a explanatory variable was modeled on stock market capitalization. The study employed Philips and Perron Test for stationary measures after which ARDL to co-integration technique was employed to measure relationship in short run and in long run in our analysis. The ARDL to Co-integration results showed that Gross domestic savings positively contribute to the development of stock market in Pakistan in both short run and long run.

Kanu and Ozurumba (2014) regressed the impact of national savings on growth for the period 1981- 2011. Using multiple regressions technique was employed. It was ascertained that there exists an inverse relationship between Total National Savings and economic growth while GDP was seen to have a unidirectional causal relationship with total national saving. Aduda, Masila and Onsongo (2012) investigated the determinants of development in the Nairobi Stock Exchange. Secondary data for the period 2005-2009 was used to model the factors influencing the development of the NSE. They regressed the impact of savings on stock market growth. The results found that, domestic savings is important determinants of stock market development in the Nairobi Stock Exchange.

Quartey and Gaddah (2007) modeled the effect of saving on stock market development using the Johansen's co-integration procedure. Quarterly data from 1991 to 2004 was obtained. The paper finds that gross domestic savings causes stock market development. The study of Cherif and Gazdar (2010) made use of data from 14 MENA countries over the period of 1990-2007. Employing both panel data and instrumental variable techniques, found that saving rate positively influence stock market development. Adopting co-integration and error correction mechanism (ECM), Ita, et. al., (2010) found that savings rate is a significant indicator of stock market development in Nigeria from 1970 -2007. Secondary data from the Central Bank of Nigeria Statistical Bulletin was used.

Ben Naceur, et. al., (2007) conducted empirical study using an unbalanced panel data from 12 Middle Eastern and North African (MENA) region countries. It was found that stock savings rate is important determinant of stock market development. Ita and Duke II (2013) investigated macroeconomic factors that influence stock market development. A co-integration and error correction model was employed on macroeconomic data from Nigeria and the results suggest that factors such as national savings rate influenced stock market development during the period 1970-2011. Results from the Chow test suggested that there was no structural break in stock market development after the introduction of the Structural Adjustment Programme in 1986. Ikechi and Anayochukwu (2014) investigated the impact of capital formation on the economic growth of Nigeria using multiple regression technique. It was ascertained that in the short run, gross fixed capital formation had no significant impact on economic growth; while in the long run; the VAR model estimate indicates that gross fixed capital formation had positive long run relationships with economic growth in Nigeria. It was equally ascertained that there exists an inverse relationship between imports (IMP), Total National Savings (TNSV) and economic growth; while GDP was seen to have a unidirectional causal relationship with export (EXP), Gross fixed capital formation (GFCF), Import (IMP) and Total national saving (TNSV).

Ali and Aamir (2014) regressed gross domestic savings on growth with panel data from five East Asian countries for the period of 1991 to 2011. Results show that GDP per capita is significantly explained by gross domestic savings as percentage of GDP (GDS). The study of Al-Mamun (2013) on the effect of macroeconomic and market specific dynamics on stock market development in global growth generator countries found that gross

domestic savings has statistically positive long run relationship with stock market growth under Mean Group (MG) model, though under Dynamic Fixed-Effect (DFE) such findings no longer holds true. According to him, the contrary result is due to the inner methodological differences as generally increase in domestic savings should have improved the potential for growth of stock market.

IV. Methodology

The study made use of time serial data of 10 years period from Central Bank of Nigeria statistical bulletin and the Nigerian Stock Exchange factbook from 2001 - 2010. The study examines the impact of savings on stock market development. The dependent variable is stock market development (SD) proxied by market capitalization as a percentage of GDP while savings is the independent variable. The model for the study is;

SD = f(SAV)(1)

The above function hence forms the following equation:

$\mathbf{Y} = \mathbf{b}_0 + \mathbf{b}_{\mathbf{X}}$		•••••	•••••	 (2)
$sd/gdp = b_0 + b_0$	₀₁sav/gdp + ut			

Where,

sd/gdp = stock market development as a percentage of gdp

sav/gdp = savings as a percentage of gdp

ut = error term

bo is the coefficient of the regression and a priori expectation is that $b_1 > 0$

Below is the description of the variables.

GDP (Gross Domestic Product)

Economic growth is measured in terms of an increase in the size of a nation's economy. The most widely-used measure of economic output is the Gross Domestic Product (GDP). GDP generally is defined as the market value of the goods and services produced by a country (Kirankabes and Basarir 2012). This study made use of real GDP. (Ibrahim, 2011) adopted real GDP as a proxy for growth.

Savings: The saving rate is calculated as the ratio of gross domestic saving to GDP. National savings is used as a proxy for gross domestic savings (SAV). From the literature, we also expect positive impact of domestic savings (SAV) on stock market size because savings are channeled to stock market for investment.

Market Capitalization Ratio: This measure equals the value of listed shares divided by GDP. The rationale behind this measure is that the overall market size is positively correlated with the ability to mobilize capital and diversify risk on economy wide basis (Levine and Zervos, 1996). (Zafar, 2013, Ujunwa and salami, 2010, Yartey, 2008, Cherif and Kaothar, 2010, Ibrahim, 2011, Kemboi and Tarus, 2012) used market capitalization as a measure of stock market development.

V. Analysis of data and discussion of result



FIGURE 1: TREND OF STOCK MARKET DEVELOPMENT FROM 2001 TO 2010

Table 1 and figure 1 above represents the trend of stock market development (SD) as a percentage of GDP in Nigeria over the period under review. A cursory look at the data and the graphical representation indicates that stock market development as a % of GDP in Nigeria has witnessed a huge swing in recent years. Between 2001 and 2004 the stock market development increased by 115.78%. This is the period before the banking recapitalization policy. But after the implementation of the policy, the stock market development frog-leaped from 400.416 in 2001 to 2096.109 in 2007 representing 423.48%. And thereafter, the stock market development nosedived sharply from all high 2096.109 to 980.654 in 2009 representing 53.2% decrease. This decrease is attributed to the period of global financial crisis which began in middle 2007 in United States and spread into Nigeria in 2008.

FIGURE 2: TREND OF GROSS DOMESTIC SAVINGS FROM 2001-2010



The line graph above shows a continous upward trend in savings as a percentage of GDP from 2001 until 2009 when it reached its all high of 803.893 and dropped slightly to 767.911 in 2010. Between 2001 and 2009 savings function as a percentage of GDP increased by 488.03% and thereafter dropped by 4.48% in 2010.

TABLE 2: OLS Regression Result for model

Dependent Variable: SD

Method: Least Squares Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	233.7728	278.1696	0.840396	0.4251
SAV	1.585902	0.620324	2.556571	0.0338
R-squared	0.749644	Mean dependent var		820.1330
Adjusted R-squared	0.680850	S.D. dependent var		632.5704
Log likelihood	-75.17456	F-statistic		6.536055
Durbin-Watson stat	1.594006	Prob(F-statistic)		0.033825
	_	_		_

The estimated function is stated below as: SD = 233.77 + 1.586 SAV

In the estimated regression line above, the constant term is 233.77 meaning that holding the value of savings constant, the value of stock market development will be about 233.77. The coefficient of savings in the estimated regression line is 1.586 which implies that a unit increase in savings as a percentage of GDP will increase Nigerian stock market development (SD) by 1.586. This result is consistent with 'a priori' expectation which postulates that increase in savings will lead to increase in stock market development. The coefficient of determination (R^2) is 0.750. This shows that 75% of variation in stock market development (SD) is caused by variations in savings while the remaining 25% of the variation in the model is captured by the error term. And this shows that the line of best fit is highly fitted. The Durbin-Watson statistics is 1.594 which shows that there is no autocorrelation in the model. The value of F-statistics is 6.536 and the value of the probability of F-stat is 0.0338. This result implies that the overall regression is statistically significant at 5% level of significant given that probability of F-stat is 0.0338 is less than 0.05. This result is in accordance with the studies of (Ita, et. al., 2010, Quartey and Gaddah, 2007, Cherif and Gazdar, 2010, Aduda, et, al., 2012, Andrianaivo and Yartey 2009, Raza, et. al., 2012).

V1. CONCLUSION

The aim of this study is to appraise the impact of savings on stock market development in Nigeria from 2001-2010. This becomes necessary to undoubtedly tackle the intense argument on the relevance of savings in stock market development.

In the process of doing this, the hypothesis that savings does not have significance positive impact on stock market development in Nigeria was proved wrong. With the use of OLS Regression, we found that savings is an important determinant of stock market development. The amount of savings from private investors positively affects stock market through individual quest to improve their standard of living by investing in securities for future returns. With 1% increase in savings, this will cause approx.75% increase in stock market development. The study is in consistent with other studies and in line with our forecast because we believe that savings are channeled to stock market for investment.

Savings behavior must be encouraged in the country through appropriate savings policy from the government. This can be achieved by enforcing policy for adequate disbursement of national providence Fund for retirees and improvement of voluntary savings channel. The institutional and regulatory frame work in the market should be strengthened while increased awareness that will enhance investor's participation and confidence and ultimately lead to high performance of stock market in Nigeria be encouraged.

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