

Stock Market Development and Economic Growth in Nigeria

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Abstract

This paper empirically analyzed the effect of the Nigerian Stock market capitalization on the nation's economic growth from 1985 to 2010. The economic growth was proxy by the GDP while the stock market variable considered included; market capitalization and market turnover ratio as independent variables as proxy for stock market development in terms of size and liquidity. The paper establishes a unidirectional causality that runs from economic growth to stock market. The result shows that economic growth influences stock market capitalization while stock market capitalization does not influence economic growth. The result indicates that economic growth catalyses stock market in Nigeria. The government is therefore advised to put up measures to stem up investors' confidence and activities in the market so that it could contribute significantly to the Nigerian economic growth.

Keywords: Economic, Development, Growth, Market capitalization, Stock market, Nigeria

1. Introduction

The development of stock market in Nigeria, as in other developing countries, has been induced and fostered by the government. The Nigerian stock market has witnessed obvious transformation over the years, evident by the increased level of participation of the private and public investors at the floor of the stock exchange and in various public offers of quoted

companies. The emerging market has also attracted and embraced the attention and the interest of international investors, thus increasing capital inflow especially before the price collapse in 2008. The explosive growth of the market has also contributed sizably to the share of the global boom, particularly in Africa.

The rapid developments in the capital market are attributable to the stock market-growth linkages traceable through the mechanism of liquidity creation. The capital market, vis-à-vis the stock market, is a channel through which national economies receive foreign capital flows that make their tendency towards the global economy easily visible. Developments in the market thus become a reflection of global financial developments. The level of responsiveness, however, depends on the level of development, exposure and insulation of the domestic market from the vagaries of the international market.

In the case of the Nigerian stock market, following initial relative insulation, the speed of contagion and response was comparatively slower. However, the effects began to manifest in the first quarter of 2008, Adeyemi (2008).

All over the world, the capital market has played significant roles in national economic growth and development. It is a common postulation that without a functional stock market, the capital market may be very illiquid and unable to attract investment. Essentially, according to Levine (1991) the stock market provides liquidity, contributes to capital formation, and investment risk reduction by offering opportunities for portfolio diversification. The liquidity role stands out clearly as the most significant among the numerous functions provided by the stock market. In the words of Levine (1991), without a liquid stock market, many profitable long-term investments would not be undertaken because savers may be reluctant to tie up their investments for long periods of time. The stock market mainly provides liquidity by enabling investors (firms, individuals, government etc.) to raise funds through the sale of securities with relative ease and speed. Through this catalyst role, the stock market is also able to influence investment and economic growth in general.

As argued by Mohtadi and Agarwal (2004), large stock markets lower the cost of mobilizing savings, facilitating investments in the most productive technologies. While some researchers have argued that economic activities in a country constitute the key drivers of stock market development (Yartey, 2008), others tend to argue that it is rather growth in the stock market that spurs economic development (Filer et al., 2000). Of the empirical evidences backing-up both claims, no sharp demarcation yet existed between developments in the financial markets, in general, and national or regional economic development.

The direction of causality between the increasing growth in the financial sector and a country's growth rate have been furiously debated and probably doubted (Robinson, 1952) and often considered as unimportant in developing economies (Lucas, 1998).

The choice of Nigeria as a case study here is justifiable considering the significant upward movements in the key market indicators such as stock market capitalization, value of traded securities, as well as the All-share Index. Given these rising trends in the Exchange, there is need to establish an empirical link on how the economy has so far benefited.

1.1 Statement of Problem

A number of studies have tried to analyze the relationship between stock market and economic growth. Some studies found the existence of negative relationship between stock market and economic growth, while some studies found a positive relationship between stock market and economic growth.

For instance, Levine and Zervos (1996), King and Levine (1993), Atje and Jovanic (1993) as well as Harris (1997) all concluded in their various research that there are some definite positive relationship between stock market and economic growth. However a study by Osinubi and Amaghionyeodiwe (2003), using Nigerian data, provided some dissenting evidence that stock market development statistically had no significant effect on economic growth in Nigeria during the period 1980 to 2000. They interpreted the results to mean that the Nigerian Stock Market was unable to make significant contribution to rapid economic growth because of the existence of certain policies that blur the effectiveness of the vehicle or transmission mechanism through which stock market activities influence economic growth. This result confirms the position of Singh (1999) that the stock market might not perform efficiently in developing countries and that it may not be feasible for all African markets to promote stock markets given the huge costs and the poor financial system. Demirguc-Kunt and Levine (1996) also questioned the contribution of stock market liquidity to long-term economic growth.

Some researchers too have actually tried to look at the direction of causality between the stock market and economic growth. While some studies have shown a unidirectional relationship between stock market and economic growth some have shown a bi-directional relationship between stock market and economic growth. Lately, researchers have begun questioning the direction of causality between stock market and economic growth.

Luintel and Khan (1999) studied 10 developing economies and observed a bi-directional causality between stock market development and economic growth in all samples. Surya and Neupane (2006) also examined the existence of causality between stock market and economic growth in a small economy of Nepal. The study revealed a long-run integration and causality between stock market indicators and macroeconomic variables. Ahmed et al (2008) in a study of Pakistan economy found bi-directional causality relationship and a long-run relationship between stock market development and economic growth.

From the afore discourse it would be recalled that various researchers has posited that bi-directional causation is evident in developed economies while unidirectional causation exist in developing economies. It therefore becomes necessary to examine the directional effect of causation between stock market and economic growth regarding the Nigerian economy.

1.2 Objectives of the Study

1. To examine the trend in stock market development and economic growth.

2. To determine the causal relationship between stock market development and economic growth.

2. Literature Review

2.1 Empirical Review

There have been the growing concerns and controversies on the role of the Stock markets on economic growth and development (Oyejide 1994; Levine and Zervos 1996; Demirguc-kunt and Levine 1996; Nyong 1997; Obadan 1998; Sule and Momoh 2009; Ewah et al., 2009). There have been mixed results; while some are in support of a positive link, some points to negative link while others do not find any empirical evidence to support such conclusion.

A number of studies in ‘economics literature’ have established a positive relationship between economic growth and stock market development. A well organized and managed stock market arouses investment opportunities in the country by recognizing and financing productive projects that ultimately lead to economic activity, allocates capital efficiently, mobilizes domestic savings, helps diversifying risks and facilitates exchange of goods and services (Mishkin, 2001; Caporale et al., 2005). Greenwood and Smith (1997) reported that the cost of mobilizing savings is less in the large stock markets, while Kyle (1984) and Holmstrom and Tirole (1998) explained that liquid stock markets improve the market efficiency by delivering the timely and accurate information to the investor.

Demiurgic-Kunt and Levine (1996) using data from 44 countries for the period 1986 to 1993 found that different measures of stock exchange size are strongly correlated to other indicators of activity levels of financial, banking, non-banking institutions as well as to insurance companies and pension funds. They concluded that countries with well-developed stock markets tend to also have well-developed financial intermediaries.

Using four countries, Caporale et al. (2005) examine the hypothesis of endogenous growth models that financial development caused higher growth through its influence on the level of investment and its productivity. The study revealed that indeed, investment productivity was the channel through which stock market development enhanced the growth rate in the long run. Surya and Neupane (2006) also examined the existence of causality between stock market and economic growth in a small economy of Nepal. The study revealed a long-run integration and causality between stock market indicators and macroeconomic variables. Ahmed et al (2008) in a study of Pakistan economy found bi-directional causality relationship and a long-run relationship between stock market development and economic growth.

A study of the GSE (Ghana Stock Exchange) carried out by Osei (2005) interestingly revealed that stock market performance granger-causes economic growth in Ghana economy. Quite interestingly, the study did not find a reverse causality, but rather a unidirectional relationship. This upheld the fact that economic growth does not predict stock market development in Ghana. However, the researcher attributed this uni-directional causality to the low level of income as evidenced in most developing economies.

A study by Osinubi and Amaghionyeodiwe (2003), using Nigerian data, provided some

dissenting evidence that stock market development statistically had no significant effect on economic growth in Nigeria during the period 1980 to 2000. Interestingly, the significant growth recorded in most of the exchanges in the region, from 2000 to date, have invalidated the claims made by Osinubi and Amaghionyeodiwe (2003) and Singh (1999); and have instead projected the hypothesis tested by Adjasi and Biekpe (2006). Implied here is the claim that African stock markets have been unable to induce economic growth because of their relatively small sizes.

The current realities existing in most of the Exchanges in Africa today leave some significant gap in the debate on the impact of stock market growth on economic development. In the case of Nigeria, for instance, the level of growth in the stock market (measured by growth in total market capitalization) by far outweighs the GDP growth rates in the country.

2.2 Theoretical Review

2.2.1 Classical Growth Models

The Classical growth models consist primarily of the eighteenth-century pioneering work of Adam Smith, David Ricardo, and Thomas Robert Malthus. Together, these three provided the foundations of modern growth theory. For the classical economists, interest in growth developed out of the philosophical question of progress—a basic tenet of Enlightenment thought that applied equally to ideas, scientific innovations, social norms, and more generally the material bases of society. On this basis, they sought a general account of the forces and mechanisms that influenced economic growth.

2.2.2 Endogenous Growth Theory

Growth theory advanced again with the theories of economist Paul Romer and Robert Lucas, Jr. in the late 1980s and early 1990s. Unsatisfied with Solow's explanation, economists worked to "endogenize" technology in the 1980s. They developed the endogenous growth theory that includes a mathematical explanation of technological advancement. This model also incorporated a new concept of human capital, the skills and knowledge that make workers productive.

2.2.2.1 Keynesian Growth Model

Keynesian growth models derive from a number of John Maynard Keynes's twentieth-century insights on employment and economic stability. They tend to emphasize the difficulty of fine tuning the economy to achieve full employment or optimal growth.

2.2.2.2 Neoclassical Growth Model (Solow Model)

It tends to emphasize the ease of substitution among factors of production (labour, capital, land, or other essentials in the production of commodities), which permits the economy to achieve steady-state growth (a constant proportionate rate of growth of all real variables).

2.3 Stock Market Efficiency: The Nigerian Experience

For a stock market to perform the function for which it is established and to justify its raison

deter, it must be efficient in its operational character. Specifically, that *raison deter* relates to its role in determining the stating of share prices to reflect their full value vis-à-vis the automatic interpretation of the complete body of publicly available information about a company's performance and prospect.

Furthermore, pricing mechanism often operates outside the free market concept. To aggravate the situation even further, approved prices do not always reflect fair market value of the stocks. No doubt, in Nigeria, stocks remain largely under-valued. And unless something drastic happens to a stock, its value hardly moves more than 5% either way. It is not only difficult to obtain a market determined rate of return but also impossible for a firm to determine this true cost of capital. There is therefore, a complete absence of free market mechanism. Capital issues during the years (1981-2000) also depict the increasing state of activities on the stock market floor. Such issues include those on offer for subscription, rights and offer for sales. The year 1986 marks an important active year in terms of new capital issues, then a total of ₦630.9 million, new issues comprising ₦22.2 million worth of equities and ₦608.7 million of industrial loan stock were offered for subscription respectively, despite the fact that there was neither right issues nor offer for sale in the year (Sule and Momoh, 2009).

Only in 1989, about ₦800 million was raised from the market, of which about 85% was attributable to the private sector, leaving about 15% of the auction to the government. This is a complete reversal of the previous trends when the market used to be dominated by the governments. This could be as a result of the federal government's privatization prices and this trend is expected to continue based on the commitment of the federal government to total privatization of some public utilities. With capitalization on a sharp rise, right issues have continued to gain prominence in the stock market, Sule and Momoh (2009).

2.4 Role of Stock Market in an Economy

The role of stock market development has assumed a developmental role in global economies following the observable impact the market has exerted in corporate finance and economic activity. Given the growing interest in the impact of stock market on economic development several researchers have posited reasons for this growing interest. For instance, Rouseau and Wachtel (2000) advanced four reasons for the importance of stock market on financial institutions even when equity issuance is a relatively minor source of funds.

First, an equity market provides investors and entrepreneurs with a potential exit mechanism. The impact of the market will be felt well beyond the firms that actually do use the market for raising capital (Benchivenga and Smith, 1991). Secondly, capital inflows – both foreign direct investment and portfolio investments – are potentially important sources of investment funds for emerging market and transition economies. Thirdly, the provision of liquidity through organized exchanges encourages both international and domestic investors to transfer their surpluses from short-term assets to the long-term capital market. Finally, the existence of a stock market provides important information that improves the efficiency of financial intermediation generally. However the role of the stock market in improving economic growth has also faced criticism overtime. Stiglitz (1985) had argued that stock market

showed the tendency to reveal information through frequent instability and changes in equity prices.

Demirguc-Kunt and Levine (1996) also questioned the contribution of stock market liquidity to long-term economic growth. They pointed out that stock liquidity deter growth via three channels. Firstly, stock market reduces savings rate through income and substitution effects, secondly, by reducing the uncertainty associated with investment, greater stock market liquidity may reduce savings rate because of the ambiguous effect of uncertainty on savings, and thirdly, stock market liquidity encourages investor's myopia, adversely affecting corporate governance, thereby reducing the gross benefit from economic growth.

However, further researches conducted by Greenwood and Smith (1996) emphasized that stock market were relevant in mobilizing savings thus facilitating investment into most productive technologies.

Bencivenga et al (1996) and Levine (1991) have also argued that market liquidity, the ability to trade equity easily play a key role in economic growth. Studies by Rousseau and Wachtel (2000), Beck and Levine (2003), Atje and Jovanovc (1993) has further shown that in a well-developed stock market, share ownership provides individual with a relatively liquid means of sharing risk when investing in promising project.

The conclusion arising from the reviewed literature is that there are conflicting views on the effect of the role of stock market development on the economic growth in Nigeria which require a fresh study like this current one to reconcile. For instance, while some authors found a positive relationship between stock market development and economic growth, some noted negative effect while some others did not find any relationship between the two variables. As a matter of fact, these conflicts need to be reconciled.

3. Research Methodology

Secondary data collected from Nigerian Stock Exchange (NSE), Security and exchange commission (SEC) market bulletin and Central Bank of Nigeria (CBN) statistical bulletins from 1985 to 2010 were used in this study. The period was chosen to capture the effect of the stock market crash of 2008. The data for the stock market indicators was obtained from the NSE/SEC bulletin while the data for real gross domestic product for the relevant years was obtained from the CBN statistical bulletin.

The descriptive statistics was used to show the trend in stock market capitalization and financial structure on economic growth and the granger-causality test was used to show the relationship between the stock market development and economic growth in Nigeria.

Definition of Variables

Stock Market Capitalization: The stock market capitalization is the total value of tradable shares of public companies.

Turnover Ratio (TR): This ratio equals the value of total shares traded divided by market capitalization.

3.1 Model Specification

3.1.1 Causal Relationship Between Stock Market Development and Economic Growth

The objective is to investigate if there is any direct influence of the explanatory variable which is the stock market development on economic growth or vice versa. This study attempts to employ the methodology adopted by Surya and Neupane (2006) while testing for the direction of causation between stock market development and economic growth in Nepal. The formula for Granger Causality for this study is as follows:

$$GDP_t = \sum_{i=1}^n a_i MCAP_{t-i} + \sum_{j=1}^n b_j GDP_{t-j} + u_{1t}$$

$$MCAP_t = \sum_{i=1}^n \lambda_i MCAP_{t-i} + \sum_{j=1}^n \partial_j GDP_{t-j} + u_{2t}$$

Where, the first equation indicates that GDP is related to past values of itself and MCAP. The same applies to equation two in terms of MCAP.

3.2 Method of Data Analysis

In examining the trend in stock market development and economic growth as stated in objective one, the study achieved this with the descriptive analysis through the use of graphs. In determining the causal relationship between stock market development and economic growth, the study employed the use of the granger causality test.

4. Data Analysis and Interpretation

4.1 Trend Analysis

The graph below shows the trend of stock market capitalization for 1985 to 2010.

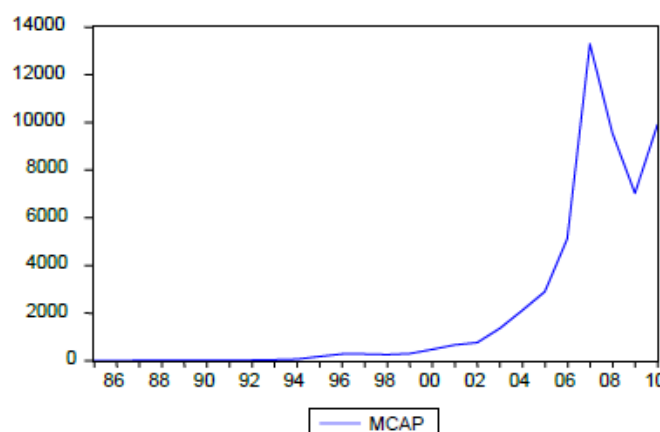


Figure 1. Trend of stock market capitalization

Source: Authors computation.

From the graph above, it can be deduced that stock market capitalization crept up from 1985 to 1994 before it witnessed a significant increase in 1995. The value kept increasing from

1995 through to 2002 and further increased till 2006. However, the stock market capitalization got to its peak in 2007 and reduced significantly the following year (2008) and 2009 then it increased in 2010.

The graph below shows the trend of stock market turnover ratio for 1985 to 2010.

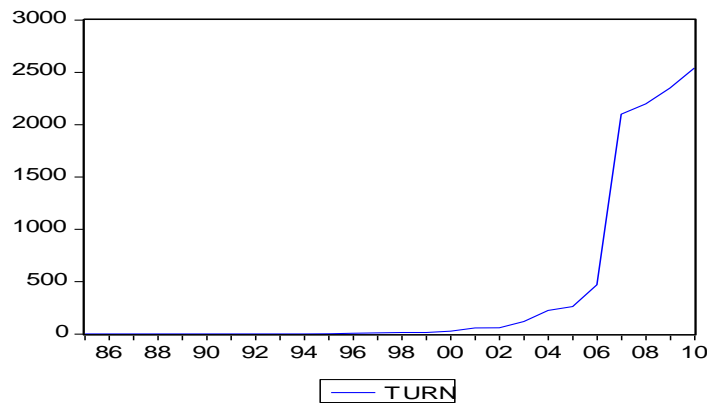


Figure 2. Trend of market turnover

Source: Authors computation.

From the graph above, it can be deduced that the turnover increased throughout the study period and it never reduced, though the value was creeping at the early period i.e. from 1985 to 1999. It increased significantly in 2007 and has kept increasing till 2010.

The graph below depicts the trend between stock market capitalization, and real gross domestic product for the years 1985 to 2010, in Nigeria.

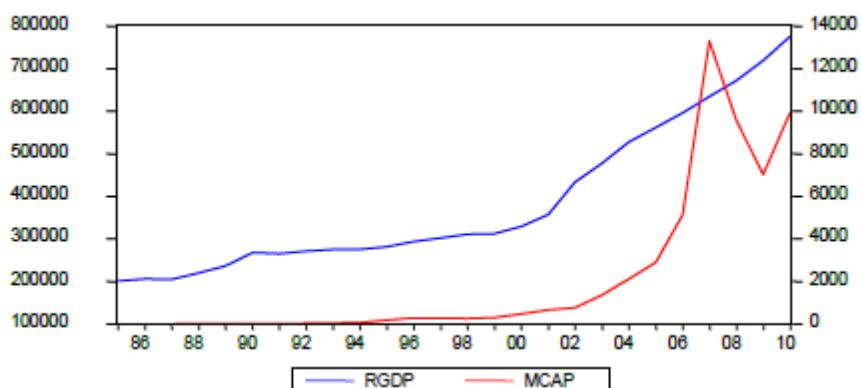


Figure 3. Trend between stock market capitalization and real GDP

Source: Authors computation.

From the graph above, it can be deduced that there is a direct positive relationship between the market capitalization and the real GDP except for year 2007 when the market capitalization reduced but later increased in 2010.

The market capitalization increased at a reducing rate in the early period of the study. While

the market capitalization crept upward from year 1985 to 1994 before it witnessed a significant boost in 1995, the real GDP has increased almost constantly during the period of study.

The market capitalization kept increasing till 2006 and got to its peak in 2007 after which it fell in 2008 and 2009 respectively and later increased in 2010.

4.2 Test for Causality

Granger Causality test was adopted in testing the direction of causality between economic growth and stock market capitalization in Nigeria. The Granger causality test determines the predictive content of one variable beyond that inherent in the explanatory variables itself. Thus the variable used for this causality test is assumed to be stationary and well integrating. Table1 below shows the result for the test of causality.

Table1. Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Probability
MCAP does not Granger Cause RGDP	24	0.14592	0.86519
RGDP does not Granger Cause MCAP		7.37945	0.00425
TURN does not Granger Cause RGDP	24	0.05593	0.94576
RGDP does not Granger Cause TURN		4.78100	0.02081
LABOUR does not Granger Cause RGDP	24	3.18579	0.06410
RGDP does not Granger Cause LABOUR		1.24754	0.30970
CAPITAL does not Granger Cause RGDP	24	1.86394	0.18233
RGDP does not Granger Cause CAPITAL		2.07973	0.15249

Source: Author's Computation.

The granger causality test showed that there is uni-directional causality among the variables tested without feedback causality among the variables except for labour and capital on real GDP which shows no causal relationship.

The implication of the above result with respect to the variables of interest reveals that the direction of causality is from economic growth to market capitalization. The result which depicts unidirectional causality however did not reveal a bilateral or feedback causality between market capitalization and economic growth as was reported by the research in Nepal by Surya and Neupane (2006). This result shows that economic growth influences stock

market capitalization while stock market capitalization does not influence economic growth.

Further interpretation of this result indicates that economic growth catalyses stock market in Nigeria. The result shows that there is a positive link between future economic growth and market capitalization (normalized for the level of GDP). This link, however, is likely to be because efficient markets incorporate anticipated future growth into current period prices and, therefore, exert an increase in market capitalization.

The result also show a uni-directional relationship between economic growth and turnover ratio, and it reveals that the direction of causality is from economic growth to turnover ratio and did not show feedback causality between turnover ratio and economic growth.

5. Summary, Recommendation and Conclusion

An attempt has been made to examine the relationship between stock market development and economic growth in Nigeria, by employing the relevant methods. It was shown that economic growth contributes positively to stock market development (market capitalization).

The increasing importance of financial markets has reinforced the need to study the impact of stock market development on economic growth. The present study is an attempt to investigate the causal effect and impact of stock market development and economic growth by taking size and liquidity as independent variables along with labour and capital as controlled variables in Nigeria.

The trend of each of the independent variables was also examined with the use of graphs.

The causal effect of stock market development and economic growth was tested using the granger causality test, while the impact of stock market development is empirically tested on real GDP as a dependent variable of economic growth for the period of 1985 to 2010 using least squares methodology. As such, the results reported the expected positive signs except for the variables though some were statistically significant at some level of significance while others were not.

5.1 Conclusion

The Nigerian Stock Market constitutes a vital organ of our modern economic system, which is characterized by large-scale production requiring huge capital. However, the stock market capitalization has been used as a yardstick to assess the performance of the Nigerian Stock Market towards economic growth.

The main findings of the paper can be concluded as follows:

First, the results show unidirectional causality between real GDP growth rate and market capitalization. This implies that economic growth enhances stock market capitalization in Nigeria. This is in line with the findings of Surya and Neupane (2006). Secondly, the results also show a uni-directional relationship between economic growth and turnover ratio, and it reveals that the direction of causality is from economic growth to turnover ratio. It can also be deduced from the trend analysis results that stock market capitalization and turnover ratio had a positive influence on economic growth. Since stock market development (captured by

market capitalization-GDP ratio) has statistical positive influence on economic growth, it implies that higher stock market capitalization increases the ability of firms to raise capital. Thus, they (firms) will be able to increase investment spending and expand production of goods and services which translate to higher growth rate overtime.

The above findings agreed with Ariyo and Adelegan (2005) and Ewah et al (2009) who found that the stock market in Nigeria has the potentials for growth inducing but has not contributed meaningfully to the economic growth of Nigeria due to low market capitalization, small market size, few listed companies, low volume of transactions, illiquidity etc.

5.2 Recommendations

It is recommended that government should ensure improvement in the market capitalization, by encouraging more foreign investors to participate in the market, maintain state of the art technology like automated trading and settlement practices, electronic fund clearance and eliminate physical transfer of shares. The Nigerian security and exchange commission (SEC) should improve the trading system in order to increase the ease with which investors can purchase and sell shares, thus guaranteeing liquidity on the stock market.

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Appendix 1

Table 1

Year	RGDP (Nm)	MCAP (Nb)	TURN (Nb)	LABOUR	CAPITAL	ASI	VLS	TNI
1985	201,036.27	6.6	0.31	2.70E+07	40934.55	127.3	316.6	817.2
1986	205,971.44	6.8	0.49	2.70E+07	35536.21	163.8	497.9	833
1987	204,806.54	8.2	0.29	2.80E+07	27159.19	190.9	382.4	450.7
1988	219,875.63	10.0	0.25	2.90E+07	28369.81	233.6	850.3	400
1989	236,729.58	12.8	0.65	2.90E+07	28937.12	325.3	610.3	1,629.90
1990	267,549.99	16.3	0.31	3.00E+07	90121.31	513.8	225.4	9,964.50
1991	265,379.14	23.1	0.23	3.10E+07	39968.52	783.0	242.1	1,870
1992	271,365.52	31.2	0.49	3.20E+07	38771.57	1,107.6	491.7	3,306.30
1993	274,833.29	47.5	0.66	3.20E+07	44973	1,543.8	804.4	2,636.90
1994	275,450.56	66.3	0.9	3.30E+07	40404.28	2,205.0	985.9	2,161.70
1995	281,407.40	180.4	1.84	3.40E+07	29820.29	5,092.2	1,838.8	4,425.60
1996	293,745.38	285.8	7.06	3.50E+07	35216.28	6,992.1	6,979.6	5,858.20
1997	302,022.48	281.9	11.07	3.60E+07	38329.17	6,440.5	10,330.5	10,875.70
1998	310,890.05	262.6	13.5	3.70E+07	36390.66	5,672.7	13,571.1	15,018.80
1999	312,183.48	300.0	14.1	3.80E+07	35325.93	5,266.4	14,072.0	12,038.50

2000	329,178.74	472.3	28.15	3.90E+07	41342.64	8,111.0	28,153.1	17,207.80
2001	356,994.26	662.5	57.68	4.00E+07	6331.64	10,963.1	57,683.8	37,198.80
2002	433,203.51	764.9	59.41	4.20E+07	7936.78	12,137.7	59,406.7	61,284
2003	477,532.98	1,359.3	120.4	4.30E+07	12991.61	20,128.9	102,402.6	180,079
2004	527,576.04	2,112.5	225.8	4.40E+07	44443.72	23,844.5	225,820.0	195,418.40
2005	561,931.39	2,900.1	262.94	4.50E+07	39795.29	24,085.8	262,935.8	552,782
2006	595,821.61	5,121.0	470.25	4.60E+07	63428.72	33,189.3	470,253.4	707,400
2007	634,251.14	13,294.6	2,100	4.70E+07	78981.31	57,990.2	1,076,020.4	1,935,080
2008	672,202.55	9,563.0	2,200	4.80E+07	73606.48	31,450.78	1,679,143.7	1,509,230
2009	718,977.33	7,030.8	2,350	5.00E+07	80310.24	20,827.17	685,717.3	1,609,320
2010	775,525.70	9,918.2	2,541	5.02E+07	77438.02	24,770.52	799,910.9	1,674,570

Source: Nigerian Stock Exchange.

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