# EFFECT OF CAPITAL MARKET ON THE ECONOMIC DEVELOPMENT OF EMERGING ECONOMIES: NIGERIA AND KENYA

**MPAMUGO, CHIKWENDU SAMUEL**
**Department of Financial Management Technology,**
**School of Management Technology,**
**Federal University of Technology,**
**Owerri, Nigeria**

**CHIGBU, E. EMMANUEL**
**Department of Financial Management Technology,**
**School of Management Technology,**
**Federal University of Technology,**
**Owerri, Nigeria**

**OFOREGBUNAM T. EBIRINGA**
**Department of Financial Management Technology,**
**School of Management Technology,**
**Federal University of Technology,**
**Owerri, Nigeria**

**And**

**AGHALUGBULAM B. C. AKUJUOBI**
**Department of Financial Management Technology,**
**School of Management Technology,**
**Federal University of Technology,**
**Owerri, Nigeria**

## *Abstract*

***Using time series data of 28 years period (1990-2018), this study investigated the effect of capital market on the economic development of emerging economies involving Nigeria and Kenya. The main objective of the study was to determine if there is a significant relationship between the capital market and economic development in the countries under study. In this study, human development index (HDI) was used as a proxy for economic development. To test the suitability of data used in order to avoid spurious regression, the augmented dickey-fuller unit root test was used. Johansen's co-integration test and the error correction model were also used in the analysis while the granger causality test was used to determine the direction of causality between the variables. Results of the study revealed that the relationship between market capitalization and human development index in Nigeria was positive and insignificant while in Kenya, the relationship was found to be negative and insignificant. Again in Nigeria, human development index was found to be a positive and significant function of both value of securities traded and stock market turnover ratio. In Kenya, on the other hand, while the value of securities traded was found to have a positive and significant effect on human development index, stock market turnover ratio was found to have a negative and significant effect on human development index. All share index exerted negative and significant effect on human development index in Nigeria while in Kenya, its effect on human development index was positive and significant. Human development index was found to granger cause all share index in Kenya, while in Nigeria, stock market turnover ratio was found to granger cause human development index. It is recommended that policies should be formulated and implemented to ensure more transparent institutional and legal framework as well as remove listing impediments in order to encourage participation of more companies in the market. Awareness on the benefits of investing in the market should be created through public enlightenment campaign. These measures will help to build up investors' confidence, increase investment instruments, reduce cost of transaction, and encourage foreign portfolio and direct investments; with the overall effect of facilitating economic development in the affected countries.***

***Keywords: market capitalization, human development index, co-integration, error correction model, causality.***

## Introduction

The capital market embraces the stock market. An active stock market could be relied upon as a barometer for measuring changes in general economic activity using a stock market index. The stock market, in the strict sense, is the market for trading in stocks and shares, bonds, debentures and other long-term securities. It is also generally referred to as the secondary market where seasoned securities are traded. Closely linked to the stock market is the primary market which is responsible for the placement of new issues on the market. The placement of new issues contributes directly towards increasing loanable funds and allocating these funds between productive economic units. New issues of securities could be placed either through the Stock Exchange or by private placement.

The capital market is therefore made up of both the primary (new issues) market and the secondary (seasoned securities) market, whether such securities are raised in an organized market such as the stock exchange or not. It involves consortium underwriting, syndicated loans and project financing; it involves stock exchanges and the unlisted securities market.

The capital market as part of financial markets, plays an important role in the process of economic growth and development by facilitating savings and channeling funds from savers to investors (Nwanna, 2016). The market provides avenue for firms and governments to sell stocks and bonds to raise long-term funds from the savings of the surplus units of the economy which will subsequently lead to increase in total output of the economy (Dayaratne and Wijethunga, 2015).

An active and efficient capital market is expected to facilitate the socio- economic growth and development of emerging and developed economies through some of the vital roles it plays such as mobilization of adequate resources and efficiently allocating these resources to productive investments through its intermediation process, provision of long-term, non-debt financial capital which enables companies to reduce the problem associated with over gearing, providing appropriate platform to engender best corporate practices that will lead to increase in investment and further growth of the economy as well as acquisition of information about firms, among others.

This study was necessitated by the apparent sluggish economic development in the selected emerging economies as evidenced from apparent low GDP growth rate, low level of industrialization, high rate of unemployment, poor educational and health facilities as well as low level of infrastructural development in spite of the level of capitalization of their capital markets over the years and the apparent huge amounts of money that have been spent to enhance the functioning of the markets. This trend, if allowed to continue, could lead to serious economic depression in the affected economies. In the light of the above, the study investigated the effect of capital markets on the economic development of Nigeria and Kenya. Specifically, the study investigated:

i. The relationship between market capitalization and economic development in Nigeria and Kenya.
ii. The extent to which the total value of securities traded affect economic development in Nigeria and Kenya.
iii. If the stock market turnover ratio affect economic development in Nigeria and Kenya.
iv. The extents to which all share index enhance economic development in both countries.

Studies have been carried out in this area, this study has however, added to the stock of knowledge and has given rise to empirical basis for examining the causal relationship between the capital markets of Nigeria and Kenya and their economic developments. This is more so as the human development index (HDI), that gives a broader view of economic development than the GDP, was used as proxy for economic development.

**Literature Review**

The capital market is a network of financial institutions and infrastructure that interact to mobilize long-term financial resources in the economy. It provides avenue for firms and governments to sell stocks and bonds to raise long-term funds from the savings of the surplus units of the economy which will subsequently lead to increase in total output of the economy (Dayaratne and Wijethunga, 2015). As Iyoha (2004) puts it, the sourcing of long-term finance through the capital market is essential for self-sustained economic growth which is consistent with external adjustment and rapid economic growth. An integrated and active capital market aids the mobilization of savings from the surplus economic units of the economy, promotes efficient allocation of resources through changes in wealth ownership and composition, encourages active private sector participation in the economy, supports capital formation and facilitates rapid economic growth and development.

This study is predicated on the Endogenous Growth Theory (New Growth Theory) which emerged in the mid-1980s. The theorists (Romer 1986; Lucas 1988; Aghion and Howitt 1992, etc.) argued that technological progress is endogenous, and is an important determinant of economic growth. According to the theory, investment in physical and human capital, innovation, and knowledge are significant contributors to economic growth. The theory also focuses on positive externalities and spillover effects of a knowledge-based economy which will lead to economic development. The endogenous growth theory basically holds that long-run growth rate of an economy depends on policy measures. For example, policies that support subsidies for research and development or education will increase the growth rate by increasing the incentive for innovation. According to this theory, an economy's long-run growth rate depends on its saving rate.

Over the decades, there have been large numbers of empirical studies that tried to analyze the effect of financial development on economic growth and development by using different types of econometric approaches and a variety of indicators to measure financial development. Most of these studies substantiate that both capital market and banking sector development have strong positive effect on growth. However, in some cases, findings revealed lack of correlation between financial development and economic growth and development. Levine and Zervos (1996) investigated the relationship between stock market development and long-run economic growth. The study used pooled cross-country time series regression of forty – one countries from 1976 to 1993 to examine this relationship. The result showed a strong correlation between overall stock market development and long- run economic growth. Edame and Okoro (2013) studied the impact of capital market on economic growth in Nigeria. The study was based on time series data collected on annual basis from 1970 to 2010 and the ordinary least squares (OLS) regression technique was used in analyzing the data.

From the result obtained, all the capital market variables captured in the model such as market capitalization, number of deals and value of transactions were all positive and

significant in promoting economic growth in Nigeria. Donwa and Odia (2010) analyzed time series data covering the period 1981 to 2008 and found out that capital market indicators (market capitalization, total listed equities, total new issues, volume of transaction and government stock) had no significant impact on Nigeria's economic growth. Ewah, Esang and Bassey (2009) examined the impact of capital market efficiency on economic growth in Nigeria by applying time series analysis on market capitalization, money supply, interest rate, total transaction and government development stock. Their findings revealed that although the capital market in Nigeria has the potential to induce growth, it has not contributed meaningfully to Nigeria's economic growth due to market rigidity, low market capitalization, low absorptive capacity, illiquidity and misappropriation of funds among others. Yadirichukwu and Chigbu (2014) examined the impact of capital market on economic growth in Nigeria for the period 1985 to 2012. The study applied regression analysis, incorporating multivariate co-integration and error correction to examine characteristics of the time series data, adopting disaggregate the capital market indices approach, and used the GDP as a proxy for economic growth. Results of the study revealed a positive and significant relationship between two of the capital market indicators (value of transaction and new issues) and economic growth. On the other hand, an inverse relationship was observed between the other two capital market indicators (market capitalization and total listing) and economic growth.

However, the relationship between total listing and economic growth was found to be insignificant. The study recommended, among other things, that policy institution should be active in making systematic checks and appropriate policy innovations to ensure capital market led economic growth. Nyong (1997) developed an aggregate index of capital market development and used it to determine its relationship with long-run economic growth in Nigeria. The study was conducted using time series data from 1970 to 1994. Four measures of capital market development, the ratio of market capitalization to GDP, the ratio of total value of transactions on the main stock exchange to GDP, the value of equities transaction relative to GDP, and total listings were used. The four measures were combined into one overall composite index of capital market development using principle component analysis. A control variable represented by a measure of financial market debt (which is the ratio of broad money to stock of money to GDP), was also included in the study. The result of the study showed that capital market development is negatively and significantly correlated with long-run growth in Nigeria.

Christian, Nwezeaku and Akujuobi (2015) evaluated the impact of capital market on economic growth and development in Nigeria using regression analysis on annual data from1981 to 2012 and concluded that the capital market has significant positive impact on economic growth in Nigeria. The study however, revealed that growth in market capitalization does not have significant impact on the economy in Nigeria. They therefore, recommended that capital market regulatory authorities should put in place policies that will enhance and sustain the market's contribution to economic development. In Kenya, Olweny and Kimani (2011) investigated the causal relationship between stock market performance and economic growth in Kenya for the period 2001 to 2010, using quarterly secondary data. This investigation of the causal relationship was conducted using the Granger causality test base on the vector autoregressive (VAR) model. Findings of the study showed that causality between economic growth and stock market runs unilaterally in one direction from the Nairobi Stock Exchange

(NSE) 20-share index to the GDP. From the results, it was inferred that the movement of stock prices in the Nairobi Stock Exchange reflect the micro-economic condition of the country and can therefore, be used to predict the future path of economic growth. Aduda, Chogii and Muraya (2014) examined the effect of capital market deepening on the economic growth in Kenya from 1992 to 2011. The study which used correlation analysis on the time series data, found out that capital market deepening has a positive effect on GDP growth in Kenya and therefore lends support to the finance growth nexus. They therefore recommended that government should take policy initiatives to foster growth of the capital market.

**Methodology**

This is an econometric study of the capital markets of Nigeria and Kenya involving the analysis of annual time series data covering the period 1990 to 2018. The Nigeria stock Exchange (NSE), National Bureau of Statistics (NBS), Central Bank of Nigeria (CBN), World Federation of Exchanges (WFE), African Federation of Exchanges (AFE), United Nations Development Programme (UNDP) Reports (various series), the relevant literatures(books, journals, previous research papers and electronic sites) and the World Bank were the main source of data for this study. The stock market indicators used for the test include market capitalization to GDP ratio, total value of securities to GDP ratio, stock market turnover ratio and all share index; while the Human Development Index (HDI) was used as a proxy for economic development. Each of these indicators was tested against HDI to determine their effect on the economic development of Nigeria and Kenya.

**Specification of the Model**

This study adopted the model suggested by Demirgue-kunt and Levine (1996), Levine and Zervos (1996) and Ewah, Esang and Bassey (2009) who have investigated the linkage between stock market and economic growth and development. Their studies infer that the economic growth (proxied by Gross Domestic Product) is significantly influenced by the capital market indices such as market capitalization, value of securities traded, turnover ratio, all share index and total listing. The departure from the other studies is that this study adopted the Human Development Index (HDI) as a proxy for economic development. The HDI is a better measure of economic development because it represents inclusive growth and it is an index which combines measurement of life expectancy, literacy, educational attainment and gross domestic product (GDP) per capita (Todaro and Smith, 2009).

In the light of this, the general econometric model for the determination of long-run effect of the capital market on the economic development of Nigeria and Kenya will be stated as follows:

$$HDI = F(MCAPGDP, VSTGDP, SMT, ALSI) \quad \text{3.1}$$

**Where:**

HDI = Human Development Index (proxy for economic development)
MCAPGDP = Total Market Capitalization Ratio
VSTGDP = Total Values of Securities Traded Ratio
SMT = Stock Market Turnover Ratio
ALSI = All Share Index

The explicit forms of equation (3.1) are represented in the different models as stated below:

**MODEL 1:** This model specifies the equation for Nigeria

$$HDI_tN = \beta_0+\beta_1HDI_{t-1}+\beta_2MCAPGDP_t+\beta_3VSTGDP_t+\beta_4SMT_t\beta_5ALSI+\mu_t \quad \text{3.2}$$

**MODEL2:** This model specifies the equation for Kenya

$$HDI_tK=\beta_0+\beta_1HDI_{t-1}+\beta_2MCAPGDP_t+\beta_3VSTGDP_t+\beta_4SMT_t+\beta_5ALSI+\mu_t \quad \text{3.3}$$

**Where:**

$\beta_0$ = Intercept of relationship in the model. Constants $\beta_1$ –$\beta_5$ = coefficients of each of the independent variables. μt = stochastic/error term

For the purpose of analysis, variables for Nigeria and Kenya shall be differentiated by attaching N and K, respectively.

Human Development Index: is an index that combines measurements of life expectancy, literacy, educational attainment and gross domestic product (GDP) per capita for countries worldwide. It is used as a standard means of measuring development, as well as to determine whether a country is developed, developing or underdeveloped.

Market Capitalization Ratio: is a measure for the stock market size. It is calculated as the ratio of the market capitalization to GDP. The reason behind this measure is that the overall market size is positively correlated with the ability of the market to mobilize capital and diversify risk on economy wide basis (Levine and Zervos 1996).

Value of Security Traded Ratio: Compliments market capitalization. It is an indicator of market liquidity and it is computed as the total value of bonds and shares traded divided by the gross domestic product of the economy.

Turnover Ratio: Measures liquidity of the market and high turnover ratio is an indication of low transaction cost in the capital market. The ratio also compliments the total value traded ratio and is computed as the value of total share traded divided by market capitalization.

All Share Index: Shows the changing average value of the share prices of all companies on a stock exchange, and it is used as a measure of how well a market is performing.

**A priori Expectation**

Based on the literature, all capital market development measures especially those being used for this study are expected to have positive impact on economic development through liquidity injection and efficient allocation of resources. That is, a priori expectation of the coefficients of the model is that $\beta_1$, $\beta_2$, $\beta_3$, $\beta_4$ >0

**Results**

Data on HDI, MCAPGDP, VSTGGDP, SMT and ALSI for both Nigeria and Kenya are presented in tables 4.1 and 4.2 respectively.

**Unit Root Test**

The human development index and capital market indicators in tables 4.1 and 4.2 were tested for stationarity using the Augmented Dickey-Fuller Unit Root Test, to avoid spurious results which could have arisen if non stationary data were used for regression. The results show that all the variables are stationary at first difference. In other words, all the variables are integrated of order one, I(1). The summary of these results is shown in table 4.3 as follows:

**Table 4.1: Data on Human Development index and Capital Market Indicators in Nigeria**

| Year | HDIN | MCAPGDPN | VSTGDPN | SMTN | ALSIN |
|---|---|---|---|---|---|
| 1990 | 0.411 | 3.45 | 0.05 | 1.41 | 513.79 |
| 1991 | 0.405 | 4.23 | 0.04 | 1.04 | 783 |
| 1992 | 0.406 | 3.56 | 0.06 | 1.57 | 1107.61 |
| 1993 | 0.418 | 4.36 | 0.07 | 1.68 | 1543.84 |
| 1994 | 0.429 | 4.74 | 0.07 | 1.49 | 2205.02 |
| 1995 | 0.432 | 6.2 | 0.06 | 1.02 | 5092.21 |
| 1996 | 0.42 | 7.09 | 0.17 | 2.44 | 6992.1 |
| 1997 | 0.436 | 6.73 | 0.25 | 3.66 | 6440.53 |
| 1998 | 0.439 | 6.58 | 0.34 | 5.17 | 5672.72 |
| 1999 | 0.427 | 6.41 | 0.3 | 4.69 | 5266.41 |
| 2000 | 0.434 | 7.04 | 0.42 | 5.96 | 8111.04 |
| 2001 | 0.521 | 9.61 | 0.84 | 8.71 | 10963 |
| 2002 | 0.440 | 9.81 | 0.76 | 7.77 | 12137.72 |
| 2003 | 0.453 | 13.71 | 1.21 | 8.86 | 20128.94 |
| 2004 | 0.462 | 18.51 | 1.98 | 10.69 | 23844.46 |
| 2005 | 0.468 | 19.85 | 1.8 | 9.07 | 24085.8 |
| 2006 | 0.466 | 27.58 | 2.53 | 9.18 | 33189.31 |
| 2007 | 0.478 | 63.81 | 5.21 | 8.16 | 57990.23 |
| 2008 | 0.486 | 39.36 | 6.91 | 17.56 | 31450.82 |
| 2009 | 0.449 | 28.36 | 2.77 | 9.75 | 20827.21 |
| 2010 | 0.493 | 18.16 | 1.46 | 8.07 | 24770.5 |
| 2011 | 0.499 | 16.32 | 1.01 | 6.22 | 20730.63 |
| 2012 | 0.505 | 20.64 | 1.13 | 5.47 | 28078.84 |
| 2013 | 0.521 | 23.82 | 2.94 | 12.32 | 41329.21 |
| 2014 | 0.525 | 18.95 | 1.5 | 7.91 | 34657.2 |
| 2015 | 0.527 | 17.86 | 1 | 8.2 | 28642.25 |
| 2016 | 0.530 | 9.10 | 0.40 | 7.52 | 32438.54 |
| 2017 | 0.532 | 12.00 | 0.60 | 5.90 | 38439.38 |
| 2018 | 0.538 | 12.36 | 0.57 | 6.20 | 38540.24 |

**Sources:** World Bank, UNDP, World Federation of Exchanges (WFE), African Federation of Exchanges (AFE), CBN, NSE, National Bureau of Statistics of Nigeria.

**Table 4.2: Data on Human development index and Stock Market Indicators for Kenya.**

| Year | HDIK | MCAPGDPK | VSTGDPK | SMTK | ALSIK |
|---|---|---|---|---|---|
| 1990 | 0.473 | 16.24 | 0.04 | 1.42 | 1096.21 |
| 1991 | 0.476 | 16.8 | 0.06 | 1.57 | 1128.05 |
| 1992 | 0.481 | 17.06 | 0.05 | 1.65 | 1167.29 |
| 1993 | 0.52 | 18.48 | 0.1 | 1.14 | 2513.74 |
| 1994 | 0.532 | 42.62 | 0.53 | 2.25 | 4559.4 |
| 1995 | 0.544 | 22.3 | 0.47 | 3.12 | 3468.88 |
| 1996 | 0.523 | 14.93 | 0.44 | 4.01 | 3114.11 |
| 1997 | 0.498 | 13.82 | 0.51 | 5.38 | 3117.5 |

| | | | | | |
|---|---|---|---|---|---|
| 1998 | 0.508 | 14.82 | 0.35 | 3.55 | 2962.1 |
| 1999 | 0.488 | 12.9 | 0.36 | 4.8 | 2303.2 |
| 2000 | 0.447 | 9.88 | 0.28 | 3.58 | 1914.4 |
| 2001 | 0.454 | 8.05 | 0.25 | 3.62 | 1354.59 |
| 2002 | 0.46 | 10.89 | 0.16 | 2.42 | 1317.45 |
| 2003 | 0.474 | 28.06 | 0.57 | 4.16 | 2128.32 |
| 2004 | 0.465 | 24.17 | 1.37 | 7.42 | 2471.28 |
| 2005 | 0.479 | 34.07 | 1.37 | 5.24 | 2527.32 |
| 2006 | 0.495 | 44.06 | 3.22 | 9.67 | 2924.13 |
| 2007 | 0.502 | 41.76 | 4.46 | 13.49 | 2746.24 |
| 2008 | 0.508 | 30.24 | 3.58 | 10.8 | 2762.16 |
| 2009 | 0.504 | 29.62 | 1.25 | 9.26 | 2780.72 |
| 2010 | 0.529 | 36.15 | 3.32 | 8.95 | 2783.14 |
| 2011 | 0.535 | 24.32 | 2.43 | 8.87 | 3112.52 |
| 2012 | 0.539 | 36.3 | 2.98 | 6.82 | 2971.41 |
| 2013 | 0.544 | 35.22 | 3.02 | 8.11 | 2789.64 |
| 2014 | 0.550 | 36.8 | 3.12 | 9.27 | 3109.42 |
| 2015 | 0.555 | 32.70 | 2.16 | 9.12 | 4064.16 |
| 2016 | 0.585 | 26.80 | 1.20 | 9.18 | 4286.24 |
| 2017 | 0.590 | 32.50 | 1.68 | 9.24 | 4325.62 |
| 2018 | 0.585 | 32.80 | 1.72 | 9.30 | 4342.50 |

**Sources:** World Bank, UNDP, World Federations of Exchanges (WFE), African Federation of Exchanges (AFE), Nairobi Stock Exchange (NSE) Website.

From table 4.3, the absolute values of ADF statistic of all the series in both Nigeria and Kenya are more than their 1 percent critical values and far more than that of 5 percent at first difference. This implies that the series are differenced once for them to be stationary. They are therefore said to be integrated of order one and since all the variables are integrated of order one, the researcher resorted to testing for co-integration between the variables to determine the stationarity of the combined series.

***Table 4.2: Augmented Dickey-Fuller (ADF) Unit- Root Test for Nigeria and Kenya.***

| Countries | Variables | Lag | ADF Test Statistic | Critical Values | | |
|---|---|---|---|---|---|---|
| | | SCI | 1st difference | 1% | 5% | Remarks |
| Nigeria | HDIN | 5 | -7.764835 | -3.737853 | -2.991878 | Stationary |
| | MCAPGDPN | 5 | -5.080782 | -3.737853 | -2.991878 | Stationary |
| | SMTN | 5 | -7.369156 | -3.737853 | -2.991878 | Stationary |
| | VSTGDPN | 5 | -4.204753 | -3.737853 | -2.991878 | Stationary |
| | ALSIN | 5 | -6.852780 | -3.737853 | -2.991878 | Stationary |
| Kenya | HDIK | 8 | -3.527659 | -3.737853 | -2.991878 | Stationary |
| | MCAPGD | 5 | -6.013647 | -3.737853 | -2.991878 | Stationary |

| | | | | | |
|---|---|---|---|---|---|
| PK | | | | | |
| SMTK | 5 | -5.284681 | -3.737853 | -2.991878 | Stationary |
| VSTGDPK | 5 | -5.734561 | -3.737853 | -2.991878 | Stationary |
| ALSIK | 5 | -3.727465 | -3.737853 | -2.991878 | Stationary |

**Results of Cointegration Test**

The result of the co-integration test is presented in table 4.4 as follows:

**Table 4.4: Results of Co-integration Test for Nigeria and Kenya**

| Countries | Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob.** |
|---|---|---|---|---|---|
| Nigeria | None * | 0.958435 | 158.0379 | 69.81889 | 0.0000 |
| | At most 1 * | 0.922928 | 84.88769 | 47.85613 | 0.0000 |
| | At most 2 | 0.477742 | 25.93846 | 29.79707 | 0.1305 |
| | At most 3 | 0.290399 | 10.99788 | 15.49471 | 0.2116 |
| | At most 4 | 0.126386 | 3.107673 | 3.841466 | 0.0779 |
| Kenya | None * | 0.677105 | 77.39280 | 69.81889 | 0.0110 |
| | At most 1 * | 0.648093 | 50.26332 | 47.85613 | 0.0292 |
| | At most 2 | 0.482654 | 25.19816 | 29.79707 | 0.1545 |
| | At most 3 | 0.216589 | 9.381107 | 15.49471 | 0.3313 |
| | At most 4 | 0.136521 | 3.522839 | 3.841466 | 0.0605 |

Trace test indicates 2 co-integrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The results of table 4.4 show that there are two cointegrating equations in the series suggesting the existence of a long-run relationship between the human development index and the capital market indicators in Nigeria and Kenya. The existence of co-integrating equations informed the use of the error correction model in order to know how these variables adjust in response to a random shock and also to determine the long-run impact of the capital market variables on the human development index in Nigeria and Kenya.

**Results of Error Correction Model**

The parsimonious result of the error correction model for both Nigeria and Kenya are shown in tables 4.5 and 4.6; respectively as follows:

***Table 4.3: Parsimonious Results of the Error Correction Model for HDI in Nigeria***

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| D(HDIN(-1)) | 0.545862 | 0.206729 | 2.640465 | 0.0385 |
| D(MCAPGDPN(-2)) | 0.019907 | 0.008322 | 2.001841 | 0.0639 |
| D(MCAPGDPN(-3)) | 0.009118 | 0.003260 | 2.796262 | 0.0813 |
| D(SMTN(-1)) | 0.040497 | 0.006441 | 3.181162 | 0.0190 |
| D(SMTN(-3)) | 0.008313 | 0.005893 | 2.410736 | 0.0080 |
| D(SMTN(-4)) | -0.032725 | 0.008314 | -3.935740 | 0.0077 |

| | | | | |
|---|---|---|---|---|
| D(VSTGDPN(-1)) | 0.196660 | 0.066437 | 2.960071 | 0.0253 |
| D(VSTGDPN(-3)) | 0.215372 | 0.063252 | 3.404985 | 0.0144 |
| D(VSTGDPN(-4)) | 0.013268 | 0.016254 | 0.816290 | 0.4455 |
| D(ALSIN(-1)) | -1.28E-05 | 4.91E-06 | -2.614412 | 0.0399 |
| D(ALSIN(-2)) | 4.20E-06 | 3.08E-06 | 1.364782 | 0.2213 |
| D(ALSIN(-3)) | -2.24E-05 | 4.46E-06 | -5.015000 | 0.0024 |
| D(ALSIN(-4)) | -2.87E-05 | 6.38E-06 | -4.496714 | 0.0041 |
| ECT(-1) | -2.650111 | 0.434559 | -6.098394 | 0.0009 |
| C | 0.072715 | 0.015309 | 4.749643 | 0.0032 |
| R-squared | 0.930369 | Mean dependent var | | 0.004048 |
| Adjusted R-squared | 0.767896 | S.D. dependent var | | 0.031791 |
| S.E. of regression | 0.015316 | Akaike info criterion | | -5.344046 |
| Sum squared resid | 0.001407 | Schwarz criterion | | -4.597959 |
| Log likelihood | 71.11248 | Hannan-Quinn criter. | | -5.182126 |
| F-statistic | 5.726292 | Durbin-Watson stat | | 1.886569 |
| Prob (F-statistic) | 0.020619 | | | |

The result of the analysis in Table 4.5 shows that past human development index (HDI) at lag 1 reinforces itself. In other words, increase in the past HDI in Nigeria leads to increase in the present value of HDI. The ratio of value of securities traded to GDP and stock market turnover ratio which are proxies for market liquidity exert positive and significant impact on human development index in Nigeria while all share index at lags 1, 3 and 4 exert negative and significant impact on HDI. Market capitalization ratio at lags 2 and 3 related positively and insignificantly to HDI.

***Table 4.6: Parsimonious Results of the Error Correction Model for HDI in Kenya***

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| D(HDIK(-1)) | 0.611015 | 0.076033 | -8.036235 | 0.0151 |
| D(MCAPGDPK(-1)) | -0.001605 | 0.000103 | -1.52799 | 0.0841 |
| D(MCAPGDPK(-2)) | -0.002838 | 0.000119 | -2.00361 | 0.0627 |
| D(MCAPGDPK(-5)) | 0.000338 | 7.43E-05 | 4.550729 | 0.0450 |
| D(SMTK(-2)) | -0.009109 | 0.000588 | -15.50228 | 0.0041 |
| D(SMTK(-3)) | -0.009068 | 0.000450 | -20.13368 | 0.0025 |
| D(VSTGDPK(-2)) | 0.006455 | 0.001133 | 5.695938 | 0.0295 |
| D(VSTGDPK(-3)) | 0.007757 | 0.000906 | 8.557030 | 0.0134 |
| D(VSTGDPK(-4)) | 0.009015 | 0.000791 | 11.39363 | 0.0076 |
| D(VSTGDPK(-5)) | -0.002879 | 0.000667 | -4.314103 | 0.0498 |
| D(ALSIK(-1)) | 3.62E-05 | 1.78E-06 | 20.28936 | 0.0024 |
| D(ALSIK(-2)) | 1.47E-05 | 1.70E-06 | 8.646749 | 0.0131 |
| D(ALSIK(-3)) | 2.79E-05 | 1.97E-06 | 14.17316 | 0.0049 |
| D(ALSIK(-7)) | -1.90E-05 | 1.03E-06 | -18.54627 | 0.0029 |

| | | | | |
|---|---|---|---|---|
| ECT(-1) | -0.816481 | 0.046745 | -17.46683 | 0.0033 |
| C | 0.011128 | 0.000647 | 17.19572 | 0.0034 |
| R-squared | 0.998215 | Mean dependent var | | 0.002500 |
| Adjusted R-squared | 0.984830 | S.D. dependent var | | 0.013103 |
| S.E. of regression | 0.001614 | Akaike info criterion | | -10.43989 |
| Sum squared resid | 5.21E-06 | Schwarz criterion | | -9.648444 |
| Log likelihood | 109.9590 | Hannan-Quinn criter. | | -10.33076 |
| F-statistic | 74.57427 | Durbin-Watson stat | | 2.128536 |
| **Prob(F-statistic)** | 0.013308 | | | |

The result of the analysis in table 4.6 shows that the ratio of market capitalization to GDP, used as proxy for the size of the market, exerts negative and insignificant impact on human development index in Kenya at lags 1 and 2. However, it exerts positive impact on human development index at lag 5. Human development index in Kenya is also found to be a negative function of stock market turnover (SMTK) in Kenya. On the other hand, value of shares traded as a ratio of GDP and all share index exert positive and significant impact on human development index. The error correction term is correctly signed and corrects about 81.6 percent of the short- run deviations in the long- run. The coefficient of determination is high (99.8%) while the overall regression is significant with no autocorrelation.

**Pairwise Granger Causality Test Results for Nigeria and Kenya**

The results in tables 4.7 show that Human development index granger cause all share index in Kenya, while in Nigeria, stock market turnover ratio was found to granger cause human development index. The rest of the capital market indicators do not granger cause the HDI.

**Table 4.7: Pairwise Granger Causality Test Results**

| Countries | Null Hypothesis: | Obs | F-Statistic | Prob. |
|---|---|---|---|---|
| Nigeria | MCAPGDPN does not Granger Cause HDIN | 26 | 0.21251 | 0.8106 |
| | HDIN does not Granger Cause MCAPGDPN | | 0.53253 | 0.5956 |
| | VSTGDPN does not Granger Cause HDIN | 26 | 0.02074 | 0.9795 |
| | HDIN does not Granger Cause VSTGDPN | | 0.11913 | 0.8881 |
| | SMTN does not Granger Cause HDIN | 26 | 8.33235 | 0.0214 |
| | HDIN does not Granger Cause SMTN | | 0.75213 | 0.4849 |
| | ALSIN does not Granger Cause HDIN | 26 | 1.07437 | 0.3614 |
| | HDIN does not Granger Cause ALSIN | | 0.55108 | 0.5852 |
| Kenya | MCAPGDPK does not Granger Cause HDIK | 26 | 0.97645 | 0.3948 |
| | HDIK does not Granger Cause MCAPGDPK | | 2.59991 | 0.1004 |
| | VSTGDPK does not Granger Cause HDIK | 26 | 0.45517 | 0.6411 |
| | HDIK does not Granger Cause VSTGDPK | | 0.77178 | 0.4761 |
| | SMTK does not Granger Cause HDIK | 26 | 0.27271 | 0.7642 |
| | HDIK does not Granger Cause SMTK | | 1.67881 | 0.2131 |
| | ALSIK does not Granger Cause HDIK | 26 | 1.95834 | 0.1685 |

| | | |
|---|---|---|
| HDIK does not Granger Cause ALSIK | 6.44561 | 0.0073 |

**Discussion of findings**

Results of the study show that capital market in Nigeria performed relatively better than that of Kenya, in terms of their effect on economic development within the period under review.

In Nigeria, market capitalization to GDP ratio was found to have positive and insignificant effect on economic development, while in Kenya, it was found to have negative and insignificant effect on economic development. In Nigeria also, both values of securities traded to GDP ratio and stock market turnover ratio exerted positive and significant effect on economic development.

In the case of Kenya, while value of securities traded to GDP ratio had positive and significant effect on economic development, stock market turnover ratio was found to have negative and significant effect on economic development.

The effect of all share indexes on economic development in Nigeria was found to be negative and significant while in Kenya, all share indexes had positive and significant effect on economic development.

Human development index was found to granger cause all share index in Kenya while in Nigeria, stock market turnover ratio was found to granger cause human development index. In other words, stock market turnover ratio is a good predictor of human development index in Nigeria.

**Conclusion**

The analysis suggests that the degree of responsiveness of human development index to a small change in all share index in Nigeria is elastic since a small increase in the stock price decreases significantly the human development index.

In general, results of the study confirm the existence of a link between capital market and economic development in both countries. However, the extent to which capital market impact economic development was found to be rather weak given the low values of the coefficients. It is surprising to find out that capital markets of Nigeria and Kenya, as developed as they are, contribute so little towards economic development.

Lack of awareness of some members of public with regards to investment opportunities that exist in the capital market, stringent listing requirements as well as lack of appropriate policies relating to capital market operations could be a challenge.

This study recommends that government and regulatory authorities should formulate and implement policies that will facilitate the participation of more private companies in the market. There should also be public enlightenment campaign that will create awareness in respect of the investment opportunities that exist in the capital market. These measures will have the effect of increasing investment instruments, reducing transaction and information costs as well as attract foreign portfolio and direct investors to the markets. The overall effect will be an increase in capital formation that will invariably translate to economic growth and development.

**Reference**

Aduda, J., Chogii, R. & Muraya, T. M. (2014). The Effect of Capital Market Deepening on Economic Growth in Kenya*. Journal of Applied Finance and Banking*, 4(1): 141-159.

Aghion, P. & Howitt, P. (1992). A Model of Growth through Creative Destruction. *Econometrica*, 60 (2): 323-351.

Christain, U. A., Nwezeaku, N. C. & Akujuobi, A. B. C. (2015). Impact of Capital Market Growth on Economic Growth and Development in Nigeria. *American Journal of Marketing Research*, 1(3): 93-98

Dayaratne, D. & Wijethunga, A. (2015). Stock Market Development and Economic Growth: War and Post War Evidence from Sri Lanka*. 4th Annual International Research Conference.*

Donwa, P. & Odia, J. (2010). An Empirical Analysis of the Impact of Nigerian Capital Market on her Socio Economic Development. Journal of Social Sciences, 24(2):135-142.

Edame, G. E. & Okoro, U. (2013). The Impact of Capital Market on Economic Growth in Nigeria. *Journal of Poverty, Investment and Development*. 3(9): 7-15.

Ewah, S. O. E., Esang, E. A., & Bassey, J. U. (2009). Appraisal of Capital Market Efficiency on Economic Growth in Nigeria. *International Journal of Business and Management,* 4(12): 219-228.

Iyoha, M.A. (2004). *Macroeconomics: Theory and Policy*. Mindex Publishing Revised Edition.

Levine, R. & Zervos, S. (1996). Stock Market Development and Long-run Growth. *The World Bank Economic Review*, 10(3):323-339.

Lucas, R.E. (1988). On the Mechanics of Economic Development. Journal of Monetary Economics, 22(1), 3-42.

Nwanna, I. O. (2016). Impact of Capital Market Volatility on Economic Growth in Nigeria (1985 - 2016). *Journal of Economics and Finance (IOSR-JEF)*, 8(4): 01–25.

Nyong, M.O. (1997). *Capital Market Development and Long-run Economic Growth: Theory, Evidence and Analysis*. First Bank Review: December: 13-38.

Olweny, T. & Kimani, D. (2011). Stock Market Performance and Economic Growth: Empirical Evidence in Kenya Using Causality Test Approach. *Advances in Management and Applied Economics,* 1(3): 153-196.

Romer, P.M. (1986). Increasing Returns and Long-run Growth. *Journal of Political Economy,* 94(5): 1002-1037.

Todaro, M., & Smith, S. (2009). *Economic Development* (10th Ed.). Boston: Addison Wesley.

Yadirichukwu, E. & Chigbu, E.E. (2014). The Impact of Capital Market on Economic Growth: The Nigerian Perspective. International Journal of Development and Sustainability, 3(4): 838-864.