

# **Globalization and Capital Market Development in Emerging Economies (Evidence from Nigeria): A Cointegration and Causality Approach.**

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**Abstract.** Empirical investigation into the influence of globalization on Nigeria's capital market development formed the central focus of this paper, covering the period, 1980-2013. We generated four proxies for globalization namely, Import, Export, Trade openness and Foreign Investment inflows, while Total Market Capitalization, proxied Capital Market Development. Applying the test for stationarity with the Ordinary Least Square(OLS) procedures, Cointegration and Causality procedures. The Chow Breakpoint test shows that globalization exerts significant influence on capital market development at 10% level of significance. The hypothesis that there is no significant relationship between globalization and capital market development in emerging economies was rejected at 1% level of significance. The result also shows that net export exerts positive and significant impact on market capitalization while market capitalization is a negative and significant function of net foreign inflow .Net imports also exert significant influence on Market capitalization. Whereas, both export and foreign investment inflows exert no significant effects on capital market development, imports and trade openness did not conform to *a priori* expectation test. Thus, leading to the conclusion that there is need for emerging economies to take closer look at their policy directions under globalization given the fact that globalization could be favorable or unfavorable for economic growth, all depending on policy initiatives of the concerned economy.

**Keywords:** Globalization, Co-integration Analysis, Capital Market Development, Causality, Economic Integration, Trade openness.

## **1. Introduction**

The concept of globalization has continued to dominate both national and international discourse especially with the recent explosive evolution in the information and communication industry. Vujakovic, (2010) posits that globalization connotes different things to different people across the world. It also refers to the increasing inter-connectivity and inter-dependencies among the world's nations, regions, governments, businesses, institutions, communities, families, and individuals. Both Bhagwati (2004) and McAlister (2005) have noted that globalization is not just a process which integrates the world's economies but also the culture, technology, information, ideas and governance. Simply put, globalization is a process of international integration of economies of nations arising from the increase in human connectivity and interchange of world views, products, ideas, information and other aspects of culture and tradition (Cowen and Barber,2003;Gbenga,2006;Behrens,2010;Conversi,2010;Biswajit,2011, Nwezeaku 2007).

All told, globalization affects the domestic markets and in turn enhances financial development by increasing access to capital by lowering the cost of capital for productive investments (Mishikin, 2007).

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Other highlights of globalization include its effect on financial development through promotion of reforms and healthy competition, evolution of best practices in the industry, and enhancement of manpower development. As observed by Akujuobi and Akujuobi (2007) the link between international capital markets and their development is a direct consequence of the current drive for greater global integration, such that developing economies have continued to pursue policies aimed at attracting more capital inflows to augment domestic savings and overall, engender economic growth.

However, whether globalization has affected capital formation, availability and access to credit in Nigeria and to what extent still remains largely unresolved (Ojo, 2003). Consequently, this study is an attempt to empirically determine the nature of relationship between globalization and the capital market development in Nigeria. Specifically, the study tests the hypothesis; **HO:** *That the selected globalization components namely import, export, Trade openness, and foreign investment inflows have no significant effect on capital market development in Nigeria.* The study is structured as follows; section 1 sets out the introduction, section 2 gives a brief literature on the relationship between globalization and capital market development. In section 3, the methodology adopted for the study is explained while section 4 presents the empirical result. The paper concludes in section 5 with some recommendations.

## **2. Review of Empirical Literature**

The word globalization has been viewed by many economists as one of the most powerful forces to have shaped the world economy (Gbenga, 2006; Behrens, 2010; Conversi, 2010; Biswajit, 2011). It is a development having a profound impact on the subject of economics as a whole to such an extent that it has become the defining process of the present age (Noel and Pim, 2008). Globalization has become a very powerful metaphor in the sense that a number of universal processes are at work generating increased interconnection and inter-dependence between states and between societies.

Accordingly, globalization envisages a global village through broadening and deepening of linkages of national economies into a worldwide market for goods and services especially capital. It seeks to remove national barriers to the free movement of international capital and this process is accelerated and facilitated by the supersonic transformations taking place in information technology. In fact, globalization has become the latest economic buzzword, used in any and every context, since the 1990s (Ajayi, 2001; IMF, 2002; Scholte, 2005; Obadan, 2008).

To say the least, the phenomenon of globalization has intensified in its ramifications and become a very important issue for discussion in various fora. The present era has therefore, witnessed some distinctive features of shrinking space, shrinking time and disappearing borders which are linking people's lives more deeply, more immediately than ever before, such that there has also been unprecedented global economic integration (UNTAD, 2002). In international discourse both official and non-official in the context of the 'interdependence' of economies and nations, globalization is commonly used as a shorthand way of describing the spread and connectedness of production, communication and technologies across the world. This spread has involved the interlacing of economic and cultural activity (Ojo, 2003).

According to Gbenga (2006), the whole process of globalization has become a necessary consequence of economies. The growing integration of economies and societies around the world has been one of the most hotly-debated topics in international economics over the past few years. Bhagwati (2004) notes that the rapid growth and poverty reduction in China, India, and other countries that were poor about 20 years ago, have been attributed to the positive aspect of Liberalization, Privatization and Globalization (LPG), irrespective of the fact that globalization has generated significant international opposition over concerns that it has increased inequality and environmental degradation (Juris, 2008).

Globalization has changed the face of the world in which we live and as a result, goods produced in one continent are sold and used by people in another continent within a short period of time. For example, vegetables served on British dinner tables may have been picked only a few hours earlier by Kenyan farmers

working under the scorching African sun. Young people in Cape Town, South Africa, Nairobi, Kenya, and Lagos, Nigeria, listen to the same music as young people in New York, Kentucky, or Oregon.

Supporting the above idea, Obadan (2008) asserts that the phenomenon of globalization was spreading like wild fire, and with numerous implications (good/or bad) for both developed and developing countries. Those crises put the growing interdependencies among countries in the spotlight and led to their intense scrutiny. Nevertheless, globalization has remained a powerful force shaping world economies for good or for ill, especially as it affects both the financial and capital market development of countries (World Bank, 2000).

According to The Financial Development Report (2008), financial development on its own, describes the factors, policies, and institutions that create effective financial intermediation and market as well as deep and broad access to capital and financial services. It is also defined as a process that marks the improvement in the quantity, quality and efficiency of financial intermediary services. It involves the interaction of many activities of financial institutions which are associated with economic growth and developments, which no doubt, take place in the capital market.

However, in spite of these acclaimed benefits of globalization to the economy, very little is known about the extent globalization has affected the developing economies like Nigeria especially in the area of capital market development and this calls for urgent empirical investigation. Consequently, this paper empirically investigates the relationship between globalization and the capital market development in Nigeria, covering the period, 1981-2013.

### 3. The Model and Methodology

This study follows the theoretical concept suggested by past and related studies (Dreher, 2006; Gbenga, 2006; Ekeocha, 2012). We transform their specification with little modification as follows:

$$NCAP_t = \lambda_0 + \lambda_1 NIMP_t + \lambda_2 NEXP_t + \lambda_3 TOP_t + \lambda_4 NFI_t + U_t$$

Where;

NCAP<sub>t</sub> is the Level of Total Market Capitalization at period t

NIMP<sub>t</sub> is the level of Import at period t.

TOP<sub>t</sub> is the level of Trade Openness at period t

NFI is the level Foreign Investment Inflows at period t

λ<sub>0</sub> is the intercept term

λ<sub>1</sub>.....λ<sub>4</sub> are the regression parameters

U<sub>t</sub> is the error term

On the a priori, the parameters are concordant with the hypothesis that λ<sub>0</sub> .....λ<sub>4</sub> > 0

For purpose of avoiding spurious or nonsensical regression, we conducted a unit root test; we then employed Johansen multivariate cointegration technique for long-run relationships among variables and error correction Mechanism to determine the speed of adjustment in the event of short-run distortion.

#### Unit Root Analysis

Testing for the presence of a unit root is based on the assumption that the error term of the two consecutive times period of models are uncorrelated. If they are then, Dickey-Fuller Test can be applied as:

$$\Delta y_t = \alpha \delta y_{t-1} + \mu \dots \dots \dots \text{without drift and trend.}$$

$$\Delta y_t = \alpha^{-1} + \alpha \delta y_{t-1} + \mu \dots \dots \dots \text{with intercept}$$

$$\Delta y_t = \alpha_1 + \alpha_2 t + \alpha_3 \delta y_{t-1} + \mu \dots \dots \dots \text{with drift and trend}$$

Any of these models could be used to test for stationary. However, when the under laying assumption that the error terms are uncorrelated is relaxed, then the Augmented Dickey-Fuller Test can be used as:

$$\Delta y_t = \alpha \Delta t + \delta y_{t-1} + \mu \dots \dots \dots \text{no drift and trend}$$

$$\Delta y_t = \alpha_1 + \alpha_2 \Delta y_{t-1} + \delta y_{t-1} + \mu \dots \dots \dots \text{with drift}$$

$$\Delta y_t = \alpha_1 + \alpha_2 t + \alpha_3 \Delta y_{t-1} + \delta y_{t-1} + \mu \dots \dots \dots \text{with trend and drift}$$

*Johansen Multivariate Co Integration*

This technique is basically used to test for long-run association in a system. Usually two statistics are involved-Trace Statistics and Max Eigen statistics: when the sample size is smaller (i.e.  $n < 40$ ), Max Eigen value provides the more sophisticated results, but if  $n > 40$ , then the Trace statistic value gives the more sophisticated results.

*Trace Statistics*

Null hypothesis Alternative Hypothesis

H0:  $r = 0$  H1:  $r \geq 1$

H0:  $r = 1$  H1:  $r \geq 2$

⋮

⋮

H0:  $r \leq n$  H1:  $r = n$

Trace statistics see the null hypothesis among remaining all hypotheses.

H0:  $r = 0$  H1:  $r = 1$

H0:  $r \leq 1$  H1:  $r = 2$

⋮

⋮

H0:  $\leq n$  H1:  $r = n$

Max Eigen Statistics can only check Co integration one by one.

## 4. Discussion of Results

### 4.1. Unit root

This section begins with the analysis of the unit root test, recalling that the unit root test is essentially conducted to confirm the stationarity status of the individual data set and hence its quality for inclusion in the analysis to avoid spurious results.

Table 4.1: Unit Root Test

| Augmented Dickey-Fuller<br>Unit Root Test |                            |              |                         |                         |            |
|---|----------------------------|--------------|-------------------------|-------------------------|------------|
| Variable                                  | Max Lag<br>Based on<br>SIC | T-statistic. | Critical<br>value at 1% | Order of<br>Integration | Remark     |
| NCAP                                      | 8                          | -8.412696    | -3.653730               | 1                       | stationary |
| NIMP                                      | 8                          | -6.190834    | -3.661661               | 1                       | Stationary |
| NEXP                                      | 8                          | -7.573927    | -3.653730               | 1                       | Stationary |
| TOP                                       | 8                          | -6.296707    | -3.711457               | 1                       | Stationary |
| NFI                                       | 8                          | -7.959711    | -3.661661               | 1                       | Stationary |

**Source:** E-views 7.1 Statistical Package.

The unit root test is carried out using the Augmented Dickey Fuller test in order to determine whether the data set is stationary and the order of integration. From table 4.1, it is observed that the null hypothesis of unit root is not accepted because the test statistic is more negative than the critical values. In other words, the absolute values of the test statistic of the series are greater than the critical (absolute) values of the series at 1

percent level of significance and are therefore said to be integrated of order 1; I(1). Thus, the series are stationary at the first difference and at 1 percent critical level. In the light of this, the data set can be relied upon for analysis as it shows no evidence of producing spurious results.

The researchers therefore resorted to obtaining the static equation of the series which shows clear evidence of no spurious result ( $R^2 < DW$ ). The result of the static regression is shown in table 4.2 below.

Table 4.2 Dependent Variable: NCAP

Method: Least Squares  
Sample: 1980 2013  
Included observations: 34

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.  |
|--------------------|-------------|-----------------------|-------------|--------|
| NIMP               | -1.32E-06   | 1.00E-06              | -1.319101   | 0.1975 |
| NEXP               | 1.71E-06    | 5.02E-07              | 3.401506    | 0.0020 |
| NFI                | -4.66E-12   | 1.95E-12              | -2.388357   | 0.0237 |
| TOP                | -0.021893   | 0.023878              | -0.916856   | 0.3668 |
| C                  | 0.090381    | 0.008525              | 10.60222    | 0.0000 |
| R-squared          | 0.705237    | Mean dependent var    | 0.113000    |        |
| Adjusted R-squared | 0.664580    | S.D. dependent var    | 0.045080    |        |
| S.E. of regression | 0.026108    | Akaike info criterion | -4.318086   |        |
| Sum squared resid  | 0.019767    | Schwarz criterion     | -4.093621   |        |
| Log likelihood     | 78.40747    | Hannan-Quinn criter.  | -4.241537   |        |
| F-statistic        | 17.34601    | Durbin-Watson stat    | 1.669596    |        |
| Prob(F-statistic)  | 0.000000    |                       |             |        |

The result shows that net export exerts positive and significant impact on market capitalization while market capitalization is a negative and significant function of net foreign inflow. Market capitalization also is negatively but insignificantly related to net import and trade openness. The variables are highly fitted ( $R^2 = 71\%$ ) and the overall regression ( $F = 17.3$ ) is significant with no autocorrelation judging by the rule thumb. Since this result is not spurious, the researchers employed Chow Break point test to determine the impact of globalization on capital market development. In this study, globalization in Nigeria is assumed to have established its weight with the internationalization of the Nigerian capital market in 1995. The result of this test is presented in table 4.3 below.

Table 4.3 Chow Breakpoint Test: 1995

Null Hypothesis: No breaks at specified breakpoints  
Varying regressors: All equation variables  
Equation Sample: 1980 2013

|                      |          |                     |        |
|----------------------|----------|---------------------|--------|
| F-statistic          | 2.238580 | Prob. F(5,24)       | 0.0833 |
| Log likelihood ratio | 13.01488 | Prob. Chi-Square(5) | 0.0232 |
| Wald Statistic       | 11.19290 | Prob. Chi-Square(5) | 0.0477 |

Chow break point test shows that globalization exerts influence on capital market development at 10% level of significance. This is supported by Wald test which is significant at 5% showing that capital market development varies with globalization variables.

The researchers using paired t statistics to confirm whether there is a significant difference in capital market development before and after globalization find that significant difference exists between the activities of the market in terms of market capitalization development. The result of this non parametric analysis is presented in table 4.4 as follows.

Table 4.4 Paired Samples Test

|                     | Paired Differences |                |                 |   |          | t      | df | Sig. (2-tailed) |
|---------------------|--------------------|----------------|-----------------|---|----------|--------|----|-----------------|
|                     | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |          |        |    |                 |
|                     |                    |                |                 | Lower                                     | Upper    |        |    |                 |
| Pair 1 NCAP - NCAP2 | -6.06250           | 5.20857        | 1.30214         | -8.83795                                  | -3.28705 | -4.656 | 15 | .000            |

The mean and standard deviation of after globalization data (NCAP2 =14.1875 and 4.05329 as against 8.13 and 1.746 respectively) suggest that globalization improves the capital market development. These estimates are presented in table 4.5.

Table 4.5 Paired Samples Statistics

|        |       | Mean    | N  | Std. Deviation | Std. Error Mean |
|--------|-------|---------|----|----------------|-----------------|
| Pair 1 | NCAP  | 8.13    | 16 | 1.746          | .437            |
|        | NCAP2 | 14.1875 | 16 | 4.05329        | 1.01332         |

**Co- integration Tests**

Table 4.6 shows that there are 2 co-integrating equations and therefore, presents evidence of a long-run relationship between the capital market development and the selected globalization variables in Nigeria.

Table 4.6 Trend assumption: Linear deterministic trend

Series: NCAP NEXP NFI NIMP TOP  
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob.** |
|---------------------------|------------|-----------------|---------------------|---------|
| None *                    | 0.786038   | 115.2821        | 69.81889            | 0.0000  |
| At most 1 *               | 0.683110   | 65.93948        | 47.85613            | 0.0004  |
| At most 2                 | 0.470891   | 29.16511        | 29.79707            | 0.0590  |
| At most 3                 | 0.234407   | 8.795171        | 15.49471            | 0.3847  |
| At most 4                 | 0.007714   | 0.247807        | 3.841466            | 0.6186  |

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

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

**The Granger Causality Results**

Here, we estimate the direction of the effect of the variables taken together. Evidently, from table 4.7, it is striking to note that net export granger causes total market capitalization with feedback effect while the level of import uni-directionally causes market capitalization at 5% level of significance. Other results produced no significant causal relationship between capital market variable and any other selected globalization variable.

Table 4.7 Pairwise Granger Causality Tests

Sample: 1980 2013

Lags: 4

| Null Hypothesis:                 | Obs | F-Statistic | Prob.  |
|----------------------------------|-----|-------------|--------|
| NEXP does not Granger Cause NCAP | 30  | 5.46229     | 0.0036 |
| NCAP does not Granger Cause NEXP |     | 3.12194     | 0.0366 |

|                                  |    |         |        |
|----------------------------------|----|---------|--------|
| NFI does not Granger Cause NCAP  | 30 | 0.16402 | 0.9543 |
| NCAP does not Granger Cause NFI  |    | 0.86963 | 0.4985 |
| NIMP does not Granger Cause NCAP | 30 | 9.46219 | 0.0002 |
| NCAP does not Granger Cause NIMP |    | 2.66188 | 0.0611 |
| TOP does not Granger Cause NCAP  | 30 | 0.52074 | 0.7215 |
| NCAP does not Granger Cause TOP  |    | 0.70341 | 0.5984 |
| NFI does not Granger Cause NEXP  | 30 | 0.17216 | 0.9502 |
| NEXP does not Granger Cause NFI  |    | 0.19283 | 0.9394 |
| NIMP does not Granger Cause NEXP | 30 | 2.16924 | 0.1078 |
| NEXP does not Granger Cause NIMP |    | 5.99446 | 0.0022 |
| TOP does not Granger Cause NEXP  | 30 | 0.20433 | 0.9331 |
| NEXP does not Granger Cause TOP  |    | 0.04722 | 0.9955 |
| NIMP does not Granger Cause NFI  | 30 | 0.18929 | 0.9413 |
| NFI does not Granger Cause NIMP  |    | 0.00763 | 0.9999 |
| TOP does not Granger Cause NFI   | 30 | 0.21156 | 0.9291 |
| NFI does not Granger Cause TOP   |    | 0.06506 | 0.9916 |
| TOP does not Granger Cause NIMP  | 30 | 1.15717 | 0.3577 |
| NIMP does not Granger Cause TOP  |    | 0.05806 | 0.9933 |

## 5. Concluding Remarks.

This study shows that a significant relationship exists between globalization and the capital market development in Nigeria, with only export being statistically significant and meeting the a priori expectation. With a feedback effect. The model has both import and foreign investment inflows impacting negatively on capital market development which probably could be as a result of the country's high marginal propensity to consume foreign goods; and the tendency for net foreign investment to be destabilizing rather than stabilizing. These leave more to be desired. This finding is in tandem with the recommendation of Obi (2013) on the need for emerging economies to take closer look at their policy directions under globalization given the fact that globalization could be good or bad for economic growth, all depending on policy directives in any one economy. This therefore is a wake-up call on emerging economies to look into the issue of wrong policy initiatives in those sectors which urgently need to be addressed.

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