Comparative Analysis of Nigeria’s Economy during Pre – Reformed and Reformed Era.

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Abstract: This study was carried out to evaluate the economy during pre-reformed and reformed period in Nigeria. The study notes two eras of pre-reform (1970-1985) and the reformed (1995-2010) financial eras. Using both descriptive statistics and analytical methods, regression analyses were conducted and based on the results, it was discovered among other things that there was no significant difference in the growth and development of the economy vis-a-vis bank performance during the pre-reformed compared to the reformed financial era in Nigeria. To this end it was concluded that reforms so far implemented have not significantly move the economy foreword and consequently banks have not also performed as had been expected but rather the reforms have created avenues for executive fiat, corruption and embezzlement of public funds.

I. Introduction

The world over, many economies have undergone various types of reforms. This is to enable them cope with changing economic cycles, developments and challenges. Nigeria is no exception. Different sectors of the economy have also undergone several types of reforms. Reforms here mean to improve a system, an organisation, a law, etc by making changes to it, (Hornby, 2001). The point is that reforms are gradual, continuous and of varieties. For instance, there are economic, political, social, and/or financial reforms, to mention but a few.

Economic reforms are the pursuits of fiscal reforms and market liberalization, which focus on extensive privatization of state owned enterprises as well as liberalization of financial and foreign exchange markets, with government limited to provision of the right enabling environment for a private sector led growth and development (World bank, 1986). Theodore (2007) opined that social reform means any attempt to alter or effect change in the society, even if it means making some radical exploit to alleviate human sufferings and deprivations of all ramifications without losing sight of the ultimate desirable democratic order. Such change could be in the form of social groups, structures and types of associations/interactions among member of the society, while according to Dele (2007) financial reforms focus mainly on restructuring financial sector institutions (regulators and operators) through institutional and policy reforms. They are always targeted toward market liberalization for the promotion of a more efficient resource allocation, expansion of savings mobilization base, promotion of investment and growth through market-based interest rates and above all, laying the basis for inflation control and economic growth and development.

The concern of this article is on Investment volume and per-capita income. This study therefore examines the impact of financial reforms on investment volume and per-capita income and Economic growth and development in the economy. Economic growth means an increase in output per unit of input, while economic development means more outputs plus changes in the technical and institutional arrangement by which the outputs are produced (Udu and Agu, 1989). While economic growth and development are measured through the use of major economic indicators such as growth rate of gross domestic product (GDP), volume of investment in the economy and human development index and consumer price index rate respectively.

1.1 Objectives of the Study
Make a comparative analysis of the performance of the economy during the pre – reformed (1970 to 1985) and the reformed (1993 to 2010) financial era.

1.2 Research Questions
Is there any difference in the growth and development of the economy during the pre-reformed and the reformed financial eras in Nigeria?

1.3 Research Hypotheses
There is no difference in the growth and development of the economy during the pre-reformed and reformed financial eras in Nigeria
II. Literature Review

2.1.0 The Theory of Finance and Economic Growth

As stated earlier, this study (and the parameters used) is supported by the theory of finance and economic growth propounded and investigated by earlier financial economists like Joseph Schumpeter, Ronald McKinnon, Walter Baghot, John Hicks etc. The theory describes the conceptual links between the functioning of the financial system and economic growth vis-a-vis development. It proposes and explains what the financial system does and how it affects and is affected by economic growth and development. This theory suggest that financial system (instruments, markets, and institutions) arise to mitigate (or reduce) the effects of information and transaction costs; influencing saving rate, investment decisions, technological innovations, and long-run growth and development rates through its functions.

In addition, the theory advocates the functional approach to understanding the role of financial systems in economic growth and development. It focuses on the ties between growth and the quality of the functions provided by the financial system. These functions include facilitating the trading of risks, allocating capital, monitoring managers, mobilising savings, and easing the trading of goods, services and financial contracts (Levine, 1997).

Justification for reliance on this theory is simple: it discourages a narrow focus on one financial instrument, like money, or a particular institution, like banks as in the works of Gurley and Shaw (1955) and Tobin (1965). Instead it prompts a more comprehensive—more difficult question: what is the relationship between financial structures/arrangements and the functioning of the entire financial system? In their mathematical models as distinct from their narrative, the authors focus on one instrument/institution. This narrow focus can restricts the analysis of finance-growth nexus, and lead to a misleading distinction between the “real” and financial sectors. In contrast, the functional approach of the theory of finance and economic growth highlights the value added of the financial sector in Toto.

2.1.1 The Traditional and New Growth Theories

Mechanisms through which finance impacts on economic growth and development are well discussed in both the traditional and new growth theories. While the traditional growth theory saw no role for finance in the growth process, the new growth theory maintain that finance can influence growth in three major ways: by increasing the efficiency of the intermediation process; by increasing the productivity of capital by increasing saving’s rate and by promoting entrepreneurship and encouraging new entry of firms which in the process encourage competition. It is the overall financial development (and not financial structure) that promotes growth and also, it is the overall quality of the financial system as determined by the efficiency of the legal system that promotes growth (Roe, 1993).

2.1.2 The Keynesian Theory of Finance and Economic Growth

The Keynesian perspective on the role of finance in economic growth portends that investment decisions are primarily determined by the level of confidence, expected demand and the “animal spirits” of the private investors. Underlying the Keynesian view is the fundamental message that it is investment that determines saving, and not vice versa. Although, in principle, the rate of interest matters, in practice it is regarded as being relatively insignificant compared to demand factors. High real interest rates may stifle investment and growth. The disequilibrium approach within the context of the Keynesian tradition implies that investment depends on prospects for profits and the binding constraints on firm’s sales (Sneessens, 1987; Malinvaund, 1980). Moreover, it is not necessarily the case that a perfect capital market will lead to an optimal allocation of investment. Indeed Keynes in the General Theory likens the stock market to a gambling casino dominated by speculators and investors with short-term outlook.

2.1.3 The Financial Repression Hypothesis

The theories of finance outlined above have been mainly concerned with advanced economies where the capital markets are well developed. In the case of underdeveloped capital markets, the McKinnon-Shaw framework has explicitly sought to relate capital-market developments to long-term economic growth in the developing countries (McKinnon, 1973; Shaw, 1973). The McKinnon-Shaw proposition is that a repressed financial sector interferes with development in several ways: savings vehicles are not well developed; financial intermediaries that collect savings do not allocate them efficiently among competing uses; and firms are discouraged from investing because of financial policies repression that reduce the returns to investment or make them uncertain; as a result growth is retarded. Thus financial liberalization theory argues for improved growth through financial deepening and financial sector reform. The key relations of financial liberalization paradigm are: positive real deposit rates raise the saving rate; a positive correlation between the degree of financial deepening and the growth rate; increased real rates raise the level of investment; and increased real deposit rates promote economic growth (Dornbusch and Reynoso, 1988; Oshikoya, 1992).
2.2 Conceptual Review

2.2.0 The Concept and Nature of Financial Reforms in Nigeria

From the conceptual perspective, financial reforms connote changes, re-organization, restructuring, re-shaping and overhauling of the financial system to get rid of imperfections and possible distortions affecting smooth operation and performance of the system. According to Ubom (2008), reforms are usually introduced into the system when there is an observed departure in the focus and direction of the section of the economy from the original or desire focus or objectives.

In strict financial parlance, financial sector reforms is nothing more than the changes, adjustments, reviews and restructuring of operations, management, ownership, organization supervision and regulation of financial institutions in particular and/or the sector as a whole. The broad thrust of the reforms rest on improving the effectiveness and efficiency off the institutions/sector (Soludo, 2004). Such changes or reforms may be by shifting or relaxing some regulatory, operational and supervisory conditions. These conditions may require/specify new requirements and conditions for existing and new institutions, minimum capital base, areas of operations, new reporting requirement and level of assets and liability structure and operational strategies (Ademola, 2001). Financial reforms could emerge as a result of general economic and social reforms introduced in a country. This was the case in 1986, when structural Adjustment Programme was introduced (Ademola, 2001). Among the attendant policies were liberalisations of the sector, privatization of institutions, recapitalisation, merger and acquisition (as approaches), consolidation agenda etc. Naturally therefore, financial reforms came as a direct opposition to financial repression. It is an attempt to reduce the direct control of the economy by regulatory (government) authorities. By these reforms, more attention is given to market forces in allocating credit through freely determined interest rates (Bandiera et al., 1999). One thing to get clear is that reforms may necessarily connote a free market (where all prices are pegged by the invisible hands or the mechanism). However, a free market does not always means private markets (i.e. a purely capitalist market). “Free markets” means markets with an absence of coercion (Morrissey, 2008). This implies that reforms may leads to a relatively free market but not purely a private market.

Reforms in Nigeria that wear the above looks started in 1986 with the introduction of Structural adjustment programme (SAP), against the crash in the international oil market and the resultant deteriorating economic conditions in the country. It was designed to achieve fiscal balance and balance of payments viability by altering or restructuring the production and consumption patterns of the economy, eliminating price distortions, reducing the heavy dependence on crude oil exports and consumer goods imports, enhancing the non-oil export base and achieving sustainable growth. The reforms strategies were deregulation of external trade, and payments arrangements, the adoption of a market determined exchange and interest rates, substantial reduction in complex prices and administrative controls and more reliance on market forces as a major determinant of economic activity.

2.2.4 Objectives and Policies of Financial Reforms in Nigeria

The preponderance of the evidence in the financial literature is that many developing countries embarked on a programme of financial reforms in order to maximize the benefits associated with a relatively free market system. Thus over the years, the objectives of financial reforms have remained the attainment of internal and external balance of payment, the stimulation of output and employment, promotion of domestic and external stability, to improve the efficiency and stability of the financial structure, to ensure that market forces perform greater role in efficient resources allocation, moderation in inflation, reduction of pressure on balance of payment position, stability in exchange rate, stimulation of savings and investment and promotion of macroeconomic stability (Fry, 1997). Others are to foster competition, strengthen the supervisory role of the regulatory authority and streamline the relationship between the public and financial sectors of the economy (Umoh, 1995).

III. Research Methodology

3.1 Research Design

In this study, the ex post facto research design was employed. Ex post factor (i.e. after the fact) research is a research that is undertaken after the event has taken place and the data are already in existence (Ndiiyo, 2005). The choice of this design is informed by the hybrid nature of this research. It is hybrid in the sense that it has some descriptive and experimental features, and the ex post factor design is midway between descriptive and experimental research. It is descriptive in that the researcher has no direct control over experimental conditions, while it is experimental because an attempt is made to infer causal relationships between groups, which differ in important ways. It is to explore the causal relationship existing between two or more variables as is the case in this study.
3.2 Research Area
This study is conducted in the area of financial reform and economic growth and development. Its thrust is specifically on examining the impact that financial reforms could mete out on economic growth and development of a nation. In this study, we use Nigeria as a case. Thus, this research is carried out in Nigeria to examine the impact of financial reforms during pre-reformed and reformed period on the growth and development of her economy.

3.3 Sources of Data
The data used were secondary data. Secondary data refers to those pieces of information, facts, figures, and detailed opinions generated and documented by other people to satisfy entirely different research works but were found to be relevant to this study.

3.4 Methods of Data Collection
Archival retrieval method, document investigation/analysis, and extensive library search methods were adopted in collecting data for this research. The library is the storehouse of knowledge and wisdom which have accumulated over time. Thus, the library research method involved intensive library readership. Other methods used to complement the above named method were Internet and website surfing and exploration. Some data were also collected from the records or documents kept in some institutions, establishment through archival retrieval method.

3.6 Model Development/Specification
Economic “growth” and “development” are often used synonymously in economic discussion, but they can be distinguished from each other. Economic growth means more output, which implies more input and more efficiency – that is an increase in output per unit of input (Udu and Agu, 1989:232). It is the rate at which the economy grows per annum and is measured in this study by the growth rate of gross domestic product (GDP), and volume of investment (VI) etc. In this study, it is postulated that economic growth, proxy by GDP and VI is influenced by financial reforms proxy by bank asset base (BAB) Insurance Asset Base (IAB), stock market capitalization rate (MCR) and foreign exchange reserves (FER). Our first set of models and their implicit regression equations are therefore given thus:

\[ \text{EG} = f(BAB, IAB, MCR, FER): \]

(i) \[ GDP_r = f(BAB, IAB, MCR, FER): \]
\[ GDP_r = a_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e \]
\[ Eqtn\ 1 \]

(ii) \[ VI = f(BAB, IAB, MCR, FER): \]
\[ VI = a_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e \]
\[ Eqtn\ 2 \]

where \( EG \) = Economic growth measured by GDP, \( VI \), each being a function of \( f (X_i = BAB, IAB, X_i = MCR, X_i = FER) \) as defined above, and \( e \) = error term, \( a_0 \) = estimate of the true intercept of the dependent variables or regression constant, \( b_{1-4} \) = estimate of the true parameters of the independent variables or regression coefficients.

Economic development (ED) on the other hand, implies that there are both more output and changes in the technical and institutional arrangement by which the output is produced. It implies changes in the structure of outputs and in allocation of inputs by production sector. Udu and Agu (1989:232) defined economic development as the process whereby the level of national production (i.e., national income) or per capita income, increase over a period of time and is measured in this study by per capita income (PCI) and Consumer Price Index (CPI). In the same vein, ED proxy by PCI and CPI is influenced by financial reforms as express in our second set of models below:

(i) \[ PCI = f(BAB, IAB, MCR, FER): \]
\[ PCI = a_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e \]
\[ Eqtn\ 3 \]

(ii) \[ CPI = f(BAB, IAB, MCR, FER): \]
\[ CPI = a_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e \]
\[ Eqtn\ 4 \]

All variables are as defined earlier in the preceding sections.

Generally, while measures of financial reforms constitute the independent variables, measures of economic growth and development constitute the dependent variables of the study. Thus eqtns 1 – 4 would be estimated through a simultaneous regression estimation procedure. This estimation procedure is often adjudged to yield better result and more efficient estimate of the parameters and coefficient of the regression than the
single equation model especially where two or more independent variables are involved. In its implicit form the multiple regression models would be rendered as:

\[ Y = a + b_1 \text{BAB} + b_2 \text{IAB} + b_3 \text{MCR} + b_4 \text{FER} + e \]................. eqtn 5

**GAUSS MARKOV MODEL: Linearity in Parameters**

where: \( Y \) = the estimate value of the dependent variable, given specific value of independent variables;

\( a \) = estimate of the true Y intercept or regression constant;

\( b_{1..n} \) = estimate of the true parameter of the independent variables or regression coefficient; BAB, IAB, MCR, FER, are as defined earlier.

### 3.7 Method of Data Analysis

In this study, the multiple regression method will be employed to analyse data. The model for this statistics is given as:

\[ Y = a + b_1 \text{BAB} + b_2 \text{IAB} + b_3 \text{MCR} + b_4 \text{FER} + e \]................. eqtn 5.

The use of regression in the analysis is to assist in identifying the independent variable that best explains and significantly impacts on the dependent variable of the research. For purpose of testing the hypotheses, three tests:- the t-test, the F-test statistics and ANOVA was employed. While the t-test was used to measure the statistical significant of the regression coefficients and to determine the flow or direction of the relationship existing between the two variables, the F-test was employed to measure the adequacy or appropriateness of the model and to arrive at a conclusion on the statistical significance of the coefficient of determination \((r^2)\). All the hypotheses will be tested at 95% level of significance. The result generated base on the application of Mat lab, a computer based software programme will be compared with the tabulated t and f statistics respectively at \( P = 0.05 \). Consequently, the decision rule for accepting or rejecting the hypotheses is based on:

(i) **Accept \( H_0 \) and reject \( H_i \) if \( f_{0.05} > f_c \)

(ii) **Reject \( H_0 \) and accept \( H_i \) if \( f_{0.05} < f_c \)

That is, we accept the null hypotheses (\( H_0 \)) and reject the alternative hypotheses (\( H_i \)) where the tabulated or critical F value is greater than our computer generated F value at 5% level of significance and vice versa. Similarly the significance and relevance of the parameter estimate of our test is considered at where: \( f_c \) \( 0.05 > t_i \) and insignificance and non-relevance at where \( t_c \) \( 0.05 < t_i \).

The use of F- statistic in determining whether or not to reject the hypotheses is simply because of its prime or superior position to the t-test as noted by McCullough (1974) thus: “if F-test result is true, then t-test must be true and not vice-versa”. Finally, an ANOVA used to compare and analyse any observed differences in economic growth and development in periods of financial repression as well as in the periods of financial reform.

### IV. Data Presentation Analysis And Interpretation

#### 4.1 Data Presentation

This present, analyse and interprets the data collected for the study. Data used in this study were collected based on the variables identified in the research objectives, research questions and hypotheses. Thus the data were presented to reflect the research objectives and the problems identified.

#### 4.2 Data Analysis

The data in Appendix A underpins the analytical framework for this study. It is pivotal to and a springboard from which subsequent data and Appendices are extracted and analysed specificity for each index of economic growth and development against those of financial reforms. The data presented in Appendix A covers the period of forty-one (41) years, (1970–2010). It thus contains data for both repressed (1970-1985) and reformed (1995-2010) financial eras. In it, it is shown that financial reforms are examined in terms of bank asset base (BAB), insurance asset base (IAB), foreign exchange research (FER) and stock market capitalization (SMC). Economic growth is examined in terms of growth rate of gross domestic product (GDPr) and aggregate public investment, i.e. investment volume (IV), while economic development is examined in terms of per capita income (PCI) and consumer price index (CPI).

**APPENDIX A**
The Relationship between Growth Rates of Gross Domestic Product (GDPr), Investment Volume (IV), Growth Rate of Per Capita Income (PCr), Consumer Price Index (CPI), Bank Asset Base (BAB), Insurance Asset Base (IAB), Foreign Exchange Reserves (FER), and Stock Market Capitalization (SMC), (1970 – 2010)
From the data above in Appendix A, between 1970 and 1990, Nigeria’s bank asset base maintained high volatility rate as it rose and fell frequently throughout the years. From 1991-2008 not much volatility. But decline significantly between 2008(34.89%) and 2010 (1.02%) . This trend is best described in the Fig. 4. 5 below. Source: Constructed from data in Appendix B
The data for insurance asset base were logged to give the picture of the trend of IAB in Nigeria as presented in Fig 4.6. Above.
Insurance asset base during the period decline on average by 3.12% consistently. In 1982, IAB rose by a 2.30%, declined in 1983 by 3.8% and increased again by 1.2% in 1984. From 1985 to 1989, an average of 2.16% decline was recorded, while an average of 5.66% increase was recorded between 1990 and 1992. In 1993 and 1994, 16.8% and 0.8% decrease were recorded respectively. 1995 had an increase of 32.6%. Between 1996 and 2007 there was stability following a 10.8% decrease in 1996. From 2008 a declined of (4.59%), 2009 (1.88%) and an increased of (1.88%) for 2010.

The trend of foreign exchange reserve is above. Foreign exchange reserve rose from 0.01% in 1972 -0.0015% in 1973 and rose again by 0.06 % in 1977 to about 2.78% in 1978 and by 0.53% from 1980 to 1981. From 1985, a large decline of about (62.5%) was recorded counting from 1991. Between 1988 and 1990, there was relative stability with an average of about 0.13% volatility rate in the positive direction. It rose by 10.2% in 2000 and by 3% in 2001 and remain stable through 2004 when it declined by only 0.40% in 2005. In 2006, FER increased by 3.4% and to 0.40% decrease in 2007 and stabilized through to 2008 to 2010.

In Fig 4.8, a picture of the trend of Nigeria’s SMCr under review is presented below.
Comparative Analysis Of Nigeria's Economy During Pre–Reformed And Reformed Era.

Stock market capitalization maintained, on average, a 0.07% increase between 1970 and 1975 when it rose by 0.48% in 1976 and maintained an average of 0.65% increase from 1976 - 1980. In 1981 and 1982 SMCr declined by 31.21% and 7.88% respectively. It rose by 55.6% in 1983 and declined again by 49.53% in 1984. Other years that SMC grow and their percentages are: 1985(12.1%), 1986 (33.83%), 1988 (10.96%), 1992 – 1994 (2.47% on average), 1995(63.94%), 1996 declined of (58.53%), 1997 rose by (20.03%), declined of (7.52%) 2002, 2003 rose by (7.3%), rose by (77.29%) in 2004. Declined by (71.12%) in 2005. and a significant positive volatility between 2007 - 2010.

4.3 Test of Research Hypotheses

This section was designated to test the hypotheses formulated in chapter one. It is meant to determine the relationship that exists between financial reforms and economic growth and development. As stated earlier, financial reforms are measured in this study by bank capital base (BAB), insurance asset base (IAB), foreign exchange reserves (FER) and stock market capitalization (SMC). Economic growth is measured by growth rate of gross domestic product (GDPr) and investment volume (IV), while economic development is measured by per capita income (PCI) and consumer price index (CPI).

4.3.1 Hypothesis

The hypothesis that addressed the objective of the study which was to find out if there is any difference in the growth and development in the economy during the pre-reformed and the reformed financial eras in Nigeria. The essence was to know the “best” approach to managing the economy for sustainable development and growth, and by extension to ascertain whether the reform efforts so far embarked upon in the country have actually helped our economy fared well or not. It was also to inform us of whether financial repression is better than financial liberalization. To address this uncertain and mind bogging problem, the null hypothesis was developed as re-stated below:

There is no difference in the growth and development of the economy during the pre-reformed and reformed financial era in Nigeria.

To test this hypothesis, the study first identified the pre-reformed era as beginning from 1970-1985 and the reformed era from 1993-2010. Following this division, was the collection and presentation of data relating to the variables and in the hypothesis above.

The model is thus:

\[ Y = a + b_1BAB + b_2IAB + b_3FER + b_4SMC + e \]  \text{eqtn 5.}

Table 4.6 Attached herewith contains the regression results for the hypothesis. Data for both Pre-reform and Reformed period is attached below:
APPENDIX F

The data used for the regression to established relationship between Growth Rates of Gross Domestic Product (GDPr), Investment Volume (IV), Growth Rate of Per Capita Income (PCIr), Consumer Price Index (CPIr), and Bank Asset Base (BAB), Insurance Asset Base (IAB), Foreign Exchange Reserves (FER), and Stock Market Capitalization (SMC), 1970 – 1985 (Pre-Reformed Era)

<table>
<thead>
<tr>
<th>Years</th>
<th>GDPr (%)</th>
<th>IV (%)</th>
<th>PCIr (%)</th>
<th>CPI (%)</th>
<th>BAB (%)</th>
<th>IAB (%)</th>
<th>FER (%)</th>
<th>SMC (%)</th>
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</thead>
<tbody>
<tr>
<td>1970</td>
<td>46.80</td>
<td>18.80</td>
<td>21.98</td>
<td>0.23</td>
<td>51.49</td>
<td>64.40</td>
<td>8.10</td>
<td>1.20</td>
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<tr>
<td>1971</td>
<td>26.33</td>
<td>16.60</td>
<td>11.47</td>
<td>0.23</td>
<td>10.80</td>
<td>64.20</td>
<td>8.10</td>
<td>11.80</td>
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<tr>
<td>1972</td>
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<td>24.50</td>
<td>0.85</td>
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<td>12.70</td>
<td>56.40</td>
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<td>31.50</td>
<td>2.77</td>
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<td>23.03</td>
<td>53.60</td>
<td>24.80</td>
<td>23.97</td>
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<tr>
<td>1974</td>
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<td>42.30</td>
<td>8.28</td>
<td>0.31</td>
<td>58.84</td>
<td>47.40</td>
<td>25.10</td>
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<tr>
<td>1975</td>
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<td>-7.81</td>
<td>0.45</td>
<td>53.24</td>
<td>45.70</td>
<td>24.80</td>
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<td>1976</td>
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<td>47.88</td>
<td>43.30</td>
<td>24.70</td>
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<td>1977</td>
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<td>2.86</td>
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<td>40.90</td>
<td>31.00</td>
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<td>37.90</td>
<td>30.95</td>
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<td>6.64</td>
<td>26.50</td>
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<td>23.43</td>
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</table>

Sources: CBN statistical Bulletin (Various yrs), CBN Annual Report and Statement of Accounts (Various yrs); Nigerian Quarterly Economic Review.

APPENDIX G

The data used for running the regression for establishing the relationship between Growth Rates of Gross Domestic Product (GDPr), Investment Volume (IV), Growth Rate of Per Capita Income (PCIr), Consumer Price Index (CPIr), and Bank Asset Base (BAB), Insurance Asset Base (IAB), Foreign Exchange Reserves (FER), and Stock Market Capitalization (SMC), 1995 – 2010 (Reformed era)

<table>
<thead>
<tr>
<th>Years</th>
<th>GDPr (%)</th>
<th>IV (%)</th>
<th>PCIr (%)</th>
<th>CPI (%)</th>
<th>BAB (%)</th>
<th>IAB (%)</th>
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Comparative Analysis Of Nigeria’s Economy During Pre–Reformed And Reformed Era.

The results as presented above are for pre-reformed and reformed financial eras. To be able to compare the performance of the economy in the pre-reformed and reformed eras it is necessary to read, analyse and interprets the regression result of the above equation for the various parameters in the various eras. On this note the regression result of the below equation for the first of all parameters in the pre-reformed era were read thus:

\[
GDPr = 2.6048 + 0.438_{BAB} + 0.355_{IAB} - 0.142_{FER} - 0.111_{SMC} + e
\]

\[t_{Stat} = \frac{(0.139)}{(1.888)} \quad (1.044) \quad (-0.506) \quad (-0.934)\]

From the above regression result, average growth rate of gross domestic product in the pre-reformed era was 2.6048. One naira increase in each of bank asset base, insurance asset base, increased GDP by $N\,438$; $N\,355$, while foreign exchange reserves and stock market capitalization reduced it by $-\,N\,0.142$ and by $-\,N\,0.111$ respectively. All other things being equal.

The significance of the variations in the GDP was tested by comparing $t_c$ with $t_f$ from the result; it was seen that the value of 1.967 was less than the $t_f$ value of 3.36. With this, the assertion that in the pre reform era there was no significant relationship between growth rate of gross domestic product and commercial bank asset base, insurance asset base, foreign exchange reserves and stock market capitalization in Nigeria was accepted.

In testing for the statistical significance of the independent variable, the individual independent variables calculated $t$ values which are in parenthesis were compared with the critical ($t_c$) value of 1.75. It was discovered that, except one (and i.e. BAB) all $t_c$ were lower than $t_f$ and so all the three independent variables were statistically insignificant in the model. In other words, only commercial bank asset base contribute marginally to the economic growth of Nigeria in the pre-reformed era.

With $R^2$ value of 41.7%, the regression equation does not reflect a true prediction of financial system’s contribution to economic growth of Nigeria. This means that the reformed variables mentioned above did not adequately explain and did not contribute significantly to the variations in the growth rate of gross domestic product in Nigeria. Other variables that influenced the growth rate of gross domestic product but not included in the model makes up the remaining 58.3%. Considering the volume of investment, the result of the regression equation reads thus:

\[
IV = 79.668 + 0.138_{BAB} - 1.012_{IAB} + 0.023_{FER} - 0.018_{SMC} + e
\]

\[t_{Stat} = \frac{(3.393)}{(4.11)} \quad (-2.61) \quad (0.53) \quad (-1.27)\]

During the reformed financial system, we learn from the above regression result that average investment volume was 79.668. A Naira increase in each of BAB, FER increased results in $\,N\,0.138$; $\,N\,0.023$; while IAB and SMC reduced IV by $\,N\,0.012$; and $\,N\,0.018$ in investment volume respectively. All other things being equal.

At the instance of the significance of the variations in the dependent variable, the $t_c$ value of 1.107 as compared is less than the $t_f$ value of 3.36 as such the variations in the dependent variables as explained by the independent variables is insignificant and the assertion that no significant relationship exists in the pre reform era between volume of investment and the financial sector parameters considered here is held tenaciously as a truism against any other alternative assertion in this regard.

On the statistical significant of the independent variables, $t_c$ values of each of the independent variables were compared. The parenthesized figures are the $t_c$ values whereas $t_f$ value is 1.75. From this picture, bank asset base is the only variable that is statistically significant in the model. This is interpreted to mean that BAB exerts the greatest positive effect on investment during the pre-reform era. Therefore as BAB increases, investment increases significantly. FER showed very minimal positive increased. Others independent variables inverse increased.

With $R^2$ value of 47.58%, the regression model reflects marginal predictive power, meaning that the independent variables do not adequately explain the variations in the dependent variable. Therefore the regression line shows no goodness of fit. The remaining 52.42% variations are explained by variables not included in this study.

The result of the regression equation for the relationship between per capita income and bank asset base, insurance asset base, foreign exchange reserves and stock market capitalization read thus:

\[
PCI = -7.393 + 0.097_{BAB} + 0.279_{IAB} - 0.225_{FER} + 0.007_{SMC} + e
\]

\[t_{Stat} = (-0.98) \quad (0.89) \quad (1.84) \quad (-1.78) \quad (0.14)\]

Sources: CBN statistical Bulletin (Various yrs); NBS (various years)
The result as presented above, showed that for the pre-reformed era, average per capita income was – 7.39. A naira increase in each of BAB, IAB, & SMC resulted in N0.097 increase in CPI, N0.279 increase in PCI, N0.007 increase in PCI respectively. Increase in unit FER decrease PCI by -0.225 during the pre-reform era. All other things being equal. Statistically, the significant of the independent variables was also tested by comparing t values in parenthesis with t values of 1.75. It was seen that IAB variable only was statistically significant in the model. Therefore, the variables made an insignificant contribution to the growth and development of our economy in the pre reform era.

Concerning the significance of these variations, we compare the f_c value (3.612) which produced a negative PCI, with the f_i value (3.360) and found that the f_c is more than f_i, meaning the variations as explained by explanatory variables are significance. It was taken in that significant relationship exists in the pre reform era between per capita income and the financial sector parameters considered here.

The R^2 value of 0.5677 shows that the regression equation shows a prediction of the financial system’s contribution to economic development. This means that the reform variables mentioned above explained about 56.77% and thus contribute significantly to the variations in the dependent variable. The remaining 43.23% may have been explained by variables not included in this study.

Following this analysis is the regression result for the relationship between consumer price index and bank asset base, insurance asset base, foreign exchange reserves and stock market capitalization as presented below:

$$ CPI = \beta_0 + \beta_1 BAB + \beta_2 IAB + \beta_3 FER + \beta_4 SMC + \varepsilon $$

$$ t-stat. = (7.29) \quad (-1.65) \quad (-5.25) \quad (0.16) \quad (-0.14) $$

This result shows that during the pre-reformed era, average consumer price was 82.3873 million. Concerning the explanatory variables, a naira increase in each of BAB, IAB, and SMC led to a N0.007 decrease in CPI, a N0.034 decrease in CPI, and a naira increase in FER increase CPI by N0.001 respectively. All other things being equal. The significance of the variations in the dependent variable was tested by comparing f_c with f_i. At 95% significance level and sixteen degrees of freedom, f_c = 8.64 compared to f_i value of 3.36. Thus since f_c is greater than f_i, we would say that financial reform parameter relates significantly with consumer price.

Also, testing for the statistical significance of the explanatory variables, we compare each individual’s independent variables calculated t (t_c) values in parenthesis with the critical t (t_i) value of 1.75. It was seen that foreign exchange reserves has only marginal positive effect on CPI there rest were statistically insignificant variables in the model. They had negative impact, on consumer price. With an R^2 value of 75.85%, the regression model reflects a remarkable predictive power. This means that the independent variables adequately explain about 75.85% of the variations in the dependent variable. The regression line therefore shows a goodness of fit. Other variables not included in this study explain the remaining 24.15% the variations in the dependent variable.

The R^2 value of 0.5677 shows that during the pre-reformed era, average per capita income was – 7.39. A naira increase in each of BAB, IAB, & SMC resulted in N0.097 increase in CPI, N0.279 increase in PCI, N0.007 increase in PCI respectively. Increase in unit FER decrease PCI by -0.225 during the pre-reform era. All other things being equal. Statistically, the significant of the independent variables was also tested by comparing t values in parenthesis with t values of 1.75. It was seen that IAB variable only was statistically significant in the model. Therefore, the variables made an insignificant contribution to the growth and development of our economy in the pre reform era.

Concerning the significance of these variations, we compare the f_c value (3.612) which produced a negative PCI, with the f_i value (3.360) and found that the f_c is more than f_i, meaning the variations as explained by explanatory variables are significance. It was taken in that significant relationship exists in the pre reform era between per capita income and the financial sector parameters considered here.

The R^2 value of 0.5677 shows that the regression equation shows a prediction of the financial system’s contribution to economic development. This means that the reform variables mentioned above explained about 56.77% and thus contribute significantly to the variations in the dependent variable. The remaining 43.23% may have been explained by variables not included in this study.

Following this analysis is the regression result for the relationship between consumer price index and bank asset base, insurance asset base, foreign exchange reserves and stock market capitalization as presented below:

$$ CPI = \beta_0 + \beta_1 BAB + \beta_2 IAB + \beta_3 FER + \beta_4 SMC + \varepsilon $$

$$ t-stat. = (7.29) \quad (-1.65) \quad (-5.25) \quad (0.16) \quad (-0.14) $$

This result shows that during the pre-reformed era, average consumer price was 82.3873 million. Concerning the explanatory variables, a naira increase in each of BAB, IAB, and SMC led to a N0.007 decrease in CPI, a N0.034 decrease in CPI, and a naira increase in FER increase CPI by N0.001 respectively. All other things being equal. The significance of the variations in the dependent variable was tested by comparing f_c with f_i. At 95% significance level and sixteen degrees of freedom, f_c = 8.64 compared to f_i value of 3.36. Thus since f_c is greater than f_i, we would say that financial reform parameter relates significantly with consumer price.

Also, testing for the statistical significance of the explanatory variables, we compare each individual’s independent variables calculated t (t_c) values in parenthesis with the critical t (t_i) value of 1.75. It was seen that foreign exchange reserves has only marginal positive effect on CPI there rest were statistically insignificant variables in the model. They had negative impact, on consumer price. With an R^2 value of 75.85%, the regression model reflects a remarkable predictive power. This means that the independent variables adequately explain about 75.85% of the variations in the dependent variable. The regression line therefore shows a goodness of fit. Other variables not included in this study explain the remaining 24.15% the variations in the dependent variable.

On the other hand, the regression result of our estimated equation stated above for the reformed financial era for all parameters were read beginning with growth rate of gross domestic product thus:

$$ GDPr = \beta_0 + \beta_1 BAB + \beta_2 IAB + \beta_3 FER + \beta_4 SMC + \varepsilon $$

$$ t-stat. = (0.68) \quad (-0.60) \quad (0.94) \quad (-0.56) \quad (-0.09) $$

From the above result, average growth rate of gross domestic product during the reformed era was 7.227. It is shown that a naira increase in BAB, FER and SMC reduced GDPr, whereas a naira increase in IAB improved GDPr positively during the period. All other things being equal.

The significance of the variations in the dependent variables was tested by comparing f_c with f_i. It was found that f_c value of 1.331 was less than f_i value of 3.36. With this, it was concluded that the variations in GDPr as explained by the independent variables were in significant and the null hypothesis accepted.

In testing for the statistical significance of the independent variables, the t_c values of all independent variables in parenthesis were compared with t_i value of 1.75. All were statistically insignificant. However, from the result it is evident that the regression equation has marginal good fit. The coefficient of determination R^2 indicates that 42.23% of the variations in GDPr were explained by the explanatory/independent variables. The remaining 57.77% variations may have been explained by variables not included in this study.

The regression result of the relationship between investment volume and the reformed indexes is read as follows:

$$ IV = \beta_0 + \beta_1 BAB - \beta_2 IAB - \beta_3 FER + \beta_4 SMC + \varepsilon_c $$

$$ t-stat. = (3.93) \quad (-0.53) \quad (-0.54) \quad (0.72) \quad (0.54) $$

As shown in the reading made above, average investment volume stood at 78.789 during the reformed era. On the effect of the explanatory variables, it was shown that a naira increase in BAB resulted in N0.133 decrease in investment volume; for IAB, investment reduced by N0.223; for FER, investment reduced by N0.371; and for SMC, investment increased by N0.096. All other things being equal.
The variations in the dependent variable at 95% confidence level, and sixteen degrees of freedom, as explained by the independent variables were insignificant since t value 0.184 was less than the t value of 3.36. The alternative assertion that in the reform era, financial system insignificantly relates and impacts negatively on the growth of investment in Nigeria was then rejected.

Nevertheless, in testing for the statistical significance of the independent variables, each of the independent variable’s t values (BAB = -0.53, IAB = -0.54, FER = -0.72 & SMC = 0.54) were compare with the t value of 1.75. From this figures, they were said to be statistically insignificant variables in the model. In order words SMC et al exerted the greatest positive effect on investment volume. The estimated equation also displayed a no good fit, with the coefficient of determination R^2 indicated that 6.27% of the variations in investment were caused by the predicting variables while other variables not included in this study accounted for the remaining 93.27% of the variations in investment.

For per capita income (PCI) in the reformed era, the regression result was read thus:

\[ PCI = -9.877 + 0.549_{BAB} + 0.549_{IAB} + 0.382_{FER} + 0.01_{SMC} + e \]

\[ t_{Stat} = (-1.4) (1.39) (0.92) (2.94) (0.19) \]

From the presentation above, average per capita income (PCI) during the reformed era was -9.877. Also, the result shows that a naira increase in BAB resulted in N0.049 increased in PCI; for IAB, CPI increase by N0.54; and for FER, CPI increase by N0.23, while that of SMC results in N 0.01 increased on PCI. All other things being equal.

At 95% significance level and sixteen degrees of freedom the study show that the t value of 2.32 was less than the t value of 3.36, meaning that the variations in the dependent variables as explained by the independent variables were insignificant that the postulation that there is no significant relationship between per capita income and the financial reform measures considered here was accepted in favour of the alternative assertion in this regard.

The t-test sought to establish the statistical significance of the independent variables. By this, the t values of each of the independent variables in parenthesis were compute with the t value of 1.75, and it was found that only FER was statistically significant in the model since its t value is greater than the t value. This means that foreign exchange reserves impacted and contributed significantly to the growth of per capita income and the duo were said to be significantly related.

The result also revealed that the regression equation had a marginal good fit because the coefficient of determinations (R^2) indicated that 48.11% of the variations in per capita income were explained by the independent variables. The remaining 51.89% of the variations in per capita income were explained by variables not included in this study.

In the same vein, the regression result for the effect of financial reform on consumer price was read for its regression equation thus:

\[ CPI = 87.426 + 0.006_{BAB} - 0.382_{IAB} - 1.502_{FER} - 0.338_{SMC} + e \]

\[ T_{Stat} = (2.87) (0.02) (-0.64) (-2.17) (-1.38) \]

The above result reveals that during the reform era, average CPI was 87.426. The result also showed that a one naira increase each in IAB, FER, and SMC reduced CPI by N0.382 and N1.502 and N0.338 respectively, while a one naira increase in BAB increased CPI by N0.006. All other things being equal.

The result of the f-ratio sought to determine the significance of the variations in the dependent variables as explained by the independent variables. Thus, at 95% confidence level and sixteen degrees of freedom, our t value was 2.084 less than the f value of 3.360. This means that the variations in the dependent variable as explained by the independent variables are insignificant such that we can accept any assertion that there is no significant relationship between consumer price and the reform parameters.

The significant of the independent variables was determined by comparing t values of each of the independent variables with the t value of 1.75. The figures in parenthesis are the t-values. The result shows that no significant positive relationship exist between FER, SMC and IAB with CPI while an insignificant positive of 0.02 relationship exist between BAB and CPI. They were thus said to be statistically insignificant variables in the model.

The result also shows that the econometric property of the estimated equation was not remarkable and the regression equation showed no reasonable goodness of fit. This was indicated by the coefficient of determination R^2 value of 0.4312, meaning that 43.12% of the variations in the dependent variable were explained by the independent variables while other variables not included in this study accounted for the remaining 56.88%.

4.4 Discussion of Findings and Conclusion: - Foreign exchange reserves hurts investment and per capita income in the pre reformed era and hurts only consumer price in the reformed era. Reform may be necessary in this perspective. The financial reform in the country for the periods reviewed has not significantly impacted on the economic growth and development of the country. While some parameters exert positive effect others exert
negative effects to the extent that the losses outweigh the gains from the reform exercise. However, in the pre reform era, the economy performs relatively better as most financial system indicators exert reasonable positive effects on the growth and development of the country. From all indices and variables incorporated in this study the economy of this country had performed marginally for the past forty years as evidenced in this study. The reforms so far implemented have not significantly move our economy as one had expected, but rather have created avenues for executive fiat, corruption and embezzlement of public funds and this is the much reason why the recommendations in this study should be implemented aggressively if the reform is to bring any significant positive effect to the growth and development of the economy. Government should bring out reform policy that will encourage financial sector development so that the reform could lead to an expected growth and development in the economy. They should ensure that our reserves are properly managed. Such policy should compel stock market operators and banks to put their asset base to full utilization while insurance sector be given proper policy consideration for its development. This will help solve a number of problems especially poor investments as found in this study.

References
Comparative Analysis Of Nigeria’s Economy During Pre –Reformed And Reformed Era.


