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Privatization and Economic Performance: Evidence from Nigeria (1990–2010)

Ifionu, Ebele Patricia - Department of Finance and Banking, University of Port Harcourt, Nigeria
E-mail: ebeleazu@yahoo.co.uk, ebeleifionu@gmail.com

&

Ogbuagu, Anuli Regina - Department of Economics, Nnamdi Azikiwe University, Awka, Nigeria
E-mail: anulireg@gmail.com

Abstract

Does privatization of state–owned enterprises result in economic performance? This paper seeks to evaluate theoretically and empirically the impact of privatization on economic growth in Nigeria. Using error correlation model (ECM), it was discovered that privatization has not impacted positively on economic growth in Nigeria, and this was blamed on a lot of factors like political instability and inadequacy of the past policies to achieve good result. Therefore, we recommended that it will be highly necessary to create a supportive enabling environment if we must achieve growth.

Introduction

The issue of economic growth in Africa has been ongoing; the collapse of sub-Saharan Africa's economy began about a decade after independence. In early 1960 the new Nigerian government inherited an underdeveloped

infrastructure and service delivery/ facilities base. Developments in health, housing, education and water and other social services were at a rudimentary stage.

The port, railways, telecommunications, electricity, and print, etc, were hardly developed to meet the demands of the population. The existing services and infrastructure were meant to serve the colonial administration and expatriate community to maximize their benefits from colonization.

At independence, the Nigerian population was largely illiterate and poor; the private sector was still in its infancy and could not be a major player in industrialization and service delivery. Government made extensive use of public enterprise (PEs) in 1970s and up to 1980s in their efforts to overcome economic stagnation and also to put economic growth and development clearly underway, especially in the areas of resource allocation and mobilization. This approach to economic development is in line with Keynesian theory which recommended that government through deficit financing should stimulate demand and the use of idle resources to reduce unemployment and spending (Galbroith 1978; Samuelson 1983)

Thus, the government was saddled with the task of engineering the overall growth and development of the economy through industrialization and the provision of infrastructure and social service. Government at all levels particularly federal and state governments became actively involved in the setting up and management of industries and the provision of services.

In 1970s with the revenue from oil boom the economic activities of public enterprises expanded significantly with the objectives of fostering rapid economic growth, through efficient distribution of income, and expanding employment horizon in the economy. According to Guesh (2009), between 1970 and 1990, there were proliferation of public enterprises in large numbers; government capital investments in public enterprises rose to about $100 billion Naira, government gave subsidies of N234million to various state enterprises. Upon this heavy investment, public enterprises were considered to be a drain in federal government purses with over 50% of non-performing public sector debt.

Public sector became a burden on the government budget, with multiple problems: In fact the report of Onosade on Public Enterprises (PEs) 1984, revealed that most of the PEs were infested with problems like;

mismanagement of resources, misuse of monopoly power, non-repayment of debt and growing budgetary burden.

However, the African state public sector is said to be over extended to the point that reduction, refocusing and re-engineering of its activities are needed. Since 1980s, the World Bank and International Monetary Fund (IMF) through their Structural Adjustment Programme introduced a reform package with the objective of finding alternative ways of re-organizing and managing the public sector and redefining the role of the state to give more prominence to market and competition.

Privatization has become a key component of the structural reform and globalization strategy in many economies. Several developing and transition economies have embarked on extensive privatization programs in the last one and a half decade so far, as a means of accelerating economic growth, attaining macroeconomic stability and reducing subventions to unprofitable state enterprises (White and Bhatia 1998). By 1998, about 3,165 privatization transactions were completed in Sub – Saharan Africa, leading to sales value of US$6,426 million.

Nigeria, through her economic Structural Adjustment Programme which started in 1986, embarked on the programme of privatization and commercialization as a reform option for public sector which is in line with the trend worldwide, privatization has become a potent instrument for streamlining the public sector and promoting economic development. And the spate of empirical works on privatization has increased, with a microeconomic orientation that emphasizes efficiency gain (Afeikhena 2008, Guseh 1998).

Sufficient time has elapsed since the start of reform (Privatization) to allow an assessment of extent to which privatization has realized its intended economic and financial benefits. This study will provide an overview of the impact of the privatization on economic growth of Nigeria; analyze the extent and pattern of privatization.

Objective of the study

This study has three broad objectives:

- To examine why the Nigeria government embarked on privatization programme. Thus what were the internal and external factors,

pressures and incentives that culminated in the adoption of Structural Adjustment Programme (SAPs) in Nigeria?

- ❖ To assess the results of the reform, highlighting its major success and failures. Thus, how well did the reform perform? What were the effects of the reform on economic growth?
- ❖ To proffer recommendations based on research findings.

Literature review, theoretical framework, empirical review and economic growth theories

What is privatization?

Privatization is defined as "a method of allocating assets and functions from public sector to the private sector" (Fillipovic, 2005). As such privatization constitutes a fundamental structural change of ownership which is transferred from public to private sector, leading to a drastic shift in the underlying incentivesof the respective owners and in the objectives of the firm (from political oriented to profit oriented)

Conceptually, the commercialization and privatization Decree (FRN 1988) perceives privatization as "the transfer of government owned shareholding in designated enterprises to private shareholder, comprising individuals and corporate bodies", it involves the sales of equities in public enterprises to private investors, with or without the loss of government control in these organizations. It may take the form of deregulation of state monopolies by the abrogation of legislation restricting entry into economic activities.

Origination of privatization

Yarrow (1986) indicated that privatization was first argue by Adam Smith in the year 1776 about two centuries ago that: "in every great monarchy in Europe the sale of the crown lands would produce a very large sum of money, which, if applied to the payment of the public debts, would deliver from mortgage a much greater revenue than any which those lands have ever afforded to the crown. When crown lands had become private property, they would, in the course of a few years, become well improved and well cultivated". Privatization was not new in the world economics.

A world-world era of privatization has been picking up momentum in recent decades, making it a fairly new trend in the areas of economic policy. The modern idea of privatization as an economic policy was pursed for the first

time by the Federal Republic of Germany in 1957, when the government eventually sold its majority stake in Volkswagen to private investors. The next big move in privatization came in 1980s with Margret Thatcher's privatization of Britain Telecom and Chitrac's privatization of government owned communication companies (Magginson, Nash, and Randenborgh 1996), a number of Latin American countries launched significant privatization programs following decades of static economic policies, trade protection, heavy-headed regulation and even nationalization.

Another major contribution to the world wide process of privatization has between the falls of the communist regime in Eastern Europe, the former Soviet Union. Recently, countries like China, and Cuba, as well as many other developing countries have begun to implement privatization in the hope of stimulating economic growth. This has spread to all over the world. It has been one of the major economic phenomena in the world economic history. The largest privatization in history took place in Russia between 1992 and 1995 when as many as75,000 small and medium scale enterprises were auctioned, 14,000 medium to large scale firms were sold (IFC, 1995). Then in Africa, privatization took place in 1983 in Ghana, and subsequently in Nigeria in 1986 and to other African countries.

Nigerian state enterprises/privatization

Nigeria's public enterprise sector is one of the largest in sub-Saharan Africa in terms of both scale and scope as reflected in the absolute numbers of enterprises and the contribution to the gross domestic product. Prior to the privatization wave, there were about Six hundred (600) public enterprises (PEs) at the federal level and about Nine hundred (900) small scales PEs at the state and local government levels.

Due to the inefficiency and poor management of the overblown public sector, Nigeria adopted the IMF /World Bank's Structural Adjustment Programme (SAP) in 1986 and the statutory mandate of the responsible agencies, namely; The Bureau of Public Enterprise (BPE) and The National Committee on Privatization (NCP) were specifically spelt out in the Public Enterprises Privatization and Commercialization Act, 1999. The specific mode, structures and timetable of privatization of Nigerian public enterprises were also spelt out in the 1999 Act. All designated Nigerian state enterprises were categorized into broad sector groups with the name of the enterprise,

shareholding structure and expected level of ownership to be sold out, privatization policy outline and time schedules.

The cardinal sector groups are, the financial enterprises group, comprising; Nicon Insurance, Nigeria Reinsurance, Nigerian Bank for Commerce and Industry, Assurance Bank, FSB Bank and Afribank.

The State-Owned industries group includes; National Fertilizer Company of Nigeria (NAFCON), Nigerian Sugar Company, Ashaka Cement, Benue Cement Company, Calabar Cement Company, Peugeot Automobile Nigeria Limited, Volkswagen Nigeria Limited etc.

The power and steel group comprising of Oshogbo Steel Rolling Mill, Jos Steel Rolling Mill, Delta Steel Rolling Mill, Ajaokuta Steel Rolling Mill, Aluminum Smelter Company Limited, National Iron Ire Mining Company Limited.

Solid Minerals group comprised of Nigerian Mining Corporation Limited, etc. The information sector group was made up of Daily Times of Nigeria, Federal Radio Corporation of Nigeria, New Nigeria Newspapers, News Agency of Nigeria, Nigeria Television Authority, etc.

In the transport sector, several State-Owned Enterprises were slated for privatization, namely; Nigeria Ports Authority, Nigeria Railways, Nigerdock, National Aviation Handling Company (NAHCO), etc.

The petroleum Sector group comprised of Nigerian National Petroleum Corporation, Eleme Petrochemicals, Refineries in Kaduna, Port Harcourt and Warri, Nigerian Gas Company, Petroleum and Pipelines Marketing Company (PPMC), among others.

Empirical review

The impact of privatization on economic growth

Although a number of empirical studies have been conducted in order to measure the financial effects of privatization on the newly privatized firms throughout the world, few recent studies among others have attempted to measure the impact of privatization on economic growth in developing countries, some of which are presented here;

Boubakri et al, (2009) researched on privatization dynamics and economic growth using a large panel data of fifty six (56) developed and developing

countries spanning the period, 1980 to 2004. They used GMM estimation techniques to examine whether privatization had an impact on economic growth, they also characterized privatization along two dimensions; the extent of privatization efforts (proceeds) that proxy for the size of the program, and the method of privatization that proxy for government commitment.

In order to take into account the dynamics of privatization and tackle potential endogeneity issues, they used a dynamic panel approach and found that privatization has a robust systematic positive effect on economic growth, after controlling for classic growth determinants as well as institutional variables. They also found that the method of privatization, through share issues on the stock market is positively related to economic growth, suggesting that one potential channel of benefit is indeed to use the stock market to divest State-Owned Enterprises (SOEs).

Bennett et al, (2007) examined how different methods of privatization might have affected growth in transition economies. In their findings, they remarked;

> Using several econometric specifications, including fixed effects and GMM, we estimated a cross-country panel growth model from 1990 to 2003 and found that only voucher privatization have been significantly associated with faster growth. Moreover, neither private sector development *per se* nor capital market development exercised a significant influence. We speculate that voucher privatization may have been effective because of the speed with which links between firms and the state were severed.

Javadshahraki, (2006) studied the relationship between privatization and economic growth in Iran, using Auto Regressive Distributed Lag method to characterize relationship between GDP and independent variables. The result showed that there is a positive relationship between privatization and economic growth in Iran, but competitive or openness situation of the economy have not helped in the growth of the economy and no significant relationship between privatization and economic growth was found. Al-Otaibi, (2006), in his study investigated the effect of privatization on economic growth in fifteen (15) countries with developing economies, by

using a cross-section model (OLS estimation) and a cross section-time series model using panel data analyses including four panel types, namely; None, Common, Fixed effect and Random effect.

The results of the OLS regression revealed that, in case of Saudi Arabia, Kuwait, Bahrain, Jordan, Iran, Morocco, Pakistan, India, Indonesia, Malaysia, Venezuela, Mexico, and Argentina, privatization had a significant impact on the GDP level which reflected on the economic growth at 5% significance level. In case of Egypt and Turkey, the results revealed that there is a negative relationship between privatization indicators and economic growth at 5% significance level.

The result of the four-panel tests revealed that privatization has a positive and a significant impact at 5% significance level. This is consistent with study hypothesis that privatization has an impact on the productivity of all factors in the economy and it leads to improving the investment climate in the developing countries.

Hence, foreign direct investment (FDI) will increase and economic growth will improve. These results are consistent with the effect of the privatization policy on the economic growth of each country individually (by OLS regression), except Egypt and Turkey.

Filipovic, (2005) wrote on impact of privatization on Economic Growth using Extreme Bound Analysis, he concluded that privatization is a potential successful policy of growth which has to be implemented in context with other economic reforms.

Boubakri et al, (2004) analyzed the impact of privatization on economic growth for a sample of fifty six (56) developed and developing countries over the period, 1980 to 2004. He found that population growth; government consumption and inflation negatively influence economic growth, while savings ratio, stock market development and foreign direct investment are positively related to growth.

Furthermore, high levels of development of institutions of governance positively influence the effects of privatization (through share issues) on economic growth.

Cook and Uchida, (2003) applied a cross-country growth regression analysis using the framework of the extreme bounds analysis. They used data for sixty

three (63) developing countries between 1988 and 1997 and found that privatization has contributed negatively to economic growth.

They conjectured that this result, which stood against the theoretically expected positive impact of privatization, was due to the lack of competition in the private sector that hindered economic growth and impeded privatization from delivering its anticipated positive impact.

Katsoulakos and Likoyanni, (2002) investigated the relationship between privatization and macroeconomic variables using country-level panel data of twenty three (23) OCDE countries for the period 1990 to 2000. The authors examined the link between privatization receipts, budget deficit, public debt, output growth and unemployment rate. The estimation results indicate that there is no statistically significant relation between GDP growth rates and the privatization proceeds of the previous period. This conclusion is drawn from a model where the dependent variable is the GDP growth rate and the only explanatory variable is the privatization receipts (as a percentage of GDP of the previous period). One concern with this specification is that it suffers from omitted variables bias.

Barnett, (2000) used country-level panel data of eighteen (18) countries which included ten (10) developing countries, the rest being transition economies. This study explored the impact of privatization on fiscal variables, growth, unemployment and investment. The empirical evidence indicated that privatization is positively correlated with real GDP growth rates.

The estimate, suggested that privatization of 1% of GDP would be associated with an increase on the real GDP growth rate of 0.5% in the year of privatization and 0.4% in the following year.

For the non-transition sample, the effect would be a 1.1% increase in real GDP growth rate in the year of privatization and 0.8% in the following year. However, as acknowledged by the author himself, the results of this study are based on a select sample of countries and for a limited period for which data was available.

For each country, the sample corresponds to the period of active privatization for which data was available, but the author did not specify the precise span of years for the study. Furthermore, Barnett, (2000), warns that the

privatization variable is likely to serve as a proxy in their regressions for one or more omitted variables measuring other policy reforms.

In 1998, Warren Michael conducted a study on countries that have embarked on large privatization, namely; Chile in 1985 and Jamaica in 1980. His analysis was based on countries that underwent large and well-planned privatization (though varied in approaches).

In Mexico, the chow test confirmed that a positive statistical relationship existed between privatization and output and that privatization is associated with economic growth. A significant positive relationship was also found to exist between privatization and output in Jamaica. Warren concluded that "privatization was only associated with an increase in labour productivity in Jamaica and a decrease in capital productivity in Bolivia.

He tested changes in productivity associated with privatization using two analytical approaches; Firstly, using all stability test and secondly, using regression analysis. He found that productivity changes associated with privatization yielded mixed result.

In the case study of Chile, he found that factor productivity of Chile were unaffected by privatization at macroeconomic level. Privatization was found to have no statistical relationship with total output; as such it should not be associated with economic growth.

In the case of Bolivia, there was no statistical relationship between privatization and total output; therefore such privatization cannot also be statistically associated with economic growth. No country exhibited increase in both labour and capital productivity.

Plane, (1997) carried out a study on thirty five (35) developing countries covering the period, 1984 to 1992. He used Probit and Tobit models and found that privatization positively affected GDP growth and that the effect on growth was more significant for activities of a public goods type than for other sectors. The study concludes that, on average, institutional reform increased economic growth from 0.8% to 1.5% between the sub-periods 1984-88 and 1988-92.

Methodology

Variables description and the model

- **Economic growth (Real GDP per capita growth)**

As it is standard in the economic growth literature, we measure economic growth by GDP per capita growth rate (Barro, 1991). The GDP per capita growth rate series were drawn from the World Bank's Development Indicators 2010.

- **Privatization variable (PVA)**

Plane (1997), Cook and Uchida (2003) and Barnett (2000) argued that total amount of privatization proceeds is a good measure of the magnitude of the privatization and provides an adequate measure of the change from public to private ownership. Besides, it captures the level of political commitment towards better economic policies (Barnett, 2000; Davis et al, 2000). Therefore, we used total privatization proceed as percentage of GDP, and it is expected that privatization affects economic growth positively.

- **Inflation (INF)**

We include a measure of inflation because economic theories suggest a negative relation between macroeconomic instability and economic growth (Fischer, 1993; Bruno and Easterly, 1998). As noted by Fischer (1993) inflation serves as "an indicator of the overall ability of the government to manage the economy". We control for using the annual inflation rate (INF).

- **Government expenditure (GEX)**

The economic growth literature suggests that a measure of government spending serves as a proxy "for political corruption or other aspects of bad government, as well as for the negative effects of non-productive expenditure and taxation" and it is expected that government consumption expenditure is negatively related to economic growth (Cook and Uchida 2003; Filipovic, 2005). We control for the level of government expenditure with the ratio of government expenditure to GDP (GEX)

- **External debt (DET)**

External debt is also included in the model, since large external debt may influence numerous economic and political policies. And it affects growth negatively. We control for DET using the ratio of total external debt to GDP. Therefore we expect DET to be negative.

- **Trade openness (OPN)**

In the economic growth literature, openness to international trade has been identified as an important determinant of growth (Gossman and Helpman, 1992; Sachs and Warner, 1997). Indeed, it is argued that openness to international trade stimulates the growth of exports and increases the availability of imports, thereby accelerating the economy's technological development and hence fosters economic growth (Dollar, 1992).our proxy for trade openness is the ratio of the sum of exports and imports to GDP (OPN). It is positively related to growth.

- **Foreign direct investment (FDI)**

A measure of Foreign Direct Investment (FDI) is essential in the model due to the fact that foreign direct investment can have positive spillover effects particularly in the field of new technology and improved firm efficiency. Therefore, theories imply that high levels of foreign direct investment might facilitate the effectiveness of privatization as a policy of economic growth. We control for the level of Foreign Direct Investment using the ratio of FDI to GDP. We expect positive relationship between FDI and economic growth.

Table 3.1 Definitions, Proxies and Data Source

Variables	Proxy	Label	Expected sign	Data source
Economic Growth	GDP per capita growth rate	GDP		
Privatization	Annual privatization proceeds as a percentage of GDP	PVA	+	World Bank Development Indicator WDI 2010
Government expenditure	Ratio of government expenditure to GDP	GEX	-	WDI 2010
External Debt	Ratio of external Debt as a percentage of GDP	DET	-	WDI 2010
Foreign Direct Investment	Ration of Foreign Direct Investment as a percentage of GDP	FDI	+	WDI 2010
Inflation	Annual inflation rate	INF	-	WDI 2010

Trade Openness	Sum of export and import to GDP	OPN	+	WDI 2010
Political regime	Democracy score from polity IV country report data base (2010)	POL	+	Polity iv data base

Source: author's compilation

The model

Hence, following the work of Naguib (2009), Neoclassical Growth Model seems more appropriate to explain the effect of privatization on economic growth.

Empirical literature includes two methodologies of modelling economic growth (De Mello, 1997). The first is known as "growth accounting", where variables such as FDI and privatization are considered as additional inputs in an augmented neo-classical production function

Empirical research indicates that economic growth is also determined by other factors such as the level of openness (Edwards, 1998; Vamvakidis, 2002) ,privatization (Plane, 1997; Cook and Uchida, 2001; Bennett et al., 2004), and external (foreign) debt (Lin and Sosin, 2001; Pattillo et al., 2002) among others.

The Neoclassical production function is as follows:

$$Y = AK^{\alpha} L^{1-\alpha} \quad (1)$$

Hence, an augmented neo-classical production function will look as follows:

$$Y=Af(\text{GEX, DET, FDI, EDX, OPN, INF, PVA}) \quad (2)$$

where *Y* is output measured by GDP per capita growth, *A* is a constant that captures the technological progress, GEX- government expenditure, FDI is the foreign direct investment, *DET* is external debt, OPN- trade openness, , PVA is the privatization variable. In other words, the Growth accounting methodology reflects the supply-side of the economy.

Model specification

The theoretical work in the previous section allowed us to bring in other factors that could determine economic growth other than physical investment**.** Therefore, the model uses the following indicators: total government expenditure, external debt, foreign direct investment, education expenditure, openness, inflation rate and privatization variable as the independent variables while Gross Domestic Product is the dependent variable.

Thus:

$GDP= \alpha_o + \alpha_1 GEX + \alpha_2 DET + \alpha_3 FDI + \alpha_4 EDX + \alpha_5 OPN + \alpha_6 INF + \alpha_7 PVA + U.$ ……. (3)

Where:

GDP = GDP per capita growth

GEX = Total Government Expenditure

DET= External Debt

EDX= Education Expenditure

OPN = Openness

INF = Inflation Rate

PVA = Privatization variable

FDI = Foreign Investment

U = Error variable

Estimation Techniques/Procedures and Research Findings

Stationarity test

Since the time series data are used, we need to examine the time series property of the data. The time series property of the data is an important issue, this is because most macroeconomic time series have unit root and regressing non stationary series on each other are bound to yield spurious regression.

Unit root testwill help us determine whether the variables are stationary or non-stationary and also the order of their integration. Unit root test is

basically required to ascertain the number of times a variable has to be differenced to arrive at stationarity (Yoshida, 1990). According to Maddala, (1992), testing for unit root is a formalization of the Box-Jenkins approach of differencing the time series after a visual inspection of the correlogram.

The equation for the ADF test is as follows

$$\Delta y_t = \alpha + \beta t + \gamma y_{t-1} + \delta_1 \Delta y_{t-1} + \cdots + \delta_{p-1} \Delta y_{t-p+1} + \varepsilon_t \quad \ldots\ldots (4)$$

Where α is a constant, β the coefficient on a time trend and p, the lag order of the autoregressive process. Imposing the constraints $\alpha = 0$ and $\beta = 0$ corresponds to modelling a random walk and using the constraint $\beta = 0$ corresponds to modelling a random walk with a drift.

Economic variables are said to be of order-zero, i.e. it is 1(0), if the original time series is stationary. Those that are differenced once to obtain stationarity are said to be integrated of order one, i.e., 1(1). There are variables that have to be differenced more than once to achieve stationarity.

Cointegration test

The analysis of and testing for Unit roots naturally lead to the theory of cointegration (Iyoha and Ekanem, 2002). This is because co-integration basically deals with methodology of modelling non-stationary time series variables and the idea rests on the thesis that; though two time series may not themselves be stationary, a linear combination of two non-stationary time series are said to be "cointegrated", (Iyola and Ekanem, 2002). Usually, for cointegration, the two time series have to be of the same "order" i.e., they should be stationary after the same number of differencing.

The theory of cointegration according to Granger, (1981), Engle and Granger, (1987) addressed the issue of integrating short-run dynamics with long-run equilibrium. Basically, the theory demonstrates that if two variables are cointegrated, it implies that there is a meaningful long-run relationship between them, the short run dynamics can be described by the Error Correction Model (ECM).

The basic structure of an ECM is:

$\Delta Yt = a + ß\Delta Xt\text{-}1 - ßECt\text{-}1 + et$…… (5)

Where EC is the error correction component of the model and measures the speed at which prior deviations from equilibrium are corrected.

Finally, the methodology applied in this study following the literature is based on time series data sets. The estimation procedure adopted in deriving the estimates of the parameters of economic relationships is the **Error Correction Model (ECM).**

The Findings

Short -Run (OLS) Regression *Result (1990-2010)*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.095772	7.715422	0.401245	0.6948
GEX	-15.31762	5.916044	-2.589167	0.0225
DET	23.85937	8.025942	2.972781	0.0108
FDI	-36.22752	31.86821	-1.136792	0.2761
EDX	1351.023	698.8830	1.933118	0.0753
OPN	2.769741	1.098481	2.521428	0.0255
PVA	22.87196	62.22681	0.367558	0.7191
INF	-0.003593	0.025956	-0.138440	0.8920

R-squared	0.780429	Mean dependent var	2.310952
Adjusted R-squared	0.662199	S.D. dependent var	2.882219
S.E. of regression	1.675166	Akaike info criterion	4.152033
Sum squared resid	36.48034	Schwarz criterion	4.549946
Log likelihood	-35.59634	Hannan-Quinn criter.	4.238390
F-statistic	6.600913	Durbin-Watson stat	1.767905
Prob(F-statistic)	0.001811		

$GDP = \beta_o + \beta_1 GEX + \beta_2 DET + \beta_3 FDI + \beta_4 EDX + \beta_5 OPN + \beta_6 INF + \beta_7 PVA + U$

$GDP = 3.0958 - 15.3176GEX + 23.8593DET - 36.2275FDI + 13.5102EDX + 2.7697OPN + 0.0039INF + 22.87519PVA$

T_{Cal} = (0.0412) (-2.5891) (2.9727) (-1.1367) (1.9331) (2.521 (-0.1384) (0.3676)

The result indicates that the coefficient of privatization (PVA) is positively signed but not significant at 5 percent level, this finding is consistent with plane (1997), Bernett (2003) ,

- The coefficient of GEX is negative and does comply with theoretical expectation and is significant at 5 percent level.
- DET's coefficient is positive against the apriori expectation but significant at 5 percent level.
- The coefficient of FDI and INF do not comply with economic theory and not significant at 5 percent level.
- EDX coefficient sign is positive but not significant while the coefficient of OPN is positive and significant at 5 percent level.
- The explanatory variable explained (78%)percent variation in economic growth while the overall model is significant, no auto correlation

In all, the result of prior privatization in Nigeria shows that the explanatory variables can explain only 75% variation in economic growth. The overall model is very significant.. A critical look at the above result indicates that theDurbin Watson (D.W.) Statistics presents a minimal existence of serial correlation among the variables which of course shows that the above result might be spurious and therefore calls for stationarity test.

Unit root test results

As indicated in the literatures, most time series variables are non-stationary and using non-stationary variables in the model might lead to spurious regressions (Granger 1969). The first or second differenced terms of the most variables will usually be stationary.

Hence some of the variables were found to be significantat level while some are significant at first differences. This result from the stationarity test therefore calls for long-run relationship test.

- **Johansen Cointegration Test**

Testing for cointegration, we made use of Trace and max-Eigen statistics to check if the variables are cointegrated.

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.953931	430.5768	159.5297	0.0000
At most 1 *	0.887749	316.7048	125.6154	0.0000
At most 2 *	0.815942	235.7852	95.75366	0.0000
At most 3 *	0.805029	173.1626	69.81889	0.0000
At most 4 *	0.649903	112.6710	47.85613	0.0000
At most 5 *	0.525027	73.83789	29.79707	0.0000
At most 6 *	0.501264	46.29145	15.49471	0.0000
At most 7 *	0.426181	20.55132	3.841466	0.0000

Trace test indicates 8 cointegratingeqn(s) at the 0.05 level

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.953931	113.8720	52.36261	0.0000
At most 1 *	0.887749	80.91956	46.23142	0.0000
At most 2 *	0.815942	62.62268	40.07757	0.0000
At most 3 *	0.805029	60.49152	33.87687	0.0000
At most 4 *	0.649903	38.83315	27.58434	0.0012
At most 5 *	0.525027	27.54643	21.13162	0.0055
At most 6 *	0.501264	25.74013	14.26460	0.0005
At most 7 *	0.426181	20.55132	3.841466	0.0000

Max-eigenvalue test indicates 8 cointegratingeqn(s) at the 0.05 level
Source: own computation

Therefore, we reject the null hypothesis of no cointegrating variable at 0.05 levels and conclude that the variables explain each other in the long run. In other words, there is a long run relationship existing among the variables. Hence we therefore proceed to estimate our error correction model, in the parsimonious specification.

- **Error Correction Model**

Table 4.3: Summary of Test Using ParsimoniousCointegration (Error Correction Model)

Variable	Coefficient	Fstatistic
C	-0.1274	-0.14748
D (GEX)	-5.2843	-1.2583
D (DET)	18.0030	0.9113
D (FDI)	-11.9504	-0.2283
D (EDX (-1)	75.2435	0.8793
D (OPN)	-0.2864	-0.0985
D (PVA)	71.5839	0.5439
D (INF)	-0.0617	-1.0667
D (ECM(-1)	-0.6687	-2.5739

Source: author's compilation

R-Squared = 0.5758

Adjusted R=Squared = 0.5897

F-Statistic = 2.9413

Durbin Watson Stat = 2.19927

The parsimonious error correction model above shows that the Coefficient of ECM is rightly signed and statistically significant at 5 percent level.

The coefficient of determination was fairly significantly. That is, the explanatory variables included in the model explained 57 % variation in economic growth. Also, the overall regression was not significant at 5%. Here, the D.W Statistic is 2.199 which imply strong serial correlation.

The Coefficient of GEX is negative with negative impact on GDP. This is in line with cook and Uchida's (2003) argument that government consumption is a proxy for level of government corruption and therefore should be negatively related to economic growth.

DET is positively signed and impacted insignificantly to economic growth; this does not conform to theoretical expectation. It is expected that the higher a country borrows from the International Donors or World Bank, the higher the debt services and it has a negative impact on growth because part of the annual budget has to be designated towards servicing the debt.

The Coefficient of FDI is negative against the prior expectation and with negative impact on economic growth. This may be due to a lot of recent

economic crisis for example: the Niger Delta Crisis, the kidnapping cases of foreign investors in recent times has contributed to this result .EDX has a positive coefficient but with insignificant impact on economic growth. Based on the theory of Human capital, investment in education supposed to be a strong factor of economic growth; this may be due the misappropriation of education fund over the years by the government.

OPN is found negative with no impact on economic growth. This is against the economic theory because OPN measures the degree of freedom of investment in all economy and should impact positively. As expected, the coefficient of INF is negative with no impact on economic growth. Theoretically, increase in inflation rate, decreases economic growth.

PVA is positively signed with insignificant impact on economic growth. The sign agrees with the expectation. But the insignificant impact could be as a result of the problems encountered in the privatization process and the controversies that arose out of the privatization procedures and method in Nigeria. Recently, the report on national dailies (2008), affirmed that only 10% of the privatized enterprises are functional, others have become moribund. And this is a very strong reason for insignificant impact of privatization variable on economic performance in Nigeria.

Summary, conclusion and recommendation

Conclusion

The objective of the study is to investigate the impact of privatization on economic growth in Nigeria using OLS co-integration and Error correction model.

In summary, if privatization must necessarily bring forth the desired benefits it has to be viewed not as an end itself, but as a means to get government interested in fostering a new division of labour between the public and private sectors in order to increase the efficiency and contribution to development of both sectors. Therefore, the success of privatization should be judged not in terms of the sale or contract itself or the price paid to government, or even the survival or expansion of the enterprise sold, but rather, on the basis of whether there are net benefits to the economy (Shirley 1998). The on-going privatization is a good policy measure, which Government must pursue with vigour and in consonance with other economic

reforms, especially the power sector reform if we must achieve and ensure economic growth.

Policy implication

Against the expectation of the government, there is no significant impact of privatization on economic growth, which shows that in Nigeria privatization has not contributed to the growth process.

The problem facing Nigeria today are testimony of the inadequacy of past policies to achieve good result. Beside, Nigeria is believed to have experienced relatively high quotient of violence, which is anchored on the political and economic crisis emanating from the Niger- Delta region, and this has negative ripple effect on the economy of Nigeria.

In addition to this, the power sector has over the past 25 years witnessed a slow and steady decline, leading to near complete failure of the system in 1999.the federal government of Nigeria using National Council on Privatization (NCP) in 1998 had therefore, embarked on an electric power sector reform program, which gave birth to 18 companies under the auspices of power Holding Company of Nigeria (PHCN). Still Nigeria cannot boost of steady and economically priced power that can meet the need of the people.

Availability of constant power is very vital for socio- economic development, increased production, and investment. Also the absences of stable macroeconomic environment have affected the position of FDI in the country. Consequently, for any country to achieve and sustain economic growth there must be a combination of well-designed and enforced economic policies, no one works in isolation of the other.

Recommendations

For any country to achieve and maintain growth, there must be an adequate, constant and cheap power supply. Therefore, power sector reform in Nigeria should be taken seriously into quick consideration.

- It will also be highly necessary to create a supportive enabling environment, including favourable macroeconomic conditions, a well-functioning legal system and adequate financial markets and institutions for private sector and enterprise development.

- Above all, there must be the political will from the leadership to support the programme considering the severe resistance it is bound to receive from the bureaucrats.
- Political stability is an essential factor of growth combined with right policy mix. Therefore, if Nigeria must achieve growth, it is necessary for her to embark on a campaign to ensure political stable environment that will guarantee growth.

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