Managing Inefficiency Problem of Public Enterprise Through Deregulation: The Experience of Petroleum Marketing Company of Nigeria

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Abstract: The government intervention in managing the economy is well pronounced and documented in economic literature prior to deregulation era. The failure of free market mechanism 1930s leads to government intervention in managing the economic Endeavour. In Nigeria, it is assumed that deregulation of public enterprises will yield benefits relating to greater efficiency renewed investment, budgetary savings and preservation of scares resources. The paper examines the performance of OANDO Plc before and after deregulation. The data collected is processed into ratios as devise for measuring the performance.

Key words: Inefficiency • Public Enterprises • Deregulation and Nigeria

INTRODUCTION

The classical economic school of thought fault the existence and performance of public enterprises, but public enterprises exist as a result of the failure of the neoclassical economists to provide solution, to the problems attributed to its prepositions and paradigms. Therefore, the Keynesian economic theory identified market failure as the main justification for state intervention in the provision of goods and services [1, 2]. Market failure refers to a situation in which the market mechanism fails to achieve pareto efficiency. In this case, the marginal social costs of economic activities diverge from their marginal social benefits and government intervention is used to correct market failure. Among several types of market failure are the natural monopoly, public goods externalities and information imperfection.

Although, market failure is the main and common justification for state intervention, it is well documented in the literature that intervention has also become necessary for other reasons such as to achieve social and political objectives. For instance, an important social objective in many developing countries is the improvement of income distribution. It is hoped that state intervention would generate surplus which could be used to redress income inequalities. Many government policy makers hold the view that certain key sectors of national economy should be under state control. They argue that the generation and distribution of energy, transportation and communication, the output of which are vital inputs to other sectors, should be managed by the state to reduce inequality [3]. Moreover, state security and defense should be controlled by the government. The public sector was also viewed as a means of creating employment.

Public Enterprise in Nigeria: The existence and expansion of the state-owned enterprises (SOEs) is one of the major features of the Nigerian political economy since the period [4]. Although at the time of independence in 1960, economic condition was conducive for the expansion of the state enterprise in the economy due to market failure and competence. The country achieved political independence with many economic and physical problems. For example, lack of basic physical infrastructure facilities viz; roads, water supply, telecommunication, airports, etc. underutilized manufacturing industries, lack of adequate indigenous capital and capital market, technology and know-how and expertise to adequate exploit the natural resources and build modern economy. Therefore, [4] opinion in the absence of a strong private sector to solve these problems, government has no option but use public enterprise to play the leading role in economic development.

The first categories of state-owned enterprises (SOEs) were those set up as specialized agencies or parastatals. They include: Nigerian Railway Corporation.
(NRC), the Nigerian Port Authority (NPA), the Nigerian Electric Power Authority (NEPA) now Power Holding Company of Nigeria Plc (PHCN), the Nigerian Airways, etc. these were set up mostly in the colonial period and therefore, have undergone considerable capitalization [4]. With the windfall gains from the oil sales in the 1970s, the state became deeply involved in the economic activities by pursuing capital projects; the iron and steel firms, the oil refineries under the eagles of the Nigerian National Petroleum Corporation (NNPC), the breweries, the cement firms, the financial house, etc. So the economic activities of public enterprise in Nigeria expanded significantly beyond the orthodox domain of social services and utilities [5].

To further the participation of government in economic activities the state promulgated nationalization and indigenization decrees of 1972 and 1977. The firms nationalized include: Unipetrol, Nationalized from (EXXON) in 1975; African Petroleum, Nationalized from British Petroleum (BP), to mention but a few [6]. In addition, there are a number of former foreign enterprises where the Nigerian state is majority or minority shareholder, but which are still to private law.

By 1986 estimates, total investment in these public enterprises at the federal level was about 36.456 billion naira which the Technical Committee on Privatization and Commercialization (TCPC) now Bureau for Public Enterprises (BPEs) re-valued using the 1993 estimates as being about 500 billion naira [7]. For the maintenance and sustenance of these public enterprises, the Nigerian government had usually about 30 percent to 40 percent of its fixed capital and re-current expenditures, respectively and annually during the Pre-Structural Adjustment Programme (SAP) period, [8].

Problems of Public Enterprises in Nigeria: In Nigeria, the role of public enterprises in the economy is of immense importance such that they are subject of daily discussion by the public, seeking for solutions to their problems of poor performance. These problems as they affect Nigerian’s public enterprises keep compounding despite concerted efforts to reduce them as observed [9].

Attainment of a satisfactory level of performance by Nigerian public enterprises, is a function of their financial management which in turn is surrounded with numerous problems.

The problems of financial management as they affect public enterprises will be difficult to divorce from their causes because of their intertwined nature. Theoretically, the problems of enterprises in Nigeria as diagnosed by technical committee on privatization and commercialization include management problem and financial problems. [10] the managerial problems includes:

- Conflicting Objectives
- Poor Human Resources Management:
  - Poor Recruitment Practices
  - Inadequate Training
  - Poor Record Keeping
- Extreme Bureaucracy
- Lack of Strategic Planning
- Lack to Technical Management Expertise

The Financial Problems Include:

- Poor Capital Structure
- Inadequate Systems
- Lack of Trained Administered Staff
- Poor Debt Management
- Inappropriate Tariff Policy
- Unaudited Accounts

Public Enterprise Performance: The discussion of the poor performance of public enterprises (PEs) has generally centered on the property right, the public choice and principal agency framework. These theoretical arguments and their relevance are briefly discussed by [11].

Property Right: Although, competition is recognized as the key factor influencing enterprises’ performance, property rights are linked with the decisions-making behavior of the enterprise which affects operational efficiency through cost minimization. It is argued that property rights affect incentives which, in turn, determine the behaviors of decision makers [12]. In order words, private managers face a lot of pressure from shareholders to maximize productive efficiency due to their direct interests in profit and easily transferable ownership rights.

The property right theory explains the inefficiency in state-owned enterprises on the grounds that the property rights of the state-owners are much weaker and defused than the private shareholders. Since the owners of state-owned enterprises are the tax payers of the country who cannot transfer their ownership rights, they cannot easily sanction bad management. Moreover, high costs and the difficulties associated with monitoring managerial efficiency are other difficulties. In effect, most tax payers
have neither the incentives nor the means to pressurize the management of PEs to be efficient. This, combined with the bureaucratic inefficiency produces an inefficient public enterprise.

There are several weaknesses associated with the property right theory. First, the theory assumes the existence of an efficient and well-developed capital market. Unfortunately, this is not true for many development countries. Consequently there is very little or no chance to improve productive efficiency by the private sector. Even in countries where the capital market is efficient and well-developed, the existence of a large number of small shareholders reduces the chance of effective monitoring of management by owners. For instance, if one shareholder performs the monitoring by bearing the full cost, he will receive very small part of the total gain [13]. Although, the establishment of a Board of Directors may reduce this problem; there will still be opportunities for managers to pursue their own objectives which may not necessarily be compatible with profit maximization and productive efficiency. These problems weakened the property rights arguments in favour of transfer of ownership from the public to the private sector.

- The public choice theory is another which tries to explain the inherent behavior of politicians and state bureaucrats. There are two basic assumptions under public choice theory, namely; (a) individual seek to maximize their own utilities and (b) utility is largely a function of self-interest. In this way, it is argued that due to self-seeking behavior, Public Enterprises (PEs) managers tend to pursue their own interest rather than public interest which could only be served by increasing the efficiency of the firm [14-17]. This self-seeking behavior, coupled with the absence of incentives to improve efficiency, leads to inefficient PEs.

The public choice theory also concludes that PEs are less efficient than private enterprise. The existence of some efficient indicates that self-seeking behavior does not exist uniformly throughout the state owned enterprises (SOEs). There are some managers who act in the public interest and this is an important variable in their utility functions.

- The principle agent theory is another theory that is based on the relationship that exists between on party (the agent) which acts on behalf of another (the principal). This theory is characterized by asymmetric information between principal(s) and agent(s). For example, the principal (Shareholder) may not have detailed and sufficient information on the market condition whereas the manager (agent) may have such information. In such a situation, the principal will not know whether the reduction in profit during a period is due to adverse market conditions or poor performance by the manager. In other words, as far as the principal is concerned, the efforts of the manager may be unobservable and therefore, impossible to monitor. In such situations, managers may follow their own objectives which may not necessarily coincide with those of the owners. Since the principal cannot observe the efforts of the managers directly, he cannot influence their behavior. Consequently, the principal is unable to define the reward which induces the agent to act in his interest [18-21].

Asymmetric information and the consequent difficulty in motivating agents with interest of principal at heart is a real problem for both state-owned and private enterprises. However, the case PEs is more complete than that of private enterprises. In private enterprise, the principal (Shareholders) have direct links with the agents (managers), while the principal-agent relationship has multiple tiers in the case of the PEs. For instance, managers of PEs are monitored by politicians and bureaucrats who themselves are agents acting on behalf of the citizens. In this way, the citizens are the ultimate principals in the PEs. Therefore, there are several agents acting on behalf of the million of principals [13, 20, 21]. This situation not only makes monitoring more difficult; it also increases cost.

It follows therefore, since the monitoring of management is very difficult in the case of PEs, there is a higher opportunity for agents to seek their own interest with the divergence leading to inefficiency in PEs. Consequently, the principal-agent theory suggest that deregulation will not only simplify agency relationship but also allow for a more effective monitoring of management, which is expected to improve the efficiency of enterprise.

However, the principal-agent theory has some weaknesses similar to others discussed above. Availability of information through existence of an efficient capital market is essential for arriving at the correct decision. In the absence of an efficient capital market, information available to shareholders about management efficiency will be limited and the monitoring
of private managers may not necessarily be easier for the principals. Moreover, the principal-agent theory assumes that the monitoring of the managers by shareholders will be more efficient than monitoring by citizens. This assumption may not necessarily hold for large firms with large numbers of shareholders, especially within the context of developing countries like Nigeria.

MATERIALS AND METHODS

Model Specification: This study use Nonparametric Analysis. One of the nonparametric analyses is the comparative study. Basically, the general purpose of comparative study is to detect and measure differences between population, samples or unit of analysis. One of the comparative studies methods is mean comparison analysis. In the mean comparison method, independent and dependent sample (matched sample) can be chosen in the analysis. Since this study is related to measuring firm performance before (pre-) and after (post-) privatization, using the dependent sample is the most appropriate one. In addition, the observations pre-privatization and post-privatization are expected to be related. If related, this method will eliminate the variation in the sample and therefore it will lead to a smaller sampling error than the use of independent samples.

The data collected is processed into ratio as devise for measuring the performance of OANDO Nig. Plc. All ratios before deregulation were presented by X1 while all ratios after deregulation X2.

The means (average) of pre and post deregulation ration were calculated and presented by X1 and X2 respectively. Higher mean ratios in succeeding era suggest that there is an improvement in the performance of the enterprises.

The difference of two means was then used to establish whether or not there has been significant difference in the ratio (i.e. in terms of profitability and efficiency) before and after deregulation. Since the population variances are not known and the sample size is less than 30, the t* test was applied. The t* equation is given as follows:

\[ t^* = \frac{X_1 - X_2}{Sm} \]

And

\[ Sm = \sqrt{\frac{S^2_1 + S^2_2}{n_1 + n_2}} \]

Where:

- \( X_1 \) is the mean of performance ratios before privatization
- \( X_2 \) is the mean of performance ratios after privatization
- \( Sm \) is the standard deviation where
- \( S^2_1 \) is the variance for \( X_1 \)
- \( S^2_2 \) is the variance of \( X_2 \)
- \( n_1 \) is the sample size of \( X_1 \)
- \( n_2 \) is the sample size of \( X_2 \)

For finding \( S^2_1 \) and \( S^2_2 \) is given as follow:

\[ S^2_1 = \Sigma (X_1 - X)^2 \]
\[ S^2_2 = \Sigma (X_2 - X)^2 \]

The period of analysis covered some years before and some years after privatization. The ratios are divided into efficiency and profitability as follows:

Efficiency Ratios:
- TAT=Total Asset Turnover = \( \frac{SA}{TA} \)
- FAT=Fixed Asset Turnover = \( \frac{SA}{TA} \)
- CR=Current Ratio = \( \frac{CA}{CL} \)

Profitability Ratios:
- NPM=Net Profit Margin Ratio = \( \frac{NP}{SA} \)
- GPM=Gross Profit Margin Ratio = \( \frac{GP}{SA} \)

Hypothesis: The hypothesis in this paper is that; productivity and profitability as a measure of economic performance does not increase after deregulation than before deregulation. Secondly, productivity and profitability as a measure of economic performance increase after deregulation than before deregulation.

Oando Nigeria Plc (Formerly Unipetrol): In 1956, OANDO Plc commenced business operations as a petroleum marketing company in Nigeria under the name “ESSO West African Incorporated”, a subsidiary of EXXON Corporation of the USA. In 1969, the company as incorporated under a law as “ESSOSTANDARD Nigeria Limited” in 1979, the Nigeria government bought ESSO’s interest and became the 100% owner of the company. The company was then named “Unipetrol Nigeria Limited”.

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Table 1: Performance Ratio of OANDO Nig. Plc, 1995 to 2004

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<tbody>
<tr>
<td>TAT</td>
<td>2.0</td>
<td>1.5</td>
<td>2.6</td>
<td>2.0</td>
<td>5.2</td>
<td>2.66</td>
<td>6.5</td>
<td>10.0</td>
<td>7.9</td>
<td>12.9</td>
<td>14.3</td>
<td>10.32</td>
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<tr>
<td>FAT</td>
<td>1.5</td>
<td>2.0</td>
<td>2.9</td>
<td>2.0</td>
<td>4.0</td>
<td>2.48</td>
<td>5.5</td>
<td>8.2</td>
<td>6.4</td>
<td>9.3</td>
<td>10.1</td>
<td>7.9</td>
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<tr>
<td>GPM</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>6.5</td>
<td>6.5</td>
<td>4.6</td>
<td>7</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>12</td>
<td>9.4</td>
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<tr>
<td>NPM</td>
<td>2</td>
<td>1.5</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>3.3</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>7.0</td>
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<tr>
<td>ROA</td>
<td>12</td>
<td>10</td>
<td>18</td>
<td>20</td>
<td>20</td>
<td>16.0</td>
<td>30</td>
<td>40</td>
<td>46</td>
<td>58</td>
<td>72</td>
<td>49.2</td>
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<tr>
<td>ROCE</td>
<td>12</td>
<td>10</td>
<td>18</td>
<td>20</td>
<td>20</td>
<td>16.0</td>
<td>30</td>
<td>40</td>
<td>46</td>
<td>58</td>
<td>72</td>
<td>49.2</td>
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<tr>
<td>ROSE</td>
<td>0.5</td>
<td>0.2</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td>5.54</td>
<td>20</td>
<td>32</td>
<td>50</td>
<td>60</td>
<td>4</td>
<td>41.4</td>
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Note: Figures are expressed in Percentage
Source: Computed from various OANDO Annual Reports and Statement of Accounts.

On 2nd March 1991, the company became a Public Limited Company “Unipetrol Nigeria Plc”. In the same year, 60% of the company’s share holding was sold to Nigeria public under the first phase of deregulation. In February 1992, the company was quoted on the Nigeria Stock Exchange.

In the year 2000, under 2nd phase of the Federal Government of Nigeria’s privatization programme, ocean and oil services limited became a core investor by acquiring 30% of the Federal Government’s 40% equity stakes in the company. The remaining 10% were sold to the Nigeria public.

In August 2002, the company acquired Agip Petrol’s 60% stakes. Following the acquisition of Agip Nigeria Plc the company was renamed OANDO Plc in 2003.

In 2003 OANDO emerged Nigeria’s second largest company in the downstream sector of the oil industry with 15.64% market share.

Table 1 represents performance ratio of OANDO Nig. Plc. the data are arranged and presented to cover two distinct periods of five years before and five years after deregulation. This is done for the purpose of uniformity in measurement. The mean FAT increased 2.66% before deregulation to 10.32% after deregulation, an increase of 7.66%. The average TAT grew from 2.48% before deregulation to 7.9% after deregulation, growth rate of 5.4%.

GPM of the company for the periods studied shows an average profitability rate of 4.6% deregulation and 9.4% after deregulation, a growth rate of 4.8%. While NPM was 3.3% average before deregulation and 7.0% average after deregulation; with an increase of 3.7%.

For ROA and ROCE, the table shows a mean of 16.0% before deregulation and 49.2% after deregulation, a growth in returns of about 33.2%.

ROSE has an increase in return rate of 35.86% resulting from a mean rate of 5.54% before deregulation and 41.4% after deregulation. This practically means the shareholders’ fund was increased with over 40% after deregulation.

CONCLUSION

After a careful study and analysis of each performance ratio, it clearly reveals that the performance of the OANDO is higher after deregulation than before deregulation. This shows that deregulation has positive impact on the performance of the OANDO of Nigeria Plc.

REFERENCES


APPENDIX I

For FAT

\[ S^2_1 = (2.0-2.66)^2 + (1.5-2.66)^2 + (2.6-2.66)^2 + (2.0-2.66)^2 + (5.2-2.66)^2 \]
\[ = 0.44 + 1.35 + 0.44 + 6.45 = \frac{8.884}{4} = 2.17 \]
\[ S^2_2 = 6.5-10.32)^2 + (10-10.32)^2 + (7.9-10.32)^2 + (12.9-10.32)^2 + (14.3-10.32)^2 \]
\[ = 14.59 + 0.10 + 5.86 + 6.66 + 15.84 = \frac{43.05}{4} = 10.76 \]
\[ S_m = \sqrt{\frac{0.44 + 2.17}{5}} = 1.0608 \]
\[ t* = \frac{2.17 - 10.76}{\sqrt{0.44 + 2.17}} = -4.1373 \]

**Decision Rule:** Since calculated value ± 4.1373 > Critical value 2.306. The \( H_0 \) is rejected @ 0.05\% significant level. Therefore, the \( H_0 \) is accepted that there is a significant difference between the mean before and after deregulation.

For TAT

\[ S^2_1 = (1.5-2.48)^2 + (2.0-2.48)^2 + (2.9-2.48)^2 + (2.0-2.48)^2 + (4.0-2.48)^2 \]
\[ = 0.96 + 0.23 + 0.18 + 0.23 + 2.31 = \frac{3.91}{4} = 0.98 \]
\[ S^2_2 = (5.5-7.9)^2 + (8.2-7.9)^2 + (6.4-7.9)^2 + (9.3-7.9)^2 + (10.1-7.9)^2 \]
\[ = 5.76 + 0.09 + 2.25 + 1.96 + 4.84 = \frac{14.9}{4} = 3.73 \]
\[ S_m = \sqrt{\frac{0.98 + 3.73}{5}} = 0.97 \]
\[ t* = \frac{2.66 - 7.9}{0.97} = -5.5876 \]

**Decision Rule:** Since calculated value ± 5.5876 > critical value 2.306 \( H_0 \) is rejected @ 0.05\%. \( H_0 \) is therefore accepted.

For GPM

\[ S^2_1 = (3 - 4.6)^2 + (2 - 4.6)^2 + (5 - 4.6)^2 + (6.5 - 4.6)^2 + (6.5 - 4.6)^2 \]
\[ = 2.56 + 6.76 + 0.16 + 3.61 + 3.61 = \frac{16.7}{4} = 4.18 \]
\[ S^2_2 = (7 - 9.4)^2 + (9 - 9.4)^2 + (9 - 9.4)^2 + (10 - 9.4)^2 + (12.9 - 9.4)^2 \]
\[ = 5.76 + 0.16 + 0.36 + 0.16 + 6.76 = \frac{13.2}{4} = 3.3 \]
Decision Rule: Since the calculated value ± 2.7049 > critical value ± 2.306, \( H_0 \) is rejected @ 0.05\( \alpha \), \( H_1 \) is therefore accepted.

For ROCE:

For ROSE:

Decision Rule: Since the calculated value ± 4.3627 > critical value ± 2.306, \( H_0 \) is rejected @ 0.05\( \alpha \), \( H_1 \) is therefore accepted.

Decision Rule: Since calculated value ± 4.5107 > critical value ± 2.306, \( H_0 \) is rejected @ 0.05\( \alpha \), \( H_1 \) is therefore accepted.

Decision Rule: Since the tests on each of the performance ratio clearly revealed that the performances of the company are higher after deregulation than before; this strongly indicates that deregulation has a positive impact on the company.