Privatization and Firm Performance: An Empirical Study of Selected Privatized Firms in Nigeria

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Doi:10.5901/mjss.2012.v3n11p207

Abstract The aim of this study is to investigate the financial and operational efficiency of the privatized firms in Nigeria. Data for this study comes from secondary sources; specifically, Fact Book from the Nigerian Stock Exchange, Offer Prospectuses, as well as published annual reports and financial statements of the privatized firms. Our sampled firms are drawn from manufacturing, oil marketing, banking and insurance sub-sectors of the Nigerian economy. The period of analysis covers 5 years before, and 5 years after privatization. To test our predictions, we follow the techniques of Megginson et al. *(1994) in order to determine post privatization performance changes. We calculate the mean value of each variable for each firm over the pre and post privatization periods, we then use the T- test and the Wilcoxon sign rank test as principal methods of testing for significant changes in the variables. Results obtained from this study are mixed. Whereas some companies in our sample show improvements in some indicators, other companies have shown decline in some indicators after privatization. However, in spite the mixed results, the overall picture shows improvement in profitability for at least half of the firms in our sample. Overall, we may conclude that our results provide little evidence that privatization has caused significant improvement by all indicators.*

Keywords: Privatization, Firm Performance, Nigeria

1. Introduction

1.1. Background to the Study

The structure of Nigerian economy has witnessed a lot of changes since independence. During the 1960s, agriculture was the backbone of the economy. The early 1970s earned for Nigeria huge crude oil revenue at a level that was never anticipated. This resulted into more active government involvement in wide-diversified investments in areas that span both traditional public sector and exclusive private sector businesses, which include agriculture, mining, manufacturing, banking, insurance and commerce. An industrialization strategy based on import substitution was formulated. Payments for raw materials started to feature remarkably on own import bill at an alarmingly increasing rate. Inflation was also imported and induced locally in the face of an ever-expanding government expenditure faced by the challenges of an ephemeral illusion of the rising standard of living.

The 1980s however, began to expose a different market facing oil as its price commenced a downslide movement. Earnings could no longer support the level of food and other imports which drastically reduced with worsening effect on inflation. Consequently, the expenditure level of good governance and other public services became incompatible with

resources available to various governments. However, public enterprises that were established and supported during the oil boom era continued to rely on subventions from government. The large share of public finances which the enterprises continued to absorb without commensurate beneficial results reduced funds available for social services. Obadan and Ayodele (1998), note that financial support for public enterprises has "crowded out" private sector borrowing which inevitably, has undermined the development of the private sector. The only solution under the circumstance was to propose economic stabilization measures aimed at salvaging the economy from total collapse.

In 1986, the government said that it is committed to make 1986 Budget a blue print of our national efforts at restructuring the economy. One of the strategies of achieving this is the privatization approach, which is part of the larger reform package called Structural Adjustment Program (SAP). Our experience in Nigeria has raised doubts in the public sector's ability to effect the highest level of efficiency in non-strategic and commercially-oriented enterprises. The decision to privatize some government enterprises is based on the fact that government had for a long time monitored the performance of these enterprises, most (if not all) have constituted an unnecessary burden on government resources. In spite of low rate of return on investment in government parastatals, they still call for funds from the treasury on annual basis (Federal Republic of Nigeria, 1986). There was therefore the tendency to feel that government grants, subventions and subsidies to the parastatals were free gifts which nobody was expected to account for. As a result most of the parastatals accumulated unaudited accounts for upwards of six years and above. This became a major source of concern for international lending agencies such as the World Bank.

In order to introduce more accountability in the management of these parastatals, government was forced to reconsider its public sector stance especially as it relates to organization, management, regulation and ownership structure (Iwayemi, 1995). Specifically, the government argued that there was the need to lessen the dominance of unproductive investment in the public sector in the light of dwindling oil revenue and suffocating external debt. It was also envisaged that a carefully planned privatization program would be an effective strategy for improving operational efficiency, broadening share-ownership, attracting foreign investment and reducing the role of the state in areas where the private sector has the capability of operating efficiently (Jerome, 1996).

It has been argued strongly that ownership is a significant determinant of successful financial and operational performance (Hanke, 1987; Cook and Kirkpatrick (1988); Commander and Killick, 1988). It was also assumed that for productive efficiency to be attained, introduction of a reward system is necessary, so that at the end, all the stakeholders would benefit from productive efforts. Therefore, the major objective of privatization is to enhance the productive efficiency of enterprises in such away that the welfare of all the stakeholders would be maximized. Privatization is thus expected to impact positively on income, wealth, employment, share prices, etc. of all the stakeholders of privatized firms.

Another issue that is worthy of note, is the budgetary drag of public enterprises and the belief that privatization will reduce or eliminate budget deficit. For instance, public enterprises accounted for 20.5 per cent of Nigeria's external debt in 1990. Government subvention constituted 15.89 per cent of the total investment in public enterprises, while loans and equity shareholding accounted for 35.21 per cent and 48.89 per cent, respectively (TCPC, 1993). It has been argued that, efficiency improvement in privatized enterprises would have positive impact on the public treasury in terms of tax revenue and elimination of subsidy. Over ten years into the privatization program in Nigeria, an assessment of its impacts on economic and financial efficiency and profitability is thus essential. These are the core issues which this research intends to explore.

1.2. Objectives of the Study

1.2.1 Broad Objective

The broad objective of this study is to investigate the financial and operational efficiency of the privatization of public enterprises in Nigeria.

1.2.2 Specific Objectives

The study seeks to evaluate the Nigerian privatization process by analyzing the performance of selected privatized enterprises (using "before" and "after' approach) in terms of their financial and operational efficiency and other related impacts and based on the findings, propose policy for successful implementation of privatization program in Nigeria. However, this research intends to specifically examine the impacts of privatization on the selected enterprises using the following parameters: profitability, operating efficiency, capital investment, output, employment, leverage, dividend payout and earning per share

2. Literature Review

2.1 Review of Related Empirical Studies

Privatization has been part of government policy toolkits since the past two decades. This provided enough time for academic researchers to generate a wide range of empirical studies on the effects of divestment on the post privatization financial and operating performance of former state-owned enterprises (SEOs). We shall examine some of these empirical studies in the following paragraphs.

The study conducted by Megginson, et. al. (1994) compared pre and post privatization financial and operating performance of 61 firms that experienced full or partial privatization through public share offerings from 32 industries in 18 countries (6 developing and 12 developed) between 1961 and 1990. They used several financial indicators such as profitability, sales, operating efficiency, capital investment, leverage ratios and dividend pay-out figures. The study documents strong performance improvements achieved without sacrificing employment security. Specifically, after being privatized, firms increase real sales, become more profitable, increase their capital investment spending, improve their operating efficiency and increase their work forces. Furthermore, these companies significantly lower their debt levels and increase dividend payout. Finally, they document significant changes in the size and composition of corporate boards of directors after privatization. Although, the study has been able to obtain comparable data from a large sample of firms from different countries, unfortunately, the study is limited to only OECD and other developed countries which used Initial Public Offering (IPO) as the main method of privatization. One may argue that, since most of the samples are drawn from developed economies and that IPO is usually applied to high quality candidates, then the positive findings might not be applicable to non- industrialized countries, or firms divested by methods other than public share issuing. In short, this has limited applicability to developing countries such as those in Africa.

Juliet D'Souza and William Megginson (1999) compare the pre- and post privatization financial and operating performance of 85 companies from 28 countries (15 industrialized and 13 non-industrialized) that experience full or partial privatization through public share offerings for the period from 1990 through 1996. The study documents significant increases in profitability, output, operating efficiency, and dividend payments – and significant decreases in leverage ratios- for all the sampled firms after privatization and for most sub- samples examined. Capital expenditures increase significantly in absolute terms, but not relative to sales. Employment declines but insignificantly. By and large, findings from this study strongly suggest that privatization yields significant performance improvements.

In another single industry study, D' Souza and Megginson (1998), examines performance changes following the privatization by share offering of 17 national telecommunication companies for the period from 1981 through 1994. They find persuasive evidence that profitability, output, operating efficiency, and capital investment spending, the number of access line (a proxy for units of physical output), and average salary per employee all increase significantly after privatization. Leverage declines significantly, and employment declines significantly.

Another influential study partly because of the rigor of its methodology and partly because it was sponsored by the World Bank is that of Galal et. al (1992). They compare the actual post privatization performance of 12 large firms- mostly airlines and regulated utilities- in Britain, Chile, Malaysia, and Mexico to predict the performance of these firms had they not been divested. The authors document net welfare gains in 11 out of the 12 cases considered which equal, on average, 26 percent of the firm's pre-divestiture sales. Furthermore, they document no case where workers as a class were made worse off and three cases where made significantly better off. The most important aspect of this study is the great care which the authors try to take in order to isolate the effect of just the privatization itself. They determine whether the transfer to private ownership increased efficiency- and, if so, how the cost and benefits of adjustment were allocated.

Dewenter K. and P. Malatesta (1998) use regression and time series methods to compare the pre- versus post privatization performance of 63 large, high-information companies divested during the period 1981 to 1993. These authors examine performance changes over both short time frame around privatization, comparing events (-3 to -1) with (+1 to +3), as well as examining a longer period, comparing events years (-10 to -1) with (+1 to +5). They document significant post privatization increases in profitability (using net income) and significant decreases in leverage and labor intensity (employees/sales) over the period immediately after privatization. However they also find that operating profits increase prior to divestiture and may actually decrease somewhat afterward. Their results confirm the findings of Boardman and Vining (1989). The only difference is that they document profitability that is not only statistically significant but it is large. They also provide support for the view that government firms are less efficient than private firms at least to the extent that profitability and efficiency can be equated.

Narjess Boubakri, et. al. (2004) examine the post-privatization performance of newly privatized firms in Asia and document how the private ownership structure evolves overtime. The authors show that privatization leads to increase in profitability, efficiency, and output in former state-owned firms from Asia. Employment increases but insignificantly.

Compared to the related literature on the effects of privatization in developing countries, results from this study indicate that performance improvements in Asia where most firms are partially privatized are less significant than those documented in other studies. This study finds that higher improvements are associated with certain aspects of corporate governance and the economic environment: For example, a friendly institutional environment, lower political risk, more developed stock markets and involvement of foreign investors, are important determinants of performance improvements after privatization. Finally, the study shows that governments generally do not relinquish control and private ownership concentrates overtime, but by far less than what is observed elsewhere in developing countries.

Zuobao Wei, et. al. (2003) examines the pre- and post privatization financial and operating performance of 208 firms privatized in China during the period 1990-1997. The full sample results show significant improvements in real output, and sales efficiency, and significant declines in leverage following privatization, but surprisingly, no significant change in profitability. Further analysis by the authors shows that, privatized firms experience significant improvements in profitability compared to fully state-owned enterprises during the same period. Firms in which more than 50% voting control is conveyed to private investors via privatization experience significantly greater improvements in profitability, employment and sales efficiency compared to those that remain under the state's control. The authors conclude that, privatization works in China, especially when control is passed to private investors.

In a study on partial privatization and firm performance in India, Gupta N. (2004) uses data from Indian state-owned enterprises and found that partial privatization has a positive impact on profitability, labor productivity and investment spending. On the other hand, he found no evidence that firms are chosen for privatization because of unusually bad performance in the previous year. His analysis confirms the argument that the most profitable enterprises are usually the first to be privatized as with the case in Indian oil and gas companies. He also documents that privatization and competition are not substitutes in their impacts on firm performance. His results supports the hypothesis that partial privatization address managerial rather than the political view of inefficiency in state-owned enterprises.

An empirical study by LaPorta and Lopez-de- Silanes (1999), tests whether the performance of a sample of 218 Mexican SOEs privatized though June 1992 improves after divestiture. The authors compare the profitability, employment, and efficiency levels of the privatized firms to an industry matched control group, and find that the former SOEs rapidly closed the yawning performance gap that had existed prior to divestment. Output increases by 54.3 percent, (in spite of a reduced level of investment spending), sales per employee roughly double, and privatized firms reduced blue- and white-collar employment by half.

From the above review, we have seen that privatization has produced mixed results, but most of the research conducted reveal strong performance improvements as a results of privatization. Only a few studies have indicated dismal performance after privatization. However, it is important to note that some of these successes are not achieved entirely as a result of privatization. As Dewenter and Malatesta (2001) have shown, governments efficiently restructure at least some firms before selling them. For example Japan National Railway reduced its workers its workforce by approximately 200,000 and was split into seven separate rail companies before any share was sold to investors. If government restructure firms and improve their performance before privatization, then improvements cannot be attributed to change in ownership. Rather, the political impetus behind privatization first impels governments firms to operate more efficiently. If this is the case, then what is the role of privatization? George Y. (1986) is of the view that while policy changes (in the form of restructuring) can improve performance of government owned enterprises, such improvements may dissipate overtime without the added discipline of private ownership. There is therefore the need for privatization not only to achieve efficiency gains but to sustain them in the face of changing political, social and economic circumstances.

3. Methodology

The theoretical model of Boycko, et al (1993), supports many of the goals of privatization, such as increasing in operating efficiency, revenue, profitability, rate of return on capital employed, changes in employment levels, wages and in workers' overall welfare. However, their model predicts a decline in output as a result of privatization. The model used by Megginson et al (1994) goes a step further, although using the same model by Boycko, et al (1993).This study shall employ the same methodology to assess, efficiency profitability as well as distributional impacts of privatization in Nigeria. We compare the performance of the privatized companies mainly in the manufacturing sector from 1986 to 2000. The T-test and the Wilcoxon signed–rank test would be employed as our principal method of testing for significant changes in the variables. It tests whether the average difference in variable values between pre and post privatization period is zero. Our sampled firms are drawn mainly from manufacturing sector of the economy, and the sample size contains 10 firms. We shall examine the impacts of privatization at the enterprise level. The period of analysis covered is seven years prior to and seven years after privatization for each firm in the sample. The data we intend to use in this study shall be derived from secondary sources; specifically, Fact Book from the Nigerian Stock Exchange which contains data on each

company's financial and operational performance before and after privatization. Also published Annual Reports, Offer Prospectus and Financial Statements of privatized companies shall serve as our major sources of data.

3.1. Estimation Procedures

To test our predictions we follow the techniques of Megginson et al (1994) in order to determine post-privatization performance changes, we utilize a matched pair methodology (i.e. compare pre – and post – privatization results). We begin by calculating performance measurement proxies for every firm for the ten-year period, with five years before and five years after privatization. Then we develop a performance "time line" that reflects operating results from the last five years of public ownership through the first year as a privatization entry. We next calculate the mean value of each variable for each firm, over the pre – and post – privatization periods (pre – privatization years –5 to – 1 and post privatization years +1 to +5) we therefore exclude year O (zero) from our mean calculations: Having computed our mean, we use the T-test and the Wilcoxon sign-rank test as our principal methods of testing for significant changes in the variables. The procedure tests whether the average difference in variable values between pre and post–privatization samples is zero. We compute ratios using current-year "flow" measures such as sales, capital, dividends, operating profits and net income; others include total assets and common equity,

Testable Predictions of Performance Indicators

Characteristics	Proxies	Predicted Relationship
P (1) Profitability	Return on Sales (ROS) = Net Income ÷ Sales	$ROS_A > ROS_B$
	Return on Assets (ROA) = Net Income ÷ Total Assets	$ROA_A > ROA_B$
	Return on Equity (ROE) = Net Income ÷ Equity	$ROS_A > ROS_B$
P (2) Operating Efficiency	Sales Efficiency (SALEFF) = Sales ÷ Number of Employees	$SALEFF_A > SALEFF_B$
	Net Income Efficiency (NIEFF) = Net Income ÷ Number of Employees	$NIEFF_A > NIEFF_B$
P (3) Capital Investment	Capital Expenditure to Sales (CESA) = Capital Expenditure ÷ Sales	$CESA_A > CESA_B$
	Capital Expenditures to Assets (CETA) = Capital Expenditures ÷ Total Assets	$CETA_A > CETA_B$
P (4) Output	Real Sales (SAL) = Nominal Sales ÷ Consumer Price Index	$SAL_A > SAL_B$
P (5) Employment	Total Employment (EMPL) = Total Number of Employees	$EMPL_A < EMPL_B$
P (7) Leverage	Debt to Assets (LEV1) = Total Debt ÷ Total Assets	$LEV_A < LEV_B$
	Long-Term Debt to Equity (LEV2) = Long-Term Debt ÷ Equity	$LEV2_A < LEV2_B$
P (8) Payout	Dividends to Sales (DIVSAL) = Cash Dividends ÷ Sales	$DIVSAL_A > DIVSAL_B$
	Dividend Payout (PAYOUT) = Cash Dividends÷ Net Income	$PAYOUT_A > PAYOUT_B$
P (9) Earnings per Share	Profit (Loss) before tax and unrealized exchange gains (loss) ÷ number of shares in issues as at date of prospectus	$EPS_A > EPS_B$

Source: Megginson et al. (1994)

4. Analysis and Interpretation of Results

4.1. Changes in Profitability

State-owned enterprises are often chronically unprofitable, this is partly because they are charged with objectives (such as maximizing employment) other than the objective of profit maximization. Privatization therefore, is designed to substitute the single objective of profit maximization with the many other objectives. It is also expected to enhance the development of capital market and focus employees on raising revenues and lowering costs. Also, government withdraws its guarantee to the enterprises debts after privatization, which exposes them to the real threat of bankruptcy which leads to their liquidation. This inevitably makes enterprises to promote greater emphasis on profit maximization.

Table 1. Profitability

Name of Firm	Variable	Mean Before	Mean After	Mean Change	T-test	Wilcoxon test (-)
Ashaka	ROS	0.1294	0.1625	0.0331	0.2643	0.405
	ROA	0.1538	0.2503	0.0965	0.1411	0.135
	ROE	0.3091	0.2731	(0.036)	0.6428	0.730
Portland	ROS	0.2335	(0.0409)	(0.2744)	0.0029	0.000
	ROA	0.3675	(0.0266)	(0.3942)	0.0036	0.135
	ROE	0.3752	(0.1024)	(0.4776)	0.0115	0.146
Flour Mills	ROS	0.0508	0.0321	(0.0188)	0.0131	0.647
	ROA	0.1011	0.0992	(0.0019)	0.8988	0.647
	ROE	0.2242	0.2333	0.0093	0.8647	0.647
UNTL	ROS	0.0570	0.5779	0.0008	0.9338	0.730
	ROA	0.0076	0.0838	0.0076	0.5988	0.730
	ROE	0.0977	0.1081	0.0103	0.5973	0.730
UNIC	ROS	1.7188	0.0941	(1.6248)	4.0421+	1.826++
	ROA	0.1067	0.0824	(0.0243)	0.2847	0.135
	ROE	0.3495	0.1664	(0.1830)	0.0252	0.146
Royal Ins	ROS	3.5222	0.3169	(3.2052)	0.0016	0.146
	ROA	0.1094	0.0704	(0.0389)	0.0025	0.135
	ROE	0.9564	0.0869	(0.8695)	1.4498+	2.023++
Unipetrol	ROS	0.0325	0.0139	(0.0186)	0.035	0.647
	ROA	0.4031	0.1203	(0.2828)	0.039	0.647
	ROE	0.4572	0.2565	(0.2006)	0.2815	0.135
National Oil	ROS	0.0029	0.04469	0.0417	0.2344	0.365
	ROA	0.0251	0.2485	0.2234	0.4536	0.365
	ROE	(3.16)	0.2602	3.4203	0.3255	0.135
UBA	ROS	0.0481	0.1122	0.064	0.0581	0.000
	ROA	0.0055	0.0187	0.0132	0.0198	0.826
	ROE	0.1167	0.2207	0.1167	0.1413	0.135
NAL	ROS	0.1953	0.2307	0.0354	0.3314	0.826
	ROA	0.0267	0.0407	0.014	0.0367	0.135
	ROE	0.1721	1.4091	1.2369	0.0075	0.146

Source: computations by author (*, + = significance at 5%; ++ = significance at 10%)

We measure profitability using three ratios: return on assets (ROS); return on assets (ROA) and return on equity (ROE) for the selected ten companies. Four of the companies, UNTL, National Oil, UBA and NAL have shown positive improvements after privatization using the three ratios. On the other hand, four other companies, Portland cement, UNIC insurance, Royal insurance and Unipetrol have shown negative performance using the three rations. ROS and ROA have improved for Ashaka cement while ROE declined after privatization. For instance, ROS and ROA have increased by about 3% and 9% respectively. In the case of Flour mills, ROS and ROA have declined after privatization while ROE shows an improvement after privatization. For example, ROS declined from about 5% to about 3% while ROA recorded a slightly negative change from 10% to 9%. Only National Oil has recorded significant increases using the three ratios at 5% level, while NAL recorded a significant increase in ROE also at 5% level. ROS and ROE measures show significant changes for UNIC and Royal insurance at 5% level respectively.

The overall results are mixed and sometimes contrary to expectations. While some variables tested positive, some have tested negative for the same company. However, we may not draw any conclusions to the fact that all the firms in our sample have become more profitable after privatization. It is also important to note that most of the firms that recorded improvements after privatization were already profitable firms even before privatization, but their performance after privatization for all the three ratios have shown that they are set on the path of more profits in the future.

4.2. Efficiency Changes

By throwing state-owned enterprises to competition, government clearly hopes that these firms will employ their human and financial resources more efficiently. The shareholders (including employees) in a private company capture most of the benefits of efficiency improvements, but they also suffer most if efficiency is not improved. In removing the non economic objectives of the firms, government explicitly state that the trade off it expected is increased operating and financial efficiency.

Table 2. Operating Efficiency

Name of Firm	Variable	Mean Before	Mean After	Mean Change	T-test	Wilcoxon test (-)
Ashaka	SALEFF	2079.6	9735.89	7656.28	0.0022	0.135
	NIEFF	274.38	1722	1447.61	0.0119	0.405
Portland	SALEFF	5609.34	13068.96	7459.62	2.3651*	1.826++
	NIEFF	1292.8	(598.75)	(1891.56)	0.0509	0.135
Flour Mills	SALEFF	2851.91	7907.22	5055.31	0.0038	0.095
	NIEFF	142.28	262.42	120.14	0.0653	0.095
UNTL	SALEFF	1533.6	2189.13	512.19	0.0396	0.135
	NIEFF	91.59	124.97	33.37	0.1446	0.674
UNIC	SALEFF	4.576	876.98	872.4	0.00014	0.095
	NIEFF	6.813	83.006	76.19	0.0006	0.095
Royal Ins	SALEFF	5.687	823.68	818	8.707*	1.826++
	NIEFF	19.35	272.19	252.843	0.0016	0.674
Unipetrol	SALEFF	21260.55	79502.66	58242.11	0.0328	0.095
	NIEFF	707.16	947.58	240.42	0.485	0.124
National Oil	SALEFF	34195.87	96284.54	62088.67	3.488*	0.826
	NIEFF	352.39	4289.52	3937.12	0.0114	0.135
UBA	SALEFF	283.05	2800.21	2517.16	0.0047	0.095
	NIEFF	9.477	346.63	337.15	0.0436	0.135
NAL	SALEFF	1013.29	6456.5	5443.2	3.868*	1.826++
	NIEFF	194.39	1487.98	1293.58	9.138*	1.826++

Source: computations by author (*, + = significance at 5%; ++ = significance at 10%)

The efficiency measures we employ include inflation-adjusted sales per employee (SALEFF) and net income per employee (NIEFF). SALEFF show significant changes at 5 per cent level in Portland cement, Royal insurance, National Oil and NAL merchant bank, while NIEFF shows significant changes at 5 per cent level in UNTL, NAL and Unipetrol. Except the NIEFF in UNTL which have recorded a decline, the results show positive increases following privatization in all the ten companies considered. The results somehow agree with the general expectations of our hypothesis.

4.3. Changes in Capital Investment

The general expectation is that, greater emphasis on efficiency and profitability will make newly privatized firms increase their capital investment spending. Firms should increase capital expenditure after divestiture because they are no longer tied to government's bureaucratic procedures and that they have greater access to private debt and capital market. Moreover, if privatization is accompanied by deregulation and market opening, former SOE's will face very large investment spending needs in order to become more competitive with other private firms. In addition, years of financial stress often lead firms to defer routine maintenance which must also be made good after privatization. The removal of government control of the SOE also reduces or eliminates the government's ability to bribe or force SOE managers to produce politically attractive, but economically wasteful goods (Megginson et al, 1994). Finally, to the extent that privatization promotes entrepreneurship, former public firms will have the incentives and the means to invest in growth options such as launching new products and searching for new markets.

Table 3. Capital Investment

Name of Firm	Variable	Mean Before	Mean After	Mean Change	T-test	Wilcoxon test (-)
Ashaka	CESA	0.036	0.065	0.0285	0.0096	0.135
	CETA	0.412	0.096	0.0552	0.014	0.405
Portland	CESA	0.0062	0.1707	0.1646	0.1561	0.674
	CETA	0.0095	0.1292	0.1196	0.166	0.674
Flour Mills	CESA	0.0081	0.0316	0.235	0.1994	0.674
	CETA	0.0164	0.10	0.083	0.0087	0.135
UNTL	CESA	0.0042	0.0405	0.0363	0.0243	0.095
	CETA	0.0053	0.0575	0.0521	0.0146	0.095
UNIC	CESA	2.8102	0.0595	(2.751)	0.0057	0.095
	CETA	0.139	0.0567	(0.823)	0.1587	0.365
Royal Ins	CESA	1.1124	0.0323	(1.08)	0.0002	0.095
	CETA	0.0384	0.0073	(0.031)	0.0081	0.095
Unipetrol	CESA	0.0163	0.0306	0.0143	0.3636	0.135
	CETA	0.1895	0.1934	0.0038	0.9628	1.095+
National Oil	CESA	0.0023	0.0124	0.0101	0.0444	0.135
	CETA	0.0203	0.0460	0.2565	0.143	0.674
UBA	CESA	0.1407	0.0666	(0.0741)	0.0319	0.095
	CETA	0.0593	0.1085	(0.0485)	0.3337	0.135
NAL	CESA	0.0766	0.0162	(0.0604)	0.0676	0.135
	CETA	0.0097	0.0028	(0.0068)	0.0299	0.095

Source: computations by author (*, + = significance at 5%; ++ = significance at 10%)

We compute capital investment intensity using two proxies, capital expenditures divide by sales (CESA) and capital expenditures divide by total assets (CETA). Six out of ten firms in our sample have shown improvement in both indicators, However, UNIC, Royal, UBA and NAL have shown a reduction in both CESA and CETA during the post privatization period. In our entire sample, Portland cement has shown high increases in capital expenditure where it recorded increase from 0.6 per cent to 17 per cent, 0.9 per cent to 12 per cent for CESA and CETA respectively. This is significant at 10 per cent level for both CESA and CETA. UNIC insurance shows high reduction in CESA; which falls to less that 10 per cent during the post privatization period. Flour mills and Unipetrol have recorded significant improvement at 10 per cent in CESA, while National Oil recorded significant at 10 per cent level in CETA.

4.4. Changes in Output

Governments hope and expect that real sales will increase after privatization because newly privatized firms now have better incentives, more flexible financing opportunities, increased competition and greater scope for entrepreneurial initiatives. On the other hand, Boycko, Shleifer and Vishny (1993) argue that effective privatization will lead to reduction in output, since government can no longer entice managers (through subsidies) to maintain inefficiently high output levels.

Table 4. Output

Name of Firm	Variable	Mean Before	Mean After	Mean Change	T-test	Wilcoxon test (-)
Ashaka	SAL	1467.95	1710.28	242.32	0.3352	0.356
Portland	SAL	3666.25	2978.09	(688.16)	0.0529	0.095
Flour Mills	SAL	578.9	683.27	104.37	0.3071	0.135
UNTL	SAL	3622.75	3548.71	(74.03)	0.8862	0.365
UNIC	SAL	24.32	201.78	177.45	1.796*	1.753+
Royal Ins	SAL	25.07	72.28	47.21	2.486*	2.023+
Unipetrol	SAL	5120.62	9105.74	5034.44	0.0259	0.135
National Oil	SAL	4071.3	4551.88	(568.73)	0.4161	0.365
UBA	SAL	3839.86	3347.58	(492.27)	0.4077	0.365
NAL	SAL	745.25	530.17	(215.83)	0.0233	0.135

Source: computations by author (*, + = significance at 5%; ++ = significance at 10%)

We test these two competing predictions by computing he average inflation-adjusted sales level for the pre-privatization period and comparing it with the post privatization period for the ten firms in our sample. Five companies have recorded positive increase in output during the post privatization period, namely; Ashaka, Flour Mills, UNIC, Royal insurance and Unipetrol. This result is in line with the first argument. On the other hand, the remaining five companies have recorded a reduction in output in the post privatization period. These are Portland cement, UNTL, National Oil, UBA and NAL. This supports the second theoretical postulation.

4.5. Leverage Changes

In order to place greater priority on improving the financial soundness of the newly privatized firms, leverage ratios are expected to drop after privatization. There are several reasons why leverage should decline after privatization, for one thing, SOEs traditionally have extremely high debt levels at least partly because they cannot sell equity to private investors, and thus the only equity available to the firms are capital injections and retained earnings (Megginson et al

1994). Leverage ratio measures long term financial position of a firm and the extent to which the firm relied on debt to finance assets. It establishes the relationship between funds supplied by owners of a firm and those provided by creditors of a firm.

Table 5. Leverage

Name of Firm	Variable	Mean Before	Mean After	Mean Change	T-test	Wilcoxon test (-)
Ashaka	LEV1	0.518	0.9177	0.3996	0.0023	0.674
	LEV2	0.0298	0.0007	(0.0291)	0.1853	0.365
Portland	LEV1	0.9852	1.0728	0.0876	0.1435	0.675
	LEV2	0.0115	1.0132	1.0017	0.0073	0.095
Flour Mills	LEV1	4.4761	0.7787	(4.0282)	7.3403*	1.826++
	LEV2	9.5584	0.0062	(8.6334)	5.8751*	1.841++
UNTL	LEV1	0.0445	0.7787	0.7342	6.2389*	1.826++
	LEV2	0.0594	0.0062	(0.0532)	0.0807	0.135
UNIC	LEV1	1.9495	0.0255	(1.9240)	4.003*	1.826++
	LEV2	1.6598	0.0728	(1.5871)	2.658*	1.841++
Royal Ins	LEV1	0.4104	0.2095	(0.2007)	4.5664*	1.826++
	LEV2	0.2975	0.0046	(0.2929)	2.0985*	1.841++
Unipetrol	LEV1	1.1401	1.7012	0.5611	0.4721	0.675
	LEV2	0.5194	0.1064	(0.4130)	0.0027	0.095
National Oil	LEV1	0.4518	0.3901	(0.0617)	0.8317	0.675
	LEV2	2.7264	0.0503	(2.6761)	0.3145	0.675
UBA	LEV1	0.246	0.0453	(0.0201)	0.4071	0.135
	LEV2	0.0799	0.0028	(0.0771)	0.0001	0.095
NAL	LEV1	0.0841	0.1577	(0.6836)	9.9653*	1.826++
	LEV2	0.042	0.0034	(0.0386)	0.1848	1.214++

Source: computations by author (*, + = significance at 5%; ++ = significance at 10%)

We measure leverage by using the total debt to total assets (LEV1) and by long term debt to equity ratio. Although our results are mixed, but majority of the firms considered conform to expectation. A few of them did not. Six of the companies considered have recorded reduction in both LEV1 and LEV2; namely, Flour Mills, UNIC, Royal insurance, National Oil, UBA and NAL. Also LEV2 has fallen for Ashaka, UNTL and Unipetrol, while LEV1 has not fallen. This is contrary to expectation.

4.6. Changes in Employment

The great fear which most governments have expressed is that, the objectives of efficiency and profitability as a result of privatization can only be achieved at the cost of large scale job losses. In other words, people expect large declines in employment levels following privatization. We examine this by computing the average employment levels for the pre-privatization and post privatization periods in order to ascertain whether employment has actually fallen after privatization. Seven companies record reduction in employment in the post privatization period. Ashaka cement's staffing strength fell from 1632 to 785.4 on the average. Portland cement and Flour Mills also recorded reduction from 1525.6 to 964 from 461.2 to 417.4 respectively. Also UNIC and Royal insurance record a reduction on the average from 704 to 540 from 489 to 248 respectively. National Oil and UBA have also recorded a decline from 413.6 to 221.4; from 4410 to 3900

respectively. These results conform to expectation. On the other hand, three companies have recorded increase in employment in the post privatization period. UNTL recorded increase (on average) from 5498.6 to 7031.4, Unipetrol increased from 529.4 to 588.8 and NAL increased it employment from 235.8 to 257.8 during the post privatization period. This is contrary to our hypothesis. In our sample, Ashaka, Portland, UNIC, Royal insurance and National Oil have recorded significant decreases at 5 per cent level.

Table 6. Employment

Name of Firm	Variable	Mean Before	Mean After	Mean Change	T-test	Wilcoxon test (-)
Ashaka	EMPL	1632	785.4	(846.6)	5.5*	1.826 ++
Portland	EMPL	1525.	964	(561.6)	1.6375*	1.841++
Flour Mills	EMPL	461.2	417.8	(43.4)	0.0025	0.135
UNTL	EMPL	5498.6	7031.4	1532.8	0.0782	0.154
UNIC	EMPL	704	540	(164)	7.462*	1.826++
Royal Ins	EMPL	489	248	(241)	1.117*	1.841++
Unipetrol	EMPL	529.4	588.8	59.4	0.0588	0.095
National Oil	EMPL	413.6	221.4	(192.2)	2.096*	1.826++
UBA	EMPL	4410	3900	(510)	0.0042	0.135
NAL	EMPL	235.8	257.4	21.6	0.0675	0.674

Source: computations by author (*, + = significance at 5%; ++ = significance at 10%)

4.7. Changes in Dividend Payouts

There is a strong expectation that dividend should increase after privatization. This is because unlike government, private investors generally demand dividend and dividend payouts are a classic response to the atomized ownership structure to which most privatization programs lead (Megginson et al; 1994). It is also expected that earnings per share will increase after privatization since profits are expected to rise.

Table 7. Dividend Payout

Name of Firm	Variable	Mean Before	Mean After	Mean Change	T-test	Wilcoxon test (-)
Ashaka	DIVISAL	0.0357	0.0708	0.0351	0.1092	0.135
	PAYOUT	0.2969	0.4368	0.1399	0.1787	0.654
Portland	DIVISAL	0.0246	0.0053	(0.0192)	0.0228	0.405
	PAYOUT	0.12	2.4025	2.2825	0.3699	0.356
Flour Mills	DIVISAL	0.1453	0.0376	(0.1076)	0.0096	0.135
	PAYOUT	3.1075	1.4410	(1.666)	0.2202	0.944
UNTL	DIVISAL	0.0151	0.010	(0.0051)	0.2967	0.135
	PAYOUT	0.2779	0.1991	(0.0789)	0.4384	0.345
UNIC	DIVISAL	0.9304	0.0248	(0.9055)	0.0006	0.095

	PAYOUT	0.5234	0.2582	(0.2652)	0.0654	0.365
Royal Ins	DIVISAL	0.1765	0.1546	(0.0219)	0.8226	0.944
	PAYOUT	0.0473	0.4694	0.4221	0.0008	0.135
Unipetrol	DIVISAL	0.0134	0.0117	(0.0017)	0.6937	0.944
	PAYOUT	0.4382	0.7409	0.3026	0.2134	0.546
National Oil	DIVISAL	0.0194	0.0211	0.0015	0.8697	1.069+
	PAYOUT	0.3712	0.4788	0.1075	0.8293	1.069+
UBA	DIVISAL	0.0146	0.0308	0.0162	0.073	0.135
	PAYOUT	0.7963	0.4364	(0.3599)	0.4415	0.944
NAL	DIVISAL	0.0381	0.0706	0.0325	0.1391	0.356
	PAYOUT	0.1996	0.3095	0.1099	0.2511	0.436

Source: Computations by author (*, + = significance at 5%; ++ = significance at 10%)

We examine these using total dividend payments divided by sales (DIVISAL) and dividend divide by net income (PAYOUT) and changes in earning per share (EPS) following privatization. EPS has shown substantial improvement in all the companies except in Portland, UNTL and NAL where EPS ratios have fallen. It is important to not that EPS did not record substantial increase in UNIC and Royal insurance. DIVISAL and PAYOUT ratios have increased in only three out of the ten companies considered, namely; Ashaka, National Oil and NAL. This implies that investors are better off in these companies. On the other hand, both DIVISAL and PAYOUT have decline in Flour Mills, UNTL and UNIC insurance. Although, this may be attributed to the internal policies of the companies, it is contrary to our hypothesis.

Table 8. Earnings Per Share

Name of Firm	Variable	Mean Before	Mean After	Mean Change	T-test	Wilcoxon test (-)
Ashaka	EPS	2.17	4.44	2.27	0.088	0.944
Portland	EPS	4.26	1.05	(3.21)	0.0028	0.095
Flour Mills	EPS	0.16	1.46	1.29	0.0019	0.135
UNTL	EPS	8.17	1.24	(6.93)	0.1329	0.645
UNIC	EPS	0.54	0.60	0.06	0.6992	1.509+
Royal Ins	EPS	0.53	0.71	0.17	0.3103	0.645
Unipetrol	EPS	4.05	7.21	4.05	0.1208	0.944
National Oil	EPS	0.75	7.92	7.17	0.0324	1.826+
UBA	EPS	0.86	3.46	2.59	0.0768	0.509
NAL	EPS	2.07	0.84	(1.23)	0.0115	0.453

Source: computations by author (*, + = significance at 5%; ++ = significance at 10%)

5. Conclusion

Despite mixed results, the overall results show improvement in profitability for most of the firms in our sample. Even some of the firms that have recorded reduction in profitability after privatization, if we take other measures into consideration, they are set towards higher profitability in the future. The operational efficiency measures statistically significant change at 5 per cent for most of the firms in our sample. This study also reveals an improvement in capital spending for the six firms in our sample using the two indicators during the post-privatization period. We obtain mixed result in output

changes, five firms recorded positive changes, while three firms recorded a reduction in output after privatization. With regards to changes in leverage, in spite mixed results, most firms in our sample have recorded a decline in leverage after privatization. However the cost of borrowing remained high despite access to pubic equity markets. On employment changes, privatization has led to reduction in the number of workers in most of the privatized firms.

We also observe increase in earning per share, whereas dividend has shown substantial decline after privatization in most of the companies considered. This means that shareholders are not better off with privatization. On labor income and welfare, results have shown substantial increase in labor income after privatization in all the firms in our sample. The share of workers income in the firm's value added shows a significant improvement in all the firms in our sample except for UNIC insurance where the ratio was 29.2% before privatization and 35.7% after privatization. Overall our results provide little evidence that privatization has caused a significant improvement by all indicators.

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