The Impact of Privatization on the Financial Performance of Privatized Enterprises in Sudan (1990-2004): Based on new ownership structure: An empirical study

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Abstract

This paper attempts to examine the impact of privatization on the financial performance of privatized enterprises classified according to new ownership structure in Sudan. The paper follows the standard methodology reported in the literature and relies on survey data collected from annual reports of these enterprises. The paper uses a sample of 18 privatized enterprises that were fully or partially privatized during the period 1990 to 2004. Non- parametric statistics Wilcoxon test was used as a technique to analyze the data.

The findings show that there is insignificant increase in the financial performance of enterprises transferred to internal investors and state ownership. However, the enterprises transferred to external investors show insignificant decline in the financial performance. Moreover, significant decline in the performance of enterprises transferred to states and NGOs was documented (at .05 level of significance). The paper concludes that, overall, there was an insignificant improvement in the financial performance of privatized enterprises classified according to new ownership structure. To rectify the situation the paper comes up with some recommendations geared toward improving financial performance of privatized enterprises.

The Impact of Privatization Enterprises on the Financial Performance of privatized enterprises in Sudan (1990-2004): Based on new ownership structure. An empirical Study

1. Introduction

Privatization of State Owned Enterprises (SOEs) has become an important phenomenon in both industrial and developing countries and has been occurring at an increasing rate over the past three decades, particularly in developing countries whose share in global privatization revenues rose from17 per cent in 1990 to 22 per cent in 1996 (The Economist, 1997).

Although there are a number of theoretical and empirical studies on privatization, we are still far from universally agreed conclusions. Estimated privatization effects may be both positive and negative (Limi 2003).

D'Souza and Megginson, (2001) used a sample of 118 enterprises (from 29 countries and 28 industries), privatized via public share offering between 1961 and 1995, and indicated a significant increase in profitability, efficiency, output, and capital expenditure, and a significant decrease in leverage following privatization.

In contrast to the above mentioned result, Sachs and Eilat, (2000) examined the empirical evidence across 24 transitional economics, and concluded that ownership change is not enough to generate an improvement in financial performance. Omran (2001) reviews indicators in privatized and remaining SOEs in Egypt in 1994 and found that overall performance in all enterprises improved, regardless of ownership type or change. He concluded that economic liberalization and competition were more important than privatization in explaining enterprises behavior.

For African countries, most empirical studies have shown a relatively poor performance of SOEs reform effort as compared with other parts of the world in both relative and absolute terms (World Bank, 1996; Adam et al., 1992)

Many African countries have embraced privatization programs in various sectors of their economies. Economic reform and privatization have been initiated as a result of external pressures by the West and itternational agencies such as International Monetary Fund (IMF) and the World Bank (WB).

The present government in Sudan adopted the privatization policy since the early 1990 on a more systematic and pragmatic basis. The policy was the cornerstone of the Three Years Economic Salvation Program (1990-1993) and Ten-years National Comprehensive Strategy (1992-2002). (Musa (2002).According to the Technical Committee for the Disposition of Public Enterprises (TCDPEs) report of (2002), the privatization programme covers many SOEs in various sectors such as agriculture, industry, banking …etc.

In Sudan some studies have been conducted to examine the impact of privatization on economic performance, e.g. Musa, (1994); (1999), ELtyab (1997); Elbeely, (1996); TCDPE (1995), (2002). .A few of these studies have focused upon the impact of privatization on the financial performance of privatized enterprises or they were restricted to a single SOE, while others did not use some of initial financial measures for comparison of pre and post privatization performance.

This paper considers a set of privatized enterprises in different sectors through new ownership structure which experienced full or partial privatization over the period 1990 to 2004. Moreover, initial financial measures are used to compare financial performance before and after privatization.

The main purpose of the paper is to investigate the impact of privatization on the financial performance of privatized enterprises according to the new ownership structure. In other words, what happens to the financial performance of privatized enterprises following privatization from the perspective of new ownership structure?

The remainder of this paper is organized as follows: section two provides a brief review of the theoretical and empirical studies on privatization. Section three highlights the historical background of privatization in Sudan. Section four specifies methodology applied for the assessment of financial performance change and analysis of data used in this paper. Section five reports the results and discussion. Section five presents conclusions and recommendation.

2 -Theoretical and Empirical Studies on Privatization:

A wide range of theoretical and empirical literature is available relating to the impacts of privatization on financial performance of privatized enterprises. Nellis (2003, pp.43-58) concluded that "Although a lot of studies have been conducted, still there is a great ambiguity, in theory and empirical research, concerning relative merits and demerits of ownership impact on the enterprise financial performance".

The advocates of privatization tend to argue that private ownership is more efficient than public one. Their arguments are based on the claims that the change in enterprise's ownership redefines the enterprise objectives and the manager's incentive to reduce cost and gain profit (Shirely and Nellis, 1991). There is widely held view that privatized enterprises perform better than SOEs and they are more competitive when compared to previous conditions of government control (Megginson et al., 1994; Andrews and Dowling, 1998).

In contrast, the other group such as (Rowthorn and Chaye,(1991); Prake, R.(1989).considers that SOEs are superior to the private ones. They argue that SOEs can be efficient in net financial position if their control system is suitable and they have clear goals and objectives.

The third view finds no difference in the performance of both types of enterprises (Carmake and Zaim, 1992; Martin, 1985). They argue that any attempt to evaluate the performance of the SOEs must take into account the multiplicity of objectives (economic, social and political) that they must pursue as compared to simple profitability objective that is the characteristic of most private enterprises.

It is well known that there has been a long debate about the relationship between the enterprise performance and its ownership pattern. As for the practical effects of privatization, a general consensus has not been reached. But some of the recent studies are more or less favorable in way they look at privatization (D'Souza and Megginson, 2001).

Galiani et al. (2004) argue that "despite the importance of the privatization experience, we still have no empirical knowledge about how well privatization works in practice" pp.131-152.

Early empirical research reached mixed results about the comparative performance of private versus public enterprises (see Caves, 1992). Surveying many countries, developed and developing, Dewenter and Malatesta (2001) examined the performance of 63 enterprises, which witnessed divestment over the 1981–1993 period. The research indicated a significant improvement in profitability, and a significant decline in leverage and labor intensity.

In transition countries, there exist some studies that are much more skeptical the about positive influence of privatization (see Nellis, 2003; Frydoman et al., 1998; Black et al., 2000).

In developing countries, most of the findings on assessment of financial performance before and after privatization concluded that privatization improves the financial performance of the enterprise (Kikri and Nellis, 2004).

Another line of thinking indicates the possibility that performance improvements could be realized without a change of ownership. Havrylyshyn and Mcgehingon (2000) indicate that "the overall impact of privatization–in spite of expectations–is not always positive". There are many empirical studies about the impact of different types of privatization on enterprise performance. Sachs, J. and Eilat, Y. (2000), Kikeri, S. and Nellis, J. (2004).

3- Privatization in Sudan: Background

At the time of independence in 1956, there was virtually no indigenous private sector in Sudan. During the ten-year plan, 1960-70, the onus of economic and social development was placed on SOEs. However, the majority of SOEs in Sudan-especially those in manufacturing-were established within the five-year plan, 1970-75, and the six-year plan; 1977-83 (Ali, 1994) .Privatization in Sudan could roughly be said to date back to the 1920s when the Colonial Government privatized the Sudan Lights and Power Company by selling it to a private British firm, to undertake the generation and supply of electricity in Khartoum in 1925 and in Medani 1930. (Awad, (1997).

In March 1991 the government of Sudan (GOS) initiated the privatization program as part of The Three Years National Economic Salvation Programme (NESP), 1990-1993, as a means of achieving the general objectives of the programme. The process is also regarded as part of the comprehensive liberalization policy which requires the privatization program in order to provide suitable climate for success.

According to TCDPE (1995) report privatization in Sudan (1992 – 2003) has moved through different phases. In the first phase of the program (1992-1997 and during the period from 1992 to 1995, 57 enterprises of those included in the programme (usually called the first program) have been privatized. The privatization of these enterprises has been made in accordance with the different methods of privatization approved by the Council of Ministers, which include: outright sale, public share offering, debt equity swap, lease, and transfer of ownership to some states and NGOs.The second phase of the program included privatizing 31 enterprises .From the practical experience of the implementation of the first and second phases, the Council of Ministers has approved, on July 2003, the third suggested phase for rest of enterprises covered by of the privatization program (TCDPES,2002).

Table (1): below shows the number of privatized enterprises in various sectors as of June 2002 and the privatization methods. In this table figures between brackets represent the percentage of total.

Table (1): number of SOEs privatized (as of June 2004) and method of privatization.

Privatization method	Manuf Sector	Agric. Sector	Tran., Telecom. &Tourism sectors	Mining sector	Banking	Misc. sector	Total
Sale	4	-	4	1	2	4	15(28%)
Debt equity swap	4	2	-	-	-	-	6 (11%)
Lease	-	-	1	-	-	-	1 (2%)
Public shares offering	-	2	1	-	-	1	4 (7%)
Transfer (give away) to state govt. & NGOs	10	11	5	-	-	2	28 (52%)
Total	18 (33.3)	15(27.8)	11(20.3)	1(1.9)	2(3.7)	7(13)	54 (100%)

Source: TCDPE Report (2004) and researcher's Calculations

4- Methodology and Data

The main aim of this paper is to examine the impacts of privatization on the financial performance of privatized enterprises according to their new ownership. The study is based on explanatory methods and attempts to show, based on empirical evidence, the extent to which the privatization program in the Sudan has contributed towards the improvement of the financial performance of privatized enterprises according to the type of transfer to the new ownership by comparing the financial performance before and after privatization.

The research design used in this paper is "before-and-after" design (also known as the pre-test/post-test design) to compare the change in financial performance of the sample for three years before and after privatization.

The paper uses the financial measures in Megginson et al. (1994); Nellis and Loser (2002); Boubkri and Cosset (1998); D'Souza and Megginson (1999) for comparison of financial performance. These measures are: profitability, operating efficiency, output, dividend payment, leverage and capital investment spending.

To test whether the changes in financial performance are significant, this paper used non parametric statistics. Wilcoxon is common tests in such analysis (Wilcoxon, 1945). The research problem can appropriately be addressed using this test when sample size is small in each group.

The difference of the mean of signed ranks performance was calculated for each variable prior to and after the date of privatization for each individual privatized enterprise; to test for the significant changes and the table showing critical values of W shall be used as basis for decision in such cases. For calculating whether the change in each financial indicator is significant we need to follow these steps:

(i) For each SOE in our sample we obtained a difference score (after minus before) for each of the performance indicators (a) – (f) noted above;

(ii) For each performance indicator obtain the set of absolute differences;

(iii) Omit from further analysis any absolute difference score of zero. This yields the actual sample size to be used in the analysis which will be equal to or less than original sample size;

(iv) Assign ranks from 1 to N to each absolute difference such that the smallest absolute difference score gets rank 1 and the largest gets rank N. If one or more

absolute differences are equal, they are each assigned the average rank of the ranks they would have been assigned individually in the absence of ties;
(v) Assign the ranks their corresponding positive or negative signs;
(vi) The Wilcoxon test statistic is obtained as the sum of the positive ranks.

The data set for this research were gathered from Sudanese SOEs that have been privatized fully or partially by 2002. Following Megginson and Netter (2001) each enterprise should have had at least three years experience before and after privatization date. According to TCDPEs report of June 2003, the number of privatized SOEs in Sudan reached 58 and an additional 25 SOEs are scheduled for privatization. The number of privatized enterprises according to sector is: eighteen(31%) in agriculture, nineteen(32.7%) in the manufacturing, one (1.7%) in energy and mining, two (3.4%) in transport and communication, two (3.4%) in the banking, nine(15.5%) in the tourism and seven(12%) in the multifarious sector. According to TCDPEs,(2003) the privatized enterprises spread over seven sectors, which make up the national economy namely: agriculture, industry, energy mining, transport, banking, tourism and multifarious. However, privatizations through liquidations were excluded, because they do not have post privatization data. The sample size becomes 54 privatized enterprises for the survey. It is perhaps important to note that the total number of SOEs in Sudan were 190 before privatization program.

This research selects sample using the formula for determining the sample size as follows:

$$n_e = \frac{z^2 p(1-p)}{d^2}$$

Where:

n = initial sample size.
Z = standardized variable.
p = the anticipated proportion taken (.28). (190/54).
d = absolute precession required on either side of the population proportion taken .2.
n = (1.96) (.28) (.72)

$$n_o = \frac{(1.96)^2(0.28)(0.72)}{(0.2)^2} = 19.3$$

For calculating the final sample size number the researchers use the correction factor for small size population (N> 1000), it is given by the following formula:

$$n = \sqrt{\frac{N - n_o}{N-1}} \quad \text{, where } N = 190$$

$$n = 19.3\sqrt{\frac{190-17}{190-1}} = 18.34 = 18$$

Table (2): The number of privatized enterprises and sample size per sector:

Sector	No. of Privatized Enterprises	Sample Size In each sector	%
Agricultural	15	4	22.2
Manufacturing	18	6	33.3
Energy and Mining	1	1	5.6
Transport and Communications	2	1	5.6
Banking	2	1	5.6
Tourism	9	2	16.7
Multifarious	7	3	11
Total	54	18	100

Source: researcher's Calculations

The above table indicates that 22.2% of privatized enterprises included in the sample from the agricultural sector, 33.3% from the industrial sector, 5.6% from the energy and mining, 5.6% from transport and communications, and 5.6% from the banking sector, 16.7% from tourism and 11% from multifarious sector.

Table (3): Sample size Based on the Ownership Structure.

Ownership structure	No. of Privatized Enterprises	Sample Size	%
Internal Investor	15	5	27.8
State Ownership	12	4	22.2
External Investor	9	3	16.7
Regional State and NGOS	18	6	33.3
Total	54	18	100

Source: researcher's Calculations

5-Emprical Results:

Having noted the methodological preliminaries in the previous section we now in a position to report and discuss our empirical results. Tables (4,5,6,7) present our results (see appendix A) which show the changes in financial performance following privatization of enterprises; where for each financial indicator we report the mean and (median) before and after privatization, the difference between the two periods for privatized enterprises transferred to new ownership structure categorized by the researchers into internal investors, state ownership (the government has more than 51% of shares), external investors as well as states and NGOs. (Specify all results indicate a .05 level of significance):

1- Profitability:

Profitability is a useful indicator of financial performance in competitive markets. Profitability is measured by several proxies; return on sales (ROS), return on assets (ROA) and return on equity (ROE) ratios. (ROS) refers to earnings before interest and tax (EBIT) divided by sales, while (ROA) refers to EBIT divided by assets and (ROE) refers to EBIT divided by equity. The above profitability ratios were calculated using profit before interest, taxes, extraordinary items, and "zakat" to reflect the operating income of the enterprise, instead of using net income. Because the tax figures reported on the enterprise's annual reports may include tax credits or carry forwards that do not relate to the current year's performance; selling some assets prior to privatization and then reporting capital gains in income statements that would reflect an increase in net income but in an artificial way.

On the basis of the above evidence, the results in table (4 and 5) show that all profitability ratios have increased following privatization in enterprises transferred to internal investors and state ownership; the increase, however, is statistically insignificant. The results in table (6) indicate that all the profitability ratios show insignificant declined following privatization in the enterprises transferred to external investors.

The results in table (7) indicate that all the profitability ratios declined following privatization in enterprises transferred to states and NGOs; the decline, however, is statistically significant.

2- Operating Efficiency: .

Two ratios were used to measure operating efficiency: sales efficiency (real sales per employee) and input–output ratio (income per employee) ratios. EBIT was used to refer to income for the justifications mentioned in the profitability measures. Table (4) provide empirical evidence that there is a statistically significant improvement in real sales per employee and EBIT following privatization in enterprises transferred to internal investors, while the results in table (5and 6) indicate significant improvement following privatization in real sales per employee and EBIT in enterprises transferred to external investors and state ownership. As for enterprises transferred to states and NGOs; the results in table (7) show that there is a statistically significant decline in the two ratios of operating efficiency.

3- Output:

One important objective of privatization is to increase output of privatized enterprises; hence, this proposition was tested by computing the adjusted sales level as a proxy for output for the pre-and post privatization period.

The results in table (4and 5) show that there is a significant increase and improvement in output after privatization in enterprises transferred to internal investors and state ownership. AS for enterprises transferred to external investors the results in table (6) indicate in significant decline in output following privatization. However, table (7) shows that there is significant decline in this indicator after privatization of enterprises transferred to state and NGOs

4- Dividend Payment:

A dividend policy is measured by cash dividend related to net profit (dividend payout: equal to cash dividends by net income). The empirical findings in table (4 and 5) show insignificant increase in dividend payments after privatization of the enterprises transferred to internal investors and state ownership, while the results in table (6and 7) indicate an insignificant decline in this indicator following privatization of the enterprises transferred to external investors and states and NGOs.

5- Leverage:

Changes in leverage were measured by total debt to total assets and by the long-term debt to equity ratios. Following Megginson, et al. (1994), the focus was made on the first measure of leverage. The results in table (4 and 5) indicate an insignificant decline in the leverage following privatization in enterprises transferred to internal investors, state ownership and external investors. As for enterprises transferred to states and NGOS the results in table (7) show an insignificant increase in this indicator following privatization.

6- Capital Investment Spending:

Two ratios were employed to estimate the degree of capital investment, capital expenditure divided by sales and capital expenditure divided by total assets. The results in table (4, 5) show that there is insignificant improvement in capital investment spending following privatization, in enterprises transferred to internal investors and state ownership, the increase, however, is statistically insignificant. As for enterprises transferred to external investors and states and NGOs, the results in table (6and 7) show an insignificant decline in capital investment spendiug after privatization.

Despite the simplicity of the test performed, the above results clearly show that the financial performance of privatized enterprise did not significantly improve following the implementation of the privatization program. The only statistically significant increase is recorded for operating efficiency and output in enterprises transferred to internal investors and states ownership, while the privatized enterprises transferred to the states and NGOs recorded statistically significant declined in the majority of indicators

6- Conclusions and Recommendations:

This paper is intended to shed light on the impact of privatization on the financial performance of privatized enterprises as classified according to new ownership structure in Sudan during the period 1990 to 2004. It could be concluded that there is an insignificant improvement in the financial performance in enterprises transferred to internal investors and state ownership. The only statistically significant increase is recorded in operating efficiency and output ratios in two groups. The privatized enterprises transferred to external investors show insignificant decline in financial performance. Moreover, the enterprises transferred to states and NGOs show a significant decline in financial performance.

The most important observation is that the privatized enterprises transferred to the states and NGOs perform much worse in financial terms relative to other groups. Along the same lines the privatized enterprises transferred to external investors also show a decline, however insignificant, in financial performance. The majority of privatized enterprises claim that the government has not yet created conducive environment for healthy private investment. Moreover, these findings indicate that privatized enterprises have not achieved the results expected by the policy makers from the perspective of new ownership structure.

The study recommends undertaking a serious review of the privatization policy to avoid the pitfalls of the past experience and introduce necessary modifications accordingly. As the focus in this paper has been on the transfer of ownership we recommend that, the concerned parties should review and reconsider the form of ownership envisaged for the enterprises put forward for privatization. Special attention should be given to reconsideration of transferring ownership to states and NGOs, as the research results show clearly that such privatized enterprises were the lowest performers relative to other categories. It is most likely that both states and NGOs usually gain ownership over former SOEs either free of charge or by paying nominal amount of money, as a support gesture from the federal government. This situation seems to adversely affect performance levels of these enterprises and creates in some states and NGOs a sense of complacency among the new owners and this method has to be reconsidered. The researchers also recommend a further study to investigate the impact of the pattern of new ownership on performance by focusing on the comparison between full privatization of the enterprise i.e complete transfer of ownership and control to the private sector, and partial privatization such as lease , management contract, public stock holding and others.

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Appendix (A)

Table (4): Changes in financial performance following privatization of enterprises transferred to the internal investors:

Variables	Mean difference of ranks	Sum of the ranks	N	Level of significance	Comments
Profitability					
Return on sales(revenue) (ROS)	2 (4)	1(4)	5	.109	Insignificant
Return on assets (ROA)	1(3)	2(4)		.109	Insignificant
Return on equity (ROE)	4(6)	1(3)		.59	Insignificant
Operating efficiency :					
Real sales revenue per employee	1(3)	1(6)	5	.04	Significant
Earning before interest and tax and zakat per employee (EBIT)	1(3)	1(10)		.04	Significant
Out put					
Real sales (revenue)	1(10)	1(12)	5	.05	Significant
Dividend payment					
Cash Dividend to net income	1(2)	2(4)	5	.65	Insignificant
Leverage					
Total debts to total assets	3(1.5)	.3(2)	5	1.4	Insignificant
Capital investment spending					
Capital expenditure by sale	1(2)	2(6)	5	1.06	Insignificant
Capital expenditure by total assets	1(2)	1(6)		1.06	Insignificant

Source: Researcher's Calculation.

Table (5): Changes in financial performance following privatization of enterprises transferred to state ownership

Variables	Mean difference of ranks	Sum of the ranks	N	Level of significance	Comments
Profitability					
Return on sales(revenue) (ROS)	1(3)	1(9)	4	.14	Insignificant
Return on assets (ROA)	1(2.5)	4(6)		.715	Insignificant
Return on equity (ROE)	1(2.5)	1(10)		.10	Insignificant
Operating efficiency :					
Real sales revenue per employee	12.5	1(10)	4	.08	Insignificant
Earning before interest and tax and zakat per employee (EBIT)	1(2.5)	1(10)		.08	
Out put					
Real sales (revenue)	1(3)	1(8)	4	.05	significant
Dividend payment					
Cash Dividend to net income	.2(3)	2(4)	4	.59	Insignificant
Leverage					
Total debts to total assets	3(2)	6(4)	4	.71	Insignificant
Capital investment spending					
Capital expenditure by sale	1(1.5)	1(3)	4	.18	Insignificant
Capital expenditure by total assets	1(1.5)	1(3)		.18	Insignificant

Source: researcher's Calculation.

Table (6): Changes in financial performance following privatization of enterprises transferred to the external investors

Variables	Mean difference of ranks	Sum of the ranks	N	Level of significance	Comments
Profitability Return on sales(revenue) (ROS) Return on assets (ROA) Return on equity (ROE)	.4(3) 4.5(3) 3(1)	9(6) 9(6) 1.5(1)	3	.68 .68 .14	Insignificant Insignificant Insignificant
Operating efficiency : Real sales revenue per employee Earning before interest and tax and zakat per employee (EBIT)	1(3) 1(3)	1(6) 1(6)	3	.08 .08	Insignificant Insignificant
Out put Real sales (revenue)	5(2.5)	10(5)	3	.50	Insignificant
Dividend payment Cash Dividend to net income	1.5(1)	3(1)	3	.18	Insignificant
Leverage Total debts to total assets	3(2)	6 (4)	3	.71	Insignificant
Capital Investment spending Capital expenditure by sale Capital expenditure by total assets	3(2) 2(4.5)	6(4) 6(9)	3	.71 .68(.60)	Insignificant Insignificant

Source: Researcher's Calculations.

Table (7): Financial performance change following privatization for privatized enterprises transferred to states and NGOs:

Variables	Mean difference of ranks	Sum of the ranks	N	Level of significance	Comments
Profitability Return on sales(revenue) (ROS) Return on assets (ROA) Return on equity (ROE)	14(3.4) 14(3.4) 15(2)	17(4) 17(4) 15(5)	6	.04 .03 .05	significant significant significant
Operating efficiency : Real sales revenue per employee (EBIT)	4(1) 3.8(2)	20(1) 20(1)	6	.04 .05	significant significant
Out put Real sales (revenue)	11(3.5)	21(1)	6	.02	Significant
Dividend payment Cash Dividend to net income	15(2.5)	10(5)	6	.04	Significant
Leverage Total debts to total assets	3.5(4)	7(14)	6	.46	Insignificant
Capital investment spending Capital expenditure by sale Capital expenditure by total assets	2.6(2.4) 1.5(4)	8(7) 3(12)	6	.89 .22	Insignificant Insignificant

Source: researcher's Calculation.