



**The Financial Performance of Privatized Enterprises
in Sudan (1990-2002):
An Empirical Study**

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I. Introduction:

Since the beginning of the 1980s, the world has undergone a major shift in thinking about the appropriate economic role of the state. Privatization of State Owned Enterprises SOEs has been at the core of this change ever since. Britain and France initiated privatization planning [Galini, et al (2004)]. Boutchkova and Megginson (2000, pp.9-12) indicate that "from a point of being extremely controversial, since Margaret Thatcher's government, privatization has now become (almost) orthodox economic policy throughout much of the world. In developed and developing countries more than one hundred governments have privatized at least some of their SOEs".

Jerome (2002, p.10) argues that "following the apparently successful privatization programme in Britain-privatization gained a considerable momentum in developing countries given its endorsement by the multilateral financial institutions as a major plan of adjustment policy and reinforced by the need to reduced government expenditure in the face of burgeoning fiscal deficits".

The advocates of privatization, such as Jackson and Price (1990, pp.847-859) argued that great performance improvements would result from the change of enterprise ownership which redefines the enterprises objectives and manager incentives. The performance of privatized enterprises will be judged in terms of profits and return on capital.

On the other hand the opponents of privatization tend to argue that simply changing ownership is not sufficient, and indeed may not

even be necessary to improve financial performance. Increased competition, and organizational reforms have been more important than the change of ownership [Rowthorn and Chaye, (1991); Bishop and Kay, (1989)].

Although there are a number of theoretical and empirical studies on privatization, they are still far from any definitive conclusions. Limi, (2003) argues that the empirical work indicates a mixed picture; the privatization may or may not have a positive effect on financial performance.

In an effort to improve the performance of Sudanese economy, the government of Sudan (GOS) decided in 1990 to liberalize the economy in an attempt to develop the private sector and in March 1991 the (GOS) decided to embark on a privatization programme [Awad, (1991)]. The government has realized that the private sector should play a more important role in the development of the economy. The process began with the adoption of the three years National Economic Salvation Programme (NESP) 1990–1993 [Sudan Now, Sept. 1992, pp. 9-21]. 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 and banking .

In Sudan few studies have examined the financial performance of privatized enterprises, among these were [Musa, (1994); (1999), EL-tayeb (1997); Elbeely, (1996); HCDPE (1995),

(2002)]. Elbeely (2003, pp.12-15) claimed that “only few studies of Sudan’s privatization experience have been conducted, especially by international financial institutions, perhaps owing to the country’s isolation during the early 1990s”. These few studies have focused upon limited privatized enterprises or were restricted to a single SOE, while others did not use systematic analysis of changes in financial performance for comparison of pre and post privatization performance.

The analysis of the impact of privatization on financial performance of privatized enterprises in Sudan is important since there are high expectations placed upon privatization, by policy makers and the public at large, to improve enterprise performance and achieve macro economic stabilization. In view of this the main purpose of this paper is to illustrate, using empirical evidence, the extent to which the privatization programs adopted by (GOS) had an impact on the financial performance of privatized enterprises as was anticipated by the policy makers. In other words, the main question addressed in this paper is what happened to the financial performance of privatized enterprises following privatization?. To answer the question the paper considers a large set of privatized enterprises in different sectors which experienced full or partial privatization over the period from 1990 to 2002. A cross-sectoral sample is used to enable generalization of results, where a number of financial measures are compared in pre and post privatization framework.

The remainder of this paper is organized as follows, section (II) provides a brief review of the impact of privatization on the financial performance of privatized enterprises in the world; while section (III) gives a brief account of privatization in Sudan. Section (IV) presents the methodology and describes the data used, followed by section (V) that deals with the empirical findings. Finally, in section (VI) a summary and some conclusions and policy recommendations are offered.

II. Financial Performance: A Review of Theoretical and Empirical Studies:

There is a wide range of theoretical and empirical literature relating to the impact of privatization on financial performance of privatized enterprises [Megginson and Nelter, (2000)]. Shirely (2000) argues that two decades of experience have not settled the debate over how much ownership matters about positive influence on financial performance of privatized enterprises.

The relative performance of public and private enterprises has been documented by Boardman and Vining (1989,pp.205-239) who indicate that “in the world outside the United States private enterprises outperform both SOEs and mixed enterprises in competitive environment”.

Vikers and Yarrow (1991), reviewing the literature, concluded that, private enterprises were more efficient than SOEs in a competitive environments and that, competition may actually be a more important factor than ownership in determining performance. Along the same line, Hemming and Mansoor (1988,p.31) indicated that “privatization of such enterprises would not succeed in making them more profitable unless it is accompanied by economic and financial liberalization so that market forces are allowed to influence enterprise behavior”.

Kikeri et al. (1992,p.43-58) indicate that “in the same vein, in developing countries without a market-friendly policy framework and relatively well-developed regulatory capacity, privatization is less likely to yield benefits”. Empirically, some analysts concluded that increased exposure to competition accounts for most of positive change shown in privatized enterprises [see Tandon, (1995)]. Some studies suggested strongly that competition has been more important than ownership change in bringing about the financial gains [see Pollitt, (1997)].

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 increase profit [Shirely and Nellis, (1991)]. There is a broad consensus 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); D’Souza and Megginson, (1999)].

Many policy advisors in international research agencies claimed , the benefits of privatization are not so obvious. But, there exist some studies that are more skeptical about positive influence of privatization [see Black et. al, (2000)].

In contrast, another group considers that SOEs are superior to the private ones. They argued that SOEs could be efficient in net financial position if their control system is suitable and they have clear goals and objectives. Along the same line Claessens and Djankov (1998) still claim that SOEs perform better than privatized enterprises. This implies that private sector ownership is no guarantee of good performance. In this respect it is noted that private sector firms , in every corner of the world, go bankrupt every day; and that there are, in fact, examples of SOEs, such as those in United State, Germany, Brazil and South Korea, that perform quite well [Wortzel, (1989), Finsiger and Pauly, (1985)].

A third view finds no difference between the performance of both types of enterprises [Carmake and Zaim, (1992); Martin, (1993)]. 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 it must pursue as compared to simple profitability objective that is the characteristic of most private enterprises.

Baboukri and Cosset (1998) analyzed the financial performance of 79 newly privatized enterprises in 21 developing countries between 1980 and 1992 and found significant increase in profitability, operating efficiency, capital investment, employment and decline in leverage. The change in profitability and efficiency were large in middle-income countries than in low-income ones. Another research was conducted by D’Souza et al. (2001) who indicate that “numerous recent studies have empirically examined whether privatization has “worked” in the sense of yielding post-divestiture performance improvements. These studies were surveyed in Djankov and Murrel (2000 a,b), Dyck (2000), Havrylyshyn and Mcgehigan (2000), Megginson and Nelter (2001) and Shirly (1999)”. Eight of these studies have examined a single industry or a single country, while seven are multi-national, multi-industry studies. Six of the eight single-industry, single country papers show significant performance improvements [Barberis et al. (1996), Ramanurti et al (1997) and D’Souza (1998)], while two show ambiguous or negative results [Martin and Parker (1995) and Newbery and Pollilt, (1997)]. Six of the seven multi-industries, multi-national studies show significant, often massive performance improvement after privatization [Galal et al (1994),

Frydman et al (1997), Boubakri and Cosset, (1998)]. The seventh Dewnter and Malatesta (1997) were generally supportive and found negative impacts of privatization on financial performance of privatized enterprises. Megginson et al. (1994) in a large scale and more comprehensive research compared the pre and post-privatization performance of 61 enterprises in 18 countries, out of which 12 were from developed countries and 6 from developing ones, in 32 industries that experienced full or partial privatization through public share offerings during the period 1961–1990. The results of this research indicate that most enterprises experienced increase in profitability, efficiency, capital investment spending, employment and dividends payment, while they witnessed a significant decrease in leverage.

In transition countries, a great number of works confirmed the beneficial effects of privatization [see Claessens and Djankov, (1998, 1999); Megginson et al. (1994); Grigrian, (1998)]. There exist some studies that are much more skeptical about positive influence of privatization [see Nellis, (1999); Frydman 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)]. In the same vein Pinheiro (1996) studied the impact of privatization on financial performance in Brazil. The research analyzed the financial performance of 50 privatized enterprises before and after privatization, using data during 1990 to 1994. The results of the research confirmed that privatization brings a significant improvement on the financial performance of the privatized enterprises.

Another line of thinking indicates the possibility that performance improvements could be realized without a change of ownership. Havrylyshyn and Mcgehingon (2001) 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. Wallsten (2000) undertook a research of privatized enterprises in telecom sector in Africa and Latin America and found that competition was associated with network improvements, while privatization by itself did not yield financial performance change.

From the above discussion of the international experience it is evident that the impact of privatization on financial performance is mixed. While some studies indicate that privatization could lead to an improvement in profitability, efficiency, outputs, capital investment spending, and debt ratio (i.e. positive impacts), there are studies which show the contrary (negative impacts). Yet some other studies found that no difference in financial performance between privatized enterprises and those enterprises still owned by the state (neutral impacts).

III. Privatization in Sudan : A Background

Privatization in Sudan could roughly be said to date back to the 1920s when the Colonial Government privatized the Sudan Lights and Power Company to a private British firm, to undertake the generation and supply of electricity in Khartoum in 1925 and in Medani 1930 (Awad, 1997).

In October 1989 the National Conference for Economic Salvation (NCES) was organized. The conference focused mainly on explaining the government's economic philosophy with regard to the role of the state in economic activities [Ministry of Finance, (1990)]. The

conference recommended that the state should not intervene in directing economic activities except in certain circumstances [NCES, (1989)]. The outcome of NCES was the National Economic Salvation Programme (NESP) announced by the government in June 1990. The general objectives of (NESP) focused on the revitalization of the Sudanese economy. Moreover, it called for the enhancement of the role of the private sector and the initiation of fundamental reforms in SOEs through privatization [Awad, (1991)].

In August 1990 the (GOS) enacted Public Enterprises Disposition Act. This act provided the legal framework for privatization and created the High Ministerial Committee (HMC) to oversee the process of privatization. The (HMC) is responsible for deciding which SOEs will be privatized and the details of each privatization operation. The public Enterprise Disposition Act of 1990 also established an executive committee, (The Technical Committee for Disposition of Public Enterprises, (TCDPEs)) which reports to the (HMC) and is responsible for most of the overall co-ordination and day-to-day supervision of the privatization programme [Ministry of Finance (1990)].

According to TCDPE (1995 report) privatization in Sudan (1992 – 2001) has moved through different phases. The program which was approved by the Council of Ministers via the executive decision number 1155 (25 Oct. 1992) included 107 units. The phases are discussed as follows, the first phase During the period from 1992 to 1995, 57 enterprises of those included in the program(usually called the first program) have been privatized . Second phase was prepared and submitted to the Council of Ministers for approval, which it did on the 5th of Oct. 1997 and it 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 the remainder of the privatization program.

Be the above as it may, table (1) below presents the sectoral distribution of privatized enterprises as of June 2002 and the privatization method. In this table figures between brackets represent the percentage of total.

Table (1): Number of Privatized SOEs and Method of Privatization (as of June 2002)

Privatization method	Manufacturing Sector	Agriculture Sector	Transportation & Communication & Tourism sector	Mining sector	Banking sector	multifarious sector	Total (%)
Sale	4	-	4	1	2	4	15 (27)
Debt equity swap	4	2	-	-	-	-	6 (11)
Lease	-	-	1	-	-	-	1 (1.5)
Public shares offering	-	2	1	-	-	1	4 (9.5)
Transfer (give away) to state govt. & NGOs	10	11	5	-	-	2	28 (51)
Total (%)	18 (32.8)	15 (29.3)	11 (19)	1 (1.7)	2 (3.4)	7 (13.8)	54 (100)

Source: TCDPE Report (2002) and own calculations.

Having noted the above institutional aspects of privatization in Sudan, it is perhaps important to note that there are only a few studies on the impact privatization on the financial performance of privatized enterprises in the country. Two studies by Musa (1994 and 1999),

using a before-and-after privatization approach on three and five SOEs respectively, concluded that there was no significant improvement in financial performance of privatized enterprises. Furthermore, it is noted that financial performance was adversely affected by the shortage of production inputs. Similarly, though limited in scope, Bakhit (1998) examined the financial performance of the Tanning Industry and showed that there was no significant increase in financial performance.

Results reporting a positive impact of privatization on financial performance, albeit of limited coverage, include [Elbeely, (1996)], for Sata Company; Ahmed (2001) for the Advanced Mining Works company; and El-Tayeb (1997) for the Sudanese Telecommunication Company (Sudatel) albeit observing an improvement in the quality of services after privatization but a substantial increase in prices.

In addition to the above a limited attempt was also made by the HCDPE in its reports of April 1995 and June 2002 to assess the privatization experience. According to these reports the financial performance of privatized enterprise witnessed limited improvement and there were more obstacles facing the experience [HCDPE, April 1995, June 2002].

IV. Methodology and Data

As noted earlier the main purpose of this paper is to examine the impact of privatization on the financial performance of privatized enterprises in Sudan. The research design used in the paper is a “before-and-after” design (also known as the pre-test/post-test design). A “before and after” design can be described as two sets of cross section observations on the same population to ascertain the nature of the change in the phenomenon or variable (s), between two points of time. The change is measured by comparing the difference in the phenomenon or variables at the before and after periods [see, for example, Leary, (1991)]. Such a design is the most commonly used one to examine financial performance in comprehensive studies for a large number of companies in developed and developing countries [Megginson and Nelter, (2001); for the survey of these studies see, for example, Djankov and Murrell (2000 a,b), Dyck (2000), Havrylyshyn and Mcgehigan (2000), Megginson and Nater (2001) and Shirley (1999)].

Following Megginson et al. (1994), Nellis and Losers (2002), Baboukri and Cosset (1998), and D’Souza and Megginson (1999) measures of financial performance used in the paper include:

(a) Profitability: which is measured by several proxies including return on sales (usually denoted by ROS), return on assets (ROA) and return on equity (ROE) ratios. (ROS) refers to earning before interest and tax (denoted by EBIT) divided by sales, while (ROA) refers to EBIT divided by assets; and (ROE) refers to EBIT divided by equity.

(b) Operating Efficiency: which is measured by two ratios namely: sales efficiency meaning real sales per employee; and the output-input ratio (i.e. income per employee) ratios where earning before interest and tax (EBIT) is used as a proxy for income.

(c) Dividend Payment: which is measured by the ratio of cash dividend payment to net profit.

(d) Leverage: which is measured by the ratio of total debt to total assets¹.

(e) Capital Investment Spending: which is measured by two ratios: capital expenditure divided by sales and capital expenditure divided by total assets.

To test whether the changes in financial performance are significant, the paper used the standard t-test for difference in means for the before-and-after privatization observations².

Having noted the above on the research design and the test-statistic we need to note the following on the data used in the analysis. As can be seen from table (1), the number of privatized SOEs in Sudan reached 58 and an additional 25 SOEs are scheduled for privatization. The distribution of the number of privatized enterprises across sector is: 18 in agriculture, 19 in the industrial, one in energy and mining, two in transport and communication, two in the banking, nine in the tourism and seven in the multifarious sector.

The data set used in this paper is based on the Sudanese SOEs that have been privatized fully or partially by 2002. In selecting the enterprises to be studied it is required that each one should have had relevant information for at least three years pre- and post the privatization date. Under this restriction, privatizations through liquidations were excluded, because they do not have post privatization data. Thus, for the purposes of the research design we have 54 privatized enterprises to draw upon, and from which a stratified random sample is selected. In this context different sectors represent the population, while the sub-groups within each sector represent the strata. A sample size of 18 privatized enterprises was appropriately selected using relevant statistical standard formula for determining the sample size. The sample size per sector was determined by the number of privatized enterprises in each sector to total population of the privatized enterprises (i.e. 54). Table (2) gives the relevant information on the sample used.

Table (2): The Number of Privatized Enterprises and the Sample Size per Sector

Sector	No. of Privatized Enterprises	Sample Size In each sector	%
Agricultural	15	4	27.70
Industrial	18	6	33.30
Energy and Mining	1	1	1.90
Transport and Communications	2	1	3.70
Banking	2	1	3.70
Tourism	9	3	16.70
Multifarious	7	2	13.0
Total	54	18	100

¹ Note, however, that this performance indicator could also be measured the long-term debt to equity ratios (see, for example, Megginson, et al. (1994) for the justification of using the our preferred measure).

² It is well known that for equal sized samples the t-value is given by: $t = \frac{m_2 - m_1}{\sqrt{\{[V_1 + V_2]/n\}}}$; where m_i and V_i are respectively the mean and the variance for the i^{th} period and n is the sample size. The degrees of freedom for this test is given by $2n-2$.

Source: own calculations.

As the above table indicates the sample used in the analysis includes 27.70% of privatized enterprises from the agricultural sector; 33.3% from the industrial sector; 1.9% from in the energy and mining; 3.7% from transport and communications, and banking sectors; 16.7% from tourism; and 13% from multifarious sectors . The sample in each sub sample was selected randomly through the computer.

V. Empirical Results:

Having noted the methodological preliminaries in the previous section we are now in a position to report and discuss our empirical results. Table (3) presents our results where for each financial indicator we report the mean and before and after privatization, the difference between the two periods and the test-statistic.

Table (3): Financial Performance Indictors Following Privatization

Financial Performance Indicator	Before		After		t-value	Comments
	Mean	SD	Mean	SD		
Profitability (Ratio):						
Return on sales (ROS)	0.16	0.16	0.053	0.26	1.48	Insignificant
Return on assets (ROA)	0.36	0.36	0.28	1.4	0.23	Insignificant
Return on equity (ROE)	0.24	0.19	0.11	1.29	0.31	Insignificant
Operating efficiency (per employee):						
Real sales (Ls. Million)	0.006	.02	0.03	0.04	2.40	Significant
Earning before interest, tax, zakat (Ls. Million)	0.12	0.023	-0.35	1.9	1.04	Insignificant
Dividend payment (Ratio)						
Cash Dividend to net income	0.095	0.18	0.078	0.17	0.29	Insignificant
Leverage (Ratio)						
Total debts to total assets	0.595	0.23	0.584	0.27	0.13	Insignificant
Capital investment spending (Ratio)						
Capital expenditure by sale	0.095	0.18	0.29	1.4	0.55	Insignificant
Capital expenditure by total assets	0.13	0.028	0.15	0.19	0.25	Insignificant

A. Profitability Indicators: three indicators are used to measure performance on the basis of profitability of privatized enterprises: return on sales (usually abbreviated as ROS), return on assets (ROA) and return on equity (ROE) ratios. As noted earlier ROS refers to earning before interest and tax (with a famous abbreviation of EBIT) divided by sales; 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. The reason for

such accounting practice is the fact that 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 (e.g. 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 understanding the results show all of the profitability ratios to have declined following privatization; the decline, however, is statistically insignificant.

B. Operating Efficiency Indicators: two indicators are used to assess operating efficiency each of them measured in terms of million Sudanese pounds per employee: sales efficiency ratio (real sales per employee) and output-input ratio (income per employee). Note that EBIT is used to refer to income for the justifications mentioned in the profitability measures. The results show that there is a statistically significant improvement in real sales per employee following privatization; while for real sales per employee declined but the decline was statistically insignificant.

C. Dividend Payments Indicator: only one indicator, reflecting dividend policy, is used and is measured by cash dividend as a ratio of net profit (dividend payout: cash dividends to income). The result shows that this indicator declined following privatization but the decline is statistically insignificant.

D. Leverage Indicator: one indicator is used for this financial performance aspect which is the total debt to total assets ratio. The result show that this indicator declined marginally from about 0.60 for the before privatization period to about 0.58 for the after privatization period. This decline, however, is found not to be statistically significant.

E. Capital Investment Spending Indicators: two ratios are employed for judging performance under this dimension: capital expenditure divided by sales and capital expenditure divided by total assets. The results show that there is insignificant increase in capital investment spending.

Despite the simplicity of the test performed, the above results clearly show that the financial performance of privatized public enterprises did not improve following the implementation of the privatization program of the early 1990s. The only statistically significant increase is recorded for real sales per employee. Six out of the remaining indicators recorded a decline, but the deterioration (improvement in the leverage ratio) was not statistically significant. Similarly, the improvement in the capital investment spending ratios was not statistically significant.

VI. Concluding Remarks:

This paper investigated the impact of privatization on the financial performance of privatized enterprises in Sudan during the period 1990 to 2002. A sample of 16 enterprises is carefully selected from the pool of 54 privatized enterprises up to 2002, covering all major sectors in the economy. For each enterprise nine financial performance indicators are calculated as average of three years before, and three years after, privatization. The nine indicators are grouped into five standard broad categories: profitability (3 indicators); operating efficiency (2 indicators), dividend payments (one indicator); leverage indicator (one indicator); capital investment spending (two indicators). A simple t-test of the difference between means is conducted.

Overall, the results show statistically insignificant improvement in the financial performance of the privatized enterprises following privatization, except for real sales per employee. This means that the privatization program of the early 1990s in Sudan did not lead to the expected improvement in the efficiency of these enterprises as judged by their financial performance. Though unexpected, these findings are consistent with Musa (1994, 1999) who compared the financial performance before and after privatization and came to the conclusion that there were insignificant changes in financial performance in some privatized enterprises in Sudan.

While the causes of such disappointing outcome must await further empirical analysis, using an appropriate methodology, there is evidence to suggest that such causes may include: inadequate finance, increases in production costs, and high taxes, duties and customs charged on imported raw materials. The majority of privatized enterprises claim that the government has not yet created a conducive environment for healthy private investment.

While perilous, the results of this paper can be used to support policy related recommendations along the following lines:

- (a) there is a need to undertake a serious review of the privatization policy to a void the pitfalls of the past experience and introduce necessary modifications accordingly.
- (b) there is a need for the government to be careful in choosing the forms of privatization based on in-depth examination of the nature and history of each enterprise.
- (c) there is a need to encourage private investors in the privatization process;
- (d) efforts should be directed to strengthening and developing the capital market to participating to overcome the problem of finance.

In addition to the above, privatized enterprises may wish to fulfill the following requirements to achieve positive financial performance: emphasis on employee training and management development through providing access to different training programs; more emphasis on cost control; and, more effective use of relevant technology to enhance productivity.

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