The Performance of Public Listed Companies and Privatized Government Linked Companies: A Case of Jordanian Market

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Abstract

Prior studies documented that privatization leads to improved performance of privatized companies after the government relinquishment the control over the companies. Jordanian privatized companies are unique due to fact that political involvement post-privatization is still high. The setting enables us to show the effect of a unique privatization arrangement on performance of privatized companies. Second, the paper combines two approaches found in the literature to increase robustness of the results and explanations. This study examines the performance of 18 newly privatized Jordanian companies against 18-matched control group of public listed companies Non-GLCs in Amman Stock Exchange (ASE) for the period 1992–2001. We compare the performance of privatized companies (GLCs) with its benchmark (Non-GLCs) to determine the effect of privatization on company performance. Non-parametric tests were employed to examine the difference in the performance of the two groups in pre and post privatization window. We find both groups do not perform well under the study period. The performance of Non-GLCs (with private shareholding majority) is lower than the GLCs that were privatized. The low level of competition in these industries, due to the high monopoly power by the government, could be the reason why these results are different from the experience of other countries.

Keywords Governance, privatization

INTRODUCTION

State-owned enterprises (SOEs) played an important role in enhancing the national economies of most countries in the 1930's, 1940's and 1950's (Shirley & Walsh 2000). In the case of Jordan, the public sector and took over many parts of the economy during the seventies and eighties because of a growing need to develop the country's infrastructure (such as telecommunication, transport, education, water) as well as to address the social welfare and economic problems of the country. As a result, the involvement of the SOEs that are wholly owned by the government in the development of many sectors of the economy, had led to a decline in competition and efficiency of the sectors. The government realized that it cannot handle the demands of a growing and developing economy alone. It requires the assistance and expertise of the private sectors (NPS 1998). In an effort to improve the country's economy, the government started its privatization program in 1996. Then, the GLCs were established and played an important role in the economy.

Privatization has become a worldwide phenomenon. The privatization programs resulted to an overall decline of the role of GLCs at varying degrees in the economy. There were more than 2,600 privatization transactions in 95 countries with an accumulative worth of USD $271 billion from 1988 to 1993 (Kikeri, 1997). More than one hundred countries have privatized around 75000 companies in the last decade 1990-2000 (Nellis, 1999), with over USD $930 billion in proceeds being generated internationally from sales in a broad range of industries, including manufacturing, banking, and utilities (Mahboobi, 2001).

According to the Executive Privatization Unit in Jordan, the privatization program was meant to be an economic reform program within the context of the economic direction of Jordan (EPU 1998). The proceeds from the privatization program amounting more than US $1,275 million until 2004. The program itself was supported by international organizations such as the World Bank Group, USAID (the U.S. Agency for International Development), and other development partners (Al-Akra *et al.*, 2009). There were 158 companies listed in the ASE (ASE 2008). In 1986, the Jordanian government proposed privatization of 65 SOEs. The project embodied 41% of Jordanian companies, which constitutes nearly half of the Jordanian economy. However, according to the Executive Privatization Unit there were 24 SOEs (EPU, 2010) and the rest were still in the process of privatizations.

In the past two decades, most literature argues that the government has transformed SOEs to become inefficient corporate entities, which at times incur greater costs, rather than generating profit (Ito and Kruger, 2004). In the agency theory context, Shleifer and Vishny (1994) blame the inefficiency of the politicized control over companies negatively influenced the behavior of GLCs. Thus, the inefficiency of government control is at the heart of the of GLCs problem. As result, the remaining control leads to inefficiency of intra-companies allocation of resources (Boubakri *et al.*, 2005). Shleifer and Vishny (1994) claim that a real privatization could remedy the problem by isolating

and minimizing is important because governments are subject to different objectives that may include profit maximization as well as social welfare (Nwanji & Howell, 2007). Thus, the question of the achievement of economic reform objectives intended by privatization remains relevant and current.

According to Cook and Kirkpatrick (1995) ideally, the company's performance should be assessed in terms of the objectives set for the privatization. Privatization program objective in Jordan as stated in Privatization Law in Jordan, Article (3): "Raising the efficiency, productivity and competitiveness of economic enterprises" (Privatization, 2000). Most of empirical studies have examined whether privatization achieve its objectives (Omran, 2007; Megginson *et al.*, 2001; La Porta and Lopez-de-Silanes, 1997; Megginson *et al.*,1994; D'Souza and Megginson, 1999; D'Souza *et al.*, 2001; Omran, 2004). Different from prior research, privatization in Jordan is unique in the sense that the government remains the controlling party in the form of share ownership. Therefore, the study tends to pose the following research question: Does privatization improve the performance of GLCs in Jordan when significant control of the government remains?

To evaluate the privatization objective achievements, the literature generally used two approaches, which are the 'Historical Approach' and 'Synchronic Approach'. The Historical Approach compares the pre- and post-privatization performance of privatized companies (Megginson *et al.*, 1994). This approach has been used by many other studies including Boardman *et al.* (2002), Bortolottia *et al.*, (2002), Boubakri *et al.* (2005), D'Souza and Megginson (1999), D'Souza *et al.* (2001), LaPorta and Lopez-de-Silanes (1997). The Historical Approach compares pre and post privatization performance. Meanwhile, the Synchronic Approach compares the performance of privatized companies with other private companies under similar conditions (Boardman and Vinig, 1989; Galiani *et al.* 2005; Dewenter and Malatesta, 2001; Ehrlich *et al.*, 1994; Kole and Mulherin, 1997; La Porta *et al.*, 2000; Vining and Boardman, 1992; La Porta and Lopez-de-Silane, 1999). Different from other studies, we use two approaches. Specifically, we test the performance change of privatized Jordanian companies after matching them to a control group according to size and industry (Barberis *et al.*, 1996; Omran, 2004). Therefore, this study contributes to the existing literature in two ways. First, it looks at a country in the Middle East that has been largely neglected in the literature. The setting enables us to show the effect of a unique privatization arrangement (will be elaborated in the next section) on performance of privatized companies. Second, it evaluates the performance changes of newly privatized Jordanian companies versus the performance changes of existing Non-GLCs (private owned majority) of similar industry and size plus, at the same time; we compare privatized companies with a control group that belongs to the private owners.

Using 18 privatized GLCs with matching number of Non-GLCs, we show that both groups do not perform well. This result is due to the fact that the Jordanian market is under a monopoly power. The privatized companies were actually still under the government control. The control of the government is

also expected to affect the non-privatized group performance. Therefore, this result is in line with the monopoly theory and competitive theory.

The remainder of the paper develops as follows. In section 2, we explain the background of privatization in Jordan. In section 3, we summarize the recent theoretical and empirical literature that concerning the impact of privatization on company performance. In section 4, the data employed in the study is described. Then, we discuss the methodology and test statistic. Next, we introduce several models that are used to adjusted performance measure for the two groups. In section 5, we discuss the findings. Finally, the study concludes and spells out certain policy implications.

BACKGROUND OF THE PRIVATIZATION PROGRAM IN JORDAN

This section explains the hierarchy and the unique privatization process in Jordan. The flowchart below shows the framework which provides the details of the actions and policies of government involvement in the privatization program. The framework is derived from the institutional framework of the privatization program as well as from the privatization law and the national privatization strategy in Jordan.

In Jordan, the king is at the top of the power pyramid. This is because Jordan is a constitutional monarchy with the presence of representatives in the government. In Jordan, the King appoints the prime minister. He also has to power to control the prime minister to form the government. The prime minister could only appoint the ministers upon approval by the king. In order to achieve some form of security, the Jordanian government developed a framework for privatization program. The privatization framework has three identifiable mechanisms i.e. (1) the higher ministerial privatization committee (2) the executive privatization commission, and (3) the supporting committees and task forces. These three institutions are responsible to initiate the privatization process and to make sure smooth implementation of the privatization program.

The higher ministerial privatization committee or the privatization council consists of a number of experts that can draft privatization policies. This council includes the prime minister, his deputy, the relevant ministers responsible for finance, industry and trade, planning and justice, the governor of the central bank and another four specialized experts. The chairman will appoint one of the council members as Vice-Chairman.

According to the privatization law, this council has several responsibilities and powers (Law Privatization, 2000, EPU, 1998). Examples of their responsibilities and powers include: to draft general policies for privatization and to ensure the success of the program in achieving its objectives. The council has the power to decide the public institutions to be privatized and the privatization method i.e. through direct sale, transfer of management rights or through strategic partnerships. Then, the chairman of the council will select the

qualified consulting firms to carry out preliminary studies on the viability of proposed project. Finally, the council will recommend to the prime Minister's council to take the legal steps that are required to get approval. As has been mentioned, the council members are also part of the prime minister's council (Privatization Law, 2000). This means that the people responsible to review the project and select the sellers would give the approval are the same. Finally, no decision will be made without the king's approval.

The second institution is the executive privatization commission. The commission was established at the end of 1996. This commission also participates in the privatization procedure. According to the Privatization Law (2000), while this commission is financially and administratively independent, the commission is affiliated with the prime minister's office. Once again, we are presented with the shortcoming of the Jordanian privatization program from the perspective of the political agency theory. The chairman of this commission is appointed by the prime minister. In addition to this, the prime minister also has the power to determine the chairman's salary and bonuses (AL-Kodah, 2002). The commission has the power and responsibility to follow up the execution of all decisions made about the privatization procedure with the concerned bodies (Privatization Law, 2000). It is also in charged to submit the reports and recommendations to the council (EPU, 2006). The commission also recommends to the chairman of the council to appoint the consultants for the work in the commission as well as managing and supervising the worker in the commission. Finally, the commission is authorized to take the necessary steps to manage the commission properly.

The third institution consists of the committees, supporting committees and task forces. There are three committees supporting the privatization process. First, the steering committee will be formed for each project. The chairman of committees may be the relevant minister or the chairman of the privatization unit. It is unethical for the chairman of the privatization unit to become the chairman of the committee in charge of controlling and monitoring the privatization transaction. The main duty of these committees (steering committees) is to control the privatization transaction (EPU, 1998) and to facilitate communication and coordination with other parties. The lower committees will report to the higher privatization committee. In regards to the task forces committees, its main task is to form working committees for each project to implement the directives from the experts. Recommended actions are forwarded from one committee to another to ensure proper sharing of knowledge (EPU, 1998). Finally, there are the special tendering committees. Special committees are formed in certain cases with unique circumstances. Such committee should include the government tenders department. Decisions made by the committees should be approved by the council of ministers. All the aforementioned committees should be constituted and managed properly with good internal regulation. Initiatives should be put in place to ensure transparency in all stages of each process.

The privatization program in Jordan aims at improving the economic development. According to the Privatization Law (2000) the privatization

program is to enhance the efficiency and productivity of the privatized companies. Furthermore, the privatization program will help to improve the investment environment by encouraging local and foreign investors. The objective of privatization in Jordan is to attract private investors to invest in the local market that helps the economy of the nation. In addition, privatization can help the government to minimize borrowing. Finally, privatization may encourage companies to use efficient methods to manage privatized companies that can help them to be more competitive globally (Privatization Law, 2000). The national privatization strategy shows one of the important objectives is to stimulate foreign private investors and reduce the government monopoly (EPU, 1998). Therefore, this study examines how changes in the ownership structure and management would affect the privatized company performance. The next section provides the literature on factors effecting company performance.

PRIVATIZATION AND PERFORMANCE

Theoretically, the Property Rights Theory of the firm suggests that private owned companies should perform more efficiently and profitably than the SOEs and GLCs[1] (Boardman & Vinig 1989). This is because SOEs and GLCs are subject to different objectives, which include profit maximization and social welfare (Nwanji & Howell 2007). These entities are subject to government control (D'Souza *et al.*, 2001), political intervention Boycko *et al.*, 1996a). In contrast, private owned companies focus more on efficient intra-firm allocation of resources to maximize their profits (Boubakri *et al.*, 2005).

In line with this argument, privatization is defined as: "permanent transfer of control, as a consequence of transfer of ownership right, from the public to the private sector" (Jerome, 2008: 16). As such, managers will be given more incentives to perform by the private investors (Debande & Friebel, 2004) as these investors expect higher dividend which is subjected to company performance. This would lead to a reduction in the gains to the politicians (Laffont & Meleua, 1999).

In addition, the competitive environment and absent of monopoly power in the market are important factors that determine the success of privatization (Vickers & Yarrow, 1991; Vining & Boardman 1992; Boubakri & Cosset, 1998). In this context, Sheshinski & López-Calva (2003) argue positive effect from privatization will not be realized in the existence of perfect monopoly i.e. the performance of privatized companies may not change. This is supported by Bartel and Harrison (2005) who find that public listed companies have lower performance than their private counterpart due to the low level of competition. However, Raith (2003) argues when the government faces competition and the government has significant power in the market, the government may use subsidies to decrease the price of the product below the cost. While, public listed companies that are owned by privately will not receive government subsidies

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[1] Privatized SOEs become GLCs after privatization, because the government usually still have some control over privatized entities.

as they are the competitors (Sheshinski & López-Calva, 2003). This results in market failure due to a low level of competition, which will negatively affect the efficiency of the entire industry (De Fraja, 1991). This argument is supported by D'Souza & Megginson (1999) who find that a competitive environment is an important element to improve the performance of privatized companies as well as reduce government ownership. Vickers and Yarrow (1991) argue that under competitive market forces, the privatization program have higher likelihood to be successful. Therefore, a competitive market is needed to encourage managers to be more efficient in managing resources and show better performance. In summary, there is a need to investigate this issue in Jordan to prove that the effect of privatization on performance will be affected by weak market competition. To this extent, we believe our setting enables us to test this effect and contribute to the body of knowledge on privatization success factors.

There is another issue in privatization studies. Most previous studies have used the historical approach to compare the pre- and post- privatization performance of privatized SOEs (Megginson *et al.*, 1994; La Porta & López-de-Silanes, 1997; D'Souza & Megginson, 1999; D'Souza *et al.*, 2001; Boardman *et al.*, 2002; Bortolottia *et al.*, 2002; Boubakri *et al.*, 2005). The conclusion of these studies is that the performance SOEs was improved after privatization. Nevertheless, these studies cannot confirm whether this improvement was due to privatization itself or the competitive environments (as discussed above). Thus, we cannot be sure whether the success of privatization is due to increased efficiency or due to the move from monopolistic to competitive environments (Vickers & Yarrow, 1991; Vining & Boardman, 1992; Boubakri & Cosset, 1998). Therefore, it is important to select a benchmark of control companies' i.e. private companies to be compared with the performance of privatized companies (Omran 2004, 2004a).

Another stream of studies have used the synchronic approach that compare the performance of privatized companies with equivalent private companies under similar conditions (Boardman & Vinig, 1989; Vining & Boardman, 1992; Ehrlich *et al.*, 1994;Kole & Mulherin, 1997; La Porta & Lopez-de-Silane, 1999; Dewenter & Malatesta, 2001; Galiani *et al.*, 2005). Despite this advantage, there are criticisms on this method due to its methodological difficulties (Megginson *et al.*, 2001). The difficulty is to set an appropriate benchmark of the control group due to some of the industries are government owned while others are privately owned (Megginson *et al.*, 2001). Nevertheless, previous literature has successfully applied this method. Boardman and Vinig (1989), Vining and Boardman (1992) and Galiani, Gertler, and Schargrodsky (2005) compare the private companies with SOEs and they find that private companies are more profitable and efficient than SOEs. Wile, Kole and Mulherin (1997) and La Porta and Lopez-de-Silane (1999) find that the performance of privately owned companies is not significantly different from the SOEs. While, Dewenter and Malatesta (2001) find private companies have better performance than the SOEs. However, Ehrlich *et al.* (1994) find the performance difference between

private companies and SOEs depends on whether they operate in competitive environment or under a monopoly power. In sum, the results of these studies are mixed.

Most previous literature shown above, do not have the opportunity to test the performance of public listed companies that are previously owned by government (government linked-companies-GLCs) with public listed companies that have a majority of ownership by the private owners (Non-GLCs). Therefore, we believe this study contributes to the extant literature by matching a benchmarks control group of companies that is more homogeneous to be compared with privatized companies. In short, we use both the historical and synchronic approaches to validate our results.

DATA

The data set of this study was obtained from several sources such as Amman Stock Exchange (ASE), the Privatization Unit in Jordan and the annual reports of companies. The Jordanian government had proposed to privatize 64 companies and the privatization program is still progressing until 2010 (ASE 2010). According to the Executive Privatization Unit (EPU) of Jordan, the privatized companies consist of 24 GLCs with six GLCs are still in the process of privatization at the time when the study was conducted. It is suggested that a long window is required to evaluate the success of privatization program (Sheshinski & López-Calva, 2003). Thus, this study uses yearly data set form 1992 to 2001. The study chooses this period because ASE has different data format after 2001 that does not support the requirement of our study. The study selects a control group of Non-GLCs, which is benchmarked to the GLCs according to the size and industry from ASE (consistent to Feng *et al.*, 2004; Omran, 2004). The Non-GLCs were chosen based on size in the same year of privatization. Table 1 shows the data set of the two groups used in the study.

Table 1 Sample Distribution of the Sample Privatized and Control Group

Sample	Time (1992-2001)	Privatized Years	Number	Affiliation	Number
Privatized Sample	10 years	1996	3	Services	9
		1997	5	Manufacturing	9
		1998	10		
Total subsample			18		18
Control Group	10 years			Services	9
				Manufacturing	9
Total subsample			18		18
Total Sample					36

The table shows that both groups have 10 years of observations, which cover at least three years before and three years after the privatization periods. Furthermore, each group has 18 companies, nine from services sector and nine from manufacturing sector matched to their benchmark GLCs. The GLCs have different years of privatization, which will be considered when they were matched against the Non-GLCs. The total sample is 36 companies consisting 18 GLCs and 18 Non-GLCs.

METHODOLOGY

The first approach used in this study follows Megginson *et al.* (1994). The method requires us to calculate the mean value of each performance measure pre and post privatization date for each GLC. These companies were then matched with Non-GLCs in each year, excluding the year of privatization. Therefore, each companies have a minimum eight years observations, which are three years before (t = -3) and three years after (t = +3). The second approach followed Omran (2004) and La Porta and Lopez-de-Silane (1999). The performance measure incorporates accounting and market based that are widely used in the literature (Boubakri et al. 2004, 2005; Omran 2007; Omran *et al.*, 2008). Accounting-based measures include return on equity (ROE) which measure the past performance while the market-based measures (price earnings ratio (PER) and price to book value ratio (PBVR)) measures the companies value in the future. Therefore, these indicators measure the GLCs achievement for a specific period of the companies and the value of the companies in the next future. We employ the descriptive analysis to determine the performance indicators of GLCs and Non-GLCs adequately modelled by normal distribution.

Table 2 has two columns: A (privatized companies) and B (non-privatized companies). The table shows that all performance variables depict positive mean values with a positive skewness and leptokurtic distribution in both groups. The figures do not have consistent normality indications that require zero for skewness and three for kurtosis (Gujarati & Porter, 2009). This finding is consistent with Omran (2004) that indicates the performance measures depart significantly from normality.

Table 2 Descriptive Statistics

	Column A. Privatized Group			Column B. Non-Privatized Group		
	PBVR	PER	ROE	PBVR	PER	ROE
Minimum	0.22	0.27	0.46	0.25	0.03	0.02
Maximum	5.54	157	83.7	40.16	37.2	83.52
Mean	1.61	19.63	12.68	25.27	40.09	17.42
Std. Deviation	0.89	18.69	9.85	30.84	33.96	72.74

Skewness	1.44	3.47	2.78	13.08	10.11	11.66
Kurtosis	2.84	19.14	15.92	17.99	10.23	13.42
Obs.	180	180	180	180	180	180

Note: **ROE** is return on equity, **PER** is price earnings ratio and **PBVR** is price to book value ratio.

Omran (2004) indicates that since the data shows non-normal distributions, the T-test may not appropriate to be used. Thus, a non-parametric Wilcoxon signed-rank test is adopted to test for the significant different in the performance pre- and post-privatization window (Omran 2004). However, Gaur and Gaur (2006) argue that when the sample size is small, the results of T-test will be closed to the Z-test. Therefore, the study employs an additional test, which is the T-test to see whether the result is consistent (La Porta and Lopez-de-Silane, 1999; Guedhami *et al.*, 2009). Furthermore, the Mann-Whitney test also utilized to find out whether the performance change is significantly different between privatized group and non-privatized group. According to Omran (2004), to overcome the past performance differences between the two groups that may affect our results, we use two methods i.e. the relative and absolute methods which is explained as follows;

$$APC = \overline{P}_{i,t} - \overline{P}_{I,t-1}.................(1)$$

Where APC is the absolute performance change, $\overline{P}_{i,t}$ is the mean performance in the post privatization period, and $\overline{P}_{I,t-1}$ is the mean performance in the pre privatization period. Omran (2004) argues that the absolute measure is problematic as a measure of performance, given the measure of the performance itself is not an absolute measure. Therefore, to avoid this problem the study conducted the relative method. We calculate the post-privatization performance relative to the pre-privatization for each company. Thus, the second method, is used for each privatized and control company as follows;

$$RPC = (\overline{P}_{i,t} - \overline{P}_{I,t-1}) / \overline{P}_{I,t-1},..............(2)$$

Where RPC is the relative performance change, $\overline{P}_{i,t}$ is the mean performance in the post privatization period, and $\overline{P}_{I,t-1}$ is the mean performance in the pre privatization period. After the computation of the APC and the RPC for each indicators of performance in each individual company, a non-parametric test of Wilcoxon signed rank is adopted following La Porta and Lopez-de-Silanes (1999) and Omran (2004) . In addition, we also adopted Mann-Whitney test to compare the performance of GLCs with their Non-GLCs counterparts (Omran 2004).

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FINDINGS AND DISCUSSION

In this section, we report empirical findings of the statistical analysis for change in the performance of privatized and non-privatized companies. In addition, we utilized the Mann-Whitney test to examine whether the change in performance is different between the two groups. The comparison of the two groups is based on the two methods of absolute and relative performance change methods.

Privatized Group

First, Table 3 reports the both Z-statistic and T-statistics of performance change of the privatized group. Two of the performance ratios i.e. return on equity (ROE) and price to book value ratio (PBVR) decreases significantly after privatization. Nevertheless, the price earnings (PER) ratio do not show significant change in performance. The mean (median) ROE decreased significantly at the 10% level from 13.29 (12.10) before privatization to 11.94 (8.78) after privatization for both Z-statistics and T-statistics. In addition, the mean (median) PBVR decreased significantly at the 1% level from 1.94 (1.75) before privatization to 1.23 (1.14) after privatization for both Z-statistic and T-statistics, respectively. This finding is close to the figures reported by Dawley and Haidar (2008) that used a case study of Jordanian Telecom. They find ROE of decreased significantly at the 1% level from 20.7 before privatization to 11.0 after privatization. In addition, this result is consistent with Guedhami (2003) that privatization failed to improve the newly privatized company performance in the Middle East countries.

Table 3 Change in Performance

Pre and Post Privatization				
Performance Proxies	Mean before (median)	Mean after (median)	T-statistic for change in (mean)	Z-statistic for change in median (p-value)
PBVR	1.94 (-1.75)	1.23 (-1.14)	4.22[a] (0.00)***	-3.157[a] (0.00)***
PER	21.5 (-15.95)	17.38 (-11.4)	0.41 -0.69	-0.544 -0.59
ROE	13.29 (-12.1)	11.94 (-8.78)	1.91[a] (0.07)*	-1.677[a] (0.09)*

Note: This table reports 18 GLCs. The study employs two techniques to test significant changes in performance of GLCs. The T-test and Wilcoxon Signed-Rank test used to test for significant changes in mean and median respectively. The table provide the mean (median) values of each variable for pre- and post-privatization period. The measure of performance are Return on Assets (ROE), Price to book value ratio (PBVR), and Price earnings ratio (PER). a Significant at the 1% (***), 5% (**) and 10% (*) levels.

Non-privatized Group

Table 4 reports the performance change of the non-privatized group for both Z-statistics and T-statistics similar to La Porta and Lopez-de-Silanes (1999). Two of the performance ratios i.e. return on equity (ROE) and the price earnings (PER) ratio decreases significantly after privatization. It appears both variables are lower after privatization period as compared before privatization period which is consistent with Omran (2004). Nevertheless, T-statistics do not show any significant level. The mean (median) of PBVR decreased significantly at the 1% level from 48.68 (2.07) before privatization to 1.02 (0.84) after privatization. The mean (median) PER decreased significantly at the 1% level from 527.58 (22.0) before privatization to 253.84 (11.52) after privatization.

Table 4 Change in Performance of Non-privatized Sample in the Same Year

Performance	Mean before	Mean after	T-statistic for	Z-statistic for
Proxies	(median)	(median)	change in (mean)	change in median (p-value)
PBVR	48.68	1.02	1.03	-3.59[a]
	-2.07	-0.84	-0.32	(0.00)***
PER	527.58	253.84	1.07	-2.81[a]
	-22.00	-11.52	-0.30	(0.00)***
ROE	12.32	23.27	-0.84	-1.15
	-9.72	-8.09	-0.41	-0.25

Note: This table reports 18 Non-GLCs. The study employs two techniques to test significant changes in performance of Non-GLCs. The T-test and Wilcoxon Signed-Rank test used to test for significant changes in mean and median respectively. The table provide the mean (median) values of each variable for pre- and post-privatization period. The measure of performance are Return on Assets (ROE), Price to book value ratio (PBVR), and Price earnings ratio (PER). The event years for each company are matched to its benchmark privatized company years. a Significant at the 1% (***), 5% (**) and 10% (*) levels.

In sum, the privatized companies have two performance proxies decreased significantly after privatization (PBVR and ROE). In contrast, the non-privatized companies also have two the performance proxies decrease significantly, i.e. PBVR and PER. Therefore, the results show that the non-privatized companies have recorded more decrease in performance compared to privatized companies. This analysis compares the two groups individually that may be gives unclear results of comparison. The next analysis in Table 5 compares the two groups jointly using the Mann-Whitney test of two-group comparison. The comparison utilizes two performance proxies i.e. the absolute and relative methods following Omran (2004). As shown in the above discussion, results of the T-test and Z-test are qualitatively different. Thus, we employed the Mann-Whitney test based on median value to compare the groups in next section.

Two Group Comparisons

The Mann-Whitney test results using the absolute method show that the difference between the two groups is significant at 1% level for PBVR and PER (Table 5). Omran (2004) argues that the absolute measures are problematic as a measure of performance, due to the measure of the performance itself is actually relative to other characteristics of the companies. Therefore, the study conducted the relative method to avoid this problem. The results of the relative method shows there is still different between the two groups at 1% significant level of the PER. In short, the study confirms the previous results that there are differences between the privatized companies and non-privatized companies performance.

Table 5 Comparison of SOEs and Non-SOEs

Performance Proxies		Absolute Performance Change Method		Relative Performance Change Method		
Privatized Companies		SOE	Av-Rank (p-value)	Privatized Companies	SOE	Av-Rank (p-value)
PBVR	-0.55	-1.2	0.002***	-0.91	-0.6	0.323
PER	-0.14	-11.8	0.009***	-0.06	-0.6	0.011***
ROE	-0.21	-2.96	0.323	-0.16	-0.4	0.563

Note: The results of comparison of performance change between 18 SOEs and their control 18 Non-SOEs using the nonparametric Mann-Whitney test is shown. It is calculate the absolute performance change for each company privatized and control company as follows: $APC = \bar{P}_{i,t} - \bar{P}_{I,t-1}$ where APC is the absolute performance change, $\bar{P}_{i,t}$ is the mean performance post-privatization period, and $\bar{P}_{I,t-1}$ is the mean performance pre-privatization period. The relative performance change for each firm is calculated as follows: $RPC = (\bar{P}_{i,t} - \bar{P}_{I,t-1}) / \bar{P}_{I,t-1}$ where RPC = relative performance change, $\bar{P}_{i,t}$ is the mean performance post-privatization period, and $\bar{P}_{I,t-1}$ is the mean performance pre-privatization period. The superscripts asterisks***, **, and * denote statistical at the 1%, 5% and 10% levels, respectively.

This analysis shows that the privatization program failed at least in the period of study in Jordan. As discussed previously that the success of privatization could be affected by other factors such as monopoly power and less competitive in the market. Therefore, we conducted an additional descriptive analysis for the privatized companies' ownership structure over the window of pre and post privatization as shown in Table 6. This approach is undertaken because we want to investigate whether or not the Jordanian government relinquishes control over the privatized companies post privatization and the effect of control on performance.

Table 6 Privatized Companies

	Share ownership before privatization						Share ownership after privatization			
Year	-5	-4	-3	-2	-1	0	1	2	3	4
Type owners	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Govt. Own										
Mean	43.54	43.54	43.54	43.71	40.42	34.95	39.7	36.06	35.51	34.02
Median	41.8	41.8	41.8	41.54	34.86	29.87	37.8	28.86	28.86	21.82
obs.	180	180	180	180	180	180	180	180	180	180
Private Own										
Mean	56.46	56.46	56.46	56.29	59.58	59.5	60.3	63.94	64.49	65.99
Median	58.2	58.2	58.2	58.46	65.14	62.2	62.2	71.14	71.14	78.18
obs.	180	180	180	180	180	180	180	180	180	180

Note: This table reports the descriptive statistics mean and median of the ownership in 18 GLCs over window of study 10 years. **Obs**. Is refers to number of observations. **Govt. Own**= the total percentage of government ownership. **Private Own**= the total percentage of private ownership.

Table 6 presents some of the descriptive statistics on privatized firm's ownership structure overtime from 1992 to 2001. The table presents, the mean (median) of the government ownership reduced from 43.54 (41.8) percent in 1992 to 34.02 (21.82) in 2001, a reduction of around 10% from the total ownership. Meanwhile, the total private ownership mean (median) increased from 56.46 (58.2) percent in 1992 to 65.99 (78.18) in 2001. This finding is close to the figures reported by Omran (2009) that the government still has on average (median) 36.3 (39.0) ownership after privatization year in the Egyptian case.

The result supports Vining and Boardman's (1992) argument that under monopoly power both groups will not have significant improvement in their performance. This is a result of market failure due to a negative effect on all industries (De Fraja, 1991). In contrast, De Fraja (1991) argues that competition has positive effects on privatized companies, which leads non-privatized companies to do worse than privatized companies. This is because of the competition between the government and private ownership of privatized companies. This is consistent with the evidence by Bartel and Harrison (2005) that the competition within privatized companies causes the monopoly problem to have less affect on non-privatized companies. Furthermore, this will lead to an increase in the performance of privatized companies in the future (Vining & Boardman, 1992) as government ownership declines. De Fraja (1991) concludes that when the market approves failure through monopoly power,

it is useful to determine the factors that mitigate the agency problem within a company by disciplining the manager's behaviour, which positively affects the performance of both groups such as corporate governance mechanisms.
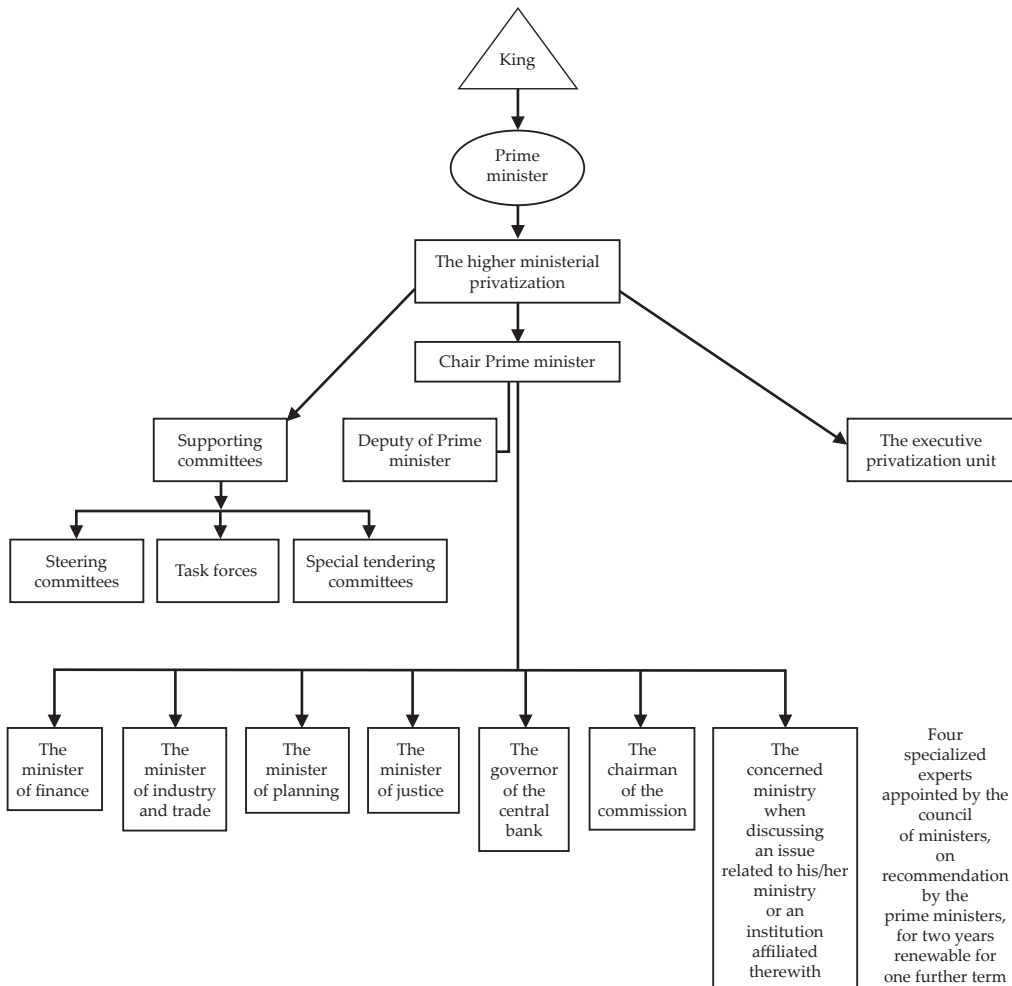

Figure 1 The hierarchy of the privatization program in Jordan according to Privatization Law No. (25) (2000) and the National Privatization Strategy (Executive Privatization Commission 1998).

CONCLUSION

The conclusion of this analysis suggests that both groups do not perform well in the window under study. In additional, the Wilcoxon signed-rank test shows the non-privatized companies do worse compared to the privatized companies. Moreover, the Mann-Whitney test by the absolute method shows there is a difference between the two groups in the absolute as well as the

relative method. The study finds that the failure of the Jordanian market in the period under study is due to the government monopoly. This argument is supported by insignificant improvement of performance in both privatized and non-privatized companies. Therefore, reducing the government ownership by increasing private ownership in the privatized group increases competitive advantage in the market and increases market efficiency. This will result in enhancing the success of the Jordanian market as well as the economic improvement that helps the privatization program to succeed. This is consistent with the evidence by Villalonga (2000) that privatization program shows its significance after 7-8 years of implementation due to the increase of private ownership.

Boubakri *et al.* (2005b) argue the successes of privatization program depend on the drastic change in the corporate governance such as increasing the private ownership (Boubakri *et al.*, 2005, 2005b; D'Souza *et al.*, 2005, 2007), and play an important role on the success of the privatization program. Thus, the study recommends for future researcher to conduct more detailed analysis to determine the variables that affect the privatized company performance as such internal and external corporate governance mechanisms.

ACKNOWLEDGMENTS

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