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The impact of corporate governance, ownership structure, and economic and financial liberalization on the financial and operating performance of newly privatized firms in selected MENA countries

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Directed By
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Introduction

Privatization of state-owned enterprises (SOEs) is considered as the main vehicle for reinforcement and improvement in private sector performance. In fact, during the past two decades, privatization has become one of the most important economic phenomena in the world. Since large-scale privatizations were first launched by the Teacher government in Great Britain, approximately $1.25 trillion has been raised through privatization. Moreover, share issue privatizations (SIPs) accounted for $750 billion between 1980 and 2000 (D'Souza *et al.*, 2001). This phenomenon is well documented for several developed and developing countries around the world.

In this study we are concentrating on developing countries, principally selected Middle Eastern and North African (MENA) countries, which have decided to embrace a market-oriented economic system. These countries have adopted, within a package of fundamental policies, several privatization programs to improve the performance of their SOEs. The commitment to these policies was usually prescribed by the international donor agencies, such as the World Bank and/or the International Monetary Fund, as a prerequisite for development and structural adjustment loans. While privatization refers to the transfer of ownership from the government to the private sector, structural adjustment programs involve different forms of liberalization measures, such as reduced controls and the removal of all anti-competitive barriers, which change the market dynamics.

Privatization in the MENA region has been progressing slower than other developing countries in Latin America and Asia. This is might be due to the fact that many MENA countries are severely inhibited by environmental weaknesses in their efforts to privatize, namely embryonic capital markets, scarce financial resources, a weak private sector, and poor prudential regulations. In the same vein, the risk aversion, acute asymmetries of information and poor investment incentive structures are some of the most serious obstacles

to the development of a securities market and the pursuing of privatization in MENA countries. Therefore, implementing privatization in MENA countries presents serious socio-political challenges because on the continent it is widely perceived as an euphemism for unemployment and reduced government spending on social programs—to the extent that foreign investors participate and make windfall profits, recolonization.

Looking at privatization efficiency signifies the analysis of three important questions.[1] First, what is the relationship which may exist between the type of ownership structure and the performance of privatized firms? Second, what role that the privatization process might play in financing public debts and deficits, at least in the short-run? Finally, what is the distributional and political implications that privatization might produce?

However, the primary question is whether privatization improves firm performance and contributes to economic growth. Although a few studies have provided some evidence for other developing countries, the MENA experience has remained unexplored. This study tries to fill this gap by extending the literature on developing countries to the specific context of MENA and tries to assess whether privatization in some MENA countries has delivered its promises. In this study, not only do we examine the performance of newly privatized firms (NPFs) in the selected MENA countries, but we also investigate the impact of different ownership structures and governance and economic liberalization on firm performance.

This study contributes to the existing literature in two ways: (i) It evaluates the impact of privatization on firm performance of a unique sample of newly privatized firms in selected MENA countries (Egypt, Morocco, Tunisia, and Turkey)—a part of the world that has been neglected in the literature. We selected these countries on the basis that they represent the most active countries in the MENA region in terms of economic reform and privatization. (ii) We expand our analysis since we look at the determinants of performance changes of newly privatized firms by focusing on the specific environment of the MENA region. We hypothesize

[1] See Vickers and Yarrow (1991).

that, in order to explain how privatization works in such an environment, we need to account for (i) the ongoing economic reforms in these countries, such as stock markets and trade liberalization policies, (ii) the different types of post-privatization ownership structure; in which they could affect the outcome of privatization, and (iii) corporate governance variables, such as the board of director compositions. The first set of factors is particularly important since privatization in developing countries is generally implemented as part of a broader program of structural adjustment involving other concomitant economic reforms.

1 Institutional framework of privatization

Developing countries use privatization to improve the productivity of their SOEs, access investment capital and improve service delivery, and reduce the fiscal burden of SOEs losses.

In the early to mid-1990s, in developing countries privatization proceeds averaged between $20 to $30 billion on an annual basis. In 1997 proceeds improved to reach $70 billion due to increased activity in large infrastructure and energy transactions with the lions share coming from Latin America (Argentina, Brazil and Mexico), Kazakhstan, Russia and China. Following the East-Asian crisis of 1997 and the Russian debt crisis of 1998, revenue from privatization plunged. But starting in 2002, proceeds reached the pre-1997 level resulting mainly from share sales in Telecom and Banking in China, Czech Republic, Slovakia, India, and Saudi-Arabia. The bulk of the transactions were concentrated in Europe and Central Asia followed by Latin America and Sub-Saharan Africa. While 120 countries have pursued privatization programs over the past 14 years, revenues have come mainly from 10 countries. Two of these countries are from the MENA region—Saudi Arabia because of the partial sale of “Saudi Telecom” and Morocco with the sale of “Régie des Tabacs” at the beginning of 2000.

The MENA region raised $19 billion or five percent of their total privatization proceeds from 320 transactions. In the 1990s, revenue from privatization was concentrated in two

countries: Egypt (50 percent of the region's proceeds) and Morocco (40 percent). Transactions in both countries were mainly in manufacturing although Morocco's proceeds included revenue from energy and banking. In early 2000, the telecommunications sector was the leading sector in the privatization program in the MENA countries where "Maroc Telecom" raised $1.4 billion, "Jordan Telecom" $108 million and "Saudi Telecom" $4.1 billion. The following sections will describe in detail the background on privatization in Egypt, Morocco, Tunisia and Turkey.

1.1 Background on privatization in Egypt:

Between 1960 and 1990, SOEs handled most of Egypt's economic activity under the direction of various ministries. Poor management and weak capitalization of SOEs inevitably had a negative effect on their efficiency and financial viability (Road, 1997). In an effort to improve the Egyptian economy, the government launched a privatization program in 1991 as a part of its wider economic reform program. The first step in Egypt's privatization program was to cut off subsidies to SOEs, followed by removing them from direct ministerial control (Field, 1995). Under the government's strategy for divestment of SOEs, three approaches were undertaken initially: the first was to sell shares through the domestic stock market as minority and majority initial public offerings (IPOs), the second was to sell strategic stakes of shares to anchor-investors through public auction, and the third was to sell firms to Employees Shareholders Associations (ESAs) (McKinney, 1996). Besides these approaches, some firms were liquidated because they were deemed not economically viable due to an enormous debt burden.

The choice of privatization method basically depends on market conditions, public opinion, and government objectives. But in fact, the general preference—when implementing the policy of economic liberalization or making it the first step toward complete privatization of an SOE—is to sell shares in the capital market instead of making direct sales to individuals. However, when the stock market is not active (i.e., the absorption capacity of the market is limited), the government will usually select direct sales as an alternative. Also, this

method is favoured when the potential buyers of the firm are known, thus making negotiations easier since the government is familiar with their ability to add value to the firm, such as penetrating new markets, bringing new technology, or adding more capital investment.

A government sale of SOEs to ESAs should have a positive impact on labor, which is necessary in building a pro-privatization constituency form within a traditional seat of hostility. In addition, privatization through ESAs tends to be industry and firm specific. In other words, it might be easy to privatize small firms that are labor intensive via ESAs, but it is hardly feasible to do the same in, for example, engineering firms, which are generally large, and output is capital intensive. Last, in the case of partial privatization (minority IPOs), where only a limited stake via the stock market is sold, the government remains influential in certain SOEs because of their importance to social welfare (i.e., pharmaceuticals and mills). Profits represent substantial rents in these industries—a fact that might create political opposition to full privatization activities.

The privatization process in Egypt begins with an analysis of the most suitable means of privatization for a particular firm. Firm experts or advisors usually carry this out, and then the boards of directors of affiliated firms review the results of the studies before the necessary legal procedures are put into motion. For example, a sale through the stock market involves the holding company's convening an extraordinary general assembly meeting to look into the proposal for the sale of 51 percent or more of an affiliated SOE through the stock market.[2] The decision is determined by unanimous agreement. Once the decision to sale is agreed upon; the holding company then prepares financial statements and evaluations to be reviewed by a designated government committee. This committee is responsible for evaluating the SOE and determining the market value of its shares. The holding company selects the promoter and the broker, places an advertisement in the newspaper, and then secures investors' requests through the stock market.

[2] An ordinary general assembly is required for cases of minor stakes, i.e., when less than 50 percent of the firm is sold.

As for an SOE sale to an ESA, the process includes the preparation of an evaluation of the firm and its approval by the company's general assembly. The ministerial privatization committee (MPC) also approves the evaluation before a sales contract can be drawn up with the conditions for the transfer of ownership and the payment terms. The ESA is given a discount ranging between 10 to 20 percent of the fair market value and a ten-year mortgage for the balance at a simple interest rate. The holding company provides support to the ESA in different forms, such as orientation, and management training along with technical support and investment advises. The holding company also offers the ESA the opportunity to finance its purchases of equipment and other improvements needed to allow the company to continue to grow and maintain a workforce.

The sale to anchor-investors, however, is conducted differently. The process includes agreement to the sale of majority shares to anchor-investors by the extraordinary general assembly of the holding company. The promoter is then selected, an information memorandum is prepared, and promotion announcements are published in local and international papers. This allows potential investors to obtain information and disclosure documents on the firm offered for sale. The advertisement specifies the conditions of the sale and allows investors to carry out technical, financial, and legal analysis of the firm. The buyers submit their offers, and the holding company constitutes a committee to receive and open their bids. A decision committee is also formed, and the final decision is made following the technical and financial evaluation of all offers. A recommendation is made to the holding company's board of directors, who then submits its analysis and conclusions to the general assembly for their decision before submittal to the MPC. The decision is then reviewed by the MPC, who issues the ultimate determination. At that point, the holding company begins to prepare the sales contract. Ownership is transferred to the investors, and the terms of the contract are executed. The number of the Egyptian privatized firms, classified by the method of sale is given in Table 1. We observe that Egypt's privatization program, which actually

started in 1994, had a slow beginning. However, in 1996, a new cabinet was appointed, and the privatization program was accelerated. When the new cabinet began to publicize its program to privatize Egypt's SOEs, the program attracted international interest. In order to increase the stock supply on Egypt's capital market, the government concentrated on full privatization rather than partial privatization[3]; consequently, the value of privatized firms accelerated significantly until [1999-2000]. At that time, the privatization program was delayed for many economic reasons including a shortage in liquidity, a foreign currency crisis, and an overall negative performance of the Egyptian stock market.

Table 1- Number of privatized firms in Egypt

Year	Full Privatization				Partial Privatization			Yearly Total	
	Anchor Investor	IPO*	ESA**	Liquidation	IPO*	Asset Sales	Leases	Number	Value***
1993	–	–	–	6	–	–	–	6	n.a.
1994	3	-	7	2	1	–	–	13	664
1995	0	1	3	2	6	–	–	12	1216
1996	3	14	–	1	6	1	-	25	2792
1997	3	14	3	3	2	1	1	27	3148
1998	2	8	12	6	1	3	-	32	2358
1999	9	-	5	7	–	4	6	31	2785
2000	5	1	-	3	-	6	10	25	2476
.2001	4	-	1	2	–	3	1	11	1075
2002			2	1		3		6	51
2003						6	3	9	114
Total	**29**	**38**	**33**	**33**	**16**	**27**	**21**	**197**	**16679**

The table shows the number of privatized firms classified by the method of sale and year-by-year. It also shows the value of privatized firms for each year and the total until 2003.
* Initial Public Offering.
** Employees Shareholders Associations.
*** Millions of Egyptian pounds (rate 1 LE = 0.174 US$ as of December 2004).
Source: Egyptian Ministry of Public Enterprise Sector (2003).

1.2 Background on privatization in Morocco:

Royal Speech of April 8th, 1988, gave the political signal to start the privatization process. One year later, Parliament adopted the law n°89-39 that authorized the transfer of public enterprises to private investors.

[3] Full privatization means selling 51 percent or more of an SOE's shares to the private sector, while partial privatization refers to selling less than 50 percent.

The privatization program in Morocco was set up around various objectives: (i) to modernize the national economy and to open it to international trade; (ii) to reduce the burden on the state's budget; (iii) to strengthen the competitiveness and productivity of privatized entities; (iv) to support the creation of new jobs; and (v) to attract foreign investment.

The privatization process begins with the minister in charge of privatization. Then, a Commission of Transfers is set up to assist the minister in the transfer operation. In order to determine the price of SOE shares, an evaluation body composed by 7 members named by Royal decree is formed. Finally, the transfer phase consists of using a selling method: 77 percent of the SOEs are sold through invitation to bid, 17 percent by direct granting, and 6 percent by public offering.

Eleven years after the first privatization operation in 1993, 67 firms out of 114 firms registered on the initial list were sold to private investors, generating proceeds of $6.3 billion.

The first phase of the privatization process [1993-1998] included the transfer of 112 entities (75 enterprises and 37 hotels) before 1995. The program was not achieved in due time and was extended till the end of 1998 by adding two more SOEs to be privatized (i.e., "SAMIR" and "SCP"). By the end of 1997, 34 public enterprises and 18 hotels had been sold to private investors. The choice of privatized firms during this first period was based on three main criteria, that is the importance of the state's participation, the profitability of the firm, and the competitiveness of the sector to which the SOE belongs.

The law n°89-39 authorizing the transfer has been modified and supplemented by the law n°98-34. This new legislation extended the perimeter of privatization to all public enterprises and introduced more flexibility in the privatization process at the same time reinforcing transparency and equity. The main innovation in the process concerns primarily the suppression of deadline transfers, the possibility offered to pensioners to participate in public

offering, the reduction of the list of firms to be privatized, and the refitting of the disposals pertaining to the pre-emption right.

The second phase of privatization, following this legislation change, included bigger and better performing SOEs. New firms were added to the list of potential privatization enlarging the program to new sectors. In 1999, the second GSM license was attributed to "Meditelcom", and 35 percent of the capital of "Maroc Telecom" was sold to "Vivendi Universal". In 2002, only 3 privatizations were implemented out of 11 prepared: 21 percent of the capital of the "Banque Centrale Populaire", 16 percent of the "Société Marocaine des Fertilisants" (FERTIMA), and 11.4 percent of the state participation in "Société Industrielle de Confection de Meknès" were transferred to private investors. In 2003, the privatization process gained momentum by the selling of 4 big entities: "FERTIMA" (Fertilizer industry), "SONIR" (Paper industry), "La régie des Tabacs" (State-Controlled Company of Tobocco), and "SOMACA" (Car manufacturing).

An analysis of the privatization proceeds by investors indicated that 82.5 percent of the revenues came from international investors: 17.6 percent from private investors, 16.2 percent from SIPs and 0.7 percent from employees. The bulk of privatization was accomplished after 2000 with two exceptional years—2001 and 2003—producing 78 percent of the revenue.

Table 2 describes the distribution of the privatization transactions from 1993 to 2003. The SIPs method disappeared after 1997, and the bulk of the privatization was achieved between 1993 and 1997.

For the economy, the privatization brings positive impact on three dimensions:

- Stimulation of the Foreign Direct Investment allowing Morocco to be one of the most attractive countries for foreign investment in the Arab World and Africa;
- Reinforcement of key economic sectors such as telecommunications, industry (steel, cement, etc.), energy, finance, and hotels;

- Stimulation of the financial market: stock market capitalization was multiplied by 23 since the adoption of the law on privatization.

Table 2- Number of privatized firms in Morocco

Year	Privatization method				
	Invitation to bid	Direct granting	IPO & invitation to bid	Employees	Combination
1993	1	2	2	1	4
1994	1	3	4	1	3
1995	1	3	1	3	1
1996	-	2	3	1	1
1997	2	3	1	1	4
1998	-	1	-	2	1
1999	2	-	-	-	-
2000	-	-	-	1	-
2001	-	-	-	**1**	**-**
2002	-	1	-		-
2003	2	*2*	-	**-**	**-**
Total	**9**	**17**	**11**	**11**	**14**

Source: Moroccan Privatization Authority (2005).

1.3 Background on privatization in Tunisia:

Privatization is defined in Tunisia as the transfer of the control of ownership or management of a firm form the public to the private sector. It could also take the form of the opening of formerly public sectors to new private investors.

The privatization program was initiated in 1987 with three main objectives: (i) improvement of the efficiency and the competitiveness of public enterprises; (ii) contribution to the consolidation of the state budget by reducing the subsidy to public companies and by enlarging the base of collecting taxes; and (iii) reinforcement of the financial markets by selling public enterprises by initial public offering method.

The first official document, law n°87-47, created the initial institutional structure of public sector reform that is an inter-ministerial commission to choose the enterprises to be privatized; a restructuring/privatization commission to undertake the required analysis and structure the privatization transactions; and a follow-up commission to carry out the transactions. As this procedure did not function well enough, a simpler arrangement was introduced in 1989 with the law n°89-9. This law provides a definition for a public enterprise,

specified procedures, roles and responsibilities, and transferred managerial responsibility over a number of enterprises to non-governmental shareholders. Total or partial liquidation of non-viable SOEs was allowed, and firms that could not be privatized were also allowed to be restructured. In 1994, this law was again amended through redefining the public enterprise and permitting the privatization of banks and insurance.

The organizational structure of the Tunisian privatization program was more decentralized at the beginning but turned later to more centralization. During the period [1987-1989], no administrative body was responsible for each transaction. Initially, three commissions were created to manage the public sector reform:

- **An inter-ministerial commission**: the "Commission d'Assainissement et de Restructuration des Entreprises à Participation Publique" (CAREPP), chaired by the Prime Minister, in charge of reviewing and approving all privatization and restructuring proposals;

- **An interdepartmental commission**: it is chaired by the Director General of Participations at the Ministry of Finance and includes representatives of the Prime Minister and the relevant ministries and institutions. Its main task is the coordination of the activities of the different agencies involved in the transaction.

- **A technical commission**: it is composed by high government officials in charge of advising the state for choosing the right forms of divestiture, to prepare SOEs for sale, and to help the CAREPP to deal with the financial and social effects of privatization.

The privatization program can be split into three different phases:

- **The first phase** [1987-1994] has concerned public enterprises with shaky financial structure. The SOEs have been sold through asset selling method and more often in splitting firms into autonomous entities in order to ease the selling and to reach a wide range of investors. These included SOEs in tourism, commerce, fishing, textiles and agro-alimentary industries.

- **The second phase** [1994-1997] has included safe and well-being SOEs. To this end, the privatization operations were realized through share block sales and initial public offering aiming at developing the Tunisian Stock Exchange.

- **The third phase**, which began in 1998, has included big companies such as the cement companies, and the use of newer methods like the concession of "Rades Power Energy" entity to an US company, the grant of the second license of the GSM license to an Egyptian operator, and the Build, Own and Operate method.

From the beginning of the privatization program in 1987 until October 2005, the outcomes from privatization are as follows: privatization and reorganization of 194 SOEs with $2000 million. Table 3 shows that asset sale is the most widespread privatization methods followed by block sales. Only 12 companies have been sold through stock exchange (IPO). However, we should notice that block sale method is by far the most revenue generating method for the State even it comes second in number. Concession is another method that generates a great deal of revenue to the State budget in Tunisia.

Table 3- Number of privatized firms in Tunisia

Privatization method	Number of enterprises	Percentage	Revenues*	Percentage
Block sales	79	40.7	1164	48.5
Block sales and IPO	3	1.5	27	1.1
IPO	10	5.2	83	3.5
Concession	4	2.1	756	31.5
Assets sales	98	50.5	372	15.5
Total	**194**	**100**	**2402**	**100**

* Millions of Tunisian Dinars (rate 1 DT = 0.832 US$ as of October 2005).
Source: www.tunisie.info.com

Besides, services (especially, financial institutions, tourism and commerce) are the sector that provides to the State both the highest part of the privatization revenues (55 percent) and the biggest number of SOEs (99 out of 194) sold to the private.

1.4 Background on privatization in Turkey:

From 1985 onwards, privatization has become a pillar in the liberalization program of the Turkish economy. The privatization master plan includes 14 objectives from which 6 emerge as the most important: (i) to transfer the decision power from public to private decision makers in more than half the economy so as to ease the implementation of market forces; (ii)

to reduce the number of monopolistic sectors; (iii) to spur financial market development; (iv) to reduce the financial burden of the loosing SOEs on the State budget; (v) to provide financial resource to the Treasury; and (vi) to promote competition so as to improve the performance of public enterprises.

An agency, which was named Public Participation Fund (PPF), was established in 1984 in order to implement the privatization program. However, the authority responsible for the selling decision was given to the Privatization High Council (PHC) while the joint-ventures operations were authorized by the PPF. The PHC nominates the organizations for privatization through taking state-owned economic enterprises in and out of the privatization portfolio, and is in charge of the method of sale and timing of the privatization procedures.

Since 1985, 29 energy generation and distribution units, 4 power generations, 22 incomplete plants, 6 toll motorways, 2 Bosporus bridges, 1 service unit and 5 real estates have been taken into the privatization portfolio. Later, 22 of the companies, 4 power generations and 4 real estates were excluded from the portfolio for various reasons. Currently there are 38 companies in the privatization portfolio. Total proceed from privatization in Turkey reached $8.9 billion from 1984 until 2004. During the same period, total privatization expenses were $11.2 billion including mainly the transfer to Treasury and the financing of the companies in the privatization portfolio in the form of capital and loan. Drawing some conclusions from the privatization implementations in Turkey, one could say that:

- State completely withdrew from Cement, animal feed production, milk-diary products, forest products, catering services and petroleum distribution sector, and partially withdrew from the ports and petroleum refinery sector;
- The majority of the state shares was sold in tourism, iron, steel, textile, sea freight and meat processing sectors;
- Privatization of public banks has began with “Sümerbank”, and continued with “Etibank”, “Denizbank” and “Anadolu Bank”;

- Public shares in many firms were issued to the public and some to foreign investors ("Netaş" and "Tofaş") to develop the Istanbul Stock Exchange through integration with international capital markets.

In the initial stages, especially during the period [1988-1991], 27 SOEs had been partially and totally sold to private investors. These consist of SOEs in airport service-catering ("USAS"), telecommunications ("Teletas"), cement firms ("Citosan"), petro-chemicals ("Petkim"), iron-steel industry ("Erdemir"), steel-cables ("Çelik halat"), food chain store ("Gima"), spare parts ("Ditas"), refinery ("Tüpras"), and a number of other firms. Besides, during this first phase of privatization, a considerable proportion of state shares in joint ventures were sold such as "Kepes electric", "Çukurova electric", "Arçelik" (electrical appliances), "Çelik halat" (steel-cables) and "Tofaş".

During the period [1991-1997], the privatization was mainly focused on the cement industry ("Citosan's cement"), steel-iron ("Karabük Steel-iron"), airport and airline service ("Havas"), public banks, aircraft tyres ("Petlas"), zinc-lead metal industry ("Çinkur"), Turkish-automotive industry ("TOE"), electricity and gas ("Kepes", "Cestas", "Çukurova electric", "Ipragas"), and sugar industry ("Konya sugar plants"). However, other industries which were less important have included soft beverages, food processing, paper bag and financial institutions.

Privatization practices in recent years [1997-2004] consist of selling very large and extremely profitable public enterprises. The privatization program during this recent period has comprised "Petrol Ofisi", "Tüpras" (Petroleum Refinery), "Turkish Telecom AS", "Havas As" (Airport service), "Sümerbank's Textile Plants", "Orüs Forestry Products Industry", "Sivas Steel-Iron Plan", and States shares in insurance companies. In 2004, the Turkish government implemented with the tender phase the selling of another set of SOEs: "Seka" (Pulp Paper), "Futahya Gübre" (Fertilizer), "Eti Electrometalurgy", "Çayeli Copper", "Kütahya

Sugar Factories", "Eti Chrome & Eti Silver Inc", "Et Ve Balik" (Meat-fish-poultry), and "Sumer Holding" (Textile).

The process of privatization consists of establishing a Value Assessment Commission before each tender according to the provisions set out in law n°446. This commission assesses, at least, three value assessment methodologies using various criteria regarding the sector and market specifications, future cash-flows, production methods and quotation of its stocks. Following the valuation of the SOEs, the commission selects one or the tender methods: Sealed bid, negotiation, public auction and sealed bid among designated bidders. One should note that a pre-notification to the Competition Authority is made in advance of the announcement of tender conditions where the market share of the SOE to be privatized exceeds 20 percent, and when the turnover of the same entity exceeds 20 trillions Turkish Liras. In addition to this, the firm which takes over any entity needs to obtain a permit from the Competition Board before starting its activities where acquiring parties' total shares in the relevant product market exceeds 25 percent and turnover bypasses 25 trillions Turkish Liras.

Table 4- Number of privatized firms in Turkey

Year	Privatization method*				
	Block Sale	IPO	Block sales and IPO	International offering	Assets Sales
1988	1	-	1	-	-
1989	4	-	2	-	-
1990	-	9	2	-	-
1991	2	5	4	-	1
1992	8	-	-	-	-
1993	4	-	1	-	3
1994	-	1	-	1	-
1995	4	-	-	-	7
1996	5	-	-	-	3
1997	6	-	-	-	1
1998	5	1	-	1	3
1999	-	-	-	-	3
2000	3	1	-	1	2
2001	-	-	-	-	-
2002	-	-	-	1	5
2003	1	-	-	-	*1*
2004	9	1	-	1	1
2005	1	*1*	-	*1*	-
Total	**53**	**19**	**10**	**6**	**30**

* We take only the first date for block sales and IPOs and assets sales since these methods are implemented over several years.
Source: Turkish Privatization Authority (2005).

The analysis of Table 4 indicates that block sales is the most used technique to privatize SOEs in Turkey (53 enterprises). Selling shares to foreigners consists of only 6 transactions over the entire set of privatized firms in Turkey. Assets sales represent only 25 percent of privatized firms. However, to have a better view of the split of privatized firms by method, we present in Table 5 the privatization gross revenues by privatization method. This table confirms that the block is the most chosen method of selling SOEs in Turkey. But over the last two years, we could also notice that Turkish government tend to use assets sales as the first selling method of public enterprises. International offering accounts of only 10 percent of privatization proceeds.

Table 5- Privatization gross revenues by method

	[1986-2003] (million $)	2004 (million $)	2005 (million $)	Total (million $)
Block sales	3 524	399	120	4 044
Assets Sales	1 172	676	63	1 910
Public Offering	1 642	65	76	1 784
International Offering	1 026	126	197	1 349
ISE Sales	801	0	454	1 255
Incomplete Assets Sales	4	0	0	4

Source: Turkish Privatization Authority (2005).

2 Privatization: Theory and empirical evidence

Over the past few decades, privatization has been an important area for both theoretical and empirical research. As most developing countries have shifted to market-oriented economies, they adopted privatization policies to improve the performance of their SOEs. There is now extensive literature on whether privatization improves firm performance and contributes to the gross domestic product (GDP) growth.

Interestingly, while privatization is based on the premise that it will improve corporate performance and help countries to grow, the ultimate outcome is hard to identify. At the macro level, a cross-country aggregate study by Sachs *et al.* (2000) find that privatization

does not by itself increase GDP growth, but they suggest that a positive effect exists when privatization is accompanied by in-depth institutional reforms.

On the firm level, recent surveys of privatization studies show a large variation of outcomes, ranging from no significant effect of privatization on performance (Bevan *et al.*, 1999), to cautiously concluding that privatization around the world improves firm's performance (Megginson and Netter, 2001), to being fairly confident that privatization tends to improve performance (Shirley and Walsh, 2000, and Djankov and Murrell, 2002). One possible explanation behind inconstancy of the impact of privatization on firm performance is that each study dealt with a different date set with limited access to corporate governance issues (ownership structure and/or board of director composition).

Concentrating on the ownership structure issue, we find that most studies, however, have not made a distinction between the types of firm ownership, whether individual owners, or even relatively homogeneous groups of owners. Instead, ownership tends to be treated as a relatively simple categorical concept.[4]

Many comprehensive academic studies, which have been undertaken concerning the impact of privatization upon firm performance, can be separated into two categories. The first category concentrates on examining the financial and operating performance of privatized firms, while the second comprises more recent studies that examine the impact of different post-privatization ownership structures on firm performance. Each of these categories will now be briefly reviewed.

Before describing the literature pertaining to the incidence of privatization on the performance and efficiency of SOEs, we will devote the first part of this literature review to briefly describe the theoretical models that justify the privatization mood, and assess the

[4] For example, State versus private ownership, and domestic versus foreign ownership.

hypothetical impact of privatization on the performance of privatized SOEs after controlling for environment and ownership changes following privatization.

2.1 Theoretical background:

Governments attempt to privatize their SOEs for several reasons: to raise revenue; to diffuse ownership; to reward political loyalists; to meet the demands of foreign investors; to reduce the administrative burden of state bureaucracy; and to make the private sector responsible for necessary enterprise investments (Nellis, 1991). However, the primary objective is to enhance the efficiency of SOEs and, as a result, to decrease the budgetary burden on the State.

There are various theoretical views why SOEs are less efficient than private ones. Shapiro and Willig (1990) regard SOEs as instruments capable of curing market failures by setting pricing policies that take account of social marginal costs (*the social view*). It should be added that SOEs usually play an important social role as providers of numerous social functions and services: housing; medical care; and so on. These functions and expenses also negatively impacted the performance of SOEs.

Private firms should be less subject to political connexion (*the political view*). According to Shleifer and Vishny (1994), political interference in SOEs leads to overstaffing, poor choices of product and location, underinvestment and unclear incentives for managers. Private investors generally have long-term considerations when they invest, whereas the electoral assets enjoyed by politicians tend to be more short-lived (Phelps, 1992).

Privatization leads to better incentives (*the incentive view*). Vickers and Yarrow (1988) argue that managers of SOEs may lack incentives or may not be properly controlled. The residual cash flow claims of SOEs are not readily transferable like the shares of a private firm. This impairs residual claimant incentives to control managers and, ultimately,

deteriorate firm performance (Dewenter and Malatesta, 2001). Supervision by governments is generally bureaucratic and more interested in seeing that regulations have been followed rather than, that opportunities have been seized (Nellis, 1991). A government is under political pressure to preserve established rents (high wages/low effort, high and secure employment, etc.); and it leads to a lack of incentives (Perotti and Guney, 1993). Private firms are supervised by self-interested owners. Private shareholders have stronger motivation to maximise gains than do bureaucrats, because they own equity and so support the financial consequences of their decisions. Private firms are also more able to afford decent incentives and salaries to managers (Barberis *et al.*, 1996).

Private owners choose the best managers to run their firm efficiently (*the human capital view*). Managers of state firms are chosen for their ability to address political concern. In contrast, managers of private firms are selected for their ability to run firms efficiently (Barberis *et al.*, 1996).

On the other hand, neo-classical economic theory suggests that the relationship between ownership and performance is tenuous. Efficiency is viewed as determined more by market structure and the degree of competition than by ownership (Nellis, 1991). However, privatization strengthens competition, which enforces the efficiency of the firm (*the competition view*). As Kikeri *et al.* (1994) stress, over-extended and poorly-performing SOEs have slowed the growth of the private sector (and the increase in competition). Government often blocks the creation of private firms that would compete with SOEs. Private enterprises should be more subject to the discipline of banks than SOEs, because SOEs operate on Kornai's famous "soft budget constraint" (Barberis *et al.*, 1996). They often get finance at less than the market rate of interest and enjoy subsidies from the state.

Boycko *et al.* (1996) develop a model of privatization that explains the relative inefficiency of public firms and the improvements of efficiency after privatization. Two implications of their model for desirable ownership structures for the privatized firms are noteworthy. To facilitate

restructuring, privatization must provide the management (or controlling shareholders) with large ownership stakes. Second, their model also suggests that concentrated ownership by large shareholders benefits efficiency but worker ownership hurts efficiency.

2.2 Empirical evidence:

Our first round of empirical evidence focuses on financial and operating performance of NPFs. We then turn to our examination of studies that examined possible causes of the performance changes of NPFs.

2.2.1 Financial and Operating Performance:

The financial and operating performance of privatized firms has been studied at many levels: At the level of individual firms using case studies; individual countries; and at the international level comprising both emerging and developed markets.

Case and single-industry studies:

At the case study level, Boles *et al.* (1996) estimate the impact of 1987 deregulation and 1990 privatization of "Telecom New Zealand" on price and quality of telephone services. They document significant declines in price of phone service and significant improvement in service levels.

Eckel *et al.* (1997) analyze the effects of privatization on the performance of British Airways and argue that when a firm is privatized, several factors change simultaneously. The ownership changes from government to private hands; the firm's objective changes to profit maximization; and changes in regulations, designed to enhance competition in product markets, are likely to take place. All these factors ultimately improve the economic efficiency of the firm.

Newbery and Politt (1997) document significant post-privatization performance improvement of the UK's Central Electricity Generating Boards. However, all the benefits of privatization were captured by producers and shareholders due to insufficient competition.

Ramamurti (1997) also finds a significant increase in labor productivity of the Argentinean national freight upon privatization, although accompanied with a significant decrease in employment.

Ros (1999) focuses on International Telecommunications Union (ITU) data and panel regression estimation to assess the impact of privatization and competition on network expansion and efficiency in 110 countries over the period [1986-1995]. He found that both privatization and competition increase efficiency, but only privatization is positively related with network progression.

In a study focusing on telecommunications companies from 23 OECD countries over the period [1991-1997], Boyland and Nicoletti (2000) investigate the impact of privatization and liberalization on efficiency and they report that privatization leads to lower prices, better services and higher productivity. They also find that all these improvements are linked to competition and that privatization, per se, has no clear impact.

Laurin and Bozec (2000) looked at the profitability and productivity of two Canadian rail companies before and after privatization of one of them named Canadian National. They found that Canadian National was characterized by relative poor performance during its fully state-owned period. Its performance converges rapidly with that of their private counterparts and surpasses it thereafter.

Single-Country studies:

As far as studies on individual countries are concerned, Martin and Parker (1995) find mixed results in performance, in terms of profitability and efficiency, for 11 privatized firms in the UK. While La Porta and López-de-Silanes (1997) address significant improvements in output and sales efficiency of 2118 Mexican privatized firms through June 1992, and find that the gap in performance between privatized firms and privately controlled firms narrows. They also find a significant decrease in the level of employment.

In contrast, Harper (2002) uses 453 separate firms (101 privatized in both waves for a total of 554 observations), in the first and second waves of Czech voucher privatization. He found that while the overall effects from the privatization is positive, the results are affected by privatization wave, size, and industry of the firm. He also found that ownership concentration in the Czech firms is not an important factor in restructuring firms following privatization.

Ruiz-Mier *et al.* (2002) examine a sample of 31 constituted from a set of 93 firms that were transferred to the private sector in Bolivia since 1992. To determine the impact of privatization on the performance of the studied firms, they perform a ratio analysis, one with non adjusted ratios and the other with adjusted ratios. The ratio analysis presents some evidence that the privatization of SOEs in Bolivia has led to performance improvement. The panel data analysis suggests that privatization is a significant factor in explaining the improvement of operating efficiency of the firms.

Anuati-Neto *et al.* (2003) focus mainly on the changes in the performance of companies that have been privatized in Brazil since 1991. Their study confirms the previous findings; in which firms became more efficient after privatization.

Sun and Tong (2003) evaluate the performance changes of 634 SOEs listed on China's two exchanges upon SIPs during the period [1994-1998]. They document that SIPs are effective in enhancing SOEs earnings ability, real sales, and workers' productivity, but is not successful in improving profit returns and leverage after privatization. They also find that state ownership have negative impacts on firm performance and legal-person ownership has positive impacts on firm performance after SIPs, which suggests that legal-persons behave differently from the state government. Surprisingly, foreign ownership does not show uniformly strong positive impacts on firm performance.

Tórero (2003) analyses the impact of privatization through a detailed statistical and econometric analysis of first difference (the difference between pre- and post-privatization performance), and second difference (change in performance of privatized firms relative to the change in performance of SOEs) of several indicators on profitability, operating

efficiency, employment, leverage and convergence. The results indicate that privately owned firms are more efficient and profitable than state-owned firms.

Omran (2004) examines the performance of 54 newly privatized Egyptian firms against a matching number of SOEs over the period [1994-1998]. The analyses show that privatized firms do not exhibit significant improvement in their performance change relative to SOEs. He, however, argues that the findings could mean that privatization improved the performance of privatized firms, which, in turn, could have had important spillover effects on SOEs.

Several recent examinations of country privatization show improvement in profitability and efficiency of privatized firms in all sectors.[5]

Cross-country studies:

Extensive work addresses the impact of privatization on a broader level, including both emerging and developed countries. In this context, Galal et al. (1994) measure performance changes in 12 privatized firms—mostly airlines and regulated utilities-from both developing and developed economies (Britain, Chile, Malaysia and Mexico). They find no case where workers are made significantly worse off and three where workers significantly benefit, and find net welfare gains in 11 firms.

Megginson et al. (1994), in a large scale and more comprehensive study, compare the pre- and post-privatization performance of 61 firms in 18 countries. The results of this study indicate that there is a significant increase among NPFs in terms of profitability, efficiency, capital investment spending, employment, and dividend payout, while these firms exhibit a significant decrease in leverage.

Pohl et al. (1997) compare the restructuring of over 6300 private and state-owned firms in 7 East European countries during the period [1992-1995]. The results show that privatization

[5] Appiah-Kubi (2001) for Ghana, Andreasson (1998) for Mozambique, Due and Temu (2002), and Temu and Due for Tanzania.

increases productivity 3-5 times more than similar SOEs and little difference in performance based on method of privatization.

Boubakri and Cosset (1998), in a comprehensive study, examine the financial and operating performance of 79 privatized firms from 21 developing countries between 1980 and 1992. Their sample is well diversified, with wide geographical coverage, countries of different levels of development, and firms of different size and in different industries and market structures. Using both unadjusted and market-adjusted measures, they find significant improvements in profitability (124 percent higher on average after privatization), operating efficiency (real sales per employee up 25 percent on average and net income per employee up 63 percent), capital investment spending (up 116 percent), output, employment level (up 1.3 percent), and dividends, while they observe a decline in leverage which is significant only for unadjusted measures. The changes in profitability and efficiency were larger in Middle-income countries than in Low-income countries. However, in another study of 16 African firms privatized through public share offering during the period [1989-1996] they find insignificant increases in profitability, efficiency and output (Boubakri and Cosset, 1999).

D'Souza and Megginson (1999) examine pre- versus post-privatization performance changes for 17 national telecommunications companies privatized through share offering during the period [1981-1994]. They confirm the same findings for all proxies except employment, where an insignificant decline is shown.[6]

The empirical evidence of these studies suggests that privatization can lead to an improvement in profitability, efficiency, output, capital investment spending, and debt ratio. Only Martin and Parker (1995) document performance declines for six of eleven British firms after privatization. However, the results are not consistent with regard to the employment level. Since the empirical studies discussed above show performance improvements after privatization, a natural subsequent question is to ask why performance increases.

[6] For a complete list of recent works on privatization, see Megginson and Netter (2001).

2.2.2 The impact of post-privatization ownership structure:

Most studies treat ownership as a relatively simple concept (e.g., private versus State or State versus foreign), and are not enable to distinguish the extent of different forms of ownership on corporate performance. Very few empirical studies look at the impact of different post-privatization ownership structures on firm performance and are mainly focused on transition countries.

In this context, Barberies *et al.* (1996) examine performance changes in 452 Russian privatized firms, and conclude that changes in ownership and management styles are likely to lead to a value-maximizing restructuring. For 706 Czech Republic privatized firms, Claessens *et al.* (1997) find that concentrated ownership structure, ownership by local investors, and ownership by bank-sponsored investment privatization funds and strategic investors increase profitability and are value enhancing.

Earle (1998) investigates the impact of ownership structure on the productivity performance of Russian industrial enterprises by comparing the effects of several types of new private 'owner-insiders' (managers and other employees) and outsiders (individual and institutional investors) with continued ownership by the State. He concludes that there is a positive impact of private ownership, relative to state ownership, on labor productivity, and that most of this is due to the positive effects of managerial and other employees' ownership. Using a sample similar to Earle (1998), Earle and Estrin (1998) study whether privatization, competition and hardening budget improve the performance of Russian privatized firms. They find that the increase of private share ownership increases efficiency by 3-5 percent.

Pivovarsky (2003) investigates empirically the relationship between ownership concentration and performance of 370 partially and fully privatized Ukrainian firms. He finds that ownership concentration is positively related to firm performance in Ukraine. The study also documents that concentration of ownership by foreign investors and banks have more positive incidence on performance than domestic investors. Moreover, the author finds that

privatization methods determined in long-run the ownership structure of privatized firms. In the same context, Warzynski (2003) studies the determinants of managerial change and the impact of privatization, competition, and managerial change on firm performance, using survey data from 300 Ukrainian firms. Privatized firms experience fewer turnovers than state firms, which suggest an entrenchment effect. However, managerial change in privatized and *de novo* firms is positively related to performance, which suggests a disciplining impact of private ownership. Although managerial change and privatization do not individually affect performance, together they have a positive effect on profitability. In addition, competition improves profitability and productivity in privatized firms only. These findings suggest that privatization, competition, and managerial change are complementary measures in improving firm performance. In the same vein, Simoneti and Gregoric (2004) provide answer to the basic economic question: what is the incidence of consolidation of managerial ownership on the performance of Slovenian firms? The sample includes a panel of 182 firms observed over the period [1995-1999], and does not show any increase of performance resulting from the consolidation of managerial ownership. A positive effect is found only in the firms with managers' holdings exceeding 10 percent, and only in firms that are listed on the capital market.

In a more comprehensive study, Kocenda and Svejnar (2003) indicate that in the post-privatization period in transition countries, private ownership tends to be associated with superior performance relative to state ownership in terms of some profitability and efficiency indicators. Also, the study finds that dispersed ownership results in better or equal performance than more concentrated ownership.

Hanousek *et al.* (2004) estimate the effect of ownership type and concentration in Czech Republic. Using specifications based on first-differences and unique instrumental variables, they find that only few private ownership enhance post-privatization performance. Concentrated foreign ownership improves some measures of performance relative to state

ownership. This paper documents that firms restructure by first, lowering and later, increasing the rate of employment.

In non transition countries, Gupta (2005) studies the incidence of partial privatization on the performance of privatized firms in India. He indicates that the fraction of equity that is private in a given year has a positive and statistically significant impact on profitability and productivity; for example, a 10 percent point decrease in government ownership would increase profit by 13 percent, and the average product of labor and returns to labor by 8 percent and 5 percent, respectively, while a 10 percent point increase in private equity would increase sales by 27 percent on average. He also finds that investment spending on research and development and expenditure on fixed assets significantly increase following a rise in the private share of a firm's equity.

Boubakri *et al.* (2004) employ a multivariate analysis that attempts to identify the most important determinants of performance changes after privatization on a sample of NPFs in Asia. The study documents a substantial increase in profitability, efficiency and output in former SOEs from Asia. Employment increases but insignificantly. The results show that a friendly institutional environment, a lower political risk, an open economy, more developed stock markets and participation of foreign direct investors in the privatization process are important determinants of performance improvements after privatization.

Boubakri *et al.* (2005a) conduct a multinational study to search for the factors explaining the performance changes for NPFs using a sample composed of 230 firms privatized in developing countries. They document a significant rise in profitability, efficiency, investment and output, but performance gains vary considerably across regions. They use next a multivariate analysis that attempts to identify the most important determinants of performance changes after privatization. The results indicate that macroeconomic factors as well as the corporate governance variables explain mostly the performance improvements of NPFs in developing countries.

In the same vein, Boubakri *et al.* (2005b) focus on the role of two key dimensions of the ownership structure that is the ownership concentration and the type of owners. They examine the relationship between internal and external governance devices and the subsequent performance of 209 NPFs in 25 emerging markets and 14 industrialized countries over the period [1980-2001]. Based on panel data, they show that country-level variables and variables related to the privatization process are key determinants of the level of post-privatization ownership concentration. They find also that ownership concentration is positively related to firm performance and the effect is stronger in those countries in which investor protection is weaker.

In a related paper, D'Souza *et al.* (2005) use a sample of 129 SIPs from 23 OECD countries. The results indicate a significant increase in profitability, efficiency, output and capital expenditure following privatization. The data indicates that ownership significantly affects post-privatization performance providing a negative relation between ownership (government and foreign) and employment, and a positive relation between ownership and capital spending. When we compare the findings with Boubakri et al. (2005a), it appears that several factors affecting post-privatization performance differ between developed and developing countries. Most evidence show that institutional factors such as financial and trade liberalization are on significant in developing countries.

2.2.3 The impact of economic and financial liberalization on privatization:

Last but not least, few academic studies examine the impact of privatization when it is accompanied by an economic reform and liberalization activities. In fact, Privatization in developing countries is often accompanied by economic reforms such as stock market and trade liberalization that could influence the outcomes of a privatization program. Several authors have studied the effect of economic and financial reforms on the economies of developing countries.

For example, Dornbusch (1992) focuses on trade liberalization. He identifies several channels through which trade reforms could bring benefits. Examples include an improved allocation of resources, greater competition and an access to better technologies, inputs and intermediate goods. Thus, irrespective of privatization, trade liberalization could bring changes in the performance of NPFs. Empirically; these results are consistent with Sachs and Warner's (1995) evidence that this policy is closely tied to future growth.

Henry (2000) examines the impact of stock market liberalization on the returns of twelve emerging stock markets. Controlling for macroeconomic fundamentals, co-movements with foreign stock markets and concurrent economic reforms (such as macroeconomic stabilization programs, trade liberalization, privatization and the easing of exchange controls), the study finds a monthly mean abnormal return of 3.3 percent over an eight-month period leading up to the implementation of the stock market liberalization. The author also documents that privatization has a positive effect on stock returns. However, once he controls for the specific economic conditions of the country, the impact of privatization is no longer significant. The author argues that one possible explanation is that authors do not control for the specific environment of these countries in their studies. In related studies, Bekaert and Harvey (2000), and Bekaert *et al.* (2001a,2001b) analyze the impact of stock market liberalization in emerging markets on, among other things, the cost of equity capital (expected equity returns) and economic growth. Controlling for a number of other factors (such as the level of stock market development, the size of the trade sector and the macroeconomic environment) to isolate the sole impact of liberalization, they find that stock market liberalization is associated with lower costs of equity capital and higher economic growth rates.

The aforementioned studies and other related studies on privatization have been, mainly limited to those of developed economies or large emerging economies. It seems, then, that small economies such as those in the MENA region are very much understudied in the literature. However, Omran (2004,2005, and forthcoming) provides some evidence on the

impact of privatization on firm performance using both accounting and market performance measures. What is even more interesting is his (forthcoming) paper in which it examines whether the performance of privatized firms differs according to the type of ownership structure during the post-privatization period. The paper concludes that firms with concentrated ownership or those that have a homogeneous group of owners—that is those firms sold to anchor-investors and employee shareholder associations—seem to outperform dispersed ownership firms (majority or minority IPOs). The problem here is that the author relies on the privatization method of sale to determine the ownership structure[7], without considering the evolving ownership structure over time. In this study, we try to fill this gap by tracking the changes in firm ownership structure over time, and testing its impact on firm performance.

In this study we have two main objectives (i) to first examine the financial and operating performance of privatized firms in selected MENA countries in order to determine whether privatization has a positive impact on firm performance and to examine the extent to which these results are consistent with previous findings for other countries, and (ii) equally important to test whether the performance of privatized firms differs according to the type of ownership structure during the post-privatization period.

3 Conceptual framework and testable hypotheses

When we deal with the outcomes of privatizing the SOEs, we can classify that into three categories. The first category is related to appreciation of the financial and operating performance of privatized firms. The second comprises more recent studies that examine the impact of corporate governance, either external or internal, on firm performance. The third

[7] Two methods of sale (full and partial privatization) were executed to provide four marked types of ownership. Full privatization yielded three types: (1) majority Initial Public Offerings (IPOs)—at least 51 percent of a firm's shares were sold to public via the stock market, (2) Employees Shareholders Associations (ESAs)—the majority of a firm's shares were sold to either ESAs or (3) anchor-investors. Partial privatization yielded the fourth type: (4) minority Initial Public Offerings (IPOs)—less than 50 percent of a firm's shares were sold to the public via the stock market with the rest remaining in the government's hands.

assess whether economic reforms and liberalization indicators explain post-privatization performance changes.

As mentioned previously, most of previous studies document that privatization leads to significant improvements in profitability, operating efficiency, capital investment spending, output, while they observe a decline in leverage[8], with no clear direction for the impact of privatization on employment. Since the objective of any privatization program is to increase the ability of firms to achieve their goals, we examine this proposition to understand whether privatization increases profitability, operating efficiency, and output, and decreases the leverage. Moreover we examine the impact of privatization on the level employment.

As for ownership structure, we see that few empirical studies look at the impact of different post-privatization ownership structures on firm performance. In fact, owners of fully privatized firms, who pay greater attention to profit goals through increased capital investment spending, find that their firms have increased output and efficiency followed by increased profitability (Boubakri and Cosset, 1998). Additionally, the property rights theory asserts that fully private firms perform better than mixed-ownership firms because of the conflict between private and public shareholders in the latter, which inhibits the monitoring of management (Boardman and Vining, 1989). Also Boycko *et al.* (1996) argue that the higher the fraction of an SOE sold, the lower the possibility that politicians will directly interfere, meaning that any benefits from partial privatization will be minimal. Many researchers also state that firm performance improves when ownership and managerial interests are merged through concentration of ownership.[9] When major shareholdings are acquired, the control cannot be disputed. Anderson *et al.* (1997) claim that significant concentration of ownership might lower or even completely avoid agency costs, and offer better control of firms. Moreover, full and concentrated ownership implies lower resistance to restructuring (Jelic *et*

[8] D'Souza and Megginson (1999) show insignificant changes in the level of employment.
[9] See, for example, Walking and Long (1984), Agrawal and Mandelker (1987), Muscarella and Vetsuypens (1990), Castianas and Helfat (1991), Oswald and Jahara (1991), and Baker and Weiner (1992).

al., 2003). A relating hypothesis must be tested in order to confirm that full and concentrated ownership results in better performance compared with partial and dispersed ownership.

Also, the growing involvement of foreign investors could affect the post-privatization performance of NPFs. Foreign investors generally require high information disclosure standards, provide new funds to NPFs and, for reputation concerns, maintain a strict control of managers' actions (Dyck, 2000, and Shirley, 2002). Therefore, an expectation to be validated concerns the positive association which might exist between post-privatization performance improvements and foreign ownership.

The other internal monitoring mechanisms that relate to the organizational structure of the firm are the board of directors (BOD) and the issue of whether the chief executive officer (CEO) is the chairperson. According to the privatization literature, one reason often put forward to explain the poor performance of SOEs is the low qualification of government-appointed-BOD members and managers. Furthermore, incentives to monitor managerial behavior are poor, leaving managers considerable discretion to pursue their personal agendas (Vickers and Yarrow, 1991, and Shleifer and Vishny, 1997). Indeed, old fashioned compensation schemes, based on tenure and not performance, prevail in the majority of developing countries. Changes in the membership of the BOD as well as changes of the CEO can be put in place to ascertain more effective monitoring and management, respectively. The under qualified managers could be replaced by others whose objectives are more aligned with profit maximization, and new monitoring mechanisms could be put in place by the new shareholders. So, one can expect that restructuring the BOD and changing the CEO can affect the post-privatization performance.

As mentioned earlier, there also exist external mechanisms of corporate governance which include capital market monitoring and the legal system. The monitoring role of the market depends on the size and the sophistication of the local capital market (Levine, 1997, Levine and Zervos, 1998, and Subrahmanyam and Titman, 1999). A large and sophisticated

market implies a “friendlier” market-and-regulatory environment, a better access to the funds necessary to restructure the NPFs, as well as better monitoring and performance linked compensation for managers. Therefore, we expect that the NPFs in relatively more sophisticated and larger stock market perform better.

Law and the quality of its enforcement are likely to influence the monitoring role played by the market. La Porta *et al.* (1998) show that the legal protection of shareholders’ rights varies around the world. Specifically, countries with an English common law system offer stronger rights to shareholders and higher quality of law enforcement than do countries with a French civil law system. In the same vein, it is argued that a market with a stronger protection of shareholder rights decreases the costs of agency and increases the efficiency of monitoring managers. Consequently, we expect post-privatization performance to be higher for countries where laws protect shareholder rights and which have a legal system that efficiently enforces these laws.

4 Data and methodology

This section describes the sample of NPFs and outlines the methodology we use in our analysis.

4.1 The sample of privatized firms:

The data set for this study was obtained from Egyptian, Moroccan, Tunisian and Turkish firms that had been privatized through stock exchange and have at least three years of both pre- and post-privatization data. In order to generate comparable post-issue financial and accounting data, we limit our analysis to SIPs. We collect these data by hands from the documents that we received from both the stock exchange (prospectus and annual reports) and the privatization authorities (evolution of ownership structure post-privatization). For the data related to environment, the main source is the World Development Indicators from the World Bank. We deleted financial institutions from our sample because this firms present peculiarities pertaining to their accounting standard and financial structure. We use local

currency data in our performance measurements. Whenever possible, we calculate performance indicators that include nominal data in both the numerator and denominator. Other financial ratios are then adjusted to real terms in order to exclude the effects of the relatively high inflationary environment.

The final sample consists of 95 firms privatised through public offering. It includes 55 Egyptian, 6 Moroccan, 13 Tunisian, and 21 Turkish firms.[10] These transactions took place from 1990 to 2001. Table 6 provides some preliminary descriptive statistics on the sample used for this study. We observe a strong concentration of privatizations during the period [1995-1997] where 63.16% of privatizations have occurred. On the other hand, Table A1 in the appendix indicates that the process of privatizations in the region started earlier in Turkey ([1990-1993]), then intensively in Egypt and in Morocco ([1993-1998]). Tunisia seems to be the last country in this panel to adhere more recently to this process since privatizations continue to occur until now with a sustainable rhythm.[11] These privatized firms are also diversified across different activities with about 70% in industry, 9% in energy and mining activities, and 20% in utilities.

Table 6- Distribution of newly privatized firms by year and activity

By year			By activity		
Year	Number	Percentage	Activity	Number	Percentage
1990	10	10.53	Agro-Alimentary Industries	14	14.74
1991	7	7.37	Chemical Industries	17	17.89
1992	1	1.05	Communications	1	1.05
1993	4	4.21	Construction and Civil Engineering	12	12.63
1994	1	1.05	Construction Materials	12	12.63
1995	12	12.63	Electricity Distribution	2	2.11
1996	29	30.53	Industrial Engineering	3	3.16
1997	19	20	Metallic and Electrical Industries	9	9.47
1998	5	5.26	Mining	5	5.26
1999	4	4.21	Petroleum	3	3.16
2000	0	0	Real Estate	1	1.05
2001	3	3.16	Retail	7	7.37
			Textile Industries	2	2.11
			Tourism	2	2.11
			Transport	5	5.26
Total	95	100	Total	95	100

[10] See Table A1 in the appendix.
[11] But we know that other firms were privatized without being introduced on the stock market like SITEX (1989), ONP (1992), SIG (1991), or SOTIMACO (1992).

4.2 Descriptive statistics:

Table 7 presents some descriptive statistics on the macroeconomic variables. Among the four countries, Morocco was the first to launch its stock market liberalization in1988. Liberalization of stock markets occurred in 1989 in Turkey, and later in Egypt (1992) and Tunisia (1995). Tunisia proceeded officially to liberalize trade since 1989 as well as Turkey. Trade liberalization in Morocco occurred in 1984, and no liberalization occurred in Egypt. On the other hand, trade liberalization occurred generally before stock market liberalization apart from Turkey where the two actions occurred the same year that is 1989.

According to the fourth column in table 7, Turkey exhibits a very high level of stock market development since the turnover ratio reached an average of 118.6 over the period [1990-2000]. Although at comparable levels, the turnover ratio seems to be quite low for the three other countries which could signify a weak development of their stock markets.

Table 7- Descriptive data on some macroeconomic indicators

Country	Stock market liberalization date	Trade liberalization date	Stock market turnover, mean [1990-2000]	Trade openness, mean [1990-2000]	Real GDP growth (annual %), mean [1990-2000]
Egypt	1992	NL	18.06	49.96	4.47
Morocco	1988	1984	14.54	59.45	2.56
Tunisia	1995	1989	11.74	89.53	5.04
Turkey	1989	1989	118.63	43.09	4.2

Stock market liberalization date. Data are from Bekaert *et al.* (2005).
Trade liberalization date. Data are from Sachs and Warner (1995) and IMF country reports. For Egypt, NL indicates that trade is not officially liberalized.
Stock market turnover. Total value of shares traded during the period divided by the average market capitalization for this period. Data are from the World Development Indicators database (WDI 2004).
Trade openness. The sum of exports and imports of goods and services divided by GDP. Data are from the World Development Indicators database (WDI 2004).
Real GDP growth. Annual percentage growth rate of GDP based on constant local currency. Aggregates are based on constant 1995 US$. Data are from the World Development Indicators database (WDI 2004).

Table 8 presents some descriptive statistics on the post-privatization ownership structure for the sample of privatized firms.[12] In both Egypt and Tunisia, government keeps high proportions in the structure of ownership after privatization. Their shares in this structure reach 44 percent and about 42 percent in average, respectively. In Morocco, the process of

[12] We have not been able to have available information about structure of ownership as well as ownership concentration after privatization for the Turkish firms.

privatization is more intensified since 59 percent in average of the structure of ownership is detained by private institutions. Participation of foreign investors in the privatization process is absent in Morocco, and timid in both Egypt and Tunisia with about 9 percent and 12 percent in average, respectively.

Table 8- Structure of ownership after privatization (in percentage)

Mis en forme : Police :11 pt

Mis en forme : Police :11 pt

	Egypt		Morocco		Tunisia		Turkey	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Government	44	47.11	8.14	6.79	41.79	48.55	33.28	18.07
Private institutions	22.56	16.24	59.11	62.8	15.57	11.41	n.a.	n.a.
Foreign investors	6.46	2.77	0	0	11.86	5.58	n.a.	n.a.
Individuals	16.86	13.17	3.28	0	30.57	25.54	n.a.	n.a.
Employees	9.25	10	2.63	1.5	0.19	0	n.a.	n.a.
Others	0.87	0.58	29.47	30.88	0.01	0	n.a.	n.a.
Number of observations	55		4		13		10	

Table 9- Ownership concentration after privatization (in percentage)

	Egypt		Morocco		Tunisia		Turkey	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Government	39.39	39	8.14	8.14	40.15	43.19	n.a.	n.a.
	39.01	39	8.14	8.14	38.19	39.1	n.a.	n.a.
Private institutions	10.01	0	55.27	55.27	10.94	7.78	n.a.	n.a.
	8.95	0	23.31	20	7.93	0	n.a.	n.a.
Foreign investors	2.78	0	0.	0	11.6	5.58	n.a.	n.a.
	2.42	0	0	0	8.58	0	n.a.	n.a.
Individuals	1.53	0	3.28	0	4.57	0	n.a.	n.a.
	1.14	0	3.06	0	3.38	0	n.a.	n.a.
Employees	8.73	10	0	0	0	0	n.a.	n.a.
	8.21	10	0	0	0	0	n.a.	n.a.
Others	0.01	0	29.32	29.32	0	0	n.a.	n.a.
	0.01	0	29.32	29.32	0	0	n.a.	n.a.
Herfindahl Index	29.79	29.03	43.81	40.53	31.51	25.58	n.a.	n.a.
	29.24	29.03	30.87	22.76	28.31	20.6	n.a.	n.a.
Number of observations	55		4		13		10	

The first line shows the ownership concentration that is calculated as the top three stockholders who own a minimum of 5% of equity, while the second line is based on a minimum of 10%.
The Herfindahl index is measured as the sum of squared ownership shares.

As can be seen from Table 9, state ownership (government) dominates ownership concentration in both Egypt and Tunisia, whereas private institutions dominate the ownership concentration in Morocco. Foreign investors, however, seem to be weakly active in Tunisia followed by Egypt, but they have no significant presence in Morocco.[13] On the other hand, it

[13] A caveat here is that the data provider in Morocco might mix between foreign ownership and private institutions.

seems that Egypt is the only country that sells part of some SOEs to its employees (ESAs) while this method of sales is not implemented in Tunisia and Morocco. An important implication from that table is that the governments in both Egypt and Tunisia should act aggressively to sell the state controls to the private sector.

5 Empirical models

Section 6.1 documents the methods used in order to compare the performance of privatized firms during three years before and after privatization. Section 6.2 describes the regressions employed to assess the incidence of governance and macroeconomic variables on changes in performance of NPFs.

5.1 Univariate analysis:

The first approach consists of a comparison of indicators of performance observed for the privatized firms in the sample during three years before and after the year of privatization, respectively. As noted by Alexandre and Charreaux (2004), the advantage of this approach is that it allows researchers to compare samples of firms of economically significant size, located in heterogeneous industries, in some countries, and in different periods. The so called static method permits to test for significant changes in the level of performance between pre- and post-privatization periods. It is built upon a statistical methodology consisting in the use of the two-tailed Wilcoxon signed-rank test to test for significant changes in the variables between the pre- and post-privatization periods, as well as a proportion test to determine whether the proportion of firms experiencing a change in a given direction is greater than what would be expected by chance, typically testing whether proportion p equals 0.5.

The principle of the Wilcoxon test is founded on the consideration of two correlated samples that could be two samples composed by observations of a variable in two different periods. The test could be conducted as a test of structural change between the two periods

of observation of that variable. The two samples are named $X_A = \{X_{A1}, \Lambda, X_{An}\}$ and $X_B = \{X_{B1}, \Lambda, X_{Bn}\}$, respectively. The differences $(X_{Ai} - X_{Bi})$, $i = 1, \Lambda, n$, are randomly drawn from the source population. Under the null hypothesis, no significant change in the considered variable, that is the same distribution for both the samples. The procedure is numerically run as follows:

$$(X_{Ai} - X_{Bi}) \rightarrow |X_{Ai} - X_{Bi}| \rightarrow \text{rank of } |X_{Ai} - X_{Bi}| \rightarrow \text{signed rank}$$

For differences $(X_{Ai} - X_{Bi})$, absolute values $|X_{Ai} - X_{Bi}|$ are associated, ranked, and signed. Then, the sum of these signed ranks is computed and noted W. We observe that, under the null hypothesis, W → 0, so the mean is μ = 0, and the variance is defined by:

$$\sigma^2 = \frac{n(n+1)(2n+1)}{6}$$

The statistic of the test is normally distributed as follows:[14]

$$Z = \frac{(W - \mu) \pm 0.5}{\sigma} \rightarrow \aleph(0,1)$$

If $\hat{Z} \leq z_\alpha^*$, the null hypothesis is accepted.

The test of proportion is conducted in order to compare the following hypotheses:

$$\begin{cases} H_0 : p = p_0 \\ H_1 : p \neq p_0 \end{cases}$$

It is based on the following discriminate function which is normally distributed:

$$\overline{X} \rightarrow \aleph\left(p, \frac{p(1-p)}{n}\right)$$

The critical region determines the acceptance of the alternative hypothesis H_1. It is defined as follows:

$$\omega = \left\{(x_1, \Lambda\ x_n) / \left(\overline{X} \leq c_1\right) \text{or } \left(\overline{X} \geq c_2\right)\right\}$$

$$\begin{cases} c_1 = p_0 - z_\alpha^* \sqrt{\dfrac{p_0(1-p_0)}{n}} \\ c_2 = p_0 + z_\alpha^* \sqrt{\dfrac{p_0(1-p_0)}{n}} \end{cases}$$

[14] 0.5 is added as a correction for continuity.

In addition to commenting on the full sample of privatized enterprises, we realize similar tests for robustness check for the following three sub samples following Megginson *et al.* (1994), and D'Souza and Megginson (1999):

- Control versus revenue privatization samples. Revenue privatization refers to government ownership of more that 50 percent whereas control privatization refers to government ownership of less than 50 percent of a company's shares. The fundamental implication of Boycko *et al.* (1996) suggests that selling voting control to private investors is most conducive to performance improvements and following D'Souza and Megginson (1999) control privatization would be expected to yield superior performance improvements than revenue privatization.
- Foreign versus no foreign ownership samples. As argued by Boycko *et al.* (1996) privatization is more effective when both ownership and control are transferred to private investors. If the private hands are foreign, that can be more effective. We expect then, that firms with foreign share issues would yield greater performance improvement than firms without.
- The last sub sample contrasts the difference between firms privatized in each country. Tunisia and Morocco, in general have thin and less active capital markets compared to Egypt and Turkey. The monitoring role of the capital market increases with its liquidity (Holmström and Tirole, 1993). Therefore, we expect the NPFs in relatively more liquid stock markets to perform better.

In addition to the Wilcoxon and proportion tests, we also perform a Kruskal-Wallis test to examine whether significant differences exist between the sub sample groups. Generally, this procedure is able to test that k population means are equal according to following alternative hypotheses:

$$\begin{cases} H_0 : \mu_1 = \Lambda = \mu_k \\ H_1 : \mu_i \neq \mu_j \text{ for at least one set of i and j} \end{cases}$$

It is a non-parametric test for the situation where the ANOVA normality assumptions may not apply. Formally, let n_i, $i = 1,\Lambda\ ,k$, represent the sample sizes for each of the k groups or samples. n_i should be at least 5 for the approximation of an usual distribution to be valid. The procedure begins with ranking the combined sample. All the values are ranked from low to high, disregarding which group each value belongs. If two values are the same, then they both get the average of the two ranks for which they tie. The smallest number gets a rank of 1. The largest number gets a rank of n, where n is the total number of values in all the groups. Next, one must compute the sum of the ranks for group i noted R_i. The test statistic approximates a chi-square distribution with k-1 degrees of freedom if the null hypothesis of equal populations is true. It is defined as follows:

$$KW = \frac{12}{n(n+1)} \sum_{i=1}^{k} \frac{R_i^2}{n_i} - 3(n+1)$$

Table 10 - Summary of testable predictions

Characteristics	Variables	Predicted relationship
P(1) Profitability	Return on sales (ROS) = Net income ÷ Sales Return on assets (ROA) = Net income ÷ Total assets Return on equity (ROE) = Net income ÷ Equity	$ROS_A > ROS_B$ $ROA_A > ROA_B$ $ROE_A > ROE_B$
P(2) Operating efficiency	Sales efficiency (SALEFF) = Sales ÷ Number of employees Net income efficiency (NIEFF) = Net income ÷ Number of employees	$SALEFF_A > SALEFF_B$ $NIEFF_A > NIEFF_B$
P(3) Output	Real sales (OUTPUT) = Nominal sales ÷ Consumer price index	$OUTPUT_A \ ? \ OUTPUT_B$ (cannot predict)
P(4) Employment	Total employment (EMPL) = Total number of employees	$EMPL_A < EMPL_B$
P(5) Leverage	Debt to assets (TDTA) = Total debt ÷ Total assets	$TDTA_A < TDTA_B$

The first column presents the economic characteristics to be examined for changes resulting from privatization (Hypotheses P(1)-P(6)). The second column gives definitions of variables to be used in the empirical analysis. The third column details the predicted changes in these economic characteristics after privatization based both on the avowed objectives of every privatization program and the theoretical background. The index symbols A and B in this column stand for after and before, respectively.
Source: Megginson *et al.* (1994).

5.2 Multivariate analysis:

The second approach is based on econometric treatment, and is conducted in order to investigate whether the changes in performance of newly privatized firms vary with the effectiveness of corporate governance, and the extent of economic reforms and environment.

To examine the incidence of privatization on the performance of NPFs, we rely on three aspects of firm performance:[15]

- Profitability: We measure profitability by the return on sales (net income to sales),
- Efficiency: We measure operating efficiency by the sales efficiency (real sales per employee).
- Output: We measure output by real sales (nominal sales divided by the consumer price index).

As in Megginson *et al.* (1994), and Boubakri *et al.* (2004), we determine the performance measures presented above for a period of 7 years (3 years prior to privatization and 3 years after privatization, including the year of privatization itself). We then compute the means before and after privatization for each performance measure. We consider the privatization date to be that on which the government divests, for the first time, a certain amount of shares. In order to examine the determinants of the changes in performance, we perform a multivariate analysis by conducting regressions of the changes in performance indicators (i.e., profitability, efficiency, and output) on several potential explanatory variables, namely, macro-economic reforms and environment and corporate governance variables. We also control for firm size and industry effects. Table 11 describes all the variables used in the regression analysis.

For each performance measure, we estimate different specifications of the following cross-sectional regressions:

[15] Although we estimate the regression models for all performance measures, for the sake of space we limit our presented results to those variables that represent the most important measures. Results on other performance measures are available from authors upon request.

$$\text{Performance changes} = \alpha_0 + \beta_1 \text{ governance variables} + \beta_2 \text{ macro-economic variables} + \beta_3 \text{ control variables} + \varepsilon$$

We use the following independent variables related to macro-economic reforms and environment: the changes in the real GDP growth and in the size of the trade sector (the sum of imports and exports over GDP) during the privatization window (-3, -1 and +1, +3). The use of real GDP growth allows us to control for the incidence of economic development on the post-privatization performance of NPFs. The change of the size of the trade sector is a proxy for an economy's openness to trade. We also use two dummy variables to control for trade and financial liberalization date. We consider the following governance variables: (i) a dummy variable which takes the value of 1 if the state gives control of the privatized firm based on. Boycko et al. (1996) model, which suggests that, in order to facilitate restructuring and improve performance, control should pass from governments to private hands. (ii) A dummy variable which takes the value of 1 if foreign investors are present in the ownership structure of the privatized firm based on the assumption that the involvement of foreign investors in NPFs brings better control and management advice to the firms, which can have a positive impact on their operating performance. Finally, we use a governance index constructed by Gwartney *et al.* (2001), as a measure of the legal structure and security of property rights and the enforcement of contracts. Higher levels of the index conduce to more effective governance. We also include the change of average turnover as a measure of the stock market liquidity. As discussed above, we expect the monitoring role of the capital market to improve as liquidity increases and then, a positive impact on the change of performance of NPFs. We use industry dummies in all specifications.

Table 11- Definitions of variables used in regressions

Variable	Definition
Performance	
DROS	Change in return on sales during the privatization window (-3,-1 vs +1, +3)
DSALEFF	Change in net income efficiency during the privatization window (-3,-1 vs +1, +3)
DOUTPUT	Change in output during the privatization window (-3,-1 vs +1, +3)
Corporate Governance	
CONT	Indicator variable that takes the value of 1 if the government relinquishes control of the privatized firm and 0 otherwise.
FOREIGN	Indicator variable that takes the value of percentage of foreign ownership one year after privatization
GOV	Measure of the extent of legal protections and enforcement before privatization that comprises three components: rule of law, risk of confiscation and risk of contract repudiation by the government (data from Gwartney *et al.*, 2001).
Macro-economic reform & Environment	
LIQ	Change in value of shares traded to GDP during the privatization window (-3,-1 vs +1, +3)
FLIB	Indicator variable that takes the value of 1 if the privatization occurs after the stock market liberalization and 0 otherwise.
TRADE	Change of the sum of exports and imports over GDP during the privatization window (-3,-1 vs +1, +3)
TLIB	Indicator variable that takes the value of 1 if the privatization occurs after the trade liberalization date and 0 otherwise.
DGDP	Percentage growth in real GDP during the privatization window (-3,-1 vs +1, +3)
Control Variables	
Industry indicators	Indicator variables included for six industries defined in Table A1 (Chemicals, energy, manufacturing, mining, construction materials, food processing, construction, services).

6 Empirical results

In the sections bellows, we present and discuss our empirical results concerning each of the government objectives and predicted financial changes described in Table 11. We first present and discuss our results for the full sample. Then at the end of each section we

discuss our results for the following sub samples constituted from the whole dataset: control versus revenue privatizations, foreign versus non foreign participation in privatization, and privatization by country. For each of these partitions we examine and report whether each sub sample of firms experiences significant changes in the variable values after privatization. We also test whether the difference between the values changes for the two sub samples is significant. In the last section, we discuss the regression results through the examination of possible causes of the performance changes.

6.1 Post-privatization changes in financial and operating performance:

Our first round of empirical analysis measures post-privatization financial and operating performance in our full sample of selected MENA countries. We measure profitability using three ratios: return on sales (ROS), return on assets (ROA), and return on equity (ROE). Table 12 reports all the three ratios but we will focus on ROS because it is based on two flow measures that are less sensitive to inflation and to accounting convention than are the two other profitability ratios. Our results show significant improvements in profitability after divestiture. For instance, mean (median) ROS goes from 0.114 (0.077) before privatization to 0.144 (0.09) after privatization. This significant increase is achieved by 60 percent of the sample firms. This conclusion for NPFs from our sample is, in general, consistent with those reported in the literature (Boubakri *et al.* 2004). The profitably results for our various sub samples document consistent improvements in ROS only in revenue privatization, non foreign ownership privatization and Egypt.

By throwing an SOE into market competition, governments clearly expect that these firms witch use their human, financial, and technological resources more efficiently. To measure efficiency, we employ inflation-adjusted sales per employee (SALEFF) and net income per employee (NIEFF), respectively. The two proxies for firm's efficiency show a significant improvement (at the 1% level) in both measures for 57 percent and 62 percent of the firms, respectively. For example, the mean (median) SALEFF increases from 0.961 (0.969) of year 0 before privatization to 1.14 (1.0197) of year 0 after privatization. Further the mean (median)

NIEFF goes from 0.787 (0.722) of year 0 before privatization to 1.106 (1.05) of year 0 output in the post privatization period. Also, efficiency improvements are also the norm for some of our sub samples: control, non foreign ownership and Egypt privatized firms.

For all the reasons discussed above—better incentives, more flexible financing opportunities, increased competition, and greater scope for entrepreneurial initiative—governments expect that real sales will increase after privatization. On the other hand, Boycko *et al.* (1996) argue that effective privatization will conduce to a decrease in output, since governments can no longer provide managers with subsidies to maintain inefficiently high output level. We test these competing predictions by computing average inflation adjusted sales level for the period -3 to -1 (the pre-privatization period) and comparing it to the three-year average level for the post privatization period, +1 to +3. Both the Wilcoxon and proportion tests show that real sales did not increase, neither decrease after privatization which in contrary to evidence provided by other studies performed in developing countries (Boubakri *et al.* 2004). Our comparison of sales gains between sub samples also yields opposite findings to those for efficiency changes. The same two sub samples—revenue, and Turkey firms experience significantly greater sales increases compared to their matching of control and other countries firms. These specific results go against the often advanced argument that SOEs tend to overproduce in order to satisfy political objectives (Boycko *et al.*, 1996). One possible explanation for this focused increase in output lies in the availability of better incentives and more flexible financing opportunities following privatization (Megginson *et al.*, 1994).

To great fear of all government implementing privatization programs is that efficiency and productivity will be achieved only at the expense of employment. Thus, the government expects large decrease of employment levels after privatization. We examine this by computing average employment levels for the three-year periods -3 to -1 and +1 to +3, and seeing if employment falls after divestiture. From Table 12, the Wilcoxon test confirms a significant mean (median) decrease in employment of 179 (208) employees after privatization, from 2818 (1735) to 2639 (1527). The proportion test statistic, on the other

hand, shows that employment declines significantly at the 1 percent level, with more than 65 percent of firms experiencing declining employment levels. This result confirms the fear of the government about implementing privatization programs, and is in accordance to what D'Souza *et al.* (1999) find for a sample of privatized firms during the 1990s. In contrast, the results of Galal *et al.* (1994), Megginson *et al.* (1994), Boubakri and Cosset (1998), and Boubakri *et al.* (2004) all show employment increases significantly—according to at least one measure. In perhaps our most important difference with the results of Megginson *et al.* (1994), Boubakri and Cosset (1998), and Boubakri *et al.* (2004), we find that three sub samples (control, non foreign and Egypt privatizations) experience declines in employment following privatization, according to one or both test statistics. The Wilcoxon test as well as the proportion test indicates significant declines for control firms, for companies that have no foreign ownership after privatization, and Egyptian firms. In only two cases, there is a significant difference between sub samples. Privatized firms from which governments reduce their stockholdings to below 50 percent after privatization reduce employment more than revenue firms.

The switch from public to private ownership should lead to a decrease in leverage because the government's removal of debt guarantees will increase the firm's cost of debt, and because firms will have more access to equity markets. We examine change in leverage by observing changes in total debt to total assets. The Wilcoxon test shows an insignificant mean increase and median decrease of 1.4 and 1.2, respectively. As for our sub samples the unadjusted decrease in leverage after privatization is significant for revenue and Morocco privatized firms when Wilcoxon test is used.

6.2 Regression results: Potential determinants of post-privatization performance changes:

In Table 16, we report the results of a multivariate regression analysis in which the changes in profitability, efficiency and output are regressed on two groups of independent variables, namely the corporate governance and macro-economic reforms variables. We list and define these variables in Table 11. Table 15 presents the result of our regressions.

Wherever possible, we compare results to those of Boubakri *et al.* (2005a) and D'Souza *et al.* (2005). This allows us to identify how factors affecting post-privatization performance in selected MENA countries may differ from developed and developing countries.

Panel A of Table 16 reports the results for the profitability models. Our primary measure of profitability is the change in return on sales (DROS). Since, it is formed by "two" values, DROS should be less affected by any accounting inconsistencies. This is especially important since our sample come from different countries with non stringent accounting rules. In the DROS specification, we observe a significant relationship between the change in profitability and the ownership variables over the privatization window. More specifically, we document a significant negative relationship between profitability changes and control relinquishment by the government. This result is inconsistent with Boycko *et al.* (1996), and Shleifer and Vishny (1997), and opposite to the findings of Boubakri *et al.* (2005a). Thus, when the government retains the control on privatized firms this leads to a better improvement of profitability. Furthermore, our results suggest a significant and positive relationship between DROS and foreign ownership confirming the theoretical contentions of Boycko *et al.* (1996), and Dyck (2001) who argue that foreign investors are the source of better government and higher performance.

While Table 15 indicates that NPFs from Egypt and Morocco exhibit strong efficiency improvements, our regression isolate three determinants in panel B of Table 16. Trade openness is positively and significantly related to change in sales efficiency (DSALEFF) which is consistent with the Dornbusch's (1992) argument that trade liberalization increases domestic competition and thus the incentives of firms to enhance their efficiency to survive in a highly competitive environment. However, this result is in contrast with the findings of Boubakri *et al.* (2004, 2005a), and D'Souza *et al.* (2005) who find no association between trade liberalization and change in efficiency. Furthermore, our regression on sales efficiency suggests a significant (at the 1 percent level) positive relationship between change in profitability and the change in real GDP over the privatization window which comply with the results of Boubakri *et al.* (2005a) but differ sensibly with those of D'Souza *et al.* (2005).

Regarding the investor protection and institutional development, we run a test using a governance index as a proxy for the legal protection of investors and its enforcement by institutions (GOV). Not surprisingly, the results indicate a significant positive relationship at the 10 percent level between change in sales efficiency and this proxy. This finding suggests that NPFs become more productive in environments where property rights are better protected and enforced. This is consistent with Boubakri *et al.* (2005a) conclusion but it is in sharp contrast with D'Souza *et al.* (2005) who find no association in developed countries.

Panel C of Table 16 reports the result of the output model. The results of the regression analysis show that the macro-economic reforms and environment variables as well as the foreign ownership variables are important determinants of the output changes. Our results show that a significant positive relationship between sales efficiency changes, and trade openness and changes in economic growth. The evidence suggests that firms in MENA countries become more productive in the presence of macroeconomic reforms in accordance with Boubakri *et al.* (2005) but in contrast to D'Souza *et al.* (2005) who find a negative relationship between output changes and trade liberalization in developed countries. Regarding, the corporate governance variables, the regression analysis shows a significant positive relationship between the output changes and foreign ownership after privatization. This evidence confirms the claim that foreign investors influence the firm's productivity through their monitoring role.

Table 12- Results from tests of predictions for the full sample of all privatized firms

Variables	N	Mean before (Median)	Mean after (Median)	Mean change (Median)	Z-Statistic for difference in Medians (after-before)	Percentage of firms that changed as predicted	Z-Statistic for significance of proportion change
Profitability							
Return on sales (ROS)	95	0.114 (0.0776)	0.144 (0.0912)	0.03 (0.0136)	1.696**	60	1.949**
Return on assets (ROA)	95	0.0979 (0.0661)	0.0717 (0.0829)	-0.0262 (0.0168)	0.809	54.73	0.923
Value creation							
Return on equity (ROE)	95	0.267 (0.234)	0.271 (0.266)	0.004 (0.032)	0.527	49.47	-0.102
Efficiency							
Sales efficiency (SALEFF)	81	0.961 (0.969)	1.14 (1.0197)	0.179 (0.0507)	2.359***	56.79	1.222
Net income efficiency (NIEFF)	81	0.787 (0.722)	1.106 (1.0565)	0.319 (0.334)	2.608***	61.72	2.111**
Output							
Real sales (OUTPUT)	89	0.982 (1)	1.065 (1.0198)	0.083 (0.0198)	1.019	51.68	0.316
Employment							
Total employment (EMPL)	81	2818.44 (1735)	2639.325 (1527)	-179.115 (-208)	-3.237***	65.43	2.777***
Leverage							
Total debt to total assets (TDTA)	95	0.287 (0.216)	0.301 (0.204)	0.014 (-0.012)	-0.377	51.57	0.307

The first column gives the number of observations useable for each variable. The second and third columns give, respectively, the mean and median values of the considered variable for the three-year periods prior and subsequent to privatization. Then, mean and median change in the variable's value after- versus before-privatization is given in the fourth column. The fifth column gives results of a test of significance fro the change in median values based on the Wilcoxon signed rank test (with its Z-statistic). The sixth column provides the percentage of firms whose variables change as predicted. The last column is reserved to the results of a test of significance of this change (test of proportion).

***, **, and * indicate significance levels at 1, 5, and 10 percent, respectively.

Table 13- Performance changes following control versus revenue privatizations

Variables	N	Mean before (Median)	Mean after (Median)	Mean change (Median)	Z-Statistic for difference in Medians (after-before)	Percentage of firms that changed as predicted	Z-Statistic for significance of proportion change	KW-Statistic for difference between subsamples
Profitability								
Return on sales (ROS)								
Control	53	0.117 (0.0945)	0.122 (0.102)	0.005 (0.0075)	1.005	56.6	0.96	0.33
Revenue	34	0.124 (0.0735)	0.14 (0.0876)	0.016 (0.0141)	2.163**	67.64	2.0576**	
Return on assets (ROA)								
Control	53	0.1 (0.069)	0.104 (0.0972)	0.004 (0.0282)	1.421	62.26	1.785**	0.586
Revenue	34	0.0683 (0.0556)	0.0744 (0.0603)	0.0061 (0.0047)	0.71	55.88	0.685	
Value creation								
Return on equity (ROE)								
Control	52	0.276 (0.234)	0.307 (0.299)	0.031 (0.065)	1.585	55.76	0.832	1.2
Revenue	34	0.261 (0.221)	0.259 (0.241)	-0.002 (0.02)	-0.539	44.11	-0.685	
Efficiency								
Sales efficiency (SALEFF)								
Control	45	0.922 (0.917)	1.243 (1.0975)	0.321 (0.18)	3.347***	68.88	2.534***	12.129***
Revenue	31	1.0439 (1.0549)	1.0096 (0.976)	-0.037 (-0.0789)	-1.499*	35.48	-1.616*	
Net income efficiency (NIEFF)								
Control	44	0.774 (0.657)	1.347 (1.0969)	0.573 (0.439)	3.058***	68.18	2.412***	4.584**
Revenue	31	0.886 (0.81)	0.896 (0.962)	0.01 (0.152)	0.647	58.06	0.897	

Output								
Real sales (OUTPUT)								
Control	48	0.963	1.136	0.173	2.708***	64.58	2.0206**	
		(0.959)	(1.0896)	(0.13)				11.124***
Revenue	33	1.0356	0.964	-0.0716	-2.137**	30.30	-2.262**	
		(1.0569)	(0.958)	(-0.0989)				
Employment								
Total employment (EMPL)								
Control	45	2246.515	1968.17	-278.345	-3.669***	77.77	3.726***	
		(1401)	(1338)	(-63)				5.706**
Revenue	31	3749.483	3674.731	-74.752	-0.549	48.38	-0.179	
		(3152)	(2992)	(-160)				
Leverage								
Total debt to total assets (TDTA)								
Control	53	0.25	0.265	0.015	-1.173	62.26	1.785**	
		(0.197)	(0.224)	(0.027)				3.531*
Revenue	34	0.278	0.269	-0.009	-1.479*	64.7	1.714**	
		(0.205)	(0.159)	(-0.046)				

This table presents comparisons of performance changes for control privatizations (where state-ownership is reduced to a share below 50 percent) and revenue privatizations (where the State retains majority ownership).

The first column gives the number of observations useable for each variable. The second and third columns give, respectively, the mean and median values of the considered variable for the three-year periods prior and subsequent to privatization. Then, mean and median change in the variable's value after- versus before-privatization is given in the fourth column. The fifth column gives results of a test of significance fro the change in median values based on the Wilcoxon signed rank test (with its Z-statistic). The sixth column provides the percentage of firms whose variables change as predicted. The last column is reserved to the results of a test of significance of this change (test of proportion).

***, **, and * indicate significance levels at 1, 5, and 10 percent, respectively.

Table 14- Performance changes following foreign participation

Variables	N	Mean before (Median)	Mean after (Median)	Mean change (Median)	Z-Statistic for difference in Medians (after-before)	Percentage of firms that changed as predicted	Z-Statistic for significance of proportion change	KW-Statistic for difference between subsamples
Profitability								
Return on sales (ROS)								
Foreign	16	0.137	0.152	0.015	0.517	56.25	0.5	
		(0.103)	(0.14)	(0.037)				0.024
Non foreign	71	0.116	0.123	0.007	2.109**	61.97	2.0174**	
		(0.075)	(0.0913)	(0.0163)				
Return on assets (ROA)								
Foreign	16	0.0933	0.0963	0.003	0.621	62.5	1	
		(0.0718)	(0.0869)	(0.0151)				0
Non foreign	71	0.0866	0.0915	0.0055	1.616*	59.15	1.542*	
		(0.0638)	(0.0886)	(0.0248)				
Value creation								
Return on equity (ROE)								
Foreign	16	0.214	0.251	0.037	0.776	62.5	1	
		(0.147)	(0.163)	(0.016)				0.111
Non foreign	70	0.283	0.296	0.013	0.676	48.57	-0.239	
		(0.235)	(0.279)	(0.044)				
Efficiency								
Sales efficiency (SALEFF)								
Foreign	15	1.00136	1.488	0.486	0.852	46.66	-0.258	
		(0.972)	(0.961)	(-0.011)				0.01
Non foreign	61	0.964	1.0641	0.1	1.968**	57.37	1.152	
		(0.969)	(1.0398)	(0.0708)				
Net income efficiency (NIEFF)								
Foreign	15	0.84	1.25	0.41	0.852	66.66	1.29*	
		(0.906)	(1.0866)	(0.18)				0.025
Non foreign	60	0.815	1.138	0.323	2.731***	63.33	2.0653**	
		(0.7)	(1.0603)	(0.36)				

Output								
Real sales (OUTPUT)								
Foreign	16	1.0401	1.378	0.337	1.034	43.75	-0.5	
		(0.993)	(1.0813)	(0.0883)				1.115
Non foreign	65	0.981	0.989	0.008	0.905	52.3	0.372	
		(1.001)	(1.00319)	(0.00219)				
Employment								
Total employment (EMPL)								
Foreign	15	2465.044	2241.822	-223.222	-1.051	66.66	1.29*	
		(1152)	(1300)	(148)				0.115
Non foreign	61	2956.582	2768.147	-188.435	-3.24***	65.57	2.432***	
		(1923)	(1659)	(-264)				
Leverage								
Total debt to total assets (TDTA)								
Foreign	16	0.323	0.384	0.061	0.517	56.25	0.5	
		(0.323)	(0.327)	(0.004)				0.254
Non foreign	71	0.247	0.24	-0.007	-0.246	54.92	0.83	
		(0.197)	(0.161)	(-0.036)				

This table presents comparisons of performance changes for privatizations with foreign participation and those with no foreign participation.
The first column gives the number of observations useable for each variable. The second and third columns give, respectively, the mean and median values of the considered variable for the three-year periods prior and subsequent to privatization. Then, mean and median change in the variable's value after- versus before-privatization is given in the fourth column. The fifth column gives results of a test of significance fro the change in median values based on the Wilcoxon signed rank test (with its Z-statistic). The sixth column provides the percentage of firms whose variables change as predicted. The last column is reserved to the results of a test of significance of this change (test of proportion).
***, **, and * indicate significance at 1, 5, and 10 percent levels, respectively.

Table 15- Performance changes by country

Variables	N	Mean before (Median)	Mean after (Median)	Mean change (Median)	Z-Statistic for difference in Medians (after-before)	Percentage of firms that changed as predicted	Z-Statistic for significance of proportion change	KW-Statistic for difference between subsamples
Profitability								
Return on sales (ROS)								
Egypt	55	0.119 (0.075)	0.131 (0.099)	0.012 (0.024)	2.363***	65.45	2.292**	
Morocco	6	0.094 (0.0798)	0.106 (0.0866)	0.012 (0.0068)	0.314	50	0	1.493
Tunisia	13	0.126 (0.0762)	0.114 (0.0875)	-0.012 (0.0113)	0.245	53.84	0.277	
Turkey	20	0.167 (0.0919)	0.0376 (0.104)	-0.129 (0.0121)	-0.224	50	0	
Return on assets (ROA)								
Egypt	55	0.0681 (0.0622)	0.0834 (0.0799)	0.0153 (0.0177)	2.497***	65.45	2.292**	
Morocco	6	0.101 (0.0809)	0.0738 (0.0926)	-0.0272 (0.0117)	0.105	66.66	0.816	4.441
Tunisia	13	0.084 (0.0514)	0.0625 (0.073)	-0.0215 (0.0216)	-0.524	46.15	-0.277	
Turkey	21	0.187 (0.158)	0.0544 (0.0982)	-0.132 (-0.0598)	-0.713	42.85	-0.654	
Value creation								
Return on equity (ROE)								
Egypt	54	0.302 (0.256)	0.333 (0.31)	0.031 (0.054)	1.477*	53.7	0.544	
Morocco	6	0.237 (0.212)	0.14 (0.15)	-0.097 (-0.062)	-0.943	33.33	-0.816	2.562
Tunisia	13	0.132 (0.102)	0.0986 (0.108)	-0.0334 (0.006)	-0.734	46.15	-0.277	
Turkey	19	0.318 (0.296)	0.0939 (0.381)	-0.224 (0.085)	0.121	52.63	0.229	

Efficiency								
Sales efficiency (SALEFF)								
Egypt	55	0.978	1.14	0.162	1.898**	56.36	0.943	
		(0.961)	(1.0365)	(0.0755)				
Morocco	6	0.698	0.936	0.238	0.943	50	0	
		(0.955)	(1.0872)	(0.132)				1.286
Tunisia	13	0.955	0.974	0.019	0.245	46.15	-0.277	
		(1.0005)	(0.948)	(-0.0525)				
Turkey	7	1.917	1.691	-0.226	1.014	57.14	0.377	
		(0.781)	(1.127)	(0.346)				
Net income efficiency (NIEFF)								
Egypt	54	0.758	1.168	0.41	3.285***	68.51	2.721***	
		(0.643)	(1.0711)	(0.428)				
Morocco	6	0.361	1.0521	0.691	1.572*	66.66	0.816	
		(0.592)	(1.0582)	(0.466)				6.305*
Tunisia	13	0.958	1.0269	0.0689	-0.245	53.84	0.277	
		(0.983)	(0.896)	(-0.087)				
Turkey	6	1.116	-0.578	-1.694	-0.734	33.33	-0.816	
		(0.868)	(0.797)	(-0.071)				
Output								
Real sales (OUTPUT)								
Egypt	55	1.0151	1.0208	0.0057	0.452	49.09	-0.134	
		(1.0103)	(1.00319)	(-0.00711)				
Morocco	6	0.681	0.905	0.224	0.943	50	0	
		(0.923)	(1.033)	(0.11)				2.099
Tunisia	13	0.985	1.0513	0.0663	0.245	38.46	-0.831	
		(1.0005)	(1.0359)	(0.0354)				
Turkey	14	1.566	1.598	0.032	1.475*	64.28	1.0688	
		(0.898)	(1.087)	(0.189)				
Employment								
Total employment (EMPL)								
Egypt	55	3364.127	3093.381	-270.746	-3.804***	72.72	3.37***	
		(2812)	(2200)	(-612)				
Morocco	6	721.444	724.138	2.694	-0.631	66.66	0.816	
		(663.5)	(662.5)	(-1)				10.411**

Tunisia	13	1188.974	1221.846	32.872	0.979	38.46	-0.831	
		(696)	(760)	(64)				
Turkey	7	7679	8353	674	0	57.14	0.377	
		(1735)	(1522)	(-213)				
Leverage								
Total debt to total assets (TDTA)								
Egypt	55	0.187	0.18	-0.007	-0.486	56.36	0.943	
		(0.153)	(0.103)	(-0.05)				
Morocco	6	0.19	0.071	-0.119	-2.108**	100	2.449***	
		(0.0601)	(0.00953)	(-0.0505)				3.018
Tunisia	13	0.382	0.446	0.064	0.804	46.15	-0.277	
		(0.342)	(0.497)	(0.155)				
Turkey	21	0.501	0.448	-0.053	-0.33	42.85	-0.654	
		(0.572)	(0.445)	(-0.127)				

This table presents comparisons of performance changes for privatizations between the four considered countries.
The first column gives the number of observations useable for each variable. The second and third columns give, respectively, the mean and median values of the considered variable for the three-year periods prior and subsequent to privatization. Then, mean and median change in the variable's value after- versus before-privatization is given in the fourth column. The fifth column gives results of a test of significance fro the change in median values based on the Wilcoxon signed rank test (with its Z-statistic). The sixth column provides the percentage of firms whose variables change as predicted. The last column is reserved to the results of a test of significance of this change (test of proportion).
***, **, and * indicate significance at 1, 5, and 10 percent levels, respectively.

Table 16- Coefficient estimates from regressions of performance changes of privatized firms on macro-economic reforms and environment and corporate governance variables

Variables	Cste	Corporate governance			Macro-economic reforms and environment					Control	Adj R^2	N	F-test
		CONT	FOREIGN	GOV	LIQ	FLIB	TRADE	TLIB	DGDP	Industry			
Panel A : Profitability													
DROS	-0.194	-0.086***	0.211**	0.019	1.096	0.069	0.07	0.013	-0.005	Included	0.29	90	2.03**
	(0.231)	(0.03)	(0.099)	(0.033)	(0.558)	(0.046)	(0.102)	(0.056)	(0.042)				
Panel B : Efficiency													
DSALEFF	-3.069**	0.163	0.716	0.391*	-2.585	0.092	0.236	0.448**	0.735***	Included	0.21	79	2.44***
	(1.435)	(0.147)	(0.597)	(0.207)	(3.108)	(0.39)	(0.392)	(0.226)	(0.241)				
Panel C : *Output*													
DOUTPUT	-1.978*	0.012	0.942**	0.169	-2.275	0.118	0.219	0.692***	0.807***	Included	0.33	86	3.84***
	(1.109)	(0.118)	(0.467)	(0.156)	(2.487)	(0.311)	(0.317)	(0.187)	(0.188)				

This table presents the results from regressions conducted in order to determine the sources of performance changes of privatized firms the four selected MENA countries over the period [1993-2001]. The dependent variables in the three panels are change in profitability (DROS), change in efficiency (DSALEFF), and change in real sales (DOUTPUT), respectively. The change in each of the dependent variables is computed by subtracting the 3-year pre-privatization average from the 3-year post-privatization average. The independent variables are related to macro-economic reforms and environment, and to corporate governance. We include industry indicators in all specifications. Standard errors of the coefficients are reported in parentheses.
Since our tests involve ratios outliers may be affecting the results. We identified outliers and dropped them for our regressions. Typically, there were only 2-3 such observations per regression. After, eliminating these outliers, we use median regression that minimizes the sum of the absolute deviations about median.
***, **, and * indicate significance levels at 1, 5, and 10 percent, respectively.

Conclusion

This study examines the financial and operating performance of 84 NPFs through IPO in Egypt, Morocco, Tunisia and Turkey during the period [1993-2001]. For our full sample, unadjusted market results show significant increase in profitability (return on sales), operating efficiency (net income efficiency). We also observe a significant decline in employment and leverage following privatization change. The results of this project are similar to the results found in other papers relating to developing countries for profitability, operating efficiency and leverage, but contrast with the empirical literature for the change in employment which document increases in employment after privatization.

We also cut our full sample into several dichotomous sub samples, based on whether voting control is sold or retained by the divesting government, whether the firm is sold to foreigner or not and whether the firm is from Egypt, Morocco, Tunisia or Turkey. Our results for the sub sample analysis indicate strong performance improvements for companies that not relinquish control from the state, that are not sold to foreigners and that come from Egypt. Employment decline is more severe in Egypt and in companies where the state is no longer in control. Once more, privatization of revenue firms and NPFs in Morocco yield significantly less leverage than do privatization coming from control firms and from the other countries of the sample.

The study seeks to further provide some insight regarding the sources of these performance improvements or decline. We document a significant negative relationship between profitability changes and control relinquishment by the government in the ROS change specification. Thus when the government retain the control on privatized firms this leads to a better improvement of profitability.

Furthermore, our results suggest a significant and positive relationship between DROS and foreign ownership confirming the theoretical contentions of Boycko *et al.* (1996) and Dyck (2001). Trade openness is positively and significantly related to change in sales efficiency (DSALEFF) which is consistent with the Dornbusch's (1992) argument that trade

liberalization increases domestic competition and thus the incentives of firms to enhance their efficiency to survive in a highly competitive environment.

Besides, our regression on sales efficiency suggest a significant (at the 1 percent level) positive relationship between change in profitability and the change in real GDP over the privatization window. Not surprisingly, we reach a significant positive relationship at the 10 percent level between change in sales efficiency and the index of investor protection. This finding suggests that newly privatized firms become more productive in environments where property rights are better protected and enforced. The results of the regression analysis show that the macro-economic reforms and environment variables as well as the foreign ownership variables are important determinants of the output changes. The evidence suggests that firms in MENA countries become more productive in the presence of macroeconomics reforms. Regarding, the corporate governance variables, the regression analysis shows a significant positive relationship between the output changes and foreign ownership after privatization. This evidence confirms the claim that foreign investors influence the firm's productivity through their monitoring role.

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Appendix 1

Table A1- Available sample of privatized firms

Country	Name of Company	Industry	Issue Date
Egypt	Alahram Beverage	Tourism	1996
	Alex Mills	Agro-Alimentary Industries	1997
	Alexandria Pharmaceuticals	Chemical Industries	1996
	Alexandria Portland for Cement	Chemical Industries	1995
	Alnasr for Developing Agricultural Products	Agro-Alimentary Industries	1996
	Amiria for Cement	Construction Materials	1995
	Arabia and United Stevedoring	Transport	1998
	Arabia Cotton Ginning	Textile Industries	1996
	Arabia Pharmaceuticals	Chemical Industries	1996
	Bisco Misr	Agro-Alimentary Industries	1998
	CABLAT	Industrial Engineering	1995
	Cairo for Housing and Development	Real Estate	1996
	Cairo Pharmaceuticals	Chemical Industries	1996
	Construction and Consulting Engineering	Construction and Civil Engineering	1996
	East Delta	Agro-Alimentary Industries	1996
	Eastern Company	Mining	1995
	Egypt for Free Shops	Tourism	1997
	Egyptian Financial Industrial	Mining	1996
	Egyptian Starch and Glucose	Agro-Alimentary Industries	1996
	ELMACO	Construction and Civil Engineering	1996
	Elnasr for Civil Works	Construction and Civil Engineering	1998
	El-Wadi for Agricultural Export	Retail	1997
	Extracted Oils	Agro-Alimentary Industries	1996
	General for Silos	Agro-Alimentary Industries	1996
	Giza for Contracting	Construction and Civil Engineering	1997
	Heliopolis Housing and Development	Construction and Civil Engineering	1996
	IDEAL	Industrial Engineering	1997
	Industrial and Engineering Projects	Construction and Civil Engineering	1997
	Kafr Al-Zayat	Chemical Industries	1996
	Mahmoudia for Contracting	Construction and Civil Engineering	1997
	Memphis Pharmaceuticals	Chemical Industries	1996
	Middle and West Delta	Agro-Alimentary Industries	1996
	Middle East for Paper SIMO	Chemical Industries	1997
	Middle Egypt Mills	Agro-Alimentary Industries	1996
	Misr for Aluminium	Construction Materials	1997
	Misr for Chemical Industries	Chemical Industries	1996
	Misr Mechanical and Electrical Projects Khromica	Electricity Distribution	1997
	Misr Oil and Soap	Agro-Alimentary Industries	1996
	Moukhtar Ibrahim for Contracting	Construction and Civil Engineering	1998
	Nasr City for Housing and Development	Construction and Civil Engineering	1996
	Nasr Utilities	Construction and Civil Engineering	1997
	Nile Cotton Ginning	Textile Industries	1997
	Nile for Kabriet	Chemical Industries	1996
	Nile Pharmaceuticals	Chemical Industries	1995
	Nobaria Agricultural Engineering	Retail	1997
	North Cairo Mills	Agro-Alimentary Industries	1995
	Pacien	Chemical Industries	1995
	Portland Helwan	Mining	1995
	Portland Torah	Mining	1995
	Sharms for Housing	Construction and Civil Engineering	1997
	South Cairo Mills	Agro-Alimentary Industries	1996
	Telemisr	Industrial Engineering	1997
	United Arab for Spinning and Weaving	Retail	1997
	Upper Egypt	Agro-Alimentary Industries	1996

	Upper Egypt for Housing	Construction and Civil Engineering	1997
Morocco	CIOR	Construction Materials	1993
	CTM	Transport	1993
	FERTIMA	Chemical Industries	1996
	SAMIR	Petroleum	1996
	SMI	Mining	1997
	SONASID	Chemical Industries	1996
Tunisia	Alkimia	Chemical Industries	1996
	AMS	Metallic and Electrical Industries	1994
	ICF	Chemical Industries	1993
	Magasin Général	Retail	1999
	SFBT	Agro-Alimentary Industries	1995
	SIAME	Metallic and Electrical Industries	1999
	SIPHAT	Chemical Industries	2001
	SOTETEL	Communications	1998
	SOTRAPIL	Transport	2001
	SOTUMAG	Retail	1999
	SOTUVER	Construction Materials	1999
	STIP	Metallic and Electrical Industries	2001
	Tunisair	Transport	1995
Turkey	Abana Elektromekanik	Metallic and Electrical Industries	1995
	Adana Çimento	Construction Materials	1991
	Arçelik	Metallic and Electrical Industries	1990
	Askale Çimentos Sanayii	Construction Materials	1993
	Bolu Çimento	Construction Materials	1990
	Çelak Halat	Metallic and Electrical Industries	1990
	Çukurova Elektrik	Electricity Distribution	1990
	Eregli Demir Veçelik Fabrikalari	Construction Materials	1990
	Gima Gida Ve Ihtiyac Madd	Retail	1991
	Konya Çimentos	Construction Materials	1990
	Mardin Çimentos	Construction Materials	1990
	Migros Turk	Retail	1991
	Netaş Northern Elektrik Telekomunikasyon	Metallic and Electrical Industries	1992
	Oysa-Nidge Çimento Sanayii	Construction Materials	1991
	Petkim Petrokimya Holding	Chemical Industries	1990
	Petlas	Metallic and Electrical Industries	1997
	Petrol Ofisi	Petroleum	1991
	THY	Transport	1990
	Tofaş Oto Ticaret	Metallic and Electrical Industries	1991
	Tüpras Turkiye Petrol Rafinerileri	Petroleum	1991
	Unye Çimentos	Construction Materials	1990