THE PERFORMANCE OF NEWLY PRIVATIZED FIRMS: THE CASE OF PORTUGAL

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Abstract

The aim of this study is to investigate the pre and post privatization financial, social and operational performance of forty two Portuguese companies in most of sectors of economic activity that experience full or partial privatization through public share offering, direct sale or public contest, for the period from 1989 to 2009. That is, this work investigates, whether or not, the privatization of sate-owned enterprises (SOE's) had caused improvements on the economic and financial health of those privatized companies, as it is suggested by the literature of property rights, public choice and agency theory. First, we document significant improvements on profitability, operating efficiency, capital investment, real output, dividend payout, treasury applications, activity levels and capital structure. Secondly, we experience significant decreases in employment after privatization. Third, we observe that, following privatization, the financial equilibrium (short and long) of firms was negatively affected. Lastly, our results are generally robust surviving the partition of the dataset into various sub-samples.

JEL classification: G3; G32, L33

Keywords: Initial Public Offerings; Privatization; Ownership Structure; Corporate Governance; Economic, Social, Financial And Dividend Performance Of New Privatized Firms

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1 Introduction

Privatization is the sale by a government of state owned enterprises (SOEs) to private investors. Privatization, in essence, relates to the transfer of responsibility for the performance of a specific service from the public to the private spheres. When a firm is privatized, that is, when the ownership changes from the government to private hands, a lot of factors related with its functioning change, such as, organization, procedures, commercial and marketing strategy, industrial technology, strategic planning, etc. Our aim is to investigate if these changes have consequences in the operational, social and financial performance of the privatized firms.

Privatization contributes to use of markets to allocate resources, as defended by (Boycko et al., 1996). Since the first privatizations in Germany in the early 1960s and the privatizations of the Britain's government in the early 1980s, privatization is now accepted as an important tool of economic policy used by governments all over the world. What kind of goods and services should be provided by government employees as opposed to private firms?

The discussion of this problem is still to continue for a long period of time. The economic theory still finds it difficult to explain what makes the difference between a privatized and a nationalized firm and keeps the discussion of this problem. To explain that a privatized firm may produce more efficiently than a nationalized one, the analysis usually falls back on assuming that there are some exogenously given differences in the abilities of the government and the private owner. Although there is certainly a lot of casual empirical evidence to support these assumptions, it would be more satisfactory to explain the differences between the two organizational modes endogenously.

The majority of the investigation on privatizations, so far, has had the following omissions: in first place, the investigation on this area, has been oriented only to the operational and economic side of the firm's performance, during the post-privatization period; as a matter of fact, most of the authors with work on this area, did not consider on their investigation, the financial side of the firm's performance after privatization. Most of work done till now, as (Clamote, 1999) and (D'Souza and Megginson, 1999), was oriented only to the operational (economic) performance of privatized companies, before and after the privatization year, and they analysed the following performance economic areas: (1) Profitability, (2) Operating efficiency, (3) Capital Investment, (4) Real Output (5) Employment and (6) Leverage.

Our work has the objective to investigate how privatization in Portugal, since its beginning years, affect not only the operational (economic) performance of the former SOE's, but also their financial performance and, as a consequence, their financial equilibrium and structure, intending to fill in this knowledge gap. That is, the scope is not only limited to economic aspects of firm after privatization, but also, it is oriented to the financial consequences on firms of the privatization process. In order to achieve this objective, besides the economic analysis, similar to the authors mentioned above, we added some other aspects to the economic analysis and we developed a financial analysis, before and after the privatization period, based on following financial indicators: (7) Dividend policy, (8) Treasury, (9) Activity levels, (10) Short term equilibrium and (11) Long term equilibrium. This is the first study developed in Portugal, covering in detail, not only the operational (economic) performance, but also the financial performance of those firms, what is an omission of previous studies.

In second place, most of the work done so far, considers the firms as a whole, in aggregate terms, with some exceptions, such as, (Clamote, 1999) and (D'Souza and Megginson, 1999) that had divided the full sample into five subsamples: (1) Non-competitive versus competitive firms, (2) Firms with more than 50% control versus firms with less than 50% control by government after privatization (3) Firms with more than 50% change on the Board of Directors versus firms with less than 50% change on the Board of Directors, (4) Firms in which a new CEO is appointed after privatization versus those in which the old CEO is retained and (5) Firms from industrialized countries versus from developed countries.

In fact, our work goes beyond the sub-analysis, based on sub-samples that were developed by previous studies filling in this knowledge gap. Besides the sub-samples presented above (1), (2) and (3), our study investigates the performance behaviour (operational and financial) of the following other sub-samples: (4) Financial Sector Firms versus Non-Financial Sector Firms. (5) Foreign Allocation of Control (more than fifty percent) Versus National Allocation of Control (more than fifty percent) (6) Concentrated ownership structure versus non-concentrated ownership structure after privatization. (7) Share Issue Privatizations (SIPs) versus Direct Sale (DS) or Public Contest (PC) privatizations. (8) Firms that have their stock officially quoted after privatization versus firms that do not have their stock officially quoted after privatization (9) Privatizations in or before 1990 versus privatizations after 1990. (10) Firms that have shareholders in management after privatization versus firms that do not have shareholders in management after privatization (11) Firms that were restructured before privatization versus firms that were not restructured before privatization.

Privatization typically transfers both control rights and cash flow rights to managers who then show a greater interest in profitability than did the politicians, as defended by (Jensen and Meckling, 1976). Because of the importance of this area, the analysis conducted on this study seeks to determine whether the privatization of SOEs in Portugal is truly desirable and lives up to the expectations of governments and development agencies for the performance of newly privatized firms. We feel that a multi-industry sample provides a broad perspective of share issue privatizations and offers significant opportunities to identify the sources of the economic and financial performance in newly-privatized firms. Using univariate pre versus post privatization comparisons, we examine whether the privatization has or not has changed the financial and operational performance of Portuguese privatized firms so far.

On the economic side, we document significant improvements on profitability, operating efficiency, capital investment, and real output and activity levels. Firms on the competitive sector of the economy, firms with changes on more than 50% of the Board, firms in the nonfinancial sector, firms with foreign control, firms with concentrated structures after privatization, firms with stocks listed in an Exchange Market, firms with shareholders in management, firms that changed the total control after privatizations and firms that restructured, have a more significant operational improvement than the correspondent opposite subsample.

On the social side, we experience a significant decrease on employment after privatization, which means that, after the privatization process, the personal costs, among others, are some of the priority fixed costs that are cut-off by management. The more significant decline of this type of costs is experienced by the sub-samples mentioned on the last paragraph.

Lastly, on the financial side, we document a decline on the short and long term equilibrium, which means that companies, after privatization, at least during the first years, have some financial instability, mainly due to a great effort to finance their growth and capital investments, lay-offs, and to finance the redirection of their commercial and marketing strategy.

This article is organized as follows. Section 2.2 provides the theoretical and empirical research on privatization. Section 2.3 describes the data and sample collection. Methodology, empirical proxies and testable predictions are described in Section 2.4. Section 2.5 presents the empirical results. Section 2.6 sums and concludes.

2.2 Literature review

Privatization is an issue for political leaders trying to deliver services demanded by their citizenry, while

maintaining reasonable cost of operating government. It is also an issue for those who see a more restricted role for government and argue that the private sector should perform most tasks not specifically delegated to government, as (Parker, 1994). Others, such as, (Rees, 1988) are interested in privatization because of a belief in the power of the marketplace and competition to provide goods and services at a fair price, responding to public demand.

2.2.1 Research on the state-owned and privately-owned firm's performance

2.2.1.1 The theory of the efficiency of state versus private ownership

There are some theories about privatization defending a direct relationship between the impact of privatization and the degree of market failure. Welfare theory argues that the privatization process has the most relevant impact for state owned companies integrated in competitive markets. (Sheshinski and Lopez-Calva, 1999), argue that there should be "... important efficiency gains from changes to private ownership in competitive structures." The competition effects can be so significant that conduct the state owned firm to react to pressures in order to improve efficiency without privatization.

Inefficiency in state owned firms can be explained because those firms do not have to compete with private companies, as they receive funding from the government. In addition, in those companies there is no discipline as we can observe in private companies.

The government political and fiscal policies have been determinant to the success or not of the efficiency of some privatizations. In addition, governments have raised great amounts of money through the sale of state owned enterprises. Those sales contribute to reduce the fiscal deficit in many countries, as had happened in Portugal.

Privatization develops factor and product markets, as well as capital markets, as defended by (Ehrlich et al., 1994). The consequences of privatization on the industry sector are different from country to country, depending on the strength of the existing private sector. Privatization can also develop the growth of institutions that improve the operations of markets.

In summary, according to the existent literature, there is no doubt, that state ownership has important weaknesses. (Shleifer, 1998) sums up much of the literature with, "... a good government that wants to further "social goals," would rarely own producers to meet its objectives".

2.2.1.2 Empirical evidence of the efficiency of state versus private ownership

The consequences of government ownership on firm performance can be analysed using two alternative methodologies. Firstly, through a comparison between the performances of the government owned with the privately owned firms. The major difficulty of this method is to choose the appropriate set of comparison firms and the best measures of performance. Secondly, some government owned companies have political goals, instead of profitability and efficiency goals, what makes the comparison more difficult to be done.

Prior studies, such as, (Eckel et al., 1997), have found that firms are more profitable and efficient after privatization. Nevertheless, changes in both the competitive environment and firm objectives usually occur simultaneously with a change in ownership. These studies of privatization thus measure the join effect of changes in ownership, market structure and firm objectives, but assume that the primary effect is due to a change in ownership.

In addition, (Vining and Boardman, 1992), using a Canadian firm's database had results much similar to the results of other authors, thus is, private firms perform much better than state owned companies.

2.2.1.3 Are there policy alternatives to privatization?

There are several authors that think that, more than the privatization itself, competition and deregulation, are more relevant factors to improve performance of state owned firms, such as, (Yarrow, 1986), (Kay and Thompson, 1986), (Bishop and Kay, 1989), (Vickers and Yarrow, 1991), and (Allen and Gale, 1994).

On the contrary, other authors are convinced that privatization is absolutely necessary and the only way to achieve better performance results, such as, (Vinnig and Boardman, 1992), (Boycko et al., 1994), (Nellis, 1994), (Brada, 1996), and (Shleifer, 1998).

2.2.2 Financial performance of divested firms

The research of the financial performance of privatized firms and of the state owned companies raise other methodological questions: in first place, privatization has been a government tool to achieve certain political objectives. Additionally, there has been a problem with data availability and consistency. Also, a question arises when the researchers have to decide to choose accounting or market data. In fact, in some privatized and private companies may exist some accounting problems, according to the goals of the owner. Finally, there are questions related with the selection of a benchmark to compare performance and to choose the appropriate statistical tests.

For some authors, as (Boubakri and Cosset, 1998), the increase in profitability of privatized firms may the result of the report earnings "management" by the government, for instance, decreasing reported earnings before the privatization to convince employees about the benefits of privatization. According to (Boycko et al., 1993) state-owned companies do not have profitability as a goal; instead, those firms have different objectives, as the maximization of employment and the development of backward regions with a variety of indirect subsidies.

2.2.2.1 Empirical studies employing data from non-transition economies

The studies from non-transition economics confirm other studies, that is, privatization is linked with improvements in the post-IPO period. (Martin and Parker, 1995) study is one exception, since he found a decrease in performance for six of eleven British firms after privatization. In these non-transition economies, the general rule is a general performance improvement after privatization, not only in economic and social terms but also in financial terms.

The contrary performance results in different studies may be explained by different methodologies used in those studies, the size of the sample, some make-up done by he accountants and, probably, a lot of omitted factors. That is, there is not a "standard" output. Depending upon the proxies involved, the outcome may be more or less relevant in relation to the performance results after privatization

(La Porta and López-de-Silanes, 1999) developed a single-country study. They executed a global investigation of the majority of Mexican privatizations and they compared performance changes to industry-matched private firms. (Dewenter and Malatesta, 1996) used different periods to investigate performance of private firms and state-owned firms over an extended time period

2.2.2.2 Empirical tests of privatization in transition economies

To investigate privatization on firm performance is much more complicated in transition economies than in non-transition economies. The main difficulty to test the privatization effects in transition economies is the fact that, as they move from Communism to a market economy, everything occurs at the same time, not only in economic but also in political terms. As a result, to isolate the consequences of privatization, it is a very difficult task. In addition, according to (Djankov and Murrel, 2000), there are enormous difficulties in terms of accounting procedures and the type of financial reporting. The work that is done for transition economies has many problems with a relevant selection bias and omitted variables.

Many authors already developed work about the consequences of privatization on the performance of divested firms, such as, (Claessens and Djankov, 1999), (Lizal et al., and 2000), (Frydman et al., and 1999) and many others. Some of the conclusions of these authors about the causes of post-privatization performance improvement are as follows: foreign and outside ownership; concentration on private ownership after the IPO; restructuring of firms after the IPO, more frequent when outsiders take control; when new CEOs are nominated to run the new privatized companies; post-privatization improvements are greater for small companies, but that improvement decreases in long run, probably due to increased competition; employment decrease is normally followed by a significant increase in labour productivity.

2.2.3 A Summary of privatization research

The privatization research conducts us to the following conclusions:

- A great part of firms that are privatized through an Initial Public Offering (IPO), believe they will improve their capital structure and increase their profitability in the short term, according to (Febra, 2000);
- The role of the state owned enterprises in the economy was significantly diminished with the privatization programs;
- Privatization is a complex process that is related with political and economic factors; therefore, the technique used to privatize a state owned firm depends on that type of factors;
- The IPO underpricing is used by governments to favour domestic over foreign investors. By this way, state owned firms' employees are favoured, since they keep preferential allocations, (Megginson and Netter, 2001);
- The existence of "golden shares" gives governments veto power and other control restrictions;
- Privatization proved to be the right mechanism to achieve results that would not be attained without it;
- After privatization, firms increase their profitability, output, investment, dividend payout, efficiency, decrease their leverage and become more efficient, according to (Clamote, 1999);
- In general, employment falls with the privatization and there is always a large compensating improvement;
- Privatization, most of the times, brings new managers with improvements in performance;
- Buying shares in a share issue privatization and selling them in the short run, normally, lead to abnormal returns;
- Countries with large privatization programs normally have had rapid growth in the stock

market capitalization and trading volume, according to (Almeida and Duque, 2000);

- Finally, the privatization phenomenon improved the capital market regulations, the information disclosure rules, and contributed to create modern financial systems.

As we saw, there are different theories about privatization and its effects in the post-privatization period. Most of them defend a direct relationship between the impact of privatization and the relevant performance improvements of privatized firms. Some argue that the privatization process has the most relevant impact for state owned companies integrated in competitive markets. Others conclude that the most relevant efficiency gains occur when firms change to private ownership in competitive markets. For other theories, there is inefficiency in SEOs, because those firms do not have to compete with private companies, since they get financing from government. Also, the inefficiency of CEOs may be explained by the lack of discipline that we can observe in private companies and, therefore, state ownership has relevant weaknesses.

In order to confirm these theories, in this second chapter, we define the best empirical methodologies and the consequent work that is designed to conclude if our results are closer or not to those theories. With a sample of forty two privatized companies, we developed statistical tests (the Wilcoxon Signed Rank Test and the Kruskal-Wallis Test). The first of them is used to measure the post-operational, social and financial performance in comparison with the same type of performance along the time before the IPO. The second test is used to compare the several performance indicators for each pair of sub-samples of the 11 sub-sampling criteria. A significant difference between the sub-samples would indicate that the subgroup classification factor might be an important determinant of post-privatization performance changes.

2.3 Data and sample collection

The factors behind the selection and definition the sample are as follows: Firstly, we limit our analysis to Portuguese companies that were fully or partially privatized through a public share offering and through a direct sale or public contest, primarily because companies that are privatized by this way continue to generate post-issue financial and accounting data that is directly comparable to pre-divestiture data. Secondly, we select firms that have their initial public offering of shares, direct sales or public contest with financial information from 1987 to 2009 and have, at least, three annual observations in the years N-3 to N-1 and in the period N+1 to 2009, where the year of privatization is defined as year N. Finally, we define a very well diversified sample, including companies from all sectors of activity, including commercial banks, insurance companies, industrial and commercial companies.

We required directly from the privatized firms: (1) the offering prospectus for their initial offer, which invariably presents multiple years of preprivatization financial data, as well as details about the offering itself, and (2) the annual reports from the postprivatization periods. Approximately 90% of the companies approached fully or partially complied with the requests. In several cases, we supplemented the financial statements sent with secondary sources, namely, commercial banks, Bank of Portugal and Euronext Lisbon databases. We also had personnel contacts with managers of some firms. In case of doubts about some aspects of the firms, we also made direct phone calls. We did not include any company by relying exclusively on secondary sources.

We employ local currency data in all our analyses and, whenever possible, we compute ratios using nominal data in both the numerator and denominator. In computing real sales and sales efficiency (revenue per employee), sales revenue data was deflated by the appropriate consumer price index (CPI). A similar procedure was employed to compute net income per employee.

Our data includes privatizations of forty two firms. These transactions take place from 1987-2009. Therefore, our data span a larger time period than any other privatization study made for the Portuguese Market. Table 1 provides the sample of privatized firms with the name of the company, the type of industry, the issue date and the percentage of capital that was privatized at the date of the issue. The sample is well diversified, exhibiting a wide temporal dispersion.

2.4 Methodology, empirical proxies and testable predictions

In this chapter, we use two different methodology techniques, which have different objectives: the Wilcoxon Signed Rank Test and the Kruskal-Wallis test.

The Wilcoxon Signed Rank Test uses the magnitude and the direction of the differences to conclude, or not, if there are true difference pairs of data designed from one sample or two related samples. This test should be chosen, since we want to incorporate the size and the direction of the differences. With this methodology, we test if there are significant differences in performance (analysed by 12 indicators), before and after the privatization. There is a significant difference when we reject the null hypothesis (with H0 there are not significant differences). The rejection of H0 is stronger than the no rejection.

That is, the null hypothesis means that there are not differences among the mean values of each pair, that the pairs are identical and that the difference

magnitude is insignificant. The rejection of H0 is the statically evidence that the performance of sub-samples show significant differences between before and after the IPO. In short, the objective of the Wilcoxon Signed Rank Test is to measure the post-operational, social and financial performance in comparison with the same type of performance along the time before the IPO.

The Kruskal-Wallis test works with independent sub-samples and it tests if they may be considered similar. The variables are not correlated. The null hypothesis (H0) is that two independent samples are similar. Using this test, we assume that the two subsamples are independent; therefore, we test H0 with the perspective of rejection of it. If we do not reject the null hypothesis, we have statistical evidence to not consider that sub-sample pair. That is, the rejection of H0 means there is statistical evidence of differences between the sub-samples, which means that such sub-samples show different performance behaviour.

In short, the utilization of both methodologies using the software SPSS, is justified by the need to test, simultaneously, the existence or not, of statistically significant differences between variables defined in a different way (correlated in Wilcoxon Signed Rank Test and independent in Kruskal-Wallis test). That is, as we want to test two types of different variables, we use the more appropriated tests to each kind of analysis.

2.4.1 The Wilcoxon Signed Rank Test for measuring post-operational and financial performance

Governments expect that privatization will be the solution for most of the problems state owned enterprises face today, such as, low operating efficiency, low profitability, low output, high levels of employment, weak capital structure, etc. They expect that privatized firms will become financial healthier.

We use a complete set of indicators to reflect the operational and financial health of the privatized companies before and after privatization. On one hand, we use the indicators as (Megginson et al., 1994). On the other hand, we added other ratios/indicators in order to have a more complete analysis of firms on the short term equilibrium, long term equilibrium, treasury, capital structure, etc.

We compute empirical proxies for each company for the three years before privatization and for all available years after privatization to 2009. We then compute median and means for each variable for the pre-privatization [years N–3 to N–1] and post privatization [years +1 to 2009] periods. The year of the privatization, year N, is excluded from the analysis because it includes both the public and private ownership phases of the enterprise. The date of privatization is the date of the IPO or the date of the Direct Sale, depending on the privatization regime.

Having computed pre-and post-privatization means and medians, we use the Wilcoxon signed-rank test, as one of the methods of testing for significant changes in the selected variables. This procedure tests whether means and median differences between pre and post privatization. In order to compare the performance improvements in the privatized firms by comparing the financial indicators, we assumed paired data for the analysis, which means that values in the two groups being compared are naturally linked or paired and usually arise from individuals being measured more than once. For each company, we join the data before with data after privatization. We base our conclusions on the standardized test statistic Z, which, for samples of at least 10, follows approximately a standard normal distribution. Additionally, we assume that the distribution of the differences between pairs of observations is symmetric. This methodology was also used by (Boubakri and Cosset, 1998), (Megginson et al., 1994) or (D'Souza and Megginson, 1999).

2.4.2 The Kruskal-Wallis Test for testing the significant differences between the sub-samples

In the second stage of empirical testing, we test for significant differences between each dichotomous sub-sample pair using Kruskal-Wallis (KW) tests; this procedure, is the non-parametric equivalent of the one-way ANOVA. All observations are ranked regardless of the treatment group; ranks are handled as in the rank sum test. The mean rank sum is calculated for each group and the overall mean rank sum is calculated.

The KW test was used to compare the several performance indicators for each pair of sub-samples of the 11 sub-sampling criteria. A significant difference between the sub-samples would indicate that the subgroup classification factor might be an important determinant of post-privatization performance changes. With the null hypothesis that the pair of sub-samples from possibly different populations actually originates similar results, it was interpreted that the rejection of the null hypothesis implies that statistic evidence exists for difference between the sub-samples, therefore the assumption of the sub-sample criterion; this methodology, the non-parametric Kruskal-Wallis test, was used by (D'Souza et al., 2001).

2.4.3 Sub-Samples, Empirical Proxies and Testable Predictions

The primary objective of this study is to investigate how privatization in Portugal affects the financial and operational performance of the former SOE's. Governments expect that privatized firms will

improve the financial and operational performance of firms, and most of the times, virtually all governments launching privatization programs have specific and generally very optimistic, expectations about what these programs yield.

In the first stage of the empirical test, we study the past privatization period observing the following performance areas: first, those areas and its proxies, as studied by (Boubakri and Cosset, 1998) and by (Megginson et al., 1994). These include profitability (return on sales), operating efficiency (sales efficiency), capital investment (real capital expenditure to sales), output (real sales), employment (total employment), and dividend policy (dividend to sales) and leverage (capital structure) (total debt to total assets).

In addition to these performance areas, we use, in a second set of other areas and proxies as predicted relationship with great importance to understand the post privatization performance of firms, as follows: treasury (treasury applications), activity levels (sales to total assets), short term financial equilibrium (cash and banks to short term debt) and long term financial equilibrium (net cash flow to long term debt). These variables/indicators are very important because, on one hand, they give us a more complete economic performance analysis than done before by other authors, such as, (Boubakri and Cosset, 1998) and by (Megginson et al., 1994) and, on the other hand, they developed a financial performance analysis before and after privatization never done before by any work of this area.

Having computed pre-and post privatization means and medians, the Wilcoxon signed-rank test was then used in order to test for significant changes in those variables. Therefore, we did test the following hypotheses that privatization: (1) increases a firm's profitability, (2) increases its operating efficiency, (3) increases its capital investment spending, (4) increases its output, (5) decreases employment, (6) increases its payout ratio, (7) increases its treasury applications, (8) improves its activity levels, (9) improves its short run financial equilibrium, (10) improves its long run financial equilibrium, (11) improves its capital structure. In addition to analyse the full sample of privatized companies, we also cut our full sample into several dichotomous subsamples that are presented in Table 2.

Table 3 presents a summary of testable predictions, including: in first place, the performance areas. We examine for changes resulting from privatization. In second place, we include the financial indicators used for each performance area. In order to establish the predicted relationship, we choose the best variable and its predicted changes for each area of performance.

In a second stage of empirical testing (Kruskal-Wallis), we are interested on why the performance improves, using sub-sampling criterions. In order to achieve that objective, we present the empirical proxies for each determinant predicted to affect post-privatization performance. We will describe how we expect each variable to impact the newly-privatized firm's financial and operating performance.

2.4.3.1 Competitive versus non-competitive analysis

One believes that the financial performance of firms in competitive markets is well different than those firms that are not included in non-competitive markets. The reason for the splitting the sample into competitive versus non-competitive industries is then straightforward. According to (D' Souza and Megginson, 1999), competitive firms are defined as "those that are subject to international product market competition, and non-competitive firms as those that are relatively free of product market competition".

For the sale of enterprises in non-competitive sectors, the steps are more numerous and the process is more complex. Successful privatization of natural monopolies requires a regulatory framework that clarifies service goals, and develops cost minimization targets. For example, firms from the telecommunications and utilities industries are included in the non-competitive sample.

Several studies, such as, (Clamote, 1999) and (D' Souza and Megginson, 1999), concluded that privatization of enterprises in competitive industries, such as, airlines, retail operations, or manufacturing, yielded more robust and rapid performance improvements, than in non-competitive industries, as long as there are no economy distortions that constrain competition.

Industries in a competitive environment must restructure, reduce costs and, additionally, they are obliged to manage their resources in a very professional way. When a firm is in a competitive environment it is expected, that more pressure is put on the firm, and this pressure is responsible for greater efficiency and profitability. This competition force drives firms to higher levels of profitability and efficiency. Thus, competition is expected to be a determinant of post-privatization performance improvements; therefore, firms in a competitive environment are expected to have greater financial performance improvements than those firms in a non-competitive environment.

Thus, based on existing theory and findings, on one hand, we expect that both types of firms (competitive and non competitive) experience improvements with the privatization process. However, on the other hand, we expect that operational and financial gains are greater for firms in competitive markets during the postprivatization period.

We divide the sample into firms included in competitive markets and firms within the non-competitive markets to determine the effect of competition on post-privatization performance. Of the

forty two companies for which we have data, twenty six firms (62 percent) are operating in competitive industries. Firms included in the competitive sample and firms included in the non-competitive sample, are presented in Table II.

2.4.3.2 Change in the composition of the new Board of Directors after privatization

Before or immediately after privatization, turnover among members of the Board of Directors is very frequent, most of times, due to political reasons; therefore, there is no stability inside the Board and we have seen along the privatization period, various Directors going in and going out of the Board. When a firm goes public, both the ownership structure and the management structure of the firm, change. According to (Crutchley et al., 2002) significant changes in the Board of Directors after the IPO may be necessary to ensure that the wealth of the new shareholders is maximized.

A large turnover (fifty percent or more) in a privatized firm's Board, represents two things: a) a powerful signal of a desire coming from the new owners to change firm direction, with new management and ideas; b) a willingness to remove potential human resources constraints on the development process, with positive consequences on firms performance.

(Clamote, 1999), (Boubakri and Cosset, 1998), (Macquieira and Zurita, 1996) and (D' Souza and Megginson, 1999), concluded on their investigation, that companies with greater than fifty percent changes in Board of Directors got better economic and financial results after privatization, than companies with less than fifty percent changes. We will also test these results.

We divide the sample into firms with less than fifty percent turnover in Board of Directors and firms with greater than fifty percent changes. We expect the high-board-change sub-sample to yield greater performance improvements than the sub-sample with less than fifty percent board change; as a matter of fact, based on the existing findings, we expect that changes in Board of Directors will positively impact the degree of post-privatization performance improvement.

Twenty eight firms (66%) out of the forty two companies from the sample changed the majority of their board of directors (more than 50%) after privatization and the new board stayed on functions for at least three years on the job. Firms included in each sample are presented in Table 2.

2.4.3.3 Financial versus Non-Financial firms

It is clear that we know very little about financial privatizations as compared with non-financial privatizations. Having investigated the non-financial sector, the study of the financial sector is a logic consequence to answer some questions, as follows: which are the favoured approaches to financial privatizations? What evidence is there on the pre- versus post-privatization operating and financial performance of privatized banks and as compared to non-financial companies?

During the past twenty years, a large number of financial institutions in Portugal have been privatized by the Portuguese government through public offerings of shares. This represented a fundamental break with the national past that emphasized the strategic role of financial firms institutions and, in particular, commercial banks, in funding the nation's economic development and the national government's key role in planning and directing that development.

In contrast with the non-financial sector, where there is now a well-established body of empirical literature on the effects of privatization (D' Souza et al., 2000), the evidence on financial privatizations is only beginning to emerge. (Verbrugge et al., 1999) empirically examined how the financial performance of banks changes after being privatized via public share offering. They found some improvement in bank operational and financial performance following privatization.

Thus, we expect that improvement changes in the financial performance of privatized financial institutions will be much less pronounced than in the case of non-financial institutions. Our sample includes 16 financial institutions (38%) and 26 non-financial institutions (see Table 2).

2.4.3.4 Foreign Versus National Allocation of Control Analysis

In addition to changes in post privatization performance between financial versus non-financial firms; it is relevant to investigate the influence of foreign investment and management know-how on post privatization performance, as compared to the post privatization performance of national investments.

Any government that intends to privatize SOEs using public share offerings faces a very crucial decision: how to allocate shares. The share allocation decision is very relevant and requires the government to choose whether to benefit one group of potential investors over another (i.e., domestic investors, SOE employees, or both, over foreign and institutional investors). (Anderson et al., 1997), in their study, identify 41 firms with direct foreign investment and 947 firms with no foreign investment. They found that profitability as measured either by return on equity or revenue per employee is significantly higher for the firms with foreign investors.

(Smith et al., 1987), document a significantly positive relationship between profitability and foreign ownership and a significantly negative relationship between leverage and foreign ownership. As a result,

this would mean that foreign investment would bring new management culture, new technology, new products and marketing orientations procedures and new financial support with impact on financial ratios and economic and financial performance.

We have reasons to believe that foreign investment would have a different behaviour in Portuguese economies. Then we expect that the greatest performance improvements will result from privatization in which foreign private owners gain control of the firm. We expect that foreign allocation of control will lead to improvement changes in the financial performance of privatized firms much more pronounced than in the case of national allocation of control; accordingly, we expect that the greatest performance improvements will result from privatization in which foreign private owners gain control of the firm. Our sample includes 39 firms (92%) with national allocation of control and 3 firms with foreign allocation of control.

2.4.3.5 Concentrated versus non-concentrated structure after privatization

In addition to changes between foreign and national allocation, changes between firms whose capital is concentrated in a few shareholders (it may be a family) after privatization and firms with capital whose dispersion after privatization is very high, is also investigated. We are interested in exploring the relationship between corporate performance and the concentration degree of ownership. A concentrated structure will happen when the privatized capital is concentrated in a few shareholders and when, at least, one owner, has more than 50% of the privatized capital.

The reason for the splitting the sample into concentrated versus non-concentrated property structures is explained by the basic principle of the property rights theory. According to this theory, the greatest incentive for maximization profits and efficiency exists on companies with concentrated structures, where the owners are few and well known. The theoretical principle is understandable, since agency problems identified in companies with disperse ownership are not common within companies with one owner or with concentrated structures. As a result, this would mean that concentrated structures would bring higher management incentives, a direct presence and influence of the owner on the main strategic decisions, marketing orientations for the future of the companies with positive results on the financial and operational performance of the firm.

Therefore, we expect that a shareholder concentrated structure will produce positive results on the performance behaviour of Portuguese companies. Hence, privatizations that generate the largest concentrated amount of private ownership will generate the greatest performance improvements. In other words, we expect that improvement changes in the financial performance will be much more pronounced in concentrated structures than in the case of non-concentrated structures.

Twenty two firms (52%) out of the 42 companies from the sample have a concentrated structure after privatization and 20 firms (48%) have a non-concentrated structure after privatization; firms included in each sample are presented in Table 2.

2.4.3.6 Share Issue Privatizations (SIPs) versus Direct Sale (DS)

The share issue privatization and the direct sale are the most known methods of privatization. According to (Megginson and Netter, 2001), sales of shares through public capital markets (SIPs), are more likely in less developed capital markets and for larger and more profitable state owned enterprises. The countries decision to use IPO's more frequently result from the governments' need and desire to use IPO to develop the national market's liquidity. IPO's are more likely when income is more equal through the country, providing more potential investors and avoiding the need for extensive underpricing of the offerings (Megginson and Netter, 2001).

Direct asset sales (sales to a small group of investors using private capital markets) and public contests (there are various investors with specific proposals), are more likely to occur where governments respect property rights and are not expected to expropriate the privatized assets (Megginson and Netter, 2001).

Simultaneously, (Pinkerton, 1982) concluded, on his study, that, when raising new capital, managers have historically rejected the direct sales method favouring, instead, the seemingly more expensive underwritten public issue. They demonstrated empirically that firms which engage in direct offers enjoy a comparative economic and financial performance improvement, which is more than sufficient to account for some issuing reported cost differences between the two methods of equity financing. Consequently, we expect that improvement changes in the economic and financial performance will be much more pronounced in the case of SIPs than in the case of direct sales or public contest.

Our sample includes forty two companies, where 23 firms (55 %) were privatized by IPO and 19 firms were privatized by direct sale. Firms included in each sample are presented in Table 2.

2.4.3.7 Firms that have their stock listed versus firms that do not have their stock listed on a stock exchange

We test the effect of firms that are listed after privatization and firms that are not listed on the post-privatization period. Starting a stock exchange listing enhances capital and management monitoring that

will likely trigger post-privatization performance improvements. Thus, we expect that improvement changes in the financial and operational performance will be much more pronounced when firms were listed than in the case of firms that not listed.

(Dewenter and Malatesta, 1997) and (Anderson et al., 1997) argue that state-owned firms are less efficient, because they are immune to capital market scrutiny. As a result, managerial performance is inadequately monitored. The public trading of shares establish the possibility of takeover by outsiders introduces the discipline of the managerial labour market and provides the ability to link compensation to performance; as a result, when shares trade in the public equity markets, owners and managers have enhanced capacity to spur greater managerial effort and accountability. The mere fact that contests involving privatized companies have occurred, suggests that the introduction of capital market monitoring may trigger post-privatization performance improvements. Therefore, we seek to further establish a linkage between the fact that the firm had or did not have its stock listed and performance of firms following privatization.

Our sample includes 42 companies, where 25 firms (60 %) are listed after privatization and 17 firms (40 %) not listed after privatization. Firms included in each sample are presented in Table 2.

2.4.3.8 Privatization in or before 1990 versus privatization after 1990

According to (Mello, 1996), the existence of fiscal benefits is a condition to the definition of the companies capital structure and the use of capital markets as a permanent financial method; on his study about the Portuguese capital market, between 1986 and 1990, Mello [1996], concludes that the fiscal benefits effect is well observable on the high number of companies that were officially quoted in 1986, 1987 and 1998.

In addition, (Mello, 1996), concludes that, in relative terms, the percentage of firms financing through the Portuguese capital market before 1990, was substantially higher than the percentage of firms that did the same after 1990. However, Mello clarified that the fiscal incentives might not be the only cause of the capital market development during those years. He adds other reasons for such evolution, as the development of the Portuguese economy and its capital market dynamic.

Additionally, (Mello, 1996), concludes, on his investigation, that only 30 percent of total firms listed from 1996 to 1990, stayed listed after the admission; the other 70 percent, either quit from the market or changed from the official to the non-official market. Our study extends the Mello's study and includes firm privatizations from 1987 to 2002. For the reasons explained above, we separate data into two subsamples: firms that were privatized in, or before 1990, and firms that were privatized after 1990.

Consequently, we expect that improvement changes in the financial performance will be much less pronounced for firms privatized in, or before, 1990, than firms privatized after 1990. Since, after 1990, there were no special fiscal incentives, the financial performance of privatized firms would be more homogeneous, without relevant changes (ceteris paribus).

Our sample includes 42 companies, where 12 firms (29 %) were privatized in, or before, 1990 and 30 firms (71 %) were privatized after 1990. Firms included in each sample are presented in Table 2.

2.4.3.9 Firms that have shareholders in management versus firms that do not have shareholders in management

The rationale for splitting up the sample into firms that face the agency problem and firms with shareholders in management is straightforward. The nature of decisions that maximize the wealth of the firm's shareholders should be different in both situations with consequences in post-privatization performance. An initial public offering of common stock typically leads to significant changes in the ownership of a company's stock and reflects the dilution of an owner/manager's stake as depicted in the analysis of agency costs by (Jensen and Meckling, 1976). Their argument implies that a company's performance suffers after going public.

Our research is motivated by the evidence that management ownership appears to play a significant role in the performance of many companies. (Jensen and Meckling, 1976), argued that agents or managers have incentives to serve their own interests, while may be to the detriment of the principal. After the IPO, as the management ownership rises, managers pay a larger share of the cost of the deviation from the value-maximization and are less to squander corporate wealth. This implies that corporate performance is expected to increase with the level of insider ownership (Jensen and Meckling, 1976).

On the contrary, the offsetting costs of management ownership have been raised up by (Fama and Jensen, 1983). According to them, when a manager owns a small stake, market discipline, product market and the market for corporate control may force him toward value maximization. On the other hand, if a manager controls a substantial fraction of the firm's equity, he may have enough voting power or influence to guarantee his employment in the firm and make policies without market control. That is, corporate assets can be less valuable when managed by an individual free from checks on his control.

Our sample includes forty two companies, where 26 firms (62 %) have shareholders in management after privatization and 16 firms (38 %)

do not have shareholders in management after privatization. Firms included in each sample are presented in Table 2.

2.4.3.10 Total versus Partial Privatization Analysis

Privatization is a process, not an event. In very few cases is state ownership is eliminated with a single share offering. In many cases, there are one or more seasoned offerings that follow an IPO and these transactions often occur a year or more after the initial offer. The numerous cases in which privatization occurs in stages over time suggests that revenue maximization is one of the forces driving privatizations, along the government's wish to retain its influence over the company. If the objective was to eliminate state ownership, one transaction could accomplish that goal.

The models illustrate the importance of the sequencing and staging to build reputational capital with investors by the governments, building domestic support for the privatization program, as well as identifying bidders that maximize the efficiency of the firm in the future. Some articles that empirically examine sequencing or staging are the follows: (Jones et al., 1999) and (Megginson et al., 2000).

Several papers empirically examine the choices governments actually make in designing SIP programs. (Menyah and Paudyal, 1996) investigate the way in which the objectives of privatization influence the procedures and incentives used in the sale of state-owned shares, on the London Stock Exchange by the U.K. government. In control privatizations, the government sells voting control (it sells enough shares to bring its holdings below 50 percent); in revenue privatizations, the government retains a majority stake. Additionally, outside investors (unlike managers), need not be cash constrained, and hence can, in aggregate, afford a larger ownership stake.

According to (D' Souza and Megginson, 1999), this logic suggests that selling voting control to outside investors is most conducive to efficiency improvements; thus, we expect that improvement changes in the financial performance, will be much more pronounced when firms were totally privatized than in the case of firms that were partially privatized, since in control privatizations, the new owners have conditions to make structural management decisions in order to improve performance.

Our sample includes forty two companies, where 21 firms (50 %) were privatized partially and 21 firms (50 %) were privatized totally. Firms included in each sample are presented in Table 2.

2.4.3.11 Restructuring SOEs Prior to Sale versus not restructuring analysis

One of the more complex issues in this area involves the interrelated questions of whether to restructure a SOE prior to sale. As a matter of fact, a related practical question about privatization is whether governments should restructure SOEs (e.g., lay off redundant workers) prior to selling or leave this to the new owners. This is related to the question of whether reform and privatization should proceed quickly or slowly. Early advice from the World Bank (Nellis and Kikefi, 1989), was that governments should restructure SOEs prior to divestment, since governments are better able than private owners to cushion the financial blow to any displaced workers by using unemployment or pension payments.

Two empirical papers that examined SOE reform prior to privatization are (Lopez-de-Silanes, 1997) and (Malatesta, 2000). The first author examined whether prior government restructuring of SOEs improved the net price received for the company, and finds evidence that it does not. He shows that prices received by the government would have increased by 71 cents per dollar of assets if the only restructuring step taken by the government had been to fire the CEO and if the assets had been divested, on average, one year earlier. He argues that other restructuring steps slow down the process and consume too many resources to be worthwhile. (Malatesta, 2000) finds some evidence that the improvements brought about by privatization occur before the SOE is privatized.

Some industries, just prior to privatization, restructure through organizational changes and/or acquisitions and divestures and/or financial restructurings (i.e., debt write-offs). Admitting that firms restructure in order to improve profitability and efficiency, we predict that restructuring should increase performance improvements. We expect that changes in the financial performance will be much more pronounced when firms were restructured prior to sale than in the case of firms that were not restructured prior to sale, since a well restructured firm is better prepared to face the marketplace and, thus, to improve more its operational and financial performance than firms that did not restructured before the sale.

Our sample includes forty two companies, where 16 firms (38 %) had restructured before privatization and 26 firms had not restructured before privatization. Firms included in each sample are presented in Table 2.

2.5 Empirical results

In this section, we present and discuss our empirical findings for the full sample of all privatized firms and for the eleven subsamples. Our empirical work measures the post-privatization operational and financial performance. In global terms, our investigation confirms, on one hand, that, following privatization, as it was expected by us, firms experience improvements (increase), significantly, in average (median) levels of profitability, operating efficiency, capital investment, output, treasury

applications, dividend policy, activity levels and decrease in employment levels, when compared to the average (median) values from the pre-privatization period.

On the other hand, our findings, in opposite to it was expected, show that firms do not experience improvements in average (median) levels of short term equilibrium and long term equilibrium when compared to the average (median) values from the pre-privatization period.

2.5.1 Profitability Changes

We measure profitability by the return on sales indicator (ROS - net income to sales) as in (D'Souza and Megginson, 1999). Table 4 summarizes the results for the full sample of all privatized firms. As we expected, profitability increases significantly after privatization, when testing ROS for the full sample of 42 companies. The mean (median) increase in ROS after divestiture is 6.0 percentage points (6.0 points), from 10 to 16 percent of sales (21 to 27 percent) and 67 % of the companies, experienced an improvement on the average ROS after privatization and 63% observed an increase on its median. Wilcoxon tests show that ROS increases significantly (at the 5 percent level) after privatization.

All the subsamples also present significant postprivatization improvements in profitability. Eleven put of the twenty two firms observed a statistically significant increase in the mean and the median based on the Wilcoxon test. The majority of the proportion test statistics for mean and median are also significantly positive. The Kruskal-Wallis test also a shows significant difference in average levels between most of subgroups, at five percent significance level of significance. These results mean that by partitioning our total data into these sub-samples, we find that there are significant differences.

In spite of some performance improvements in non-competitive markets, as we expected, performance improvements in competitive markets are more robust, as they have more significant performance changes than in non-competitive markets. With the exception of (Jain and Kini, 1994), who found a significant decrease in profitability, our results confirm most of the expectations about the competitive markets, with stronger performance improvements after privatization than in non-competitive markets, in line with (Megginson et al., 1994), (Boubakri and Cosset, 1998), (Verbrugge et al., 2000), (Clamote, 2000), (Boardman et al., 2000) and (Dewenter and Malatesta, 2000)..

2.5.2 Operating Efficiency

We measure operating efficiency with the sales efficiency (SALEFF - sales to total employment) as in (D'Souza and Megginson, 1999). Sales per employee increased from an average (median) 92 % (92 %) during the preprivatization period (-3 to -1 years), to 175 % (178 %) afterward. The Wilcoxon tests show that SALEFF increases significantly (at the 5 % level) after privatization. In addition, 73 % (71 %) of all companies experienced an improvement on efficiency after privatization. This highly significant increase shows that in the post-privatization firms use their resources on a much more efficiency way. So, all the figures for the all sample show us very relevant operating efficiency improvements.

All of the subsamples show relevant postprivatization improvements in operating efficiency. We observe that eighteen out of twenty two mean increases, and seventeen out of twenty two median increases. The results are significant, based on the Wilcoxon test and the majority of the proportion test statistics (mean and median) are significantly positive at the 5 % level. Nevertheless, not all the subsamples experience identical efficiency improvements. The Kruskal-Wallis tests show that privatizations by IPO experience greater efficiency gains than from. We also observed that Total Privatizations tend to show a more significant improvement on efficiency than do Partial Privatizations.

As we expected, either for the sample or for the subsamples, divested companies improve their operating efficiency and reach their objective more frequently as by governments launch their privatization programs. Our results agreed with (D'Souza and Megginson, 1999), (Boubakri and Cosset, 1998), (Boardman et al., 2000) and (Clamote, 2000), who concluded that by the privatization mechanism, governments clearly hope that these firms will employ their human, financial and technological resources more efficiently; the shareholders (including employees) in a private company capture most of the benefits of efficiency improvements, but they also suffer most if, in some exceptions, efficiency is not improved.

2.5.3 Capital investment

We compute capital investment spending using the real capital expenditure to sales indicator (RCESA - real capital expenditure to sales) as in (D'Souza and Megginson, 1999). The capital investment spending indicator increases significantly after privatization for the full sample of 42 companies. The mean (median) increase in RCESA after divestiture is 8 percentage points (9 points), from 53 percent to 61 percent of sales (31 to 40 percent).

All of the subsamples also present significant postprivatization improvements in profitability. Five out of twenty two mean increases and six out of twenty two median increases are significant, based on the Wilcoxon test and the majority of the proportion test statistics (mean and median) are significantly positive. The proportion test also reflects greater

investment spending since 54 % (52 %) of the firms in our sample report higher values of this ratio after privatization. Wilcoxon tests show that RCESA increases significantly (at the 5 % level) after privatization. However, the investment intensity is not the same for all subsamples. The Kruskal-Wallis tests indicate that privatizations by IPO experience greater investment spending than do firms privatized by Direct Sale. Listed companies also perform better than unlisted companies and firms that restructured before privatization also perform better than that the others that did not restructure.

As we expected, capital spending increases significantly after privatization; our results are closed to (Macquieira and Zurita, 1996), (D'Souza and Megginson, 2000), (Boardman et al., 2000) and (Megginson et al., 1994). These last authors suggested a list of reasons why expecting that privatized companies would increase capital spending after divesture. First, their initial public offering companies have greater access to private debt and to the equity market than most SOE. Secondly, if privatization is sided by deregulation, the former SOE will face very large investment needs in order to become competitive with other private companies. In third place, SOE tend to stress labour over capital inputs in their production processes, and the power of politicians, labour unions and other interest groups tend to leave SOE employees rich and capital poor. In fourth place, removal of government control of the SOE also reduces the government's ability to force SOE managers to overproduce politically attractive but economically wasteful goods. Finally, as privatizations promote entrepreneurship, former SOE will have the incentive and the means to invest in growth options both at home and abroad.

2.5.4 Real Output

We test for changes in output by calculating the real sales indicator (SAL – nominal sales to consumer price index) as in (D'Souza and Megginson, 1999) for the preprivatization period and comparing it to the three-year average level for the postprivatization period. We found that real output increases significantly after privatization. Average (median) SAL, rises from 94 % (97 %) to 218 % (242 %); the increase in mean and median levels following privatization is significant at the 5 % significance level. The proportion test also indicates that real output significantly rises in the years following privatization since 69 % (71 %) of our sample report higher values of this indicator in the years after privatization.

Most of the subsamples also present significant postprivatization improvements in profitability. We observe eleven out of twenty two mean increases and twelve out of the twenty two median increases. All of them are significant based on the Wilcoxon test and the majority of the proportion test statistics (mean and median) are significantly positive.

Our results confirm most of the expectations about this financial indicator, showing a very significant increase, as in (Jain and Kini, 1994), (Macquieira and Zurita, 1996), (D'Souza and Megginson, 1999), (D'Souza and Megginson, 2000), (Clamote, 2000) and (Megginson et al., 1994). These last authors concluded that governments hope and expect that real sales will increase after privatization due to better incentives, more flexible financing opportunities, increased competition and greater scope for entrepreneurial initiative. Contrary to our results are (Boubakri and Cosset, 1999) who did not find a significant increase, and (Boycko et al., 1993) who argued that effective privatization will lead to a reduction in output, since the government can no longer entice managers (through subsidies) to maintain inefficiently high output levels.

2.5.5 Employment

We compute employment using as proxy the total employment (EMPL – total number of employees) as in (D'Souza and Megginson, 1999). Overall, we find that employment decreases significantly after privatization; we compare the average (median) for the pre-privatization period to the average (median) level for the post-privatization period. The decrease in average (median) levels following privatization is significant at the 5% significance level. The Wilcoxon test shows a significant average (median) decrease in employment from 2173 employees (2095 employees) to 1827 employees (1837 employees). Our proportion test statistic also reflects less employment mean levels since 63 percent (69 percent) of our sample report lower values of employment in the years after privatization.

Nevertheless, the percentage of decline is not the same for all subsamples. The Kruskal-Wallis test shows significant differences in mean (median) levels between the majorities of the subgroups, all at five percent significance level of significance. These results means that by partitioning our total data into these sub-samples, we find that there are significant differences.

Our results confirm most of the expectations about employment, that is, a very significant decrease, as (D'Souza and Megginson, 1999), (Dewenter and Malatesta, 2000), (Boardman et al., 2000) and (Clamote, 2000). This differs from the results of (Megginson et al., 1994), who found insignificant decreases on employment, and, for them, the great fear of all governments contemplating privatization programs is that efficiency and profitability will be achieved only at a cost: unemployment; that is, governments expect large declines in employment levels after privatization. Also, prior to privatization, most SOE tend to be overstaffed. Thus, in order to increase efficiency,

extensive layoffs would be expected following privatization and the reduction of subsidies. In contrast, the results of (Macquieira and Zurita, 1996) and (Boubakri and Cosset, 1998) all showed employment rises after privatization.

2.5.6 Dividend Policy

We measure dividend policy with the dividend to sales (DIVSAL – dividend to sales) as in (D'Souza and Megginson, 1999) in order to examine whether dividend payments increases following privatization. The average (median) dividend payment increases from 1 percent (1 percent) to 7 percent (4 percent). The proportion test also shows that dividend to sales significantly rises in the years following privatization; both the Wilcoxon and proportion tests show that dividend to sales increase significantly after privatization. Whatever the subsamples, our proportion test statistic reflects a higher rate of dividend to sales, mean (median) levels, since 64 percent (54 percent) of our sample report higher payout ratio after privatization.

The Kruskal-Wallis tests show that dividend payments increase significantly more for privatizations by IPO than for privatizations by Direct Sale, significantly more for firms with listed stocks than for non-listed stocks, significantly more for firms with shareholders in the firms' management after privatization, than for firms without shareholders in management after privatization.

Our results confirm most of the expectations about dividend policy, that is, a very significant increase after privatization, as (Megginson et al., 1994), (Macquieira and Zurita, 1996), (Clamote, 2000) and (Boubakri and Cosset, 1998). They concluded that, following privatization, dividend payments increase in result of the pressure of private investors for dividends and dividend payments, as opposed to governments. The classic response to the atomized ownership structure to which most privatization programs lead is, therefore, the increase on dividends payments.

2.5.7 Treasury

We compute treasury with the treasury applications indicator (TA – cash and banks plus dividends plus capital expenditure). We find that that treasury applications increase after privatization. For the full sample of all privatized firms, the mean (median) TA rises after privatization, mainly due to the increase of capital expenditures. The proportion test also indicates that treasury applications significantly rise in the years following privatization, since 54 % (52 %) of our sample report higher values of this indicator in the years after privatization.

Most of the subsamples also present postprivatization improvements in treasury applications and most of the proportion test statistics (mean and median) are significantly positive. The Kruskal-Wallis test does not show significant differences in mean (median) levels for most of subgroups, at 5% significance level. These results mean that by partitioning our total data into these sub-samples, we find that there are no significant differences.

Our results confirm our expectations, since, for most of the sample, if capital expenditures and dividends in absolute terms increased, treasury applications should increase too. The only component of treasury applications that had decreased after privatization was cash and banks.

2.5.8 Activity Levels

We compute activity levels using the sales to total assets indicator (STA - Sales divided by Total Assets). The activity levels indicator increases significantly after privatization for the full sample of 42 companies. The mean (median) increase in STA after divestiture is 40 percentage points (17 points), from 52 percent to 91 percent of sales (39 to 56 percent).

Some subsamples also present significant postprivatization improvements in activity levels. Eight out of twenty two mean (median) increases are significant based on the Wilcoxon test and most of the proportion test statistics (for mean and median) are significantly positive. The proportion test also reflects relevant improvements in activity levels, since 58 % (55 %) of our sample report higher values of this ratio following privatization. Wilcoxon tests show that the STA ratio increases significantly (at the 5 % level) after privatization.

The Kruskal-Wallis tests shows that privatizations in competitive markets experience greater activity levels than do firms in noncompetitive markets, the non financial sector shows higher activity levels than the financial sector. Firms with foreign allocation of control present higher activity levels than firms with national allocation of control, privatizations by IPO show higher activity levels than privatizations by Direct Sale, listed firms perform better than firms not listed, firms with shareholders in management show higher levels than do firms without shareholders in management, total privatizations show higher activity levels than partial privatizations and firms that restructured before privatization, perform better than do firms that did not restructure before privatization.

So far, our empirical results show several indicators (operational and financial) which are improved after privatization. One of reasons, among others, is the approach that comes from new owners and managers. With new and possibly better motivated managers, we certainly have better inventory management (raw materials, finish goods, etc.) and, consequently, higher activity levels and profitability.

2.5.9 Short Term Equilibrium

We compute short term equilibrium with the cash and banks to short term debt (CBTSTD – cash and banks divided by short term debt). We find that the short term equilibrium is worst after privatization. Average (median) CBTSTD decreases from 20 % (16 %) to 16 % (13 %). The proportion test indicates that the short term equilibrium declines in the years following privatization. Only 23 % (19 %) of our sample report improved short term equilibrium in the years after privatization. The subsamples also present postprivatization decrease in short term equilibrium. The Kruskal-Wallis test shows differences in mean (median) levels between most of subgroups (seven out of 11), all at five percent significance level

We may have expected that, after privatization, the financial equilibrium of the firms would improve slightly in the short term, during the first years of private management. However, either for the total samples either for most of the subsamples, we find a decrease on short term financial equilibrium after privatization. This may be the result of an increase in investment spending, restructure and develop in result of management decisions that, sometimes, require a great amount of money, such as, lay-off workers (as we observed earlier in this chapter. In order to finance these restructuring decisions, companies are forced to get financing (most of times, short term financing) and, in consequence, their financial structure may be affected in short term.

2.5.10 Long Term Equilibrium

We measure long term equilibrium with net cash flow to long term debt (NCFTLTD – net cash flow divided by long term debt). We find that the long term equilibrium is worst after privatization. Average (median) NCFTLTD decreases from 26 % (7 %) to 20 % (3 %). The proportion test shows that the long term equilibrium declines following privatization. Only 37 % (31 %) of our sample report improved performance following privatization.

The subsamples also present a postprivatization decrease in long term equilibrium. The Kruskal-Wallis test shows significant difference in mean (median) levels between most of subgroups, all significant at 5% significance level (five on total). These results mean that by partitioning our total data into these sub-samples, there are significant differences.

We expected that, after privatization, the financial equilibrium of the firms would improve slightly in the long term. However, either the total sample either most of the subsamples show a decrease on long term financial equilibrium after privatization. These results are puzzling since, we expect that, in the long run, after the restructuring decisions, firms tend to consolidate, to profit from their investments, and tending to attain the long term equilibrium.

2.5.11 Capital Structure

We measure capital structure with total debt to total assets (TDTA – total debt divided by total assets, as in (Boubakri and Cosset, 1998). We find that the capital structure is improved after privatization. Mean (median) TDTA decreases from 74 % (79 %) to 62 % (63 %). The proportion test shows that the capital structure is significantly improved following privatization. In addition, 65 % (61 %) of all companies experienced an improved capital structure after privatization. This highly significant increase shows that, the increase on total assets was relatively higher than the increase on total debt after privatization. The Kruskal-Wallis test shows significant differences in mean (median) levels between most of subgroups (seven out of eleven), all at 5% significance level.

Our results confirm most of the expectations about improvements on capital structure after privatization. (Macquieira and Zurita, 1996), (Boubakri and Cosset, 1998), (Clamote, 2000) and (Megginson, et al., 1994) concluded that, while most governments do not place great priority on improving financial soundness of the newly privatized firms, most do expect capital structure to improve dropping the leverage ratios after privatization, because SOEs, traditionally, have very high debt levels, the only ways of equity available to those firms are capital injections from governments and retained earnings if they exist.

On the other hand, the switch from public to private ownership should lead to more consistent capital structure because the government's removal of debt guarantees will increase the firms' cost of borrowing and because companies will have increased access to public equity markets.

2.6 Summary and conclusions

Over the last fifteen years, the privatization process has transformed the Portuguese economic landscape throughout a sweeping reduction of the role of the state in the economy. An economic event such profound raises many important questions – most of which are, as yet, not completely answered. We investigate whether or not the privatization of SOE had caused improvements on the economic and financial performance of those privatized companies, as it is suggested by the literature of property rights, public choice and agency theory.

Abroad, so far, most of the work done on privatizations and their effects on the divesture companies, had been oriented just to the economic and social side of the firm (profitability, operating efficiency and output), ignoring its financial side, as happen with (Megginson et al., 1994), (Macquieira

and Zurita, 1996), (Boubakri and Cosset, 1998), (D' Souza and Megginson, 1999), (Verbrugge et al., 2000), (Dewenter and Malatesta, 2000) and (Boardman et al., 2000), among others. In Portugal, the only existing work on the performance of newly privatized firms, (Clamote, 2000), has the same economic orientation. Our work, filling in this gap, adds the financial to the economic and social perspective of the divesture firm performance.

In addition, the same authors have considered, on their study, just a full, aggregate sample, with a few exceptions, as, (Clamote, 1999) and (D'Souza & Megginson, 1999), whose work only considered a few criteria to study the sample separately: competition, total (control) privatization, new CEO and new Board of Directors. Our work excludes the new CEO criteria but adds others: the listing process, the pre-restructurings, the timing of the privatization, the existence of shareholders in management, the concentration of capital, the financial and non-financial sector, the foreign and national control and the method of privatization. We are sure that these multi-industry samples improve the quality of the empirical results, in a more analytical way, and provides additional perspectives to a better understanding of the postprivatization firm performance. We work with a sample composed of 42 companies from all activity sectors, with analysis for the period 1989 to 2003. This goes far beyond another work with Portuguese data, (Clamote, 2000) that uses only 20 companies for the period 1989 to 1995 period.

On the economic side, we document significant improvements on profitability, operating efficiency, capital investment, and real output and activity levels. Firms on the competitive sector of the economy, firms with changes on more than 50% of the Board, firms in the nonfinancial sector, firms with foreign control, firms with concentrated structures after privatization, firms with stocks listed in an Exchange, firms with shareholders in management, firms that changed the total control after privatizations and firms that restructured, have a more significant operational improvement than the correspondent opposite subsample.

On the social side, we experience a significant decrease on employment after privatization, which means that, after the privatization process, the personal costs, among others, are some of the priority fixed costs that are cut-off by management. The more significant decline of this type of costs is experienced by the sub-samples mentioned on the last paragraph.

Lastly, on the financial side, we document a decline on the short and long term equilibrium, which means that companies, after privatization, at least during the first years, have some financial instability, mainly due to a great effort to finance their growth and capital investments, lay-offs, and to finance the redirection of their commercial and marketing strategy.

References

1. Almeida, J. M. and João Duque, (2000), 'Ownership structure and Initial Public Offerings in Small Economies – The case of Portugal', working paper, ISEG – Instituto Superior de Economia e Gestão, Universidade Técnica de Lisboa.
2. Alves, Paulo and João Duque, (1997), 'Novos Resultados Empíricos sobre Estratégias de Investimento Contrárias no Mercado de Capitais Português', Cadernos do Mercado de Valores Mobiliários, CMVM – Comissão do Mercado dos Valores Mobiliários, 1.
3. Alpalhão, R., 1988, 'Ofertas Públicas Iniciais: O caso Português', working paper nº 100, Universidade Nova de Lisboa, Faculdade de Economia.
4. Anderson, Seth C., T. Randolph Beard and Jeffrey A. Born, (1995), 'Initial Public Offerings – Findings and Theories', Kluwer Academic Publishers.
5. Anderson, S., A de Palma and J. Thisse, (1997) 'Privatization and Efficiency in a differentiated Industry.' European Economic Review, 41, pp. 1635-1671.
6. Ang, James S., Rebel A. Cole and James Wuh Lin, (2000), 'Agency Costs and Ownership Structure' The Journal of Finance", 55 (1), pp. 81-106.
7. Aussenegg, Wolfgang, (2000), 'Privatization versus Private Sector Initial Public Offerings in Poland", Working Paper, Vienna University of Technology.
8. Barberis, N., M. Boycko, A. Shleifer and N. Tsukanova, (1996) 'How does Privatization Work: Evidence from Russian Shops. "Journal of Political Economy, 104, pp. 764-790.
9. Barclay, Michael and Clifford Holderness, (1989), 'Private Benefits from Control of Public Corporations', Journal of Financial Economics 58 (1), pp. 371-396.
10. Bennell, Paul, (1997), 'Privatization in Sub-Saharan Africa: Progress and Prospects during the 1990s' World Development, 25 (11) pp. 1785-1803.
11. Bhagat, Sanjai and Peter A. Frost, (2000), 'Issuing Costs to existing shareholders in competitive and negotiated underwritten public utility equity offerings', Journal of Financial Economics, 19, pp. 23.39.
12. Brennan, M.J. and J. Franks, (1997),'Underpricing, Ownership and Control in Initial Public Offerings of Equity Securities in the U.K.", Journal of Financial Economics, 45 (1), pp. 391-413.
13. Bishop, Matthew R. and John A. Kay, (1989), 'Privatization in the United Kingdom: Lessons from Experience' World Development, 17 (5), pp. 643-657.
14. Bolsa de Derivados do Porto, (1996), 'Processos de (RE) Privatização – Sociedades Cotadas (1989/1996) ", Porto: Bolsa de Derivados do Porto, Instituto do Mercado de capitais.
15. Bortolotti, Bernardo, Juliet D'Souza, Marcella Fantini and William Megginson, (2001), 'Sources of performance improvement in privatized firms: a clinical study of the global telecommunications industry', Working Paper, University of Oklahoma.
16. Boubakri, N. and J. Cosset, (1998), 'The Financial and Operating Performance of Newly-privatized Firms: Evidence from Developing Countries". Journal of Finance, 53 (3), pp. 1081-1110.
17. Boutchkova, Maria K. and W. Megginson, (2000), 'Privatization and the Rise of Global Capital Markets" Financial Management.

18. Boyco, M.; A. Shleifer and R. W. Vishny, (1994), 'Voucher Privatization', Journal of Financial Economics, 35, pp. 249-266.
19. Boyco, M.; A. Shleifer and R. W. Vishny, (1996), 'A Theory of Privatization", The Economic Journal, 106, pp. 309-319.
20. Brada, Josef C, (1996), 'Privatization is Transition – Or is it?' Journal of Economic Perspectives, 10, (2), pp. 67-86.
21. Brown, J. David, John S. Earle and Álmos Telegdy, (2004), 'Does Privatization Raise Productivity? Evidence from Comprehensive Panel Data on Manufacturing Firms in Hungary, Romania, Russia and Ukraine', Upjohn Institute Staff Working Paper, pp. 54-107.
22. Caves, Douglas W. and L. R. Christensen, (1980), 'The Relative Efficiency of Public and Private Firms in a Competitive Environment: The Case of Canadian Railroads" Journal of Political Economy, 88 (5), pp. 958-976.
23. Chemmanur, Thomas J., and Paolo Fulghieri, (1999) 'A Theory of the Going-Public Decision', The Review of Financial Studies, 12 (2), pp. 249-279.
24. Chemmanur, Thomas J., (2001), 'The pricing of IPO's: a dynamic model with information production´, The Journal of Finance, 48 (1), pp. 285-319.
25. Claessens Stijn, Simeon Djankov and Larry H.P. Lang, (2000), 'The Separation of Ownership and Control in East Asian Corporations', Journal of Financial Economics, 58, pp. 81-112.
26. Clamote, C. A., (1999), 'O Impacto da Privatização no Desempenho Financeiro e Operativo das Empresas privatizadas em Portugal', Tese de Mestrado em Gestão e Estratégia Industrial, ISEG, Lisboa.
27. Corwin, Sahne A., and Jeffrey H. Harris, (2001), "The Initial Listing Decisions of Firms that go Public" Financial Management, 30 (1), pp. 35-55.
28. Cragg, M and Dyck, A., (1999) "Management Control and Privatization in the United Kingdom" Rand Journal of Economics, 30 (3), pp. 475-497.
29. Cragg, M and Dyck, A., (1998), 'Privatization, Compensation and Management Incentives: Evidence from the United Kingdom', Working Paper, Harvard Business School.
30. Cunha, R.C., (1999), 'Mudanças nas Empresas Privatizadas: A Cultura Empresarial, in Ministério das Finanças (eds), Privatizações e Regulação – A Experiência Portuguesa', Lisboa, M. F. – Direcção Geral de Estudos e Previsão.
31. Demsetz, Harold, (1983), 'The structure of Ownership and the Theory of the Firm', Journal of Law and Economics 25, pp. 375-390.
32. Demsetz, Harold and Kenneth Lehn, (1985), 'The structure of Corporate Ownership: causes and consequences", Journal of Political Economy, 93, pp. 1155-1177.
33. Dewenter, Kathryn L. and Paul H. Malatesta, (2001), 'State-Owned and Privately Owned Firms: An Empirical Analysis of Profitability, Leverage and Labor Intensity', The American Economic Review.
34. Dewenter, Kathryn L. and Paul H. Malatesta, (1996), 'Public Offerings of State and Privately-Owned Enterprises' The Journal of Finance, pp. 1660-1679.
35. Donaldson, David, (1995), 'Privatization: Principles and Practice'. Washington, D.C. The World Bank.
36. D'Souza, Juliet, and William L. Megginson, (1999), 'The financial and operating performance of privatized firms during the 1990s', The journal of Finance, 54 (4), pp. 1397-1438.
37. Duque, João, (1999), 'A Regulação do Sistema de Valores Mobiliários – Uma Abordagem pela Teoria Financeira", Cadernos do Mercado de Valores Mobiliários, CMVM – Comissão do Mercado dos Valores Mobiliários, 6.
38. Duque, João and Florbela Razina, (1998), 'A interdependência entre os Mercados Financeiros Internacionais" Cadernos do Mercado de Valores Mobiliários, CMVM - Comissão do Mercado de Valores Mobiliários, 3.
39. Eckel, C., D. Eckel and V. Singal, (1997), 'Privatization and Efficiency: Industry Effects of the Sale of British Airways', Journal of Financial Economics, 43, pp. 275-298.
40. Ehrlich, Isaac, G. Gallais-Hamonno, Z. Liu, and R. Lutter, (2000), 'Productivity Growth and Firm Ownership: An Analytical and Empirical Investigation" Journal of Political Economy, 102, (5), pp. 1006-1038.
41. Estrin, Saul and V. Pérotin, (1991), 'Does Ownership always Matter?' International Journal of Industrial Organization, 9, pp. 55-72.
42. Fama, Eugene, (1980), 'Agency Problems and the Theory of the Firm', Journal of Political Economy, 88, (2), pp. 288-30.
43. Fama, Eugene and Michael Jensen, (1983), 'Separation of Ownership and Control', Journal of Law & Economics, 26, pp. 375-393.
44. Febra, Lígia Catarina Marques, (2000), 'Ofertas Públicas Iniciais. Razões para o seu Lançamento em Portugal', Tese de Mestrado em Ciências Empresariais, Faculdade de Economia da Universidade do Porto, 2001.
45. Ferling, Rhona L., (1994), 'Should You go Public?' Financial Executive.
46. Field, Laura Casares, (1998), 'The IPO as the First Stage in the Sale of the Firm' Working Paper, Penn State University.
47. Fonseca, Paulo, (2004), 'Monopólios Públicos vs Monopólios Privados: eficiência produtiva em public utilities' – Estudos de Gestão, Portuguese Journal of Management Studies.
48. Garner, (1989), 'Has Public Enterprise Failed?' in Ramanadham, V.V. (eds) - Privatization in the United Kingdom, London: Routledge.
49. Goergen, Marc G. J., (1995), "The Evolution of Ownership and Control in German IPOs: A Dynamic Analysis', Part of the PHD Thesis at University of Oxford, Oxford, UK.
50. Gonçalves, Victor F. C., António Palma dos Reis e João Duque, (1997), 'Strategic Performance Analysis of the Portuguese Financial Services Industry'. Working Paper, Cadernos de Económicas, Documento de Trabalho nº 4/97, Departamento de Gestão, ISEG, Universidade Técnica de Lisboa.
51. Gonçalves, Victor F. C., António Palma dos Reis e João Duque, (1997), 'The Impact of the Corporate Strategy on the Information System Strategy: A Survey of Portuguese Financial Corporations', Working Paper, Cadernos de Económicas, Documento de Trabalho nº 2/97, Departamento de Gestão, ISEG, Universidade Técnica de Lisboa.
52. Gugler Klaus, Susanne Kalss, Alex Stomper and Josef Zechner, (1997), 'The Separation of Ownership and

Control: An Austrian Perspective", Journal of Financial Economics.
53. Gupta, Nandini, (2002) "Partial Privatization and Firm Performance" Working Paper, Michigan Business School.
54. Harper, Joel T., (2002), 'The Performance of Privatized Firms in the Czech Republic', Journal of Banking and Finance, 26, pp. 621-649.
55. Havrylyshyn, and McGettigan, D., (1999), 'Privatization in Transition Countries: A Sampling of the Literature" IMF Working Paper.
56. Holmen, Martin and Peter Högfeldt, (1999) 'Motives, Underpricing and Ownership structure in Swedish IPO's', Journal of Financial Economics.
57. Ibbotson, F.G., J.L.Sindelar, and J.R. Ritter, (1988), "Initial Public Offerings', Journal of Applied Corporate Finance, pp. 37-45.
58. Jain, Bharat A., and Omesh Kini, (1994), 'The post-issue operating performance of IPO firms', Journal of Finance, 49, pp. 1699-1726.
59. Jelic, Ranko and Richard Briston, (1999), 'Hungarian Privatisation Strategy and Financial Performance of Privatised Companies', Journal of Business Finance & Accounting 26 (9), pp. 1319-1357.
60. Jensen, Michael C. and William H. Meckling, (1976), 'Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure', Journal of Financial Economics, 3, pp. 305-360.
61. Jones, Steven L., W. Megginson, R. Nash and Jeffry Netter, (2000), 'Share Issue Privatizations as Financial Means to Political and Economic Ends' Journal of Financial Economics.
62. Kim, Jeong-Bon, Itzhak Krinsky e Jason Lee, (1993), 'Motives for going public and underpricing: new findings from Korea', Journal of Business Finance & Accounting, pp. 195-211.
63. Kunz, Roger M; Aggarwal, Reena, (1994), 'Why initial public offerings are underpriced: Evidence from Switzerland', Journal of Banking and Finance, 18 (4) pp. 705-723.
64. La Porta, Rafael, Francisco Lopez-de-Silanes and Andrei Shleifer, (1999), 'Corporate Ownership Around the World', Journal of Finance 54, pp. 471-517.
65. La Porta, Rafael and Florencio López-de-Silanes, (1999), 'The Benefits of Privatization: Evidence from Mexico", The Quarterly Journal of Economics.
66. Levis, M., (1996), 'Empirical Issues in Raising Equity Capital – Advances in Finance, Investment and Banking', Elsevier Science Publishers.
67. López-de-Silanes, Andrei Schleifer and Robert W. Vishny, (1997), 'Privatization in the United States' Rand Journal of Economics, 28, (3), pp. 447-471.
68. McConnell, John and Henri Servaes, (1990), 'Additional Evidence on Equity Ownership Structure and Firm Performance', Journal of Financial Economics, 27, pp. 595-612.
69. Megginson, William L., Robert C. Nash and Mathias Van Randenborgh, (1994), 'The Financial and Operating Performance of Newly Privatized Firms: an International Empirical Analysis, The Journal of Finance, 49 (2).
70. Megginson, William L. and Jeffry M. Netter, (2001), 'From State to Market: A survey of empirical studies on privatization', Journal of Economic Literature.
71. Megginson, William L. Robert C. Nash, and M. Randenborgh, (1994), "The Financial and Operating Performance of Newly Privatised Firms: An International Empirical Analysis" The Journal of Finance, 49 (2), pp. 403-452.
72. Megginson, William L. and Jeffry M. Netter, (1997), 'Equity to the People: the record on share issue privatization programs', Privatisational (International) yearbook, pp. 27-34.
73. Megginson, William L. Robert C. Nash, Jeffry M. Netter and Adam Schwartz, (2000), "The Long-Run Return to Investors in Share Issue Privatization', Financial Management, 29 (1).
74. Megginson, William L. Robert C. Nash, Jeffry M. Netter and Annette B. Poulsen, (2000), 'The Choice of Private versus Public Capital Markets: Evidence from Privatizations" Working Paper, University of Georgia.
75. Mello, Antonio Sampaio and John E. Parsons, (1998), 'Going Public and the Ownership Structure of the Firm', Journal of Financial Economics, 49, pp. 79-109.
76. Mikkelson, Wayne H., M Megan Partch and Kshitij, (1997), 'Ownership and Operating of Companies that go Public', Financial Economics, 44, pp. 281-307.
77. Pagano, Marco, Fabio Panetta and Luigi Zingales, (1998), 'Why Do Companies Go Public? An empirical Analysis', Journal of Finance, 53, pp. 27-64.
78. Pagano, Marco, and Ailsa Röell, (1998), 'The Choice of Stock Ownership Structure: Agency Costs, Monitoring, and The Decision to Go Public', Quarterly Journal of Economics, pp. 23-49.
79. Ministério das Finanças, (1995), "Privatizações em Portugal – Uma Reforma Estrutural", Lisboa, M. F. GAFEEP – Gabinete para a Análise do Financiamento do Estado e das Empresas Públicas.
80. Ministério das Finanças, (1999), 'Privatizações e Regulação: A Experiência Portuguesa", Lisboa, Ministério das Finanças – Direcção Geral de Estudos e Previsão.
81. Moore, John, (1992), 'British Privatization – Taking Capitalism to the People" Harvard Business Review.
82. Nellis, John, (1994), 'Is Privatization Necessary?' Private Sector – The World Bank, FPD, Note Nº 7.
83. Nellis, John and S. Kikeri, (1989), "Public Enterprise Reform: Privatization and the World Bank" World Development, 17 (5) pp. 659-672.
84. Osório, A. e Santos, V., (1999), ' A Eficiência Económica das Empresas Públicas e Privadas: Uma Análise Comparada', in Ministério das Finanças (eds), Privatizações e Regulação – A Experiência Portuguesa, Lisboa, M. F. Direcção Geral de Estudos e Previsão.
85. Parker, David, (1994), 'Privatization and Business Restructuring: Change and Continuity in the Privatised Industries' The Review of Policy Issues, 1, pp. 3-27
86. Parker, David, (1995), 'Privatization and Agency Status: Identifying the Critical Factors for Performance Improvement, British Journal of Management, 6, pp. 29-43.
87. Perotti, Enrico C., (1995), 'Credible Privatization' The American Economic Review, September, 85 (4).
88. Pryke, Richard, (1982), 'The Comparative Performance of Public and Private Enterprise' Fiscal Studies, 3, pp. 68-81.
89. Ramamurti, Ravi, (1997), 'Testing the Limits of Privatization: Argentine Railroads', World Development, 25 (12), pp. 1973-1993.
90. Ramos, Luís Moura, (2002), 'Privatization in Portugal: Employee Owners or Just Happy Employees?' Estudos do Grupo de Estudos Monetários e

Financeiros (GEMF) -Faculdade de Economia da Universidade de Coimbra, Nº 7.
91. Rees, Ray, (1988), Inefficiency, Public Enterprise and Privatization' European Economic Review, 32, pp. 422-431.
92. Ritter, Jay R., (1991), 'The Long-run Performance of Initial Public Offerings', Journal of Finance 46, pp. 3-27.
93. Ritter, Jay R., (1987), 'The Costs of Going Public', Journal of Financial Economics, 17, pp. 269-281.
94. Röel, A., 1996, 'The decision to go public: an overview', European Economic Review, 40, pp. 1071-1081.
95. Ross, Stephens A., (1973), 'The Economic Theory of Agency: The Principal's Problem', American Economic Review, 63, pp. 134-139.
96. Santos, Anibal, (1989), 'Models of Privatization and Market Structure' Economia, pp. 56-81.
97. Sappington, David E. M., (1991), 'Incentives in Principal – Agent Relationships', Journal of Economic Perspectives, 5, (2), pp. 45-66.
98. Schultz, P., (1993), 'Unit initial public offerings: a form of staged financing', Journal of Financial Economics, 34, pp. 199-229.
99. Shafic, Nemat, (1995), 'Making a Market: Mass Privatization in the Czech and Slovak Republics" World Development, 23 (7), pp. 1143-1156.
100. Shleifer, Andrei. (1998), 'State versus Private Ownership" Journal of Economic Perspectives, 12 (4), pp. 133-150.
101. Shleifer, A. and Vishny, R., (1996) "A Theory of Privatization" Economic Journal, 106, pp. 309-319.
102. Shleifer, Andrei and Robert Vishny, (1997), 'A Survey of Corporate Governance', Journal of Finance 52, pp. 737-783.
103. Schmidt, Klaus M., (1996), 'The Costs and Benefits of Privatization: An Incomplete Contracts Approach' The Journal of Law, Economics & Organization, 12 (1).
104. Smith, Stephen C., Beom-Cheol Cin and Milan Vodopivec, (1997), 'Privatization Incidence, Ownership Forms and Firm Performance: Evidence from Slovenia', Journal of Comparative Economics, 25, pp. 158-179.
105. Singh, Manohar and Wallace N. Davidson III, (2003), 'Agency Costs, Ownership Structure and Corporate Governance Mechanisms', Journal of Banking and Finance 27, pp. 793-816.
106. Sousa, F. and R. Cruz, (1995), 'O Processo de Privatizações em Portugal', Porto, Associação Industrial Portuense.
107. Stoughton, Neal M., Kit Pong Wong and Josef Zechner, (2001), 'IPOs and Product Quality', Journal of Business, 74 (3).
108. Teixeira, Fernando J. C. e Silva Nunes, (2002), "Análise das Ofertas Públicas Iniciais (IPOs) – O caso português", Dissertação para a obtenção do grau de Mestre, INDEG/ISCTE.
109. Tomas, Carlos, (1993), 'The Portuguese Market", Global Investor - Portuguese Handbook, pp. 15-25.
110. Verbrugge, James A., William L. Megginson and Wanda L. Owens, (1999), "State Ownership and the Financial Performance of Privatized Banks: an Empirical Analysis" World Bank/Federal Reserve Bank of Dallas Conference on Banking Privatization, Washington.
111. Vickers, John and G. Yarrow "Privatization: Not the Only Answer", World Development, 17, (5), pp. 633-641.
112. Vining, Aidan R. and A. Boardman, (1992), 'Ownership versus Competition: Efficiency in Public Enterprise", Public Choice, 73, pp. 205-239.
113. Walle, Nicolas van de, (1989), 'Privatization in Development Countries: A Review of the Issues', World Development, 17 (5), pp. 601-615.
114. Walking, Ralph and Michaek Long, (1984), Agency Theory, Managerial welfare and Takeover Bid Resistance', Rand Journal of Economics 15, pp. 54-68.
115. Weisbach, M., (1988), 'Outside Directors and CEO turnover', Journal of Financial Economics 20, pp. 431-460.
116. Willig, Robert D., (1993) "Public versus Regulate Private Enterprise" Proceedings of the World Bank Annual Conference on Development Economics, pp. 155-180.
117. Witmer, Richard H; Molner, John P, (1996), 'What you need to know before an IPO", Corporate Finance, 140, pp. 53-54.
118. World Bank, (1997), 'Between State and Market: Mass Privatization in Transition Economies', Washington, D.C. The World Bank.
119. Wu, Shuo and Hong Cui, (1999), 'Ownership Structure and Corporate Performance: Evidence from the Mainland China", Economics & Finance Department, City University of Hong Kong, 65-86.
120. Zhou, Xianming, (2001), 'Understanding the Determinants of Managerial Ownership and the Link Between Ownership and Performance: Comment', Journal of Financial Economics, 62, pp. 559-571.
121. Zingales, L., (1995), 'Insiders ownership and the decision to go public', Review of Economic Studies, 62, pp. 425-448.
122. Yarrow George, (1986), 'Privatization in Theory and Practice', Economic Policy, pp. 324-377.
123. Yarrow, George and J. Vickers, (1991), 'Economic Perspectives on Privatization' Journal of Economic Perspectives, 5 (2), pp. 111-132.
124. Yotopoulos, Pan A., (1989) 'The (Rip) Tide of Privatization: Lessons from Chile", World Development, 17 (5), pp. 683-702.

Appendix

Table 1. Sample of privatized firms from 1989 to 2009

Company	Industry	Percentage of capital that was privatized at the date of the issue
Alcool Generos Alimentares, SA	Galenic Products Industry	100%
Aliança Seguradora	Insurance	49%
Banco de Fomento & Exterior	Banking	20%
Banco Espírito Santo	Banking	40%
Banco Fonsecas & Burnay	Banking	80%
Banco Internacional do Funchal (Banif)	Banking	16%
Banco Pinto & Sotto Mayor	Banking	80%
Banco Português do Atlântico	Banking	33%
Banco Totta & Açores	Banking	49%
Beralt & Tin	Mining and Minerals	100%
Bonança	Insurance	60%
Brisa	Services	35%
Celbi	Cellulose and Paper	100%
Centralcer	Commerce	100%
Cimpor	Exploration of Minerals	20%
Cive	Industry Glassmaker	100%
Companhia de Seguros de Crédito, S.A.	Insurance	100%
Crédito Predial Português	Banking	100%
Diário de Notícias	Media	100%
Efacec	Services	87%
Fisipe	Textile	49%
EDP	Electricity	30%
Jornal de Notícias	Media	100%
Império	Insurance	100%
Ipetex	Textile	100%
Lisnave	Shipyard	100%
Metalsines	Metallomechanics	100%
Mundial Confiança	Insurance	100%
Portucel	Cellulose and Paper	44%
Petrogal	Petroleum	25%
Portugal Telecom	Telecommunication	14%
Quimigal	Chemicals	90%
Rádio Comercial	Media	100%
Secil	Cement Industry	51%
Soc. Fin. Portuguesa	Banking	100%
Sociedade de Cargas e Descargas Marítimas, S.A. (Socamar)	Transportation	100%
SN-Longos	Metallurgic Industry	80%
Tabaqueira	Tobacco Industry	65%
Tranquilidade	Insurance	49%
Transinsular	Transportation	100%
União de Bancos Portugueses	Banking	61%
Unicer	Commerce	49%

Table 2. Sub-Sample Table

FIRM	COMPETITION		DIRECTORS		SECTOR		CONTROL		STRUCTURE		METHOD		MARKETS		YEAR		MANAGEMENT		TYPE		RESTRUCTION	
	C	NC	CH	NoCH	FS	NoFS	NaC	FC	CS	NoCS	SIP	DS	Lx	NoLx	<1990	≥1990	SM	NoSM	PP	TP	R	NoR
A S	X			X	X		X			X	X		X		X		X		X		X	
Aga	X		X			X	X		X			X		X		X	X			X		X
BFE	X			X	X		X			X	X		X			X	X		X			X
BFB	X		X		X		X		X		X			X		X		X	X			X
Banif	X		X		X		X			X	X		X			X	X		X			X
BP & SM	X		X		X		X		X			X	X			X	X		X			X
BPA	X			X	X		X			X	X		X		X		X		X			X
BTA	X		X		X		X		X		X		X		X		X		X		X	
BES	X		X		X		X		X		X		X			X	X		X			X
B & T		X		X		X	X		X			X		X		X		X		X	X	
Bonança	X		X		X		X			X	X		X			X	X		X			X
Brisa		X		X		X	X			X			X			X	X		X			X
Celbi		X		X		X		X	X			X		X		X	X			X		X
Centralcer		X	X			X		X	X		X		X		X		X			X		X
Cimpor		X	X			X	X			X	X		X			X		X	X		X	
Cive	X		X			X	X		X			X		X		X		X		X		X
Cosec		X		X	X		X			X		X		X	X		X			X		X
CPP	X		X		X		X		X		X		X		X			X		X		X
DN	X		X			X	X		X		X			X		X	X			X	X	
EDP		X	X			X	X			X			X			X		X	X		X	
Efacec	X			X		X	X			X		X	X			X	X		X			X
Fisipe	X			X		X		X		X		X	X		X		X		X			X
Império	X		X		X		X		X		X		X			X	X			X	X	
Ipetex	X		X			X	X		X			X		X		X		X		X		X
JN	X		X			X	X		X			X		X	X		X			X	X	
Lisnave		X		X		X	X			X	X		X		X			X		X		X
Metalsines		X	X			X	X		X			X		X		X		X		X	X	
M C	X		X		X		X		X		X		X			X		X		X		X
Petrogal	X		X			X	X			X		X		X		X		X	X			X
Portucel		X	X			X	X			X		X	X			X		X	X		X	
P T		X		X		X	X			X	X		X			X		X	X		X	
Quimigal		X	X			X	X		X			X		X		X		X	X			X
R. Comercial	X		X			X	X		X			X		X		X	X			X	X	
Secil		X	X			X	X		X			X		X		X	X		X		X	
SN- Longos		X	X			X	X		X			X		X		X	X		X		X	
SFP	X			X	X		X			X	X		X			X	X			X	X	
Socarmar	X			X		X	X			X		X		X		X	X			X		X
Tabaqueira		X	X			X	X		X			X		X		X	X		X			X
Tranquilidade	X		X		X		X		X		X		X		X		X		X			X
Transinsular	X		X			X	X			X	X		X		X			X		X		X
UBP	X			X	X		X			X	X		X			X		X	X		X	
Unicer		X	X				X			X	X		X		X		X		X			X
TOTAL	26	16	28	14	16	26	39	3	22	20	23	19	25	17	12	30	26	16	24	18	16	26

NOTES: [**C** - Competitive market; **NC** - No Competitive Market]; [**CH** - Change in the composition in the Board of Directors; **NoCH** - No change in the composition in the Board of Directors]; [**FS** - Financial sector; **NoFS** - No financial sector]; [**NaC** - National control; **FC** - Foreign control]; [**CS** - Concentrated structure; **NoCS** - No concentrated structure]; [**SIP** - Share Issue Privatization; **DS** - Direct sale]; [**Lx** - Listed in a stock exchange; **NoLx** - No listed in a stock exchenge]; [**<1990** - Privatization before 1990; **<1990** - Privatization before 1990]; [**SM** - With shareholders in management; **NoSM** - Without shareholders in management]; [**PP** - Partilal privatization; **TP** - Total privatixation]; [**R** - Reestrutured prior to the sale; **NoR** - Not reestructured prior to the sale].

Table 3. Summary of Testable Predictions

CARACTERISTICS	PROXIES	PREDICTED RELATIONSHIP
PROFITABILITY	Return on Sales (ROS) = Net Income / Sales	ROSA > ROSB
OPERATING EFFICIENCY	Sales Efficiency (SALEFF) = Sales / Total Employment	SALEFFA > SALEFFB
CAPITAL INVESTMENT	Real Capital Expenditure to Sales (RCESA) = Real Capital Expenditure / Sales	RCESAA > RCESAB
REAL OUTPUT	Real Sales (SAL)=Nominal sales/Consumer price index	SALA > SALB
TOTAL EMPLOYMENT	Total Employment (EMPL)=Total Number of Employees	EMPLA < EMPLB
DIVIDEND POLICY	Dividend to Sales (DIVSAL)=Dividend/Sales	DIVSALA > DIVSALB
TREASURY	Treasury Applications (TA)=Cash and Banks + Dividends + Capital Expenditures	TAA > TAB
ACTIVITY LEVELS	Sales to Total Assets (STA) = Sales/Total Assets	STAA > STAB
SHORT TERM (ST) EQUILIBRIUM	Cash and Banks to ST Debt (CBTSTD) = Cash and Banks/ST Debt	CBTSTDA > CBTSTDB
LONG TERM (LT) EQUILIBRIUM	Net Cash Flow to LT Debt (NCFTLTD)=Net Cash Flow/LT Debt	NCFTLTDA > NCFTLTDB
CAPITAL STRUCTURE	Total Debt to Total Assets (TDTA)=Total Debt/Total Assets	TDTAA < TDTAB

Table 4. Summary of results from tests of predictions of the full sample of all Privatized Firms

This table presents empirical results for our full sample of privatized firms. The table presents the results of the Wilcoxon rank sum test (with its z-statistic) - that is employed as a test for significance for change in mean and median values - for each empirical proxy; presenting the number of useable observations, the mean and the median values of the proxy before and after privatization and their change in the proxy's value after versus before privatization and the test of significance of the mean and median change. The three final columns elements are the percentage of firms whose values of empirical proxy change as predicted and respective test of significance of this change.

VARIABLES	N	Mean Before (Median)	Mean After (Median)	Mean Change (Median)	Z-statistics for difference in Means	Z-statistics for difference in Medians (After -	Percentage of firms with improved performance: Mean(Median)	Z-statistics for significant performance (mean)	Z-statistics for significant performance (median)
PROFITABILITY									
Return on Sales (ROS)	42	0.10 *0.21*	0.16 *0.27*	0.06 *0.06*	2.014*	2.216*	67.35% *63.21%*	4.392*	4.124*
OPERATING EFFICENCY									
Sales Efficiency (SALEFF)	42	0.92 *0.92*	1.75 *1.78*	0.83 *0.86*	3.276*	3.253*	73.81% *71.43%*	4.860*	4.782*
CAPITAL INVESTMENT									
Real Capital Exp. to Sales (RCESA)	42	0.53 *0.31*	0.61 *0.40*	0.08 *0.09*	1.580	1.652*	54.32% *52.21%*	3.792*	3.712*
REAL OUTPUT									
Real Sales (SAL)	42	0.94 *0.97*	2.18 *2.42*	1.24 *1.45*	2.313*	2.532*	69.05% *71.43%*	4.703*	4.782*
TOTAL EMPLOYMENT									
Total Employment (EMPL)	42	2173.37 *2095.43*	1827.74 *1837.63*	-345.63 *-257.80*	2.394*	2.570*	63.33% *69.05%*	4.421*	4.703*
DIVIDEND POLICY									
Dividend to Sales (DIVSAL)	42	0.01 *0.01*	0.07 *0.04*	0.06 *0.02*	1.553	1.571	64.29% *54.76%*	4.514*	4.197*
TREASURY									
Treasury Aplications (TA)	42	100793.73 *101398.60*	105120.93 *111950.90*	4327.20 *10552.30*	1.585	1.525	54.92% *52.73%*	4.625*	3.924*
ACTIVITY LEVELS									
Sales to Total Assets (STA)	42	0.52 *0.39*	0.91 *0.56*	0.40 *0.17*	1.712*	1.844*	58.10% *55.71%*	3.516*	3.408*
SHORT TERM (ST) EQUILIBRIUM									
Cash/ Banks to ST Debt (CBTSTD)	42	0.20 *0.16*	0.16 *0.13*	-0.040 *-0.028*	1.102	1.019	23.46% *19.05%*	2.824*	2.521*
LONG TERM (LT) EQUILIBRIUM									
Net Cash Flow to LT Debt (NCFTLTD)	42	26.95 *7.78*	20.71 *3.38*	-6.245 *-4.399*	1.196	1.419	37.14% *31.90%*	4.286*	4.457*
CAPITAL STRUCTURE									
Total Debt to Assets (TDTA)	42	0.74 *0.79*	0.62 *0.63*	-0.126 *-0.162*	1.763*	1.809*	65.24% *61.90%*	3.823*	4.457*

* rejection of H0 at five percent level of significance

Table 5. Comparisons of performance changes following privatization of companies operating in competitive industries versus companies operating in non-competitive industries

This table presents comparisons of performance changes for companies operating in competitive industries and companies operating in non-competitive industries. The table presents the results of the Wilcoxon rank sum test (with its z-statistic) - that is employed as a test for significance for change in mean and median values between before and after privatization - and of the Kruskal-Wallis test between competitive and not competitive firms - in mean terms and in median terms respectively (statistic mentions the 'p' value using the chi-squared approximation) - for each empirical proxy and each subsample of the pair. The table presents the number of useable observations, the mean and the median values of the proxy before and after privatization, their change in the proxy's value after versus before privatization, the respective test of significance for the mean and median change, the mean rank of the KW test between competitive and non-competitive subsample and the respectively statistic 'p' value for mean and median comparison.

VARIABLES	N	Mean Before (Median)	Mean After (Median)	Mean Change (Median)	Z-statistics for difference in Means (After-	Z-statistics for difference in Medians	Percentage of firms with improved performance Mean (Median)	Z-statistics for significance performance (Mean)	Z-statistics for significance performance (Median)	KW Results for differences between subsamples for mean		
										Mean Rank		KW test
										C	NC	'p' value
PROFITABILITY Return on Sales (ROS)												
Competitive	26	0.16 *0.24*	0.19 *0.29*	0.03 *0.05*	1.678*	1.732*	58.62% *53.24%*	2.883*	2.911*	23.22	18.78	0.051*
Non competitive	16	0.06 *0.15*	0.11 *0.26*	0.05 *0.11*	1.221	1.412	54.22% *51.23%*	2.713*	2.891*			
OPERATING EFFICENCY Sales Efficiency (SALEFF)												
Competitive	26	1.34 *0.97*	1.94 *1.91*	0.60 *0.94*	2.012*	2.163*	79.23% *69.23%*	3.724*	3.724*	22.23	20.83	0.54
Non competitive	16	0.88 *0.79*	1.41 *1.15*	0.53 *0.36*	2.213*	2.302*	81.25% *75.00%*	3.18*	3.059*			
CAPITAL INVESTMENT Real Cap. Exp. to Sales (RCESA)												
Competitive	26	0.68 *0.32*	0.71 *0.48*	0.02 *0.16*	0.579	0.834	58.46% *52.31%*	2.733*	2.884*	21.77	21.46	0.21
Noncompetitive	16	0.49 *0.18*	0.60 *0.34*	0.11 *0.17*	0.397	1.322	53.75% *47.50%*	2.446*	2.451*			
REAL OUTPUT Real Sales (SAL)												
Competitive	26	1.98 *1.11*	2.67 *2.65*	0.69 1.54	1.659*	1.343*	61.54% *65.38%*	3.516*	3.621*	21.15	20.81	0.27
Noncompetitive	16	0.47 *0.91*	1.98 *2.11*	1.51 1.20	1.772*	1.771*	81.25% *81.25%*	3.18*	3.28*			
EMPLOYMENT Total Employment (EMPL)												
Competitive	26	2709.67 *2299.50*	2006.06 *1983.50*	-703.61 *-316.00*	2.549*	2.427*	46.92% *59.23%*	2.126*	3.654*	21.62	19.69	0.045*
Noncompetitive	16	2020.24 *1917.00*	1759.60 *1703.25*	-260.64 *-213.75*	0.534	0.879	43.75% *68.75%*	2.256*	2.864*			
DIVIDEND POLICY Dividend to Sales (DIVSAL)												
Competitive	26	0.04 *0.02*	0.11 *0.09*	0.08 *0.07*	1.576	1.113	65.38% *57.69%*	3.621*	3.408*	21.65	21.25	0.91
Noncompetitive	16	0.01 *0.01*	0.06 *0.02*	0.05 *0.01*	1.256	1.427	62.50% *50.00%*	2.803*	2.521*			
TREASURY Treasury Aplications (TA)												
Competitive	26	120228.80 *114562.88*	124987.23 *119220.32*	4758.43 *4657.44*	1.523	1.563	56.15% *44.62%*	3.231*	2.666*	22.06	20.44	0.33
Noncompetitive	16	87977.65 *91221.92*	97232.56 *101090.33*	9254.91 *9868.41*	1.157	1.623	56.25% *43.75%*	2.456*	2.366*			
ACTIVITY LEVELS Sales to Total Assets (STA)												
Competitive	26	0.56 *0.55*	1.49 *0.56*	0.92 *0.01*	1.683*	1.75*	43.08% *41.18%*	2.171*	2.201*	22.55	19.95	0.032*
Noncompetitive	16	0.46 *0.43*	0.73 *0.41*	0.27 *-0.01*	0.103	0.102	62.50% *56.25%*	2.773*	2.656*			
SHORT TERM (ST) EQUILIBRIUM Cash/Banks to ST Debt (CBTSTD)												
Competitive	26	0.12 *0.13*	0.10 *0.08*	-0.02 *-0.04*	1.099	1.589	21.54% *17.69%*	1.652*	1.342	22.58	18.13	0.10
Noncompetitive	16	0.27 *0.19*	0.19 *0.16*	-0.09 *-0.04*	0.150	0.123	37.50% *27.50%*	2.010*	2.121*			
LONG TERM (LT) EQUILIBRIUM Net cash flow to LT Debt (NCFTLTD)												
Competitive	26	16.40 *4.23*	13.66 *1.12*	-2.74 *-3.11*	0.56	0.357	30.49% *23.85%*	3.018*	3.096*	20.22	22.31	0.11
Noncompetitive	16	33.43 *9.88*	29.77 *5.34*	-3.66 *-4.54*	1.079	1.523	38.75% *45.00%*	2.834*	3.129*			
CAPITAL STRUCTURE Total Debt to Total Assets (TDTA)												
Competitive	26	0.79 *0.85*	0.69 *0.71*	-0.10 *-0.14*	0.235	0.245	30.00% *37.69%*	3.048*	3.378*	21.44	19.78	0.09
Noncompetitive	16	0.69 *0.66*	0.60 *0.59*	-0.09 *-0.07*	0.229	1.02	37.50% *38.75%*	2.0401*	2.434*			

* rejection of H0 at five percent level of significance

Table 6. Comparisons of performance changes following privatization of companies with less than fifty percent change in Board of Directors versus companies with greater than or equal to fifty percent change in Board of Directors

This table presents comparisons of performance changes for companies with less than fifty percent change in Board of Director and companies with greater than or equal to fifty percent change in Board of Directors. The table presents the results of the Wilcoxon rank sum test (with its z-statistic) - that is employed as a test for significance for change in mean and median values between before and after privatization - and of the Kruskal-Wallis test companies with less than fifty percent change in Board of Director and companies with greater than or equal to fifty percent change in Board of Directors - in mean terms and in median terms respectively (statistic mentions the 'p' value using the chi-squared approximation) - for each empirical proxy and each subsample of the pair. The table presents the number of useable observations, the mean and the median values of the proxy before and after privatization, their change in the proxy's value after versus before privatization, the respective test of significance for the mean and median change, the mean rank of the KW test between change -50% and no change +50% subsample and the respectively statistic 'p' value for mean and median comparison.

VARIABLES	N	Mean Before (Median)	Mean After (Median)	Mean Change (Median)	Z-statistics for difference in Means (After-Before)	Z-statistics for difference in Medians (After-Before)	Percentage of firms with improved performance Mean (Median)	Z-statistics for significance performance (Mean)	Z-statistics for significance performance (Median)	KW Results for diferences between subsamples for		
										Mean Rank		KW test
										Change in Board of Director -50%	Change in Board of Director +50%	'p' value
PROFITABILITY Return on Sales (ROS)												
Change in Board of Director -50%	14	0.12 *0.26*	0.09 *0.19*	-0.03 *-0.07*	0.135	0.280	37.14% *30.00%*	2.5021*	2.0366*	17.25	25.83	0.067*
Change in Board of Director +50%	28	0.08 *0.19*	0.26 *0.29*	0.18 *0.10*	1.653*	1.678*	63.57% *60.00%*	3.398*	3.0296*			
OPERATING EFFICENCY Sales Efficiency (SALEFF)												
Change in Board of Director -50%	14	0.99 *0.97*	0.89 *0.93*	-0.10 *-0.04*	0.754	0.094	35.14% *29.00%*	2.321*	2.336*	16.29	25.93	0.055*
Change in Board of Director +50%	28	0.87 *0.85*	2.12 *2.31*	1.25 *1.46*	3.188*	3.412*	82.14% *82.14%*	4.097*	4.097*			
CAPITAL INVESTMENT Real Capital Exp. to Sales (RCESA)												
Change in Board of Director -50%	14	0.33 *0.24*	0.39 *0.24*	0.06 *0.00*	0.377	1.297	42.86% *35.71%*	2.201*	2.023*	21.32	21.86	0.894
Change in Board of Director +50%	28	0.63 *0.38*	0.72 *0.49*	0.09 *0.11*	0.683	1.202	59.29% *52.86%*	2.934*	3.059*			
REAL OUTPUT Real Sales (SAL)												
Change in Board of Director -50%	14	0.85 *0.86*	1.55 *1.90*	0.70 *1.05*	0.157	0.126	51.23% *52.77%*	2.436*	2.456*	18.71	23.37	0.073*
Change in Board of Director +50%	28	0.98 *0.99*	2.99 *3.17*	2.01 *2.18*	2.232*	2.978*	78.57% *82.14%*	3.917*	4.007*			
EMPLOYMENT Total Employment (EMPL)												
Change in Board of Director -50%	14	2681.18 *2229.00*	1788.33 *1953.25*	-892.85 *-275.75*	0.602	0.580	38.57% *54.29%*	1.786*	2.666*	21.86	22.66	0.061*
Change in Board of Director +50%	28	1969.46 *1924.00*	1917.45 *1666.50*	-52.01 *-257.50*	2.229*	2.569*	35.71% *69.43%*	2.753*	3.760*			
DIVIDEND POLICY Dividend to Sales (DIVSAL)												
Change in Board of Director -50%	14	0.01 *0.01*	0.10 *0.01*	0.09 *0.00*	1.238*	1.117	69.43% *64.29%*	2.812*	2.546*	21.86	21.79	0.147
Change in Board of Director +50%	28	0.02 *0.01*	0.03 *0.06*	0.02 *0.05*	1.397	1.523	60.71% *51.25%*	3.771*	3.326*			
TREASURY Treasury Aplications (TA)												
Change in Board of Director -50%	14	94900.82 *89828.37*	105987.88 *101222.29*	11087.06 *11393.92*	1.148	1.116	30.00% *25.71%*	2.786*	2.113*	21.71	22.07	0.557
Change in Board of Director +50%	28	117292.22 *116722.80*	126989.99 *132454.88*	9697.77 *15732.08*	1.125	1.443	40.00% *29.29%*	3.396*	2.894*			
ACTIVITY LEVELS Sales to Total Assets (STA)												
Change in Board of Director -50%	14	0.37 *0.35*	0.72 *0.39*	0.35 *0.04*	0.491	0.874	45.71% *45.71%*	2.143*	2.113*	21.46	20.57	0.142
Change in Board of Director +50%	28	0.58 *0.55*	1.51 *0.62*	0.93 *0.06*	1.002	1.071	59.29% *55.71%*	2.764*	2.773*			
SHORT TERM (ST) EQUILIBRIUM Cash/Banks to ST Debt (CBTSTD)												
Change in Board of Director -50%	14	0.19 *0.12*	0.11 *0.09*	-0.07 *-0.04*	1.363	1.099	35.71% *35.71%*	2.123*	2.143*	20.04	22.43	0.078*
Change in Board of Director +50%	28	0.21 *0.20*	0.18 *0.18*	-0.03 *-0.02*	1.834*	2.892*	24.29% *20.71%*	1.796*	1.574			
LONG TERM (LT) EQUILIBRIUM Net cash flow to LT Debt (NCFTLTD)												
Change in Board of Director -50%	14	19.64 *1.60*	11.21 *1.15*	-8.43 *-0.45*	0.865	0.295	34.29% *27.14%*	2.556*	2.471*	21.79	20.93	0.831
Change in Board of Director +50%	28	37.11 *12.17*	30.46 *4.18*	-6.65 *-7.99*	0.766	1.595	43.57% *44.29%*	3.338*	3.684*			
CAPITAL STRUCTURE Total Debt to Total Assets (TDTA)												
Change in Board of Director -50%	14	0.63 *0.68*	0.57 *0.57*	-0.06 *-0.11*	0.555	0.812	32.86% *41.43%*	2.191*	2.793*	21.50	21.05	0.455
Change in Board of Director +50%	28	0.85 *0.92*	0.74 *0.69*	-0.11 *-0.23*	0.054	0.866	56.43% *67.14%*	3.150*	3.496*			

* rejection of H0 at five percent level of significance

Table 7. Comparisons of performance changes following privatization of firms that belong to the financial sector versus firms that do not belong to the financial sector

This table presents comparisons of performance changes for firms that belong in the financial sector versus firms that do not belong in the financial sector. The table presents the results of the Wilcoxon rank sum test (with its z-statistic) - that is employed as a test for significance for change in mean and median values between before and after privatization - and of the Kruskal-Wallis test firms from financial sector versus firms that aren't from the financial sector - in mean terms and in median terms respectively (statistic mentions the 'p' value using the chi-squared approximation) - for each empirical proxy and each subsample of the pair. The table presents the number of useable observations. the mean and the median values of the proxy before and after privatization, their change in the proxy's value after versus before privatization, the respective test of significance for the mean and median change, the mean rank of the KW test between Financial Firms and Not Financial Firms subsample and the respectively statistic 'p' value for mean and median comparison.

VARIABLES	N	Mean Before (Median)	Mean After (Median)	Mean Change (Median)	Z-statistics for difference in Means (After-Before)	Z-statistics for difference in Medians (After-Before)	Percentage of firms with improved performance Mean (Median)	Z-statistics for significance performance (Mean)	Z-statistics for significance performance (Median)	KW Results for differences between subsamples for mean		
										Mean Rank		KW test
										FS	NoFS	'p' value
PROFITABILITY Return on Sales (ROS)												
Financial	15	0.12 *0.23*	0.15 *0.25*	0.03 *0.02*	0.346	0.910	60.00% *43.33%*	2.666*	2.023*	18.47	23.92	0.068*
No Financial	26	0.08 *0.17*	0.23 *0.34*	0.15 *0.17*	1.792*	1.845*	50.00% *57.69%*	3.180*	3.408*			
OPERATING EFFICENCY Sales Efficiency (SALEFF)												
Financial	15	1.04 *0.97*	1.42 *1.49*	0.38 *0.52*	1.449	1.534	66.67% *66.67%*	2.803*	2.803*	19.13	22.42	0.052*
No Financial	26	0.72 *0.81*	1.89 *1.99*	1.17 *1.18*	2.794*	2.718*	76.92% *73.08%*	3.920*	3.823*			
CAPITAL INVESTMENT Real Capital Exp. to Sales (RCESA)												
Financial	15	0.58 *0.39*	0.59 *0.41*	0.01 *0.02*	0.126	0.421	53.33% *50.00%*	2.023*	2.201*	18.80	21.52	0.106
No Financial	26	0.41 *0.19*	0.88 *0.69*	0.47 *0.50*	1.553	2.191*	56.15% *52.31%*	3.059*	2.934*			
REAL OUTPUT Real Sales (SAL)												
Financial	15	0.78 *0.81*	1.59 *1.78*	0.81 *0.97*	1.477	1.088	66.67% *73.33%*	2.803*	2.934*	18.33	23.80	0.09
No Financial	26	1.19 *1.29*	3.55 *3.78*	2.36 *2.49*	1.332	1.834*	69.23% *69.23%*	3.724*	3.724*			
EMPLOYMENT Total Employment (EMPL)												
Financial	15	2795.90 *2372.00*	2277.64 *2022.50*	-518.26 *-349.50*	1.590	1.477	56.67% *73.33%*	1.826*	2.934*	17.40	24.36	0.04*
No Financial	26	1517.05 *1539.50*	1488.16 *1464.50*	-28.89 *-75.00*	1.613*	1.816*	48.46% *65.38%*	2.803*	3.621*			
DIVIDEND POLICY Dividend to Sales (DIVSAL)												
Financial	15	0.01 *0.00*	0.12 *0.01*	0.10 *0.01*	1.675*	1.943*	80.00% *86.67%*	3.059*	3.180*	21.47	21.12	0.295
No Financial	26	0.02 *0.00*	0.05 *0.00*	0.03 *0.00*	1.327	1.566	53.85% *34.62%*	3.296*	2.666*			
TREASURY Treasury Aplications (TA)												
Financial	15	119878.00 *118777.00*	123909.00 *120982.00*	4031.00 *2205.00*	1.625	1.517	53.33% *40.00%*	2.521*	2.201*	20.27	20.64	0.922
No Financial	26	97222.00 *89767.00*	98787.00 *93450.00*	1565.00 *3683.00*	1.200	1.629	50.00% *38.46%*	3.186*	2.803*			
ACTIVITY LEVELS Sales to Total Assets (STA)												
Financial	15	0.47 *0.47*	0.87 *0.59*	0.40 *0.12*	1.204	1.188	66.67% *66.67%*	2.323*	2.989*	17.47	25.92	0.03*
No Financial	26	0.59 *0.33*	1.94 *1.66*	1.35 *1.33*	3.048*	3.185*	57.69% *53.85%*	3.408*	3.296*			
SHORT TERM (ST) EQUILIBRIUM Cash/Banks to ST Debt (CBTSTD)												
Financial	15	0.36 *0.25*	0.19 *0.19*	-0.17 *-0.06*	1.989*	1.712*	26.67% *20.00%*	1.826*	1.604	25.00	18.60	0.06*
No Financial	26	0.11 *0.12*	0.09 *0.09*	-0.02 *-0.03*	1.248	1.451	19.23% *19.23%*	2.023*	2.023*			
LONG TERM (LT) EQUILIBRIUM Net cash flow to LT Debt (NCFTLTD)												
Financial	15	28.34 *8.99*	24.55 *7.44*	-3.79 *-1.55*	0.802	0.708	43.33% *40.00%*	2.521*	2.666*	21.07	23.16	0.63
No Financial	26	22.77 *4.84*	21.23 *4.11*	-1.54 *-0.73*	0.486	1.157	47.69% *41.54%*	3.408*	3.516*			
CAPITAL STRUCTURE Total Debt to Total Assets (TDTA)												
Financial	15	0.90 *0.86*	0.89 *0.90*	-0.01 *0.03*	0.057	0.628	53.33% *56.67%*	2.521*	2.366*	20.60	24.44	0.02*
No Financial	26	0.74 *0.60*	0.55 *0.46*	-0.19 *-0.14*	1.677*	1.683*	52.31% *69.23%*	2.934*	3.724*			

* rejection of H0 at five percent level of significance

Table 8. Comparisons of Performance Changes Following Privatization of Companies with Greater or Equal to 50% of Capital in National Hands versus Companies with Less than 50% of Capital in National Hand

This table presents comparisons of performance changes for companies with greater or equal to fifty percent of capital in national hands (National Allocation) versus companies with less than fifty percent of capital in national hands (Foreign Allocation). The table presents the results of the Wilcoxon rank sum test (with its z-statistic) - that is employed as a test for significance for change in mean and median values between before and after privatization - and of the Kruskal-Wallis test companies with National Allocation and companies with Foreign Allocation - in mean terms and in median terms respectively (statistic mentions the 'p' value using the chi-squared approximation) - for each empirical proxy and each subsample of the pair. The table presents the number of useable observations, the mean and the median values of the proxy before and after privatization, their change in the proxy's value after versus before privatization, the respective test of significance for the mean and median change, the mean rank of the KW test between National and Foreign subsample and the respectively statistic 'p' value for mean and median comparison.

VARIABLES	N	Mean Before (Median)	Mean After (Median)	Mean Change (Median)	Z-statistics for difference in Means (After-Before)	Z-statistics for difference in Medians (After-Before)	Percentage of firms with improved performance Mean (Median)	Z-statistics for significance performance (Mean)	Z-statistics for significance performance (Median)	KW Results for differences between subsamples for mean		
										Mean Rank		KW test
										NaC	FC	'p' value
PROFITABILITY Return on Sales (ROS)												
National Allocation	39	0.12 *0.23*	0.16 *0.26*	0.04 *0.03*	0.180	0.141	53.66% *48.72%*	4.107*	3.823*	18.85	23.88	0.051*
Foreign Allocation	3	0.11 *0.23*	0.39 *0.49*	0.28 *0.26*	1.664*	1.669*	63.33% *66.67%*	2.209*	2.342*			
OPERATING EFFICENCY Sales Efficiency (SALEFF)												
National Allocation	39	0.93 *0.91*	1.71 *1.72*	0.78 *0.81*	2.107*	2.770*	70.73% *71.79%*	4.683*	4.583*	21.38	23.00	0.826
Foreign Allocation	3	0.69 *0.71*	1.97 *1.97*	1.28 *1.26*	1.729*	1.839*	76.67% *76.67%*	1.722*	1.892*			
CAPITAL INVESTMENT Real Capital Exp. to Sales (RCESA)												
National Allocation	39	0.55 *0.36*	0.57 *0.37*	0.02 *0.01*	0.184	1.374	51.46% *53.59%*	3.581*	3.561*	20.36	21.66	0.788
Foreign Allocation	3	0.26 *0.28*	0.79 *0.89*	0.53 *0.61*	0.594	1.593	73.88% *65.77%*	1.098	1.213			
REAL OUTPUT Real Sales (SAL)												
National Allocation	39	0.95 *0.99*	2.16 *2.39*	1.21 *1.40*	0.397	0.475	65.85% *71.79%*	4.041*	4.623*	17.87	24.76	0.075*
Foreign Allocation	3	0.77 *0.69*	2.89 *2.91*	2.12 *2.22*	2.402*	2.680*	76.67% *76.67%*	1.292	1.342			
EMPLOYMENT Total Employment (EMPL)												
National Allocation	39	2241.79 *2365.00*	1821.19 *1876.00*	-420.60 *-489.00*	2.193*	2.255*	54.15% *66.67%*	3.316*	4.397*	21.77	18.00	0.06*
Foreign Allocation	3	1283.89 *1519.00*	1127.88 *1361.00*	-156.01 *-158.00*	1.584	1.594	43.55% *53.33%*	1.476	1.604			
DIVIDEND POLICY Dividend to Sales (DIVSAL)												
National Allocation	39	0.02 *0.01*	0.07 *0.06*	0.06 *0.05*	0.594	0.468	60.98% *56.41%*	4.412*	4.117*	21.41	22.67	0.864
Foreign Allocation	3	0.01 *0.01*	0.03 *0.02*	0.02 *0.01*	0.497	0.447	66.67% *43.33%*	1.332	1.456			
TREASURY Treasury Aplications (TA)												
National Allocation	39	98222.00 *102887.00*	103332.00 *109878.00*	5110.00 *6991.00*	1.579	1.578	36.34% *38.46%*	3.823*	3.408*	21.85	21.00	0.510
Foreign Allocation	3	102110.62 *109888.00*	109656.00 *117989.00*	7545.38 *8101.00*	1.119	1.102	36.67% *33.33%*	1.342	1.432			
ACTIVITY LEVELS Sales to Total Assets (STA)												
National Allocation	39	0.51 *0.42*	0.79 *0.45*	0.28 *0.03*	1.594	1.119	51.71% *53.33%*	3.150*	3.450*	20.62	23.98	0.052*
Foreign Allocation	3	0.67 *0.71*	0.99 *0.79*	0.32 *0.09*	1.651*	1.695*	78.55% *66.67%*	1.694*	1.732*			
SHORT TERM (ST) EQUILIBRIUM Cash/Banks to ST Debt (CBTSTD)												
National Allocation	39	0.19 *0.14*	0.15 *0.12*	-0.03 *-0.02*	1.495	1.236	19.51% *17.95%*	2.491*	2.336*	22.15	22.00	0.592
Foreign Allocation	3	0.23 *0.18*	0.20 *0.14*	-0.03 *-0.04*	1.027	1.201	33.33% *33.33%*	1.712*	1.832*			
LONG TERM (LT) EQUILIBRIUM Net cash flow to LT Debt (NCFTLTD)												
National Allocation	39	24.90 *6.89*	18.96 *2.29*	-5.94 *-4.60*	1.660*	1.753*	33.66% *41.54%*	3.907*	4.326*	25.72	17.67	0.036*
Foreign Allocation	3	28.69 *9.55*	27.46 *7.34*	-1.24 *-2.21*	0.535	0.535	36.67% *36.67%*	1.692*	1.794*			
CAPITAL STRUCTURE Total Debt to Total Assets (TDTA)												
National Allocation	39	0.79 *0.76*	0.63 *0.62*	-0.16 *-0.14*	0.218	0.838	53.90% *58.97%*	3.724*	4.197*	22.38	21.88	0.092
Foreign Allocation	3	0.80 *0.85*	0.74 *0.79*	-0.05 *-0.06*	0.535	1.604	53.33% *63.90%*	1.701*	1.694*			

* rejection of H0 at five percent level of significance

Table 9. Comparisons of performance changes following privatization of firms that have concentrated structure versus firms that have a more flexible structure

This table presents comparisons of performance changes for firms that have concentrated structure versus firms that have a more flexible structure (No Concentrated Structure). The table presents the results of the Wilcoxon rank sum test (with its z-statistic) - that is employed as a test for significance for change in mean and median values between before and after privatization - and of the Kruskal-Wallis test firms that have concentrated structure versus firms that have a more flexible structure - in mean terms and in median terms respectively (statistic mentions the 'p' value using the chi-squared approximation) - for each empirical proxy and each subsample of the pair. The table presents the number of useable observations, the mean and the median values of the proxy before and after privatization, their change in the proxy's value after versus before privatization, the respective test of significance for the mean and median change, the mean rank of the KW test between Concentrated Structure and No Concentrated Structure subsample and the respectively statistic 'p' value for mean and median comparison.

VARIABLES	N	Mean Before (Median)	Mean After (Median)	Mean Change (Median)	Z-statistics for difference in Means (After-Before)	Z-statistics for difference in Medians (After-Before)	Percentage of firms with improved performance Mean (Median)	Z-statistics for significance performance (Mean)	Z-statistics for significance performance (Median)	KW Results for diferences between subsamples for mean		
										Mean Rank		KW test
										CS	NoCS	'p' value
PROFITABILITY Return on Sales (ROS)												
Concentrated Structure	22	0.08 *0.18*	0.20 *0.31*	0.12 *0.13*	1.661*	1.732*	60.00% *64.55%*	2.934*	3.059*	25.34	18.69	0.025*
No Concentrated Structure	20	0.14 *0.25*	0.15 *0.25*	0.01 *0.00*	0.785	1.047	55.00% *45.00%*	2.934*	2.666*			
OPERATING EFFICENCY Sales Efficiency (SALEFF)												
Concentrated Structure	22	0.94 *0.93*	1.81 *1.87*	0.86 *0.93*	2.549*	2.833*	72.73% *77.27%*	3.621*	3.621*	21.48	22.60	0.416
No Concentrated Structure	20	0.89 *0.89*	1.55 *1.49*	0.66 *0.60*	2.115*	1.842*	70.00% *70.00%*	3.296*	3.296*			
CAPITAL INVESTMENT Real Capital Exp. to Sales (RCESA)												
Concentrated Structure	22	0.58 *0.32*	0.75 *0.47*	0.17 *0.16*	0.896	1.308	62.73% *60.91%*	2.023*	2.666*	21.80	22.31	0.239
No Concentrated Structure	20	0.48 *0.27*	0.57 *0.35*	0.10 *0.08*	0.817	1.112	50.00% *50.00%*	2.803*	2.521*			
REAL OUTPUT Real Sales (SAL)												
Concentrated Structure	22	1.01 *1.22*	2.47 *2.72*	1.46 *1.50*	2.173*	2.354*	72.73% *77.27%*	3.516*	3.621*	23.93	19.12	0.050*
No Concentrated Structure	20	0.86 *0.93*	1.78 *2.03*	0.91 *1.10*	1.043	1.269	65.00% *70.00%*	3.180*	3.296*			
EMPLOYMENT Total Employment (EMPL)												
Concentrated Structure	22	2476.00 *2232.00*	1789.00 *1698.00*	-687.00 *-534.00*	2.711*	2.419*	31.82% *68.18%*	2.366*	3.408*	24.61	19.50	0.022*
No Concentrated Structure	20	1898.00 *1886.00*	1867.00 *1872.00*	-31.00 *-14.00*	1.060	1.408	35.00% *75.00%*	2.366*	3.408*			
DIVIDEND POLICY Dividend to Sales (DIVSAL)												
Concentrated Structure	22	0.01 *0.01*	0.04 *0.02*	0.03 *0.01*	1.016	1.544	50.00% *40.91%*	2.934*	2.666*	21.61	19.60	0.19
No Concentrated Structure	20	0.02 *0.00*	0.10 *0.07*	0.09 *0.07*	1.482	1.738	70.00% *60.00%*	3.516*	3.296*			
TREASURY Treasury Aplications (TA)												
Concentrated Structure	22	111232.00 *111282.00*	119789.00 *127899.00*	8557.00 *16617.00*	1.464	1.485	36.36% *22.73%*	2.521*	2.023*	21.09	22.95	0.627
No Concentrated Structure	20	96787.00 *92787.00*	100222.00 *102009.00*	3435.00 *9222.00*	1.269	1.435	35.00% *35.00%*	3.180*	2.934*			
ACTIVITY LEVELS Sales to Total Assets (STA)												
Concentrated Structure	22	0.48 *0.41*	0.99 *0.57*	0.51 *0.16*	1.266	1.348	36.36% *31.82%*	2.521*	2.360*	22.66	20.26	0.375
No Concentrated Structure	20	0.57 *0.67*	0.80 *0.49*	0.23 *-0.18*	0.691	0.840	40.00% *40.00%*	2.521*	2.521*			
SHORT TERM (ST) EQUILIBRIUM Cash/Banks to ST Debt (CBTSTD)												
Concentrated Structure	22	0.28 *0.19*	0.23 *0.18*	-0.05 *-0.01*	1.739*	1.895*	13.64% *13.64%*	1.604	1.604	21.02	23.02	0.601
No Concentrated Structure	20	0.17 *0.10*	0.11 *0.09*	-0.06 *-0.01*	2.053*	2.636*	25.00% *25.00%*	2.023*	2.023*			
LONG TERM (LT) EQUILIBRIUM Net cash flow to LT Debt (NCFTLTD)												
Concentrated Structure	22	22.34 *6.92*	20.01 *4.28*	-2.33 *-2.64*	0.776	1.460	34.55% *33.64%*	3.059*	3.296*	20.75	23.31	0.504
No Concentrated Structure	20	28.88 *7.88*	22.76 *2.33*	-6.12 *-5.55*	1.102	1.326	35.00% *35.00%*	3.180*	3.180*			
CAPITAL STRUCTURE Total Debt to Total Assets (TDTA)												
Concentrated Structure	22	0.78 *0.83*	0.49 *0.61*	-0.29 *-0.22*	1.780*	1.687*	60.91% *63.64%*	2.666*	3.296*	24.89	18.07	0.053*
No Concentrated Structure	20	0.69 *0.75*	0.65 *0.69*	-0.04 *-0.06*	1.037	1.486	60.00% *65.00%*	2.803*	3.180*			

* rejection of H0 at five percent level of significance

Table 10. Comparisons of performance changes following privatization of firms that were privatized by Share Issue Privatization (SIP) versus firms that were privatized by Direct Sale (DS)

This table presents comparisons of performance changes for firms that were privatized by SIP versus firms that were privatized by Direct Sale. The table presents the results of the Wilcoxon rank sum test (with its z-statistic) - that is employed as a test for significance for change in mean and median values between before and after privatization - and of the Kruskal-Wallis test firms that were privatized by IPO versus firms that were privatized by Direct Sale - in mean terms and in median terms respectively (statistic mentions the 'p' value using the chi-squared approximation) - for each empirical proxy and each subsample of the pair. The table presents the number of useable observations, the mean and the median values of the proxy before and after privatization, their change in the proxy's value after versus before privatization, the respective test of significance for the mean and median change, the mean rank of the KW test between IPO and Direct Sale subsample and the respectively statistic 'p' value for mean and median comparison.

VARIABLES	N	Mean Before (Median)	Mean After (Median)	Mean Change (Median)	Z-statistics for difference in Means (After-Before)	Z-statistics for difference in Medians (After-Before)	Percentage of firms with improved performance Mean (Median)	Z-statistics for significance performance (Mean)	Z-statistics for significance performance (Median)	KW Results for diferences between subsamples for mean		
										Mean Rank		KW test
										SPI	DS	'p' value
PROFITABILITY Return on Sales (ROS)												
Privatization by IPO	19	0.08 *0.17*	0.29 *0.38*	0.21 *0.21*	1.908*	1.739*	60.00% *55.00%*	2.803*	2.366*	24.30	19.61	0.064*
Privatization by Direct Sale	18	0.13 *0.22*	0.14 *0.25*	0.01 *0.03*	0.175	1.218	60.00% *61.11%*	2.666*	2.934*			
OPERATING EFFICENCY Sales Efficiency (SALEFF)												
Privatization by IPO	19	0.95 *0.97*	1.99 *2.17*	1.04 *1.20*	2.697*	2.677*	75.00% *75.00%*	3.408*	3.408*	22.90	15.72	0.047*
Privatization by Direct Sale	18	0.71 *0.77*	1.69 *1.65*	0.98 *0.88*	1.198	1.207	61.11% *61.11%*	2.934*	2.934*			
CAPITAL INVESTMENT Real Capital Exp. to Sales (RCESA)												
Privatization by IPO	19	0.44 *0.24*	0.52 *0.33*	0.08 *0.09*	1.752*	1.650*	50.00% *55.00%*	2.201*	2.366*	21.05	19.78	0.045*
Privatization by Direct Sale	18	0.57 *0.37*	0.78 *0.69*	0.21 *0.32*	0.803	0.645	58.89% *50.00%*	2.366*	2.666*			
REAL OUTPUT Real Sales (SAL)												
Privatization by IPO	19	0.84 *0.88*	3.77 *3.75*	2.93 *2.87*	1.871*	2.614*	70.00% *80.00%*	3.296*	3.516*	25.25	13.11	0.001*
Privatization by Direct Sale	18	1.10 *0.99*	1.25 *1.12*	0.15 *0.13*	0.370	0.131	55.56% *55.56%*	2.803*	2.803*			
EMPLOYMENT Total Employment (EMPL)												
Privatization by IPO	19	2570.25 *2572.00*	1958.13 *1423.50*	-612.12 *-1148.50*	2.389*	2.352*	65.00% *70.00%*	2.023*	3.516*	25.60	12.72	0.03*
Privatization by Direct Sale	18	1960.68 *1529.00*	1766.33 *1383.50*	-194.34 *-145.50*	1.607	1.459	53.33% *51.11%*	2.201*	2.934*			
DIVIDEND POLICY Dividend to Sales (DIVSAL)												
Privatization by IPO	19	0.02 *0.01*	0.12 *0.07*	0.10 *0.06*	1.121	1.208	70.00% *75.00%*	3.516*	3.408*	22.90	15.72	0.046*
Privatization by Direct Sale	18	0.01 *0.00*	0.03 *0.03*	0.02 *0.03*	1.367	1.485	48.89% *47.78%*	2.366*	2.023*			
TREASURY Treasury Aplications (TA)												
Privatization by IPO	19	94920.00 *99232.00*	95677.00 *102989.00*	757.00 *3757.00*	1.583	1.465	40.00% *35.00%*	3.059*	2.666*	22.95	20.11	0.748
Privatization by Direct Sale	18	104009.00 *111272.00*	117826.00 *121345.00*	13817.00 *10073.00*	0.299	0.784	33.33% *27.78%*	2.201*	2.023*			
ACTIVITY LEVELS Sales to Total Assets (STA)												
Privatization by IPO	19	0.35 *0.33*	1.33 *0.43*	0.98 *0.10*	2.148*	2.614*	15.00% *10.00%*	1.604	1.342	23.75	15.67	0.028*
Privatization by Direct Sale	18	0.65 *0.57*	0.71 *0.59*	0.06 *0.02*	0.142	0.047	55.56% *55.56%*	2.803*	2.803*			
SHORT TERM (ST) EQUILIBRIUM Cash/Banks to ST Debt (CBTSTD)												
Privatization by IPO	19	0.27 *0.19*	0.14 *0.08*	-0.13 *-0.10*	2.334*	3.181*	20.00% *15.00%*	1.826*	1.604	23.30	15.28	0.026*
Privatization by Direct Sale	18	0.20 *0.09*	0.18 *0.08*	-0.02 *-0.01*	1.217	1.179	16.67% *16.67%*	1.604	1.604			
LONG TERM (LT) EQUILIBRIUM Net cash flow to LT Debt (NCFTLTD)												
Privatization by IPO	19	41.99 *3.88*	25.99 *3.44*	-16.00 *-0.44*	1.647*	1.966*	45.00% *45.00%*	2.934*	3.180*	22.80	20.28	0.682
Privatization by Direct Sale	18	16.18 *8.55*	15.12 *3.32*	-1.06 *-5.23*	0.491	0.155	40.00% *45.56%*	2.666*	2.803*			
CAPITAL STRUCTURE Total Debt to Total Assets (TDTA)												
Privatization by IPO	19	0.72 *0.52*	0.51 *0.49*	-0.21 *-0.02*	1.492*	1.574*	65.00% *65.00%*	2.666*	2.934*	23.55	19.77	0.018*
Privatization by Direct Sale	18	0.82 *0.84*	0.79 *0.81*	-0.02 *-0.03*	0.430	0.081	64.44% *62.22%*	2.521*	3.180*			

* rejection of H0 at five percent level of significance

Table 11. Comparisons of performance changes following privatization of firms that are listed versus firms that are not listed in a stock exchange

This table presents comparisons of performance changes for firms that have their stock officially quoted versus firms that do not have their stock officially quoted. The table presents the results of the Wilcoxon rank sum test (with its z-statistic) - that is employed as a test for significance for change in mean and median values between before and after privatization - and of the Kruskal-Wallis test firms that have their stock officially quoted versus firms that do not haven't - in mean terms and in median terms respectively (statistic mentions the 'p' value using the chi-squared approximation) - for each empirical proxy and each subsample of the pair. The table presents the number of useable observations, the mean and the median values of the proxy before and after privatization, their change in the proxy's value after versus before privatization, the respective test of significance for the mean and median change, the mean rank of the KW test between Firms with stock officially quoted and Firms with stock not officially quoted subsample and the respectively statistic 'p' value for mean and median comparison.

VARIABLES	N	Mean Before (Median)	Mean After (Median)	Mean Change (Median)	Z-statistics for difference in Means (After-Before)	Z-statistics for difference in Medians (After-Before)	Percentage of firms with improved performance Mean (Median)	Z-statistics for significance performance (Mean)	Z-statistics for significance performance (Median)	KW Results for differences between subsamples for mean		
										Mean Rank		**KW test**
										Lx	NoLx	**'p' value**
PROFITABILITY Return on Sales (ROS)												
Firms with stock officially quoted	26	0.08 *0.15*	0.29 *0.34*	0.21 *0.19*	1.944*	2.259*	63.85% *58.00%*	3.296*	3.059*	22.96	20.82	0.076*
Firms with stock not officially quoted	16	0.14 *0.20*	0.15 *0.23*	0.01 *0.03*	0.095	0.854	60.00% *62.94%*	2.521*	2.666*			
OPERATING EFFICENCY Sales Efficiency (SALEFF)												
Firms with stock officially quoted	26	0.90 *0.86*	1.98 *1.89*	1.08 *1.03*	2.987*	2.785*	73.08% *72.00%*	3.823*	3.724*	24.28	17.41	0.075*
Firms with stock not officially quoted	16	0.94 *0.93*	1.57 *1.49*	0.63 *0.56*	1.587	1.810*	68.75% *70.59%*	2.934*	3.059*			
CAPITAL INVESTMENT Real Capital Exp. to Sales (RCESA)												
Firms with stock officially quoted	26	0.34 *0.21*	0.94 *0.62*	0.60 *0.41*	1.843*	1.651*	52.31% *56.00%*	2.934*	2.666*	24.32	17.35	0.071*
Firms with stock not officially quoted	16	0.60 *0.39*	0.65 *0.40*	0.05 *0.01*	0.908	1.278	57.50% *57.06%*	2.201*	2.521*			
REAL OUTPUT Real Sales (SAL)												
Firms with stock officially quoted	26	0.87 *0.86*	2.56 *2.78*	1.69 *1.92*	1.729*	2.301*	65.38% *72.00%*	3.621*	3.724*	26.56	16.06	0.01*
Firms with stock not officially quoted	16	1.04 *1.09*	1.78 *1.19*	0.74 *0.10*	1.634	1.373	68.75% *70.59%*	2.934*	3.059*			
EMPLOYMENT Total Employment (EMPL)												
Firms with stock officially quoted	26	3076.59 *2670.00*	2626.11 *2441.00*	-450.48 *-229.00*	1.682*	1.978*	50.77% *66.00%*	2.521*	3.823*	26.72	16.35	0.05*
Firms with stock not officially quoted	16	1845.10 *1423.00*	1653.67 *1304.00*	-191.44 *-119.00*	1.501	1.160	47.50% *58.82%*	2.201*	2.803*			
DIVIDEND POLICY Dividend to Sales (DIVSAL)												
Firms with stock officially quoted	26	0.02 *0.00*	0.10 *0.02*	0.08 *0.02*	1.249	1.469	76.92% *72.00%*	3.920*	3.724*	25.20	17.06	0.017*
Firms with stock not officially quoted	16	0.01 *0.00*	0.03 *0.00*	0.02 *0.00*	1.542	1.363	37.50% *29.41%*	2.201*	2.023*			
TREASURY Treasury Aplications (TA)												
Firms with stock officially quoted	26	101909.00 *105640.00*	107898.00 *112323.00*	5989.00 *6683.00*	1.857*	1.772*	57.69% *44.00%*	3.408*	2.934*	20.74	22.62	0.062
Firms with stock not officially quoted	16	89878.00 *91234.00*	103454.00 *108704.00*	13576.00 *17470.00*	1.610	1.562	57.50% *59.41%*	2.201*	2.023*			
ACTIVITY LEVELS Sales to Total Assets (STA)												
Firms with stock officially quoted	26	0.40 *0.32*	1.14 *0.59*	0.75 *0.27*	1.872*	2.087*	66.92% *64.00%*	2.366*	2.201*	18.08	24.53	0.028*
Firms with stock not officially quoted	16	0.69 *0.57*	0.77 *0.68*	0.08 *0.11*	0.233	0.078	50.00% *52.94%*	2.521*	2.666*			
SHORT TERM (ST) EQUILIBRIUM Cash/Banks to ST Debt (CBTSTD)												
Firms with stock officially quoted	26	0.25 *0.19*	0.19 *0.18*	-0.06 *-0.01*	2.258*	3.119*	53.08% *50.00%*	2.201*	2.023*	24.24	19.47	0.079
Firms with stock not officially quoted	16	0.13 *0.12*	0.12 *0.12*	-0.01 *0.00*	1.023	0.980	48.75% *47.65%*	1.604	1.604			
LONG TERM (LT) EQUILIBRIUM Net cash flow to LT Debt (NCFTLTD)												
Firms with stock officially quoted	26	31.87 *7.98*	29.55 *4.99*	-2.32 *-2.99*	1.043	1.217	53.85% *60.00%*	3.296*	3.408*	20.72	22.65	0.617
Firms with stock not officially quoted	16	18.79 *6.77*	14.55 *2.66*	-4.24 *-4.11*	0.440	1.224	56.25% *64.71%*	2.666*	2.934*			
CAPITAL STRUCTURE Total Debt to Total Assets (TDTA)												
Firms with stock officially quoted	26	0.73 *0.60*	0.58 *0.49*	-0.15 *-0.11*	0.027	0.043	56.15% *56.00%*	3.059*	3.296*	24.28	20.41	0.075
Firms with stock not officially quoted	16	0.76 *0.77*	0.71 *0.72*	-0.05 *-0.05*	0.517	1.500	57.50% *60.59%*	2.201*	3.059*			

* rejection of H0 at five percent level of significance

Table 12. Comparisons of performance changes following privatization for firms that were privatized before or in 1990 versus firms that were privatized after 1990

This table presents comparisons of performance changes for firms that were privatized before 1990 versus firms that were privatized after 1990. The table presents the results of the Wilcoxon rank sum test (with its z-statistic) - that is employed as a test for significance for change in mean and median values between before and after privatization - and of the Kruskal-Wallis test firms that were privatized before 1990 versus firms that were privatized after 1990 - in mean terms and in median terms respectively (statistic mentions the 'p' value using the chi-squared approximation) - for each empirical proxy and each subsample of the pair. The table presents the number of useable observations, the mean and the median values of the proxy before and after privatization, their change in the proxy's value after versus before privatization, the respective test of significance for the mean and median change, the mean rank of the KW test between Privatization before 1990 and Privatization after 1990 subsample and the respectively statistic 'p' value for mean and median comparison.

VARIABLES	N	Mean Before (Median)	Mean After (Median)	Mean Change (Median)	Z-statistics for difference in Means (After-Before)	Z-statistics for difference in Medians (After-Before)	Percentage of firms with improved performance Mean (Median)	Z-statistics for significance performance (Mean)	Z-statistics for significance performance (Median)	KW Results for differences between subsamples for mean		
										Mean Rank		KW test
										Before 1997	After 1997	'p' value
PROFITABILITY Return on Sales (ROS)												
Privatization in or Before 1990	12	0.13 *0.23*	0.13 *0.26*	0.00 *0.03*	0.314	0.368	70.00% *68.33%*	2.201*	2.366*	16.25	22.97	0.042*
Privatization After 1990	30	0.04 *0.12*	0.29 *0.38*	0.25 *0.26*	1.642*	1.923*	56.67% *53.33%*	3.724*	3.180*			
OPERATING EFFICENCY Sales Efficiency (SALEFF)												
Privatization in or Before 1990	12	0.77 *0.79*	1.89 *1.83*	1.12 *1.04*	2.903*	2.746*	81.67% *75.00%*	2.934*	2.666*	22.25	20.48	0.667
Privatization After 1990	30	1.09 *1.13*	1.13 *1.15*	0.04 *0.02*	1.872*	2.139*	66.67% *66.67%*	4.015*	3.920*			
CAPITAL INVESTMENT Real Capital Exp. to Sales (RCESA)												
Privatization in or Before 1990	12	0.32 *0.21*	0.79 *0.59*	0.47 *0.38*	2.864*	2.944*	68.33% *68.33%*	2.898*	3.121*	25.42	19.48	0.028*
Privatization After 1990	30	0.27 *0.25*	0.28 *0.27*	0.01 *0.02*	0.962	0.228	53.33% *53.33%*	2.516*	2.588*			
REAL OUTPUT Real Sales (SAL)												
Privatization in or Before 1990	12	0.74 *0.15*	2.89 *3.13*	2.15 *2.98*	1.561*	1.883*	83.33% *75.00%*	2.803*	2.666*	22.42	20.41	0.626
Privatization After 1990	30	1.19 *0.53*	1.88 *1.17*	0.69 *0.64*	1.800*	2.117*	63.33% *66.67%*	3.902*	3.920*			
EMPLOYMENT Total Employment (EMPL)												
Privatization in or Before 1990	12	2236.00 *2144.00*	1811.00 *1899.00*	-425.00 *-245.00*	2.981*	3.059*	68.33% *71.67%*		2.934*	23.33	20.03	0.422
Privatization After 1990	30	2098.00 *1992.00*	1845.00 *1808.00*	-253.00 *-184.00*	1.018	1.097	53.33% *56.67%*	3.297*	3.621*			
DIVIDEND POLICY Dividend to Sales (DIVSAL)												
Privatization in or Before 1990	12	0.01 *0.00*	0.11 *0.01*	0.10 *0.01*	1.160	1.033	65.00% *58.33%*	2.666*	2.366*	20.92	21.62	0.751
Privatization After 1990	30	0.02 *0.00*	0.05 *0.01*	0.04 *0.01*	1.496	1.199	50.00% *50.00%*	3.724*	3.408*			
TREASURY Treasury Aplications (TA)												
Privatization in or Before 1990	12	102398.00 *108090.00*	109980.00 *116778.00*	7582.00 *8688.00*	1.628	1.504	40.00% *25.00%*	2.201*	1.604	21.75	20.69	0.796
Privatization After 1990	30	98767.00 *99454.00*	103442.00 *104767.00*	4675.00 *5313.00*	1.410	1.434	40.00% *43.33%*	3.408*	3.180*			
ACTIVITY LEVELS Sales to Total Assets (STA)												
Privatization in or Before 1990	12	0.55 *0.44*	0.89 *0.55*	0.34 *0.11*	0.118	0.746	61.67% *63.33%*	2.023*	1.826*	23.00	21.34	0.169
Privatization After 1990	30	0.48 *0.46*	0.98 *0.59*	0.50 *0.13*	1.352	0.864	56.67% *56.67%*	3.059*	2.934*			
SHORT TERM (ST) EQUILIBRIUM Cash/Banks to ST Debt (CBTSTD)												
Privatization in or Before 1990	12	0.23 *0.18*	0.18 *0.15*	-0.05 *-0.03*	1.487	1.600	16.67% *16.67%*	1.342	1.342	22.58	20.94	0.585
Privatization After 1990	30	0.17 *0.14*	0.13 *0.12*	-0.04 *-0.02*	1.111	1.557	23.33% *20.00%*	2.366*	2.201*			
LONG TERM (LT) EQUILIBRIUM Net cash flow to LT Debt (NCFTLTD)												
Privatization in or Before 1990	12	0.16 *0.13*	0.13 *0.12*	-0.03 *-0.01*	0.415	0.051	36.67% *38.33%*	2.521*	2.366*	20.58	21.17	0.886
Privatization After 1990	30	0.22 *0.19*	0.19 *0.14*	-0.03 *-0.05*	1.143	1.119	33.33% *33.33%*	3.479*	3.823*			
CAPITAL STRUCTURE Total Debt to Total Assets (TDTA)												
Privatization in or Before 1990	12	0.65 *0.68*	0.62 *0.58*	-0.03 *-0.10*	0.413	0.317	60.00% *66.67%*	2.201*	2.521*	23.08	20.14	0.474
Privatization After 1990	30	0.79 *0.82*	0.67 *0.77*	-0.12 *-0.05*	0.701	1.277	53.33% *60.00%*	2.982*	3.724*			

* rejection of H0 at five percent level of significance

Table 13. Comparisons of performance changes following privatization for firms that have shareholders in management versus firms that do not have shareholders in management

This table presents comparisons of performance changes for firms that have shareholders in management versus firms that do not have shareholders in management. The table presents the results of the Wilcoxon rank sum test (with its z-statistic) - that is employed as a test for significance for change in mean and median values between before and after privatization - and of the Kruskal-Wallis test for firms that have shareholders in management versus firms that do not have shareholders in management- in mean terms and in median terms respectively (statistic mentions the 'p' value using the chi-squared approximation) - for each empirical proxy and each subsample of the pair. The table presents the number of useable observations, the mean and the median values of the proxy before and after privatization, their change in the proxy's value after versus before privatization, the respective test of significance for the mean and median change, the mean rank of the KW test between shareholders in management and non-shareholders in management subsample and the respectively statistic 'p' value for mean and median comparison.

VARIABLES	N	Mean Before (Median)	Mean After (Median)	Mean Change (Median)	Z-statistics for difference in Means (After-Before)	Z-statistics for difference in Medians (After-Before)	Percentage of firms with improved performance Mean (Median)	Z-statistics for significance performance (Mean)	Z-statistics for significance performance (Median)	KW Results for differences between subsamples for mean		
										Mean Rank		KW test
										SM	NoSM	'p' value
PROFITABILITY Return on Sales (ROS)												
Shareholders in Management	26	0.06 *0.26*	0.27 *0.41*	0.21 *0.15*	1.830*	1.829*	63.85% *83.85%*	3.180*	3.296*	23.12	18.88	0.027*
Non-Shareholders in Management	16	0.13 *0.14*	0.15 *0.19*	0.02 *0.05*	0.259	0.492	46.25% *43.75%*	2.666*	2.366*			
OPERATING EFFICENCY Sales Efficiency (SALEFF)												
Shareholders in Management	26	0.81 *0.83*	2.48 *2.59*	1.67 *1.76*	2.299*	2.408*	69.23% *69.23%*	3.823*	3.724*	22.65	19.63	0.437
Non-Shareholders in Management	16	1.13 *1.19*	1.21 *1.22*	0.08 *0.03*	2.457*	2.224*	51.25% *55.00%*	3.180*	3.059*			
CAPITAL INVESTMENT Real Capital Exp. to Sales (RCESA)												
Shareholders in Management	26	0.39 *0.19*	0.79 *0.53*	0.40 *0.34*	1.579	1.609	58.46% *56.15%*	2.803*	3.059*	24.50	19.13	0.501
Non-Shareholders in Management	16	0.61 *0.39*	0.69 *0.43*	0.08 *0.04*	0.517	1.447	50.00% *41.25%*	2.521*	2.023*			
REAL OUTPUT Real Sales (SAL)												
Shareholders in Management	26	0.69 *0.71*	3.49 *2.89*	2.80 *2.18*	2.328*	2.540*	69.23% *73.08%*	3.724*	3.823*	24.65	19.25	0.059*
Non-Shareholders in Management	16	1.23 *1.39*	2.01 *2.17*	0.78 *0.78*	0.931	1.008	68.75% *68.75%*	2.934*	2.934*			
EMPLOYMENT Total Employment (EMPL)												
Shareholders in Management	26	2122.00 *2134.00*	1675.00 *1841.25*	-447.00 *-292.75*	1.562*	1.733*	62.31% *61.54%*	3.724*	3.516*	21.12	22.13	0.796
Non-Shareholders in Management	16	1844.00 *1983.00*	1799.00 *1899.50*	-45.00 *-83.50*	1.862*	2.430*	55.00% *51.25%*	1.826*	3.180*			
DIVIDEND POLICY Dividend to Sales (DIVSAL)												
Shareholders in Management	26	0.00 *0.00*	1.00 *1.01*	1.00 *1.01*	1.013	1.261	73.08% *65.38%*	3.408*	3.621*	24.54	16.56	0.040*
Non-Shareholders in Management	16	0.01 *0.01*	0.03 *0.02*	0.01 *0.01*	1.519	1.647	46.25% *47.50%*	2.666*	2.201*			
TREASURY Treasury Aplications (TA)												
Shareholders in Management	26	108220.00 *116520.00*	109675.00 *119230.00*	1455.00 *2710.00*	1.586	1.609	36.15% *34.62%*	2.934*	2.666*	22.29	20.72	0.754
Non-Shareholders in Management	16	95428.00 *93450.00*	101091.00 *103229.00*	5663.00 *9779.00*	1.602	1.454	36.25% *33.75%*	2.666*	2.366*			
ACTIVITY LEVELS Sales to Total Assets (STA)												
Shareholders in Management	26	0.39 *0.35*	1.39 *1.36*	1.00 *1.01*	1.627*	1.750*	64.62% *60.77%*	2.803*	2.521*	25.35	21.75	0.049*
Non-Shareholders in Management	16	0.61 *0.38*	0.81 *0.41*	0.20 *0.03*	0.052	0.103	53.75% *53.75%*	2.366*	2.366*			
SHORT TERM (ST) EQUILIBRIUM Cash/Banks to ST Debt (CBTSTD)												
Shareholders in Management	26	0.23 *0.19*	0.12 *0.09*	-0.11 *-0.10*	2.335*	2.475*	19.23% *15.38%*	2.023*	1.826*	23.00	20.94	0.311
Non-Shareholders in Management	16	0.19 *0.17*	0.17 *0.15*	-0.02 *-0.02*	0.795	1.503	25.00% *25.00%*	1.826*	1.826*			
LONG TERM (LT) EQUILIBRIUM Net cash flow to LT Debt (NCFTLTD)												
Shareholders in Management	26	29.55 *9.44*	29.21 *8.89*	-0.34 *-0.55*	0.608	0.761	67.69% *67.69%*	3.516*	3.408*	20.85	21.94	0.816
Non-Shareholders in Management	16	19.88 *5.73*	13.23 *1.99*	-6.65 *-3.74*	1.568*	1.916*	62.50% *68.75%*	2.803*	2.934*			
CAPITAL STRUCTURE Total Debt to Total Assets (TDTA)												
Shareholders in Management	26	0.88 *0.99*	0.33 *0.69*	-0.55 *-0.30*	0.591*	1.660*	62.31% *69.23%*	3.724*	3.724*	25.27	18.88	0.087*
Non-Shareholders in Management	16	0.69 *0.65*	0.65 *0.61*	-0.04 *-0.04*	0.078	1.223	50.00% *50.00%*	2.521*	2.521*			

* rejection of H0 at five percent level of significance

Table 14. Comparisons of performance changes following privatization for firms that were privatized partially versus firms that were privatized totally

This table presents comparisons of performance changes for firms that were privatized partially versus firms that were privatized totally. The table presents the results of the Wilcoxon rank sum test (with its z-statistic) - that is employed as a test for significance for change in mean and median values between before and after privatization - and of the Kruskal-Wallis test firms that were privatized partially versus firms that were privatized totally - in mean terms and in median terms respectively (statistic mentions the 'p' value using the chi-squared approximation) - for each empirical proxy and each subsample of the pair. The table presents the number of useable observations, the mean and the median values of the proxy before and after privatization, their change in the proxy's value after versus before privatization, the respective test of significance for the mean and median change, the mean rank of the KW test between Partial Privatization and Total Privatization subsample and the respectively statistic 'p' value for mean and median comparison.

VARIABLES	N	Mean Before (Median)	Mean After (Median)	Mean Change (Median)	Z-statistics for difference in Means (After-Before)	Z-statistics for difference in Medians (After-Before)	Percentage of firms with improved performance Mean (Median)	Z-statistics for significance performance (Mean)	Z-statistics for significance performance (Median)	KW Results for differences between subsamples for mean		
										Mean Rank		KW test
										PP	TP	'p' value
PROFITABILITY Return on Sales (ROS)												
Partial (Revenue) Privatization	20	0.13 *0.25*	0.14 *0.26*	0.01 *0.01*	0.807	0.393	56.67% *52.38%*	3.316*	2.894*	19.14	23.86	0.05*
Total (Control) Privatization	22	0.07 *0.14*	0.23 *0.29*	0.16 *0.15*	1.671*	1.787*	65.45% *65.45%*	2.793*	2.793*			
OPERATING EFFICENCY Sales Efficiency (SALEFF)												
Partial (Revenue) Privatization	20	0.87 *0.82*	1.55 *1.59*	0.68 *0.77*	2.773*	3.126*	66.19% *66.19%*	3.496*	3.476*	21.90	23.10	0.02*
Total (Control) Privatization	22	0.97 *0.97*	1.99 *2.12*	1.02 *1.15*	2.119*	1.719*	72.73% *73.64%*	3.496*	3.316*			
CAPITAL INVESTMENT Real Capital Exp. to Sales (RCESA)												
Partial (Revenue) Privatization	20	0.49 *0.22*	0.51 *0.23*	0.02 *0.01*	1.309	0.160	52.38% *52.38%*	2.934*	2.934*	18.38	24.62	0.142
Total (Control) Privatization	22	0.66 *0.43*	0.98 *0.69*	0.32 *0.26*	1.912*	2.190*	67.27% *67.27%*	2.201*	2.201*			
REAL OUTPUT Real Sales (SAL)												
Partial (Revenue) Privatization	20	1.12 *1.24*	2.01 *2.22*	0.89 *0.98*	1.417	1.432	61.43% *66.19%*	2.708*	2.416*	14.48	28.52	0.05*
Total (Control) Privatization	22	0.71 *0.75*	2.98 *2.89*	2.27 *2.14*	1.693*	1.712*	78.18% *73.64%*	3.408*	3.296*			
EMPLOYMENT Total Employment (EMPL)												
Partial (Revenue) Privatization	20	2234.00 *2213.00*	2111.00 *2031.00*	-123.00 *-182.00*	1.216	1.511	58.57% *56.19%*	2.201*	3.496*	15.86	27.14	0.01*
Total (Control) Privatization	22	1977.00 *1912.00*	1622.00 *1655.00*	-355.00 *-257.00*	1.602*	1.799*	76.36% *69.09%*	2.521*	3.210*			
DIVIDEND POLICY Dividend to Sales (DIVSAL)												
Partial (Revenue) Privatization	20	0.02 *0.01*	0.03 *0.02*	0.01 *0.01*	1.613	1.622	56.67% *56.67%*	3.296*	3.296*	22.67	19.33	0.093
Total (Control) Privatization	22	0.01 *0.01*	0.12 *0.07*	0.11 *0.06*	1.229	1.240	53.64% *50.91%*	3.296*	2.666*			
TREASURY Treasury Aplications (TA)												
Partial (Revenue) Privatization	20	97890.00 *101667.00*	99767.00 *109456.00*	1877.00 *7789.00*	0.845	1.605	42.86% *38.10%*	2.666*	2.521*	19.60	23.40	0.268
Total (Control) Privatization	22	89710.00 *97655.00*	121345.00 *128769.00*	31635.00 *31114.00*	1.618*	1.711*	44.55% *36.36%*	3.059*	2.521*			
ACTIVITY LEVELS Sales to Total Assets (STA)												
Partial (Revenue) Privatization	20	0.52 *0.52*	0.71 *0.59*	0.19 *0.07*	1.532	1.101	53.33% *53.33%*	2.296*	2.276*	19.52	23.48	0.027*
Total (Control) Privatization	22	0.31 *0.39*	1.42 *1.77*	1.11 *1.38*	1.729*	1.564*	65.45% *66.36%*	2.793*	2.521*			
SHORT TERM (ST) EQUILIBRIUM Cash/Banks to ST Debt (CBTSTD)												
Partial (Revenue) Privatization	20	0.23 *0.21*	0.16 *0.13*	-0.07 *-0.08*	2.156*	3.027*	29.05% *19.52%*	1.826*	1.342	20.95	22.05	0.772
Total (Control) Privatization	22	0.18 *0.15*	0.16 *0.12*	-0.02 *-0.03*	1.042	1.265	22.73% *27.27%*	2.023*	2.201*			
LONG TERM (LT) EQUILIBRIUM Net cash flow to LT Debt (NCFTLTD)												
Partial (Revenue) Privatization	20	25.23 *7.34*	18.66 *2.64*	-6.57 *-4.70*	1.429	1.441	32.38% *31.90%*	2.934*	3.180*	20.76	22.24	0.697
Total (Control) Privatization	22	27.87 *8.87*	25.22 *6.45*	-2.65 *-2.42*	1.225	1.431	33.64% *39.09%*	3.296*	3.180*			
CAPITAL STRUCTURE Total Debt to Total Assets (TDTA)												
Partial (Revenue) Privatization	20	0.79 *0.88*	0.62 *0.61*	-0.17 *-0.27*	0.112	0.174	47.62% *61.90%*	2.803*	3.180*	18..24	23.76	0.059*
Total (Control) Privatization	22	0.71 *0.67*	0.67 *0.65*	-0.04 *-0.02*	1.743*	1.770*	45.45% *59.09%*	2.803*	3.180*			

* rejection of H0 at five percent level of significance

Table 15. Comparisons of performance changes following privatization for firms that were restructured before privatization versus firms that were not restructured before privatization

This table presents comparisons of performance changes for firms that were restructured before privatization versus firms that were not restructured before privatization. The table presents the results of the Wilcoxon rank sum test (with is z-statistic) - that is employed as a test for significance for change in mean and median values between before and after privatization - and of the Kruskal-Wallis test firms that were restructured before privatization versus firms that weren't - in mean terms and in median terms respectively (statistic mentions the 'p' value using the chi-squared approximation) - for each empirical proxy and each subsample of the pair. The table presents the number of useable observations, the mean and the median values of the proxy before and after privatization, their change in the proxy's value after versus before privatization, the respective test of significance for the mean and median change, the mean rank of the KW test between Partial Restructured and Not Restructured subsample and the respectively statistic 'p' value for mean and median comparison.

VARIABLES	N	Mean Before (Median)	Mean After (Median)	Mean Change (Median)	Z-statistics for difference in Means (After-Before)	Z-statistics for difference in Medians (After-Before)	Percentage of firms with improved performance Mean (Median)	Z-statistics for significance performan	Z-statistics for significance performan	KW Results for differences between subsamples for mean		
										Mean Rank		KW test
										R	NoR	'p' value
PROFITABILITY Return on Sales (ROS)												
Restructured	16	0.07 *0.14*	0.31 *0.33*	0.24 *0.19*	1.663*	1.569*	63.75% *60.00%*	2.336*	2.491*	25.55	17.33	0.039*
Not Restructured	25	0.11 *0.23*	0.14 *0.25*	0.03 *0.02*	0.503	0.329	44.00% *40.00%*	3.496*	3.316*			
OPERATING EFFICENCY Sales Efficiency (SALEFF)												
Restructured	16	0.83 *0.79*	1.89 *1.99*	1.06 *1.20*	1.752*	1.698*	78.75% *78.75%*	2.884*	2.894*	21.13	21.73	0.877
Not Restructured	25	0.94 *0.95*	1.57 *1.59*	0.63 *0.64*	2.333*	2.694*	56.00% *53.08%*	3.783*	3.774*			
CAPITAL INVESTMENT Real Capital Exp. to Sales (RCESA)												
Restructured	16	0.49 *0.29*	1.02 *0.53*	0.53 *0.24*	1.651*	1.694*	60.00% *53.75%*	2.521*	2.376*	25.13	19.27	0.013*
Not Restructured	25	0.63 *0.37*	0.59 *0.38*	-0.04 *0.01*	0.913	1.095	46.00% *38.46%*	2.656*	2.795*			
REAL OUTPUT Real Sales (SAL)												
Restructured	16	0.81 *0.79*	2.54 *2.77*	1.73 *1.98*	2.553*	2.212*	75.00% *75.00%*	3.169*	3.049*	24.45	18.96	0.056*
Not Restructured	25	0.99 *0.99*	1.72 *1.56*	0.73 *0.57*	0.989	1.441	48.00% *49.23%*	3.591*	3.694*			
EMPLOYMENT Total Employment (EMPL)												
Restructured	16	2101.00 *2002.00*	1922.00 *1827.00*	-179.00 *-175.00*	0.694	1.219	37.50% *38.75%*	2.191*	2.914*	23.69	18.45	0.053*
Not Restructured	25	2179.00 *2191.00*	1838.00 *1848.00*	-341.00 *-343.00*	2.384*	2.379*	52.00% *69.23%*	2.491*	2.896*			
DIVIDEND POLICY Dividend to Sales (DIVSAL)												
Restructured	16	0.01 *0.01*	0.13 *0.11*	0.12 *0.10*	1.230	1.458	56.25% *50.00%*	2.666*	2.521*	21.19	21.92	0.336
Not Restructured	25	0.02 *0.01*	0.05 *0.03*	0.03 *0.02*	1.242	1.441	52.00% *57.69%*	3.724*	3.823*			
TREASURY Treasury Aplications (TA)												
Restructured	16	103220.00 *101221.00*	119454.00 *119803.00*	16234.00 *18582.00*	1.397	1.390	37.50% *31.25%*	2.201*	2.023*	21.34	21.37	0.445
Not Restructured	25	99671.00 *110010.00*	107345.00 *119888.00*	7674.00 *9878.00*	0.957	0.892	40.00% *42.31%*	3.408*	3.059*			
ACTIVITY LEVELS Sales to Total Assets (STA)												
Restructured	16	0.43 *0.39*	1.19 *0.66*	0.76 *0.27*	2.329*	2.121*	61.25% *61.25%*	2.023*	2.023*	25.06	18.15	0.02*
Not Restructured	25	0.58 *0.59*	0.82 *0.49*	0.24 *-0.10*	0.500	0.013	54.00% *48.46%*	2.934*	2.666*			
SHORT TERM (ST) EQUILIBRIUM Cash/Banks to ST Debt (CBTSTD)												
Restructured	16	0.23 *0.19*	0.18 *0.16*	-0.05 *-0.03*	0.255	1.108	31.25% *18.75%*	2.023*	1.604*	17.31	25.23	0.042*
Not Restructured	25	0.19 *0.14*	0.15 *0.11*	-0.04 *-0.03*	2.716*	2.912*	16.00% *19.23%*	1.826*	2.023*			
LONG TERM (LT) EQUILIBRIUM Net cash flow to LT Debt (NCFTLTD)												
Restructured	16	23.12 *6.20*	19.39 *4.87*	-3.73 *-1.33*	0.384	0.792	42.50% *42.50%*	2.803*	2.803*	22.03	22.94	0.129*
Not Restructured	25	28.45 *9.70*	24.01 *3.65*	-4.44 *-6.05*	1.766*	1.730*	44.00% *41.54%*	3.516*	3.408*			
CAPITAL STRUCTURE Total Debt to Total Assets (TDTA)												
Restructured	16	0.70 *0.73*	0.69 *0.69*	-0.01 *-0.04*	0.776	0.647	31.25% *40.00%*	2.023*	2.521*	17.19	26.31	0.0507*
Not Restructured	25	0.81 *0.67*	0.59 *0.50*	-0.22 *-0.17*	1.654*	1.799*	32.00% *49.23%*	2.521*	2.936*			

* rejection of H0 at five percent level of significance