The impact of organisational privatization on the performance of publicly owned enterprises

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Abstract

In this work we analyse to what degree the efficiency of a publicly owned non-monopolistic enterprise improves as a result of the introduction of strategic organizational reforms consisting of adopting 'private-firm-like' management practices, criteria, and governance structure; i.e. corporatization, commercial-lization or 'organizational privatization' measures. The subject is addressed here through an in-depth analysis of a case study, which shows up fours moments of significant organizational strategic reforms of the above type over the course of 22 years. The present work also presents an improved methodological approach together with a novel quantitative approach for evaluating those changes in the firm's efficiency that can be attributed to some given events. Our results give support to the hypothesis that the economic efficiency improve as a consequence of such *organizational privatization* strategic reforms, though improvements may entail a given time-delay.

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1   Introduction

In this work we analyse to what degree the efficiency of a publicly owned non-monopolistic enterprise improves as a result of the introduction of organizational reforms in line with adopting 'private-firm-like' management techniques and criteria. The subject is addressed here through an in-depth analysis of a case study: the State owned hotel chain 'Paradores de Turismo de España, S.A', which is comprised (as of 2010) of 93 medium and high rated hotels, with a total of 5730 rooms, and 4630 employees. To carry out this assessment, the present work also presents an original methodological approach for both identifying moments of strategic organizational changes (reforms) within a firm, and for determining the changes in efficiency that can be associated with each of these organizational reforms.

The reforms in the management and internal organization of the firm that we refer to are of two basic types. On the one hand, measures that change the legal status of the Publicly Owned Enterprise (POE) in a sense that it entitles the firm to wider management autonomy. And on the other hand, the introduction into the POE of organizational structures, governance, and management practices, aimed at 1) the decentralization of the firm and 2) the establishment of annual/quarterly financial and economic objectives. The latter being usually associated with adopting divisionalization (to organise the firm in business units), then setting economic objectives for each division, and establishing performance related incentives for their directors. As a backdrop to governments' decisions following

these lines there use to be the idea of leading the POE to a greater exposure to market forces [12, 18, 19].

These kinds of organizational reforms are usually referred to as being: "to introduce private-company-type management criteria, objectives and practices into a POE"; an expression which we could shorten as "organizational privatization". They have also been labelled as "commercialization" of the public firm [5], so to highlight that the reforms encompase changes towards a greater orientation of the POE's management to market dynamics as well as to emphasise cost and profit objectives. Some authors also refer to these kinds of organizational reforms as 'corporatization' [1], thus emphasizing the change in the legal-organizational status of the POE, as the core of the organizational reforms the government has decided to apply on it.

In any case, the overall objective sought through these types of organizational and management reforms regarding a given POE use to be a certain mix of 1) modernizing firm's management so that it becomes more effective, 2) clarifying the government-company relationships (Principal $\longleftrightarrow$ Agent), and 3) improving the financial results and in general the efficiency of the firm. Therefore, for the government, to promote these types of reforms can be considered as an alternative to the privatization of the POE. An alternative that might allow the government to continue assigning to this POE some macroeconomic or social policy objectives or stating specific constraints regarding the response of the firm to what is dictated by markets. Although now, under the 'new rules', those government interventions should come together an explicit evaluation of the costs these policy obligations would generate to the company.

The empirical evidence on the results yielded by the referred organisational privatisation type reforms regarding the POE's efficiency has, however, until now been somewhat limited, as will be argued in the following point. Accordingly, the objective of this article is to provide additional empirical evidence on the specific impact of 'organizational privatisation' on the efficiency of State Owned

Enterprises (SOE) by means of an in-depth study of a significant case.

2   Evidence of the impact of the 'organizational privatization' reforms

Hartley, Parker & Martin [12] studied a total of 10 SOEs in Britain that had been the object of reforms of the type referred to above. More precisely, they focus on the three-elements model for analysing internal organizational changes developed by Dunsire, Hartley, Parker and Dimitriou [11] and Dunsire, Parker and Hartley [10], which takes into account changes or reforms 1) towards a legal status that allows more autonomy for the firm, 2) towards a more decentralized organizational structure, and 3) towards the liberalisation of its outputs' market. Focusing on the first type of measures, they detected a total of 24 events of legal status reforms in the sample. When analyzing them, the hypothesis that the efficiency of the SOE will improve as a consequence of such changes is confirmed in just over half of the sample when they use productivity (TFP) as an indicator; while the conclusion is somewhat more favourable to their hypothesis when they use labour productivity as an indicator [18]; though the contrary is observed when they apply financial measures as indicators [19]. An overall assessment of the former studies [17] concludes that if it can indeed be said that a change towards greater autonomy of the SOE is associated with an improvement in efficiency, this improvement cannot be guaranteed in all cases since it also depends on the actual scope of the changes in governance structure and internal organization induced by the reform. Consequently, Parker adds that in-depth studies for each case would make it possible to make more useful contributions on that topic.

Bozec and Dia [5, 6] and Bozec, Dia and Breton [7] studied a sample of 13 Canadian SOEs that were the object of reforms in the line of organizational privatization (they use the term 'commercialization'), some of them being actually

privatized afterwards. They conclude that commercialization had a positive effect on SOE's productivity, and that the impact on it of the subsequent privatization was insignificant; however, the contrary is observed when they use the rate of profitability as efficiency indicator. We also have the rather different study by Aivazian, Ge and Quiu [1] where they analyse a sample of 308 Chinese SOEs which were the object of reforms in their organizational status (corporatization) and internal structure and management, following the usual patterns of large private corporations. From their results they deduce that corporatization had a significantly positive impact on SOE performance; and that the sources of efficiency gains could be traced to discrete changes in internal management structure and practices within the firms. Consequently, they stress the interest of leading further research toward these internal aspects by means of in-depth case studies. However, the specificity of the institutional background (a commanded economy in transition to market rules) makes it difficult to assess the actual relevance of this study' results for our topic. And it could also be considered as an indirect evidence of the effects of organizational-privatization type reforms the results of several works that detect a clear improvement in efficiency for certain SOE in the period prior to their privatization [9, 13, 16, 20], since in these studies the authors tend to explain such improvements in efficiency ("anticipation effect") precisely as an impact of reforms in management and internal organization introduced to the incumbent SOE by the government when preparing it for further privatization.

Focusing on in-depth case studies –those that Parker [17] and Aviazian, as mentioned before, consider as a most promising approach for actually making useful contributions to our topic-, they are rather scarce yet. Thus, we have the study by Curwen [8] where the first organizational reform of the British Post Office (divisionalization and introduction of cost and quality objectives) is analyzed in depth, and it concludes that unit costs decreased, without a reduction in the quality levels, as a result of such reform. The case of the Swedish State

monopoly for pharmacies has been analyzed by Anderson [2], who concludes that this   public-corporation's successful performance –in terms of quality of services, efficacy measures, and   profits level- is clearly related to the corporation's internal decentralization and to the autonomy allowed to its managers. The case of British Steel was analysed in depth by Beauman [4], who determined that improvements in efficiency resulting from organizational reforms introduced years before its privatization were more important than the improvements in efficiency observed afterwards. A conclusion similar to the one reached by Aylen [3] on the same corporation. Finally, there is the case of the former Irish telecommunications monopoly (TelecomEireann) which has been studied by Palcic and Reeves [16]. They focus on changes in organizational status and internal structure but also in market competition level; and their main conclusion is that the first two internal elements had a significant positive impact on the company's performance particularly when they came together with an increase in the third, external, element.

To summarise, the available empirical evidence for the impact on SOE's efficiency of organisational-privatization-type reforms is somehow mixed and heterogeneous, and therefore not conclusive. On the one hand, those studies that analyse a given set of SOE, 1) they come limited to adopt a rather generalist approach to the contents of the organizational reforms applied into the different firms; 2) these works cover only some specific countries (basically United Kingdom, Canada and China), or are referred to a very specific sector (pharmacies in Sweden); and 3) in addition, their conclusions tend to differ depending on the performance indicators that are applied. And, on the other hand, if we look at studies based on in-depth analysis of specific cases, these are actually still scarce. Taking this perspective, the aim of this work is to provide additional empirical evidence in this regard, from an in-depth study of the case "Paradores de Turismo de España, S.A", a SOE in the hotel industry which acts under market competition. More specifically, the research hypothesis we would want to test in the present

work is that *organizational privatization* type reforms have a positive effect on the performance of publicly owned enterprises, and, more specifically, on its efficiency level measured both by financial and productivity indicators.

3 Description of the case

Paradores de Turismo de España, SA is the only publicly owned Spanish hotel chain. It was created as a state agency in 1928. Its legal status was changed to 'Sociedad Anónima' - commercial limited society, or Public Corporation- in 1991. The State holds the ownership of 100% of the shares. Its main feature is that it primarily uses as hotel premises buildings of national historic interest such as castles, old monasteries, palaces, etc. Of the 93 establishments in the chain as of 2010, 12% were castles, 11% palaces, 40% other national heritage buildings (convents, former hospitals and former typical country mansions) and 37% were new constructions. In terms of the standard level of the hotels (according to the Spanish classification system with '5 stars' being the maximum), 2% were five stars, 62% four stars and 36% three stars. As a hotel chain it ranks among the Spain's leaders: it is ranked third in terms of number of establishments, seventh in turnover, and thirteenth as per number of rooms.

All the buildings belong, however, to another state owned enterprise: Turespaña[3], to which Paradores pays an agreed amount each year as rent. Since their creation the way of operating both of these SOEs is as follows: Turespaña restores a national heritage building so that it is conditioned to be partially used as a hotel, and then transfers the use of the building to Paradores, receiving rent in exchange. Finally, Paradores carries out the investment for the necessary hotel

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[3] The Instituto de Turismo de España (Tourism Institute of Spain, Turespaña) is a State agency responsible, among other things, for the promotion of Spain overseas as a tourist destination.

fittings, equipment, interior decorating and furniture, so that it can properly fulfil its role as a new establishment in the chain.

Paradores operates commercially, i.e., according to hotel market prices. The same applies as far as staff hiring and purchasing of materials and other inputs for hotel activities.

Regarding operating constraints as a SOE, the main one has been that Paradores was not able to choose the locations of its new hotels, since this depended on the State policy, conveyed through Turespaña. This policy was oriented towards territorial integration, recovery and maintenance of the artistic and historical heritage of the country, and the preservation of natural environments, as well as consideration of the economic development of rural areas that were reaping little benefit from the tourist industry. However, the constraint on new buildings/locations was removed by the government in 2004. Since then Paradores has been free to choose locations and buildings for new hotel establishments to be added to its chain.

4   Theoretical and conceptual approach

As far as defining 'organizational privatization-type' reforms, we take as a reference the model of organizational status change outlined by Dunsire, Hartley and Parker [10] which is built upon three elements as the axes of a three-dimensional diagram: 1) The axis public-private legal status, 2) the axis from monopoly to competition in the product market, and 3) the axis centralized/ hierarchical vs. decentralized/ profit-oriented internal organizational structure. In our case study product market condition has been that of competition all throughout the study period (1985-2007). We can, therefore, drop the second axis from the above model. As far as the first axis (legal status), there was only one –albeit relevant- change where Paradores passed from public agency status to

that of a corporation, subject to private law (1991). However, there have been many other significant and different organizational changes that in a broad sense could be related to the third axis.

Given our focus on these type of internal reforms, we have built a specific model, that could be considered as a deployment of the Dunsire, Hartley and Parker model, in which we emphasize the referred third dimension and to a lesser extent the first one too. The resulting extended model has been applied to analyse the 'management and organizational history' of Paradores for the period 1985-2007 in order to identify when a significant package of measures (a strategic internal reform -in the line of 'organizational privatization'- was introduced to the firm. We label these events as 'moments of strategic reforms' (MSR).

4.1 Typifying the Moments of Strategic Reforms (MSR)

To identify throughout the study period, 1985-2007, the moments when significant strategic reforms were introduced to the internal organization, governance structure, or management practices of Paradores, we build on the core concepts of agency theory applying these to define the following elements or qualitative parameters that will enable us to determine if a significant organizational privatization type MSR took actually place during a given year:

1) *Changes in the agency situation* (CAS). That encompassing:
   - The Principal changes –understanding Principal to be the government position (e.g. ministry) that has responsibility for controlling/supervising the SOE.
   - The Agent is changed –understanding Agent to be the Chief Executive Officer/ General Manager of the SOE.
   - The legal status of the SOE is changed from public to private law.
   - The degree of autonomy granted to the enterprise (limited up till then by some given constraints or government interventions) is enlarged.

2) *Management & organizational changes* (MOC)

    - Greater autonomy for the Agent, vis-à-vis the Principal, is established.

    - Change in the internal organization and/or governance structure, towards greater decentralization of inner decision-making (divisionalization).

3) Changes in the supervision (of the Principal over the Agent) and in the incentives scheme (CSIS).   That including:

    - Changes in the members of the Board of Directors.

    - Changes in the way the firm's management criteria, and annual objectives are set.

    - Changes in the compensation system established for the Agent, as well as the relative importance of economic incentives for both the Agent and the first rank managers (firm's top executives).

4) Introduction, in the management style and company's culture, of customer/profit oriented strategies and policies (C/POS)

According to the former, we will assume that a MSR took place throughout the study period when several significant changes from the list above are observed simultaneously in a given year.

5   Approach to the measurement of performance

Among the most common alternatives for measuring company performance are financial result indicators, productivity indicators and average costs. The latter would offer advantages in a case like ours (a SOE operating under market competition) especially if average costs at constant prices could be calculated since such indicators measure an efficiency dimension which is directly related to the firm's competitiveness. However, we have had to discard this option because our case involves a multi-product enterprise (accommodation, food and beverage services, as well as event-holding services); and information on the break down of

costs by line of activity was not available (which is the usual, regarding the accounts made public by firms in general). Therefore, we have opted here to measure the efficiency of the firm by 1) rates of operating profits, as indicators for *economic efficiency*, and 2) total factor productivity index as an indicator for *technical efficiency*.

5.1 Economic efficiency

Regarding the first indicators, we have chosen to take as root variable the *operating profits* rather than the usual one, *net profits*. This option is based mainly on the grounds that operating profits is a variable not distorted by side profits or losses not related to the core activity of the firm, neither by extraordinary results nor financial expenses (interest paid for the financial debt of the firm). Accordingly, as economic efficiency indicators we use here: The *operating rate of return on sales* (or operating rate or margin),

$$m = \frac{OP}{OR}; \tag{1}$$

where

OP = Operating Profits = Operating Revenues (OR) – Operating Costs (OC),

and the *operating rate of profitability on capital invested* (or operating rate of return on investment):

$$roi = \frac{OP}{E + FL}; \tag{2}$$

where E=Equity, FL = Financial Liabilities

Nevertheless, for the sake of allowing comparison with other studies, we complement them by also calculating the more commonly used rate of profitability: rate of return on equity,

$$roe = \frac{NP}{E}; \tag{3}$$

where   NP= Net profits before taxes

Focusing on the first two, *m* and *roi*, different from the usual procedure in these type of measurements (i.e., to use them as two alternative, independent, measurements of economic efficiency) we apply both but taking into account the following functional relationship between them,

$$roi = m \cdot \frac{OR}{E + FL} \qquad (4)$$

which allows us to argue that *m* offers a better estimate of the economic efficiency of the enterprise than that offered by *roi*, since *m* is worked out from the monetary values of the products sold and the factors used –i.e., it represents an overall output/input relationship- whereas variable *roi* depends on the value of the same *m*, and on the value of a second variable which is not related to any outputs/inputs relationship: a financial ratio, OR/(E+FL). Consequently, in the discussion of the quantitative results we assign a preeminent significance to indicator *m*.

5.2 Technical efficiency

With regard to productivity, we apply Total Factor Productivity index,

$$TFP^x = \frac{\sum_i (q^x \cdot \lambda)_i}{\sum_j (F^x \sigma)_j} \qquad (5)$$

where 'x' stands for the year for which we are calculating productivity; q_i is the quantity of output 'i'; λ_i is the weight assigned to output 'i' in the calculation; F_j is the quantity of input 'j'; and σ_j is the weight assigned to input 'j' in the calculation.

Regarding the selection of weights for outputs and inputs in (5) we make the usual choice of taking the respective prices –for each output, P_i, and for each input, K_j- for a given year, 0, of the period under analysis; i. e. $\lambda_i = P^0_i$ and $\sigma_j = K^0_j$; thus TFP^x is defined as (5a). Finally, we perform the transformation of (5a) as follows, to make our computational variables (which are those in the right-hand side of the

expression) explicit:

(5a)
$$TFP^x = \frac{\sum_i (q^x \cdot P^0)_i}{\sum_j (F^x \cdot K^0)_j} = \frac{\sum_i (q^x \cdot P^x)_i \, 1/PI^{x,0}_i}{\sum_j (F^x \cdot K^x)_j \, 1/KI^{x,0}_j}$$
(6)[4]

where $PI^{x,0}_i$ is the price index for output 'i', from year 0 to year x; and $KI^{x,0}_j$ is the corresponding price index for input j.

5.3 Measuring the impact of a MSR on efficiency

For each of the four indicators *m, roi, roe* and *TFP*, we calculated its change after each Moment of Strategic Reforms (MSR). Those changes are defined as the difference between the respective mean value for the period immediately beforehand (4-6 years) and the mean value for the period that followed a given MSR (also 4-6 years).

Finally, in our analysis we used the following relationship between economic efficiency –measured by *m*- and technical efficiency –measured by TFP:

$$m^x = 1 - \frac{1}{TFP^x} \cdot \frac{IK^x}{IP^x}$$
(7)[5]

This relationship allows us to show that productivity (*TFP*) can be considered an explanatory variable of the change in the economic efficiency (*m*), and, therefore, that an observed change in *m*, from one period to another, will have two possible components: the one induced by the change in technical efficiency, $\Delta m(TFP)$, and the one derived from the change experienced by the outputs/inputs prices relationship or 'price effect': $\Delta m(IP/IK)$. That is, by applying partial finite differences to (7) we may gauge if the impact on firm's efficiency from a given MSR has its sources mainly in a change in productivity or rather in a more or less

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[4] Demonstration of this relationship may be seen in annex 1.

[5] Demonstration may be seen in annex 1.

successful company's prices policy (prices referred to both clients and providers markets).

6   Main results

6.1 Moments of Organizational Strategic Reforms (MSR) that have been identified

By applying our four-qualitative-parameters' model described in point 4, we have analysed those significant measures experienced by Paradores, throughout the 1985-2007 period, that could be ascribed to what we have labelled here as of organizational-privatization-type: changes in the governance structure, legal status, control and incentives scheme, autonomy of the firm, and management practices. The input data came from our analysis of company's annual reports and from in-depth interviews with Paradores' top executives[6]. A total of 128 relevant events of organizational/managerial changes or reforms were spotted as a result of our review. We have gathered them in annex 2 [7], where each one is typified according to the four qualitative parameters/axis of our model.   Then, we considered there to be a significant Moment of Organizational Strategic Reforms (MSR) when relevant measures of the four types appeared together in a given year. As a result, following this rule, we concluded that there were four significant organisational-privatisation type MSRs throughout the period under study. Specifically in 1991, 1996, 2000 and 2004. That result is summarised in Table 1.

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[6] Assistant to the President, Corporate Director for Accommodation Services, and Corporate Director for Restaurant & Catering Services.

[7]This Annex is available from the authors under request.

Table 1: Summary of the identified Moments of Organizational Strategic Reforms

MSR	Events cumulated in the given year				More relevant events
	CAS	CSIS	MOC	C/POS	
1991	2	3	6	-	- Legal status of the firm is changed to 'Sociedad Limitada' (commercial limited company), so passing to operate from under public low to private law ('corporatization').
1996	2	3	6	4	- Principal (Ministry) is changed. - Agent (company's President) is changed - 73% of the Board of Directors changed - Variable, results-related, Compensation Plan is introduced
2000	1	1	4	5	- Agent (President) changed - 75% of the Board of Directors changed - 'Yield management' and other key marketing and HRM strategic changes are introduced
2004	3	5	2	6	- Principal (Ministry) changed - Agent (President) changed - 60% of the board of Directors changed - Constrain on new establishments (hotels) placement, is removed - New key market-oriented strategic measures were implemented.

CAS   = Changes in the agency situation.
CSIS   = Changes in the supervision and incentives system.
MOC   = Management and organizational changes.
C/POS= Introduction of customer/profit oriented strategies and policies (C/POS).

6.2 Observed changes in efficiency after each *MSR*

6.2.1 The quantitative data

The economic and financial information that we have been working with was obtained directly from the enterprise; basically from its annual reports, completed with more specific data obtained from interviews with firm's executives. The annual accounts we had available covered the 1991-2007 period. For the previous years spanned by our study, 1985-1990, Paradores, then a public agency, was not obliged to issue standard annual accounts, so we have used the final budgeting figures the firm submitted to the Ministry.

As is usual for many SOEs, Paradores operates under some constraints associated with the government's policy objectives. This type of constrains use to negatively affect the SOE's accounts in terms of either extra costs or losses of potential revenue. This has been the case regarding Paradores, since it has come forced to set up hotel activities in heritage buildings which in some cases were located in remote and rather non-touristic areas. However, the level of detail of the accounts we have had available did not enable us to quantify such negative economic repercussions. That may mean a certain underestimate of firm efficiency in our calculations.

Regarding the opposite –i.e., the possibility of Paradores benefiting, as a SOE, from explicit or implicit subsidies from the government- our analysis of its annual accounts allows us to state that: 1) There were not significantly explicit (direct) subsidies from the State to Paradores over the period under study; only in some years did we find small figures though always below 0.5 % of the total revenue. 2) Checking for the possibility of Paradores having had access to underpriced capital loans, we found that financial debt, besides not being significant (almost non-existent until 2002, and reaching a maximum of 9,6 % on total assets afterwards),   when we compared its figures to the ones of financial expenses the outcome   allows us to deduce that the implicit interest rate paid by Paradores was on line with then market rates. Therefore, no implicit (indirect) subsidies related to financial debt existed. However, 3) we did detect an implicit subsidy regarding the rent Paradores was paying for the State buildings it uses as hotels. According to our analysis, for the years 1985 to 1992 (the beginning of our study period) the accounts did not include any rental costs. From 1993 to 2005, the annual rent paid by Paradores to Turespaña (which holds the property rights of the heritage buildings used as hotels) was established as an overall amount of €2.4 million per year, (only updated every year according the Retail Price Index), which can be considered –for most of the above period- as being below market prices. This situation changed only from 2006 onward, when the overall amount of rent was

established as €9 million plus 3% of Paradores' revenues, which can be considered in line with market pricing, since it compares well with what is usual among private companies in the Spanish hotel sector. Therefore, in order to guarantee financial data homogeneity for our calculation of the change in efficiency indicators after each MSR, we have adjusted Paradores' annual rental expenses in such a way that when we compare efficiency indicators from one sub-period to the following, the corresponding figures for rental expenses in the involved years respond to the same criteria.

6.2.2 Measured differences in economic efficiency after each MSR

For each of the years studied (1985-2007), we have determined the values of the three financial indicators: *m*, *roi* and *roe*. By introducing to the resulting three time-series the four moments of strategic reforms (MSR), the corresponding sub-periods before and after for each MSR come defined. Then, we determine the mean value of each indicator for each sub-period; and finally, by comparing the corresponding mean after a given MSR with the mean for the previous sub-period we determine the change observed in efficiency –measured by the corresponding indicator. These quantitative results are summarized in Table 2.

As can be seen in Table 2, the sign of the efficiency differentials according to the three indicators (*m*, *roi* and *roe*) coincides for the first three MSRs, but not for the fourth one (albeit statistical tests suggest discarding the two latter negative differences, as non-significant). However, taking into account what was previously stated about the relative closeness of each of the three indicators to the concept of efficiency, hereafter we will focus on the values for the first indicator (*m*) in as much as it offers a better approach to the idea of the firm's economic efficiency/competitiveness than the other two.

The hypothesis that we expected to confirm was that after any MSR the performance would improve. As can be seen from Table 2, the outcome we obtain confirms the hypothesis for MSR II, III, and IV, but not for MSR I.

Table 2:   Change in efficiency after each moment of significant reform (MSR), according to financial indicators (1985 – 2007)

	mean before (%)	Number of years	mean after (%)	Number of years	difference 'after' – 'before'	t [1], (p-level)
MSR I: 1991 Efficiency measures [2]:						
m	2.78	6	-0.56	5	-3.34	1,916 *
roi	2.49	6	-0.61	5	-3.1	1.717, (12%)
roe	3.82	6	1.38	5	-2.44	1.587, (14%)
MSR, II: 1996 Efficiency measures:						
m	-0.56	5	6.3	4	+6.86	-3.9487 ***
roi	-0.61	5	12.7	4	+12.09	-4.12 ***
roe	1.38	5	10.2	4	+8.82	-3.303 ***
MSR, III: 2000 Efficiency measures:						
m	6.3	4	10.7	4	+4.4	-2.764 **
roi	12.7	4	14.4	4	+1.7	-0.4658
roe	10.2	4	11.7	4	+1.5	-0.4760
MSR, IV: 2004 Efficiency measures [3]:						
m	10.7	4	13.17	3	+2.47	-4.253 ***
roi	14.4	4	11.85	3	- 2.55	1.268
roe	11.7	4	10.68	3	- 1.02	0.598

(1)   t-statistic for significance of differences in means from non-paired observation sets. (***) significant at the level of 1%;   (**) significant at the level of 5% ; (*) significant at the level of 10% .

(2)   Operating Profits for years 1985 to 1992 adjusted (reduced) by introducing rental cost, as explained before. (They have been calculated as the ones the company would have paid applying the same contract rules that started to be applied from 1993 onwards).

(3) Operating profits for years 2006 and 2007 adjusted (increased) , as explained before. (Rental cost have been reduced in such a way they be homogeneous (determined with the same contract rules) regarding the rental cost in the previous years 2001 to 2005).

This unexpected result obtained for MSR I (1991) is rather surprising since it entailed what is usually considered as a very significant strategic reform: the *corporatization* of the SOE; i.e., its passing from the status of a public agency (operating under public law) to the legal status of a corporation or limited liability company (operating under private law). A reform which is usually expected to bring about an improvement in efficiency because the new leeway it implies regarding both the firm's operating conditions and its managers' decision taking; i.e., the firm managers are then able to benefit from more flexible operating conditions regarding labour contracting and goods purchasing, akin to those in any private enterprise. However, in our case (after MSR I), this theoretical prediction was not fulfilled.

We can discard as a possible explanation for this unexpected partial result a fall in the level of firm's activity after MSR I since activity level (as measured by the number of "guest nights") was not only maintained but moderately increased. We could point out two likely explanatory hypothesis for the unexpected result. The first one, that the accounts for the years prior to corporatization undervalue company's annual costs, because they arose from a budgetary accounting –which means that amortization costs could not be accounted for. And the second one, which we deem as most substantive explanation, that taking into account the important positive change in economic efficiency observed after the following MSR (II, 1996), such relevant reforms as the corporatization included in MSR I (1991) might require a certain period of adaptation for the incumbent CEO and top executives to be pro actively able to take advantage of the new broader possibilities in the management of the firm; (about 5 years in our observed case). In fact MSR II include precisely so important changes in the agency situation as the taking-office of a new 'Principal' and the appointment of a new 'Agent' –together with also significant changes in the company's governance structure (as can be seen in table 1), which reinforces that second explanatory hypothesis.

6.2.3 Changes observed in technical efficiency

The calculation of the Total Factor Productivity index (TFP) has been possible for a shortened period 1992-2007, because of a lack of the required data for the years 1985-1991. Therefore, when calculating productivity differentials before vs. after each MSR, the first one (MSR-I, 1991) has had to be drop out. The annual TFP index was calculated by applying the right-hand expression in (6). With respect to the outputs, the available information enabled us to distinguish three lines: accommodation, restaurant and catering services, and event-holding and other services (i=1,2,3). For the first two lines (which represent on average 95% of operating revenue) we obtain not only the respective annual monetary values (break down of the operating revenue) but also the respective physical units for each line: number of room-days invoiced (as accommodation units) and number of meals served (as food and beverage units). This enabled us to determine the corresponding average annual prices applied by the company, and therefore the corresponding annual price index $PI^{x,0}_{(1)}$ and $PI^{x,0}_{(2)}$. For the third line price index, $PI^{x,0}_{(3)}$, we took the average of the former two, as the best estimate.

As far as inputs are concerned, the information available from annual accounts enabled us to identify five types or blocks of inputs –labour, purchased goods, amortization and maintenance, external services, and 'others' (j=1 to 5). As in most productivity measurements, it was not possible to obtain the annual change in the average purchasing/contracting prices paid by the company for each of the five inputs blocks. Therefore, to calculate the corresponding price index $(K^{x,0}_{j})$ we resorted to the common practice in these cases: to estimate them by taking, as proxies, discrete external price index (from the Spanish National Statistics Institute data bases).

According to the former, we determine the TFP index for each year of the period 1992-2007. Then we obtain the average index for each sub-period; and, from these, we determined the observed differences in TFP, after MSR II, III, and IV. These quantitative results are presented in Table 3.

Table 3:   Change in Technical Efficiency after each MSR, measured by

Productivity index

MSR		mean before	Number of years	mean after	Number of years	difference	t [1], conf. level
MSR II: 1996	TFP	1.017	6	1.110	4	0.093	-4.5089 ***
MSR III: 2000	"	1.110	4	1.098	4	-0.01	1.06623
MSR IV 2004	"	1.098	4	1.0871[2]	3	-0.011	1.2252

(1)   t-statistics for significance of differences in means from non-paired observation sets

(2)   Taking for years 2006 and 2007 as Operating Costs, the ones adjusted for rental costs as stated before in Table 2.

(***)   significant at the level of 1% error

These results show that the only MSR that can be associated with a significant change in productivity is MSR II (1996): On average, the productivity of Paradores in the subsequent period was 9.3% higher. For MSR III and IV, the null hypothesis cannot be rejected; i. e., that productivity did not experience any significant change after these two last internal reforms.

That might appear as contradictory with the fact that the rate of margin, as seen before, does shows significant increases after these two last MSR: +4.4 and +2.47 percentage points, respectively. In order to clarify this apparent contradiction we have applied (7) to analyse the respective differences after MSR II, III and IV. As a result, we have worked out that the improvements in *economic efficiency* (measured by *m*) associated to MSR III and IV were due essentially to improvements in the prices relationship, IP/IK, and in a non-relevant part to productivity gains.

Thus, regarding the impact of MSR II, the improvement in economic efficiency (*m*) was fairly important (+ 6.86 percentage points) while technical efficiency (TFP) improved even more: by 9.3 %. According to [7], and by applying a factorial analysis using first partial finite differences we find that the

sources of the 6.86 percentage-points increase in *m* were: a potential gain of 9.7 percentage-points yielded by the increase in productivity, and a potential loss of 2.84 percentage-points derived from the worsening of the firms' price relationship, (because the average prices to clients proportionally rose less than the average rise of prices the firm paid for inputs).

Table 4:   Sources for changes in economic efficiency

	MSR I (1991) difference after - before	MSR II (1996) difference after - before	MSR III (2000) difference after - before	MSR IV (2004) difference after – before
Change in economic efficiency: Δm, in % points	- 3,34	+ 6.86	+ 4.4	+ 2.47
Explanatory elements:				
- *Technical efficiency* $\Delta m(TFP)$, in % points	n.a.	+ 9.7	$[-1, 0]$ [1]	0
- *Prices relationship* $\Delta m(IP^x / IK^x)$, in % points	n.a.	- 2.84	$[5.4 , 4.4]$ [1]	2.47

(1) First value in the interval comes from taking as valid the small decrease in productivity that appears after MSR III, in spite of its low level of confidence. The second value in the interval is the most likely one: the null hypothesis regarding the change in productivity.

On the other side, the improvement observed in economic efficiency after MSR III and IV (*m* increases by 4.4 and 2.47 percentage-points, respectively) come   not substantially   explained   by   technical   efficiency   (productivity   remained approximately unchanged) but they basically arose from an improvement in the prices relationship; that is, because a more successful pricing policy and market bargaining ability of the company's managers (regarding both invoicing prices to clients and purchasing/ contracting prices to inputs providers).

6.2.4 Controlling for external factors

We could, indeed, observe an improvement (or a worsening) in an efficiency indicator after a given internal strategic reform; and this observed difference be statistically consistent; but that improvement (or worsening) could be due in part to external factors, as for example,   in our case-study, the dynamics of the level of activity in the hotel industry in Spain. Thus, an increase (down turn) in demand for hotel beds-nights in Spain could have a positive (negative) repercussion on the company's turnover. And this in turn could generate a given improvement (reduction) in efficiency indicators (because a higher occupancy rate, for example). From that outlook, in order to evaluate the robustness of our quantitative findings we have tried to determine if such external effects have been relevant in our case-study, in order to isolate the part of the observed change in efficiency after each MSR that could actually be attributed to the favourable impact of the pack of *organisational-privatisation*-type measures such MSR embodied. That checking have been done by carrying out a two-steps correlation analysis:

1st.) between the level of hotel industry activity and the one of Paradores, measured both by the number of guest nights; and 2nd.) between the level of activity of Paradores, and the value of *m*. With respect to the first step, the result of our analysis shows us that there is no a significant correlation between the firm's level of activity and that of the whole hotel industry in Spain. And as far as the second step, we did not observe either a significant correlation between the level of activity of Paradores and the economic efficiency indicator. A result which is consistent with the non relevant change in productivity over the last two sub-periods (since a positive correlation between activity level and *m* would have to come through a change in the *productivity* index).

In short, the impact of the hotel industry climate on the economic efficiency of Paradores does not appear have been relevant in the time span under study. Therefore the differences in economic efficiency observed after each MSR can basically   be   attributed   to   the   internal   factors   analysed   here: the

organizational-privatization-type internal reforms that embodied these MSR.

7   Conclusion

The principal hypothesis that we have tried to verify in this paper has been that the introduction of strategic reforms to the organization and management of an SOE like Paradores –those measures in line with what is understood as "commercialization", "corporatization" or "organizational privatization"– will increase the firm's economic efficiency. Throughout our study period (22 years) we have identified four moments of organizational strategic reforms of this type (MSR). According to our results, the above hypothesis is confirmed in three of the four MSR (II, III, and IV), but not for the first one. This latter result is somewhat surprising because among the measures included in the MSR-I package was the change in the legal status of Paradores: from "state enterprise" (subject to public law) to "corporation" (subject to private law).

This is a kind of change usually associated with greater autonomy for the firm, more flexible decision taking processes and a more business-like operating conditions for the firm; and, therefore, with clearer possibilities for it improving its efficiency level. However, the corporatization of the SOE did not bring in our case such expected positive impact. As the most likely explanatory hypothesis for that it has been argued here that such a relevant organizational reform could require a certain period of adaptation for the incumbent management team be actively open and prepared to take advantage of the new operating conditions and opportunities. Or, what could be equivalent, that for the expected positive effects being actually realized it could even be necessary a change of both 'principal' (supervisor from the Government) and 'agent' (company's CEO) simultaneously to the 'corporatization'; (which was precisely what brought about the following MSR, associated with a later substantial increase in efficiency).

To summarise the findings, overall -for three out of the four MSR- the

hypothesis of an improvement in efficiency of the SOE after the introduction of significant reforms along the lines of *organizational privatization* is confirmed by our research, in terms of economic efficiency.

More specifically, we have determined that after the second MSR the increase in economic efficiency was due primarily to an increase in the company's productivity. And that the increases observed after the third and fourth ones were basically due to an improvement in the relationship between outputs prices and inputs prices; i.e., to improvements in the prices' management and policy by the company.

The above conclusions might have also a theoretical implication in the sense that for a given move along the axis of public-private status of a SOE (as that of the *corporatization*) to have a significant positive impact on the firm's efficiency it might be necessary to implement simultaneously other changes in the agency situation. In other words, it could be useful to widen the contents of dimension *public-private status* in the model by Dunsire, Hartley and Parker [10] so as to encompass the whole contents of the qualitative parameter we have labelled here as 'CAS' (changes in agency situation).

In any case, our conclusions both lend support to the proposition that 'organizational privatization'-type reforms tend to improve the efficiency of POEs, and endorse the recommendation that when a government undertakes specifically the corporatization of a POE, in order to actually realize the expected positive effects from that, it would extend that decision in the sense of also i) changing the manner of supervising the company (how the principal acts as such) by adopting private-companies-like practices, and ii) assigning a more entrepreneurial contents to the management job of the appointed agent. One of the ways of trying to achieve that –though not necessarily the only one- would be to remove those in the two key positions of the play: the one to act as principal (the entrusted person in the Ministry) and the one to act as agent (the person appointed as company's CEO).

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ANNEX 1

Mathematical appendix

i) Demonstration of the pass from expression (5a) to (6)

(5a)
$$\frac{\sum_i (q^x \cdot P^0)_i}{\sum_j (F^x \cdot K^0)_j} \equiv \frac{\sum_i (q^x \cdot P^x)_i \cdot \left(P^0/P^x\right)_i}{\sum_j (F^x \cdot K^x)_j \cdot \left(K^0/K^x\right)_j} \equiv \frac{\sum_i OR_i^x \cdot \dfrac{1}{PI_i^x}}{\sum_j OC_j^x \cdot \dfrac{1}{KI_j^x}} \equiv$$

(5b)

$$\equiv \frac{OR^x \sum_i \left(OR_i^x/OR^x\right) \cdot \dfrac{1}{PI_i^x}}{OC^x \cdot \sum_j \left(OC_j^x/OC^x\right) \cdot \dfrac{1}{KI_j^x}} \equiv \frac{OR^x \cdot \sum_i v_i^x \cdot \dfrac{1}{PI_i^x}}{OC^x \cdot \sum_j a_j^x \cdot \dfrac{1}{KI_j^x}} \equiv \quad (5c)$$

Being: $OR^x = \sum_i OR_i^x$; and $OC^x = \sum_j OC_j^x$

Where, since $\sum_i v_i^x = 1$, then $\sum_i v_i^x \cdot \dfrac{1}{PI_i^x} \equiv \dfrac{1}{PI^x}$ is an average price index,

for the set of the 'i' outputs of the company, which measures the average increase in prices applied to customers, from base-year ('0') to year 'x'.

And $\sum_j a_j^x \cdot \dfrac{1}{KI_j^x} \equiv \dfrac{1}{KI^x}$ has a parallel meaning regarding the set of the 'j'

inputs purchased / contracted by the company.

Finally:

$$(5c) = \frac{OR^x \cdot \sum_i v_i^x \cdot \dfrac{1}{PI_i^x}}{OC^x \cdot \sum_j a_j^x \cdot \dfrac{1}{KI_j^x}} \equiv \frac{OR^x \cdot \dfrac{1}{PI^x}}{OC^x \cdot \dfrac{1}{KI^x}} \qquad (6)$$

ii) Demonstration for (7) [**]

(6) $$TFP^x = \frac{OR^x \cdot \dfrac{1}{PI^x}}{OC^x \cdot \dfrac{1}{KI^x}} \equiv \frac{1}{\dfrac{OR^x - (OR^x - OC^x)}{OR^x}} \cdot \frac{KI^x}{PI^x} \equiv \frac{1}{1-m^x} \cdot \frac{KI^x}{PI^x}$$

And, from the latter:

$$m^x = 1 - \frac{1}{TFP^x} \cdot \frac{KI^x}{PI^x} \tag{7}$$