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This is the author's manuscript

Original Citation:

Availability:

This version is available <http://hdl.handle.net/2318/99639> since

Published version:

DOI:10.1093/icc/dtr055

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UNIVERSITÀ DEGLI STUDI DI TORINO

This is an author version of the contribution published on:

Menzio, A., Urtiaga, M., Vannoni D., Board Composition, Political Connections, and Performance in State-Owned Enterprises, Industrial and Corporate Change, 21, 3, 671-98. doi:10.1093/icc/dtr055

The definitive version is available at:

La versione definitiva è disponibile alla URL:

<http://icc.oxfordjournals.org/content/early/2011/09/07/icc.dtr055>

Board Composition, Political Connections and Performance in State-Owned Enterprises

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Abstract

This paper analyses the effects of board composition on the behaviour of a sample of 114 Italian local public utilities, for which information about 1630 directors during 1994-2004 has been collected. This period is particularly interesting because of the legal changes that forced many firms to alter their juridical form and accommodated the entrance of private investors. We investigate whether board size and/or board composition do affect decisions about employment and how they ultimately impact performance. Our main findings indicate that politically connected directors, who dominate boards of directors in Italian public utilities, exert a positive and significant effect on employment, and have a negative impact on performance.

Keywords: board size, board composition, politicians, local public utilities

JEL Codes: G34 ; H42 ; H82 ; J45 ; K23 ; L25 ; L33 ; L97

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1. Introduction

Boards of directors play a central role in the governance of the enterprise. Directors are in charge of monitoring the management, a duty that includes assessing the executives' performance, determining the size of bonuses, implementing incentives to motivate managers to take actions consistent with the shareholders' wealth maximization. They also vote on important decisions such as mergers and acquisitions, changes in the firm's capital structure like stock repurchases or new debt issues. In addition to their monitoring and disciplinary role, directors serve as an important source of advice and counsel.

A growing body of empirical research suggests that the composition of corporate boards influences shareholders value. "Inside directors" are commonly defined as directors who are current employees of the firm. All the other directors are classified as "outside directors". Among outside directors we first find "grey" or "affiliated" outsiders, who are not currently employed by the firm, but are somehow connected to the firm's management or shareholders, i.e. because they are suppliers, customers, consultants, relatives, or former employees. Therefore, the remaining category, "independent directors", only includes outside directors without any connection past or present to the firm's management or its shareholders.¹

Although similar in their structure and functioning to the boards of directors of private firms, the boards of directors of State-owned enterprises (*SOEs*) often do not engage in the same activities. At best, *SOEs*' boards may act as a kind of parliament that represents the interests of employees, various ministries and, in some cases, non-state shareholders. In *SOEs*, state ownership and government control generate problems that might contribute to poor performance. However, efforts to improve corporate governance in *SOEs* have been weaker than in the private sector, where changes have been extensive over the last two decades.

During the nineties, the efforts to reform badly performing *SOEs* have been directed towards promoting privatization waves. However, for both political and economic reasons, the state will likely remain a major owner of productive assets in a number of economies for years to come.² Moreover, extensive experience with privatization has also confirmed the important role that corporate governance can play before, during, and after the state divests its assets.

Board composition is a highly studied topic as far as private firms are concerned, but has received little attention in the context of *SOEs*. This is unfortunate, because *SOEs* are more

¹ However, it is very difficult to disentangle the category of "truly independent" directors. As pointed out by Adams et al. (2010, page 80): "*Outside directors are often taken to be independent directors, yet the independence of some directors who meet the definition of an outsider is questionable. Examples of such directors are lawyers or bankers who do business with the company*".

² State-owned enterprises remain prominent in air and rail transport, electricity, gas and water supply, broadcasting, natural resource extraction, telecommunications, banking and insurance. Globally, in 2006, *SOEs* accounted for 20% of investment and 5% of employment (World Bank, 2006).

dependent on internal corporate governance mechanisms than private firms: unlike a widely held corporation in the private sector, a *SOE* generally cannot have its board changed via a takeover and, most importantly, it is unlikely to go bankrupt. The absence of potential takeovers and proxy contests reduce the incentives of board members and managers to maximize the value of the company, and the impossibility of bankruptcy implies a soft budget constraint, which reduces the pressure to contain costs. Hence, two of the most important external corporate governance instruments that help to control underperformance are absent. Actually, a *SOE* is widely held by the citizens, but it is generally overseen by higher political bodies. These usually include: one or more ministries, an ownership entity specifically created to oversee *SOEs*, the Parliament or some combination of them. At worst, these various authorities may use *SOEs* to achieve short-term political goals at the cost of both efficiency and longer-term policy objectives (Shleifer and Vishny, 1994). Even without evident abuse, this complex agency chain across various levels of government may involve difficulties that are not normally present in the relationship between a company's board and managers, on the one hand, and its shareholders, on the other. *SOEs* also have the related problem of "common agency", where each relevant part of the government can try to exert its influence to pursue objectives that might well be very different. Managing multiple and potentially conflicting objectives is one of the central challenges in the governance of *SOEs*, as recognized by both the World Bank and the OECD³.

In this paper we address the following research questions: do board size and composition matter in *SOEs*? For such firms, what is the impact of board characteristics, and particularly of the presence of directors who are politicians, on profitability and labour demand? What is the role of independent directors in *SOEs*? The relationship between board composition and employment, on the one hand, and board composition and performance, on the other, are investigated on a newly hand-collected dataset of 114 Italian public utilities, which are observed during the period 1994-2004.

Similarly to what happened in the traditionally state-dominated sectors in many OECD countries, a deep transformation of the institutional and industrial environment took place during the last decade in Italy. Industries dominated by utilities, such as gas, water, electricity and local public transportation underwent many legislative changes. These changes were aimed at achieving the progressive separation of public welfare considerations and policy functions from commercial ones. They included the introduction of competition in the retail segment and the regulation of access to market segments requiring significant investments through competitive tendering

³ "Fundamental problems in the governance of *SOEs* explain much of the poor performance of *SOEs*" (World Bank, 2006, page 3). "The boards of state-owned enterprises should have the necessary authority, competencies and objectivity to carry out their function of strategic guidance and monitoring of management" (OECD, 2006, page 17).

procedures. At the same time, Government controlled Italian public utilities have gone through important transformations in their juridical form. The new institutional designs for *SOEs* allow for the participation of private investors and for the functional separation of operations from direction. From the initial status of “*Azienda Municipalizzata*”⁴, firms have sometimes evolved into a transitional juridical form called “*Azienda Speciale*” whose managers enjoy greater control over the firm’s strategy. Nowadays a large majority of Italian public utilities are limited companies with a proper board of directors, in which both public and private entities can invest, following a process labelled *corporatization*. Such transformation is expected to improve the productive efficiency of the utilities, by giving them more degrees of freedom in the choice of their input mix, in undertaking strategies of horizontal or vertical integration and in enlarging the customer base⁵. However, as will be documented in the paper, many politicians are (still) found to occupy key positions in the boards of directors of Italian *SOEs*, and this might slow down the necessary restructuring process of local public services.

The remainder of the paper is organized as follows. In section 2 we briefly review the relevant literature dealing with board size, board compositions and political connections. Section 3 presents the data set and the definition adopted for identifying board composition. In sections 4 and 5 we test the relevance of board size and composition for firm level employment and performance, respectively. Section 6 concludes.

2. Literature Review

Two strands of closely related literatures deal with the determinants and the effects of board size and composition, on the one hand, and of the presence of politicians in corporate boards, on the other hand.

2.1. The determinants and effects of board size and composition

The theoretical papers that are more closely related to our study are Raheja (2005) and Harris and Raviv (2008). Raheja (2005) focuses on the role of outsiders, who exert a monitoring activity, and insiders, who are better informed about the firm’s constraints and opportunities. She argues that small-sized boards with few outsiders are optimal for firms where the incentives of insiders are better aligned with those of shareholders (such as in competitive industries or in presence of a high degree of insiders’ ownership). On the other hand, if the benefits of monitoring

⁴ This is an autonomous legal entity emanating *de facto* from the sovereign government, with a board of directors (called “Commission”) which is directly nominated by the state owner.

⁵ Moreover, since salaries should be set at levels equal to the ones prevailing in collective contracts in the private sector (generally below the ones prevailing in the public sector), one should also expect labour costs savings to occur.

are expected to be large, one should observe a higher proportion of outsiders. In a similar vein, Harris and Raviv (2008) conclude that, under certain conditions, too many outsiders could harm firm value. In particular, the authors, by reinterpreting the board inner conflict in terms of an agency problem between insiders and outsiders, prove that profits and board size are endogenously determined variables. These insights from the theoretical literature highlight the important problems one faces when doing empirical work in this area.

To that respect, Adams et al. (2010), in their recent survey on the role of board of directors in corporate governance, repeatedly stress the endogeneity issue: “*Boards of directors are difficult institutions to study. The two questions most asked about boards concern what determines their makeup, and what determines their actions. These questions are, however, fundamentally intertwined – the makeup of boards is interesting because it affects what the board does; and, consequently, their makeup is influenced by a desire to affect what they do. This problem of joint endogeneity is vexing for both theoretical and empirical research on boards; research that focuses on one side of the equation while ignoring the other is necessarily incomplete and the results misleading.*” (Adams et al., 2010, pages 96-97).

Following this line of reasoning, in this paper we will treat board size, board composition, employment and profits as endogenous variables. In doing so, board composition will be defined in terms of outsiders as opposed to insiders, but the differences among outside directors, concerning their independence and their political background, will be taken into consideration too.

While there is a growing body of empirical works dealing with the above issues, at present only a bunch of studies outside the US are available. Moreover, the focus is almost exclusively concentrated on the realm of private firms. Below, we will report only a selection of recent empirical results that are closely related to our paper. Extended surveys of the literature, such as Becht et al. (2003), Hermalin and Weisbach (2003), Menozzi (2009) and Adams et al. (2010) are available for the interested reader.⁶

Regarding the *determinants* of board size and composition, Linck et al. (2008), using a sample of US firms over the 1990-2004 period, found that the observed board structure was broadly consistent with the costs and benefits of boards’ monitoring and advising roles. Boone et al. (2007), concentrating on firms that went public (*IPOs*), found that in the subsequent 10 years the restructuring of the board was shaped by a mix of firm-specific and managerial characteristics, so as to end up with a board structure well tailored to suit the firm’s specific competitive environment.

⁶ See also Williamson (2007) for a discussion of the observed disparity between the efficacy of boards as predicted by the theoretical literature and the actual practice of boards of directors, who find it difficult to exercise their monitoring and advising roles.

Turning towards the *effects* of board size and composition, Yermack's (1996) seminal paper presented evidence of a negative effect of board size on performance, a result which has been subsequently confirmed by many scholars. However, Coles et al. (2008) found a U-shaped relationship between board size and performance. Following their interpretation, complex firms require a larger number of directors (and of outsiders) as compared to simple firms, while R&D intensive firms should better rely on inside directors. Also Klein (1998) showed that there is not a clear-cut relationship between performance and board composition. However, by looking at the peculiar role covered by directors in committees (i.e. the nominating committee, "monitoring" committees such as audit and compensation, as well as "strategic" committees such as finance and investment), they found a positive relationship between performance and the number of inside directors in these committees.

2.2. The presence of politicians on boards of directors

A topic which has been increasingly investigated in recent times relates to the presence of politicians on board of directors. Politically connected directors are explicitly put into relation with firm performance by Agrawal and Knoeber (2001) and Faccio (2006). Agrawal and Knoeber (2001) found that outsiders were having a negative effect on firm value. They interpreted this result by suggesting that boards expanded for political reasons and this often resulted in too many outsiders on the board. Politically experienced directors were found to be prevalent in larger firms, where politics was more important, or in companies affected by the political mechanism through government purchases, trade policy, environmental regulation and where lobbying was common. Faccio (2006), using a large sample of 20.000 firms in 47 countries, showed that corporate value increases after a top officer (*CEO*, director, or a large shareholder) entered politics⁷. In a similar vein, Goldman et al. (2009), working on a sample of major US firms for the 1996-2000 period, provided support for the view that political connections add value to the company.

As mentioned above, there are few papers that use non-US data. Cao et al. (2011) showed for a sample of Chinese listed companies over the years 2002-2007 that *CEO*'s political connection lowered the probability of *CEO* turnover, especially for badly performing firms, suggesting that political links could lead to undesirable managerial entrenchment. Niessen and Ruenzi (2010) worked on a sample of 605 German public companies observed in 2006, and found that politically connected firms provided better accounting and had better stock market performance. Bertrand et

⁷ In a subsequent paper (Faccio, 2010), she found that connected firms had higher leverage and were paying lower taxes, but they were exhibiting also a poor accounting performance as compared to their non-connected counterparts. The author suggested that this latter result was probably due to the ex-ante low performance of firms prior to connection. Therefore, in her interpretation, political connections were contributing to increase the value of poorly performing firms.

al. (2004), using a unique dataset of corporations listed on the Paris stock exchange over the 1992-2003 period, found that firms run by politically-connected *CEOs* were not over-performing their industries but they were slightly less profitable than firms run by *CEOs* with a pure private sector background. Their interpretation – i.e. that that politically-connected *CEOs* were distorting the labour demand of their firms to favour incumbents in upcoming political elections by creating more jobs or by destroying fewer plants in politically contested areas - , is particularly interesting for the purpose of our work. By hiring more (or firing less) workers, firms had a better access to subsidies and were allowed to pay lower local taxes, but the costs of this management style was outweighing its benefits and the net effect on performance turned out to be negative.

Overall, in spite of the fact that the results stemming from the above mentioned papers are not directly comparable⁸, the bulk of the evidence points towards a positive effect of political connectedness on firm's value and performance. Our paper contributes to the above two strands of literature by providing fresh evidence about the effects of board size and composition on a sample of Italian local public (and Government owned) utilities, where the political role of boards of directors is duly taken into account. In doing so, we aim to fill a gap in the literature, since, to the best of our knowledge, there is no available evidence on the above topics for Italy⁹ and for State-owned firms.

Finally, given that our sample refers to firms which are “not yet privatised”, we believe it is worth mentioning some recent evidence on newly privatized firms. Boubakri et al. (2008) worked on a sample of 245 privatized firms observed in 41 countries over the period 1980-2002, and found a negative relationship between accounting performance and political connectedness. In a similar vein, Fan et al. (2007) analysed 790 new partially privatised firms in China, showing that those with politically connected *CEOs* were under-performing, in terms of post-privatization earnings growth, sales growth and change in returns on sales, their unconnected peers.¹⁰ The above results are

⁸ Some papers use cross country data (Faccio, 2006 and 2010), while other studies are focused on a specific country. Some scholars look at the political connectedness of *CEOs* only (Fan et al., 2007, Bertrand et al., 2004), rather than including all board members, while others consider the political role of all the firm's employees (Cingano and Pinotti, 2009). Sometimes a restrictive definition of the political link (members of the Parliament or of the Government) is used, and directors which have a seat on regional or municipal political bodies are not taken into account. Some authors look at the directors' past position as politicians, while others consider their actual political role. The effects of board composition are evaluated according to different performance measures, such as accounting based (ROA, ROE, ROS) and stock based indexes (stock market prices, market-to-book ratios), and so on.

⁹ Cingano and Pinotti (2009) investigated the impact of political connections on performance for a sample of 1200 Italian private firms observed over the period 1985-1997. Political connection (measured by matching information on individuals appointed in local governments as mayors, member of the local councils and of the executive cabinets with data on firms' employees) was found to be associated with a revenue premium, especially for upstream producers working for the public administration, but had no impact on firm productivity. The results suggest the presence of a welfare decreasing public demand shift towards politically connected firms.

¹⁰ In a recent contribution, Liao and Young (2011) found results which are partially against the “political interference” hypothesis. Working on a sample of 514 privatized Chinese firms observed for the period 1999-2004, they found that the Chinese government was utilizing two main channels to keep its influence over privatized companies. Small firms

relevant for our analysis, since they suggest that attempts to privatize, liberalize and introduce more competition, such as the introduction of reforms of the local public services in Italy, may be ineffective, delayed, or partially neutralized by the choice of not removing (or of appointing new) politicians in the board of directors.

3. Definitions and data description

Board composition is defined according to the political affiliation, the independence and the status as either insider or outsider of each director. *Politically connected directors* may be identified by their present or past activity in the political arena, as represented by a political appointment, the membership to a political party, the candidacy for election¹¹. As highlighted in the previous section, several definitions of connectedness have been considered in the literature. Faccio (2006), for example, defines directors as politically connected when they are members of parliament, heads of state, associated or close to a political party or when their relatives or close friends are. We consider as *politically connected directors* those directors who are currently holding a seat in the parliament or in the Municipal, Provincial or Regional government or held one in the past, and also, more generally, directors affiliated to a political party and those whose relationship with political parties is well known. The reason for considering political connections at a lower level than in Faccio (2006) is twofold: first, stakeholders of public utilities are generally located in a restricted geographic area, so that connections are important at a very local level; second, our focus is on board components and their objective function so that we want to capture all possible sources of influence and motivations.

We define as *outside directors* board members who are not current employees of the firm. These may include the President of the board if he has no executive powers. In public utilities the President is generally a person of known experience and authority or otherwise an honorary charge given to a civil servant as a recognition of his past service.

Independent directors are identified by relying on the “*Codice di autodisciplina*” issued by the Committee for corporate governance of listed firms of the Italian Stock Exchange¹². Listed companies in the sample must say if their directors are independent or not according to the “*Codice*

and firms located in provinces with lower competition were more likely to have government shareholders, while large companies and firms active in regulated sectors were more likely to have politically connected *CEOs* in their boards. Residual government ownership was found to exert a positive effect on Tobin’s Q, while politically connected *CEOs* were found to impact positively on a “real sales” measure of post-privatization performance.

¹¹ A director could be involved in the political arena even when none of the previous conditions is met (through relatives, for example). We do not include in our definition of political connection the director’s family or friends’ connection, because the limited territorial operational range of the sample firms and their directors makes the information difficult to find and to verify.

¹² The Code states: “*A convenient proportion of non-executive directors is represented by independent directors, who must not be involved in any economic relationship with the firm, its executive directors and its shareholders, cannot execute control or relevant influence over the firm and are not relatives of anyone in such a position*” (page 21).

di autodisciplina” and sometimes non-listed companies do the same in their balance sheet or chart. We fill the missing information for non-listed companies by applying the same criterion to their directors.

3.1. Data set and summary statistics

The data set includes economic, technical and governance variables of 114 Italian public utilities surveyed annually in 1994-2004. The sample firms operate at local and national level in the gas, electricity and water production, distribution and sale to the final customer, and they are representative of their industries in terms of number, geographical distribution and size. Some of them are active in more than one industry, i.e. they are “*multi-utilities*”, and 9 out of 114 are listed at the Italian Stock Exchange. The data set is unbalanced, with a total of 838 firm-year observations and 1630 board directors.¹³

Information on governance was not included in the original datasets and its collection makes this dataset unique. It includes: (i) the legal form, (ii) the biggest three shareholders’ identity, (iii) the percentage of equity they own, (iv) the name of the directors, (v) their position in the board, (vi) their political connection, if any, (vii) their position as insider, outsider or independent directors as declared in the firm chart or deducted from their role and curriculum. Companies with the “*Azienda Municipalizzata*” juridical form do not have a proper board of directors but an “administrative commission” nominated by the local government who controls it, and board composition is not always reported in their annual accounts. Despite these difficulties, only 17 out of 838 board-year data, corresponding to the boards of six different firms, are missing.

In order to identify political connected directors, we proceeded by steps, by addressing the sources of information from the least to the most sensitive. By putting the information together, we were able to unravel the political connection of all the 1630 directors with a high degree of confidence¹⁴.

¹³ The unbalanced nature of the dataset is due to mergers or alienations, as a result of which some firms disappeared and others entered at some specific point in time, as well as to the lack of the primary source of information, i.e. the balance sheets. However, the data set is not strongly unbalanced, and, most importantly for the validity of results, the missing values are randomly distributed.

¹⁴ In principle, in Italy, political party membership and political appointments are public information. We contacted some Italian political parties and asked for the list of their affiliates but received no help, for the declared reason that there is no available database with those records. We run the biographical research on the electronic databases FACTIVE, LEXIS-NEXIS, ABI Inform (press release) and the Who’s Who in Italy. Even if directors in the list showed up in those databases, there was almost no useful information about their political affiliation. We kept in touch with ANSA, the most important press agency in Italy, who did not have the information either. Then, we considered interviewing the board members and sent a meeting request to a small sample of 12 firms, selected from the biggest ones, but only four of them answered. This made us lay down the idea to send questionnaires to the firms asking for their directors’ political connection. The last resort was Internet, where we found most of the information.

Table 1 summarizes some descriptive statistics for the profit ratios, the dimensional variables and board composition. ROI is computed as EBIT (earnings before interest and tax expenses, equivalent to the operating profit), over capital invested (as the sum of equity and financial debt), ROE is the proportion of Net Income over equity, and ROA is EBIT over total assets. We also classify firms depending on the type of its largest shareholder: *Prblock* is a dummy variable which identifies private blockholders, while public entities are divided between *Lblock* (equal to one for local government) and *Pubblock* (equal to one for higher levels of government, like a Province, a Region, a Ministry or the Central Bank).

On average, boards are composed by less than seven directors, and sometimes all of them are politicians. Outside directors are as common as politicians, but most of them are not independent. The average number of directors per year is quite stable over the sample period and shows a slightly increasing trend at the end of it. The inflation in the number of directors could reflect the increase in the firms' dimensions over the period. This increase in firms' dimension is linked to the transformation into limited companies (*Corp*) and to the augmented operational capacity of these firms. In 2004 there were no municipal firms (*AzMun*) left, while in 1994, at the beginning of the sample period, they represented the majority of firms. The local government (*Pubblock*) is the most popular type of blockholder, followed in turn by private owners and by Regional, Provincial, and State organisms. Finally, the sample includes many multiutilities, while, among the specialized firms, electric utilities are the less numerous category.

While Table 1 highlights the dominance of politicians on the boards, Table 2 shows that their incidence decreases as the number of independent directors goes up. A positive correlation between board size and firm dimension is also found. The incidence of politicians in the board is negatively correlated to the profit ratios and to the size variables *assets* and *N* (total employment). On the contrary, the percentage and the level of independent and outside directors are positively correlated with size. In the following sections we test these relations in a multivariate analysis.¹⁵

4. Firm-level employment and board of directors in the Italian public utilities

The political view of *SOEs* (Shleifer and Vishny, 1994) has put forward the idea that *SOEs* are over-staffed and that bureaucrats do not pursue any social objectives, and are focused on

¹⁵ Table 2 shows a very high correlation between politicians and outside directors. As suggested by an anonymous referee, we have conducted our empirical analysis by relying only on the shares of independent and politically connected directors, since including all the three proportions would have been redundant and statistically not appropriate. We thank the referee for having constructively raised this issue.

reaching consensus. We test this hypothesis by investigating the relationship between board dimension and composition, on the one hand, and the number of firm's employees, on the other. In firms controlled by a political body, as in the case of Italian public utilities, employment might expand for political reasons. The trend might be stronger if the board is dominated by politicians representing various stakeholders and interests. In a profit-maximizing firm, independent directors would be expected to control those expansions of employment that are pursued at the expense of profitability.

4.1. Board size and employment

The first hypothesis we want to test concerns the nature of the relationship between board size and labour demand. The direct correlation between the two variables might suggest a positive effect of board size on employment, which might nevertheless include an indirect effect working through firm dimension. In order to control for this potential indirect effect we use an econometric technique known as “bounding procedure” (Bond, 2002) to the estimation of the following model:

$$n_{it} = \alpha_1 n_{it-1} + \beta_1 w_{it} + \beta_2 w_{it-1} + \beta_3 k_{it} + \beta_4 k_{it-1} + \beta_5 board_{it} + \lambda_t + \eta_i + v_{it} \quad (1)$$

where n_{it} is the logarithm of employment in firm i at the end of corresponding year, w_{it} is the logarithm of average wage, k_{it} is the logarithm of firm gross capital (as the sum of total financial debt and equity), $board_{it}$ is the number of directors sitting in the board at time t , λ_t is a time effect common to all firms, η_i is a permanent but non-observable firm specific effect, and v_{it} is the error term. A theoretical interpretation for (1), without the governance variable, is in Arellano, Bond (1991). We apply different techniques to estimate the general expression in (1) and compare the results in Table 3. The first specification is an OLS estimate (column 1) in which both the dependent variable n_{it} and the explanatory variables are in levels. Year 1994 is lost due to the use of a lag. The dummy for year 2004 is dropped because the constant is included in the model. The problem in applying OLS is that the lagged employment, n_{it-1} is endogenous to the fixed effects in the error term, thus violating the assumption necessary for the consistency of OLS and generating the “dynamic panel bias”. As a consequence, the lagged employment's coefficient (equal to 0.954) is overestimated because it appropriates predictive power that actually belongs to the firm fixed effect accounted for in the error term.

The first method to overcome the endogeneity problem is to transform each variable in the corresponding deviation from the firm mean: OLS performed on the transformed data is the Within Group estimator and the regression generates Fixed Effect estimates, as shown in column (2) of

Table 3. The lagged employment coefficient falls from 0.954 to 0.763: this is the interval where the estimate of the true parameter should fall. Unfortunately, the Within Group transformation does not remove the dynamic panel bias (Bond, 2002). An alternative method for addressing both the endogeneity of regressors and the dynamic bias in a panel data is the first-difference (FD) transformation, which eliminates the fixed effects and avoids the propensity of the Within Groups transformation to make every observation of the in-deviation dependent variable endogenous to every other for a given individual. In such a model the dependent variable, the lagged dependent variable as a regressor and the other regressors are all transformed in first-differences. While fixed effects are removed (they are in fact differenced out), the lagged dependent variable is still endogenous because it is correlated to the error term. At this point the lagged dependent variable in the first-difference model is endogenous, and instrumental variables might help. Lags of the dependent variable of more than one period are orthogonal to the error and are available as instruments. The same applies to all the regressors that are not strictly endogenous. Instrumenting the dependent variable in first difference with its level at time $t-2$ leaves the model exactly identified. This is the intuition of Anderson and Hsiao (1981)¹⁶.

While retaining the original Arellano-Bond moment conditions for the in-difference equation, that is instrumenting variables in differences with variables in levels, Blundell and Bond (1998) suggest to “add” new conditions and to instrument variables in levels with variables in differences: this creates the so-called “GMM-system” estimate (“GMM-sys”). In practice, the model is treated as a system of equations, one for each time period, where the predetermined and endogenous variables in first-differences are instrumented with suitable lags of their own levels; the predetermined and endogenous variables in levels are instrumented with suitable lags of their own first differences. Column (3) of Table 3 shows the result of the one-step GMM-sys estimate. The coefficient of the lagged employment equals 0.821 and falls between the OLS and the Within-Group estimates. Unluckily, the Arellano-Bond test for autocorrelation does not fail to reject the null hypothesis that the error terms in the first difference regression exhibit no second order serial correlation at 10% significance level, while the Sargan-Hansen test fails to reject the null hypothesis that all instruments are exogenous at the 5% level. Following Blundell and Bond (1998), we treat k_{it} and w_{it} as endogenous and instrument them too when applying the two-step GMM-sys estimator

¹⁶ We followed both the first difference (FD) and the Anderson-Hsiao (1981) (AH) approaches, but we do not report the estimates for reason of space. While the estimate of the AH employment model is consistent, it is inefficient because it does not take into account all the possible orthogonality conditions between deeper lags of the regressors and the error, nor the distribution of the error (in difference). The coefficient of the lagged employment is 1.322 and falls outside the interval [0.763;0.954] offered by the OLS and the Within Group estimates, thus signalling a poor performance of the model. As a further check, by considering all valid lags of the untransformed variables as instruments, where available, one gets the classical “GMM-diff” model (Arellano and Bond, 1991), for which the coefficient of the lagged dependent variable (0.182) does not fall in the valid range yet.

with correction for heteroskedasticity in column (4). The coefficient on lagged employment moves into the credible range delimited by the pooled OLS and the Within Group estimates and the model performs well.

The two-step GMM-sys estimates with correction for heteroskedasticity basically confirm the first-step findings that the lagged employment and the contemporaneous and lagged wage are the main determinants of the present employment¹⁷. Given the absence of second order correlation in the first difference of the error term, the two-step GMM-sys estimator may be relied on. The difference-in-Hansen test still fails to reject the hypothesis that the additional moment conditions are valid.

Turning to our governance variable, the coefficient of $board_{it}$ is found to be positive and significant at the 5% level, highlighting a positive effect of board size on the level of employment. However, it could well be the case that firms with large headcount require dedicated policies and need expertises to be represented in the board, so that board size could in principle depend on employment. Given that, following Hermalin and Weisbach (1998) and the discussion in section 2, we have treated board dimension as an endogenous variable, we can exclude such an interpretation and be confident about the direction of causality.

4.2. Board composition and employment

Assuming that politically connected directors may be influential in deciding a public utility's employment, our next step is to directly test the impact of politicians (and of independent directors) on labour demand. However, in order to compare the relative effects of board size and composition, we should include both the characteristics of directors and board dimension among the regressors, as well as other controls representing company status and its change ($AzMun$, $AzSpec$, $Corp$, $\Delta AzSpec$ and $\Delta Corp$) and the presence of a public blockholder ($Publock_{it}$ and $Lblock_{it}$). We are open to the possibility that the variables $board_{it}$, $polit_{it}$, $\%polit_{it}$, and $\%indep_{it}$ are endogenous to the mechanism governing employment and we apply the bounding procedure in analogy to what we did while dealing with board size. We therefore estimate the model:

$$n_{it} = \alpha_1 n_{it-1} + \beta_1 w_{it} + \beta_2 w_{it-1} + \beta_3 k_{it} + \beta_4 k_{it-1} + \beta_G G_{it} + \lambda_t + \eta_i + v_{it} \quad (2)$$

¹⁷ All estimates are performed using the `xtabond2` procedure in Stata developed by Roodman (2009). In all cases the two step estimates are reported with the finite sample correction of the variance covariance matrix suggested by Windmeijer (2005). We tried also two lags for employment and the capital stock, and we included also aggregate output per sector among the regressors. Results are available upon request.

where n_{it} , w_{it} , k_{it} , n_{it-1} , w_{it-1} , k_{it-1} , λ_t , η_i , v_{it} are defined as in (1), and G_{it} is a vector of governance variables, like the juridical form, the presence of blockholders, board dimension or composition.

The first column of Table 4 shows that, while adding further controls does not improve significantly the explanatory power of our baseline model, the results on the impact of board size are indeed robust to such an inclusion.¹⁸ Most importantly, column 3 shows that politically connected directors exert a positive and significant impact on the level of employment. The results are in line with our hypothesis on the influence of politicians over employment levels, and are also an important confirmation of a stylized fact about the behaviour of State owned firms, traditionally over-employed, as argued by Boycko et al. (1996).

In firms with dispersed, private ownership, the presence of independent and outside directors is considered as a signal of strong governance because of the monitoring that these directors are expected to exert over the managers. NYSE (since 1978) and the NASDAQ (since 1989) require companies whose stocks are traded on their exchanges to have at least two outside directors on their corporate boards. This requirement suggests that some unaffiliated monitoring is considered necessary to safeguard or advance shareholders' interests. According to the Italian "*Codice di Autodisciplina*" for listed companies, outside directors should have a substantial influence over board decisions by virtue of their number and authority. Their opinion is particularly important when the executives' interests are not aligned with the shareholders', for they are external to the firm daily management. In firms with concentrated ownership, some directors should be independent from the blockholder, in order to guarantee the autonomy of the board from the controlling shareholders. Even in the case of State ownership, which is pervasive in our sample of Italian public utilities, the transformation from municipal firms into special firms, first, and into limited companies afterwards, has given outside board members an increasing power, at least nominally. The fourth column in Table 4 shows that the percentage of politicians ($\%polit_{it}$) has a positive impact on employment, while a negative sign is found for the percentage of independent directors ($\%indep_{it}$). While this is in accordance with a priori expectations, the coefficients of the two variables fail to reach an acceptable level of significance. Furthermore, by looking at the results in column 5 we can observe that the coefficient on board size is robust to the inclusion of variables accounting for board composition. We can therefore conclude from this first set of regressions that board size shows to be more important than board composition in explaining the labour demand of Italian public utilities.

¹⁸ The vector G_{it} in column 2 includes also $\Delta AzSpec_{it}$ and $\Delta Corp_{it}$, two variables accounting for the number of years elapsed since the firm has changed its form (from the municipal into the special form and from special firms into limited companies, respectively). Overall, the results show that the juridical status and its change do not have any discernible impact of labour demand. Conversely, as will be documented in section 5.1, our findings show that the corporatization process has a positive effect on the accounting performance of local public utilities.

5. Board size and composition and firm performance

We turn now to the main focus of the paper, by asking the following question: do board dimension and composition affect firm value in State owned local public utilities? The question is relevant in itself, but it is particularly poignant if applied to the Italian institutional context. The progressive corporatization of public utilities, i.e. the transformation from the “*Azienda Municipalizzata*” into the “*Società per azioni*” juridical form, has put the bases for their strategic independence and signalled the legislator’s intention to make firms autonomous in their investment plans and financing capacity. Moreover, the expected profitability of state-controlled firms is essential in order to stimulate private investors to be part of the ownership structure.

The corporate finance literature usually explains the relationship between governance and profitability by means of a dynamic linear model in which one or more lags of the dependent variable (stock return or accounting index) are used as regressor, as in the seminal work by Yermack (1996). Differently from employment level, which is a stock variable accumulated over time, profitability is usually measured by flows, such as stock price or profit ratios. We therefore study the effect of board dimension and composition on the operating performance of Italian public utilities by estimating the following static linear model:

$$y_{it} = \beta_G G_{it} + \beta_X X_{it} + \lambda_t + \eta_i + v_{it} \quad (3)$$

where y_{it} is a performance indicator, G_{it} is a vector of governance variables, like the juridical form, board dimension or composition, X_{it} is a vector of control variables, like sector or firm dimension, λ_t is a time dummy, η_i an individual, time invariant variable and v_{it} the error term. Only 10 out of 114 firms in our sample are listed, so that the firm performance will be assessed by accounting measures, namely ROI and ROE¹⁹.

5.1. Board size and performance

We estimate the following model:

$$y_{it} = \beta_1 board_{it} + \beta_X X_{it} + \lambda_t + \eta_i + v_{it} \quad (3.1)$$

¹⁹ ROA has been excluded as a dependent variable for two reasons: first, ROA is quite stable during the sample period and across firms, so it gives little information about differences among the sample units; second, most Italian firms finance their total assets more through accounting payables than with financial debt, so that ROA does not properly reflect the capital profitability, which is our main concern.

with two-step GMM-sys estimators, where y_{it} is ROI or ROE, $board_{it}$ is the number of directors at time t and X_{it} represents a set of control variables (such as firm dimension and the industrial sector) that we alternatively use in order to check the robustness of our results. Employment and total assets, in levels or logarithm, are popular measures for firm size, and we try them all. We also separate the firms into three groups, small, medium and big, including companies whose total assets are below the 33th percentile, between the 33th and the 66th percentile and above the 66th percentile, respectively. We consider the governance variable $board_{it}$ as endogenous, consistently with the previous analysis on employment. Table 5 presents the results, with ROI and ROE as dependent variables, and dummies for small and medium sized firms included as regressors²⁰.

We confirm for Italian public utilities the results that Yermack (1996) finds for US, listed, private firms with dispersed ownership: board dimension is negatively correlated with profitability. In short, bigger boards seem to pursue higher headcount at the expense of economic value. The result is evident across industries and is purged of any possible size effect. Firms in the gas (water) industry show a tendency to a higher (lower) ROI (ROE). Since the omitted category identifies multi-utility firms, we do not find a clear indication that utilities which operate in more than one sector are performing differently from operators specialized in water, gas and electricity, respectively²¹.

Table 6 shows the results of regressions in which model 3.1 has been enriched by including variables accounting for the company's juridical form, i.e. $AzMun_{it}$ which identifies municipal firms, $AzSpec_{it}$ which identifies special firms (the omitted category being the limited corporation form $Corp_{it}$), as well as for the presence of a blockholder. The negative signs for $Publock_{it}$ and $Lblock_{it}$ suggest that the presence of private blockholders (the omitted category) is effective in spurring efficiency in Italian *SOEs*. "Mixed firms", i.e. companies participated by both state and private investors, are one example of public-private partnership, typically used in the reorganization of local public services, mostly when the creation and the management of integrated public services are concerned. Public-private partnerships may help the public sector to make resources available for alternative investments but it is not clear whether the most productive investments would be financed through these agreements (Hart et al., 1997; Hart, 2003). In a similar vein, the negative signs for both $AzMun_{it}$ and $AzSpec_{it}$ highlight the idea that corporatization is associated with higher performance, a result in line with the evidence provided by Cambini et al. (2010), who investigated the effects of corporatization on the costs of a sample of Italian local public transport companies.

²⁰ The results of regressions in which total assets and number of employees are used as size variables are virtually unchanged.

²¹ See Piacenza and Vannoni (2004), for a detailed analysis of the cost function of Italian multi-utilities, in which some evidence of the presence of scope economies is provided.

The longitudinal dimension of our dataset allows us to investigate in more detail the performance effects of the change of the juridical form. Column 4 includes two time varying regressors ($\Delta AzSpec_{it}$ and $\Delta Corp_{it}$), accounting for the number of years elapsed since the firm has changed its form (from the municipal into the special form and from special firms into limited companies, respectively). The coefficient on $\Delta Corp_{it}$ is positive and strongly significant, suggesting that the transformation into limited companies is bringing performance improvements that increase through time. The model estimated in the last column, which simultaneously includes variables accounting for the actual juridical form and for the change in status, confirms that *ROI* increases in the years following corporatization.²²

Overall, the results reported in Table 6 seem to indicate that in Italian public utilities the presence of a private investor counterbalances the negative effect on profitability produced by the inflation of board size or the persistence of traditional juridical forms.²³

5.2. Board composition and performance

We follow the same approach as for employment and study the relationship between the number and the percentage of politicians, as well as the proportion of independent directors sitting on the board and firm profitability, by including $polit_{it}$, $\%polit_{it}$ and $\%indep_{it}$ as (endogenous) right hand side variables. We report in Table 7 the estimates for *ROI*, but the results are confirmed also by looking at *ROE*. Differently from what happens when employment is taken as the dependent variable, the number of politicians sitting on the board is found to have a negative impact on profitability. Politically-connected directors seem to concentrate on increasing the headcount more than paying attention to the economic performance. By including both, the board size and board composition variables simultaneously, we confirm the negative effect of politicians sitting on the board on performance ($\%polit_{it}$). Interestingly, the coefficient on $board_{it}$ loses its significance, thus suggesting that board composition is more important than board size in influencing firm performance. While the coefficient on $\%indep_{it}$ is never significant, its negative sign seems to reinforce the idea that the objective of independent directors is not quite what one would expect

²² When $\Delta AzSpec_{it}$ and $\Delta Corp_{it}$ are included as simple dummies (i.e. they do not increase across time), the corresponding coefficients are not significantly different from zero, thereby confirming that it takes some time before the change in status starts to produce its effects. We are indebted to an anonymous referee for suggesting to us this line of investigation.

²³ It is not surprising that the inclusion of the dummies for blockholders reduces the significance of the coefficient on board size, given that the presence of a well-identified blockholder can be effective in reducing the agency problems discussed in the introductory session.

from their profile: they seem to mimic the politicians in favouring more employment at the expense of profitability.²⁴

Garrone et al (2010) estimated a cost function on a sample of 27 Italian municipal utilities observed over the period 1997-2006. A variable accounting for the percentage of outside directors (who were considered as an undifferentiated category) on the board was not found to have any relevant effect on cost efficiency. Coupling this evidence with our findings on the regressors $\%polit_{it}$ and $\%indep_{it}$, we believe that empirical studies should be conducted at a much finer-grained level in the future. To that respect, looking inside the black box of the board of directors appears to be a promising area of research.

6. Conclusions

Despite the evolution of the legal and industrial framework, Italian public utilities are still controlled by state entities and their boards are dominated by politicians to a large extent. Shleifer and Vishny (1994) explain that political control of firms (as brought by a politically-dominated board) leads to a less efficient resource allocation than managerial control. Government-owned firms are thought to forgo profit maximization in the search for social and political objectives such as wealth distribution and employment.

This paper addresses this open question by means of a newly hand-collected sample of 114 Italian public utilities observed during the period 1994-2004. The analysis on profitability and employment suggests that board size and composition matter even in State-owned firms with concentrated ownership and public blockholders.

We find that both, board size and the presence of politically connected directors have an inflationary effect on employment. These results confirm the general opinion that State-owned firms are over-employed and employment-maximizing. Our evidence suggests that, in State-owned firms, big boards might suffer from coordination problems, just like the boards of privately held firms, as confirmed by Yermack (1996).

Interestingly, board size is found to be more important than board composition in increasing the number of employees. However, when we turn our attention to performance, we find that board composition – namely, the number and proportion of politicians sitting on the board – turns out to have a more important and negative effect on the accounting performance of Italian *SOEs*.

²⁴ This might be due to the fact that directors' independence, as declared by the firm chart, is perhaps disconnected from what emerges from their biography: some directors, whom we have recognised as politically connected to the blockholder without being public officers (thus not politicians in a strict sense), are said to be independent, but they may actually pursue the same objectives as politicians. If this is the case, the status of independent is not very informative and the interpretation of the econometric results becomes quite difficult.

Finally we also find that the position of independent directors is ambiguous, in that they seem to imitate politicians by negatively affecting firm value. According to the existing theoretical literature, outside directors are often treated as an undifferentiated group opposed to insiders. By distinguishing between outsiders who are politically connected and outsiders who declared themselves as independent, we can investigate the objectives pursued by different types of outside directors within the board. Our evidence suggests that, beyond their status, independent directors might hide an indirect affiliation to politicians or even aim to the same objectives without necessarily enjoying any political connection.

The results of the paper are in line with the ones obtained by Bertrand et al. (2004) for private firms active in politically contested areas and by Boubakri et al. (2008) and Fan et al. (2008) for newly privatised firms. In both cases, political connection are found to harm firm performance. Thus we conclude that, when privatization does not remove politicians from boards of directors, these directors can seriously undermine the goals of privatisation. Favours strong political connections in State owned local public utilities can well annihilate the positive effects that the reforms of the sector (i.e. *corporatization* processes, or any attempts to introduce competition) are expected to bring. Indeed, our findings show that the effect of the percentage of politicians in the board is robust to the inclusion of variables accounting for the juridical status, the change in juridical form, and the presence of private investors.

From a policy perspective, our results are in line with the regulation which has been recently imposed to most Italian local public utilities by *Law 6/8/2008, n. 133* and which is going to be implemented by means of accomplishing *decrees*. Together with the promotion of more competition through privatisation and the introduction of tendering procedures, this law attempts to separate the regulator from the management of the regulated firm, by foreseeing bans for mayors, members of the municipal councils and of executive cabinets, and any other civil servant working at present or in the past three years at the municipality, to sit on the boards of directors of the corresponding local public utilities.

Leaving political connectedness aside, the results of the paper also suggest that a larger number of directors might indicate the presence of different types of stakeholders, such as creditors or consumers, who may have a potential interest in pursuing their own strategies. Disagreement among directors may increase employee power *vis a vis* the managers and could be detrimental for profitability. The limits recently imposed by the Italian Budget Law (*Law 27/12/2006, n. 296*) to the total number of directors, in the case of full public ownership (3 to 5, depending on firm size), or to the number of directors that can be nominated by the local municipality, in the case of mixed

ownership (no more than 5) might be consistent with this view and are therefore particularly welcome.

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Table 1. Descriptive statistics

<i>Variable</i>	<i>Number Observ.</i>	<i>25%</i>	<i>Median</i>	<i>75%</i>	<i>Mean</i>	<i>St.Dev</i>
<i>ROI</i>	838	0.021	0.050	0.090	0.069	0.098
<i>ROE</i>	838	0.007	0.037	0.091	0.065	0.120
<i>ROA</i>	838	0.013	0.033	0.056	0.037	0.037
<i>Assets ('000 euro)</i>	838	23,024	63,228	179,306	212,623	476,818
<i>sales ('000 euro)</i>	838	11,625	27,571	85,907	96,910	221,688
<i>N</i>	838	54	168	413	505.7	1294.3
<i>Board</i>	821	5	7	7	6.14	2.48
<i>Polit</i>	821	4	5	7	5.58	2.49
<i>Indep</i>	821	0	0	2	1.42	2.10
<i>Out</i>	821	4	6	6	5.13	2.64
		<i>Mean</i>				
<i>Publock</i>	19	0.023				
<i>Lblock</i>	662	0.790				
<i>Prblock</i>	157	0.187				
<i>Azmun</i>	178	0.212				
<i>Azspec</i>	221	0.264				
<i>Corp</i>	439	0.524				
<i>Gas</i>	139	0.166				
<i>Water</i>	183	0.218				
<i>Electricity</i>	58	0.069				
<i>Multiutilities</i>	458	0.547				

ROI is the return on invested capital, *ROE* is the return on equity, *ROA* is the return on assets, *assets* represents the firm total assets, *N* the number of employees, *sales* the revenues, *board* is the board size, *indep* is the number of independent directors, *polit* is the number of politically connected directors, *out* is the number of outside directors. *Publock* is a dummy variable for firms whose blockholder is a State entity at the highest level (Ministry, Region, Province, Central Bank, etc.), while *Lblock* identifies firms with local governments as blockholders. *Prblock* is a dummy variable for firms whose blockholder is a private entity. *Azmun*, *Azspec*, *Corp* are dummies accounting for the juridical form (Azienda Municipalizzata, Azienda Speciale, and limited company, respectively). *Gas*, *Water*, *Electricity* are dummies for firms focused mostly on one activity, while *Multiutilities* identifies diversified utilities who run several businesses.

Table 2. Correlation matrix for board size and composition

	<i>board</i>	<i>polit</i>	<i>indep</i>	<i>out</i>	<i>%polit</i>	<i>%indep</i>	<i>%out</i>	<i>ROI</i>	<i>ROE</i>	<i>ROA</i>	<i>assets</i>	<i>N</i>
<i>board</i>	1							-0.079**	-0.026	0.008	0.134***	0.115***
<i>polit</i>	0.915***	1						-0.155***	-0.057	-0.065*	0.068*	0.051
<i>indep</i>	0.396***	0.270***	1					-0.022	-0.062*	0.039	0.305***	0.259***
<i>out</i>	0.970***	0.913***	0.364***	1				-0.116***	-0.035	-0.042	0.154***	0.134***
<i>%polit</i>	-0.048	0.338***	-0.203***	-0.002	1			-0.292***	-0.149***	-0.214***	-0.115***	-0.126***
<i>%indep</i>	0.198***	0.088**	0.917***	0.189***	-0.215***	1		-0.035	-0.055	0.018	0.275***	0.241***
<i>%out</i>	0.623***	0.591***	0.208***	0.716***	-0.048	0.213***	1	-0.078**	0.027	-0.025	0.113***	0.104***

Pearson correlations between board characteristics, profit ratios and measures of firm dimension: *board* is the board size, *polit* is the number of politically connected directors, *indep* is the number of independent directors, *out* is the number of outside directors, *%polit* is the fraction of politically connected directors, *%indep* is the fraction of independent directors, *%out* is the fraction of outside directors, *ROI* is the return on invested capital, *ROE* is the return on equity, *ROA* is the return on assets, *assets* represents the firm total assets, *N* the number of employees. *** Significant at 1%; ** Significant at 5%; * Significant at 10%.

Table 3. Employment and board dimension

Independent variables	Dependent variable: n_{it}			
	(1) OLS	(2) Within Group	(3) GMM-sys	(4) GMM-sys2
n_{it-1}	0.954*** (0.013)	0.763*** (0.015)	0.821*** (0.061)	0.826*** (0.066)
w_{it}	-0.621*** (0.136)	-0.645*** (0.136)	-0.798*** (0.167)	-0.876*** (0.141)
w_{it-1}	0.576*** (0.089)	0.459*** (0.063)	0.611*** (0.093)	0.626*** (0.135)
k_{it}	0.145*** (0.418)	0.126*** (0.038)	0.206*** (0.075)	0.201** (0.091)
k_{it-1}	-0.105*** (0.035)	-0.086** (0.040)	-0.076 (0.053)	-0.080 (0.058)
$board_{it}$	-0.000 (0.003)	0.018*** (0.007)	0.033*** (0.012)	0.030** (0.014)
AR(2) AR(2) p -value	–	–	-1.70 0.088	-1.64 0.101
Hansen $Pr > \chi^2$ Hansen df	–	–	1.000 139	0.997 110
Difference Hansen $Pr > \chi^2$	–	–	0.815	0.796
Number of observations	699	699	699	699
Time dummies	Yes			
Sample period	1994-2004			
Number of firms	111			

*** Significant at 1%; ** Significant at 5%; * Significant at 10%. Standard errors in parentheses.

Table 4. Employment, board size and composition: politicians and independent directors

Independent variables	Dependent variable: n_{it}				
n_{it-1}	0.809*** (0.069)	0.806*** (0.070)	0.817*** (0.065)	0.620*** (0.067)	0.625*** (0.066)
w_{it}	-0.872*** (0.187)	-0.856*** (0.187)	-0.919*** (0.168)	-0.713*** (0.187)	-0.713*** (0.196)
w_{it-1}	0.638*** (0.098)	0.630*** (0.089)	0.616*** (0.103)	0.426*** (0.122)	0.453*** (0.112)
k_{it}	0.178** (0.081)	0.200** (0.100)	0.159** (0.069)	0.272*** (0.063)	0.288*** (0.068)
k_{it-1}	-0.062 (0.049)	-0.077 (0.063)	-0.060 (0.047)	0.044 (0.034)	0.024 (0.033)
$AzMun_{it}$	-0.066 (0.047)	-0.052 (0.041)	-0.065 (0.044)	-0.101 (0.072)	-0.137 (0.083)
$AzSpec_{it}$	-0.043 (0.035)	-0.001 (0.041)	-0.048 (0.032)	-0.092 (0.062)	-0.064 (0.052)
$Publock_{it}$	0.016 (0.201)	-0.030 (0.190)	-0.041 (0.166)	-0.326 (0.394)	-0.299 (0.319)
$\Delta AzSpec_{it}$		-0.013 (0.012)			
$\Delta Corp_{it}$		0.012 (0.010)			
$Lblock_{it}$	0.050 (0.040)	0.038 (0.041)	0.068* (0.041)	0.009 (0.101)	0.005 (0.072)
$board_{it}$	0.026** (0.012)	0.019* (0.011)			0.019* (0.011)
$polit_{it}$			0.019** (0.009)		
$\%polit_{it}$				0.410 (0.328)	0.298 (0.255)
$\%indep_{it}$				-0.187 (0.191)	-0.219 (0.160)
AR(2)	-1.57	-1.59	-1.58	-1.53	-1.57
AR(2) p -value	0.117	0.112	0.115	0.115	0.116
Hansen $Pr > \chi^2$	0.999	0.993	0.995	1.000	1.000
Hansen df	110	110	129	255	286
Difference Hansen $Pr > \chi^2$	0.695	0.303	0.386	1.000	1.000
Number of observations	699	699	699	699	699
Time dummies	Yes				
Sample period	1994-2004				
Number of firms	111				

Estimated models: GMM-sys2. *** Significant at 1%; ** Significant at 5%; * Significant at 10%. Standard errors in parentheses.

Table 5. Governance and economic performance: ROI and ROE

Independent variables	Dependent variables			
	ROI		ROE	
<i>board_{it}</i>	-0.006** (0.003)	-0.004* (0.002)	-0.006** (0.003)	-0.007** (0.003)
<i>small_{it}</i>		0.035** (0.016)		0.026 (0.017)
<i>medium_{it}</i>		-0.002 (0.008)		-0.015 (0.011)
<i>water_{it}</i>	-0.028 (0.017)	-0.024 (0.016)	-0.044*** (0.012)	-0.045*** (0.014)
<i>gas_{it}</i>	0.054* (0.029)	0.049* (0.029)	0.038 (0.035)	0.029 (0.031)
<i>electr_{it}</i>	-0.007 (0.016)	-0.013 (0.016)	0.004 (0.021)	-0.001 (0.023)
<i>constant</i>	0.115*** (0.024)	0.100*** (0.021)	0.116*** (0.025)	0.114*** (0.027)
AR(2)	0.13	-0.09	-1.30	-1.15
AR(2) <i>p</i> -value	0.894	0.927	0.195	0.250
Hansen Pr > χ^2	0.301	0.507	0.936	0.908
Hansen <i>df</i>	64	64	53	53
Difference Hansen Pr > χ^2	0.517	0.339	0.902	0.820
Number of observations	821	821	821	821
Time dummies	Yes			
Sample period	1994-2004			
Number of firms	113			

Estimated models: GMM-sys2. *** Significant at 1%; ** Significant at 5%; * Significant at 10%. Standard errors in parentheses.

Table 6. Performance, juridical form and blockholders

Independent variables	Dependent Variable: ROI				
<i>board_{it}</i>	-0.006* (0.004)	-0.003 (0.002)	-0.003 (0.003)	-0.001 (0.003)	-0.002 (0.003)
<i>small_{it}</i>	0.026 (0.020)	0.029* (0.016)	0.039** (0.016)	0.041** (0.015)	0.038** (0.014)
<i>medium_{it}</i>	-0.001 (0.009)	0.002 (0.008)	0.006 (0.008)	0.007 (0.007)	0.006 (0.007)
<i>AzMun_{it}</i>	-0.037* (0.020)		-0.014 (0.012)		-0.010 (0.014)
<i>AzSpec_{it}</i>	-0.045*** (0.015)		-0.021*** (0.008)		-0.004 (0.012)
$\Delta AzSpec_{it}$				0.001 (0.002)	0.001 (0.002)
$\Delta Corp_{it}$				0.010*** (0.003)	0.010*** (0.003)
<i>Publock_{it}</i>		-0.069* (0.041)	-0.068* (0.039)	-0.058* (0.029)	-0.058** (0.028)
<i>Lblock_{it}</i>		-0.067*** (0.017)	-0.059*** (0.017)	-0.049*** (0.017)	-0.047*** (0.017)
<i>water_{it}</i>	-0.027** (0.012)	-0.030** (0.013)	-0.032** (0.014)	-0.033** (0.013)	-0.031** (0.013)
<i>gas_{it}</i>	0.033 (0.027)	0.019 (0.019)	0.015 (0.022)	0.013 (0.024)	0.011 (0.023)
<i>electr_{it}</i>	0.008 (0.013)	0.005 (0.017)	0.005 (0.017)	0.006 (0.017)	0.006 (0.017)
<i>constant</i>	0.108*** (0.028)	0.152*** (0.025)	0.142*** (0.025)	0.067** (0.028)	0.066** (0.029)
AR(2)	-0.30	-0.05	-0.14	-0.04	-0.05
AR(2) <i>p-value</i>	0.761	0.964	0.892	0.965	0.960
Hansen $Pr > \chi^2$	0.761	0.783	0.767	0.526	0.546
Hansen <i>df</i>	53	54	64	64	64
Difference Hansen $Pr > \chi^2$	0.854	0.667	0.643	0.281	0.317
Number of observations	821	821	821	821	821
Time dummies	Yes				
Sample period	1994-2004				
Number of firms	113				

Estimated models: GMM-sys2. *** Significant at 1%; ** Significant at 5%; * Significant at 10%. Standard errors in parentheses.

Table 7. Performance, board size and composition: politicians and independent directors

Independent variables	Dependent variable: ROI			
<i>board_{it}</i>	-0.003 (0.003)			-0.001 (0.003)
<i>polit_{it}</i>		-0.004* (0.002)		
<i>%polit_{it}</i>			-0.086* (0.051)	-0.095** (0.056)
<i>%indep_{it}</i>			-0.034 (0.034)	-0.012 (0.038)
AR(2)	-0.14	-0.13	-0.11	-0.08
AR(2) <i>p-value</i>	0.892	0.895	0.914	0.933
Hansen Pr > χ^2	0.767	0.261	0.933	0.991
Hansen <i>df</i>	64	58	76	126
Difference Hansen Pr > χ^2	0.643	0.118	0.380	1.000
Number of observations	821	821	821	821
Time dummies	yes			
Sample period	1994-2004			
Number of firms	113			

Estimated models: GMM-sys2. Coefficients on *small_{it}*, *medium_{it}*, *water_{it}*, *gas_{it}*, *electr_{it}*, *Azmun_{it}*, *Azspec_{it}*, *Pblock_{it}* and *Lblock_{it}* not reported.

*** Significant at 1%; ** Significant at 5%; * Significant at 10%. Standard errors in parentheses.