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The Determinants of Board Compensation in SOEs: An Application to Italian Local Public Utilities

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The Determinants of Board Compensation in *SOEs*: An Application to Italian Local Public Utilities

Abstract

This paper investigates the determinants of board compensation for a sample of Italian State Owned Enterprises (*SOEs*). To that purpose, we use a newly collected panel data of 106 local public utilities observed from 1994 through 2004, which includes detailed information on the boards of directors. During this period, the deregulation process inspired institutional interventions that forced utilities, traditionally owned by local municipalities, to change their juridical form and ownership structure, thereby facilitating the entrance of private investors. The corporate governance literature shows that such changes may exacerbate the agency conflicts between shareholders, top executives and the board. However, board compensation could reduce the agency costs by aligning the incentives of managers with the interests of shareholders. This paper addresses this issue by investigating the impact that board composition, firm characteristics and performance have on board compensation. We find that the average board pay is positively related to firm dimension and negatively related to board size. The public or private nature of the major shareholder does not influence board compensation but the juridical form does. Finally, while the proportion of politically connected directors is found to negatively influence the level of per capita compensation, the impact of firm performance is uncertain.

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

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1. Introduction

The remuneration of board of directors, as well as the compensation packages of CEOs and other top executives, represent an internal corporate governance instrument aimed at providing them with the right incentives to behave in the best interests of the shareholders. The monitoring and advising functions of boards are jeopardized by the coordination and agency problems that they might suffer, so that providing directors with incentivizing remuneration schemes (in terms of both the absolute monetary value of total compensation as well as an appropriate mix between fixed cash salary and variable –i.e. performance related, components) becomes important. While CEO's pay has been a hot topic in the economic literature during the last decade, compensation of the board as a whole has received minor attention. Indeed, most research on board of directors has centered on independence more than on incentives. However, as highlighted by Crespí-Cladera and Gispert (2003), the focus on board remuneration is justified by the redefinition of the agency problem, where the CEO and top executives are responsible to the board, and the board in turn is responsible towards the shareholders.

Most contributions on the determinants and the effects of compensation packages concern listed firms, while, as acknowledged by Hermalin and Weisbach (2003), not much is known about board decision making in non-private sector entities. The private sector usually defines the best practice standard, and it is almost uniform practice for Governments to seek to improve the performance of State Owned Enterprises (*SOEs*) by emulating the private sector's practices (see, for example, OECD, 2006). To that respect, in order to attract well-qualified and experienced executives and board members, efforts must be made to include rewards in the compensation schemes. However, for reasons of fairness and in order to avoid public controversy over unequal and excessive pay in the public sector, there are serious concerns about the extensive use of incentive remuneration schemes for companies owned by central or local governments:

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"As a general rule, Governments tend to regulate and limit the remuneration and incentive awards of both executives and board members of SOEs. Some countries have policies that seek to align pay with market rates but not be market leading. Others prescribe remuneration levels. These prescriptions may be supplemented by prohibitions on share options, or restrictions on bonuses" (Frederick, 2011, p. 21).

The purpose of this paper is to shed some light on the determinants of directors' compensation in *SOEs*. In particular, we analyse per capita board compensation in a sample of 106 Italian local public utilities observed over the years 1994-2004. During this period, the liberalization process has changed the industrial and institutional landscape of the sector. From a corporate governance point of view, new rules were established for the utilities' juridical forms, ownership structure and board composition. Until the nineties, Italian local public utilities were traditionally firms emanating from the controlling State (often local) body. From the initial status of "*Azienda Municipalizzata*"[1], they have sometimes evolved into a transitional juridical form called "*Azienda Speciale*", in which managers enjoyed 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, according to a process labelled *corporatization*. The declared intention of such a transformation was to facilitate the evolution of the sector toward a more competitive and market oriented organization in which local public utilities still controlled by municipal governments would nonetheless appear more similar to private firms in their management practices and objectives. To be more specific, the corporatization process should allow firms to be managed with less interference by politicians, with a better knowledge of the real cost of the service, with a more flexible management of labour. The direction of the companies should be entrusted to professional managers and, accordingly, the presence of

[1] 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.

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bureaucrats in key managerial positions should be reduced. There should be higher degrees of freedom as far as personnel hiring and promotion, procurement and long-term investment budgetary operations are concerned[2].

In this perspective, it is important to analyze whether the corporate governance mechanisms are working in publicly owned utilities as they do in private companies. In this paper, we focus our attention on the compensation of boards of directors and put it into relation with sector and firm characteristics such as size, profitability, ownership structure, board composition and juridical form. During the decade under investigation (1994-2004), most Italian public utilities were still controlled by state entities and their boards were dominated by government representatives. For this reason, in this paper we do not make a generic distinction between executives (inside) and non-executives (outside) directors, as is often the case in the literature, but we disentangle "independent" versus "not independent" outsiders, and we take into account also the political connection of board members, by distinguishing between "politically connected" and "non politically connected" directors.

By following an empirical strategy that accounts for potential endogeneity problems of board composition and performance regressors, we find that both board size and board composition matter for director's compensation. In firms where boards are bigger and dominated by politicians, remunerations are lower. On the contrary, per capita pay increases for big firms and for utilities that take on the limited company form. Finally, the estimates show that there is not a clear-cut relationship between performance and the average compensation of board of directors.

The remainder of the paper is organized as follows. Section 2 reviews the relevant literature, that mostly concentrates on private listed firms. Section 3 explains the

[2] Corporatization is expected to bring also labour costs savings, since the salaries of utilities with the "limited company" juridical form should be set at levels equal to the ones prevailing in the collective contracts in the private sector. The latter are generally lower than the wages paid to the workers in the public sector.

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definitions adopted, describes the data set and shows some first descriptive statistics. Section 4 illustrates the econometric model and presents the main results of our empirical analysis. Section 5 concludes.

2. Literature review

While several studies have examined the determinants of executive compensation as well as the relationship between executive compensation and firm performance (see, among others, the recent reviews by Kaplan (2012) and Goergen and Renneboog (2011)), the literature on incentives schemes for boards of directors (as a whole, as a function of their composition and in relation to firm performance) is not well developed as yet. After the explosion of corporate scandals that, starting from 2001, burst over the financial markets in the US and in Europe, practitioners, politicians and scholars have been much more critical in evaluating boards of directors as an effective corporate governance instrument for monitoring the behaviour of managers and protecting the interests of shareholders. Most of the literature has highlighted the importance of having small boards and a relevant fraction of independent directors. More recently, and for listed firms only, the remuneration of boards of directors as an incentive to better control the management has become a relevant topic in the financial literature (Adams et al., 2010).

In the literature, admittedly, there is a sort of confusion between managerial compensation, CEO pay, executive and non-executive director pay, and total or average board compensation. For example, some papers concentrate on outside director compensation only (Boyd, 1996; Yermack, 2004), others on CEOs' remuneration only (Gregg et al., 1993; Firth et al., 2007), and some others on both. Among the latter, some papers present separate estimates for CEO compensation, outside director compensation and total board compensation (Main et al., 1996; Ryan and Wiggins, 2004; Brick et al.,

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2006; Fernandes, 2008), while others analyze total board pay only (Crespí-Cladera and Gispert, 2003; Feng et al., 2007; Barontini and Bozzi, 2011).

This confusion, however, is partially justified by the fact that CEOs are both managers and, since they usually sit in the board of directors, executive directors[3]. Given our interest in board compensation, our literature review will be limited to the papers dealing with the compensation packages of directors and, to a lesser extent, of CEOs[4].

2.1. The determinants of compensation: firm size and board size

Firm size is considered in a number of papers as an important variable explaining board as well as CEO compensation. The complexity of the job, the skills required, the number of hierarchical structures and the ability to pay, all point toward larger firms paying their directors more. Most studies confirm that remunerations increase with firm size, as measured by sales, total assets, or invested capital. Gabaix and Landier (2008) push the analysis forward so as to sustain that firm size, without any other variable, can explain almost completely the variation of the level of CEO's compensation.

For board members other than the CEO, Brick et al. (2006), using a sample of 1400 US firms observed from 1992 to 2001, highlight that director remuneration is positively related to the difficulty of the directors' tasks as proxied by firm size. However, in the second step of their analysis, they find a positive relation between CEO compensation and director compensation. This result could be due to the fact that large and complex firms are requiring skilled managers and higher levels of effort, or it could

[3] In many circumstances, CEO's remuneration is computed by including the salary. While this is obviously correct for investigating the determinants and the effects of CEO compensation, when analyzing total board compensation (which should include the annual cash retainer for each director, the fee for each board meeting and the fee for committee meetings), the computation of CEO and other executive board members wages has the effect of sharply increasing average board pay. This makes the board compensation measure less connected to the monitoring and advising efforts of the board, which is the topic on which we concentrate our attention in this paper.

[4] The reader interested in managerial compensation can refer, for example, to Murphy (1999), Goergen and Renneboog (2011) and Kaplan (2012).

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otherwise reflect cronyism, where top executives and directors are pursuing their own interests against the interests of shareholders ("mutual back scratching"). Since they find evidence of a negative link between excess compensation (the residuals from the pay-for-performance regression) and firm performance (as measured by future excess returns), the authors conclude that overcompensation of directors and CEOs is related to firm future underperformance.

While the positive impact of firm size on compensation is clear, the link between board size, CEO compensation and overall board compensation is uncertain. There are two possible effects. On the one hand, large boards of directors are likely to have a wider level of expertise which could enhance their monitoring, align incentives and increase board compensation while reducing CEO pay. On the other hand, they can grow so oversized that they become ineffective in coordinating and accomplishing their role of monitoring the executive management, which would lead to higher (lower) CEO (board) compensation[5].

Given the above two opposite effects, relatively few empirical papers have included board size among the regressors in their investigation of the determinants of compensation[6]. Ryan and Wiggins (2004), using a sample of 1018 US firms observed for years 1995-1997, show evidence of a negative relationship between board size and total director remuneration (which includes cash and equity based compensation but does not include the CEO's wage), as well as of lower shares of incentive-based compensation for boards who are dominated by the CEO and by insider directors. Assuming that large boards are less effective in fulfilling their monitoring role, the negative impact of board

[5] Moreover, although the board is in charge of fixing CEO pay, it could be the case that the CEO also influences board composition and compensation. Therefore, while, on the one hand, non-executives should try to avoid paying CEOs too much, CEOs with bargaining power, on the other hand, do not allow director compensation to be set to a level conducive to the optimal amount of monitoring.

[6] For example, Firth et al. (2007) have tested the hypothesis that "no relation exists between CEO pay and board size". Since their estimates on a sample of 549 listed Chinese companies observed from 1997 to 2000 show evidence of a negative relationship between board size and CEO's compensation, the null hypothesis can be rejected, but the authors do not attempt to offer an interpretation of such an outcome.

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size suggests that (suboptimal) director compensation reinforces monitoring barriers. Their results suggest the importance of outsider and independent directors for contrasting the CEO's power and for devising board compensation schemes more aligned with the interests of shareholders. In a similar vein, Feng et al. (2007), using a sample of 136 US Real Estate Investment Trusts (*REITs*) for 2001, find that total director compensation (which does not include the CEO's wage) is significantly negatively related to board size and positively related to firm size and performance. They also find that, when CEOs are involved in the nomination of directors, equity-based compensation of board members is used less, and conclude that CEOs influence board compensation and that they do so in a way that, instead of mitigating the agency problem, exacerbates it[7].

2.2. ***Other determinants of board compensation: board composition and the role of outsiders***

Fernandes (2008) analyses in detail the role of non-executive board members, who are expected to act to protect the shareholders' interests, i.e. to bridge the gap between uninformed shareholders and informed executive managers. Using a sample of 51 companies listed in the Portuguese stock market from 2002 to 2004, he finds that, contrary to a priori expectations, firms with more non-executive board members pay higher wages to executive directors and that, in firms with zero non-executive board members, shareholders' and managers' interests are better aligned[8]. The above results impose a reflection on the effectiveness of independent board members incentive systems and on their expected monitoring role (see also Yermack, 2004). As stated by the author: "*high compensation, together with the lack of a competitive labor market,*

[7] However, while Ryan and Wiggins (2004) found a lower percentage of equity pay for large boards, Feng et al. (2007) did not. Therefore, the evidence provided by Feng et al. (2007) is less robust and less conclusive as far as the impact of board compensation on barriers to monitoring is concerned.

[8] More precisely, while there is no clear-cut relationship between board remuneration and company performance, the results show a strong and positive relationship between the pay of executive directors and some measures of firm performance.

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suggests that there are few incentives for nonexecutive directors to act as honest guardians of shareholders' interests. In practice, they have little to gain from their assigned role and a lot to lose" (Fernandes, 2008, p. 43).

The above cited paper by Feng et al. (2007) also analyzes the link between director's pay and board composition. The authors find that, when the board includes more non-executive members, total board compensation slightly decreases but total pay to executive board members increases. This outcome contradicts the expectations from the agency theory (according to which the pay of executive board members should be negatively related to the number of non-executives, used as a proxy for the level of monitoring) but is in line with the above results by Fernandes (2008) and by Brick et al. (2006), and casts serious doubts about the real role of outside and independent directors[9].

2.2.1. Are all outsiders independent?

The above results can be partially affected by data collection problems, given the difficulties encountered by scholars in precisely identifying independent directors[10]. Independent directors are outside directors, i.e. directors who are not currently employees of the firm. However, not all outside directors qualify for independence, since some of them can be "gray" or "affiliated" board members, who are not currently employed by the firm but can exert a significant influence on it being shareholders, suppliers, customers, consultants, former employees or relatives of individuals in such positions. The residual category of "independent directors" should only include outside directors without any connection past or present to the firm's management or its shareholders. However, as pointed out by Adams et al. (2010, p. 80), it is extremely difficult to disentangle the category of "truly independent" directors: "*Outside directors*

[9] See, on the same issue, Gutiérrez Urtiaga and Saez (2012) and Becagli et al. (2013).
[10] For example, while Fernandes (2008) and Firth et al. (2007) identified independent directors with non-executive board members, Ryan and Wiggins (2004), Brick et al (2006) and Feng et al. (2007) used a more fine-grained distinction and considered them as a restricted subcategory of outside directors.

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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". The Italian Corporate Governance Code for listed companies (Assonime, 2013) requires firms to clearly identify executive directors, non-executive directors and independent directors. Moreover, within the latter category, firms should identify independent directors "at risk", where independency can be questioned by the fact that the board members are holding cross-directorship positions in subsidiaries, are receiving abnormally high compensations or are in the board for more than 9 years. In this paper we follow the definition of independence provided by the Italian Corporate Governance Code[11]: "*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 positions (page 21)*."

Even if correctly identified, some independent board members may not pursue the expected objectives and/or may not be endowed with an appropriate monitoring capability. For example, Pathan et al. (2013) argue that "busy" directors, i.e. independent directors that serve in multiple boards, are poorer monitors of firm managers than "overlapping" directors, i.e. independent directors that serve in multiple committees (such as audit, compensation and nomination committees) in the same board. Another characteristic which is particular important for our purposes is the presence of politicians in the board of directors, who clearly can pursue different goals as compared to independent directors not involved in political activities. While we are not able to disentangle busy or overlapping directors, in this paper we duly take into account for the presence of politicians in the boards.

[11] This is known as the "*Codice di autodisciplina*", issued by the Committee for corporate governance of listed firms of the Italian Stock Exchange.

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*2.3. **Ownership structure, regulation and board pay***

Barontini and Bozzi (2011) analyze the relationship between board compensation and ownership structure in a sample of 215 Italian listed firms observed in the years 1995-2002. Considering the nature of the ultimate owner, the level of board compensation is found to be higher for family firms and for widely held firms, while board members of State owned companies receive a significantly lower compensation. This latter result can be due to the fact that State-owned firms are pursuing objectives other than profit maximization (for example, they may be pursue political goals such as protecting employment and offering low prices to the consumers), so that one should expect lower levels of compensation and a limited use of performance-related pay schemes.

Notwithstanding the recent EU reforms concentrated on privatization as a mean to solve the inefficiency of the public sector, State-Owned Enterprises remain prominent in air and rail transport, electricity, gas and water supply, broadcasting, natural resource extraction, banking and insurance. Most Italian public utilities are still state-controlled even if the liberalization has allowed the introduction of competitive elements in their organization and the entrance of private investors in their capital. The relationship between ownership and (executives and) board compensation is the focus of an increasing branch of the literature concerning newly privatized firms. Most contributions rely on the Chinese experience, where the *SOEs* reform has implied radical changes in the mechanisms governing executives' compensation but, according to some scholars, has failed to improve the corporate governance of listed firms. Firth et al. (2006 and 2007) analyze the compensation packages in Chinese listed firms and confirm that the ownership structure has a significant influence on CEO's pay. In particular, Chinese firms with substantial government ownership and with large outside investors exhibit

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lower levels of CEO total compensation.

The literature on director compensation mainly focuses on non-regulated firms. To the extent that regulation is designed to protect various stakeholders' interests, monitoring may be less important for regulated firms. Feng et al. (2007) work on a sample of regulated firms, the Real Estate Investment Trusts (*REITs*) in United States. Specifically, the regulation on *REITs* favours ownership concentration and reduces the threat of hostile takeovers, similarly to what happens in the State-Owned Enterprises considered in this paper. More in general, regulated firms can be subject to political constraints on executive compensation. The regulator is concerned about both profits and consumer welfare, and tries to influence CEO's and directors' pay in order to avoid excessive lump-sum payouts that would challenge the prevailing public sentiment. Consistently with the above arguments, Joskow et al. (1996) find that, for a sample of 87 US state-regulated private utilities observed during 1978-1990, CEOs of regulated firms earn less than their counterparts in unregulated firms and that their compensation scheme is less tied to firm profitability.

2.4. ***Remuneration and firm performance***

The empirical literature has not reached conclusive results as far as the link between the compensation of CEOs and boards of directors (executives and/or outsiders) and firm performance is concerned. The results are mixed, with evidences of either a positive or negative relationship between compensation and firm performance, depending on the type of remuneration considered (cash, stock, base salary, variable salary part) and on the chosen measure of firm performance.

For example, both Boyd (1996), for outsider directors, and Gregg et al. (1993), for CEOs, found that the pay-performance link was positive in the early eighties and disappeared in the late eighties and in the early nineties. More than 25 years later,

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Kaplan (2012, p. 29) concludes his review by stating that "*on average, CEOs are paid for performance and penalized for poor performance*", while Goergen and Renneboog (2012, p. 1075) state the opposite: "*Whereas it is feasible to compensate CEOs for the value they create for the shareholders, this is rarely the case in practice: CEOs seem to benefit from windfall earnings beyond their control – they are compensated for luck*".

Unfortunately, a complete analysis of the link between board compensation and firm performance cannot be undertaken in this paper, for at least three reasons. Firstly, detailed information on the different components of board compensation is not available for the sample firms. Second, most of the utilities in our sample are not listed, so that there would be no chance for them to link board compensation to the stock market value. Third, Italian public utilities do not implement, or do not publicize through the (public or not) resources we have explored, any incentive plan for their directors. On the basis of the results obtained by the previous literature, we will include firm performance among the determinants of board compensation. However, since we are working on a sample of State Owned local public utilities, we do not expect to find board compensation levels that are strongly related to company performance. Moreover, following the discussion in sections 2.2.1 and 2.3, we also expect that the presence of politically connected directors in the board would act to reduce even more board remuneration levels.

3. Data set and descriptive statistics

The data set includes economic, technical and governance variables of 106 Italian public utilities surveyed annually in 1994-2004. The panel is unbalanced and the total number of observations is 715. The majority of firms are located in the north of Italy[12], in particular the ones active in the energy sector, which were typically born as "Aziende Municipalizzate" and were subsequently transformed into limited companies.

[12] More precisely, 46% of the firms are located in the North-West, 34% in the North-East, 10% in the Center and 10% in the South and Islands.

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Information on governance was not included in the original data and its collection makes this dataset unique. It includes: the juridical form, the biggest three shareholders' identity, the board compensation, the name of directors, their position in the board (Chairman, Deputy Chairman, CEO, member), their political connection, if any, their position as insider, outsider or independent directors as declared in the firm chart or deducted from their role and curriculum. According to Italian Civil Code (art. 2383), board directors are nominated by the General Assembly and cannot be appointed for a period exceeding three years. However, the appointment may be renewed and directors may be removed at any time by the general meeting, with no loss of entitlement to damages in case of unfair dismissal. The company charter establishes the exact number of directors or sets a range for its dimension, therefore delegating to the assembly the ultimate decision about the board size. Most of the times, the appointment of directors is up to the controlling shareholder, or the local government, who directly appoints them. In other cases, the blockholders present lists of candidates and the assembly votes the directors in the lists. As highlighted by Assonime (2013), investigating board leadership in Italy is not as straightforward as in U.S and U.K. boards. The top director with delegated powers is usually the Managing Director (*Amministratore Delegato*). Where only one Managing Director is present, he is the CEO, and is appointed by the board of directors. However, a company may delegate powers to two or more directors, including the Chairman, so a clear-cut identification of the CEO is difficult since the powers of such directors are frequently overlapping.

Board is the number of directors sitting on the board. *Outside directors* are board members who are not current employees of the firm, so that they might also cover one of the top positions, typically the Chairman, if they have no executive powers[13]. As discussed in section 2.2.1, *Independent directors* are a sub-set of non-executive board

[13] Outside directors are not qualified on the basis of their inside stock ownership, because most of the Italian public utilities are totally owned by a local or central government, and the category is irrelevant.

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members who, according to the Italian Corporate Governance Code ("*Codice di Autodisciplina*") do not exhibit any supplier, customer, interlocking, or potential competitor relationship with the firm. Listed companies in the sample must clearly state if their directors are independent or not according to the "*Codice di Autodisciplina*" and sometimes non-listed companies do the same in their balance sheets or charts. For the remaining non-listed companies, we fill the missing information by directly checking if their directors meet the above independency requirements. Finally*, Politically connected directors* are identified by their present or past activity in the political arena, as represented by a political charge, the membership to a political party, the candidacy for election. Board members are considered as politicians if they hold a seat in the parliament or in the Municipal, Provincial or Regional government at the same time as a seat in the board, or if they were holding it, or, more generally, directors affiliated to a political party and whose relationship with political parties is well known. In order to identify politicians, we run biographical researches on electronic databases such as FACTIVA, LEXIS-NEXIS, ABI Inform and Who's Who in Italy, and we filled the missing information by surfing on the Internet.

Per capita board compensation is computed as total board compensation, that includes all forms of compensation earned by the directors for sitting on the board including commissions, bonuses, compensation in kind and social security contributions, divided by the number of directors serving on the board. For the reasons explained in Section 2 (see footnote 3), it excludes any salary, wage and related benefits due to the inside directors and accounted for in the payrolls. According to the Corporate Governance Code, companies should have a Remuneration Committee and a Nomination Committee made up of non-executives, with a majority of independent directors. Therefore, the CEO is not expected, at least directly, to be involved in selecting board members and in fixing their remuneration. In many circumstances, the detailed composition of board

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remuneration is not provided in the annual report, in particular for those companies that at the beginning of the sample period were in the "*Azienda Municipalizzata*" form and were not obliged to provide an accurate financial reporting. In any case, as far as bonuses are concerned, we presume that most firms do not have any incentives plan for their directors so that the variable part would not show up in the compensation[14].

Figure 1 shows that the average per capita board compensation has increased over time, passing from 20,541 euros in 1994 to 36,396 euros in 2004. This is consistent with expectations, since the deregulation process of local public services initiated in Europe in the 1990s was aimed at bringing corporate governance mechanisms from the private sector to the public sector. The above remuneration levels are in line with the one prevailing in private firms of a similar size. For example, a recent survey on Italian listed firms (Assonime, 2013) highlights that CEOs and executive chairmen receive a compensation of more than 800,000 euros. Other executive directors receive, on average, half of the CEO's remuneration. Non-executive directors (79,000 euros) and independent directors (55,000 euros) receive much lower compensation. If we look at the sub-sample of firms listed in the non-financial sector and of a smaller size (*Small Cap*), we get an average board pay of around 40.000 euros in 2009, which is very similar to the one prevailing in our data. Similar figures are also reported by Andreas et al. (2012) for the supervisory boards of German Listed firms, where the average compensation per director is rather low at some 38,000 euros in the period 2005-2008.

Table 1 summarizes some descriptive statistics for the profit ratios, the size variables, the composition of the board of directors, the blockholder type (that is the shareholder, normally one, owning the largest proportion of equity), the juridical form and the industry segment. All nominal values have been deflated taking year 2000 as the

[14] In particular, the European Commission recommends as a best practice that non-executive directors should not receive share-based remuneration, given possible conflicts of interest and the risk of undermining independence (Ferrarini et al., 2009).

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base-year. *Firm performance* is measured by means of accounting indices (ROA, ROI and ROE). Market based measures of performance are not available because only 9 out of 106 firms are listed. ROA is computed as EBIT, earning before interest and tax expenses (which is equivalent to the operating profit), over total assets, ROI as EBIT over capital invested (the sum of equity and financial debt), and ROE as the proportion of Net Income over equity. During the sample period, Italian public utilities show rather low profitability rates: the average ROA equals 3.7%, while ROI and ROE are on average 6.9% and 6.5%, respectively.

On average, boards are composed of less than seven persons, and sometimes all directors are politicians. Outside directors are as common as politicians, but most of them are not independent.

We differentiate among three blockholders: *Prblock* is a dummy variable that identifies private blockholders, while state entities are divided between *Lblock* (equal to one for local government) and *Publock* (equal to one for higher levels of government, like a Province, a Region, a Ministry or the Central Bank). The local government (*Lblock*) is the most popular type of blockholder, followed in turn by private owners and by Regional, Provincial, and State organisms.

The figures concerning the three juridical forms "Azienda Municipalizzata" (*Azmun*), "Azienda Speciale" (*Azspec*) and limited company (*Corp*) reflect the changes imposed to the Italian public utilities during the period 1994-2004. Most observations refer to limited companies, the final step in the evolution of the juridical form in the "corporatization" process. It is interesting to notice that the average percentage of independent directors has increased over time, from 17% in 1994 to 29% in 2004, accompanying the ongoing corporatization process. In fact, the average value of *%Indep* is 12% for the juridical form *Azmun*, 19% for the firm type *Azspec*, and 25% for limited companies.

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Most firms (54%) are diversified into several activities, mainly in the gas and water segments. The remaining firms operate in one sector only and are specialized in the water (22%), gas (17%) and electricity (7%) segment.

While Table 1 highlights the dominance of politicians in the board, 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 variable *Assets*. Menozzi et al. (2012) analyze in depth the relationship between political connection and performance existing in Italian local public utilities, and find robust evidence of a negative link between the proportion of politically connected directors in the board, *% Polit*, and firm profitability. This result suggests that, in order to fully take benefit from reforms that involved corporatization and partial privatization of *SOEs*, utilities should be better sheltered from the influence of politically connected directors.

Table 2 highlights that the percentage and the level of independent directors are positively correlated with both measures of size *Assets* and *N*, the employment level. Moreover, per capita compensation is negatively correlated with board size and with the level and the percentage of politicians. On the contrary, there is no significant correlation with independent directors: it seems that independent directors do not influence the level of compensation, while politicians have a depressing effect on it. The above descriptive statistics are consistent with the arguments developed in sections 2.1 through 2.3 about the role of board size and the role of political influence in shaping compensation levels.

Finally, as mentioned in section 2, the most consistent finding in the compensation literature is the positive relationship between board pay and company size. The correlation matrix in Table 2 suggests the same result: per capita board compensation is positively correlated with different measures of firm dimension: total assets, the number of employees and (not shown in Table 2) total revenues. We will

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consider these results more rigorously in a context of a multivariate analysis in the following section.

4. Empirical analysis

Building upon previous work on the determinants of board compensation, that mostly focused on the realm of private firms, we estimate the following model:

$$Per\ capita\ comp_{it} = \beta_0 + \beta_1 size_{it} + \beta_2 G_{it} + \beta_3 X_{it} + \lambda_t + \eta_i + \varepsilon_{it} \quad (1)$$

where *Per capita comp*$_{it}$ is the per capita board compensation paid by firm *i* at time *t*; *size*$_{it}$ is a measure of firm size; G_{it} is a set of governance variables concerning board composition: *Board* is the total board size, *% Polit* and *% Indep*, are the percentage of politicians and independent directors as a fraction of total board size[15].

The vector X_{it} represents a set of industry dummies, accounting for specialized and diversified utilities: *Water*, *Electricity*, *Gas*, *Multiutilities*. For measuring firm size, we use a set of dummies, *Small*, *Medium*, *Big* indicating that a firm's assets fall into the 30th, 60th or greater percentile, respectively[16]; λ_t is a time dummy, η_i an individual, time invariant variable and ε_{it} the error term.

In order to duly take into account the endogeneity problem affecting the relationship between board compensation and its size and composition[17], we apply different techniques to estimate the general expression in (1). The first specification is an OLS model (column 1), while Fixed Effect estimates are obtained by transforming

[15] We have also run regressions that consider board composition "in levels", i.e. with *Polit*, the number of politicians sitting on the board, and *Indep*, the number of independent directors, as explanatory variables. The results were very similar to the ones reported in Table 3.

[16] We used alternative measures of firm size, such as total assets (*Assets*), total headcount (*N*) or total revenues and the results are virtually unchanged.

[17] Heany (2009) stresses the importance of considering the relationship between board composition and firm characteristics as endogenous. Lei and Song (2012) show that there are problems of endogeneity within the corporate governance mechanisms of Hong Kong firms, although board structure and executive compensation are less affected.

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each variable in the corresponding deviation from the mean by firm (column 2). An alternative method for addressing the endogeneity of regressors is the first-difference transformation, which removes 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 and the right hand side regressors are all transformed in first-difference, and all valid lags of the untransformed variables are used as instruments. This is the classical "GMM-diff"(Arellano and Bond, 1991). 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. 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, and the predetermined and endogenous variables in levels are instrumented with suitable lags of their own first differences. The results of the one-step and two-step (that uses a consistent estimate of the weighting matrix, taking the residuals from the one-step estimate) GMM-sys models are shown in columns (3) and (4), respectively[18].

The results of the four models are presented in Table 3. *Board*, *% Polit* and *% Indep* are treated as endogenous regressors in columns (3) and (4). Given the absence of second order correlation in the first difference of the error term, and since the difference-in-Hansen test still fails to reject the hypothesis that the additional moment conditions are valid, the two-step GMM-sys estimator (corrected for heteroskedasticity) may be relied on.

[18] 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).

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The estimates reported in column (4) show that per capita board compensation is strongly correlated to firm dimension: small and medium firms present significant lower compensations than big firms (the omitted variable), confirming the results previously obtained in the international context. In the water sector, per capita board compensation is also significantly low as compared to the energy sectors (gas and electricity). The reason is twofold: on the one hand, the water sector has traditionally been the object of a quite strong social control due to the evident welfare implications of its functioning, and the levels of compensations have been moderated accordingly; on the other hand, the increase in the level of competition (and the associated managerial risk) in the energy sectors during the last decade has pushed remuneration levels upwards.

The estimates also show that in Italian public utilities per capita board compensation is negatively related to board size, as in Feng et al. (2007) and Ryan and Wiggins (2004). Consistently with the discussion in section 2.1, and assuming that in *SOEs* large boards are less effective in fulfilling their monitoring role, one could interpret *prima facie* the negative impact of board size as evidence of the reinforcement of monitoring barriers, which can be raised by providing directors with a suboptimal compensation package. However, differently from Feng et a. (2007) and Ryan and Wiggins (2004), our dependent variable is per-capita compensation and not total compensation, so our results can simply reflect the fact that directors are compensated according to the workload. Controlling for firm characteristics (such as firm size), it could be that larger boards allow duties to be spread over more members resulting in less work per director[19].

In addition, the results show that the presence of politically connected directors reduces the level of board remuneration, in line with the arguments of Feng et al. (2007)

[19] Unfortunately, since we do not have proxies for workload (committee assignments, number of meetings), we cannot directly test such hypothesis. We are indebted to an anonymous referee for having raised this issue.

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and Joskow et al. (1996) on the role of stakeholders who are pursuing objectives which are different from profit maximization, and who tend to avoid the endorsement of rich compensation packages that would be very unpopular and judged as excessively high by the press and the public opinion.

The estimates confirm the absence of a significant correlation between independent directors and board compensation. As in Fernandes (2008), this finding casts some doubts about the monitoring role of non-executive directors and suggests the need for a tighter definition of independence.

In order to analyse the relative impact of the different regressors on the independent variable, we have computed standardised (beta) coefficients. From the magnitude of the standardised coefficients we can conclude that both firm size and board size appear to be the most important determinants of board pay. The other right-hand side variables exhibit non-trivial but comparatively lower coefficients.

In order to verify the existence of a relationship between ownership structure, board composition, firm performance and board compensation, as it emerges from the literature illustrated in Section 2, we estimate the model:

$$Per\ capita\ comp_{it} = \beta_0 + \beta_1 size_{it} + \beta_2 G'_{it} + \beta_3 X_{it} + \beta_4 perf_{it} + \lambda_t + \eta_i + \varepsilon_{it} \qquad (2)$$

where $Per\ capita\ comp_{it}$ is the per capita board compensation in firm i at time t; $size_{it}$ is a measure of firm size and X_{it} is a set of industry dummies (*Water*, *Electricity*, *Gas*, *Multiutilities*), as in model (1). G'_{it} is a set of governance variables: *Board*, *% Polit*, and *% Indep* refer to board composition as in model (1); *Azmun*, *Azspec* and *Corp*, are dummy variables denoting the juridical forms "Azienda municipalizzata", "Azienda speciale" and limited company, respectively; *Publock*, *Lblock* and *Prblock*, are dummy variables indicating that the major shareholder is a public entity like a Province, a

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Region or a Ministry, a local municipality or a private subject, respectively. Finally, $perf_{it}$ is a measure of firm performance, alternatively ROI_{t-1}, ROA_{t-1} and ROE_{t-1}[20]; λ_t is a time dummy, η_i an individual, time invariant variable and ε_{it} the error term. The results of the two-step GMM-sys estimates of model (2) are presented in columns (2), (3), (4) and (5) of Table 4. Column (1) of Table 4 replicates the two-step GMM-sys estimate of model (1) for comparison purposes[21].

The results of the estimates of model (1) about board size and composition, firm size and industry segment are all confirmed: per capita board compensation is negatively related to board size and to the incidence of politically connected directors; it is lower in small and medium firms with respect to big firms and in the water sector with respect to the energy and the multiutilities segments.

The estimates show a negative and significant effect of the two juridical forms "Azienda Municipalizzata" and "Azienda Speciale". Therefore, firms that have undertaken the corporatization process are granting higher compensation levels to their board members, consistent with the view that, after being transformed into limited responsibility companies, utilities are encouraged to hire the most qualified directors. This interpretation is in line with Cambini et al. (2011), who provide evidence that the corporatization process is bringing efficiency gains (in terms of cost reduction) for a sample of Italian local public transport firms observed over the years 1993-2002, and with Menozzi et al. (2012), who find, for a larger sample of utilities active in gas, water and electricity distribution, that corporatization has a positive impact on accounting measures of performance.

[20] The profitability ratios have been lagged in order to account for potential endogeneity problems. Notwithstanding the three measures are highly correlated, our preferred measure is ROI. ROE is more appropriate for publicly traded firms, while ROA does not properly reflect the capital profitability of firms, such as the ones in our sample, that finance their total assets more through accounting payables than with financial debt.

[21] We have performed the step by step procedure as in model (1), and the results were again pointing towards preferring the two step GMM-sys model. The full set of estimates for the OLS, Fixed Effects, GMM-diff and GMM-sys models are available upon request.

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However, differently from Firth et al. (2006 and 2007), the estimates do not show any significant effect of ownership, here defined on the basis of the public or private nature of the major shareholder, on per capita board pay. Since legal form and ownership type are obviously correlated variables, we have run regressions that include them separately. We found a weakly significant and positive effect of *Prblock* on board pay, which disappears when the legal form dummies are included among the explanatory variables, suggesting that it is indeed the corporatization process, rather than the presence of a private blockholder, that captures most of the impact on board pay[22].

Finally, consistently with expectations (see the discussion in section 2.4), we find for the Italian public utilities that per capita board compensation is not significantly correlated with the profitability ratios. This is not surprising, since most Italian public utilities are not listed and stock options and incentives schemes have been almost absent until now. We have run also regressions in which the presence of a pay-for-performance link is tested by including the interaction terms ROI_{t-1}*Prblock*, ROI_{t-1}*%Polit* as well as ROI_{t-1}*%Indep*[23]. Only ROI_{t-1}*%Indep* shows up with a positive and significant sign (column 5), suggesting that the presence of independent directors has the effect of increasing board pay only when firm performance increases, according to the view that independent directors somewhat help to align the interests of managers and shareholders[24].

[22] We thank an anonymous referee for suggesting us such an interpretation.

[23] As commented in section 2.4, since we do not have information about the different components of board compensation, we cannot explore into more depth the role of board composition and ownership in promoting the implementation of incentive remuneration schemes.

[24] As suggested by a referee, we enriched the model by including interaction terms between firm size and blockholder type, firm size and legal form, board size and blockholder type, board size and legal form, the percentage of politicians and legal form, and so on. While the above results are confirmed for the non-interacted terms, the newly added regressors were not improving the explanatory power of the model. In fact, almost all the interactions were exhibiting coefficients not significantly different from zero. The only exceptions were relative to the variables *%Polit*Azmun* and *Board*Prblock*, which both recorded a positive and significant coefficient. Therefore, there is mild an evidence that the negative impact of politicians (of board size) on board pay is mitigated for firms directly managed by municipalities (in the presence of a private blockholder).

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5. Conclusions

Board compensation represents an important component of the firm's incentive structure and corporate governance. While this has been a highly debated topic with reference to private and listed firms, it has not been explored at all for State-Owned Enterprises (*SOEs*), in spite of the fact that board (as well as executive) compensation schemes have been the object of some important restructuring during the last two decades of *SOE* reforms in Europe and Asia. As for Italy, one early example is the limit imposed to the compensation of *SOEs'* directors by the budgetary law 296/2006, and a more recent one is the 300,000 euro yearly wage cap for all public administration executives set by law 214/2011 (the so-called decree "Save Italy").

The pay of top executives and board members in public sector entities is important because it affects the entity's ability to attract, motivate, and retain suitable talent. However, if public sector companies pay too much, they will be criticised and pressured by the public opinion because taxpayers will see their tax euros wasted.

In this paper we propose to contribute to this field of studies by investigating the relationship between board compensation and governance mechanisms using a sample of 106 Italian public utilities observed for the years 1994-2004. During this period, the liberalization process of the sector took place, changing the industrial and institutional environment. While ownership was still in the hands of the State and of the local municipalities, the Government was loosening is grip, more decision power was transferred to the managers and private blockholders were starting to invest in the sector.

The results of our estimates confirm some important results reached in previous literature. Firstly, boards are better remunerated in big firms and in the energy sector with respect to the water sector. Secondly, per-capita board compensation is significantly negatively related to board size. Thirdly, the estimates highlight that there is no

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discernible link between board compensation and company performance, confirming also for *SOEs* the doubts raised by those (such as Goergen and Renneboog, 2011) who are rather skeptical about the efficaciousness of incentive pay packages in aligning the interests of shareholders with those of managers (and, in our case, with those of directors in the three-level hierarchy shareholders-directors-management).

As far as the ownership structure is concerned, the public or private nature of the major shareholder is not found to have an impact on board compensation. However, the juridical form matters, since limited companies pay their directors more than firms with more traditional juridical forms like "Azienda Municipalizzata" and "Azienda Speciale".

Turning towards the effect of board composition, we characterize directors on the basis of their status of insiders, outsiders, independent, as well as on their political connectedness. We find that the proportion of politicians sitting in the board negatively influences the level of per capita compensation, which seems to suggest that the political influence within *SOEs* could lead to relation-based rather than market-based contracts, where managers and board members are typically political appointees with careers and pay less subject to market forces.

Finally, independent directors are found to positively affect board pay only in correspondence with high performance levels, a result consistent with the view that the appointment of independent directors could be of some help in reducing the agency problem between top executives and shareholders.

It is common wisdom that *SOEs* are affected by the presence of multiple and potentially conflicting objectives, so that clear and good corporate governance practices are strongly required. Reforms have been introduced in order to improve the performance of local public utilities, but their effects could be neutralized by the activity of self-interested CEOs and by the presence of weak board of directors. Our results about the determinants of board compensation suggest that reducing the number of politicians

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and increasing instead the number of (truly) independent directors could help in aligning the interests of managers to the ones of shareholders.

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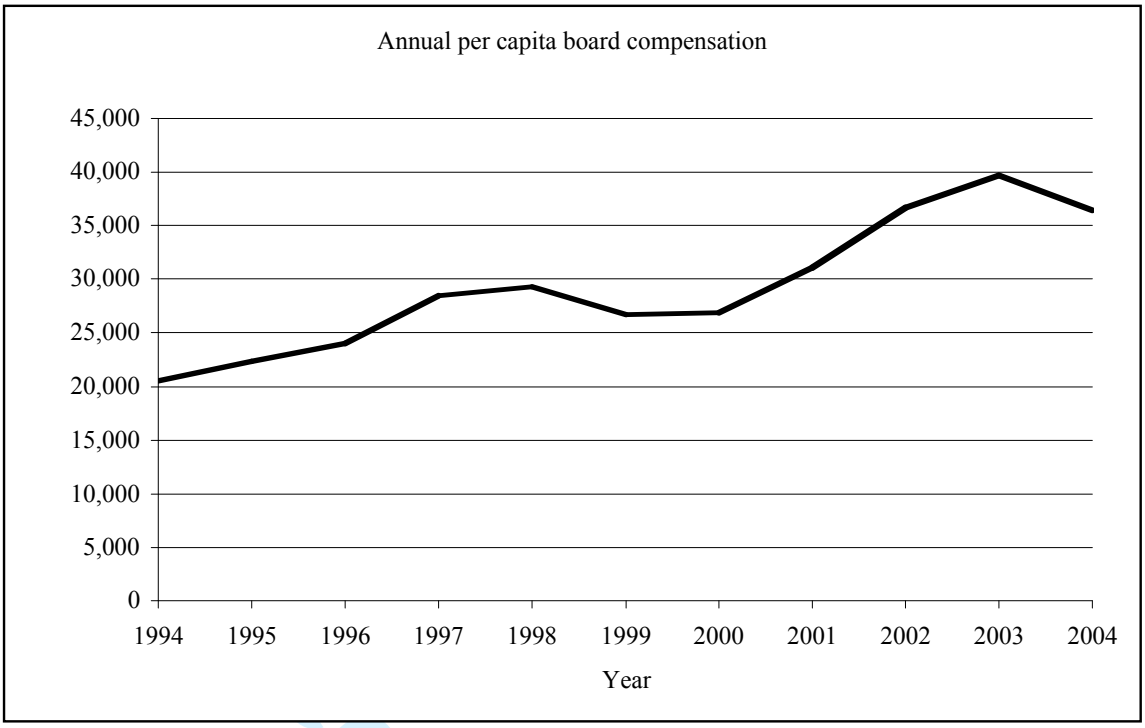
Figure 1. Annual per capita board compensation



Per capita board compensation per year, in euros at year 2000 values.

Table 1. Descriptive statistics

	Number Observ.	*25%*	*Median*	*75%*	*Mean*	*St. Dev*
Per capita comp (euro)	715	8993	15494	30622	28236	39275
ROI	715	0.021	0.050	0.090	0.069	0.098
ROA	715	0.013	0.033	0.056	0.037	0.037
ROE	715	0.007	0.037	0.091	0.065	0.120
Assets ('000 euro)	715	23024	63228	179306	212623	476818
Sales ('000 euro)	715	11625	27571	85907	96910	221688
N	715	53	164	399	385	673
Board	715	5	7	7	6.143	2.484
Polit	715	4	5	6	5.582	2.493
Indep	715	0	0	2	1.418	2.099
Out	715	4	5	6	5.013	2.454
		Mean				
Publock	18	0.023				
Lblock	550	0.790				
Prblock	147	0.187				
Azmun	139	0.212				
Azspec	179	0.264				
Corp	397	0.524				
Gas	125	0.166				
Water	170	0.218				
Electricity	35	0.069				
Multiutilities	385	0.547				

Per capita comp is the total per capita compensation, *ROI* is the return on invested capital, *ROA* is the return on assets, *ROE* is the return on equity, *Assets* represents the firm total assets, *Sales* the revenues, *N* the number of employees, *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 specialised in one sector only, while *Multiutilities* identifies diversified utilities running several businesses.

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Table 2. Correlation matrix

	Per capita comp	*Board*	*Polit*	*Indep*	*% Polit*	*% Indep*	*ROA*	*ROI*	*ROE*	*Assets*	*N*
Per capita comp	1						0.048	0.023	-0.109***	0.381***	0.288***
Board	-0.274***	1					0.001	-0.089**	0.000	0.130***	0.107***
Polit	-0.316***	0.905***	1				-0.086*	-0.170***	-0.042	0.068*	0.048
Indep	-0.017	0.391***	0.253***	1			0.043	-0.020	-0.049*	0.315***	0.264***
% Polit	-0.106***	-0.026	0.378***	-0.202***	1		-0.236***	-0.302***	-0.182***	-0.097***	-0.102***
% Indep	-0.016	0.188***	0.067***	0.917***	-0.219***	1	0.024	-0.030	-0.037	0.297***	0.257***

Pearson correlations between board characteristics, profit ratios and measures of firm dimension: *Per capita comp* is the per capita board compensation, *Board* is the board size, *Polit* is the number of politically connected directors, *Indep* is the number of independent directors, *% Polit* is the fraction of politically connected directors, *% Indep* is the fraction of independent directors, *ROA* is the return on assets, *ROI* is the return on invested capital, *ROE* is the return on equity, *Assets* represents the firm total assets, *N* the number of employees. *** Significant at 1%; ** Significant at 5%; * Significant at 10%.

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Table 3. Board composition and per capita compensation: base model

	OLS	Fixed Effects	GMM-sys	GMM-sys2
VARIABLES	Dependent variable: *Per capita comp*			
	(1)	(2)	(3)	(4)
Board	-4,965***	-2,177***	-2,805**	-2,787**
	(605.0)	(518.9)	(1,234)	(1,359)
% Polit	-3,024***	-6,965***	-5,093*	-4,656*
	(785.8)	(2,322)	(2,938)	(2,421)
% Indep	-6,301	-3,280	5,907	3,491
	(4,825)	(7,105)	(34,947)	(31,619)
Small	-24,414***	-9,610**	-18,183***	-18,445***
	(3,576)	(4,307)	(5,847)	(5,820)
Medium	-12,161***	-2,404	-7,558*	-7,676*
	(3,364)	(2,949)	(4,281)	(4,358)
Water	-15,617***	-7,701*	-14,805**	-15,185*
	(4,040)	(4,442)	(7,215)	(7,962)
Gas	6,320**	6,570	8,004	8,043
	(3,094)	(4,924)	(6,234)	(4,901)
Electricity	-1,938	-1,149	-2,621	-2,822
	(3,073)	(4,890)	(4,957)	(5,163)
Multiutilities	2,404	2,760	-226.1	885.8
	(4,170)	(2,995)	(6,760)	(6,496)
Constant	106,063***	43,142***	91,020**	91,189***
	(10,333)	(11,034)	(39,684)	(34,064)
AR(2) p-value			0.238	0.269
Hansen Sargan p-value			0.912	0.965
Time dummies	yes	yes	yes	yes
Observations	715	715	715	715
Number of firms	106	106	106	106

Estimated models: OLS, Fixed Effects, GMM-sys, GMM-sys2. *Per capita comp* is the total per capita compensation, *Board* is board size, % *Indep* and % *Polit* identify the percentage of independent and politically connected directors, *Small* and *Medium* are dummy variables identifying firms whose total assets fall in the 30th and 60th percentile. *Gas*, *Water*, *Electricity* are dummies for firms specialised in one sector only, while *Multiutilities* identifies diversified utilities running several businesses.
*** Significant at 1%; ** Significant at 5%; * Significant at 10%. Standard errors in parentheses.

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Table 4. Board composition and per capita compensation: extended model

VARIABLES	Dependent variable: *Per capita comp*				
	(1)	(2)	(3)	(4)	(5)
Board	-2,787**	-5,132**	-4,914**	-2,756***	-5,316**
	(1,359)	(2,419)	(2,472)	(1,249)	(2,216)
% Polit	-4,656*	-2,764**	-4,581**	-5,128**	-8,224*
	(2,421)	(1,178)	(2,812)	(2,949)	(4,838)
% Indep	3,491	-23,339	-27,251	-24,102	90,687
	(31,619)	(15,925)	(17,070)	(17,290)	(126,129)
Small	-18,445***	-20,321***	-21,151***	-19,003***	-17,896***
	(5,820)	(8,231)	(8,245)	(6,445)	(5,923)
Medium	-7,676*	-6,312	-4,668	-12,868**	-6,470*
	(4,358)	(5,115)	(4,885)	(6,224)	(3,776)
Water	-15,185*	-15,826**	-15,360**	-12,166	-14,391***
	(7,962)	(6,729)	(6,800)	(7,878)	(5,345)
Gas	8,043	5,919	5,138	2,649	4,089
	(4,901)	(5,195)	(5,893)	(3,941)	(5,537)
Electricity	-2,822	-310.1	-664.6	263.0	-1,038
	(5,163)	(6,452)	(5,489)	(5,143)	(4,589)
Multiutilities	885.8	2,855	2,775	3,104	2,687
	(6,496)	(5,977)	(5,375)	(5,262)	(5,616)
Azmun		-18,522***	-16,990***	-16,757**	-19,153**
		(7,042)	(6,428)	(7,142)	(7,570)
Azspec		-13,956***	-12,854***	-14,094*	-13,166**
		(5,382)	(4,961)	(7,407)	(5,756)
Publock		24,792	18,542	12,971	17,364
		(31,895)	(25,503)	(23,826)	(29,810)
Prblock		-2,461	-2,313	-4,489	-507.4
		(7,581)	(8,286)	(10,371)	(7,553)
ROI_{t-1}		-654.3			-21,234
		(29,895)			(20,879)
ROA_{t-1}			-89,640		
			(68,513)		
ROE_{t-1}				-16,453	
				(18,842)	
ROI_{t-1} * % Indep					130,212*
					(72,387)
Constant	91,189***	179,761***	173,620***	83,531***	166,061***
	(34,064)	(55,569)	(53,532)	(27,025)	(54,999)
AR(2) p-value	0.269	0.103	0.105	0.223	0.117
Hansen Sargan p-value	0.965	0.985	0.958	1.000	1.000
Time dummies	yes	Yes	Yes	Yes	Yes
Observations	715	679	679	679	679
Number of firms	106	101	101	101	101

Estimated models: GMM-sys2. *Per capita comp* is the total per capita compensation, *Board* is board size, % *Indep* and % *Polit* are the percentage of independent and politically connected directors, *Small* and *Medium* are dummy variables identifying firms whose total assets fall in the 30th and 60th percentile. *Gas*, *Water*, *Electricity* and *Multiutilities* are dummies for specialised and diversified utilities. *Azmun* and *Azspec* are dummies accounting for the juridical forms Azienda Municipalizzata and Azienda Speciale, respectively. *Publock* is a dummy variable for firms whose blockholder is a State entity at the highest level (Ministry, Region, Province, Central Bank, etc.), while *Prblock* identifies private blockholders. *ROI* is the return on invested capital, *ROA* is the return on assets, *ROE* is the return on equity.
*** Significant at 1%; ** Significant at 5%; * Significant at 10%. Standard errors in parentheses.

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