



ELENA MERINO*, MONTSERRAT MANZANEQUE, ALBA M^a PRIEGO

Department of Business Administration
University of Castilla – La Mancha Spain

“BOARD INDEPENDENCE” AND COMPENSATION STRUCTURE OF DIRECTORS

Keywords: Director compensation, board compensation, board of directors, corporate governance, board characteristics, board independence.

J E L Classification: G34, G35, M12.

Abstract: This paper examines the relationship between *board independence* and the level and structure of directors' compensation to determine whether this “independence” exerts a moderating effect on the different systems of remuneration granted to directors. We have developed several models based on linear panel data regression. The sample included 76 listed companies on the Spanish Continuous Market for the period 2004–2009. The results reveal that the moderating effect of *board independence* on directors' compensation depends on the type of remuneration, being especially significant in the case of variable remuneration but not for fixed remuneration. This is significant for the study context because the fixed remuneration is the most important retribution concept. The results of this paper reveals that the inefficient of the board as mechanisms of control on fixed remuneration could be translated into an insufficient control of wealth extraction from the shareholders by the management. Our results contribute to the existing debate on the appropriate norms of corporate governance control over the directors' compensation. These results offer additional evidence about the impact of *board independence* over the structure of compensation granted to directors, issue shortly studied so far.

Data wpłynięcia: 04.12.2013; data zaakceptowania: 16.12.2013.

* Dane kontaktowe: Elena.Merino@uclm.es, Montserrat.MLizano@uclm.es, AlbaMaria.Priego@uclm.es, Faculty of Law and Social Sciences, Ronda de Toledo, s/n, 13071 Ciudad Real (Spain), tel. 00 34 926 295 300 Fax: 00 34 926 295 407.

„NIEZALEŻNOŚĆ ZARZĄDU” A STRUKTURA WYNAGRODZEŃ DYREKTORÓW

Słowa kluczowe: wynagrodzenia dyrektorów, wynagrodzenia zarządu, zarząd, ład korporacyjny, charakterystyki zarządu, niezależność zarządu.

Klasyfikacja J E L: G34, G35, M12.

Abstrakt: Celem artykułu jest zbadanie relacji między „niezależnością zarządu” a poziomem i strukturą wynagrodzeń dyrektorów i ustalenie, czy ta „niezależność” wpływa na poszczególne systemy wynagrodzeń dyrektorów. W badaniu zostały wykorzystane modele oparte na regresji liniowej dla danych panelowych. Próba obejmuje 76 spółek notowanych na Hiszpańskim Rynku Notowań Ciągłych w latach 2004–2009. Wyniki wskazują, że wpływ stopnia „niezależności zarządu” na wynagrodzenie dyrektorów zależy od rodzaju wynagrodzenia i jest szczególnie ważne w przypadku zmiennego wynagrodzenia, ale nie dla stałego wynagrodzenia. Jest to istotne w kontekście przeprowadzonego badania, ponieważ stałe wynagrodzenie jest najważniejszym elementem w sposobach wynagradzania. Wyniki badań wskazują, że nieefektywność zarządu jako mechanizmu kontroli stałych wynagrodzeń może oznaczać niewystarczającą kontrolę nad tworzeniem bogactwa dla akcjonariuszy. Wyniki badań stanowią wkład do toczącej się debaty dotyczącej właściwych norm ładu korporacyjnego nad wynagrodzeniami dyrektorów. Wyniki dowodzą wpływu „niezależności zarządu” na strukturę wynagrodzeń dyrektorów, co szerzej do tej pory nie było badane.

Translated by Marcelina Więckowska & Ewa Chojnacka

■■■ INTRODUCTION AND RESEARCH METHODOLOGY

In the current economic crisis, the implementation of *good corporate governance* requires implementing certain austerity policies in both the public and private sectors. However, in these times, it is not surprising to read headlines on major newspapers of Spain and others countries about millionaires' allowances, salaries or bonuses received by directors or executive of companies, which have been financed with public funds or have initiated a labor force adjustment plan, subsequently.

In this sense, the remuneration of Board members should be particularly studied although this has not received particular attention so far. In these cases, there is a major conflict of interest because the Board is the organ responsible for fixing them. We find, therefore, that the Board of Directors, which is responsible for safeguarding the interests of shareholders, could use its power to expropriate part of the wealth of shareholders by, among other actions, the granting of high salaries to their own members (Bebchuck, Fried 2004; Duffhues, Kabir 2008).

So, while the compensation of directors has traditionally been a solution (between the various internal and external mechanisms exit based on existing Agency Theory) to monitor and control the management, from the beginning of the economic crisis it has become a problem (Alzaga 2012) for the excesses committed. The shareholders perceive such high salaries as an expropriation of their wealth, resulting in a lack of confidence in the function exercised by the Board of Directors.

To curb the excesses compensation and so the shareholders regain the confidence in the management of the board, various authors (Bebchuk, Fried 2004; Ryan, Wiggins 2004; Cheng, Firth 2005; Davidson et al. 2005; Conyon, He 2008; Andreas et al. 2009; Du Boys 2009; Fahlenbrach 2009) propose increasing the degree of independence of the Board of Directors.

In line with this view, this paper adopts an empirical approach to examine the hypothesized effects of board independence on level and structure of directors' compensation in Spain to determine whether this "independence" exert a moderating effect on the remuneration. For this purposes, a unique panel of data has been put together from 76 listed Spanish companies for the period 2004–2009. The findings of this research paper reveal that the average compensation received by each member of the Board of Directors is €194,041.77 for 2004 and €273,831.32 for 2009. These figures show a significant increase in the remuneration amounts despite the economic crisis in which Spain finds since 2007. Furthermore, it was found that the effect of the independence board on directors' compensation depend of the type of remuneration.

The paper contributes to the existing literature in several ways. First, descriptive empirical evidence on the compensation is provided within a unitary board system. Secondly, an ample panel data set enables the examination of a set of determinants using panel data methods which control for unobserved firm heterogeneity. Finally, the perspective is extended from total remuneration to the different remuneration systems in order to see the effect of board independence has on different pay systems not only on the total remuneration. This may became relevant since the remuneration structure in Spain (similar to other European Union countries) differs from that presented others countries – for example US – because the fixed salary is the greatest weight on the total remuneration. Therefore, this paper aims to contribute to the limited empirical evidence on this pay structures because most studies have focused on US.

This work is organized as follows: first, a revision of director compensation system in Spain is presented; secondly, a review of previous literature on the

subject is carried out; thirdly, the research design is set out, defining the sample and the variables under study; fourthly, the application of relevant statistical techniques is dealt with and the main results are analyzed; and finally, the main conclusions are discussed.

1. DIRECTOR COMPENSATION IN SPAIN

Although the position of director is presumed free under the Spanish law except when the statutes collect otherwise¹, it is habitual that the directors receive remuneration which has become significant as we have already discussed above. The directors can be paid through different systems: fixed salary, variable salary, attendance fees, salary fees, stock options and/or other financial instruments and other remuneration (advances, loans, funds and pension plans, insurance premium and guarantees provided for directors).

In practice we find that, mostly, companies attribute fixed remuneration. Thus, according to Heidrick & Struggles Report (2009), in Spain the fixed concept reaches for 79% of the total compensation granted to directors. Meanwhile, only 8.5% of Spanish companies, according to a study by Spencer Stuart (2010) in Spain, pay to their directors in shares, although this system has been given only to non-executive directors. Also, 21% of the companies studied paid the compensation based on external results.

This situation is similar to what occurs in other European Union countries such as France and Germany, where around 40% of the directors' remuneration corresponds to variable compensation. There is great difference if we compare with countries outside Europe, for example, USA, where 79% of companies pay their directors in shares and where the fixed remuneration is only one fourth of the total compensation (Heidrick & Struggles Report 2009).

2. BOARD CHARACTERISTICS AND DIRECTORS' COMPENSATION

Following the perspective of Agency Theory, compensation is one of the most important incentive mechanisms to align interests between directors and shareholders, and to serve as an incentive to compel the board members to meet the objective of maximizing the value of the company. A number of previous studies, however, show that *excessive compensation* could contribute to a lack of

¹ Article 217 TRLSC.

independence and control of the board over the management which could result in expropriation of shareholders' wealth through this compensation.

In fact, this mechanism of compensation of directors has grown from a solution to the conflict of interest between managers and shareholders and has become a problem. This has occurred as a result of the economic crisis of 2007, which has shown how in times of austerity measures the directors continued to receive high salaries, while shareholders saw how the value of their shares fell sharply in the markets.

In this situation, the literature points to as a solution to increase the board independence in order to control the excesses compensation since the characteristics of board of directors are relevant in explaining the directors' compensation (Bebchuck, Fried 2004). The main measures that are frequently used to review the board independence are (Ryan, Wiggins 2004; Cheng, Firth 2005; Conyon, He 2008; Andreas et al., 2009; Fahlenbrach 2009): the participation of the board of directors in shareholding, CEO and Board Chair duality, the inclusion of independent members and the size of the board.

The directors will be interested in taking decisions which may increase stock return when they hold *shares* in the company, which would make them have less interest in higher remuneration because they already receive part in dividends (Cordeiro et al. 2000; Cheng, Firth 2005). Empirically this approach has been demonstrated by Boyd (1996), Bryan, et al. (2000) and Cordeiro et al. (2000), therefore, we expected that the board members' ownership have a negative effect on the directors' compensation.

The main factor that determines the effectiveness of the board is the independence of the CEO (Hermalin, Weisbach 2003). In fact, whether the *CEO is also the chairman* the governance is weaker (Dávila, Peñalva 2004), therefore, it is expected that directors receive higher remuneration. Following this arguments, we expect a positive relationship between the variable CEO duality (when the same person holds the CEO and Chairman titles) and the remuneration total granted to the directors.

Most codes of corporate governance emphasize the importance of the figure of the independent directors because the incorporation of such director on the board of directors can help reduce conflicts of interest (Andrés et al. 2005) and get a "good board governance" (Ferrarini et al. 2010). Therefore, the compensation of directors would pass a back seat as a mechanism to align the interest of managers and shareholders. So, we expect a negative relationship between the number of independent directors of the board and the total compensation

awarded to its members, as other studies have previously shown (Conyon, Peck 1998; Arrondo et al., 2008; Sánchez, Lucas 2008).

There is no theoretical or empirical unanimity regarding the possible effect of the *size of the board* on the remuneration granted to the directors. However, following the results obtained by Ryan and Wiggins (2004) and Andreas et al. (2009) we expect a negative relationship between the board size and director compensation.

However, some prior empirical evidences (Yermack, 1996; Fernández et al. 1998; Adams, Mehran 2005; Andrés, Vallelado 2008) show that the efficiency of the board and its size do not have a linear relationship, so the relationship is negative up to an optimum size, beyond which the addition of a member does not provide greater monitoring capacity, it will lead to problems of coordination, control and decision making, which will result in this case, in a greater compensation granted to directors. So, we expected that there is a no linear relationship between both variables.

In Spain, the fact that the most important retribution concept is fixed salary and others perquisites is especially significant. So it is interesting to know how board characteristics could affect to the level of different type of compensation in order to determine the level of discretion of the directors in this regard.

In relation to the effect that those features of the Board could have on the various items of compensation, first, as already shown in previous studies, the more shareholding-board members help² the lower remuneration in money received, because they are already paid as dividends for the shares they own (Cheng, Firth 2005). However, it is expected that directors prefer to have more fixed salary and other compensation (e.g. remuneration in kind) and less variable remuneration (Arrondo et al. 2008) to the extent that the perception of dividends is tied to company profits, thus diversifying their compensation packages.

Secondly, the fact that the figure of the chairman and chief executive officer falls in the same person is considered to be inefficient (Hermalin, Weisbach 2003), so it is expected to have a positive effect on the remuneration received by directors, helping to promote a remuneration based on fixed salary and other compensation.

Thirdly, the presence of independent outside directors on the Board of Directors, at the theoretical level, should have a moderating effect on the com-

² Board members' ownership is the number of shares held by the total board members on total shares.

pensation received by its members (Andrés et al., 2005; Sánchez, Lucas 2008), so less fixed concepts is expected in the compensation (fixed salary and others perquisites) and greater variable salary (Ryan, Wiggins 2004).

Fourthly, in relation to the size of the board, it is expected that it have a positive relation with others perquisites because is reasonable if we think that if for example the company establishes a pension plan for all directors, the amount will be greater the larger the size of the board.

Finally, we expected that the salary fees and attendance fees don't have relationship with the board characteristics.

So, we analyze if the relation between characteristics of the Board and their compensation is the expected, following the previous hypothesis.

3. SAMPLE, VARIABLES AND METHODOLOGY

Sample

In order to estimate the effect of characteristic of the Board of Directors on directors' compensation we use a sample of 76 listed companies on the Spanish computerized trading system (SIBE) or Continuous Market, excluded finance-related firms (Sulong, Mat Nor 2010; Manzaneque et al. 2011). Of this sample we have taken information regarding the characteristics of board of directors, the different types of remuneration received by directors, company size, industry and profitability during the period 2004–2009. The structure of the sample, by industry, is representative to population. So, the composition of the sample is the following: a) petrol and energy industrial 16,00% (population 14,47%); b) basic materials, industry and construction 32% (population 30,26%); c) consumer products 28,80% (population 34,21%); d) consumer services 16%; e) Technology and telecommunications 7,20% (population 6.58%)³.

³ To verify the representativeness of the sample, the maximum allowable error for a finite population was estimated. The maximum error is small, 7.07% to be exact, with a level of confidence of 95% (p=5%), leading to the consideration that the sample is representative of the population.

Maximum allowable error:

$$\varepsilon = Z_{1-\alpha/2} \sqrt{\frac{N-n}{N-1} \frac{pq}{n}}$$

Where: $Z_{1-\alpha/2}$ = z value associated with the degree of confidence $1-\alpha$; N = size of the population; n= size of the sample; p = proportion; and, q = (1-p).

This procedure is applied previously by Manzaneque et al. (2011).

The choice of Spanish companies is explained by the fact that the corporate governance system is a special example of a unitary board system and due to the particular characteristics of the Board of Directors for this geographic and normative context. Also, it is an important context due to the increasing political pressure to encourage the level of transparency and reasonableness of remuneration systems, to which are subjected the Spanish companies, recently.

As sources of information, we take data from the Annual Report about Corporate Governance and Annual Accounts of each corporation (database of the CNMV or Spanish Security Exchange Commission)⁴.

Variables

The dependent variable has been categorized into five different types of the compensation according to the Corporate Governance Report's information: a) fixed remuneration (FIXREM); b) variable payments (VARREM); c) salary fees (SALFEE); d) attendance fees (ATTFEE); and e) others perquisites (OTHPER), which include the delivery of stock and stock options, advances, loans, funds and pension plans, insurance premiums and guarantees provided for directors. Also, we define the total compensation as the sum of all this types of compensation (COMPEN). All of these variables have been transformed applying logarithms in order to reduce the heteroscedasticity⁵.

As independent variables, several measures concerning the board of directors' characteristics are proposed, such as board ownership (OWNDIR), duality of the chairman of the board and the CEO (CEODUA), proportion of independent external board members (OUTSID) and size of the board (BRDSIZ). These variables have been widely used in previous studies⁶.

Also, we chose *firm size* (CRPSIZE), *industry* (INDUSTRY) and *corporate performance* as "control variables". All of them have been demonstrated to have an important effect on the board's compensation level in Spain in previous studies (Manzaneque et al., 2011).

In order to take a wide range of performance variables, two different measures are used: a) the *return on assets* (ROA) (Angbazo, Narayanan 1997; Arrondo et al., 2008; Andreas et al., 2009; Matolcsy, Wright 2011), ratio of operat-

⁴ <http://www.cnmv.es/portal/Consultas/BusquedaPorEntidad.aspx>.

⁵ See Finkelstein and Hambrick (1989), Boyd (1994), Cheng and Firth (2005) and Manzaneque et al. (2011).

⁶ See Manzaneque et al. (2011) for a revision.

ing income to net assets; and, b) the *annual stock return* (STOCKRET), which is measured as the sum of stock price and dividend per share over stock price in the year before (Cordeiro et al., 2000; Ryan, Wiggins 2004; Brick, Palmon, Wald 2006; Duffhues, Kabir 2008; Andreas et al., 2009).

Table 1. Definition and typology of the variables

Variables	Definition	Typology
<i>Compensation variables</i>		
COMPEN	Natural log of total compensation by member of the Board of Directors	Numeric
FIXREM	Natural log of fixed compensation by member of the Board of Directors	Numeric
VARREM	Natural log of variable compensation by member of the Board of Directors	Numeric
SALFEE	Natural log of salary fees by member of the Board of Directors	Numeric
ATTFEE	Natural log of attendance fees by member of the Board of Directors	Numeric
OTHPER	Natural log of other perquisites by member of the Board of Directors. Other perquisites include the delivery of stock and stock option, advances, loans, funds and pension plans, insurance premiums and guarantees provided for directors.	Numeric
<i>Board characteristics</i>		
OWNDIR	Proportion of shares owned by members of the board of directors	Numeric
CEODUA	Dummy variable which takes value 1 when both roles are held by the same person, and 0, when they are not	Dichotomic
OUTSID	Proportion of outside directors on the board of directors, taken as outsiders the independent directors.	Numeric
BRDSIZ	Number of members in the board of directors	Numeric
<i>Control variables</i>		
CRPSIZE	Corporate size measured by the logarithm of total assets	Numeric
INDUSTRY	<ol style="list-style-type: none"> 1. Oil and energy 2. Basic Materials, Manufacturing and Construction 3. Consumer goods 4. Consumer Services 5. Technology and Telecommunications. 	Dichotomic
ROA	Return on assets, ratio of operating income to net assets	Numeric
STOCKRET	Stock return measured as the sum of stock price and dividend per share over stock price in the year before	Numeric

Source: Authors' own.

Methodology

We construct a panel data of 456 data (76 companies x 6 years), following the methodology used by Elsas and Florysiak (2008), Andreas et al. (2009), Mayers and Smith (2010) and Manzaneeque et al. (2011).

In order to test our hypotheses we estimate different variant of the following model (Manzaneeque et al., 2011; Merino, Manzaneeque, Banegas 2012)⁷:

$$y_{it} = \alpha + \sum_{k=1}^4 \beta X_{it} + \sum_{m=1}^4 \beta CV_{it} + \varepsilon_{it} \quad [1]$$

where y_{it} is the endogenous variable, measured as logarithm of remuneration by director. This variable is identified as: a) total compensation by director (COMPEN); b) fixed compensation by director (FIXREM); c) variable compensation by director (VARREM); d) salary fees by director (SALFEE); e) attendance fees by director (ATTFEE); and, f) other perquisites by director (OTHPER). The $\sum_{k=1}^4 \beta X_{it}$ are independent variables representative of board characteristics, where k = board ownership (OWNDIR_{it}), duality of the chairman of the board and the CEO (CEODUA_{it}), proportion of external board members (OUTSID_{it}), board size (BRDSIZ_{it}); $\sum_{m=1}^4 \beta CV_{it}$ are control variables, where m = corporate size (CRP-SIZE_{it}), industry dummies (INDUSTRY_{it}), return on assets (ROA_{it}) and stock return (STOCKRET_{it}); and ε_{it} is the idiosyncratic error.

Since the influence of the firm's characteristics on the model is difficult to measure (Himmelberg et al., 1999), we control for unobservable heterogeneity through an individual effect, η_i (De Miguel et al. 2004). Also we control the effect of the year including a temporal effect, d_t . Therefore, the error term is transformed into $\varepsilon_{it} = \eta_i + d_t + v_{it}$, where v_{it} is the idiosyncratic error (De Miguel et al., 2004).

In terms of the hypotheses, and according with the given arguments and the results of previous authors' studies (Manzaneeque et al., 2011 and Merino et al., 2012), it is therefore expected a negative relationship between the board ownership and directors' compensation. A negative relationship is also expected to exist between the proportion of external board members and compensation per director indicating that greater independence in the Board has a moderate effect over the amount of compensation received by them (Merino et al., 2012).

⁷ We assumed parameter homogeneity, which means that $\alpha_{it} = \alpha$ for all i, t and $\beta_{it} = \beta$ for all i, t .

On the contrary, a positive relationship is foreseen between duality and compensation per director. As such, a negative relationship between board size and compensation is expected. Also, following the previous empirical approaches and in order to catch the non linear effect of the board size we have also included the square of this variable, expecting the opposite effect on the board compensation.

Regarding to the type of compensation, it is expected that all explanatory variables show the expected relationship with the dependent variable, except for salary fees and attendances fees, with no expected significant relationships, according to the previous explanations.

Also, we have considered the temporal persistence of the payment, including in the model the first lag of the dependent variable. So we expect a positive relationship between the lag of remuneration and remuneration in the study year (Lilling, 2006; Canarella, Nourayi 2008).

In addition, to avoid problems of endogeneity of some variables of Corporate Governance (Andrés, Vallelado 2008; Coles et al. 2008) we used the corrections over panel data proposed by Arellano and Bond (1991) and Blundell and Bond (1998).

Thus, different variants of the general model were estimated based on the structure of compensation (fixed compensation, variable compensation, salary fees, attendance fees and other perquisites).

Industry and yearly indicator variables are included in all models to capture potential impact in director payments across industries and years.

4. RESULTS

Descriptive statistics

The mean, rate of change, standard deviation, minimum and maximum for the payments received by members of the board, according to type of compensation, is reported in Table 2.

Variable	2004		2005		2006		2007		2008		2009	
	€	%	€	%	€	%	€	%	€	%	€	%
Rate of change												
St. Dev.	44,569.32	46,660.89	154,288.45	107,033.90	101,345.64	115,482.05						
Min	0	0	0	0	0	0						
Max	232,000.00	233,222.22	1,065,500.00	660,375.00	423,800.00	632,000.00						
Salary fees by member of the Board of Directors												
	€	%	€	%	€	%	€	%	€	%	€	%
Mean	18,889.22	9.73	19,446.74	9.39	23,672.92	8.64	24,782.09	9.16	29,220.62	9.94	28,808.39	10.52
Rate of change			2.95	21.73	4.69	17.91					-1.41	
St. Dev.	27,062.32	29,089.17	34,556.93	37,699.41	40,295.74	40,225.12						
Min	0	0	0	0	0	0					0	
Max	168,250.00	174,294.12	220,764.71	240,705.88	240,352.94	240,352.94						
Attendance fees by member of the Board of Directors												
	€	%	€	%	€	%	€	%	€	%	€	%
Mean	27,667.21	14.26	32,105.38	15.51	32,910.14	12.01	39,952.31	14.76	38,726.08	13.17	34,294.16	12.52
Rate of change			16.04	2.51			21.40	-3.07			-11.44	
St. Dev.	48,820.00	55,560.15	58,299.75	69,042.69	66,341.03	65,459.31						
Min	0	0	0	0	0	0					0	

Variable	2004		2005		2006		2007		2008		2009	
	€	%	€	%	€	%	€	%	€	%	€	%
Max	211,181.82		243,272.73		276,066.67		283,900.00		295,000.00		277,600.00	
Other perquisites by member of the Board of Directors												
Mean	56,378.74	29.05	60,635.19	29.28	80,473.52	29.36	69,673.75	25.75	83,781.73	28.49	59,897.51	21.87
Rate of change			7.55		32.72		-13.42		20.25		-28.51	
St. Dev.	153,867.12		156,366.12		251,047.61		206,395.05		290,373.85		187,924.76	
Min	0		0		0		0		0		0	
Max	775,714.29		965,857.14		1,428,153.85		1,337,900.00		2,057,133.34		1,407,400.00	

a. This table shows a summary of statistics on director compensation measured in Euros. The compensation includes the following concepts: fixed and variable remuneration, salary fees, attendance fees and other perquisites (stock options and/or other financial instruments, advances, loans, funds and pension plans, insurance premiums and guarantees provided for directors).

Also, this table includes information about the percentage of compensation dedicated to each concept.

Source: Authors' own.

The average of total compensation received by each member of the Board of Directors is €194,041.77 for 2004 and €273,831.32 for 2009, representing a rate of inter-annual growth of approximately 7.13% since 2004. This is similar to that achieved on previous studies with similar samples of companies (Manzaneque et al., 2011, 8.6%; Merino et al., 2012, 7.11%)⁸.

Regards to the type of compensation, the most important is fixed remuneration which reaches the 34.23% in 2004 and 31.36% in 2009 on total compensation, despite the recommendations of some codes of conduct and regulatory agencies, about moderation on this type of compensation. Despite this fact, the data shows an increase in the importance of variable payment, whose share on total compensation has grown from 12.72% in 2004 to most than 23% in 2009.

The second most important type of compensation is other perquisites. This concept is characterized to present a heterogeneous and, in general, greater discretion.

Regarding salary fees have remained constant, representing around 10% of the total remuneration. Also, attendance fees maintain its participation from 14.26%, in 2004, to 12.52%, in 2009.

The statistical behaviour of dependent and independent variables for the full panel is shown in Table 3.

Table 3. Descriptive Summary Statistics on Panel Data Variables^a

	Variable	Mean	Standard deviation	Minimum	Maximum
Dependent variables	COMPEN	11.878	1.084	7.536	14.805
	FIXREM	10.974	0.892	8.321	13.145
	VARREM	10.547	1.275	6.789	13.879
	SALFEE	9.988	1.135	5.655	12.391
	ATTFEE	11.069	0.923	8.071	12.595
	OTHPER	9.651	2.300	4.199	14.537

⁸ For each of these studies the authors have taken the companies which have the information necessary, replacing those that did not meet this requirement. So that, the samples are not identical despite its size it is.

	Variable	Mean	Standard deviation	Minimum	Maximum
Board Characteristics variables	OWNDIR	0.235	0.255	0	0.993
	CEODUA	0.643	0.479	0	1
	OUTSID	0.314	0.177	0	0.857
	BRDSIZE	11.252	3.978	3	24
Control variables	CRPSIZE	20.204	1.786	16.447	25.144
	INDUSTRY	2.921	1.224	1	5
	ROA	0.032	0.117	-1.062	0.472
	STOCKRET	1.112	0.656	0.029	8.688

a. This table details a summary of statistics on the basis variables of interest: COMPEN, natural log of total compensation by member of the Board of Directors; FIXREM, natural log of fixed compensation by member of the Board of Directors; VARREM, natural log of variable compensation by member of the Board of Directors; SALFEE, natural log of salary fees by member of the Board of Directors; ATTFEE, natural log of attendance fees by members of the Board of Directors; OTHPER, natural log of other perquisites by member of the Board of Directors; OWNDIR, proportion of shares owned by the board of directors; CEODUA, dummy variable which takes value 1 when both roles are held by the same person, and 0, when they are not; OUTSID, proportion of outside directors on the board of directors; BRDSIZ, number of members in the board of directors; CRPSIZE, corporate size measured by the logarithm of total assets; INDUSTRY, industry dummies; ROA, return on assets, ratio of operating income to net assets; and, STOCKRET, stock return, measured as the sum of stock price and dividend per share over stock price in the year before.

Source: Authors' own.

In connection with the characteristics of the board, the result coincide with Manzaneeque et al. (2011) and Merino et al. (2012) due to the similarity between samples, as we have explained previously. So, in relation with the shareholding by members of the boards of directors the results show an average of around 24%, near of a quarter of total ownership. The results showed that the duality of Chairman and Chief Executive Officer occurs in more than 60% of the firms looked at.

Also, in relation to the presence of outsiders on the board of directors, an average of 31% was obtained. Finally, the size of the board of directors on average is 11.25 members.

The binary correlation between all variables is reported in table 4.

	1	2	3	4	5	6	7	8	9	10	11	12	13
Control variables													
114. CRPSIZE	0.6361 ***	0.4186 ***	0.4681 ***	0.3739 ***	0.6201 ***	0.3429 ***	-0.0909 ***	0.1705 ***	0.0358	0.6167 ***			
12. INDUSTRY	-0.1532 ***	0.0273	-0.0342	-0.2718 ***	-0.2791 ***	-0.0460	0.0133	-0.1942 ***	0.0088	-0.0167	-0.0684		
13. ROA	0.1885 ***	0.0794	0.1220 **	0.0361	0.2103 ***	-0.0404	0.1033 **	0.0637	-0.1200 **	0.1050 **	0.1167 **	-0.0423	
14. STOCKRET	0.0355	-0.0164	0.0644	0.0403	0.0728	-0.0092	0.0366	0.0186	0.1281 ***	-0.0304	0.0221	-0.0451	0.0674

* The correlation is significant at 0.001 (bilateral)

** The correlation is significant at 0.05 (bilateral)

*** The correlation is significant at 0.01 (bilateral)

Definition of variables:

COMPEN, natural log of total compensation by member of the Board of Directors; FIXREM, natural log of fixed compensation by member of the Board of Directors; VARREM, natural log of variable compensation by member of the Board of Directors; SALFEE, natural log of salary fees by member of the Board of Directors; ATTFEE, natural log of attendance fees by members of the Board of Directors; OTHPER, natural log of other perquisites by member of the Board of Directors; OWNDIR, proportion of shares owned by the board of directors; CEODUA, dummy variable which takes value 1 when both roles are held by the same person, and 0, when they are not; OUTSID, proportion of outside directors on the board of directors; BRDSIZ, number of members in the board of directors; CRPSIZE, corporate size measured by the logarithm of total assets; INDUSTRY, industry dummies; ROA, return on assets, ratio of operating income to net assets; and, STOCKRET, stock return, measured as the sum of stock price and dividend per share over stock price in the year before.

Source: Authors' own.

Level and structure of directors' compensation and board's characteristics

In *Model 1* (Table 5) are shown the results of COMPEN (natural logarithm of total compensation by member of the Board of Directors) regression on Boards Characteristics.

Table 5. Estimation: System-GMM in two steps. Type of compensation by director^a

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Expected Signs (Model 1)	Compensation by director COMPEN	Fixed compensation by director FIXREM	Variable compensation by director VARREM	Salary fees by director SALFEE	Attendance fees by director ATTFEE	Other perquisites by director OTHPER
		(Model 1)	(Model 2)	(Model 3)	(Model 4)	(Model 5)	(Model 6)
COMPEN_1	+	0.7191*** (0.0230)					
FIXREM_1			0.9006*** (0.0289)				
VARREM_1	+			0.5574*** (0.0414)			
SALFEE_1	+				0.9290*** (0.0149)		
ATTFEE_1	+					0.8870*** (0.1268)	
OTHER_1	+						0.6599*** (0.0362)
OWNDIR	-	-0.1381** (0.0763)	-0.0975 (0.0813)	-0.7362** (0.3681)	0.0023 (0.0819)	0.2666 (0.3503)	0.6645 (0.5029)
CEODUA	+	0.0254*** (0.0062)	0.0153*** (0.0046)	0.0514*** (0.0149)	0.0024 (0.0048)	0.0263 (0.0192)	0.0516 (0.0308)
OUTSID	-	0.5973*** (0.0987)	0.4028*** (0.0905)	0.6325*** (0.1912)	-0.0044 (0.0855)	0.1408 (0.2344)	-0.5072 (0.8411)
BRDSIZE	-	0.0299 (0.0185)	-0.0234 (0.1477)	-0.2395** (0.0900)	0.0134 (0.0121)	-0.1805 (0.1797)	-0.4059*** (0.1160)
BRDSIZE2	+	-0.0012** (0.0006)	0.0008 (0.0005)	0.0058** (0.0027)	-0.0001 (0.0005)	0.0056 (0.0061)	0.0159*** (0.0041)
CRPSIZE	+	0.1604*** (0.0177)	0.0513*** (0.0142)	0.2017*** (0.0480)	0.0815*** (0.0099)	0.1172 (0.1002)	0.0336 (0.0621)
ROA	+	0.5417*** (0.1568)	0.0714 (0.1609)	0.4934 (1.3455)	0.1028 (0.0834)	-0.0011 (0.5769)	-0.5573 (1.2349)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Expected Signs (Model 1)	<i>Compensation by director COMPEN</i>	<i>Fixed compensation by director FIXREM</i>	<i>Variable compensation by director VARREM</i>	<i>Salary fees by director SALFEE</i>	<i>Attendance fees by director ATTFEE</i>	<i>Other perquisites by director OTHPER</i>
		(Model 1)	(Model 2)	(Model 3)	(Model 4)	(Model 5)	(Model 6)
STOCKRET	+	-0.0244 (0.0069)	-0.0188 (0.0130)	0.2382*** (0.0935)	-0.0222 (0.0135)	0.2357 (0.2878)	-0.0245 (0.0578)
Intercept		-0.2495 (0.3374)	0.1008 (0.3865)	2.0887*** (0.6558)	-1.0894*** (0.449)	-0.1633 (1.1761)	5.2939*** (1.2234)
Test of joint significance							
Explanatory variables		638.23*** (9, 75)	603.76*** (9, 71)	551.24*** (9, 48)	1,247.62*** (9, 56)	650.30*** (9, 31)	191.09*** (9, 49)
Dummy year variables		15.65*** (4, 75)	13.39*** (4, 71)	15.23*** (4, 48)	79.53*** (4, 56)	4.28*** (4, 31)	0.06 (4, 49)
Overidentifying test							
Hansen		60.08 (96)	57.65 (97)	28.89 (97)	38.91 (97)	15.17 (97)	28.73 (97)
Autocorrelation test							
AR(1)		-3.10***	-3.56***	-1.90**	-2.72***	-1.80**	-3.07***
AR(2)		0.48	-1.27	0.68	1.44	1.15	0.31

a. This table displays the impact of characteristics of the board on the level of compensation by type of compensation

Variables are defined in Table 2

Models are run with the System-GMM methods

Standard error in brackets

In bold, significant coefficients

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

In column (2), the predicted sign on each variable in the regression is indicated

Source: Authors' own.

As we expected, the results show a significant and negative relationship between the ownership of board of directors (OWNDIR) and the compensation received by them (coeff. -0.1381). This is consistent with the theoretical approaches developed by the Agency Theory which advocates the importance of share ownership as corporate governance mechanism to align the interest of

shareholders and director in relation to compensation received by board members.

The variable CEODUA (concentration of powers of the Chairman and the Chief Executive Officer) is significant (coef. 0.0254) and the relationship is just the expected. In this case, the results highlight the idea that a concentration of power is a problem for remuneration control in general terms. These results coincide with those obtained by previous studies on the matter (Brick et al., 2006).

In relation to outside members on the board (OUTSID) the results show a significant but positive relationship with total compensation receive by director (coeff. 0.5973), contrary to the expected. This finding suggests a possible problem of independence and control on the board compensation exerted by outside directors.

Regarding the board size (BRDSIZE) the sign obtained is not as expected, so the relationship between board size and compensation is negative regardless of the size of the board. This result doesn't corroborate the nonlinear relationship between the two variables, contrary to other studies.

Finally, in relation to the variables related to performance, ROA has a significant and positive relationship with the directors' compensation (coeff. 0.5417), which reveals that the compensation awarded to directors is, in this case, related to the good performance of the company.

To sum up, these results are consistent with the perspective that director compensation is less important in aligning the interests of directors and shareholders when the corporate governance mechanisms are stronger (Bryan et al., 2000; Manzanque et al., 2011; Merino et al., 2012). However, and contrarily to the expected, the percentage of outside member don't guarantee an effective monitoring on total compensation received by director.

In addition, this study reviews the directors' compensation by type of compensation.

Firstly, regarding to *fixed compensation* (Table 5, Model 2) CEODUA (coeff. 0.0153) exert a positive effect on directors' compensation. Also, although contrary to the expected, OUTSID (coeff. 0.4028) have a positive relationship with the directors' compensation.

Secondly, *variable compensation* by director model (Table 5, Model 3) shows that all variables representative of characteristics of the board are significant to control the variable level of compensation with the exception of outside

members whose relation is just the opposite to the expected as in the general model (coeff. 0.6325).

In relation to the board size, in this case we found non linear relationship between board size and variable compensation. So, the efficiency of the board is limited by an optimum size, beyond which the addition of a member results in reduced capacity for monitoring and thus to higher compensation by director. This is consistent with some previous empirical evidence (Yermack, 1996; Fernández et al., 1998; Adams, Mehran 2005; Andrés, Vallelado 2008).

Regarding the performance measures, only STOCKRET shows a positive and significant effect on the variable compensation (coeff. 0.2382), this could be due to the variable compensation that is linked to market measures rather than accounting measures.

Thirdly, as is expected, *salary fees* by director (SALFEE) (Table 5, Model 4) and attendance fees by director (ATTFEE) (Table 5, Model 5) are independent of board characteristics.

Finally, *other perquisites* (Table 5, Model 6) are negatively related with board size but not with other characteristics of the board. These results could be explained by the heterogeneity of remuneration included in this category ranging from pension plans to guarantees provided to directors.

■■■ CONCLUSIONS

Currently, some corporate scandals have put to question the level of remuneration received by members of the board of directors, accentuating the lack of investor and institutions confidence on them, as control mechanisms to protect the shareholders interest.

Empirical evidence focuses on analyzing the relationship between the characteristics of the board of directors and the remuneration of the CEO. However, the compensation level of directors as resource of expropriation of wealth from shareholders, and their interaction with other corporate governance mechanisms has been less studied.

In this sense, this study contributes to the growing literature on management compensation through the analysis of a special context like is Spain, example of a unitary board system, with high compensation to directors structured in different types of remuneration concepts. For these purposes we have worked with the board characteristics and remuneration data of board of directors of a large and representative sample of Spanish firms during the period

2004-2009. Using panel data methods, which allow controlling the unobserved heterogeneity, different variants of the general model were estimated based on the type of compensation and director.

The results support our hypotheses related to the relation between director compensation and some board characteristics. So, ownership of board' members is negatively related to board's remuneration and concentration of power of chairman and CEO is positively related to it. This shows the importance of these measures to align the interest between directors and shareholders and to increase the level of confidence in control function of members of board of directors. However, and contrarily to the expected, the number of outsiders and the board size increase the level of board's remuneration. In short, these results show that the outsiders and the size of the board are not effective as control mechanisms in the study context.

A deeper analysis about the type of remuneration reveals that, the concentration of power in the chairman and CEO is significant and positively related to fixed board's remuneration while the outsider directors are not exercising the desirable moderate effect.

In relation to variable remuneration, the level of ownership of boards' members and the separation of power of chairman and CEO have a moderate effect on this type of remuneration. Also, the board size has the expected effect on the remuneration level, showing that the efficiency of the board and its size do not have a linear relationship, so the relationship is negative up to an optimum size, beyond which the addition of a member not provide greater monitoring capacity, it will lead to problems of coordination, control and decision making, which will result in this case, in a greater compensation granted to directors.

However, as in the case of fixed remuneration, the number of outsiders in the Board of Directors exerts a positive effect on the variable remuneration level.

Finally, the salary fees and attendance fees are not are not influenced by any characteristics of the board while the category that we call "other perquisites" presents the expected non-linear relationship with the size of the board. Given the existing opacity in this last type of compensation, we think that there is great discretion in this category is not being controlled by the board of directors.

So, the influence of board' characteristics on the level of remuneration depend on the type of remuneration, being especially significant in the case of variable remuneration but not for fixed remuneration. This is significant for the study context because, as we show previously, it is the most important ret-

tribution concept. Therefore, to control the levels of remuneration of the Board, stronger corporate governance mechanisms would be required.

In summary, in the study context, two factors contribute to the extraction of wealth from shareholders through the remuneration granted to directors: (1) remuneration structure mainly based on fixed component; and (2) mechanisms of corporate governance control are not efficient to moderate the directors' remuneration, except directors' ownership and separation of Chairman and CEO roles. Under these circumstances, the excessive directors' remuneration negatively affects the profit of the company and its ability to meet the shareholders' dividends and to retain the necessary earnings to fund the maintenance and growth of the company (avoiding the use of external sources of funding).

These results give reason to regulators and investors to be aware of the importance of creating mechanisms to control the different types of remuneration, especially fixed concepts of remuneration and other perquisites, because of the failure of the current corporate governance control standards.

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