

## **CEO Monitoring and Board Effectiveness: Resolving the CEO Compensation Issue**

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Volume 21, numéro 2, hiver 2017

URI : <https://id.erudit.org/iderudit/1052692ar>

DOI : <https://doi.org/10.7202/1052692ar>

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#### Éditeur(s)

HEC Montréal  
Université Paris Dauphine

#### ISSN

1206-1697 (imprimé)  
1918-9222 (numérique)

[Découvrir la revue](#)

#### Citer cet article

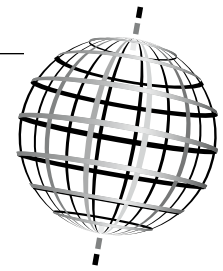
Ben Ali, C. & Teulon, F. (2017). CEO Monitoring and Board Effectiveness: Resolving the CEO Compensation Issue. *Management international / International Management / Gestión Internacional*, 21(2), 123–134.  
<https://doi.org/10.7202/1052692ar>

#### Résumé de l'article

Cette étude examine l'impact des mécanismes de gouvernance sur la rémunération du Président Directeur Général (PDG) sur un échantillon de grandes sociétés françaises cotées sur la période 2009-2011. Les résultats montrent que la rémunération du PDG est négativement associée à la présence de sa famille et positivement associée à la taille du conseil d'administration, au cumul des mandats, au nombre de réunions du conseil, et à l'indépendance du comité de rémunération. La rémunération augmente également avec la taille de l'entreprise et sa performance passée et présente. Notre étude questionne l'efficacité des attributs formels du conseil à limiter la rémunération du PDG.

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# CEO Monitoring and Board Effectiveness: Resolving the CEO Compensation Issue



## La surveillance du dirigeant et l'efficacité du conseil d'administration : comment résoudre le problème de la rémunération du dirigeant

## Vigilancia de los directivos y eficacia del Consejo de Administración: cómo resolver el problema de la compensación de los ejecutivos

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### ABSTRACT

This study examines the impact of board governance mechanisms on the pay of Chief Executive Officers (CEOs) using a sample of major French listed companies for the 2009–2011 period. The results show that CEO pay is negatively associated with the presence of a family CEO and positively associated with board size, busy directors, board meetings, and compensation committee independence. We provide further evidence that CEO compensation increases with firm size, and both present and past performance. Our study casts doubt on the effectiveness of formal board attributes in constraining CEO compensation.

**Keywords:** Board of directors, CEO compensation, corporate governance, agency conflicts.

### RÉSUMÉ

Cette étude examine l'impact des mécanismes de gouvernance sur la rémunération du Président Directeur Général (PDG) sur un échantillon de grandes sociétés françaises cotées sur la période 2009-2011. Les résultats montrent que la rémunération du PDG est négativement associée à la présence de sa famille et positivement associée à la taille du conseil d'administration, au cumul des mandats, au nombre de réunions du conseil, et à l'indépendance du comité de rémunération. La rémunération augmente également avec la taille de l'entreprise et sa performance passée et présente. Notre étude questionne l'efficacité des attributs formels du conseil à limiter la rémunération du PDG.

**Mots clés :** Conseil d'administration, rémunération des dirigeants, gouvernance des entreprises, conflits d'agence.

### RESUMEN

Este estudio examina los efectos que diferentes mecanismos de gobierno tienen sobre la remuneración del presidente y director ejecutivo (PDE) usando una muestra de grandes empresas francesas cotizadas en el periodo 2009-2011. Los resultados muestran que la remuneración del PDE tiene una asociación negativa con la presencia en el consejo de miembros de la familia del directivo y positiva con el tamaño del consejo de administración, la acumulación de mandatos, el número de reuniones del consejo, y la independencia del comité de remuneración. Nuestros resultados también muestran que la remuneración de los ejecutivos aumenta con el tamaño de la empresa y su desempeño pasado y presente. Nuestro estudio plantea dudas sobre la eficacia de ciertas características formales del consejo para limitar la compensación del PDE.

**Palabras clave:** Consejos de administración, remuneración de los dirigentes, gobierno corporativo, conflictos de agencia

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The topic of compensation for Chief Executive Officers (CEOs) has drawn renewed attention in a context of declining wealth for most households and yet an unprecedented CEO-to-worker pay gap following the global financial crisis. Moreover, despite new corporate governance requirements, overpaid CEOs with disappointing performance continue to feed the financial press. To address this topic, we examine the main internal corporate governance mechanism—the board of directors—which has the final responsibility for the functioning of a firm and sets the rules of the game for CEOs (Jensen 1993). More particularly, our study contributes to the debate about the effectiveness of boards in monitoring managers by examining the impact of board attributes on CEO compensation.

The impact of board characteristics has predominantly been studied in relation to firm performance (Vafeas 1999), earnings quality (Chau and Gray 2010), and CEO compensation (Guthrie *et al.* 2012). Our paper addresses this last dimension for France. Most prior research on CEO compensation focuses on board size, CEO duality, independent directors, and the presence of a compensation committee (Donnelly and Mulcahy 2008). However, in our study we examine other board features that are likely to influence executive compensation, such as intensity of board activity, busy directors (i.e., those who hold multiple board appointments), board diversity, and board committee composition—all characteristics that have been under intense scrutiny by regulators and advisory institutions. For instance, the AFEP-MEDEF code recommends (1) that a compensation committee is set up, and (2) that this committee

should be composed of a majority of independent directors. Law 2011-103, issued on 27 January 2011 on the balanced representation of women and men on boards of directors and supervisory boards, requires a minimum of 20% female directors starting from 2014 and 40% starting from 2017. In addition to these features, we investigate the impact of founding family members, whether as CEOs or directors, on CEO compensation. Our objective is to answer whether the high level of CEO compensation in French firms can be explained by the board structure.

Although CEO compensation has been widely investigated in the US and the UK, there is very little evidence on executive pay practices in other industrialized countries (Duffhues and Kabir 2008). To the best of our knowledge, with the exception of the study of Broye and Moulin (2010) on CEO pay before the financial crisis and pertaining solely to the year 2005, this is the only study thus far that examine the relationship between CEO compensation and board structure in France. This lack of studies may be explained by the non-existence of a public database and the time-consuming process of hand collecting data. Our study aims to fill this gap by examining CEO compensation after the financial crisis over a period of three years. This issue is important as the Autorité des Marchés Financiers (AMF) has issued new board recommendations and also due to the emergence of corporate governance codes of best practices (AFEP-MEDEF code, issued in 2008). Also, it is now acknowledged that these deontological principles and best practices codes are not simply matters of ethics, but can be a condition for the competitiveness and the sustainability of companies (Bennani and Hecker 2014).

Our study adds to this line of research (1) by examining CEO pay after the financial crisis (2008–2009) and the impact of new board requirements, and (2) by suggesting that policy-makers should focus on new corporate governance features that enhance boards' monitoring power.

Using a sample of 284 firm-year observations from SBF 120 companies over the 2009–2011 period, we examine total annual CEO compensation in relation to a wide array of governance variables, focusing on eight board structure variables. Our findings show that CEO compensation is positively associated with board size, board meetings, and busy directors. We find further evidence that—surprisingly—CEO compensation increases with compensation committee independence. This result is similar to those of prior studies examining the US context (Guthrie *et al.* 2012), which casts serious doubt on the notion that the new AFEP-MEDEF recommendations and the new law in the financial sector (Article L. 511-41-1 A of the Monetary and Financial Code) could be effective measures for constraining CEO pay as the managerial power hypothesis would suggest.

Our results also show that CEO compensation increases with firm size, and past and present performance, consistent with prior research (Gabaix and Landier, 2008; Chhaochharia and Grinstein, 2009; Armstrong *et al.*, 2012). Also, following the alignment hypothesis, we find that family CEOs receives less compensation, and that this persists even with the presence of family directors on the board. This result confirms that the alignment effect of family control dominates the entrenchment effect. Our results remain robust after including alternative control variables for performance. We also conduct additional tests using only the variable component of CEO compensation and

find that our results are qualitatively similar. Finally, because the separation between CEO and the chairman of the board is likely to influence the amount of executive compensation, we perform a regression analysis on total executive compensation, including the compensation of the chairman of the board in the case of non-CEO duality. Our results remain unchanged.

We contributes to the literature in several ways. First, our analyses and findings emphasize the importance of considering board structure in understanding firms' policies, specifically CEO compensation, a dimension rarely taken into account when examining the high pay of executives. Second, this study demonstrates the need to take into account family control as an important dimension of firm compensation policies. Third, our results confirm recent controversial findings in the US context (Guthrie *et al.* 2012; Armstrong *et al.* 2012) about the benefits of compensation committee independence.

The paper is organized as follows. The next section presents the literature review and research hypotheses. Section 3 describes the model and descriptive statistics. The regression results and robustness analyses are then presented and discussed in Section 4. Finally, we draw conclusions in Section 5.

## Literature review and hypotheses

Jensen and Meckling (1976) present the consequences of divergent interests, information asymmetry, and manager opportunism on the relationship between managers and shareholders. The authors present a corporate financial theory that formalizes agency costs resulting from conflicts of interest between managers and shareholders. Corporate governance research focuses on several mechanisms by which agency conflicts can be mitigated. These mechanisms can be distinguished between internal mechanisms, which include manager compensation contracts, board structure, and other monitoring activities within the firm, and external mechanisms, mainly composed of capital market and regulation. This study aims to investigate the following board characteristics that are likely to influence board effectiveness: board size, number of board meetings, directors' assiduity, busy directors, compensation committee independence, and family influence.

The influence of size on board effectiveness has been extensively examined in prior research. A number of studies maintain that large boards, which generally have many independent directors with corporate or financial experience, are more likely to attract directors on the grounds of reputation (Xie *et al.* 2003; Bebchuk and Fried 2003). Thus, a larger board might be more successful at preventing executive compensation abuses in case of manager control. However, another stream of research argues that this benefit may be offset by poorer communication and decision-making inefficiencies that tend to arise in large groups (Bantel and Jackson 1989). Hence, Jensen (1993) underline that “keeping boards small can help improve their performance. When boards get beyond seven or eight people they are less likely to function effectively and are easier for the CEO to control”. Similarly to Jensen (1993), we suggest that the effectiveness of the board decreases with its size. Thus, we present our first hypothesis:

*H1: CEO compensation is positively correlated with board size.*

The impact of the frequency of board meetings on board effectiveness has been the subject of very few studies (Xie *et al.*

2003). Also, a priori, the nature of this association seems complex and its direction unclear. First, what is known is that board meetings are costly, not only with regard to attendance fees and travel expenses, but also with regard to managerial time. CEOs expect the time and effort spent on board meetings, including the time needed to prepare for these meetings, to be remunerated at their usual high rate. Also, the relatively limited time actually spent in the boardroom tends to be consumed with routine tasks, reducing opportunities for directors to exercise important control over management (Vafeas 1999). Thus, this suggests that a greater number of board meetings should increase CEO compensation.

However, a board that meets more often should be able to devote more time to pertinent issues (Xie *et al.* 2003), such as CEO compensation. For instance, Vafeas (1999) argues that more board meetings will give directors more time to engage in consultation about their decisions, devise strategies, and monitor management—together resulting in better control and the mitigation of manager opportunism and excessive management compensation.

Another variable in this relation is director assiduity. Directors who are more involved are more likely to play a greater role in board monitoring. Following Vafeas (1999), we argue that if a firm is reasonably efficient in establishing an appropriate frequency and level of assiduity for its board meetings, it will achieve economies in agency costs. We state our second hypothesis as follows:

*H2: CEO compensation is negatively correlated with the frequency and assiduity of board meetings.*

Prior research underlines the benefits of multiple directorships. For instance, Fama and Jensen (1983) suggest that director busyness signals director quality. Also, Brickley, Link, and Coles (1999), Kaplan and Reishus (1990) confirm that higher quality directors are more frequently asked to serve on additional boards. Other studies find positive relation between multiple directorships and both firm value (Field *et al.* 2013) and firm performance (Ferris *et al.* 2003).

However, recent studies find the opposite: Fich and Shivdasani (2006) evidence that firms with busy boards are associated with weak corporate governance and present lower sensitivity of CEO turnover to firm performance. Similarly, Core, Holthausen, and Larcker (1999) show that busy directors set excessively high levels of CEO compensation, which in turn leads to poor firm performance. In the US, many associations recommend that boards limit the number of boards on which their directors serve (for instance, the National Association of Corporate Directors and the Council of Institutional Investors). In France, the NRE Law (2001) modified the rules governing the number of corporate board offices held and introduced article L225-21 in the commercial code. The latter forbids any person executing more than five directorships simultaneously. Hypothesis 3 is therefore as follows:

*H3: CEO compensation is negatively correlated with busy directors.*

Independent directors have received increasing attention from regulatory bodies in France (Vienot Report 1995; Bouton Report 2002; AFEP-MEDEF code) and other countries (for instance, the Cadbury Report in the UK and the Dey report in Canada).

French regulation has changed and has become more restrictive in the definition of directors' independence. For instance, the Vienot Report (1995) defines an independent director "as a person who has no direct or indirect interest with the company or its affiliates and may thus be deemed to objectively participate in the work of the board" (Vienot, 1995, p 13). The Vienot Report (1999) focuses on the fact that director judgment should be free. Thus, it argues "a Director is independent when he/she has no relationship of any kind whatsoever with the corporation, its Group, that could compromise his/her exercise of independent judgment" (Vienot, 1999, p 17). Finally, the definition given by the Bouton Report (2002) is more restrictive yet and adds that an independent director should have no relationship of any kind whatsoever with the management ("a board director is independent when he or she has no relationship of any kind whatsoever with the corporation, its Group, or their management, that is such as to compromise the exercise of his or her judgment"). The AMF recommends the definition given by the AFEP-MEDEF code (June 2013), which uses the same definition as the Bouton report (2002), and explains in greater depth the circumstances in which independence is compromised. For instance, an independent director is not only a non-executive director, i.e., he/she does not form part of the executive management team in the company or its group, but also has no particular interest (significant shareholder, employee, etc.).

However, the concept of independence remains somewhat vague and is open to several interpretations because of the use of various different terms when considering other regulations: independent director, unrelated director, non-executive director, and outside director. For instance, in Canada, the Dey Committee (1994) proposed the term "unrelated director," which it defined as: "a director who is independent of management and is free of any interest and any business or any other relationship which could, or could reasonably be perceived to, materially interfere with the director's ability to act in the best interests of the corporation, other than interests and relationships arising from shareholdings."

Also, the Cadbury Report (1992) in the UK uses the concept of independent director to mean a non-executive. However, a priori this definition looks broader than that used in France because an independent director may be related or unrelated. The Cadbury Report (1992) focuses on such directors' "contributions to make to the governance process as a consequence of their independence from executive responsibility." The first lies in "reviewing the performance of the board and of the executive" while "the second is in taking the lead where potential conflicts of interest arise."

Also the Vienot Report (1999) recommends that boards should comprise one third of independent members. Later, the Bouton Report increased this proportion to half for companies with dispersed capital. Prior studies have argued that boards with higher proportions of independent directors are better able to control management and serve shareholder interests (Chen and Jaggi 2000; Chau and Gray 2010; Jensen and Meckling 1976) and to defend or build their own reputations as expert monitors. Recent literature suggests that board effectiveness is realized through board committees (Jiraporn *et al.* 2009). Corporate boards often delegate tasks under their

responsibility to standing board committees, whereby board compensation committees may become involved in settling the structure and amount of CEO pay. The AFEP-MEDEF code issued a new recommendation (also endorsed by the AMF) that all listed firms should set up an independent compensation committee to participate in decision making regarding CEO compensation. Hollandts *et al.* (2015) emphasize that such committees are able to resist the entrenchment strategies of CEOs. Chhaochharia and Grinstein (2009) argue that independent directors are better able to make unbiased judgments about the quality of a company's CEO and to determine appropriate compensation. They find a negative relation between CEO pay and compensation committee independence in US listed firms. In contrast, a recent study by Guthrie *et al.* (2012) argues that these latter results lack robustness and finds no significant relation. To contribute to this debate, we investigate whether compensation committee independence may constrain CEO compensation. Hence:

*H4: There is a negative relationship between CEO compensation and compensation committee independence.*

Family firms are predominant in France (Ben Ali and Lesage 2013) and family control can influence the board in two ways. One stream of research shows that family-dominated boards are more aligned with family/CEO interests than with shareholders' interests and concludes that family directors harm the effectiveness of the board (Ho and Wong 2001). For instance, consistent with the higher type II agency problem (controlling vs. minority shareholder conflict), Jaggi and Leung (2007) find that family directors decrease the monitoring power of board committees. Another stream of research posits that family firms suffer from less separation between management and control, and consequently face less severe type I agency problems

(manager vs. shareholder conflict) (Ho and Fei 2013; Ali *et al.* 2007). Consistent with the alignment hypothesis, family CEOs are more involved in the firm and are less opportunistic in family firms, in which case CEO pay tends to be lower. We consider this second development and state our fifth hypothesis in this manner:

*H5: CEO compensation is negatively associated with the presence of a family CEO.*

## Data and methodology

### MODEL

Given the focus on total pay levels in recent debates on executive compensation, and consistent with Armstrong *et al.* (2012), we examine the CEO's total annual compensation, defined as the sum of salary, actual bonus, target long-term incentive plan payments, pension contributions and other perquisites, the Black-Scholes value of stock option grants, and the market value of restricted and unrestricted stock grants.

We regress our dependent variable *ceocomp* on different board structure variables: board size (*bsize*), board meetings (*bmeeting*), board assiduity (*bassiduity*), busy directors (*busydirec*), compensation committee independence (*indcomp*), family directors (*familydir*), family CEO (*ceofamboard*). We also use other control variables presented in prior research. We test the following model (all variables are defined in Table 1):

$$ceocomp_{it} = \beta_0 + \beta_1 bsize_{it} + \beta_2 bmeeting_{it} + \beta_3 bassiduity_{it} + \beta_4 busydirec_{it} + \beta_5 indcomp_{it} + \beta_6 familydir_{it} + \beta_7 ceofamboard_{it} + \sum_{j=1}^7 \delta_j control_{it} + fixedeffects + \delta_{it}$$

**TABLE 1**  
Variables definition

Variable	Empirical definition	Data source
<b>Dependent variable for Firm i in Year t</b>		
$Ceocomp_{it}$	= Natural log of CEO compensation in thousands of euros	Annual report
<b>Independent variables for Firm i in Year t</b>		
<b>Test variables for Firm i in Year t</b>		
$Bsize_{it}$	= number of board directors	Annual report
$Bmeeting_{it}$	= number of board meetings	Annual report
$Bassiduity_{it}$	= % of directors assiduity in board meetings	Annual report
$Busydirec_{it}$	= takes 1 if the majority of independent directors serve on more than three boards and zero otherwise	Annual report
$Indcomp_{it}$	= % of independent directors in the compensation committee	Annual report
$Familydir_{it}$	= number of founding family members in the board	Annual report
$Ceofamboard_{it}$	= takes 1 if the CEO is a member of the controlling family and zero otherwise	Annual report
<b>Control variables</b>		
$Mkv_{it}$	= firm size measured by total market capitalization in M€	Worldscope
$Roe_{it}$	= return on equity of year t	Worldscope
$Proe_{it}$	= return on equity of year t-1	Worldscope
$Stockreturn_{it}$	= stock return at fiscal year end	Worldscope
$Varroa_{it}$	= the variation of return on asset between the beginning and the end of the year	Worldscope
$Mtb_{it}$	= Market-to-Book ratio (company's investment opportunities)	Worldscope
$Bmasculanity_{it}$	= % of male directors in the board	Annual report

Following prior literature (Guthrie *et al.* 2012; Chhaochharia and Grinstein 2009; Armstrong *et al.* 2012; Gabaix and Landier 2008; Fich and Shivdasani 2006), we include in our model the following control variables: (1) firm size, (2) past and present financial performance, (3) stock return, (4) market-to-book value, and (5) economic performance variation. We also test (6) the presence of female directors on the board (a new requirement), using the variable *bmasculinity* as a control variable. Previous studies show the positive effect of the presence of females in boardrooms on corporate risk and performance (Gulamhussen and Santos 2010), board involvement (Nielsen and Huse 2010), and corporate governance (Wilson and Thomas 2010). We investigate a new relation by examining the influence of female directors on CEO compensation.

Norway was a pioneer in introducing a quota for women on boards. In 2003, the Norwegian government passed a law requiring that at least 40% of company board members are women. Severe sanctions for firms not complying with this measure were announced: a failure to achieve the 40% quota would lead to the company being delisted from 2006. Many countries followed in legislating boardroom quotas, with Spain, France, and Iceland also setting a minimum of 40%. In addition, Italy and Belgium have quotas of one-third and 30% respectively. Finally, in 2015 Germany passed a law that requires some of Europe's biggest companies to give 30% of supervisory seats to women beginning in 2016. The presence of female directors can have two opposite effects on board effectiveness (Allemand and Brullebaut 2014). On the one hand, women bring different perspectives that enrich decision making and discussion; diversity is a source of knowledge, and encourages innovation and creativity. On the other

hand, the presence of women directors on boards may also have a negative effect because diversity can cause conflict due to a lack of cohesion in a group and there may be negative consequences for communication (Allemand and Brullebaut 2014).

In addition to the preceding governance and economic variables, the literature on CEO pay emphasizes the importance of taking account of the industry sector for executive labor market benchmarking purposes. Following Armstrong *et al.* (2012), all our models include industry fixed effects to capture industry-specific differences in compensation levels. These fixed effects indicators are based on one-digit SIC codes. We also include year fixed effects. We hand-collected data on board characteristics and CEO compensation from annual reports, and our data source for the financial variables is the Worldscope database.

#### SAMPLE

Our sample was initially composed of all publicly listed French companies in the SBF 120 index for which complete information about CEO compensation is provided in their annual reports over the 2009–2011 period. We dropped financial institutions (Standard Industrial Classification [SIC] 6000–6999) (51 observations), and excluded observations with missing data on board characteristics and other independent variables. Our final sample is composed of 284 firm-year observations (98 firms). All our variables are winsorized at 1%.

#### DESCRIPTIVE STATISTICS

Table 2 presents the descriptive statistics.

**TABLE 2**  
Descriptive statistics

Variables	Mean	S.D.	Min.	25th percentile	Median	75th percentile	Max.
<b>Panel A: Governance variables</b>							
Bsize	11.877	3.763	3.000	10.000	12.000	14.500	23.000
Bmeeting	8.282	5.824	2.000	6.000	8.000	10.000	22.000
Bassiduity	0.879	0.114	0.060	0.860	0.900	0.940	1.000
Busydirec	0.715	0.452	0.000	0.000	1.000	1.000	1.000
Indcomp	0.792	0.406	0.000	1.000	1.000	1.000	1.000
Bmasculinity	0.875	0.097	0.530	0.800	0.890	0.940	1.000
Familydir	0.778	1.484	0.000	0.000	0.000	1.000	6.000
Ceofamboard	0.130	0.337	0.000	0.000	0.000	0.000	1.000
<b>Panel B: Firm characteristics</b>							
Ceocomp	2278.714	1866.144	180.044	964.308	1927.850	2902.703	10703.000
Mkv	10047.715	16630.608	159.141	1353.619	3637.999	9375.274	93114.953
Mtb	1.891	1.284	0.190	1.105	1.580	2.285	7.670
Stockreturn	0.135	0.386	-0.620	-0.105	0.075	0.350	1.410
Roe	0.139	0.185	-0.600	0.050	0.140	0.240	0.660
Proe	0.146	0.204	-0.640	0.070	0.150	0.245	0.910
Varroa	0.002	0.048	-0.150	-0.020	0.000	0.020	0.200
Varroe	-0.005	0.171	-0.620	-0.060	0.000	0.040	0.880

Ceocomp is defined as the natural logarithm of CEO compensation in thousands of euros. bsize is the number of board directors. Bmeeting is the number of board meetings. Bassiduity is the percentage of directors assiduity in board meetings. Busydirec is a dummy variable that equals 1 if the majority of independent directors serve on more than three boards. Indcomp is the percentage of independent directors in the compensation committee. Bmasculinity is the percentage of male directors in the board. Familydir is the number of founding family members in the board. Ceofamboard is a dummy variable that takes 1 if the CEO is a member of the controlling family and zero otherwise. Mkv is the size of the firm measured by the total market capitalization in M€. Mtb is the market-to-Book ratio. Stockreturn is the stock return at fiscal year end. Roe is the return on equity of year t. Proe is the return on equity of year t-1. Varroa is the variation of return on asset between the beginning and the end of the year. Varroe is the variation of return on equity between the beginning and the end of the year.



Our descriptive results indicate that annual CEO compensation in our sample ranges from €180,044 to €10,703,000, with a mean (median) of €2,278,714 (€1,927,850). Similar to most executive compensation studies, we use the natural logarithm of CEO compensation because of the highly skewed distribution of pay. Table 2 shows that the number of directors on the boards of our sample ranges between 3 and 23, with an average of 12, and show a standard deviation of almost 4, suggesting a highly dispersed number of directors. The frequencies of board meetings vary between 2 and 22 meetings per year, with an annual mean of 8. We find a high level of board meeting assiduity, with an average value of 87.9%. We also find that most sample firms have a compensation committee composed of independent directors, in compliance with AFEP-MEDEF recommendations. Indeed, the percentage of independent directors on compensation committees has an average value of 79.2%, suggesting a net increase in the last period. Our results show the presence of a family director in almost all firms of the sample, ranging from 0 to 6. We also find that 13% of firm CEOs are members of the founding family. These results are consistent with prior findings relative to the prevalence of family-controlled firms in France (Faccio and Lang 2002; La Porta *et al.* 1999). We also observe that most SBF 120 boards are dominated by males. For instance, in our sample, some 87.5% of the board members are male, which exceeds the legal threshold of 80%.

## Empirical results

### MAIN RESULTS

Table 3 presents the regression results with the natural logarithm of total annual CEO compensation as the dependent variable. All tables presented here report the ordinary least squares (OLS) estimates for the models discussed above. P-values are computed using robust standard errors. We include year and industry fixed effects in all regressions.

Many of our board composition variables present significant coefficients; conversely, we find no evidence for the impact of director assiduity, female directors, and family directors on total CEO compensation.

Table 3 reports a positive and significant coefficient of board size, consistent with Jensen's (1993) findings on the advantage of smaller boards in terms of lower communication and coordination costs. Similarly to Lipton and Lorsch (1992), we suggest that smaller groups present better flexibility and cohesion, which increases their ability to constrain CEO entrenchment and avoid excessive compensation. Thus, hypothesis H1 is validated.

One stream of research maintains that a high number of directors could harm board monitoring, as CEOs gain more control of the firm in a context of divergent opinions (Bantel and Jackson 1989; Lipton and Lorsch 1992). Moreover, Jensen

**TABLE 3**  
CEO compensation regression results

	(1)		(2)		(3)	
	Coef.	p	Coef.	p	Coef.	p
bsize	0.039**	0.028	0.039**	0.023	0.040**	0.024
bmeeting	0.011*	0.066	0.010*	0.095	0.011*	0.09
bassiduity	-0.349	0.342	-0.375	0.298	-0.39	0.277
busydirec	0.267*	0.074	0.262*	0.079	0.264*	0.078
indcomp	0.299**	0.018	0.296**	0.018	0.300**	0.017
bmasculanity	-0.237	0.693	-0.232	0.695	-0.215	0.717
familydir	0.044	0.226	0.049	0.176	0.049	0.18
ceofamboard	-0.472*	0.096	-0.468*	0.095	-0.476*	0.091
mkv	0.000**	0.043	0.000**	0.035	0.000**	0.038
mtb	-0.031	0.558	-0.035	0.501	-0.032	0.549
stockreturn	0.258**	0.037	0.262**	0.043	0.271**	0.035
roe	0.834***	0.002				
proe			0.724***	0.007	0.789***	0.002
varroa	-1.562*	0.066	0.797	0.319		
varroe					0.377**	0.034
_cons	6.713***	0.000	6.726***	0.000	6.714***	0.000
Year effects	Included		Included		Included	
Industry effects	Included		Included		Included	
Number of observations	284		284		284	
Adjusted R-square	0.413		0.408		0.411	
p-value	0.000		0.000		0.000	
Schwartz BIC	648		651		649	

Ceocomp is defined as the natural logarithm of CEO compensation in thousands of euros. Bsize is the number of board directors. Bmeeting is the number of board meetings. Bassiduity is the percentage of directors assiduity in board meetings. Busydirec is a dummy variable that equals 1 if the majority of independent directors serve on more than three boards. Indcomp is the percentage of independent directors in the compensation committee. Bmasculanity is the percentage of male directors in the board. Familydir is the number of founding family members in the board. Ceofamboard is a dummy variable that takes 1 if the CEO is a member of the controlling family and zero otherwise. Mkv is the size of the firm measured by the total market capitalization in M€. Mtb is the market-to-Book ratio. Stockreturn is the stock return at fiscal year end. Roe is the return on equity of year t. Proe is the return on equity of year t-1. Varroa is the variation of return on asset between the begging and the end of the year. Varroe is the variation of return on equity between the begging and the end of the year. The superscript asterisks \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

(1993) suggests that boards in well-functioning firms should be relatively small and exhibit few conflicts.

We evidence a positive relation between the number of board meetings and CEO compensation. Hence, holding a greater number of board meetings does not constrain the propensity of managers to engage in “tunneling.” One possible explanation is that increasing the number of annual meetings induces shorter boardroom discussions, which tend to be consumed with routine tasks, reducing opportunities for directors to exercise important control over management.

Similarly to Field *et al.* (2013), we add a dummy variable that measures busy boards. The variable *Busydirec* equals 1 if the majority of independent directors serve on more than three boards. Table 3 provides evidence of a positive relation between board busyness and CEO compensation, which validated our hypothesis H3. This result is consistent with a prior study of large publicly traded US firms, showing that busy directors set excessively high levels of CEO compensation (Core, Holthausen, and Larcker, 1999). We suggest that firms with busy boards are associated with weak corporate governance (Fich and Shivdasani 2006).

We find a positive relationship between CEO pay and compensation committee independence (*indcomp*: coeff.=0.299,  $p < 0.05$ ). Our result is consistent with those of Broye and Moulin (2010), Guthrie *et al.* (2012), and Pathan and Faff (2013). The latter suggest that independent directors in listed firms are chosen more for regulatory compliance purposes than for their monitoring role. This result can also be considered consistent with Ozkan's (2011) findings, which suggest that independent directors do not perform a disciplinary function in public companies. However, this result is in part contrary to that of Mishra and Nielsen (2000), who show that independent directors provide compatible compensation incentives to managers. Finally, our results support Guthrie *et al.*'s (2012) critique of Chhaochharia and Grinstein (2009) regarding sample bias and model specification weakness. Similarly to Guthrie *et al.* (2012), we cast serious doubts on the effectiveness of independent compensation committee directors in constraining CEO pay.

We find no evidence that board assiduity reduces CEO compensation. Thus, H2—CEO compensation is negatively correlated with the frequency and assiduity of board meetings—is not validated.

**TABLE 4**  
CEO compensation regression results: alternative variables

	(1)		(2)		(3)	
	Coef.	p	Coef.	p	Coef.	p
bsize	0.043**	0.034	0.044**	0.032	0.044**	0.032
bmeeting	0.011**	0.043	0.011**	0.043	0.011**	0.042
bassiduity	-0.399	0.255	-0.398	0.252	-0.417	0.228
busydirec	0.264*	0.076	0.267*	0.074	0.262*	0.078
indcomp	0.304**	0.015	0.303**	0.014	0.304**	0.015
bmasculanity	-0.141	0.824	-0.179	0.774	-0.133	0.834
familydir	0.037	0.342	0.036	0.338	0.040	0.293
ceofamboard	-0.470*	0.099	-0.479*	0.096	-0.480*	0.100
mkv	0.000**	0.043	0.000**	0.042	0.000**	0.042
mtb	-0.033	0.590	-0.020	0.747	-0.037	0.557
stockreturn	0.189	0.133	0.194	0.120	0.198	0.117
roe						
proe						
varroa	1.203	0.163			-1.228	0.123
varroe			0.222	0.261		
directsec	-0.018	0.575	-0.019	0.565	-0.018	0.590
dspecialisation	0.000	0.930	0.000	0.911	0.000	0.950
proa	2.342**	0.027	2.054**	0.026		
roa					2.499**	0.032
_cons	6.730***	0.000	6.754***	0.000	6.746***	0.000
Year effects	Included		Included		Included	
Industry effects	Included		Included		Included	
Number of observations	284		284		284	
Adjusted R-square	0.408		0.407		0.409	
p-value	0.000		0.000		0.000	
Schwartz BIC	660		661		660	

Ceocomp is defined as the natural logarithm of CEO compensation in thousands of euros. Bsize is the number of board directors. Bmeeting is the number of board meetings. Bassiduity is the percentage of directors assiduity in board meetings. Busydirec is a dummy variable that equals 1 if the majority of independent directors serve on more than three boards. Indcomp is the percentage of independent directors in the compensation committee. Bmasculanity is the percentage of male directors in the board. Familydir is the number of founding family members in the board. Ceofamboard is a dummy variable that takes 1 if the CEO is a member of the controlling family and zero otherwise. Mkv is the size of the firm measured by the total market capitalization in M€. Mtb is the market-to-Book ratio. Stockreturn is the stock return at fiscal year end. Roe is the return on equity of year t. Proe is the return on equity of year t-1. Varroa is the variation of return on asset between the begging and the end of the year. Varroe is the variation of return on equity between the begging and the end of the year. The superscript asterisks \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).



With regard to the family CEO effect, our results are similar to Cheung *et al.* (2005) findings evidencing that family control is likely to reduce agency problems between managers and shareholders. The negative coefficient of *ceofamboard* (coeff.= -0.472,  $p < 0.1$ ) show that total annual CEO pay decreases when the CEO is a member of the founding family. These results are consistent with the manager alignment hypothesis. For instance, when the CEO is a member of the controlling family, he or she is likely to own (directly or indirectly) more stocks and their interests become more closely aligned with shareholders' interests (Goldberg and Idson 1995; Huang *et al.* 2007). For this reason, there is less risk of expropriation and less need for higher compensation in the case of family control.

In 2011, France voted in a law requiring listed firms exceeding certain thresholds to appoint women to their boards (at least 20% of the board should be composed of women starting 2014). However, we find no evidence of a positive impact on corporate monitoring ability.

Finally, similarly to prior studies we find significant impact of economic variables on CEO compensation: performance (Chhaochharia and Grinstein 2009; Guthrie *et al.* 2012) and firm size (Hwei Cheng *et al.* 2013). Table 3 reports a positive and significant relation between CEO compensation and (1) present financial performance (*roe*: coeff.=0.834,  $p < 0.01$ ), (2)

stock return (*stockreturn*: coeff.=0.258,  $p < 0.05$ ), (3) previous financial performance (*proe*: coeff.=0.724,  $p < 0.01$ ) and (4) firm size (*mkv*: coeff.=0.000,  $p < 0.01$ ). Our results also show a positive and significant relation between CEO compensation and ROE variation (*varroe*: coeff.= 0.377,  $p < 0.05$ ).

#### ROBUSTNESS TESTS

As performance is one of the key determinants of CEO compensation, we use alternative variables to proxy present and past performance, and replace *roe* and *proe* (financial performance) with *roa* and *proa* (measures of operational performance). Table 4 presents the regression results. Our results are qualitatively similar to those reported earlier.

#### ADDITIONAL TESTS

Our dependent variable of interest is CEO compensation. We use the total compensation, which includes base salary, bonuses, options, restricted stocks, and other compensation.

The separation between ownership and control (Berle and Means 1932) in widely held firms is at the origin of the principal-agent conflict (Jensen and Meckling 1976). Self-interested managers may not act in the best interests of shareholders. However, several mechanisms incite them to perform their tasks according to shareholders' interests, for instance proposing an appropriate

**TABLE 5**  
CEO variable compensation regression results

	(1)		(2)		(3)	
	Coef.	p	Coef.	p	Coef.	p
bsize	0.160**	0.013	0.162**	0.011	0.163**	0.011
bmeeting	0.013	0.561	0.01	0.662	0.01	0.643
bassiduity	-0.876	0.61	-0.971	0.563	-1.014	0.546
busydirec	0.451	0.308	0.436	0.319	0.445	0.311
indcomp	1.142**	0.027	1.131**	0.028	1.142**	0.027
bmasculanity	0.289	0.891	0.358	0.862	0.373	0.857
familydir	0.078	0.654	0.101	0.567	0.097	0.581
ceofamboard	-2.264**	0.018	-2.246**	0.018	-2.286**	0.017
mkv	0	0.593	0	0.518	0	0.546
mtb	0.113	0.503	0.082	0.64	0.106	0.554
stockreturn	0.072	0.877	0.105	0.816	0.134	0.769
roe	3.172***	0.004				
proe			2.963***	0.005	3.100***	0.008
varroa	-5.177	0.142	4.186	0.205		
varroe					1.5	0.114
_cons	2.004	0.446	2.004	0.441	1.991	0.442
Year effects	Included		Included		Included	
Industry effects	Included		Included		Included	
Number of observations	284		284		284	
Adjusted R-square	0.281		0.279		0.281	
p-value	0.000		0.000		0.000	
Schwartz BIC	1367		1368		1367	

Ceocomp is defined as the natural logarithm of CEO compensation in thousands of euros. Bsize is the number of board directors. Bmeeting is the number of board meetings. Bassiduity is the percentage of directors assiduity in board meetings. Busydirec is a dummy variable that equals 1 if the majority of independent directors serve on more than three boards. Indcomp is the percentage of independent directors in the compensation committee. Bmasculanity is the percentage of male directors in the board. Familydir is the number of founding family members in the board. Ceofamboard is a dummy variable that takes 1 if the CEO is a member of the controlling family and zero otherwise. MkV is the size of the firm measured by the total market capitalization in M€. Mtb is the market-to-Book ratio. Stockreturn is the stock return at fiscal year end. Roe is the return on equity of year t. Proe is the return on equity of year t-1. Varroa is the variation of return on asset between the begging and the end of the year. Varroe is the variation of return on equity between the begging and the end of the year. The superscript asterisks \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

incentive scheme that aligns their interests with those of the shareholders. Most listed firms use performance pay systems for their CEOs, such as cash bonuses, long-term incentive plan payments based on targets, stock option grants, and common stock grants. These are intended to motivate them to work harder, increase their attachment to and identification with the interests of the firm, and thus increase corporate performance. Consequently, from a theoretical point of view the pay–performance relationship should be positive. First, as documented previously, we include in our model many variables to control for firm performance. Second, to examine the impact of board attributes on the pay–performance relation in greater depth, we focus in this section on the variable part of CEO compensation as fixed compensation is not likely to change significantly from one year to another. We replicate our tests using the variable component of CEO compensation as the dependent variable. Table 5 reports the regression results.

Our results show a positive relation between CEO variable compensation and (1) board size, (2) compensation committee independence, and (3) performance, consistent with our findings in Table 3. Our results confirm prior findings concerning the existence of a positive relation between CEO variable compensation and present and past firm performance (Guthrie *et al.* 2012). Table 5 presents a positive but not significant coefficient for the variables board meetings and busy directors. Our results show

that firm size has no impact on CEO variable compensation, suggesting that firm size determines CEO fixed compensation. Finally, Table 5 reports a negative and significant relation between CEO variable compensation and family CEO membership, similar to our prior results on CEO total compensation. These findings are consistent with the family monitoring hypothesis, suggesting that founding family CEOs do not harm shareholders' interest but protect them (Ali *et al.* 2007; Ben Ali and Lesage 2014).

Because the separation between the functions of the board chairman and the CEO could influence the amount of total executive compensation, we include the compensation of the nonexecutive chairman when the chairman is a person different from the CEO. Our variable *executivecomp* is defined as the sum of CEO compensation and chairman compensation ( $executivecomp = ceocomp + board\ chairman\ compensation$ ). Table 6 presents the regression results.

Our results are qualitatively similar to those reported earlier. We find that total executive compensation is positively associated with board size, board meetings, busy directors, and compensation committee independence, consistent with our findings in Table 3. Also, as documented previously, a family CEO negatively influences executive compensation. Finally, with regard to control variables, we find similar results to prior research.

**TABLE 6**  
Total chairman and CEO compensation regression results

	(1)		(2)		(3)	
	Coef.	p	Coef.	p	Coef.	p
bsize	0.037**	0,036	0.037**	0,031	0.038**	0,031
bmeeting	0.013**	0,022	0.012**	0,034	0.012**	0,032
bassiduity	-0,183	0,642	-0,209	0,588	-0,230	0,547
busydirec	0.292*	0,057	0.287*	0,061	0.288*	0,060
indcomp	0.312**	0,015	0.309**	0,015	0.314**	0,014
bmasculanity	-0,224	0,711	-0,214	0,720	-0,186	0,756
familydir	0,046	0,170	0,052	0,127	0,052	0,130
ceofamboard	-0.540*	0,066	-0.536*	0,065	-0.544*	0,063
mkv	0.000**	0,047	0.000**	0,038	0.000**	0,041
mtb	-0,022	0,672	-0,027	0,589	-0,026	0,620
stockreturn	0,196	0,111	0,203	0,117	0.214*	0,092
roe	0.856***	0,004				
proe			0.763***	0,007	0.857***	0,002
varroa	-1.701*	0,068	0,757	0,364		
varroe					0.435**	0,014
_cons	6.600***	0,000	6.609***	0,000	6.590***	0,000
	-0,827		-0,814		-0,812	
Year effects	Included		Included		Included	
Industry effects	Included		Included		Included	
Number of observations	284		284		284	
Adjusted R-square	0,404		0,401		0,405	
p-value	0,000		0,000		0,000	
Schwartz BIC	663		665		663	

Ceocomp is defined as the natural logarithm of CEO compensation in thousands of euros. Bsize is the number of board directors. Bmeeting is the number of board meetings. Bassiduity is the percentage of directors assiduity in board meetings. Busydirec is a dummy variable that equals 1 if the majority of independent directors serve on more than three boards. Indcomp is the percentage of independent directors in the compensation committee. Bmasculanity is the percentage of male directors in the board. Familydir is the number of founding family members in the board. Ceofamboard is a dummy variable that takes 1 if the CEO is a member of the controlling family and zero otherwise. Mkv is the size of the firm measured by the total market capitalization in M€. Mtb is the market-to-Book ratio. Stockreturn is the stock return at fiscal year end. Roe is the return on equity of year t. Proe is the return on equity of year t-1. Varroa is the variation of return on asset between the begging and the end of the year. Varroe is the variation of return on equity between the begging and the end of the year. The superscript asterisks \*\*\*, \*\*, and \* denote statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed tests).

## Discussion

When considering the managerial power hypothesis, Bebchuk and Fried (2003) consider that managers in low corporate governance firms are likely to extract rents, such as excessive compensation. Guthrie *et al.* (2012) suggest that one implication of agency theory is that making boards more effective is key to improving corporate governance. We assume that the implementation of corporate governance mechanisms is able to alleviate the level of CEO compensation and examine many board attributes that influence board effectiveness.

Since the seminal work of Jensen (1993), which holds that problems with corporate internal control systems start with the board of directors, many studies examine the impact of board characteristics on firm valuation and performance, and more recently CEO compensation (Chhaochharia and Grinstein 2009; Guthrie *et al.* 2012; Broye and Moulin 2010). However, to the best of our knowledge, this issue remains poorly studied in France, apart from the study by Broye and Moulin (2010). One explanation for this dearth of research is the lack of databases on French CEO pay. Nonetheless, France provides an interesting context. First, ownership of French listed firms is concentrated (La Porta *et al.* 1999) and family-controlled firms are prevalent (La Porta *et al.* 1999; Ben Ali and Lesage 2013). Thus, dominant shareholders are likely to collude with the management and influence decisions for their own interests, and expropriate wealth from minority shareholders. Second, France is characterized by poor investor protection compared to common law countries (La Porta *et al.* 1999). Shleifer and Vishny (1997) have documented that pressure from many corporate governance mechanisms is limited in France; for instance, class actions are very recent (2013). Consequently, this situation allows “tunneling” through excessive executive compensation.

Compared to Broye and Moulin (2010), our findings are more robust for a number of reasons. First, their study examined only one year (2005) while our study spans the years 2009 to 2011. We examine CEO pay after the financial crisis (2008–2009) in relation to corporate governance mechanisms. Thus, our study responds to public concerns about excessive CEO compensation in the recessionary business climate that followed the global crisis. Our study also involves a higher number of observations: 284 compared to 130. Second, our analysis focuses on many corporate governance mechanisms that were not examined by Broye and Moulin (2010): board meetings, board assiduity, busy directors, compensation committee independence, and female representation. Moreover, Broye and Moulin (2010) focus on the existence of a CEO compensation committee, a variable that is irrelevant nowadays; 93.1% of the firms from our sample, for example, have a compensation committee. Finally, very few independent variables are significant in Broye and Moulin's (2010) study; for instance, their performance variables present no significant coefficients in most regressions.

Given the results in Tables 3, 4, 5, and 6, we find, consistent with the alignment hypothesis, lower CEO pay levels when a firm is managed by a founding family CEO. We suggest that shareholders are better protected as a consequence of lower manager–shareholder agency problems (Ali *et al.* 2007). Our results also show that the coefficient of board size is significantly positive in relation to CEO total compensation, consistent with prior research (Jensen 1993). We assume that small-sized boards improve their efficiency.

In addition, similar to prior studies, our findings confirm the negative effects of busy directors due to their lax monitoring (Core *et al.* 1999; Fich and Shivdasani 2006). We find a significant positive relationship between the level of total CEO compensation (and total executive compensation) and the proportion of busy directors. However, we find no evidence of a positive impact on CEO variable compensation.

In terms of compensation committee independence and CEO compensation, we find surprising results. All our models report a positive and significant relation between CEO compensation (either variable or total) and the proportion of independent directors on the compensation committee. This result is consistent with Guthrie *et al.*'s (2012) findings in the US context. The authors find that the requirement for compensation committee independence increases CEOs' total pay, particularly in the presence of effective shareholder monitoring. Broye and Moulin (2010) also find a positive relation between CEO compensation and the existence of a compensation committee. Thus, they consider its presence to be a consequence of mimetic behavior among top firms. Hence, following these prior studies, we are skeptical about the effectiveness of independent directors in constraining CEO pay. Finally, we show no significant relation for board assiduity and board diversity.

Our results show that new AFEP-MEDEF recommendations and new legal requirements with regard to board governance mechanisms (for instance directors' independence and board diversity) are of limited efficacy in improving the monitoring role of the board, and consequently constraining CEO compensation. Some questions remain unanswered: Do directors perform a real monitoring role? As most directors operate in the same labor market as CEOs and are themselves often CEOs in other firms or are in the same social network (for instance the same business school), they face reputational issue repercussions that could affect their own career when firing a firm's CEO, even when his or her performance is disappointing (Kramartz and Thesmar 2007). How many directors are ready to take this risk?

## Conclusion

This study explores the board of directors as a corporate governance mechanism that could mitigate manager opportunism and reduce CEO compensation. CEO compensation and pay for performance are recurrent topics of concern for shareholders, as well as in media debates, because the level of remuneration and its structure provide a good signal of how the value created by a company is distributed among stakeholders. Our focus on boards is explained by the fact that these bodies are ultimately responsible for setting up compensation committees, and thereby for influencing CEO compensation by determining the degree to which a compensation committee is well informed and in possession of the appropriate negotiating skills (Chhaochharia and Grinstein 2009). Also, the monitoring role of boards in public corporations has become a central issue in both the financial and academic literature. Several corporate scandals have drawn attention to the need for new compensation rules to reduce conflicts of interest arising from the separation of ownership and control in modern corporations (Ozkan 2011).

This analysis is important in evaluating the effectiveness of enforcing director attributes in monitoring CEOs. This study aims to provide additional empirical evidence on the relationship

between CEO compensation and board characteristics using a sample of 98 French non-financial companies from the SBF 120 index over the 2009–2011 period. We find that board size positively affects CEO compensation. These findings are consistent with Jensen's (1993) and Yermack's (1996) results, which suggest that as the board of directors grows in size, directors face more conflicts of opinions, in turn rendering board control less efficient and giving CEOs the opportunity to take total control of the firm. As family firms are predominant in France, we examine the impact of family directors and family CEOs. Family firms face lower type I problems and higher type II problems compared to widely held firms. Our objective is to examine the sensitivity of CEO compensation to agency problems in family firms. Our results show that when the CEO is a member of the controlling family, CEO compensation is reduced. Our explanation is that the decrease in type I agency problems exceeds the increase in type II problems. Finally, our results suggest that compensation committee independence drives up salaries, even after controlling for firm performance, similar to Guthrie *et al.*'s (2012) findings in the US context. Hence, we cast serious doubt on the benefit of independent directors (Guthrie *et al.* 2012).

Our analysis offers two main lessons in terms of policy prescriptions. First, as our results show that a higher proportion of independent directors results in higher CEO compensation after controlling for corporate performance, we suggest that the new recommendation issued by AFEP-MEDEF for the establishment of an independent compensation committee fails to constrain CEO compensation and thus protect shareholders' interests. We agree with Pochet and Yeo (2004) that certain committees simply fulfil the formal function of complying with institutional requirements and so engage in mimetic behavior of top firms (mostly international companies) rather than actually serving as a management monitoring mechanism. The second lesson is that there is a need to establish new countervailing powers to compensate for the failure of boards to constrain excessive manager compensation. Jensen (1993) points out that board culture could be at the origin of board failure. However, board culture will not change simply in response to calls from policymakers, the media or academics. Instead, it must be part of a broader awareness of the fact that past practices have resulted in major failures, and substantive changes are needed in the rules and practices governing the system.

Finally, the governance code published by AFEP-MEDEF in June 2013 introduced a new measure of voting on CEO remuneration by shareholders in general meetings starting in 2014. Cai and Walkling (2011) demonstrate that giving shareholders a vote on executive compensation benefits firms with an inefficient compensation design and weaker corporate governance. However, although the "say-on-pay" vote is one of the principal points of leverage by means of which investors can encourage the emergence of a sustainable economy, Krause, Whitler, and Semadeni (2014) stress that this is underdeveloped and that most shareholder voting studies approach the problem from a more phenomenological—rather than theoretical—perspective. As our period spans 2009–2011, we could not include this in our study. Given the importance of this measure, we intend to consider it in future research.

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