

INVESTOR PROTECTION AND CEO COMPENSATION IN FAMILY FIRMS

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Abstract

This paper investigates the relationship between investor protection and CEO pay in family-controlled corporations. Using a panel of 986 firm-year observations from 11 EU countries, we show that the lower the investor protection, the higher the compensation of the CEO. The sensitivity of pay to the institutional context is higher for a family CEO than a professional CEO, a result that corroborates the hypothesis that CEO compensation contracts in family firms are influenced by familiar connections. Overall, these results are more consistent with the hypothesis of rent extraction than with the perspective of optimal remuneration contracts.

Keywords: Corporate Governance, Agency Theory, CEO Compensation, Family Firms, Investor Protection
JEL Classification: G32, G34, G38

1. INTRODUCTION

Family firms are the most widespread form of business organizations (La Porta et al., 1999), running a significant part of the economy in non-Anglo-Saxon countries such as Continental Europe (Faccio and Lang, 2002, Barca and Becht, 2001) and Asia (Claessens et al., 2000), but also in the U.S. (Neubauer and Lank, 1998, Anderson and Reeb, 2003, Gomez-Mejia et al., 2003). From an international perspective, the behavior of family firms may be exposed to the influence of the institutional context. In fact, the ultimate aim that inspires family firm decisions is the result of contrasting forces and values (Corbetta and Salvato, 2004), where the stewardship orientation of family members (Davis et al., 1997), the emotional value attached to the firm (Gomez-Mejia et al., 2007), and the desire to preserve the firm as an asset to pass on to the heirs (Casson, 1999, James, 1999a) are opposed to the opportunity for the family to extract private benefits through the expropriation of minority shareholders (Morck and Yeung, 2003). The level of investor protection of a country might affect this equilibrium, insofar as it could mitigate expropriation of minority investors' wealth by the controlling family (Pindado et al., 2014), so that the ultimate aims of the family may be contingent upon the institutional environment.

Financial studies offer empirical evidence showing that family ownership might be associated with a premium or a discount on firm value and performance, depending on the level of investor protection of the country where the firm operates (Maury, 2006). However, although recent studies urge to consider the effects of the context in which firms are embedded on executive incentives and firm governance (Aguilera et al., 2008, Filatotchev and Allcock, 2010), little evidence exists on the relationship between the institutional context and family firm compensation practices.

In this paper we contribute to fill this gap by performing a cross-country analysis of the relationship between the level of investor protection and CEO pay policies, with a special focus on family firms. We also pay attention to heterogeneity - an inspirational theme that has a prominent role within family business research (Salvato and Aldrich, 2012, Voordeckers et al., 2014, Sharma, 2002) - through the analysis of the different exposure of family CEOs and professional CEOs pay packages to the institutional context.

Results show that the lower the level of investor protection, the higher the total, cash-based, and equity-based CEO compensation. This relationship is confirmed also for family-owned firms, although the sensitivity to investor protection is higher for the family CEO than for the professional CEO. We argue that these results are more consistent with the hypothesis of rent extraction than with optimal remuneration contracts.

To the best of our knowledge, this is the first study that analyzes the relationship between the institutional context and CEO pay in family firms. Although previous research has explored CEO compensation across different countries (see Boyd et al. (2012) for a comprehensive review on the topic), specific evidence for family firms has yet to be found. Through the lens of optimal contracting and opportunistic theories, our study allows for a more nuanced understanding of family firm CEO remuneration policies and also provides new empirical evidence on CEO pay of family-controlled corporations in Continental Europe.

This research also contributes to the literature on CEO compensation practices by exploring CEO pay on a sample of countries characterized by the same cultural milieu (Gomez-Mejia et al., 2010) and by a significant variation in the level of investor protection. This approach allows the removal of differences in pay practices due to cultural norms

that might characterize different economic areas, i.e. Anglo-Saxon countries vs. Continental Europe (Fernandes et al., 2013), thus highlighting the effect of the level of investor protection.

The remainder of the paper is structured as follows. Section 2 discusses the literature and formulates the hypotheses. Section 3 describes the sample and methodology. Section 4 presents the results of the empirical tests. Section 5 discusses the results and conclusions.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Investor protection and CEO pay

Law and finance literature postulates that protection of shareholders and creditors by the institutional environment is essential to explaining cross-country patterns of economic development. Higher investor protection is associated with higher income per capita and higher numbers of listed securities (La Porta et al., 2013), more valuable stock markets and more developed financial intermediaries (La Porta et al., 1997, Levine et al., 2000), as well as more efficient resource allocation (Morck et al., 2000b).

Moreover, shareholder protection has a number of implications for the ownership structure of a firm. First, weak investor protection is usually associated with concentrated equity ownership of corporations (La Porta et al., 2000). Second, marginal cost of equity financing is higher in countries with weak investor protection (Himmelberg et al., 2000).

The level of investor protection and the degree of its enforcement can also affect firm performance and growth by decreasing information asymmetries, and by making it easier to raise external capital (Demirgüç Kunt and Maksimovic, 1998). For instance, Dittmar et al. (2003) show that corporations heavily rely on cash in countries with weak investor protection; similarly, Giannetti (2003) shows that institutions that favor creditor rights and ensure stricter enforcement are characterized by higher leverage and higher availability of long-term debt.

More recently, scholars have started to expand the analysis of the legal environment in which firms operate to the design of compensation contracts (Boyd et al., 2012). Under this view, an important source of heterogeneity among legal environments, namely the level of shareholder protection and the degree of their enforcement, can significantly affect corporate contracting decisions and the shape of CEO compensation contracts as well.

With regard to the amount of total compensation granted to the CEO, some scholars argue that a positive relationship arises with the level of investor protection. Under an *optimal contracting perspective*, Albuquerque and Miao (2013) present a model in which, on the premise that better external governance is associated with better internal governance (Klapper and Love, 2004), the level of CEO pay is positively related to the level of investor protection, inasmuch as a better institutional context makes it more profitable for shareholders to grant higher formal pay to the CEO as a substitute for CEO's extraction of private benefits. Contrarily, Brenner and Schwalbach (2009), under an *opportunism perspective*, assume that when

setting compensation packages, directors are exposed to the CEO's power (Bebchuk and Fried, 2003, Eriksson, 2005) as well as to a variety of other incentives to please the CEO (Shivdasani and Yermack, 1999). As a result, the less likely it is that directors can be held legally liable, due to lower investor protection, the more likely it becomes for the management to achieve "too generous" pay schemes. On a sample of firms from 27 countries, they find empirical confirmation to this hypothesis.

The relative amount of incentive-based pay is another aspect of CEO compensation contracts that is exposed to the influence of the institutional context. Zheng et al. (2016) propose a model where, similarly to Albuquerque and Miao (2013), in order to compensate the CEO for shrinking in the consumption of managerial private benefits, additional pay should be granted under the form of incentive compensation, and a positive correlation between the level of investor protection and pay-performance sensitivity in CEO pay arises. Bryan et al. (2010) and Bryan et al. (2011) assume that companies use more equity-based executive pay in countries with high level of investor protection and strict law enforcement, due to the fact that countries with strong legal environments have informationally efficient stock prices (Morck et al., 2000b), which in turn increase effectiveness of equity-based compensation. In a study of four Continental European and four Anglo-American countries, Joubert and Fakhfakh (2012) find a positive association between the strength of investor protection and the relative use of incentive compensations. Similarly, Fahlenbrach (2008) analyzes a sample of large U.S. public companies and detects that firms operating in countries with weak investor protection have lower CEO pay-for-performance sensitivity, and extract excess total compensation from the company. The aforementioned research suggests that the use of equity-based compensation schemes is positively related to the strength of investor protection.

On the contrary, Hüttenbrink et al. (2014) advocate a negative relationship between investor protection and stock-based incentives, on the premise that in countries with weak legal environments, pay-for-performance contracts are a substitute for the low level of investor protection.

The analysis of the extant literature on the topic then reveals that both theoretical predictions and empirical evidence reach contradictory results. As suggested by Boyd et al. (2012) in a review of international executive compensation studies over the last two decades, more cross-country research on the impact of institutional environments on executive compensation practices is necessary. On this premise, we study the relationship between the level of investor protection and CEO pay on a sample of 11 Continental European countries over 1998-2010, with a particular focus on family firms, the prevalent form of corporate ownership in Continental Europe.

2.2. Agency relationship in family firms

Within the classical agency-theory approach, CEO incentive compensation is conceived as a remedy to the conflict of interests between shareholders and managers, often referred to as *Agency Problem I*

(Villalonga and Amit, 2006). This agency problem arises from the separation of ownership and control that is typical of widely held firms, where the ownership of a small fraction of cash flows discourages each individual shareholder from monitoring management actions (the free riding problem), leaving managers free to pursue their own interests, eventually to the detriment of the firm's value and shareholder interests (Berle and Means, 1932). In an optimal contracting perspective, executive pay might help to reduce the agency costs arising from the relationship between the CEO and shareholders, through a compensation contract that links CEO pay to the market value of the firm (Jensen and Meckling, 1976).

In family firms, the concentration of ownership in the hands of the family mitigates the *Agency Problem I*, due to either the lack of separation of ownership and control in firms managed by family members (Ang et al., 2000, Fama and Jensen, 1983, Jensen and Meckling, 1976), or the greater incentives for the family to monitor the CEO when the family firm is run by a "professional" CEO (Burkart et al., 1997, Anderson and Reeb, 2003, Shleifer and Vishny, 1986). Nonetheless, other agency costs may arise in family firms (Chrisman et al., 2004), such as altruism and self-control problems due to the combination of ownership and owner-management (Lubatkin et al., 2005, Schulze et al., 2003), which appear in the form of perquisites and privileges granted to family members that they would not otherwise receive (Gersick et al., 1997, Ward, 1987). Moreover, when the family retains a number of shares that assures the control of the firm, and the residual ownership is dispersed amongst several small shareholders, the family has the opportunity to use its controlling position to extract private benefits at the expense of the small shareholders (*Agency Problem II*), especially when the family exercises control without owning a large fraction of the cash flow rights through the use of control-enhancing devices (Claessens et al., 2000, La Porta et al., 1999, Morck et al., 2005, Morck and Yeung, 2003)¹². Examples of private benefit diversion include the payment of special dividends, excessive compensations scheme, and related-party transactions (DeAngelo and DeAngelo, 2000, Anderson and Reeb, 2004).

However, alongside the agency costs, the family nature of ownership is also associated with several characteristics that potentially benefit the value of the firm. First, as noted above, families are in an extraordinary position to influence and monitor management. This effect is reinforced if monitoring requires knowledge of the firm's technology, provided that "families potentially provide superior oversight because their lengthy tenure permits them to move further along the firm's learning curve" (Anderson and Reeb, 2003). Second, family owners largely relate their own reputation to the economic success of their firms (Corbetta and Salvato, 2004, Davis et al., 1997, Dyer and Whetten, 2006) and

conceive the firm as an asset to pass on to their heirs (Casson, 1999, James, 1999a), thus supporting the view of families as long-term investors committed to the success of the firm they invest in. Third, political connections centered on the family members' relationships might be beneficial to the value of the firm, especially in countries with a high level of corruption (Faccio, 2006).

Contrasting forces then compete within family firms, and the overall efficiency of family ownership depends on how these forces combine, i.e. whether the family pursues the maximization of its own wealth through maximization of the value of the firm or, conversely, the family indulges in parental altruism and expropriation of minority shareholders, so that "family ownership is no longer value-maximizing but rather utility-maximizing for founding families" (Bertrand and Schoar, 2006, pg. 74).

2.3. CEO compensation in family firms

The degree to which the family's needs and desiderata might be effectively satisfied depends on the actions actually implemented by the CEO, who retains the formal power to make decisions within the firm. As a consequence, being one of the more powerful instruments in the hands of the family for addressing CEO actions, the compensation policy cannot be conceived independently from the ultimate aims of the family.

In an ideal setting, where no contrasting objectives among the different groups of shareholders exist, both the family and minority shareholders agree to grant efficient CEO pay, and compensation is set at a level that does not exceed the minimum amount the CEO is willing to accept. In terms of incentives to be provided to the CEO of family firms, despite attenuated owner-manager conflicts, a certain amount of incentives is still granted to the CEO, in order to contrast agency costs related to altruism and self-control problems typical of family ownership (Michiels et al., 2013, Schulze et al., 2001).

On the other hand, when the family pursues the maximization of its own utility and indulges in the extraction of private benefits, the CEO's compensation contract might be shaped accordingly. In cases where the CEO is a member of the family, higher CEO compensation might be a direct form of extraction of private benefits (Dyck and Zingales, 2004, Johnson et al., 2000, Morck and Yeung, 2003). If the CEO is not a member of the family, he/she would find it profitable to collude with the family in the extraction of private benefits (Barontini and Bozzi, 2011, Burkart et al., 2003, DeAngelo and DeAngelo, 2000, Miller et al., 2010), and a more generous pay package would be the reward for acting in the interest of the family. As a result, the CEO's compensation contract departs from the standards of the optimal contracting perspective, and is shaped in order to better accommodate the CEO's preferences, i.e. higher total compensation and lower performance-related pay.

¹² The expropriation of wealth from other shareholders can take several forms, such as resources diverted from the firm to other firms where the ownership of the family is more concentrated, company properties confiscated by controlling families for their personal use, personal political careers for family members supported by company's resources, as well as higher compensation for family members hired by the company (Morck et al., 2000a).

2.4. Investor protection and CEO compensation in family firms

Within the scheme described above, the exposure of CEO compensation to the influence of the institutional context is affected by the ultimate aim of the family.

In fact, if the extraction of private benefits from the firm is not the primary aim, the family is in the best possible position to negotiate the most efficient compensation contract with the CEO, in light of either its large-block ownership or owner-management (Lubatkin et al., 2007). Differently from widely held firms, in which the increasing monitoring exerted by active investors might mitigate the free rider problem engendered by atomized shareholders and improve the efficiency of contracts (Almazan et al., 2005, Hartzell and Starks, 2003), in efficiency-maximizing family firms the toughest disciplinary power of minority shareholders' scrutiny that comes with a better institutional context doesn't add much to the incentives of the family to negotiate an efficient contract with the CEO, and no significant relationship between the level of investor protection and the CEO pay package design is expected.

We summarize this argument in the following hypothesis:

Hypothesis 1a: Under an optimal contracting perspective, CEO compensation in family firms is insensitive to the level of investor protection.

On the contrary, if the family that controls the firm puts its overall utility as the primary objective, the family needs the cooperation of the CEO for the extraction of private benefits, and the compensation package is set to better accommodate the CEO's preferences, in favor of higher compensation than in the case of arm's length contracting.

The level of investor protection thus affects CEO compensation in two ways.

First, because in a context with better investor protection, the family would be less inclined to expropriate minority shareholders (La Porta et al., 2002), and the need to be "generous" with the CEO would be lowered.

Second, because in contexts with better investor protection, the potential costs to the family for granting excessive compensation to the CEO would be higher. Similar to the outrage reaction of shareholders towards the powerful CEO that grants himself an overly generous compensation package (Bebchuk and Fried, 2003) - both minority shareholders and the market as a whole might react to excessive CEO compensation by imposing indirect costs to the family. Examples of these costs are: the legal fees the family must pay when sued by minority shareholders; the lower stock price at which the stock would trade if higher CEO pay is perceived by the market as a signal of the self-interest of the controlling family (Cohen and Lauterbach, 2008); and the loss in the market value of the family's stock following an eventual "against" issued by a proxy advisor due to the sub-optimal CEO compensation package (Ertimur et al., 2013).

The probability that the family would incur these costs, and the total amount of these costs, is strictly related to the quality of shareholders' protection and financial market transparency (La Porta et al., 2000, La Porta et al., 2002). It follows

that, *ceteris paribus*, in the presence of a better institutional context, the family would be less inclined to accommodate the CEO's requests for higher pay than in contexts characterized by lower investor protection. We summarize these arguments in the following hypothesis:

Hypothesis 1b: Under an opportunism perspective, CEO compensation in family firms is negatively related to the level of investor protection.

2.5. Family CEO, Professional CEO and investor protection

While exploring CEO compensation in family-controlled firms, a common distinction is made with regard to the CEO family status, namely whether the CEO is a member of the family (family CEO) or not (professional CEO). In fact, family and professional CEOs have very different characteristics that significantly affect total compensation, as well as the amount of incentive-based pay to be provided to the CEO.

A manager with family ties enjoys higher employment security than a professional CEO, both because of the fulfillment of family obligations (Gomez-Mejia et al., 2001) and because the family would likely be more complaisant in evaluating his/her performance (Schulze et al., 2001). Higher job security is therefore counterbalanced by a lower level of pay. Moreover, family CEOs have, on average, inferior ability than professional management (Morck et al., 2000a) and, due to family ties, are unlikely to leave the firm for greater pay elsewhere (Gomez-Mejia et al., 2003). These conditions make it unnecessary to pay family CEOs market rates for their services, which is not the case with professional CEOs.

A lower level of compensation is then expected for the family CEO than for the professional CEO (Gomez-Mejia et al., 2003). Empirical analyses support this hypothesis (Gomez-Mejia et al., 2003, McConaughy, 2000, Croci et al., 2012), although some studies have found contradicting evidence (Cohen and Lauterbach, 2008).

In terms of the CEO compensation structure, a characteristic of the family manager is the long-term perspective, a natural outgrowth of family membership (Bertrand and Schoar, 2006). As a consequence, granting long-term incentives is expected to have limited benefits when the recipient is a family CEO (Gomez-Mejia et al., 2003), while increasing the potentially negative effects related to the increased executive power and entrenchment of the family manager (Schulze et al., 2001, Pereira and Esperança, 2008). It follows that, all other things equal, the optimal amount of long-term and stock-based incentives for a family CEO is lower than for a CEO with no familiar connections. Moreover, the large amount of the firm's stock in the portfolio of the controlling family implies that the family CEO directly bears the effects of his/her actions in terms of family wealth (Chrisman et al., 2004). These circumstances make the optimal level of equity-based compensation for a family CEO significantly lower than for a professional CEO.

Following the arguments summarized above and previous empirical evidence, we expect that the compensation package for a family CEO is

characterized by lower total and equity-based compensation than for a professional CEO.

In light of the substantial differences between family and professional CEOs, the analysis of the relationship between the institutional context and CEO pay in family firms must also be refined.

As highlighted in the previous section, in an optimal contracting perspective the CEO's compensation package would be unaffected by the institutional context, and the differences between family and professional CEO pay packages would also be insensitive to the level of investor protection. However, when the family aims at extracting private benefits, the emotional relationship amongst family members plays a crucial role with regards to the exposure of the CEO pay contract to the influence of investor protection. In fact, the collectivist culture amongst family members is at the base of bonding social relationships among family members, especially as they meet the economic and social needs of one another, and promote an organizational climate in which personal goals are subordinate to the goals of the collective (Corbetta and Salvato, 2004, James, 1999b). A family CEO responds more than a professional CEO to familial norms of trust, loyalty and altruism, thus showing a greater willingness to adapt his/her own compensation package to the family's needs. As a result, in the presence of better investor protection, a family CEO is more inclined than a professional CEO to curb his/her own compensation, either in terms of total or equity-based pay, in order to attenuate the indirect costs for the family of minority investors' outrage reaction in the presence of "too generous" CEO pay. Likewise, the reciprocity in altruism among family members ensures that when investor protection is low and there are more opportunities to reward the CEO with an extra-rent for allowing family's extraction of private benefits a family CEO's pay increases more than in the case of a professional CEO, due to the greater benevolence of the family towards its-own members.

As a result, we expect that the institutional context plays a moderating role on the relationship between family and professional CEO pay. We summarize the arguments above in the following hypotheses:

Hypothesis 2a: Under an optimal contracting perspective, family and professional CEO pay-packages are insensitive to the level of investor protection.

Hypothesis 2b: Under an opportunism perspective, family CEO pay packages are more sensitive to the level of investor protection than professional CEO pay packages.

3. VARIABLES, METHODOLOGY AND SAMPLE

3.1. Variables

The sample consists of Continental European non-financial (SIC 6000-6999) and non-regulated (SIC 4900-4999) corporations, with 986 firm-year observations from 1998 to 2010. We selected relatively large companies, with assets worth more

than €300 million¹³, from 11 countries (Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden and Switzerland). Family firms made up 40% of our final sample.

Variables used in the empirical analysis are described as follows (details provided in Table 1):

CEO compensation. Different definitions are taken into consideration, such as total, cash-based and equity-based compensation. Data on CEO pay was collected from BoardEx and, when unavailable, we gathered data from the financial statements on the website of the firms included in the sample.

Family Ownership. In order to evaluate how family control affects CEO pay, we estimated family ownership, tracing the identity of the ultimate largest shareholder according to the standard methodology developed by La Porta et al. (1999) and Claessens et al. (2000). As in Faccio and Lang (2002), we started by using 10% as the cut off point for the existence of a control chain (a listed company with no shareholder owning more than 10% is considered widely held). However, we imposed two additional requirements to assess the influence of "strong" family control: a) either the family controls more than 51% of direct voting rights, or it controls more than twice the voting rights of the second largest shareholder; b) according to Astrachan and Shanker (2003), at least one member of the firm has to sit on the Board of Directors¹⁴. Hence, *Family Firms* is a dummy variable that takes the value 1 if the characteristics described above are satisfied, and 0 otherwise.

For family firms, we assess whether the CEO is a family member (*Family CEO*) or not (*Professional CEO*).

Investor protection. Cross-country differences related to the level of investor protection are detected using the Anti-director Rights Index (*ADR Index*) as a proxy for the legal environment and governance characteristics¹⁵.

This index, originally proposed by La Porta et al. (1998), is a composition of three proxies for shareholder voting and three for minority protection. With the aim of improving its accuracy, Spamann (2010) refined the process for collecting and organizing the data, obtaining a more objective and reliable version of the index¹⁶. This refined

13 Companies included in the sample are selected at the beginning of the period (1998) according to the size of the assets. The same list of companies is left unaltered over the entire period (1998-2010), except for delisted firms, which have been removed from the sample at the year of delisting.

14 In fact, since the sample is restricted to listed companies, the presence on the Board is the better approximation for the "family participation in the business" suggested by Astrachan and Shanker (2003).

15 Over a hundred published papers have used this index in corporate governance empirical studies, in very different fields of research (Roe, 2006, Pinkowitz et al., 2006, Nenova, 2003, Durnev and Kim, 2005).

16 As quoted from Spamann (2010), the method at the base of the revised version of the ADR Index differs from that of La Porta et al. (1998) in three specific, interrelated respects, all of which aim to produce the most reliable measurement possible. First, the raw legal data derive directly from primary materials analyzed with the help of local lawyers. By contrast, La Porta et al. (1998) did not involve lawyers in the data collection process and obtained the data mostly from secondary sources such as Price Waterhouse's Doing Business reports for various. Second, Spamann (2010) documents these data with references compliant with standards of legal scholarship. In contrast,

version of the ADR Index was thus employed in our regressions as a proxy for the level of investor protection.

Control Variables. In our analysis, we considered a set of variables that previous studies had found to be determinants of CEO pay, such as: ownership concentration (Firth et al., 2007); firm size (Djankov et al., 2008, Rosen, 1982); stock market and ROA (Gabaix and Landier, 2008, Abowd and Kaplan, 1999, Core et al., 1999); firm risk (Cyert et al., 2002, Smith and Watts, 1992); CEO duality (Core et al., 1999); the number of years the CEO has been appointed and the one-tier or two-tier structure of the Board.

Accounting returns, as well as other accounting information, were obtained from Worldscope, while market returns were collected from Datastream.

Table 1 summarizes the list of variables used in the empirical analysis.

Table 1. Definition of Variables

Description	Variable	Type of Variable
CEO Base compensation	BaseComp	Log of Salary+Bonus+Other annual benefits
CEO Equity compensation	EquityComp	Log of the value of Stock and Options Grants at the grant date
CEO Total compensation	TotalComp	Log of the sum of Base and Equity CEO Compensation
Index of investor protection	ADRI	Ranges from 1 to 6 as investor protection increases
A family is the ultimate owner of the firm (see the definition in the text)	Family firms	Dummy (1; 0)
The firm is widely held or is controlled by a widely held firm	Nonfamily firms	Dummy (1; 0)
The CEO belongs to the family	FamilyCEO	Dummy (1; 0)
The CEO of a family firm doesn't belong to the family	ProfessionalCEO	Dummy (1; 0)
Ownership concentration	Ownership	Stake of cash flow rights held by the ultimate shareholder
Firm Size	FirmSize	Log of Total Assets
Stock Performance	Return	Annual stock market returns
Accounting Performance	ROA	Returns on Assets
Firm Risk	StandardDev	Standard deviation of stock returns
CEO duality	Duality	Dummy (1; 0)
Two-tier Board structure	Two-tier	Dummy (1; 0)
CEO Tenure	Tenure	Number of years since the CEO was appointed
Year Dummies	Year t	Set of Dummies (1; 0)
Industry Dummies	Industry	Set of Dummies (1; 0)
Country Dummies	Country	Set of Dummies (1; 0)

La Porta et al. (1998) provide no public documentation of the law underlying the coding of the original ADRI. Finally, Spamann (2010) employed a detailed fifteen-page coding protocol, to ensure consistent coding of the raw data into numerical index values, while La Porta et al. (1998) provided only the index component definitions, which contain a fair number of ambiguities.

3.2. Methodology

To test the hypotheses described in Section 2, we regressed annual CEO compensation on family ownership variables and the level of investor protection, while controlling for industry and company characteristics. We estimated the following panel regression with mixed random and fixed effects:

$$\text{Comp}_i = \alpha + \beta \text{ CG Variables}_i + \gamma \text{ ControlVariables}_i + \delta \text{ FixedEffects}_i + \varepsilon \text{ RandomEffects}_i \quad (1)$$

where, *Comp* is total, cash and equity compensation respectively for firm *i* in year *t*;

CG Variables are corporate governance variables related to the firm *i* in year *t-1* (i.e. different family firm dummies and ADR Index);

ControlVariables are the groups of variables for firm *i* in year *t-1* described above. *Fixed Effects* included year and industry dummy variables. For industry effects, we used 12 dummy variables based on the Campbell (1996) classification;

Random Effects captured the correlation between error terms within each country.

Specific tests on CEO compensation in family firms were based on the interaction between family ownership characteristics (*Family firms*, *Family* or *Professional CEO*) and the level of investor protection (*ADR Index*).

3.3. Sample characteristics

Table 2 summarizes the main characteristics of the firms included in the sample.

In terms of CEO pay, the mean (median) total CEO compensation for the sample as a whole was €2.8 (1.4) million, with a cash-based component equal to €1.8 (1.0) million and a lower equity-based component (€1.0 million on average). The sub-sample of family firms shows a slightly higher, although not significant, total compensation than nonfamily firms, with a higher cash-based component and a lower average amount of equity-based pay. As the analysis will later clarify, this is mainly due to nonfamily CEOs (in family firms), whose total compensation is, on average, higher than that of CEOs in nonfamily firms.

On average, family firms are smaller than nonfamily firms, with a slightly lower risk, as measured by standard deviation of stock returns computed over the previous 256 days. However, no significant differences were detected in terms of accounting and market performance (ROA and stock returns, respectively). The correlation matrix is reported in the Appendix.

Table 2. Sample characteristics

	Total Sample (N=986)		Family Firms (N=390)		Nonfamily Firms (N=596)		Test Family vs NonFamily	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
CEO Pay								
BaseComp (€ ,000)	1'796	1'088	2'007	1'088	1'659	1'090	*	
EquityComp (€ ,000)	1'040	-	952	-	1'097	-		*
TotalComp (€ ,000)	2'835	1'366	2'973	1'448	2'745	1'328		
Firms' Characteristics								
FirmSize (€ million)	19'094	7'039	14'565	4'641	22'058	8'832	***	***
ROA	0.066	0.601	0.063	0.592	0.068	0.606		
Return	0.146	0.137	0.139	0.135	0.150	0.137		
StandardDev	0.328	0.318	0.319	0.301	0.333	0.324	*	*

Note: Statistical significance: * = $p < .10$; ** = $p < .05$; *** = $p < .01$

4. RESULTS

Tables 3 and 4 summarize the results for multivariate analysis along different model specifications. In each table, dependent variables are CEO total compensation (*TotalComp*), cash compensation (*BaseComp*) and equity-based compensation (*EquityComp*), respectively. The determinants of these variables were analyzed firstly through a "basic" regression (columns from (1) to (3)), and then with the inclusion into the regression of interaction terms for the level of investor protection (columns from (4) to (6)).

In all regressions we use a set of control variables that previous studies have found to be significant determinants of CEO pay. As expected,

ownership concentration has a negative and statistically significant relationship with executive pay in all specifications. The size of the firm (*FirmSize*) is positively related to the amount paid to the CEO, as well as the firm's accounting performance, ROA. Other significant determinants are the number of years the CEO has been appointed (*Tenure*) and, to a lesser extent, the two-tier structure of the Board (*Two-tier*).

4.1. CEO pay and Investor protection in Family vs. Nonfamily firms

Table 3 assesses the impact of investor protection on CEO pay by distinguishing between family and nonfamily firms.

Table 3. Ownership, Investor Protection, and CEO compensation

Dependent variable	TotalComp		BaseComp		EquityComp		TotalComp		BaseComp		EquityComp	
	(1)		(2)		(3)		(4)		(5)		(6)	
Intercept (non family)	0.7874	***	1.7952	***	-6.6605	***	0.7535	**	1.7679	***	-6.8098	***
	(2.67)		(10.46)		(-3.05)		(2.39)		(8.75)		(-3.25)	
Family firms	0.1146		0.1143		0.0029		0.0526		-0.0647		-0.2644	
	(0.99)		(1.43)		(0.01)		(0.37)		(0.53)		(-0.77)	
ADRI	-0.7410	***	-0.6162	**	-0.9212	**						
	(-3.01)		(-2.54)		(-2.25)							
ADRI*Nonfamily Firms							-0.6959	**	-0.5801	**	-0.7378	
							(-2.51)		(-2.08)		(-1.16)	
ADRI*Family Firms							-0.8311	***	-0.6886	***	-1.3095	***
							(-2.92)		(-2.91)		(-3.08)	
Ownership	-0.0063	***	-0.0030	*	-0.0227	***	-0.0063	***	-0.0030	*	-0.0226	***
	(-3.22)		(-1.84)		(-2.77)		(-3.09)		(-1.74)		(-2.75)	
FirmSize	0.3851	***	0.3116	***	0.5167	***	0.3870	***	0.3131	***	0.5248	***
	(12.84)		(18.08)		(3.40)		(12.92)		(18.66)		(3.57)	
ROA	1.8825	***	1.0103	**	7.2476	***	1.8718	***	1.0009	**	7.2175	***
	(5.99)		(2.38)		(3.24)		(5.99)		(2.33)		(3.25)	
Return	0.0517		-0.0331		-0.2078		0.0508		-0.0340		-0.2090	
	(0.84)		(-0.52)		(-0.71)		(0.82)		(-0.53)		(-0.70)	
StandardDev	-0.0681		0.1331		-0.8931		-0.0537		0.1451		-0.8367	
	(-0.12)		(0.29)		(-0.56)		(-0.09)		(0.31)		(-0.51)	
Duality	-0.0073		0.0839		-0.5799		-0.0058		0.0849		-0.5685	
	(-0.04)		(0.45)		(-1.01)		(-0.03)		(0.45)		(-0.99)	
Two-tier	-0.0347		-0.0588		0.4218	***	-0.0341		-0.0591		0.4389	***
	(-0.67)		(-1.17)		(5.85)		(-0.62)		(-1.12)		(6.07)	
Tenure	0.0265	***	0.0226	***	0.0431		0.0262	***	0.0223	***	0.0417	
	(2.93)		(2.80)		(1.02)		(2.93)		(2.76)		(1.04)	
Difference in slope ADRI*Family Firms vs ADRI*WH Firms							-0.1352		-0.1086		-0.5717	
							(-0.58)		(-0.60)		(-0.67)	
Pseudo R ²	41.40%		37.98%		25.48%		41.34%		37.85%		25.63%	
n	986		986		986		986		986		986	

Note: * = $p < .10$; ** = $p < .05$; *** = $p < .01$

The intercept of regression is the coefficient for nonfamily firms. Within the first specification (columns from (1) to (3)), the non-significant coefficients on *Family firms* suggest that CEO compensation in family firms is not different from that of nonfamily firms. These results differ from

those obtained by Croci et al. (2012), who find a significant lower total CEO compensation for family firms, due to a lower level of both cash-based and equity-based compensation. The difference is probably due to the different period covered (1998-2010 vs. 2001-2008), the number of countries

included (11 vs. 14 countries) and the different sample selection¹⁷.

Moving on to evaluating the influence of institutional context on CEO compensation, the coefficient on *ADR Index* is always negative and highly significant (columns from (1) to (3) in Table 3) suggesting that higher investor protection is associated with lower cash-based, equity-based and total CEO pay. These results are in contrast with the optimal contracting hypothesis of a positive association between investor protection and both total CEO pay (Albuquerque and Miao, 2013) and performance-based pay (Zheng et al., 2016, Bryan et al., 2010, Bryan et al., 2011, Joubert and Fakhfakh, 2012); instead, they support the view that in the presence of high level of investor protection, the corporate board strives to design the best possible CEO compensation contracts, due to the threat of being held liable for not acting dutifully on behalf of their shareholders (Brenner and Schwalbach, 2009). Therefore, the evidence that “generous pay” CEO contracts are observed in countries with weak institutional environments corroborates the opportunism perspective.

In order to assess whether the effect of the legal environment on CEO pay differs between family and nonfamily firms, we interact the dummies for the firm’s ownership with *ADR index*. The coefficients on *ADRI*Nonfamily Firms* (columns from (4) to (6) in Table 3) are all negative, although only significant for total and cash-based compensation, as evidence of the fact that in contexts characterized by lower investor protection the increase in total pay is mainly driven by cash-based compensation. This result suggests that the opportunism hypothesis is supported in nonfamily firms, as within a more favorable context the CEO extracts higher pay.

With regard to family firms, the opportunism hypothesis predicts that investor protection would be negatively related to CEO pay. In table 3 (columns from (4) to (6)), the coefficients on *ADRI*Family Firms* are all negative and significant. This result thus corroborates *Hypothesis 1b*, insofar as family firms grant higher pay to their CEOs in contexts with lower investor protection. Results also suggest that in order to get higher total compensation, a CEO may be willing to accept an even higher amount of equity-based compensation – despite the increase in sensitivity to the firm’s performance carried by the grant of stock and stock options – as a necessary stratagem to overcome possible outrage reaction from shareholders. As suggested by Bebchuk and Fried (2003, pg. 13), over a certain amount, additional cash-based compensation easily generates an outrage reaction from shareholders, while the grant of equity-based pay provides more defensible reasons in light of the possible benefits from improved incentives, other than being more easily camouflaged. Results in Table 3 are consistent with this interpretation: in countries with low investor protection, CEOs enjoy consistently higher cash-based pay than in countries with higher investor protection, and the concurring higher equity-based pay might be conceived as an additional form of rent

extraction, instead of a means aimed at increasing pay-performance sensitivity.

4.2. CEO pay and Investor protection within Family firms: family CEO vs. professional CEO

We further analyze the impact of investor protection on CEO pay in family firms by distinguishing between a family CEO and a professional CEO.

First, we assess whether significant differences between family and professional CEO pay exist. In Table 4, the intercept of regression is the coefficient for nonfamily firms. Within the first specification, coefficients on *Professional CEO* (columns from (1) to (3) of Table 4) indicate that professional CEOs of family firms receive higher total and cash-based compensation than CEOs of nonfamily firms, with non-different equity-based compensation. To our best knowledge, this is the first empirical confirmation to the theoretical prediction developed by Chrisman et al. (2013) that professional CEOs in family firms request higher total compensation than CEOs of nonfamily firms, as a premium for the specific risks and costs associated with family firms that they must face, such as bounded rationality problems associated with family-centered noneconomic goals and the family handcuff due to the difficulty to transfer to other contexts the idiosyncratic knowledge obtained working in family firms.

Coefficients on *Family CEO* in columns from (1) to (3) indicate that non-significant differences in pay packages are detected between family CEOs and CEOs of nonfamily firms, except for a slightly lower level of equity-based pay granted to family CEOs. Family CEOs have instead a significantly lower total, cash and equity-based compensation than professional CEOs (as highlighted by the negative and highly significant difference between coefficients on *Family CEO* and *Professional CEO* at the bottom of Table 4), thus confirming the structural differences in compensation packages between the CEO types in family firms (i.e. Gomez-Mejia et al., 2003, McConaughy, 2000).

In light of these differences, we investigate the moderating effect of investor protection on CEO pay for the different types of CEOs. In Table 4 – specifications from (4) to (6) – the three interaction terms measure the sensitivity of CEO pay to the *ADR Index*, with regard to the CEO of nonfamily firms, to the professional CEO, and to the family CEO in family firms, respectively. The coefficients are all negative and significant (except for the equity-based pay coefficient on nonfamily firms), thus revealing that lower CEO pay is associated with higher levels of investor protection, whatever the nature of the CEO. However, some relevant differences arise with regard to the magnitude of coefficients: the sensitivity of family CEO total and cash-based pay to the institutional context is about twice that of a professional CEO, and about three times the ones measured on equity-based pay. As reported at the bottom of Table 4, these differences are all statistically significant. The differences are even higher when the sensitivity of family CEO pay to investor protection is compared to the CEO of nonfamily firms.

17 As explained in Section 3.1, we selected relatively large corporations, with assets worth more than €300 million., while Croci et al. (2012) also consider smaller firms.

Table 4. Family nature of the CEO, Investor Protection, and CEO compensation

Dependent variable	TotalComp (1)		BaseComp (2)		EquityComp (3)		TotalComp (4)		BaseComp (5)		EquityComp (6)	
Intercept (non family)	0.9524	***	1.9160	***	-6.1866	***	0.9625	***	1.9252	***	-6.1727	***
	(3.23)		(9.50)		(-2.85)		(3.13)		(9.25)		(-3.01)	
Professional CEO	0.2344	**	0.2023	***	0.3452		0.1992	**	0.1767	**	0.2024	
	(2.39)		(3.43)		(1.35)		(2.25)		(2.09)		(0.91)	
Family CEO	-0.0737		-0.0238		-0.5447	*	-0.5479	**	-0.4070	***	-2.1492	**
	(-0.58)		(-0.25)		(-1.75)		(-2.40)		(-2.83)		(-1.97)	
ADRI	-0.7426	***	-0.6177	**	-0.9306	**						
	(-2.95)		(-2.50)		(-2.29)							
ADRI*Nonfamily firm							-0.6413	**	-0.5380	*	-0.5917	
							(-2.14)		(-1.76)		(-0.92)	
ADRI*Professional CEO							-0.7799	***	-0.6440	**	-1.0877	**
							(-2.63)		(-2.50)		(-2.54)	
ADRI*Family CEO							-1.4074	***	-1.1563	***	-3.1842	**
							(-3.09)		(-3.87)		(-2.24)	
Ownership	-0.0059	***	-0.0027	*	-0.0215	***	-0.0055	**	-0.0024		-0.0204	***
	(-2.77)		(-1.73)		(-3.02)		(-2.48)		(-1.43)		(-2.69)	
FirmSize	0.3762	***	0.3050	***	0.4908	***	0.3767	***	0.3053	***	0.4940	***
	(13.41)		(18.11)		(3.34)		(13.32)		(18.62)		(3.44)	
ROA	1.8572	***	0.9914	**	7.1837	***	1.7443	***	0.8987	*	6.8295	***
	(5.94)		(2.20)		(3.33)		(5.21)		(1.89)		(3.17)	
Return	0.0555		-0.0304		-0.1949		0.0582		-0.0286		-0.1785	
	(0.95)		(-0.47)		(-0.66)		(0.99)		(-0.44)		(-0.60)	
StandardDev	-0.0393		0.1546		-0.8137		-0.0660		0.1329		-0.9140	
	(-0.07)		(0.35)		(-0.54)		(-0.12)		(0.31)		(-0.61)	
Duality	0.0152		0.1003		-0.5115		-0.0067		0.0818		-0.5740	
	(-0.07)		(0.35)		(-0.54)		(-0.12)		(0.31)		(-0.61)	
Two-tier	-0.0895		-0.0996	*	0.2776	***	-0.1219	**	-0.1274	**	0.2018	
	(0.95)		(-1.69)		(3.25)		(-2.21)		(-2.44)		(1.63)	
Tenure	0.0264	***	0.0225	***	0.0430		0.0261	***	0.0223	**	0.0421	
	(2.67)		(2.58)		(1.01)		(2.58)		(2.46)		(1.05)	
Difference Family CEO vs. Prof. CEO	-0.3081	***	-0.2261	***	-0.8899	***	-0.7470	***	-0.5837	***	-2.3516	***
	(-4.09)		(-3.13)		(-3.92)		(-3.30)		(-3.93)		(-2.22)	
Difference in slope ADRI*Professional CEO vs ADRI*WH Firms							-0.1387		-0.1060		-0.4960	
							(-0.80)		(-0.68)		(-0.79)	
Difference in slope ADRI*Family CEO vs ADRI*WH Firms							-0.7661	**	-0.6184	***	-2.5925	
							(-2.36)		(-3.23)		(-1.57)	
Difference in slope ADRI*Family CEO vs ADRI*Professional CEO							-0.6274	**	-0.5123	**	-2.0965	*
							(-2.00)		(-2.44)		(-1.66)	
Pseudo R2	41.82%		38.23%		25.93%		42.05%		38.35%		26.61%	
n	986		986		986		986		986		986	

Note: Statistical significance: * = $p < .10$; ** = $p < .05$; *** = $p < .01$

These results then corroborate the opportunism perspective presented in *Hypothesis 2b*. The higher sensitivity to the level of investor protection of the family CEO suggests that when the constraints related to the institutional context are lessened, the family has a more generous attitude towards the CEO if he/she is a family member rather than an externally-hired CEO. This interpretation finds further support from the circumstance that the highest difference in sensitivity to the level of investor protection is detected for the equity-based pay, a component of the compensation package whose incentive power has a lower effectiveness on the owner-manager rather than on the professional CEO.

Overall, the results reported above suggests that the process of setting a family CEO's pay is affected more by the emotional relationship amongst family members than by the aim of minimizing agency costs.

5. CONCLUSIONS

This study investigates the relationship between the level of investor protection and CEO compensation, with a particular focus on family firms.

Using a sample of companies across 11 Continental European countries, our empirical analysis documents that a higher level of investor

protection is associated with lower total, cash-based and equity-based pay in family firms. Similar results are found with regard to nonfamily firms, except for the non-significant sensitivity of equity-based pay to the institutional context.

This finding stands in contrast with an optimal contracting perspective, which suggest that higher pay and higher incentives should be granted in better institutional contexts. However, different explanations of this relationship arise with regard to family and nonfamily firms, in light of the different agency relationships characterizing these two types of ownership.

In nonfamily firms, the main agency problem is the divergence of interests between shareholders and managers, and the negative relationship between CEO pay and the level of investor protection we detect is consistent with the managerial power perspective, insofar as in countries with weak institutional environments, the lower exposure to shareholders' scrutiny makes it easier for the rent-seeking CEO to exercise his power towards the board and to get a higher level of total compensation, mainly in the form of cash-based pay.

When the company is family-owned, conflicts between the CEO and the family are virtually absent, due to either the tight control exerted by the family on the externally-hired CEO, or the CEO also being the owner of the firm. Instead, the main agency

problem is related to the conflict of interests with minority shareholders that arises when the family aims at maximizing its own utility through the consumption of the private benefits of control. Within this framework, when investor protection is weak, the family has higher incentives to extract private benefits and faces lower outrage costs associated with the more generous pay to the CEO for his cooperation. Hence, the negative relationship between CEO pay and the level of investor protection we detect in family firms is consistent with the willingness of the family to recognize higher CEO pay in contexts that favor the extraction of private benefits for itself, namely when investor protection is low. The higher sensitivity to the level of investor protection that family CEO pay shows in comparison to professional CEO pay suggests that emotional relationships amongst family members contribute to the shaping of CEO pay contracts.

Overall, our analysis offers theoretical and empirical insights on the relationship between CEO pay and the level of investor protection in family firms, a topic substantially neglected in the current literature.

This study also has practical implications for regulators. By showing that the level of investor protection is related to the level of CEO pay, we provide relevant information about the effectiveness of the institutional context in mitigating CEO pay, a theme that over the last decade has captured notable attention from the public opinion, calling for a regulatory intervention that may curb the apparently unstoppable rise in CEO remuneration.

In response to this request, national regulators have intervened through a more stringent regulation in terms of disclosure on executive pay, even going as far as indicating the composition of fixed and variable pay in CEO pay packages, and by providing shareholders with the right to vote on the compensation policy proposed by the company in the general meeting ("Say-on-Pay"). However, the efficacy of these measures in curbing the level of CEO pay is controversial, as well as the side effects they have produced in terms of the distortion of incentives for CEOs (see for example: Ferrarini et al., 2010). Our results highlight that building a more "investor friendly" environment, where minority shareholders have the opportunity to better monitor management and protect their own interests from expropriation, is also an effective way to mitigate "overly generous" CEO compensation.

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Appendix A

Table 5. Correlation matrix

	Base Comp		Equity Comp		Total Comp		Family		Family CEO		Non- family CEO		ADRI		Owner- ship		Firm Size		ROA		Return		Standard Dev		Duality		Two- tier
<i>Equity Comp</i>	0.212	***																									
<i>Total Comp</i>	0.870	***	0.567	***																							
<i>Family</i>	-0.028		-0.051		-0.033																						
<i>Family CEO</i>	-0.154	***	-0.071	**	-0.148	***	0.579	***																			
<i>Non-family CEO</i>	0.112	***	0.001		0.098	***	0.637	***	-0.246	***																	
<i>ADRI</i>	-0.308	***	-0.148	***	-0.321	***	-0.175	***	-0.163	***	-0.058	*															
<i>Ownership</i>	-0.164	***	-0.124	***	-0.185	***	0.411	***	0.361	***	0.138	***	-0.154	***													
<i>Firm Size</i>	0.430	***	0.154	***	0.433	***	-0.175	***	-0.265	***	0.043		0.153	***	-0.273	***											
<i>ROA</i>	0.136	***	0.156	***	0.179	***	-0.038		-0.070	**	0.021		0.065	**	-0.003		0.116	***									
<i>Return</i>	-0.043		-0.018		-0.028		-0.003		0.017		-0.021		0.071	**	0.024		-0.006		0.109	***							
<i>Standard Dev</i>	-0.060	*	-0.091	***	-0.094	***	-0.082		-0.037		-0.062	*	-0.044		-0.060	*	-0.171	***	-0.214	***	-0.031						
<i>Duality</i>	-0.120	***	0.088	***	-0.078	**	-0.133	***	-0.005		-0.173	***	0.273	***	-0.120	***	0.079	**	0.067	**	0.116	***	-0.024				
<i>Two-tier</i>	0.066	**	0.028		0.033		-0.137	***	-0.102	***	-0.075	**	-0.268	***	0.007		-0.187	***	-0.114	***	-0.006		0.093	***	-0.090	***	
<i>Tenure</i>	0.118	***	0.111	***	0.136	***	0.212	***	0.169	***	0.084	***	-0.088	***	0.008		-0.100	***	0.035		0.005		-0.078	**	0.077	**	0.015

Note: * = 10%; ** = 5%; *** = 1%