

OWNERSHIP STRUCTURE, FAMILY CONTROL AND CEO COMPENSATION: EVIDENCE FROM CONTINENTAL EUROPE

ABSTRACT

We explore the impact on CEO pay of three characteristics that distinguish the ownership of European and US firms: the degree of ownership concentration; the nature (family or non family) of the ultimate owner of the firm; and the degree of wedge between cash flow and control rights related to the use of control-enhancing devices. We collected data on CEO compensation for 11 countries in Continental European firms over 1998-2002. The results show that compensation policy in European family firms is not inefficient compared to non-family firms. However, the different level of investor protection across European Countries plays a role, given that in countries where families have the opportunity to expropriate minority shareholders, the level of CEO compensation also tends to be larger compared to non-family firms. Our findings suggest that the characteristics of CEO compensation in family firms are contingent to the institutional setting of each country, which helps to reconcile the results found by previous country-specific studies on the topic. Our study recommends that policymakers consider strengthening the controls on CEO compensation in family firms, but only in those countries with poorer investor protection, considering that in other countries family ownership does not negatively impact on the efficiency of compensation policies.

Keywords: Corporate Governance; Agency Theory; CEO Compensation; Family Firms.

INTRODUCTION

Over the last two decades, an extraordinary number of papers have explored executive compensation within US and UK public companies, where the shares are dispersed among a large number of investors and ownership cannot be associated with a specific person or group of owners. Within these firms, the main agency problem consists of the diverging interests of the CEO and the shareholders. Under the principal-agent scheme of Jensen and Meckling (1976), executive pay could 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.

On the other hand, according to a more recent approach developed by Bebchuk and Fried (2003), the CEO may exercise his/her power over the board of directors in order to obtain a higher and less performance-related compensation. Thus, CEO pay would not only be a remedy to the agency problem, but could also be a means to expropriate shareholders.

Both perspectives rely on the premise that shareholders do not have the incentive or the power to monitor and address CEO actions, mainly due to information asymmetry and the free-riding problem arising from the very dispersed ownership typical of “Anglo-Saxon” public companies.

However, this ownership model is not representative of the governance structure of continental European firms, which are characterized by a highly concentrated ownership, very often in the hands of one family, and the extensive use of control-enhancing devices such as dual class shares and pyramidal groups.

This ownership structure makes the empirical evidence offered by studies based on US firms of little use for continental Europe. As argued by Bebchuk, Kraakman, and Triantis (2000) and Morck, Stangeland, and Yeung (2000), while the main agency problem in the

widely-held firm involves managers not acting in shareholders' interests, agency problems in highly concentrated companies and in family firms involve managers acting solely for one shareholder, i.e. the ultimate owner, and neglecting minority shareholders. We would then expect CEO pay in continental European firms to reflect these governance differences, both in terms of the aims and the characteristics of the compensation contract.

In our study, we explore the impact on CEO pay of three characteristics that generally distinguish the ownership of European and US firms, namely the degree of ownership concentration, the nature (family or non family) of the ultimate owner of the firm, and the degree of wedge between cash flow and control rights related to the use of control-enhancing devices, such as dual class shares and pyramidal control chains.

In addition, we test whether, in family-owned firms, CEO compensation is related to the presence of the founder within the board or to a Chief Executive Officer that belongs to the controlling family.

This paper contributes to the literature in several ways. To our knowledge, this is the first paper that provides empirical evidence on CEO compensation from a large sample of listed companies in continental Europe, focusing both on family characteristics and their ownership structure, i.e. the degree of ownership concentration and of the wedge between control and voting rights (only the seminal paper of Masulis, Wang, and Xie (2008) considers this issue for US firms).

This paper also discusses the effects that different institutional environments may exert on the executive compensation policies of European firms, in an attempt to reconcile the results obtained by previous studies on the impact of family ownership in different countries.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

The main objective of the paper is to study whether the governance characteristics that distinguish continental European companies over “Anglo-Saxon” companies impact on CEO pay.

On average, European and Anglo-Saxon companies differ with respect to three main characteristics: ownership concentration, the nature of controlling shareholders, and the extent to which the ultimate owners recur to control-enhancing devices.

La Porta, López de Silanes and Shleifer (1999) clearly depict a dichotomy between European and Anglo-Saxon countries in terms of the prevalent ownership model. The dominant model in the UK and US is that of the widely-held firm, i.e. ownership is dispersed among a very large number of investors who individually own a very limited fraction of the shares. Large firms barely deviate from one-share one-vote through shares with differential voting rights. Recourse to cross-shareholding and pyramids is virtually absent. As a result, even when a controlling shareholder is detected, the wedge between voting rights and cash flow rights is quite small and the problem of conflicting interests with minority shareholders is not of primary interest.

In contrast, the ownership of companies in Europe and in the rest of the world is highly concentrated, with a prevalence of firms controlled by one or a few shareholders, with only a limited prevalence of widely-held firms (Enriques and Volpin, 2007). Among corporations with a controlling shareholder, the ultimate owner is often a family, and to a lesser extent the State, although the number of State-owned firms has been decreasing over the years as a result of the wave of privatization across Europe.

In European countries quite often the main shareholder tightly controls the firm, even holding a limited share of cash flow rights, by using dual classes of shares, shareholding agreements, cross-ownership and pyramids (La Porta, *et al.*, 1999; Faccio and Lang, 2002; Morck and Yeung, 2003). However, the use of these control-enhancing devices is different

across countries, depending on the constraints imposed by the specific legal framework: for example, in Scandinavia, where shares with multiple voting rights are allowed, there is a major deviation from one-share one-vote (Angblad, Berglöf and Högfelt, 2001). In Germany, on the other hand, where such limitations are imposed, cross shareholdings are more common (Franks, Mayer, Volpin and Wagner, 2008). In other countries, such as Italy, the recent evolution in the legal and economic framework has led to some changes in the tools used to ensure stability of control, with a shift from the use of pyramids to coalitions of shareholders (Bianchi and Bianco, 2006).

A major consequence of the differences in the ownership structure of European and Anglo-Saxon companies is that the agency problems arising from the relationships between the various actors in the firm are also different.

As highlighted by the classical studies of Berle and Means (1932) and Jensen and Meckling (1976), in widely-held firms, 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. As a consequence, the main governance problem faced by US and UK companies is that of creating the incentives to realign the divergent objectives of managers and dispersed shareholders.

This problem is less relevant for companies across continental Europe (Barca and Becht, 2001; Faccio and Lang, 2002) and in the rest of the world (Claessens, Djankov and Lang, 2000). High ownership concentration implies that large shareholders have both the incentive to collect information and the power to monitor managers (Shleifer and Vishny, 1986). The undiversified nature of the controlling shareholder provides a great incentive to monitor managerial performance more effectively (Demsetz and Lehn, 1985), especially when the ultimate owner is a family and the founder or heirs are still present in the firm (Anderson and Reeb, 2003). However, while ownership concentration may reduce conflicts

between owners and managers, another agency problem arises between the controlling shareholder and minority shareholders, especially when the former exercises control without owning a large fraction of the cash flow rights, through the use of control-enhancing devices (Claessens, Djankov and Lang, 2000; La Porta *et al.*, 1999; Morck *et al.*, 2005).

The different nature of the agency problems faced by typical Anglo-Saxon widely-held companies, on the one hand, and European high concentrated companies, on the other, is likely to affect management compensation. In widely-held firms, the aim of executive pay is to re-align the divergent interests of shareholders and managers. The main problem is how to achieve this goal and whether existing contracts effectively address this issue or, on the contrary, are a means through which the CEO extracts excess compensation at the expense of the shareholders (Goergen and Renneboog, 2011).

With respect to typical European companies, the picture is somewhat different: the tight control of management actions exerted by the largest shareholder, often a family with the founder or heirs playing a role in managing the firm, reduce the need for management incentive pay. Thus, different questions arise, namely whether management actions are mainly based on the aims of the ultimate owner, and whether the CEO, often a member of the family, is rewarded with excess compensation for pursuing the interests of the controlling shareholder at the expense of minority shareholders.

We explore these issues by focusing on the impact exerted on CEO compensation by the three main characteristics that differentiate European and Anglo-Saxon companies described above, i.e. ownership concentration, the nature of the ultimate owner, and the wedge of cash-flows and control rights due to the use of control enhancing devices.

Ownership Concentration and CEO Compensation

First, we focus on ownership concentration. As highlighted by Dyl (1988), in closely-held corporations, major shareholders have a substantial financial incentive to monitor

management actions, and managers are restricted in the pursuit of their own interests at the expense of shareholders (Zattoni and Minichilli, 2009). In widely-held corporations, on the other hand, no individual shareholder is likely to have sufficient motivation to engage in such monitoring.

Claessens *et al.* (2002) posit that “the more concentrated cash-flow rights in the hands of the largest shareholder are, the stronger is that shareholder's incentive to have the firm run properly, because having the firm running properly would raise his wealth”. This argument also applies to CEO compensation. As pointed out by Bertrand and Mullainathan (2001), large shareholders exert strong control over CEO behavior, thus reducing the ability of the CEO to capture the pay process and to extract excessive compensation. Hartzell and Starks (2003) find that institutional investors' ownership concentration is negatively related to the level of compensation. Further support is provided for Germany, where a negative effect of concentrated ownership on the average annual salary of the management board has been detected (FitzRoy and Schwalbach, 1990), while bank influence and large ownership of stock by various groups are associated with lower executive pay (Elston and Goldberg, 2003). The same negative relationship between ownership concentration and the level of CEO pay is found by Mertens and Knop (2010) on a sample of Dutch firms, and by Sapp (2007) for Canadian firms.

Moving from the theoretical and empirical results reported above, we would expect that closer monitoring would reduce manager's rent-extraction of shareholder wealth, thus leading to lower management compensation.

We thus formulated the following:

Hypothesis 1: Higher ownership concentration is associated with lower CEO pay.

Family Ownership

Another characteristic of continental European companies is that the ultimate owner of the firm is often a family that exerts control with a limited ownership of cash flow rights, due to the use of control enhancing devices (Barca and Becht, 2001; Faccio and Lang, 2002; La Porta *et al.*, 1999).

The role of family ownership in corporate governance is a controversial issue. Previous research on the relationship between family ownership and a firm's value and performance has led to heterogeneous results. As summarized by Bertrand and Schoar (2006), two opposite views arise. On the one hand, the longevity and success of some prominent family firms support the idea that family firms are long-term investors committed to the success of the firm they invest in, because they want both to preserve the family's reputation (Corbetta and Salvato, 2004; Davis, Schoorman, and Donaldson, 1997; Dyer and Whetten, 2006) and to pass the firm to their heirs (Casson, 1999; James, 1999). On the other hand, an opposite view is that families mainly focus on the maximization of their own wealth, although it entails the extraction of private benefits of control at the expense of minority shareholders and also of the value of the firm. This latter perspective is also related to the circumstances that make the extraction of private benefits easier and more profitable, i.e. when the family gets the control of the firm with a limited quote of cash flows rights, and when the investor protection is weak (Bebchuk *et al.*, 2000; Claessens, Djankov, Fan and Lang, 2002; Gompers *et al.*, 2004; Lins, 2003; Morck, Wolfenzon and Yeung, 2005; Morck *et al.*, 2000).

It is not surprising, therefore, that the empirical evidence is inconclusive: several papers have established that family firms appear to underperform compared to nonfamily firms in most countries, for example, Claessens, Djankov, Fan and Lang (2002) for several southeast Asian countries; Morck, Strangeland and Yeung (2000) for Canada; and Cronqvist and Nilsson (2003) for Sweden. Instead, other papers have shown that family

firms provide superior performance, for example Anderson and Reeb, 2003; McConaughy *et al.*, 2001 for US firms. As regards continental European firms, Maury (2006) and Barontini and Caprio (2006) highlight that, although the large use of control-enhancing devices, family control is positively related to performance - however some different results have been detected within individual European countries.

Thus, the fundamental question regarding family firms is whether the family pursues the maximization of its own wealth through the maximization of the value of the firm or by expropriating minority shareholders through the consumption of the private benefits of control.

We believe that similar arguments apply to CEO compensation in family firms.

On the one hand, when the family expropriates minority shareholders, CEO compensation is also affected. In fact, it is widely recognized that in these circumstances, one of the private benefits extracted, other than the resources diverted by “tunneling” (Dyck and Zingales, 2004; Johnson *et al.*, 2000; Morck and Yeung, 2003), is excessive CEO compensation and highly remunerated jobs for the offspring. Schulze *et al.* (2001) highlight that relations between family members can be characterized by “altruism”, which appears in the form of benefits granted to family members that they would not otherwise receive, such as perquisites and privileges (Gersick *et al.* 1997; Ward 1987). Moreover, even if the CEO is not a member of the family, he/she would find it profitable to collude with the family in expropriating minority shareholders and to share the benefits extracted (Burkart *et al.*, 2003; DeAngelo and DeAngelo, 2000; Miller *et al.*, 2010). Thus, the compensation contract of the CEO departs from the standards of the optimal contracting perspective, and is shaped in order to better accomplish the CEO preferences in favour of a higher level of pay, mainly through less visible pay tools such as stock and options (Bebchuk *et al.*, 2002).

In this perspective, as the level of expropriation increases, the benefits for the CEO are also larger. At the extreme, the CEO of family firms gets a compensation package, which, compared to the CEO of non-family firms, is characterized by higher compensation both in the form of cash and equity-based pay.

On the other hand, when the focus of the family is on maximizing the value of the firm, the CEO pay contract is efficient, with a level that does not exceed the minimum amount which the CEO is willing to accept, and there is a reduced need for incentive pay, due to the more intense monitoring activity of the family. Hence, if the family does not try to expropriate minority shareholders, the CEO could be forced to get a lower level of pay in exchange for a more secure job and a lower pay-performance sensitivity. This argument may be in line with the papers that found a negative relationship between family ownership and the level of CEO pay and performance sensitivity (Gomez-Mejia *et al.*, 2003; Kvaal and Langli, 2011; McConaughy, 2000).

This framework helps to reconcile the empirical evidences arising from the few papers that explicitly analyze the relationship between family ownership and CEO compensation, by relating the characteristics of CEO compensation to the behavior of the family in terms of the expropriation of minority shareholders.

While formulating the hypotheses with respect to continental Europe, we relied on previous empirical evidence in terms of the impact that family ownership exerts on a firm's value. We thus expect that as family control in continental Europe usually goes together with a higher value and operating performance (Barontini and Caprio, 2006; Maury, 2006), it also addresses compensation contracts to a more efficient scheme, by avoiding excess CEO pay and by replacing monetary incentives with the direct control of managers' activities.

We summarize the previous discussion in the following hypothesis:

Hypothesis 2: In continental European family firms, the maximization of the value of the firm is a prevalent aim with respect to the extraction of private benefits at the expense of minority shareholders. We would thus expect CEO compensation in family firms not to be higher than in non-family-firms, with a lower incentive-based compensation.

As a corollary of *Hypothesis 2*, we expect that the exposure of CEO compensation to the other characteristics of family ownership, firstly ownership concentration and the wedge between voting and cash flow rights, is also related to the behavior of the family in terms of expropriation of minority shareholders. When the family is oriented to exploit private benefits, the sensitivity of CEO compensation to lower ownership concentration and higher wedge may be higher in family than in non-family firms, given the larger opportunities for family firms to gain from the exploitation of minority shareholders. In contrast, if the aim of the firm's value maximization is expected to prevail, as in *Hypothesis 2*, the family may overlook the exploitation of private benefits related to a more favorable ownership structure. As a consequence, we expect that CEO compensation in family firms is less related to the ownership structure than in non-family firms.

Hypothesis 2a: Compared to non-family firms, CEO compensation in continental European family firms is less related to ownership concentration and to the wedge between cash flow and control rights

Moreover, we are aware that across continental European countries there are notable differences in the degree of investor protection, a variable that may significantly affect the propensity of the families to extract private benefits at the expense of minority shareholders. Thus, we expect that in the contexts that favour the expropriation of minority shareholders, such as countries with less-developed financial markets and poorer quality of corporate

governance (Dyck and Zingales, 2004; La Porta *et al.*, 2000), the difference between family and non-family CEO compensation would be larger.

We thus formulate the following hypothesis:

Hypothesis 2b: CEO compensation in continental European family firms is higher in countries with poor investor protection.

Presence of the Founder

Previous studies have highlighted that family business founders play an important role in addressing the CEO's actions in terms of the family's needs or in maximizing the market value of the firm (Athanassiou *et al.*, 2002; Gersick *et al.* 1997). Villalonga and Amit (2004), Fahlenbrach (2007) and Adams *et al.* (2008), among others, have reported that founder-led firms perform better than other firms.

In contrast, previous research highlights that the family reverts to an inefficient type of ownership when the founder leaves control to his/her heirs (Morck, Stangeland and Yeung, 2000; Pérez-González, 2006; Villalonga and Amit, 2006).

In terms of compensation policies, Li and Srinivasan (2011) find that in the US, the presence of the founder is beneficial for the efficiency of the CEO compensation contract: CEO compensation in founder-director companies is lower and more sensitive to performance (PPS) than for CEOs in non-founder firms.

The direct involvement of the founder of the firm on the board of directors is thus expected to magnify the impact of the specific aims of the family on CEO compensation. According to the literature, we expect that in founder-family firms the maximization of the firm's value will prevail, thus lowering the amount of CEO pay. In descendent-family firms however, the aim of extracting private benefits may be more common, thus increasing the level of CEO pay.

We thus formulate the following hypothesis:

Hypothesis 2.c: Within continental European family firms, the presence of the founder is negatively related to the level of CEO compensation, while the presence of heirs is positively related to the level of CEO compensation.

In testing the hypotheses described above, we verify whether the CEO belongs to the family that owns the firm (family vs. non-family CEO), a circumstance that previous studies found to be significant in terms of the level of CEO pay, although the empirical evidence is mixed (Block, 2011; Chrisman *et al.*, 2007; Cohen and Lauterbach, 2008; Gomez-Mejia, Larrazakintana and Makri, 2003).

METHODS

Sample and Data Collection

We consider only non-financial (SIC 6000-6999) and non-regulated (SIC 4900-4999) corporations in continental Europe. We exclude Ireland and the UK because family control is less important in these countries than in continental Europe, as confirmed by Faccio and Lang (2002). We therefore select corporations from 11 countries (Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden and Switzerland). Given the amount of data needed, we focus on relatively large companies – with assets worth more than €300 million.

We divide the variables into three groups; i) CEO compensation, ii) ownership and iii) control variables. Data are collected for the period 1998-2010.

CEO compensation. Information on CEO compensation are collected from the financial statements available on the website of the firms included in the sample. For less recent years, if unavailable on the websites, we collected data from BoardEx, an extensive database that offers detailed information on executive compensation for a large number of countries. The sample includes 1358 firm-year observations from the period 1998-2010.

For each CEO we collected data on Base Compensation (*BaseComp*), which is the sum of the Salaries, Bonuses, Non-Monetary Benefits, and other annual cash payouts over the year. In addition, we estimated the value of the equity based compensation (*EquityComp*) at the date of the grant. This latter component includes the values of stock grants, stock options, and other stock-based compensation tools. The value of stock grants is equal to the number of stocks granted in a given year, multiplied by the market price of the stock at the date of the grant. The value of stock options is calculated using Black and Scholes' (1973) formula, applied to the specific characteristics of the options granted in a given year (exercise price; time to maturity; volatility, market price and dividend yield of the underlying stock; risk free rate at the date of the grant).

Total annual CEO compensation (*TotalComp*) is calculated as the sum of *Base Compensation* and the value of annual grants of the equity-based compensation, as in Core, Holthausen and Larcker (1999). In some papers, CEO total compensation also includes changes over the year in the market value of equity and options held by the CEO at the beginning of the year (Li and Srinivasan, 2011). However, we do not include this variable in our definition, given the particular ownership structure of European firms, often managed by family members with a substantial amount of stock owned. Most of the amount of stock in the portfolio of family CEOs is not related to the compensation policy of the firm, but is due to the amount of stock in the hands of the family since the foundation of the firm, and to the stock bought over the subsequent years both by the CEO and his/her family in order to maintain control. As a consequence, if we included the annual variation in the value of this portfolio of stock within the definition of annual total compensation, it would detect mainly the effect of the ownership structure of the firm, instead of its compensation policy.

Ownership Variables. The primary focus of the paper is the analysis of the impact exerted on CEO compensation by the ownership structure of the firm. The three ownership characteristics we refer to are: a) the degree of ownership concentration, b) the nature of the controlling shareholder, i.e. family or non-family owners; c) recourse to control-enhancing devices.

As a first step, we trace the identity of the ultimate largest shareholder and the size of its cash-flow and voting rights according to the standard methodology developed by La Porta *et al.* (1999), Claessens, Djankov and Lang (2000), Faccio and Lang (2002), and Claessens, Djankov, Fan and Lang (2002). We find the voting rights and the cash-flow rights held by the largest direct shareholders; then we trace the map of the ownership of the stakes, in order to identify the ultimate shareholders and their ownership of voting and cash-flow rights. We use 20% as the cut off point for the existence of a control chain (a listed company with no shareholder larger than 20% is considered widely held). Ultimate cash-flow rights (stated as the variable *OwnConcentration*) takes into account the ownership over the whole control chain, while ultimate voting rights are the voting rights held in the weakest link of the chain. In order to detect the separation between ownership and control that reflects the use of control-enhancing devices (dual-class shares and pyramid), we use the variable “wedge” (*Wedge*), namely the difference between the share of voting and cash-flow rights held by the ultimate owner.

The type of controlling owner is defined with respect to the nature of the ultimate shareholder. We adopt a dummy variable (*Family*) that takes the value 1 if the ultimate shareholder is an individual or a group of relatives, and 0 in all the other cases. Thus, a company is considered as being a family firm when the ultimate largest shareholder at the 20% cut-off is a family, and either the family controls more than 51% of direct voting rights,

or it controls more than twice as many direct voting rights as the second largest shareholder.

For family firms, we verify whether the founder is still alive and has a role on the board (*FamFounder*) or the family actively participated in the management of the firm through the heirs (*FamHeirs*), as well as whether the CEO belongs to the family (*FamilyCEO*) or not (*ProfessionalCEO*).

Control Variables. In our analysis, we control for a set of variables that previous studies found to be relevant for the level of CEO pay, such as firm size, performance, growth opportunities and complexity, risk, and the presence of stock-option plans. We also include a set of dummy variables for industry and year fixed effects.

With regard to firm size, Rosen (1982) predicts that larger firms require more talented and more costly management. Baker, *et al.* (1988) find that larger firms, in terms of net sales, pay their executives more, although Murphy (1999) shows that the explanatory power of firm sales declines over time. However, in more recent papers large firm size is clearly associated with higher CEO compensation (Gabaix and Landier, 2008). We would thus expect a positive association between firm size and the level of CEO compensation. As a proxy for firm size we use the Log of Total Asset (*FirmSize*).

Firm performance is expected to positively affect CEO compensation, as reported by Kaplan, (1994), Murphy (1985), and Core *et al.* (1999). As performance variables, we consider stock market returns (*Return*), and accounting Return on Assets (*ROA*), defined as the ratio between operating profit and total assets.

In addition, following Smith and Watts (1992), we would expect complexity of operations and growth opportunities to be positively related to the level of executive pay. As a proxy for these variables we adopt the log of Tobin's Q (*TobinsQ*):

$$TobinsQ = L \left(\frac{\text{Book value of total assets} - \text{Book value of shareholders' equity} + \text{Market value of shareholders' equity}}{\text{Book value of total assets}} \right)$$

In theory, the level of executive compensation may either increase or decrease according to firm risk (Banker and Datar, 1989). Cyert *et al.* (1997), in line with the standard agency theory, document positive associations between CEO compensation and firm risk. In contrast, Core, Holthausen and Larcker (1999) found that the level of CEO total compensation is negatively related to firm risk. As a firm risk measure, we adopted the standard deviation of monthly stock returns (*StandardDev*) computed over the previous three years.

When the CEO also holds the chairmanship, the board's ability to monitor management may be reduced, thus increasing agency costs (Core *et al.*, 1999; Jensen, 1993). We would then expect that, in line with previous studies (Cyert *et al.*, 2002), CEO compensation to be higher when the CEO also chairs the board. We therefore define the dummy variable *Dual* that takes the value of 1 if the CEO is also the chairman of the board. In addition, Yermack (1996) and other papers show that larger boards are less effective monitors. Thus, we expect a positive correlation between CEO compensation and *BoardSize* (the log size of the board).

We check for the participation of the CEO on committees through the dummy variable *Committee*, and for the variable *2ndShareholder* which captures the share ownership of the second largest shareholder, as well as the number of years since the CEO was appointed (*Tenure*).

We also control for the level of protection index associated with each country in the sample (*InvestorProtect*). This variable is of particular interest for the aims of the study, given that it may affect the ability of the controlling shareholder to extract private benefits through excess CEO compensation. We adopt the CESIFO index, a measure of investor protection

developed using the statistics provided by The World Bank, ranging from a minimum of 1 (low investor protection) to a maximum of 10 (high investor protection).

Since business cycle and industry unobservable characteristics could be related to executive pay, we used fixed effect specifications in panel data regression by including year and industry dummy variables. For industry effects, we used 12 dummy variables based on the Campbell (1996) classification.

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

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

Insert Table 1 about here

Empirical Tests. Given the objectives of the paper, we relate the level of annual CEO compensation to the ownership characteristics of the firm, with a particular focus on family ownership.

As a first step, we analyze the main determinants of the level of CEO compensation.

The methodology, which is well established in previous compensation literature, is based on the least-squares analysis of the following regression model:

$$TotalComp_{it} = \alpha + \bar{\beta} OwnershipVariables_{i,t} + \bar{\lambda} ControlVariables_{i,t-1} \quad (1)$$

where *OwnershipVariables* and *ControlVariables* are respectively the two groups of variables described above.

As a second step, we focus more specifically on the characteristics of CEO compensation in family firms, in order to establish whether this type of ownership is associated with higher or

lower CEO pay compared to non-family firms. We also interact family ownership with other ownership characteristics, such as ownership concentration and wedge, in order to test whether any different level of CEO pay in family firms is affected by the behavior of the family in terms of expropriation of minority shareholders.

RESULTS

Descriptive Statistics

The results from the analysis confirm that the ownership structure of continental European firms is quite different from that of Anglo-Saxon companies.

Table 2 summarizes the ownership structure of the firms included in the sample.

Insert Table 2 about here

On average, the ownership is highly concentrated (total mean equal to 23.12%), although there are significant differences among countries, with the ultimate cash-flow rights (*OwnershipConc*) ranging from 35% for Italy, to 6% for Finland.

On average the use of control-enhancing devices is also widespread, with the differences between countries depending on the legal constraints imposed by the specific legal frameworks.

Family ownership is also very common, considering that in almost half of the cases, firms are owned by a family. This result is of particular interest if we consider that the sample is restricted to firms with assets worth more than €300 million, and confirms that family ownership is not a characteristic of small and medium sized firms.

Also the weight of firms where the family still has a management role is quite substantial, given that in 32% of the cases, firms are managed by the founder (13%) or by a member of the family (19%).

Data on CEO compensation are summarized in Table 3.

Insert Table 3 about here

The special nature of European firms compared to Anglo-Saxon companies is further confirmed.

The first noticeable difference concerns the amount of CEO pay: at € 2.6 million on average over the period 2007-2010, Total Compensation for a European CEO is about 60% of the pay of an average CEO in US firms, estimated by Murphy, Conyon, Ferreira, Fernandes *et al.* (2010) at € 4.1 million for 2008.

The second relevant difference regards the composition of the compensation package, with the weight of stock-based compensations for European CEO ranging from 34% to 46% - depending on the period considered – in contrast with 52% for CEOs of US firms for 2008 (Murphy, Conyon, Ferreira, Fernandes *et al.*, 2010). However, the increase from 34% for the period 1998-2002 to 40% for the period 2007-2010 to some extent confirms the findings of Murphy *et al.* (2010) and Fernandes, *et al.* (2009), that over the last few years CEO pay-packages for European CEOs is converging towards that of US CEOs.

Determinants of CEO Compensation in Continental Europe

The results reported in Table 4 highlight the variables, other than those related to ownership structure, that significantly affect CEO Total Compensation of the firms included in the sample.

Insert Table 4 about here

As expected, the size of the firm (*FirmSize*) has a large and positive impact on the amount paid to the CEO, as well as *TobinQ*, a proxy of a firm's growth opportunities. Firm's performance, either when measured through stock returns (*Return*) or accounting returns (*ROA*), has a positive and significant impact on CEO compensation only if not associated with Tobin's Q, given that both these variables capture the ability of the firm to perform well. The size of the board of directors is positively related to CEO compensation, in line with the hypothesis that larger boards are associated with less monitoring and more exposed to the influence of the CEO (Jensen, 1993; Yermack, 1996).

Other significant determinants of CEO pay are the participation of the CEO to the management committee (*Committee*) and the number of the years since the CEO was appointed (*Tenure*). On the one hand, the positive relation with CEO pay could be viewed as a premium for the activism of the CEO and his/her long-term relationship with the firm. However, these characteristics could also be interpreted as symptoms of the CEO's power over the other members of the board, and his/her ability to extract higher pay.

Other variables, such as firm's risks, CEO duality, and the presence of a second large shareholder do not have any significant impact on the level of CEO compensation.

Ownership and CEO Compensation

Firstly we focus on ownership concentration. As evident in Table 4, the coefficient on variable *OwnConcentration* is negative and statistically significant for Total Compensation. This result is in line with the idea that large ultimate shareholders exert closer monitoring and reduce the manager's ability to extract rents through higher compensation, and supports *Hypothesis 1*.

The second ownership variable under scrutiny is family ownership. When we look at CEO Total Compensation (Table 4, column *TotalComp*), the variable *Family* is always non-significant across the different specifications of the model, leading to the conclusion that, on

average, family firms do not pay their CEOs higher total compensation than non-family firms. However, a different picture arises when we split Total Compensation into its components, namely Base Compensation and Equity Compensation, as in Table 4 (columns *BaseComp* and *EquityComp*). In fact, what emerges is that family firms pay systematically higher cash compensation and lower equity-based compensation than non-family firms, as evident by the coefficient of the variable *Family* within the model specification (1). As a consequence, although the overall amount of compensation paid to the CEO does not differ between family and non-family firms, the composition of the pay package is quite different, with a substitution effect between cash and equity-based compensation.

The results reported above support *Hypothesis 2*, which relates the compensation policy of family firms to the behavior of the family in terms of the expropriation of minority shareholders. In fact, data suggest that in continental Europe, family firms do not pay a premium to their CEO - as the alternative view of the exploitation of private benefits would imply - but use a higher cash remuneration to compensate for the lower amount of stock-based pay due to the reduced needs for incentive-based compensation.

It is worth noting that these results mirror those obtained in previous studies on the relationship between family ownership and firm performance, namely that in continental Europe, on average, family ownership does not hurt firm performance, and although the type of control may favor the extraction of private benefits at the expense of the minority shareholders, the prevalent aim of the family seems to be the maximization of the firm's value (Maury, 2006; Barontini and Caprio, 2006). The results of our analysis lead to the same conclusion regarding CEO compensation: although family ownership makes easier the extraction of private benefits of control, family firms only adjust the composition of the CEO pay-package in response to the reduced need for shareholder-management alignment.

Hypothesis 2a relates CEO pay to the exploitation of private benefits due to a more favorable ownership structure. The insignificant coefficients that in family firms link ownership concentration and CEO pay suggest that compensation policies are not strongly related to agency relationships, based on the paradigm of the separation between ownership and control. In fact, although for the whole sample higher ownership is linked to lower compensation, this result is driven by non-family firms (Table 4, specification (2), (3)). Moreover, the use of control-enhancing devices (*Wedge*) is not significantly related to the level of CEO compensation (Table 4, specification (2)).

Therefore, the results indicate that the family perspective could avoid extracting the private benefits related to the low ownership concentration and to the use of control-enhancing devices (*Wedge*), thus providing support to *Hypothesis 2a*.

More on CEO compensation in family firms

Founder vs. Heirs. Another issue related to family firms is the impact that the founder and his/her heirs may exert on CEO compensation policies. The results in Table 5 (specifications (1) and (4)) show that, with respect to CEO pay in non-family firms (which is the basis for comparison), CEO pay in founder-family firms (*FamilyFounder*) is lower, while CEO pay in heirs-family firms (*FamilyHeirs*) is higher.

The difference between *FamilyFounder* and *FamilyHeirs*, not reported here, is also statistically significant, thus providing support for *Hypothesis 2c*: when the family ownership acts like a virtuous governance means, the presence of the founder further reduces the amount of CEO pay, while the opposite is true when the firm is controlled by the heirs.

Family CEO vs. Professional CEO. Table 5 – section (A), specification (2), also highlights another relevant issue in family firms, namely whether the family CEO (*FamilyCEO*) is paid

more than the professional CEO who does not belong to the family that controls the firm (*ProfessionalCEO*). In terms of CEO compensation in non-family firms (the basis for comparison), the coefficient on *FamilyCEO* is negative but non-significant, while the coefficient on *ProfessionalCEO* is positive and only slightly significant. However, the difference between the two coefficients is highly significant, which thus supports the hypothesis, not formally developed here, that family members are willing to receive less compensation, both in terms of cash and stock-based pay. This evidence is thus in line with the results of Gomez-Mejia, Larraza-Kintana and Makri (2003) and Kvaal and Langli (2011), who find on a sample of US and Norwegian firms respectively, that family CEOs receive lower compensation, and that their pay is less affected by the performance of the firm.

Institutional settings. The analysis of the previous section refers to the sample as a whole, and the results reflect the average behavior of family firms across Europe.

However, we are aware of the heterogeneity of the institutional settings across European countries, which is a variable that previous studies have found to be of paramount importance for explaining the magnitude of private benefits extracted by the controlling shareholders (Dyck and Zingales, 2004).

The level of investor protection across European countries may vary dramatically, as well as the behavior of the family with respect to the expropriation of minority shareholders, and we expect that this heterogeneity is reflected in the CEO compensation of family firms.

We regress the proxy for different levels of investor protection across European countries (*IPindex*) on CEO Total Compensation (Table 6):

Insert Table 6 about here

The coefficient on *IPindex* is negative and highly significant for all the specifications, clearly revealing that CEO compensation is higher, the lower the level of investor protection across Europe. In addition, the positive interaction term between *Family* and *Plindex* (specification (1)), although only slightly significant, indicates that the increase (decrease) in CEO compensation in countries with lower (higher) investor protection is lowered by the family nature of the firm.

As a further step of the analysis, we compare the compensation policy of Italian family firms to the rest of the sample. In fact, previous studies highlighted that in Italy, the private benefits of control are particularly large (Dyck and Zingales, 2004), as well as the incentives of families to expropriate minority shareholders¹.

In Table 6 (specification (2)) the coefficient *D_it* is equal to one for Italy and to 0 for the rest of the countries in the sample. The coefficient on the interaction between *D_it=1* and *Family*, positive and highly significant, reveals that in Italy the total compensation paid by family firms to their CEO is higher than in non-family firms (consistently with the results of Barontini and Bozzi (2009)), and is also higher than other European family firms (the t-test, not reported in the table, is highly significant).

In addition, in specification (3), through the interaction terms between *D_it=1* and *FamilyFounder* and *FamilyHeirs*, we explore the difference between Italian and other European companies within these clusters. First of all, the negative and significant coefficient on *FamilyFounder* confirms that the presence of the founder in family firms is associated with lower compensation in European companies compared to non-family companies. Furthermore, the positive and significant coefficients on the interactions shows that in Italy the presence both of the founder and his/her heirs is associated with higher CEO compensation.

In specification (4) the same argument applies to the variable *ProfessionalCEO* and *FamilyCEO*: in Italian family firms, CEO pay (detected by the interaction terms between *D_it=1*) is

significantly higher than in European family firms, thus supporting the same argument explained above.

These results, although not conclusive, clearly show that in a country where families tend to expropriate minority shareholders, the level of CEO compensation also tends to be larger compared to CEO compensation in non-family firms.

CONCLUSIONS

The prevalence of family ownership implies that the main agency problem for European firms is not the conflict of interest between shareholders and CEOs, but instead that of the extraction of private benefits at the expense of minority shareholders. However, previous studies reveal that family ownership emerges as an efficient type of control that positively impacts on the value of Continental European firms.

Moving from this premise, we extended the analysis to CEO compensation, in order to study whether family ownership is associated with inefficient compensation policies.

The results lead to reject this hypothesis: on average, European family firms pay their CEO an amount of Total Compensation that is not different from CEOs of non-family firms. The composition of the pay-package is adjusted to reflect the reduced needs for incentive-based compensation associated with the more intense scrutiny exerted by the family on management's actions. Moreover, even in the presence of a lower ownership and a higher wedge between voting and control rights, family firms do not extract a higher CEO compensation, a result that could be interpreted as a signal that the prevalent aim of the family is the maximization of the firm's value, instead of the extraction of private benefits.

The analysis highlights that the presence of the founder of the firm further reduces the amount of CEO pay, while the opposite is true when the firm is controlled by the heirs. Moreover, compensation is higher for Professional CEOs (CEOs who not belong to the

family), while family CEOs are willing to receive less compensation, both in terms of cash and stock-based pay.

The analysis of the whole sample hides the heterogeneity between the different European countries in terms of CEO compensation policies. In fact, different institutional settings play a role in the level of CEO compensation, given that CEO pay is higher, the lower the level of investor protection.

As a further step of the analysis, we then compare compensation policies of Italian firms with the rest of the sample. The results reveal that in Italy, where families tend to expropriate minority shareholders, the level of CEO compensation is also higher than in non-family firms. We interpret these results as evidence of the fact that the efficiency of CEO compensation in family firms is strictly related to the ultimate aim of the family, so that dramatic differences in CEO compensation may arise depending on the behavior of the family in terms of the expropriation of minority shareholders.

This suggests that the characteristics of CEO compensation in family firms are contingent to the institutional setting of each country, which helps to reconcile the results found by previous country-specific studies on the topic. In addition, the results of the paper provide a rationale for an intervention of EU regulator, aimed at strengthening the controls on CEO compensation in family firms, but only in those countries with poorer investor protection, considering that in other countries family ownership does not negatively impact on the efficiency of compensation policies.

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TABLE 1
Definition of Variables

<i>Description</i>	<i>Variable</i>	<i>Type of Variable</i>
CEO Base compensation	<i>BaseComp</i>	Log of Salary+Bonus+Other annual benefits
CEO Equity compensation	<i>EquityComp</i>	Log of the value of Stock and Options Grants at the grant date
CEO Total compensation	<i>TotalComp</i>	Log of the sum of Base and Equity CEO Compensation
Excess Compensation	<i>ExcComp</i>	Residuals of regressions on determinants of CEO pay
Family / Non Family firm	<i>Family</i>	Dummy (1;0)
The CEO belongs to the family	<i>FamilyCEO</i>	Dummy (1;0)
The CEO doesn't belong to the family	<i>ProfessionalCEO</i>	Dummy (1;0), equals to $(1-FamilyCEO)$
Ownership concentration	<i>Ownership</i>	Ultimate cash-flow rights
Wedge (difference between control and cash-flow rights)	<i>Wedge</i>	Voting minus cash flow rights of the ultimate owner
The founder of the family is alive and is present on the Board	<i>FamilyFounder</i>	Dummy (1;0)
The heirs participate to the management of the firm	<i>FamilyHeirs</i>	Dummy (1;0), equals to $(1-FamilyFounder)$
Firm's Size	<i>FirmSize</i>	Log of Total Assets
Stock Performance	<i>Return</i>	Annual stock market returns
Accounting Performance	<i>ROA</i>	Returns on Assets
Growth opportunities and complexity	<i>TobinsQ</i>	Log of Tobin's Q
Firms' Risk	<i>StandardDev</i>	Standard deviation of stock returns
CEO duality	<i>Duality</i>	Dummy (1;0)
CEO Participation to Board Committee	<i>Committee</i>	Dummy (1;0)
Ownership of the 2nd shareholder	<i>2ndShareholder</i>	Second shareholder's cash-flow rights
CEO Tenure	<i>Tenure</i>	Number of years since the CEO was appointed
Board Size	<i>BoardSize</i>	Log of board members count
Index of investor protection	<i>IPindex</i>	Ranges from 1 to 10 as investor protection increases
Year Dummies	<i>Year t</i>	Set of Dummies (1;0)
Industry Dummies	<i>Industry</i>	Set of Dummies (1;0)
Country Dummies	<i>Country</i>	Set of Dummies (1;0)

TABLE 2
Main Characteristics of Firms' Ownership across Continental Europe

	Number of observations	Ownership Concentration (Mean)	Wedge (Mean)	Family firms (% of the sample)	Founder family firms (% of the sample)	Firms with a family CEO (% of the sample)
Belgium	23	30.23%	2.27%	91.30%	13.04%	26.09%
Denmark	10	33.78%	0.00%	0.00%	0.00%	0.00%
Finland	27	6.18%	2.87%	0.00%	0.00%	0.00%
France	455	26.08%	9.98%	54.51%	18.24%	29.23%
Germany	108	21.11%	1.90%	26.85%	10.19%	13.89%
Italy	241	35.14%	8.32%	80.08%	25.73%	34.85%
The Netherlands	222	13.58%	0.98%	22.07%	4.05%	4.50%
Norway	30	26.15%	4.33%	46.67%	6.67%	43.33%
Spain	25	20.14%	0.00%	20.00%	20.00%	0.00%
Sweden	155	12.37%	13.52%	46.45%	0.00%	0.00%
Switzerland	62	22.03%	6.94%	46.77%	14.52%	0.00%
Total	1358	23.12%	7.18%	48.60%	13.55%	19.22%

TABLE 3
Mean CEO Compensation and Firms' Performance across Continental Europe

	<i>BaseComp</i> (€ .000)	<i>EquityComp</i> (€ .000)	<i>TotalComp</i> (€ .000)	<i>ROA</i>	<i>Return</i>	<i>Tobin's Q</i>
1998-2002	1,540.84	809.75	2,349.84	5.46%	-0.06%	1.7
2003-2006	1,426.87	1,259.91	2,695.26	6.84%	28.87%	1.6
2007-2010	1,580.10	1,056.49	2,636.59	5.57%	11.34%	1.3
1998-2010	1,496.38	1,080.08	2,580.24	6.18%	16.36%	1.6

TABLE 4
Determinants of CEO compensation

<i>Dependent variable</i>	<i>TotalComp</i> (1)	<i>BaseComp</i> (1)	<i>EquityComp</i> (1)	<i>TotalComp</i> (2)	<i>BaseComp</i> (2)	<i>EquityComp</i> (2)	<i>TotalComp</i> (3)	<i>BaseComp</i> (3)	<i>EquityComp</i> (3)
<i>Intercept</i>	0.8489 † (1.81)	1.6954 *** (4.20)	-5.4701 *** (-3.43)	0.9758 * (2.14)	1.8406 *** (4.57)	-5.7784 *** (-3.52)	0.9073 * (1.99)	1.7776 *** (4.42)	-5.9468 *** (-3.62)
<i>Family</i>	0.1018 (1.56)	0.1329 * (2.38)	-0.1576 (-0.71)				0.0249 (0.18)	0.2547 * (2.12)	-0.9861 * (-2.02)
<i>Ownership</i>				-0.0040 * (-2.50)	-0.0006 (-0.46)	-0.0202 *** (-3.54)			
<i>Ownership*(Family = 1)</i>							-0.0029 (-1.19)	-0.0025 (-1.16)	-0.0046 (-0.54)
<i>Ownership*(Family = 0)</i>							-0.0084 *** (-3.47)	-0.0030 (-1.40)	-0.0363 *** (-4.18)
<i>Wedge</i>				-0.0003 (-0.10)	0.0023 (0.91)	0.0009 (0.09)			
<i>Wedge*(Family = 1)</i>							-0.0032 (-0.76)	-0.0052 (-1.40)	0.0167 (1.10)
<i>Wedge*(Family = 0)</i>							-0.0077 (-0.90)	0.0032 (0.42)	-0.0309 (-1.00)
<i>FirmSize</i>	0.3536 *** (15.28)	0.2949 *** (14.86)	0.3922 *** (4.99)	0.3812 *** (17.27)	0.3024 *** (15.53)	0.5436 *** (6.86)	0.3915 *** (17.37)	0.3102 *** (15.63)	0.5752 *** (7.10)
<i>ROA</i>	-0.3516 (-0.56)	-0.1864 (-0.35)	0.8994 (0.42)	0.1476 (0.26)	-0.0001 (-0.00)	3.3923 † (1.69)	0.2404 (0.43)	0.0716 (0.15)	3.5730 † (1.78)
<i>Return</i>	-0.0977 (-0.93)	-0.0982 (-1.09)	-0.6886 † (-1.93)	0.0171 (0.18)	-0.0473 (-0.58)	-0.2982 (-0.89)	0.0175 (0.19)	-0.0456 (-0.56)	-0.3118 (-0.93)
<i>StandardDev</i>	0.4296 (1.25)	0.5029 † (1.71)	0.6997 (0.60)	-0.1128 (-0.36)	0.1293 (0.47)	-1.1039 (-0.98)	-0.1840 (-0.58)	0.0134 (0.05)	-1.0288 (-0.91)
<i>TobinsQ</i>	0.8048 *** (7.28)	0.5023 *** (5.30)	1.8628 *** (4.97)	0.6179 *** (6.12)	0.3638 *** (4.08)	1.3592 *** (3.75)	0.5770 *** (5.66)	0.3257 *** (3.63)	1.2909 *** (3.53)
<i>2ndShareholder</i>	-0.0042 (-1.00)	-0.0057 (-1.56)	-0.0055 (-0.39)	0.0047 (1.19)	-0.0011 (-0.31)	0.0237 † (1.67)	0.0073 † (1.75)	-0.0005 (-0.14)	0.0346 * (2.30)
<i>Duality</i>	-0.1509 † (-1.67)	-0.0188 (-0.24)	-0.5791 † (-1.89)	0.0471 (0.53)	0.1248 (1.59)	-0.5262 † (-1.65)	0.0327 (0.37)	0.1293 (1.64)	-0.6166 † (-1.92)
<i>BoardSize</i>	0.3310 ** (2.79)	0.2751 ** (2.71)	0.3593 (0.89)	0.2920 ** (2.61)	0.3010 ** (3.05)	0.1397 (0.35)	0.2745 * (2.45)	0.2946 ** (2.98)	0.0620 (0.15)
<i>Committee</i>	0.5824 *** (3.82)	0.5300 *** (4.05)	0.4214 (0.81)	0.5396 *** (3.92)	0.4453 *** (3.67)	0.8130 (1.64)	0.5686 *** (4.13)	0.4715 *** (3.89)	0.8604 † (1.74)
<i>Tenure</i>	0.0422 *** (6.69)	0.0324 *** (5.99)	0.0791 *** (3.70)	0.0274 *** (4.83)	0.0252 *** (5.05)	0.0358 † (1.76)	0.0261 *** (4.55)	0.0227 *** (4.50)	0.0391 † (1.90)

Statistical significance: † = p < .10; * = p < .05; ** = p < .01; *** = p < .001.

TABLE 5 - section A
CEO pay in family firms - Total compensation

	(1)	(2)	(3)	(4)
<i>Intercept</i>	0.9114 † (1.95)	<i>Intercept</i> 1.0066 * (2.11)	<i>Intercept</i> 1.0824 * (2.28)	<i>Intercept</i> 1.3387 ** (2.82)
<i>FamilyFounder</i>	-0.1894 † (-1.74)	<i>FamilyCEO</i> -0.0251 (-0.27)	<i>Family</i> -0.0579 (-0.67)	<i>FamilyFounder</i> -0.5709 *** (-4.32)
<i>FamilyHeirs</i>	0.1709 * (2.51)	<i>ProfessionalCEO</i> 0.1593 * (2.21)		<i>FamilyHeirs</i> -0.0908 (-1.07)
			LQ*Family = 1 1.0122 *** (7.66)	<i>FamilyFounder * LQ</i> 1.0386 *** (4.81)
			LQ*Family = 0 0.5546 *** (3.93)	<i>FamilyHeirs * LQ</i> 0.7646 *** (5.33)

Statistical significance: † = p < .10; * = p < .05; ** = p < .01; *** = p < .001.

TABLE 5 - section B
CEO pay in family firms - Cash compensation

	(1)	(2)	(3)	(4)
<i>Intercept</i>	1.7586 *** (4.39)	<i>Intercept</i> 1.8562 *** (4.54)	<i>Intercept</i> 1.9373 *** (4.76)	<i>Intercept</i> 2.0879 *** (5.19)
<i>FamilyFounder</i>	-0.1621 † (-1.74)	<i>FamilyCEO</i> 0.0035 (0.04)	<i>Family</i> -0.0326 (-0.44)	<i>FamilyFounder</i> -0.4968 *** (-4.44)
<i>FamilyHeirs</i>	0.2029 *** (3.48)	<i>ProfessionalCEO</i> 0.1916 ** (3.10)		<i>FamilyHeirs</i> 0.0205 (0.29)
			LQ*Family = 1 0.7172 *** (6.34)	<i>FamilyFounder * LQ</i> 0.9313 *** (5.09)
			LQ*Family = 0 0.2431 * (2.02)	<i>FamilyHeirs * LQ</i> 0.5208 *** (4.28)

Statistical significance: † = p < .10; * = p < .05; ** = p < .01; *** = p < .001.

TABLE 5 - section C
CEO pay in family firms - Equity compensation

	(1)	(2)	(3)	(4)
<i>Intercept</i>	-5.3997 *** (-3.38)	<i>Intercept</i> -4.9138 ** (-3.04)	<i>Intercept</i> -5.2071 ** (-3.21)	<i>Intercept</i> -4.5819 ** (-2.83)
<i>FamilyFounder</i>	-0.4858 (-1.31)	<i>FamilyCEO</i> -0.6053 † (-1.89)	<i>Family</i> -0.3376 (-1.15)	<i>FamilyFounder</i> -1.2269 ** (-2.72)
<i>FamilyHeirs</i>	-0.0798 (-0.34)	<i>ProfessionalCEO</i> 0.0452 (0.18)		<i>FamilyHeirs</i> -0.5830 * (-2.02)
			LQ*Family = 1 2.0964 *** (4.66)	<i>FamilyFounder * LQ</i> 1.9824 ** (2.69)
			LQ*Family = 0 1.5810 *** (3.29)	<i>FamilyHeirs * LQ</i> 1.4901 ** (3.04)

Statistical significance: † = p < .10; * = p < .05; ** = p < .01; *** = p < .001.

TABLE 6 - section A
Institutional settings and CEO compensation - Total compensation

	(1)		(2)		(3)		(4)
<i>Intercept</i>	2.2745 *** (3.85)	<i>Intercept</i>	2.2644 *** (4.21)	<i>Intercept</i>	2.3528 *** (4.38)	<i>Intercept</i>	2.3206 *** (4.29)
<i>IPindex</i>	-0.2858 *** (-3.79)	<i>IPindex</i>	-0.2667 *** (-5.00)	<i>IPindex</i>	-0.2718 *** (-5.12)	<i>IPindex</i>	-0.2547 *** (-4.77)
<i>Family</i>	-0.6963 (-1.27)	<i>Family*(D_it=1)</i>	0.7755 *** (6.11)	<i>FamilyFounder</i>	-0.2574 * (-2.30)	<i>FamilyCEO</i>	-0.0678 (-0.68)
<i>Family*IPindex</i>	0.1578 (1.52)	<i>Family *(D_it=0)</i>	0.0354 (0.53)	<i>FamilyFound.*(D_it=1)</i>	0.6733 ** (2.70)	<i>FamilyCEO*(D_it=1)</i>	0.6012 ** (2.95)
		<i>(Family=0)*(D_it=1)</i>	0.3691 (1.56)	<i>FamilyHeirs</i>	0.1012 (1.43)	<i>ProfessionalCEO</i>	0.0675 (0.91)
				<i>FamilyHeirs*(D_it=1)</i>	0.6797 *** (4.95)	<i>Profess.CEO*(D_it=1)</i>	0.7695 *** (5.01)

Statistical significance: † = p < .10; * = p < .05; ** = p < .01; *** = p < .001.

TABLE 6 - section B
Institutional settings and CEO compensation - Cash compensation

	(1)		(2)		(3)		(4)
<i>Intercept</i>	2.7416 *** (5.40)	<i>Intercept</i>	2.9351 *** (6.38)	<i>Intercept</i>	3.0650 *** (6.68)	<i>Intercept</i>	2.9920 *** (6.45)
<i>IPindex</i>	-0.2043 ** (-3.16)	<i>IPindex</i>	-0.2338 *** (-5.12)	<i>IPindex</i>	-0.2399 *** (-5.29)	<i>IPindex</i>	-0.2189 *** (-4.78)
<i>Family</i>	-0.1027 (-0.22)	<i>Family *(D_it=1)</i>	0.7178 *** (6.60)	<i>FamilyFounder</i>	-0.2690 ** (-2.81)	<i>FamilyCEO</i>	-0.0373 (-0.43)
<i>Family*IPindex</i>	0.0497 (0.56)	<i>Family *(D_it=0)</i>	0.0818 (1.43)	<i>FamilyFound.*(D_it=1)</i>	0.8971 *** (4.22)	<i>FamilyCEO*(D_it=1)</i>	0.5365 ** (3.08)
		<i>(Family=0)*(D_it=0)</i>	0.4655 * (2.30)	<i>FamilyHeirs</i>	0.1661 ** (2.74)	<i>ProfessionalCEO</i>	0.1177 † (1.85)
				<i>FamilyHeirs*(D_it=1)</i>	0.4732 *** (4.04)	<i>Profess.CEO*(D_it=1)</i>	0.6289 *** (4.78)

Statistical significance: † = p < .10; * = p < .05; ** = p < .01; *** = p < .001.

TABLE 6 - section C
Institutional settings and CEO compensation - Equity compensation

	(1)		(2)		(3)		(4)
<i>Intercept</i>	-3.1077 (-1.54)	<i>Intercept</i>	-3.0344 (-1.63)	<i>Intercept</i>	-2.8555 (-1.53)	<i>Intercept</i>	-2.4153 (-1.29)
<i>IPindex</i>	-0.4488 † (-1.75)	<i>IPindex</i>	-0.4634 * (-2.51)	<i>IPindex</i>	-0.5022 ** (-2.72)	<i>IPindex</i>	-0.4561 * (-2.47)
<i>Family</i>	0.1155 (0.06)	<i>Family *(D_it=1)</i>	-0.0203 (-0.05)	<i>FamilyFounder</i>	-0.3660 (-0.94)	<i>FamilyCEO</i>	-0.6878 * (-1.98)
<i>Family*IPindex</i>	-0.0399 (-0.11)	<i>Family *(D_it=0)</i>	-0.1772 (-0.77)	<i>FamilyFound.*(D_it=1)</i>	-0.6990 (-0.81)	<i>FamilyCEO*(D_it=1)</i>	1.0221 (1.45)
		<i>(Family=0)*(D_it=0)</i>	-1.6268 * (-1.99)	<i>FamilyHeirs</i>	-0.0977 (-0.40)	<i>ProfessionalCEO</i>	0.0984 (0.38)
				<i>FamilyHeirs*(D_it=1)</i>	0.5487 (1.15)	<i>Profess.CEO*(D_it=1)</i>	-0.0573 (-0.11)

Statistical significance: † = p < .10; * = p < .05; ** = p < .01; *** = p < .001.

¹ Volpin (2002) find that family involvement is negatively related to value in Italy, in particular when the controlling shareholder a) is also top executive; b) owns less than 50% of the firm's cash-flow rights; c) holds the control of the

company within a pyramidal group. Barontini and Caprio (2006) show also that Italy – with Denmark – it is the only European country in which family control seems to affect negatively both market valuation and operating performance, in particular in family firms run by descendants. Moreover, the negative performance of family firms has been detected for Italian private companies, since maintenance of family management by family descendants has a negative impact on company performance (Cucculelli and Micucci, 2008).