Do Corporate Acquisitions Influence CEO Compensation?

Empirical Evidence from Continental Europe

Halit Gonenc
University of Groningen, Netherlands

Neslihan Ozkan
University of Bristol, UK

Abstract: This paper investigates the impact of corporate acquisitions on CEO compensation in Continental Europe. For our whole sample of 3,156 firm-year observations including 508 acquisitions over the period 2001-2008, we find that acquisitions have a positive and significant effect on the level of CEO total and cash compensation during the post-acquisition period. Our results show that this positive impact of acquisitions on the level of CEO compensation mainly comes from foreign acquisitions. When we classify our sample of firms into family and non-family firms we observe that CEOs in family firms experience an increase in their compensation following acquisitions while there is no significant impact of acquisitions on the level of CEO compensation in non-family firms. Further, we find that professional CEOs in family firms experience an increase in their compensation during post-acquisition period, but we do not observe a significant association between the compensation of family CEOs in family firms and acquisition activity. Our findings suggest that controlling family shareholders do not seem to provide monitoring for CEOs in family firms engaging in acquisitions as an opportunistic way to expand their compensation packages. Thus, professional CEOs in family firms are expected to have a motivation for making acquisitions given that they can experience an increase in their compensation during post-acquisition period.

Keywords: Executive compensation, M&As, family firms, European firms
EFM Codes: 190, 160, 150, 110

1. Introduction

Recently, Heineken, a Dutch family-controlled firm, has attempted to acquire Asia Pacific Breweries (APB). The deal was considered expensive with Heineken's offer valuing APB at a hefty 17 times earnings before interests, tax and amortization. Over the last ten years Heineken has done 39 acquisitions and entered 30 new markets across the world. Overall, there has been a considerable increase in M&A activity across Continental European countries since 1990s (Martynova and Renneboog, 2011). Current literature suggests that corporate acquisitions can be driven by managerial interests, which can come in the form of bonus and enlarged compensation package following an acquisition. There has been some evidence from US and UK firms that bidder CEOs receive substantial increase in their compensation during post-acquisition period while shareholders can experience a decline in their wealth (Grinstein and Hribar, 2004; Harford and Li, 2007; Ozkan, 2012). Thus, CEOs are expected to have motivation to pursue acquisitions as a way to expand their compensation packages regardless of potential wealth loss shareholders might experience following an acquisition.

In this paper, we focus on the following questions: Is the practice of offering a large compensation following an acquisition common in Continental European firms? To what extent controlling family shareholders, who are prevalent in Continental European firms, influence CEO compensation related to M&A transaction? Do family CEOs and professional CEOs in family firms differ in the way they are rewarded following acquisitions? We focus on these questions by examining CEO compensation in Continental European firms during post-acquisition period and highlighting the differences between family firms and non-family firms. Despite the recent increase in the M&A activity in Continental Europe, there has been no empirical evidence about how CEOs are compensated following an acquisition, which could help explain motivation for M&As in family and non-family firms. M&As provide an

ideal setting for investigating the implications of incentives of CEOs in family firms versus non-family firms. Prior studies show that acquisitions mostly destroy shareholder wealth in Europe (Martynova and Renneboog, 2011; Gregory and O'Donohoe, 2014). Thus, it is important to explore whether CEOs receive an increase in their compensation during the post-acquisition period and the extent of acquisitions made by self-interested CEOs in family and non-family firms pursuing an expansion in their compensation package that follows an acquisition.

The existing related literature on family firms mainly focuses on differences in performance between family and non-family firms documenting mixed findings on whether family firms perform better than non-family firms[1]. We aim to extend this literature by investigating how CEOs in family and non-family firms are rewarded in terms of their total and cash compensation during post-acquisition period, thereby advancing our understanding of CEOs' motives for acquisition decisions. Family shareholders would be expected to have priority for transferring their firms to the future generations. Thus, they would have non-pecuniary benefits from theirs firms' performance. Therefore, we can argue that family CEOs in family controlled firms are less likely to engage in acquisitions as a way to increase their personal benefit through increasing their compensation package. However, non-family or professional CEOs in family-controlled firms with poor family oversight can pursue acquisitions for their private benefits in the form of larger compensation package, which might not necessarily benefit shareholders.

One major characteristic that distinguishes Continental European firms from US or UK firms is their concentrated ownership structure, which can have potential implications about how investment decisions including acquisitions are made. As it is well-documented by

---

[1] Anderson and Reeb (2003), Villalonga and Amit (2006, 2009), Andres (2008), and Franks et al. (2010) find a positive relation between family control and firm performance, while Claessens et al. (2002), Cronqvist and Nilsson (2003), Bennedsen et al. (2007) find a negative impact of family control on firm performance.

previous researchers, family control is considerably prevalent among listed firms across Continental European countries (Faccio and Lang, 2002; Croci et al., 2012). Some firms with controlling family shareholder might have also CEOs who is a member of the family. If controlling family shareholders play a vigilant monitoring role, then we would not observe acquisitions that are mainly driven by CEOs' personal interests rather than interests of other shareholders. Thus, CEOs cannot use acquisitions as a way to promote their self-interest by increasing their compensation while shareholders experience a loss in their wealth during the post-acquisition period. However, if controlling family shareholders do not provide monitoring, then CEOs in family firms, in particular professional CEOs in family firms, can pursue acquisitions as a way to increase their compensation packages. In this paper, we aim to investigate how acquisitions influence level of CEO cash and total compensation during post acquisition period considering both family and non-family controlled firms. Further, we examine whether there are differences between professional and family CEOs in family firms in terms of their compensation during post-acquisition period.

There has been an extensive literature emphasizing agency problems that might exist in family controlled firms. Families as major shareholders could have more incentives for monitoring CEO decisions which could involve acquisitions that benefit CEOs at the expense of shareholders. A professional CEO can have discretion to expropriate shareholders if there is a lack of monitoring by controlling family shareholders.

Foreign acquisitions in Europe have considerably increased from early 1990s onwards. Martynova and Renneboog (2011) report that in their sample of European firms for the period 1993-2001 30% of the intra-European M&As were foreign deals. Their findings show that acquiring firms experience lower announcement returns when they undertake foreign acquisitions than domestic acquisitions, i.e. 0.30 % and 0.59 % for foreign and domestic acquisitions, respectively. When they consider the six months event window,

4

average returns for the acquiring firms were -3.63 % and -2.49 % for foreign and domestic acquisitions, respectively. This result is in line with the findings from the U.S. firms reporting that foreign acquisitions cause larger shareholder wealth losses than those of domestic acquisitions (Eckbo and Thorburn, 2000; Moeller and Schlingemann, 2005). These findings can be interpreted as entrenched managers of bidders can destroy firm value in their foreign and domestic acquisitions (Masulis et al., 2009). Acquisitions provide an opportunity for managers negotiating for a larger compensation package. In particular foreign acquisitions can lead to a larger increase in the level of CEO total compensation than domestic acquisitions regardless of firm performance during post-acquisition period (Ozkan, 2012). Gerakos et al. (2013) find that the US–UK CEO pay gap reduces in UK firms that engage in U.S. acquisitions. Their results show that CEOs of UK firms experience an increase in both total compensation and equity-based compensation after their firm engages in a US acquisition but not after non-US foreign acquisitions. This finding suggests that the acquiring firm might have an incentive to adopt US-style CEO compensation to minimize inequalities in executive compensation across global business units.

Despite the major presence of family ownership in Continental Europe, there has been no study examining how family and non-family firms set their CEOs compensation packages after they make a foreign (domestic) acquisition. This paper fills a void in the literature by providing empirical evidence on the relationship between CEO compensation and foreign (domestic) acquisitions in family and non-family firms in Continental Europe. For our empirical analysis, we use a sample of 508 acquisitions by European firms for which CEO compensation data are available from Boardex or company websites over the period of 2001-2008. Our whole sample of CEO compensation includes an unbalanced panel of 3,156 firm-year observations. In our empirical analysis we control for firm-specific and board-specific characteristics which are found to influence CEO compensation by prior studies.

5

We find that acquisitions have a positive and significant effect on the level of CEO total and cash compensation during the post-acquisition period. We observe that this positive impact of acquisitions on the level of CEO compensation mainly comes from foreign acquisitions, while the effect of domestic acquisitions is positive but not statistically significant. CEOs would be motivated to do foreign acquisitions as a way to expand their compensation packages. When we classify our sample of firms into family and non-family firms, we find that CEOs in family firms receive an increase in their compensation following an acquisition, while there is no significant change in CEO compensation in non-family firms following an acquisition. This finding suggests that CEOs in family firms in Continental Europe would be motivated to engage in acquisitions as a way to increase their compensation. Overall, the increasing trend of acquisitions in Continental Europe can be partly explained by self-interested pursuits of CEOs in family firms.

Further, when we classify our sample of family firms into family firms with family CEOs and family firms with professional CEOs, our results show that professional CEOs in acquiring family firms receive an increase in total and cash compensation while family CEOs do not seem to experience an increase in their compensation during the year following an acquisition. Thus, we observe significant differences in the way family firms compensate their family and professional CEOs following an acquisition.

The rest of the paper proceeds as follows. Section 2 provides a review of the extant literature on corporate acquisitions and CEO compensation, while Section 3 reports data characteristics and section 4 discusses empirical methodology. Section 5 reports sample characteristics and Section 6 presents estimation results and Section 7 concludes.

2. Literature review and hypotheses development

2.1. Corporate acquisitions and family firms in Europe

Previous studies show that family firms are less likely to make acquisitions controlling for all other relevant factors. Caprio et al. (2011) find that Continental European family firms are particularly reluctant to make acquisitions when the stake held by the family is not large enough to guarantee control after the transaction. Shim and Okamuro (2011) reach a similar conclusion for 244 mergers of family and non-family firms in Japan. They find that being a family firm decreases the probability to join in a merger, except in the case that family ownership is sufficiently high to persist following a merger.

The literature also investigates acquirers' performance in family-controlled and non-family controlled firms. Bauguess and Stegemoller (2008) find that family firms among S&P 500 firms are associated with a lower announcement return relative to non-family firms. They find that among S&P 500 firms family firms make relatively poor investment decisions leading to an average reduction of 0.74% in firm value for each acquisition. In contrast, Basu et al. (2009) examine 103 mergers of US newly public firms and find that acquirers with higher level of family ownership outperform acquirers with low level or non-family ownership. Bouzgarrou and Navatte (2013) find higher acquisition announcement returns for French family acquirers relative to non-family acquirers. Furthermore, Sraer and Thesmar (2007) provide evidence that lower acquisition performance of French family firms belongs to those managed by founders or their heirs. Caprio et al. (2011) find that family control does not influence acquisition performance for their sample of Continental European firms. Their findings show that family firms do not engage in acquisitions that destroy shareholder wealth. Shim and Okamuro (2011) report that non-family firms have better merger performance than family firms for a sample of Japanese firms. Ben-Amar and Andre (2006) use a sample of Canadian firms and find that family firms have higher acquisition performance. Overall, the extant literature provides mixed evidence on how acquisition performances in family firms differ from those in non-family firms. In this paper, we explore whether CEO incentives

could explain motivation for acquisition activity of family and non-family firms in Continental Europe.

Recently there has been an increase in foreign acquisitions in Continental Europe. In our empirical analysis we include both domestic and foreign acquisitions. Family firms can have more incentives to engage in foreign acquisitions as a way to diversify their business and reduce the risk of their wealth portfolio. Through global diversification family firms can increase their likelihood of maintaining the control of their firms for a longer run and pass it to later generations (Miller et al., 2010). Agency theory would suggest that CEOs in family firms would not engage in foreign acquisitions as a way to increase their compensation regardless of shareholder wealth considerations. Family ownership could enhance long-term strategies and mitigate potential agency conflicts between shareholders and management. As Burkart et al. (2003) argue founding family is likely to derive non-pecuniary benefits, i.e. family reputation, from the success of the firm. In contrast, CEOs in non-family firms can view acquisitions, in particular foreign acquisitions, as an opportunity for expanding their compensation packages.

2.2. *Corporate acquisitions and CEO compensation in family firms and non-family firms*

Concentrated ownership structure of family firms and dominant effect of families on the management can have potential implications about how CEO compensation packages can be designed following an acquisition. There has been an extensive literature emphasizing the nature of agency problems that might exist in family-controlled firms. Conflicts of interests between controlling family shareholders and minority shareholders can lead to expropriation of minority shareholders' interests (Morck and Yeung, 2003; Bertrand and Schoar, 2006), which can take place in various ways, such as higher compensation packages involving value destroying acquisitions. On the other hand, families as major shareholders could have more

incentives for monitoring CEO decisions, which could include acquisitions that benefit CEOs at the expense of shareholders. A professional CEO in a family firm can have discretion to expropriate shareholders' wealth in various ways including using acquisitions in an opportunistic way to expand his compensation. However, if family members play a significant role in monitoring management, they might be able to control expropriation. Thus, they can eliminate any potential investment decision that could lead to an increase in CEO compensation at the expense of firm value. In a family firm CEO might not have the power to favourably influence his post-acquisition compensation if a controlling family shareholder is monitoring.

A distinctive characteristic of European firms in comparison to US firms is that family control is considerably dominant in Europe (Faccio and Lang, 2002). Croci et al. (2012) show that CEOs of firms controlled by families are paid less than CEOs of non-family firms in 14 Continental European countries over the period from 2001 to 2008. They find that CEOs in family firms receive lower level of total and cash compensation, and fraction of equity-based compensation. Their results are stronger when CEOs are also family members. This finding is consistent with the optimal contracting theory suggesting that managers align their interest with minority shareholders and controlling family shareholders play a monitoring role in determining CEO compensation packages in Continental Europe. Li and Srinivasan (2011) examine a sample of US firms for the period of 1996-2004 and find that CEO pay level is relatively lower if founder is one of board members.

In this paper, we aim to extend the literature on CEO compensation in family and non-family controlled firms by examining how CEO compensation changes following an acquisition. In particular, we focus on both the impact of both foreign and domestic acquisitions on CEO compensation in family and non-family firms. If controlling family shareholders can help strengthening governance, then we would expect less opportunistic

9

behaviour on the part of CEOs in family firms by doing acquisitions to expand the size of their compensation package. Thus, we would expect the association between CEO compensation and the acquisition activity to be stronger in non-family firms than family firms. The following hypotheses summarize our arguments:

H1a. CEO compensation of family (non-family) firms increases following acquisitions.

H1b. The association between CEO compensation and acquisition activity is stronger for non-family firms than family firms.

Family CEOs and professional CEOs in family firms can differ in terms of their incentives. Agency theory suggests that there is a potential conflict of interest between professional CEOs and shareholders in family firms. Extant literature explores whether the type of CEOs, i.e. family member versus professional (non-family member) CEOs, could influence firm performance. However, there is no empirical evidence on whether the relationship between acquisitions and CEO compensation varies depending on the type of CEO. Family CEOs whose interests are aligned with the controlling family shareholders might not engage in pursuing an acquisition as a way to expand his compensation at the expense of shareholders' interests. There is mixed evidence on how family CEOs can influence firm performance. Anderson and Reeb (2003) and Morck et al. (1988) document a positive impact of family CEOs on firm performance, while Barth et al. (2005) and Smith and Amoko-Adu (1999) report that family CEOs have a negative impact on firm performance. Family CEOs could be driven by altruistic attitude towards future generations and pursue corporate strategies that would guarantee long-term existence of the firm and wealth of the shareholders. Further, Lin and Hu (2007) show that both professional and family CEOs can improve firm performance as long as those firms have strong governance mechanisms.

Considering different incentives family and professional CEOs might have, we hypothesize that family CEOs' and professional CEOs' compensations differ following an acquisition.

H2a. The association between CEO compensation and acquisition activity is stronger for professional CEOs (in family firms) than family CEOs in family firms.

Both family and non-family firms can engage in foreign acquisitions as a way to expand the scope of their global operations. Zahra (2003) finds that family firms can have a strong tendency towards internationalization reflecting their desire for a longer time horizon and diversifying their wealth for future generations. Further, foreign acquisitions, i.e. internationalization, can provide an opportunity for CEOs negotiating for a larger compensation package (Ozkan, 2012). Harford and Schanlau (2013) show that there is no evidence of ex-post settling up incentives in the managerial labor market. CEOs can be rewarded for engaging in acquisitions without too much focus on value implications of their decision. Thus, there is no settling up in the CEO labor market for CEOs who make poor acquisition decisions. Therefore, we can expect that CEOs in family and non-family firms can engage in foreign acquisitions with an aim to get experienced and rewarded for their effort regardless of potential declines in shareholder wealth. These arguments lead to the following hypothesis:

H2b. The association between CEO compensation and acquisition activity is stronger for cross-border (foreign) acquisitions than domestic acquisitions in family (non-family) firms.

3. Data and Empirical Methodology

3.1. Data

We obtain our sample of CEO compensation data for Continental European firms over the period 2001-2008 from *Boardex*. Our sample includes 14 European countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Spain, Sweden, and Switzerland. We collect data on acquisitions from Thomson Financial SDC Mergers database. Acquisitions include both domestic and foreign acquisition by bidders from our sample European countries. Further, we extract institutional ownership data from the *Thomson One Banker* Ownership module; financial and accounting data are obtained from *Datastream/Worldscope*. When we combine data from these databases, our final sample consists of an unbalanced panel of 3,156 firm-year observations. We classify this sample into two sub-samples: a sub-sample of 'acquiring firms', which includes 1,579 firm-year observations and a subsample of 'non-acquiring firms', which includes 1,577 firm-year observations.

3.2. Empirical methodology

3.2.1. Acquisitions and CEO compensation in family and non-family firms

In our empirical analysis we use two measures of CEO compensation: the natural logarithm of total CEO compensation (*TOTAL*) and the natural logarithm of cash compensation (*CASH*). Total compensation is the sum of cash and equity-based compensation. Cash compensation includes base salary and bonus, and equity-based compensation is equal to the sum of the value of stock options and awards granted during the year. In order to test the impact of acquisitions on CEO compensation, we follow Harford and Li (2004) and Ozkan (2012) and use the following regression model:

$CEO\_Pay_{it} = \alpha + \beta_1 \, Acquisition_{it-1} + \delta Controls_{it-1} + \varepsilon_{it}$ (1)

Acquisition is a dummy variable that takes the value of one for the year following an acquisition. *Controls* include firm-specific financial variables, i.e. local market-adjusted stock performance, firm size, volatility, market to book ratio, profitability, and governance variables, i.e. institutional ownership, dual share structure, board size, board busyness and composition, and CEO age, which are reported to influence CEO compensation by previous researchers. We also control for country, industry and year dummies. Based on hypothesis H1a we expect β_1 in equation (1) to be positive. We classify acquisitions into foreign and domestic acquisitions to test whether their impact on CEO compensation varies. Foreign acquisitions are viewed as more complex than domestic acquisitions extending global boundaries of a firm, which could possibly provide CEOs with opportunities to negotiate for a larger compensation package (Ozkan (2012)). Thus, we expect the coefficient estimate for foreign acquisition dummy to be larger than the coefficient estimate for domestic acquisition dummy.

Next, we classify our sample of firms into family and non-family firms, and acquiring family (non-family) and non-acquiring family (non-family) firms. Following Croci et al. (2012) we classify a firm as a family firm if there is a controlling family shareholder who has at least 10% of a firm's outstanding shares, or alternatively, there is a largest shareholder owning at least 10% of outstanding shares who is ultimately controlled by a family. Furthermore, CEOs in family firms can be a member of the family, i.e. family CEO, or professional CEO. The following table summarizes the classification of our sample firms.

	Family firms		*Non-family firms*
Acquisition	Acquiring family	With FamilyCEO	Acquiring non-family
		With ProfessionalCEO	
No-acquisition	Non-acquiring family	With FamilyCEO	Non-acquiring non-family
		With ProfessionalCEO	

Family and non-family firms can be either acquiring or non-acquiring firms. Our interest is to investigate whether family firms differ from non-family firms in the way they compensate their CEOs during post-acquisition period[2]. Thus, we create three dummies, i.e. *Acquisition_Family, Acquisition_Non-Family, Non-acquisition_Family,* to specify each group and leave the fourth group as our base group, i.e. non-acquiring non-family firms. Our regression model with those dummies is as follows:

$$CEO\_Pay_{it} = \alpha + \beta_1 \ Acquisition\_Family_{it-1} + \beta_2 \ Acquisition\_Non\text{-}Family_{it-1} +$$

$$\beta_3 \ Non\text{-}acquisition\_Family_{it-1} + \delta \ Controls_{it-1} + \varepsilon_{it} \tag{2}$$

Acquisition_Family is a dummy variable, which is equal to 1 for an acquiring family firm for the year following an acquisition and 0 otherwise. *Acquisition_Non-Family* is a dummy variable, which is equal to 1 for an acquiring non-family firm for the year following an acquisition and 0 otherwise. *Non-acquisition_Family* is a dummy variable, which is equal to 1 for a non-acquiring family firm and 0 otherwise. The coefficient of estimates of the three dummy variables, *Acquisition_Family, Acquisition_Non-Family, Non-acquisition_Family,* indicate the differences in CEO compensation following an acquisition relative to CEO compensation in non-acquiring non-family firms (base group). However, it is also important to know whether the coefficients of these three dummy variables are statistically significantly different from each other. We perform an F-test to compare the coefficient estimates of these dummy variables. Based on hypothesis H1b, we expect β_1 and β_2 to be significantly different from each other and β_2 to be greater than β_1.

---

[2] Thus, including a standalone effect, i.e. a dummy for family firms will compare family firms with non-family firms without considering them being in acquiring or non-acquiring samples, which will not serve to our aim. Moreover, adding standalone variables of acquisition and family control and using a possible interaction term of acquisition dummy with family control will not be appropriatefor our analysis. Such an interaction term will compare acquiring family firms with observations in all other three groups, and therefore, will not be helpful.

We explore the impact of two types of CEO, i.e. family CEO and professional CEO, in family firms and test whether CEO compensation is different for family CEOs and professional CEOs during post-acquisition period. To investigate the influence of CEO affiliation, we use the following regression model including dummy variables for family CEOs and professional CEOs in family firms:

$$CEO\_Pay_{it} = \alpha + \beta_1\ Acquisition\_FamilyCEO_{it-1} + \beta_2\ Acquisition\_ProfessionalCEO_{it-1} +$$
$$\beta_3\ Non\text{-}acquisition\_FamilyCEO_{it-1} + \beta_4\ Non\text{-}acquisition\_ProfessionalCEO_{it-1}$$
$$\beta_4\ Acquisition\_Non\text{-}Family_{it-1} + \delta\ Controls_{it-1} + \varepsilon_{it} \tag{3}$$

Acquisition_FamilyCEO is a dummy variable which is equal to 1 for acquiring family firms with family CEOs and 0 otherwise. *Acquisition_ProfessionalCEO* is a dummy variable which is equal to 1 for acquiring family firms with professional CEOs and 0 otherwise. Similarly, *Non-acquisition_FamilyCEO* is a dummy variable which is equal to 1 for non-acquiring family firms with family CEOs and 0 otherwise. *Non-acquisition_ProfessionalCEO* is a dummy variable which is equal to 1 for non-acquiring family firms with professional CEOs and 0 otherwise. *Acquisition_Non-Family* is a dummy variable, which is equal to 1 for acquiring non-family firms and 0 otherwise. In this model, our base group is non-acquiring non-family firms. Thus, the coefficient estimates for *Acquisition_FamilyCEO*, *Acquisition_ProfessionalCEO, Non-acquisition_FamilyCEO, Non-acquisition_ProfessionalCEO* can be interpreted as the CEO pay differential relative to CEOs in non-acquiring non-family firms. Furthermore, we again perform an F-test to compare the coefficient estimates of these variables.

In our regression model (1), (2) and (3), we control for a set of firm-specific financial variables and governance variables that could have impact on CEO compensation. Thus, we

include market-based and accounting-based performance measures; *Profitability*, as an accounting-based performance proxy, is measured by the industry-adjusted return on assets. It is calculated as the ratio of net income to total assets minus the median of the same ratio of firms in the same industry determined by Fama and French 49-industry classification. *StockReturn* is annualized stock market return, which is adjusted by local market index returns. *Market-to-Book Ratio* is a measure for future growth opportunities and calculated as the ratio of the market value of shareholders' equity to the book value of shareholders' equity. *Size* is measured by the natural logarithm of firms' annual sales; *Risk*, which is the stock return's volatility and measured by the standard deviation of daily stock return in a particular year.

We control for a set of governance variables in our empirical analysis. Recently there has been an increase in the share ownership of Continental European companies by institutional investors (Aggarwal et al., 2011). Thus, we control for the potential monitoring role of institutional investors. *Institutions* is the percentage of shareholdings by financial institutions, which include banks and trusts, insurance companies, investment advisors, pension funds, research firms, and sovereign wealth funds. *DualShares* is a dummy variable that takes the value of 1 when the company has a dual class share structure. This variable captures the monitoring ability of controlling shareholders. Controlling shareholders with dual class shares may be entrenched because of a lower percentage of cash flows rights relative to control rights. We also control for board characteristics, i.e. board size, proportion of independent board members, and board busyness, which are reported to influence the level of CEO compensation (Croci et al., 2012). *BoardSize* is the total number of executive and non-executive directors on a board; *BoardBusyness* is a dummy variable that equals one if a board has 50% or more of directors holding three or more directorships in other public

companies*; BoardIndependency* is the proportion of independent non-executive directors. We use *CEOAge* as a proxy for the experience of CEOs.

To estimate equation (1), (2) and (3), we use pooled OLS with robust standard errors clustered at the firm level. We also include country, industry and year dummies to control for country-specific, industry-specific, and year-specific fixed effects. Country dummies capture, for example, the differences in Continental European countries in terms of one-tiered or two-tiered board structures.

3.2.2. Deal characteristics and CEO compensation

We next test whether deal characteristics including deal size, completion period, deal performance, diversified versus focused deals, foreign versus domestic deals, can influence CEO compensation following an acquisition. Acquisitions that involve large size targets could require more effort and skill which could have a positive impact on CEO compensation. Completion period, i.e. number of days it can take to complete a deal, could be a measure of the complexity of the deal. As complexity of a deal increases, CEOs can be offered higher compensation as a way to reward their effort of dealing with the complex deals. Following Ozkan (2012) and Grinstein and Hribar and (2004), we estimate the following model:

$$CEO\_Pay_{it} = \alpha + \beta_1 \, Family_{it-1} + \beta_2 \, FamilyCEO_{it-1} + \beta_3 \, Foreign \, Acq_{it-1}$$

$$+ \beta_4 \, Deal \, Size_{it-1} + \beta_5 \, Diversify_{it-1} + \beta_6 \, CAR_{it-1} + \beta_7 \, Time\text{-}to\text{-}complete_{it-1}$$

$$+ \beta_8 \, Inverse \, Mill's \, ratio_{it-1} + \beta_9 \, Acquirer's \, size_{it-1} + \delta Controls_{it-1} + \varepsilon_{it} \qquad (4)$$

Our control variables include *BoardSize*, *BoardBusyness, BoardIndependency*, *CEOAge* , *DualShares*, industry and year dummies. Acquirer's size is measured by the book value of acquiring company's assets at the beginning of the acquisition year. Our regression model

using the sample of acquiring firms could have a selection bias since firms choose to make acquisitions. Thus our sample of acquiring firms is not a random sample from the population of firms. Our regression model would have specification error if omitted variables that influence firm's likelihood of acquisition also have an impact on CEO compensation. In order to mitigate the impact of this potential misspecification error in our regression model, we use two-step Heckman correction (1979) method. As a first step, we run a probit regression model estimating the likelihood that a firm engages in an acquisition. Following the previous studies, our explanatory variables include pre-acquisition firm specific variables, i.e. sales revenue, ROA (return on assets, Tobin's Q, total debt to assets, cash to assets, year and industry dummies (Ozkan, 2012). Next, we compute inverse Mill's ratio (Heckman correction variable) and include it as an explanatory variable in our equation (4).

4. Sample characteristics

We extract 917 acquisitions announced and completed by our sample firms during the period 2001-2008. Our sample of firms includes banks and insurance companies, but excludes real estate and financial trade companies, and utility firms. Our final number of acquisitions is 508 since we drop those acquisitions for which bidder CEO compensation data are not available following acquisitions. In line with the previous literature, we test how acquisitions influence CEO compensation in the year following an acquisition rather than CEO compensation in the same year when acquisition takes place since potential impact of acquisitions on CEO compensation might not be of an immediate nature (Ozkan, 2012; Harford and Li, 2007).

Panel A of Table 1 reports mean and median values of several deal characteristics for all firms and sub samples of family and non-family firms[3]. We observe that median value of deal size is similar for our sample of family and non-family firms, while there is considerable difference between mean values of deal size for family and non-family firms[4]. We observe that acquisitions are completed on average in 87 to 91 days, while median completion period is around 48 to 53 days.

Following the literature we use market-adjusted abnormal returns model to calculate cumulative abnormal returns (CARs). We find that mean (median) of CARs is 0.7% (0.4%) for all firms within three days event window and 0.8% (0.5%) within five days event window[5]. In both event windows, family bidder firms experience slightly higher announcement returns than non-family bidders. Average relative size, which is calculated by the ratio of deal size to market capitalization of bidder, is 9.2%. Domestic acquisitions are 49.8 % of our sample of acquisitions, and this percentage is 53.6% for family and 47.7% for non-family bidders. 61% (58 % for family and 62.7% for non-family bidders) of acquisitions involves targets in the same Fama-French 49-Industry classification. We find that 31.5% acquisitions involve targets which are public firms.

We present descriptive statistics for our full sample including both acquiring and non-acquiring firms, and the subsamples of non-acquiring (1,577 firm-year observations) and acquiring firms (1,579 firm-year observations) in Panel B of Table 1. Based on number of observations, these two groups have similar size. For each of these two sub-samples, we classify observations into family and non-family firms. We report test statistics for

---

[3] In our sample of acquisitions, there are firms which are involved in multiple acquisitions. If a firm is involved in multiple acquisition activities in a year, we add them up and consider it as a single value.
[4] We check whether our findings are influenced by some relatively large acquisitions. However, we observe that our results remain the same.
[5] For those firms that are involved in multiple acquisitions, we consider the CAR value for the acquisition with largest deal size.

differences of mean and median values of firm-specific characteristics between acquiring and non-acquiring firms, and between family and non-family firms.

We observe that the percentage of family CEOs in acquiring family firms (34.4%) is lower than non-acquiring family firms (46.3%). We note that the average percentages of institutional ownership are 20.8%, 16.2%, and 23.8% for all acquiring, and acquiring family and non-family firms, respectively, and those institutional ownership values are significantly larger than for all non-acquiring (17.1%), and non-acquiring family (13.2%) and non-family firms (21.0%). However, institutional investors might reduce their monitoring if they observe that family's interests are in alignment with the interests of minority shareholders and controlling family shareholder monitors CEO compensation effectively (Croci et al., 2012).

Panel B of Table 1 presents the descriptive statistics for board and CEO characteristics. Acquiring family and non-family firms have significantly larger board sizes, and higher board busyness than non-acquiring firms. We also observe that acquiring non-family firms have on average higher proportion of independent directors than non-acquiring non-family firms, while both acquiring and non-acquiring family firms have similar number of independent directors. Finally, on average CEOs in acquiring non-family firms are only two years older than those in non-acquiring non-family firms, but CEOs in both acquiring and non-acquiring family firms are similar in age. We observe that family firms use more dual-class equity structure than non-family firms, and percentages of the observations classified as having dual class equity structure are higher for acquiring family and non-family firms than non-acquiring family and non-family firms.

Panel B of Table 1 shows that there are considerable differences between non-acquiring and acquiring non-family firms. Non-acquiring and acquiring family firms are similar in terms of average adjusted annual stock returns, industry adjusted profitability, market-to-book ratio, and the standard deviation of stock returns. Acquiring non-family firms

have higher adjusted return and industry adjusted ROA, but lower market-book ratio and the standard deviation of stock returns than non-acquiring non-family firms do. We observe that both acquiring and non-acquiring family firms are smaller in size, measured by total sales, than non-family firms.

In Panel C of Table 1, we present the descriptive statistics for the level of CEO total, cash, and equity-based compensation for acquiring and non-acquiring firms. We observe that both acquiring and non-acquiring Continental European firms rely more on cash compensation than equity-based compensation. On average both CEO cash and total compensation are higher in each sub-sample of acquiring firms than those of non-acquiring firms. In our regression analysis we test whether acquisitions have significant impact on CEO compensation controlling for other firm-specific financial and governance variables.

We are interested in not only comparisons between sub-samples of acquiring firms and sub-samples of non-acquiring firms, but also comparisons in compensation between acquiring family and non-acquiring family firms. We also observe that average level of total and cash compensation of family and professional CEOs in acquiring firms are higher than those in non-acquiring firms.

[Table 1 about here]

5. Estimation results

5.1. CEO compensation and acquisitions

In this section, we test whether acquisitions can influence the level of CEO total and cash compensation. Table 2 reports our estimation results for our whole sample including both family and non-family firms. We observe that coefficient estimate for the *Acquisition* is positive and statistically significant for the regressions of the level of total and cash

compensation. Thus, CEOs of acquiring firms have higher level of total and cash compensation following an acquisition than any other years when there is no acquisition and also than firms that are not involved in an acquisition during the sample period.

Next, we classify acquisitions as foreign and domestic acquisitions. Our results show that level of CEO cash and total compensation increases following a foreign acquisition, while there is no significant impact on CEO compensation following a domestic acquisition. These results, which indicate that level of CEO compensation is higher in the post-acquisition period especially when they do a foreign acquisition, are consistent with findings of Ozkan (2012) for UK firms. Thus, CEOs would be expected to engage in acquisitions as a way to increase their cash and total compensation. We also interact firm performance measures, i.e. stock return and ROA, with acquisition dummies to test whether firms link CEO compensation with firm performance during post-acquisition period. In untabulated findings, we observe that there is no significant link between CEO cash and total compensation, and firm performance following an acquisition. Thus CEOs can engage in acquisitions and expand their compensation packages regardless of how firms perform during post-acquisition.

Our results show that market adjusted stock return and riskiness of stock returns have no significant impact on CEO compensation, while the accounting-based measure of firm performance is negatively related to CEO compensation. Market-to-book ratio has a positive and significant impact on the level of CEO compensation. We find that firm size, measured by the log of sales, has a positive and significant impact on the level of CEO compensation. Total institutional ownership has a positive and significant impact on the level of total and cash compensation. This finding suggests that an increase in ownership of institutional investors in Continental European firms leads to higher level of CEO cash and total compensation. Consistent with the previous studies (Masulis et al., 2009; Amoako-Adu et al.,

2011), we find that percentage of dual class shares has a positive and significant impact on total compensation level, indicating that firms with a dual class equity structure pay more to their CEOs. We also observe that CEO compensation increases with board size and percentage of busy board members. This finding supports the argument that larger boards can have problems with coordination, communication and monitoring the management, which can lead to higher level of CEO compensation. On the other hand, the coefficient estimate for the ratio of independent directors is also positive and significant. Independent board members seem to be less effective in providing monitoring for CEO compensation packages in Continental Europe. Furthermore, the coefficient estimate for CEO age is not statistically significant for CEO compensation.

[Table 2 about here]

5.2. CEO compensation and acquisitions and the role family control

We test whether CEO compensation increases in family and non-family firms during post- acquisition. In Table 3a and Table 3b we report estimation results for CEO compensation using our sample of non-family and family firms, respectively. In Table 3a, we observe that acquisitions do not have any significant impact on CEO compensation. This finding does not provide support for our hypothesis H1b. In contrast to our findings in Table 3a, in Table 3b we observe that acquisitions have a significant impact on the level of CEO cash and total compensation in family firms. This finding suggests that controlling family shareholders do not seem to provide monitoring for CEO compensation during post acquisition period. Further, our results show that family CEOs do not seem to receive an increase in their compensation during the post-acquisition period. Thus, the increase in CEO compensation in family firms following an acquisition is mainly driven by the professional CEOs in family firms. The coefficient estimate for *FamilyCEO* and the interaction of

Acquisition*FamilyCEO are both statistically insignificant in the regressions for CEO total and cash compensation.

[Table 3a and Table 3b]

Next, we estimate our regression model (2) using our full sample of firms including both family and non-family firms. We specify four different sub-samples; acquiring family firms (*Acquisition_Family*), acquiring non-family firms (*Acquisition_Non-Family*) firms, non-acquiring family firms (*Non-acquisition_Family*), and non-acquiring non-family firms. Table 4 presents the estimation results of equation (2) including F statistics testing statistical differences in estimated coefficients at the bottom of the table.

Our results show that CEOs of acquiring family (A*cquisition_Family*) and non-family (A*cquisition_Non-Family*) firms do not have different total and cash compensation than non-acquiring non-family firms (base group) in year after acquisitions. However, total and cash CEO compensation levels are significantly lower for non-acquiring family firms (*Non-acquisition_Family*) than non-acquiring non-family firms. F statistics testing inequality of estimated coefficients imply that the estimated coefficients of *Acquisition_Family* and *Acquisition_Non-Family* are not significantly different, but the estimated coefficients of *Acquisition_Family* (and therefore *Acquisition_Non-Family* as well) are statistically significantly different and higher than those of *Non-acquisition_Family*. These results indicate that CEO compensation is higher for both acquiring family and non-family firms than non-acquiring family firms, but it is not statistically significantly different from the coefficient estimate for non-acquiring non-family firms. Controlling family shareholders do not seem to provide monitoring for CEO compensation and lowering it during post-acquisition period. These results provide further support for the findings in Table 3b that CEOs in family firms experience an increase in their compensation following an acquisition.

[Table 4a about here]

5.3. CEO compensation, acquisitions and the role family CEO

Table 4b reports the estimation results of our equation (3) and compares CEO compensation of family and professional CEOs in both acquiring and non-acquiring family firms with those CEOs in acquiring and non-acquiring non-family firms. The results for total and cash compensation show that family CEOs of non-acquiring family (*Non-acquisition_FamilyCEO*) and professional CEOs of non-acquiring family (*Non-acquisition_ProfessionalCEO*) firms have the lowest compensation levels among all our sub-samples. However, F statistic indicates that compensation levels of family CEO in acquiring family firm (*Acquisition_FamilyCEO*) are not different from those family CEOs in non-acquiring family firms (*Non-acquisition_FamilyCEO*). These results provide further support for our findings in Table 3b that family CEOs do not have higher total or cash compensations by involving in acquisitions.

[Table 4b about here]

5.4. CEO compensation and deal characteristics in family and non-family firms

Table 5 reports regression results of CEO compensation following an acquisition on deal characteristics, i.e. deal value, deal performance (CAR), type of acquisition (focused versus diversified , foreign versus domestic acquisition), number of days that it takes to complete an acquisition, and governance characteristics. We observe that the coefficient estimate for family dummy is positive but statistically insignificant. Thus, we do not find a significant difference in CEO compensation of acquirers between family and non-family firms. For *FamilyCEO* the coefficient estimate is negative and significant suggesting that family CEOs receive relatively lower compensation that professional CEOs following an

acquisition. This finding confirms our results in Table 3b and Table 4a. Consistent with the findings from previous studies, we observe that deal value has a positive and significant impact on CEO compensation. Similar to our results in Table 2 we find that CEOs who are involved in foreign acquisitions receive higher level of compensation during the post-acquisition period than CEOs involved in domestics acquisitions controlling for other deal characteristics and governance mechanisms. This result also confirms the findings of Ozkan (2012) for UK firms that foreign acquisitions provide CEOs with an opportunity of expanding their compensation regardless of deal performance.

The coefficient estimates for deal performance, CAR, which a proxy for market participants' assessment of quality of an acquisition, is positive but insignificant suggesting that CEO compensation following an acquisition is not influenced by market participants' view of the deal. We also find that deal complexity, measured by number of days to complete an acquisition, does not have an impact on CEO cash and total compensation.

[Table 5 about here]

6. Conclusion

This paper examines the impact of corporate acquisitions on CEO compensation in bidder family and non-family firms in Continental Europe. Concentrated ownership structure of family firms and dominant effect of families on the management can have potential implications about how CEO compensation packages can be designed following an acquisition. For our empirical analysis, we use a data set of 3,156 firm-year observations over the period 2001-2008 and 508 acquisitions from 2000 to 2007. We provide, to our knowledge, the first empirical evidence on the impact of acquisitions on CEO compensation in family versus non-family firms.

We find that acquisitions have a positive and significant effect on the level of CEO cash and total compensation. In addition, our results show that this positive impact of acquisitions on CEO compensation mainly comes from foreign acquisitions. When we classify our sample of firms into family and non-family firms, we find that acquisitions lead to higher level of CEO total and cash compensation in family firms, while we do not observe any significant impact of acquisitions on the level of CEO compensation in non-family firms. Further, professional CEOs in family firms experience an increase in their compensation during post-acquisition, while acquisitions do not have a significant impact on the compensation of family CEOs in family firms. This finding suggests that controlling family shareholders do not seem to provide monitoring for CEOs in family firms engaging in acquisitions as an opportunistic way to expand their compensation packages. Thus, professional CEOs in family firms would have a motivation for making acquisitions given that they can experience an increase in their compensation during post-acquisition period. Overall, our results show that family firms differ from non-family firms in the way they compensate their CEOs following an acquisition and thereby providing motivation for corporate acquisitions.

References

Aggarwal, R., Erel, I., Ferreira, M., Matos, P., 2011. Does governance travel around the world? Evidence from institutional investors. Journal of Financial Economics 100, 154–181.

Andres, C. 2008. Large shareholders and firm performance: An empirical examination of founding-family ownership. Journal of Corporate Finance 14, 431–445.

Amoako-Adu, B., Baulkaran, V., Smith, B.F., 2011. Executive compensation in firms with concentrated control: The impact of dual class structure and family management. Journal of Corporate Finance 17, 1580–1594.

Anderson, R.C., Reeb, D.M., 2003. Founding-family ownership and firm performance: evidence from the S&P 500. Journal of Finance 58 1301-1328.

Barth, E., Gulbrandsen,T., Schone, P., 2005. Family ownership and productivity: the role of owner-management. Journal of Corporate Finance 11 107-127

Basu, N, Dimitrova, L., Paeglis, I., 2009. Family control and dilution in mergers. Journal of Banking and Finance 33 829-841.

Bauguess, S., Stegemoller, T., 2008. Protective governance choices and the value of acquisition activity. Journal of Corporate Finance 14, 550–566.

Bennedsen, M., Meiner Nielsen, K.M., Perez-Gonzalez, F., Wolfenzon, D., 2007. Inside the family firm: the role of families in succession decisions and performance. Quarterly Journal of Economics 122, 647–91.

Bertrand, M., Schoar, A., 2006. The role of family in family firms. Journal of Economic Perspectives 20, 73-96.

Bouzgarrou, H, Navatte, P., 2013. Ownership structure and acquirers performance: Family vs. non-family firms. International Review of Financial Analysis 27, 123-134.

Burkart, M., Panunzi, F., Shleifer, A., 2003. Family Firms. Journal of Finance 58, 2167–2202.

Caprio, L., Croci, E., Del Guidice, A., 2011. Ownership structure, family control and acquisition decisions. Journal of Corporate Finance 17, 1636-1657.

Claessens, S., Djankov, S., Fan, J.P.H., Lang, L.H.P., 2002. Disentangling the incentive and entrenchment effects of large shareholdings. Journal of Finance 57, 2741–71.

Croci, E., Gonenc, H., Ozkan, N., 2012. CEO compensation, family control, and institutional investors in Continental Europe. Journal of Banking and Finance 36, 3318–3335.

Cronqvist, H., Nilsson, M., 2003. Agency costs of controlling minority shareholders. Journal of Financial and Quantitative Analysis 38, 695–719.

Eckbo, E., Thorburn, K.S., 2000. Gains to bidder firms revisited: Domestic and foreign acquisitions in Canada. Journal of Financial and Quantitative Analysis 35, 1-25.

Faccio, M., Lang, L.H.P., 2002. The ultimate ownership of Western European corporations. Journal of Financial Economics 65, 365–395.

Franks, J., Mayer, C., Volpin, P., Wagner, H.F., 2010. The life cycle of family ownership; a comparative study of France, Germany, Italy and U.K. Working Paper (London Business School.

Gregory, A., O'Donohoe, S., 2014. Do cross border and domestic acquisitions differ? Evidence from the acquisition of UK targets. International Review of Financial Analysis 31, 61-69.

Gerakos, J.J., Piotroski, J.D., Srinivasan, S., 2013. Which U.S. market interactions affect CEO pay? Evidence from UK companies. Management Science 9, 2413-2434

Grinstein, Y., Hribar, P., 2004. CEO compensation and incentives, Evidence from M&A Bonuses. Journal of Financial Economics 73, 119-143.

Harford, J., Li, K., 2007. Decoupling CEO wealth and firm performance, The case of acquiring CEOs. Journal of Finance 62, 917-949.

Harford, J., Schonlau, R.J., 2013. Does the director labor market offer ex post settling-up for CEOs? The case of acquisitions. Journal of Financial Economics 110, 18-36.

Li, F., Srinivasan, S., 2011. Corporate governance when founders are directors. Journal of Financial Economics 102, 454-469.

Lin, S., Hu, S., 2007. A family member or professional management. Corporate Governance, An International Review 15, 1348-1362.

Martynova, M., Renneboog, L., 2011. The performance of the European market for corporate control, Evidence from the fifth takeover wave. European Financial Management 17, 208–259.

Masulis, R.W., Wang, C., Xie, F., 2009. Agency problems at dual-class companies. Journal of Finance 64, 1697-1727,

Miller, D., Le Breton-Miller, I.,, Lester, R.H., 2010. Family ownership and acquisition behaviour in publicly-traded firms. Strategic Management Journal 31, 201-223.

Moeller, Sara B., Schlingemann, F.P., 2005. Global diversification and bidder gains: a comparison between cross-border and domestic acquisitions. Journal of Banking and Finance 29, 533-564.

Morck, R., Shleifer, A., Vishny, R., 1988. Management ownership and market valuation: An empirical analysis. Journal of Financial Economics 20, 293-315.

Morck, R.K.,, Yeung, B., 2003. Agency problems in large family business groups. Entrepreneurship Theory and Practice 27, 367–382.

Ozkan, N., 2012. Do CEOs gain more in foreign acquisitions than domestic acquisitions? Journal of Banking and Finance 36, 1122–1138.

Shim, J., Okamuro, H., 2011. Does ownership matter in mergers? A comparative study of the causes and consequences of mergers by family and non-family firms. Journal of Banking and Finance 35, 193–303.

Smith, B.F., Amoako-Adu, B., 1999. Management succession and financial performance of family controlled firms. Journal of Corporate Finance 5, 341-368.

Sraer, D., Thesmar, D., 2007. Performance and behavior of family firms: evidence from the French stock market. Journal of European Economic Association 5, 709–751.

Villalonga, B., Amit, R., 2006. How do family ownership, management and control affect firm value? Journal of Financial Economics 80, 385–417.

Zahra, S.A., 2003. International Expansion of U.S. manufacturing family businesses: The effect of ownership and involvement. Journal of Business Venturing 18, 495-512.

Table 1: Summary statistics

Panel A of this table reports mean and median values of several deal characteristics. Completion day is total number of days between announcement and deal completion dates. Cumulative Abnormal Returns (CARs) are calculated by using market-adjusted model. Relative size is the ratio of deal value to market capitalization of bidders. Panel B reports the mean and median values of variables. *FamilyCEO* is a dummy variable that takes the value of 1 when a family member is the CEO in a family firm. *Institutions* is the total percentage of shares held by financial institutions. *BoardSize* is the total number of executive and non-executive directors. *BoardBusyness* is a dummy variable that equals one if is the board is defined as busy, which occurs when 50% or more of the board's outside directors hold three or more directorships in other quoted companies. *BoardIndependency* is the ratio of independent non-executive directors to board size. *CEOAge* is the age of the CEO. *DualShares* is a binary variable that takes the value of 1 if the firm has a dual class equity structure in year t. *StockReturn* represents the annual stock return adjusted by the local market return. *Profitability*, Return on Assets, is the industry-adjusted ratio of net income to total assets. *Market-to-Book Ratio*, the Market-to-Book ratio, is the ratio of the market value of shareholders' equity to the book value of shareholders' equity. *Risk* is the annual standard deviation of daily stock returns. *TOTAL* is the total compensation. *Sales* is in thousands of Euros. Panel C report mean and median values of compensations: *CASH* is the total cash compensation, which is composed of salary and bonuses. The symbols ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Deal characteristics

Variable	All Firms (N=508)		Family Firms (N=181)		Non-Family Firms (N=327)	
	Mean	Median	Mean	Median	Mean	Median
Deal size	1185.022	133.050	588.563	130.000	1515.172	140.957
Completion Day	89.666	53.000	86.971	48.000	91.158	56.000
CAR (-1,+1)	0.007	0.004	0.009	0.005	0.006	0.003
CAR (-2,+2)	0.008	0.005	0.013	0.008	0.006	0.004
Relative Size	0.092	0.027	0.098	0.039	0.089	0.024
Domestic	0.498	0.000	0.536	1.000	0.477	0.000
Focused	0.610	1.000	0.580	1.000	0.627	1.000
Public Deals	0.315	0.000	0.315	0.000	0.315	0.000

Panel B: Descriptive statistics

| | Full Sample | | Non-Acquiring Firms Only (N=1577 firms/year) | | | |
| | All Sample (N=3156 firms/year) | | Non-Family Firms (N=817 firms/year) | | Family Firms (N=760 firms/year) | |
	Mean	Median	Mean	Median	Mean	Median
FamilyCEO	0.180	0.000			0.463	0.000
StockReturn	0.043	0.043	0.024	0.041	0.033	0.025
Market-to-Book Ratio	2.861	2.189	2.910	2.157	3.083	2.347
Profitability	-0.029	-0.056	-0.089	-0.060	-0.047	-0.056
Sales	6,977,571	1,333,145	3,559,627	876,100	2,657,966	526,142
Risk	2.205	1.937	2.335	2.048	2.210	1.910
Institutions	0.190	0.157	0.210	0.188	0.132	0.109
DualShares	0.274	0.000	0.206	0.000	0.288	0.000
BoardSize	11.605	11.000	11.367	10.000	9.429	9.000
BoardBusyness	0.364	0.000	0.251	0.000	0.232	0.000
BoardIndependency	0.229	0.200	0.219	0.176	0.194	0.167
CEOAge	53.517	53.000	52.294	52.000	53.862	54.000

| | Acquiring Firms Only (N=1579 firms/year) | | | | | |
| | All Sample (N=1579 firms/year) | | Non-Family Firms (N=954 firms/year) | | Family Firms (N=625 firms/year) | |
	Mean	Median	Mean	Median	Mean	Median
FamilyCEO	0.136***	0.000***			0.344***	0.000***
StockReturn	0.057**	0.051***	0.062***	0.062*	0.050	0.037
Market-to-Book Ratio	2.728***	2.155	2.607***	2.105	2.914	2.212
Profitability	0.011***	-0.053***	0.015***	-0.045***	0.005**	-0.060
Sales	10,800,000***	2,899,323***	12,900,000***	4,734,824***	7,640,211***	1,878,700***
Risk	2.134***	1.884***	2.145***	1.884***	2.119*	1.883
Institutions	0.208***	0.178***	0.238***	0.213***	0.162***	0.128***
DualShares	0.303***	0.000***	0.261***	0.000***	0.366***	0.000***
BoardSize	12.775***	12.000***	13.695***	13.000***	11.371***	11.000***
BoardBusyness	0.487***	0.000***	0.490***	0.000***	0.483***	0.000***
BoardIndependency	0.251***	0.222***	0.278***	0.239***	0.211	0.182**
CEOAge	53.984***	54.000***	54.515***	54.000***	53.173	53.000

Panel C: Compensation (thousands of Euros)

Non-Acquiring Firms Only (N=1577 firms/year)

	All Sample (N=3156)		Non-Family (N=817)		Family Firms (N=760)		Family CEO (N=352)		Profes CEO (N=408)	
	Mean	**Median**	**Mean**	**Median**	**Mean**	**Median**	**Mean**	**Median**	**Mean**	**Median**
TOTAL	1443.922	756.814	1074.882	670.445	813.311	471.644	742.286	410.283	874.588	532.511
CASH	974.428	656.106	791.776	569.614	648.957	440.339	589.133	391.771	700.571	478.567

Acquiring Firms Only (N=1547 firms/year)

	All Sample (N=1579)		Non-Family (N=954)		Family Firms (N=625)		Family CEO (N=215)		Profes CEO (N=410)	
	Mean	**Median**	**Mean**	**Median**	**Mean**	**Median**	**Mean**	**Median**	**Mean**	**Median**
TOTAL	1938.394	1103.193	2079.347	1190.159	1723.242	990.568	1356.623	465.633	1915.493	1131.778
CASH	1225.590	899.437	1266.876	939.607	1162.570	825.212	1039.424	428.265	1227.147	953.237

Table 2: CEO compensation and acquisitions

This table reports the estimates of the OLS regressions for the natural logarithm of the total compensation (*TOTAL*); for the natural logarithm of cash compensation (*CASH*). All regressions include country, industry and year fixed effects. The ownership and financial variables are lagged with respect to the dependent variable. *Acquisition (Foreign_ Acquisition* and *Domestic_ Acquisition)* is a dummy variable, which is equal to one for the year following an acquisition. The Definitions of all other variables are given in Table 1. Robust standard errors clustered at the firm level are in brackets. The symbols ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	TOTAL		CASH	
Constant	2.527***	2.519***	2.798***	2.793***
	[0.493]	[0.493]	[0.459]	[0.458]
Acquisition	0.109**		0.090*	
	[0.055]		[0.050]	
Foreign_Acquisition		0.118**		0.097*
		[0.056]		[0.051]
Domestic_Acquisition		0.062		0.057
		[0.111]		[0.100]
Institutions	0.536***	0.537***	0.486***	0.486***
	[0.185]	[0.185]	[0.162]	[0.162]
BoardSize	0.038***	0.038***	0.034***	0.034***
	[0.010]	[0.010]	[0.009]	[0.009]
BoardBusyness	0.333***	0.333***	0.190***	0.190***
	[0.065]	[0.065]	[0.059]	[0.059]
BoardIndependency	0.478***	0.478***	0.277*	0.277*
	[0.166]	[0.166]	[0.154]	[0.154]
CEOAge	-0.003	-0.003	0.002	0.002
	[0.004]	[0.004]	[0.004]	[0.004]
DualShares	0.121*	0.122*	0.094	0.094
	[0.071]	[0.071]	[0.064]	[0.064]
StockReturn	0.046	0.046	0.045	0.045
	[0.051]	[0.051]	[0.047]	[0.047]
Market-to-Book Ratio	0.040***	0.040***	0.034***	0.034***
	[0.012]	[0.012]	[0.011]	[0.011]
Profitability	-0.128**	-0.128**	-0.087*	-0.087*
	[0.053]	[0.053]	[0.049]	[0.049]
Size	0.251***	0.252***	0.222***	0.222***
	[0.026]	[0.026]	[0.024]	[0.024]
Risk	0.024	0.024	0.011	0.011
	[0.027]	[0.027]	[0.025]	[0.025]
Adjusted R-sq	0.458	0.458	0.44	0.44
Observations	3156	3156	3156	3156

Table 3a: CEO compensation and acquisitions in non-family firms
This table reports the estimates of the OLS regressions for the natural logarithm of the total compensation (*TOTAL*); for the natural logarithm of cash compensation (*CASH*) for our sample of non-family firm, which includes 1771 firm-year observation. All regressions include country, industry and year fixed effects. The ownership and financial variables are lagged with respect to the dependent variable. *Acquisition (Foreign_ Acquisition* and *Domestic_ Acquisition)* is a dummy variable, which is equal to one for the year following an acquisition. The definitions of all other variables are given in Table 1. Robust standard errors clustered at the firm level are in brackets. The symbols ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	TOTAL		CASH	
Constant	2.384***	2.376***	2.547***	2.541***
	[0.579]	[0.580]	[0.530]	[0.531]
Acquisition	0.042		0.005	
	[0.060]		[0.056]	
Foreign_Acquisition		0.056		0.014
		[0.058]		[0.055]
Domestic_Acquisition		-0.015		-0.036
		[0.134]		[0.122]
Institutions	0.430*	0.429*	0.325*	0.325*
	[0.242]	[0.242]	[0.191]	[0.192]
BoardSize	0.012	0.012	0.014	0.014
	[0.011]	[0.011]	[0.009]	[0.009]
BoardBusyness	0.331***	0.330***	0.203***	0.202***
	[0.074]	[0.074]	[0.062]	[0.062]
BoardIndependency	0.452**	0.451**	0.271	0.270
	[0.193]	[0.193]	[0.170]	[0.170]
CEOAge	0.001	0.001	0.007	0.007
	[0.005]	[0.005]	[0.004]	[0.004]
DualShares	0.058	0.059	0.067	0.067
	[0.088]	[0.088]	[0.074]	[0.074]
StockReturn	0.100	0.102*	0.071	0.072
	[0.061]	[0.061]	[0.057]	[0.057]
Market-to-Book Ratio	-0.152**	-0.152**	-0.103**	-0.103**
	[0.061]	[0.061]	[0.052]	[0.052]
Profitability	0.032*	0.032*	0.022	0.022
	[0.016]	[0.016]	[0.014]	[0.014]
Size	0.300***	0.301***	0.248***	0.248***
	[0.027]	[0.027]	[0.022]	[0.022]
Risk	0.003	0.003	-0.004	-0.004
	[0.033]	[0.033]	[0.029]	[0.029]
Adjusted R-sq	0.507	0.507	0.483	0.483
Observations	1771	1771	1771	1771

Table 3b: CEO compensation and acquisitions in family firms

This table reports the estimates of the OLS regressions for the natural logarithm of the total compensation (*TOTAL*); for the natural logarithm of cash compensation (*CASH*) for our sample of non-family firms, which includes 1385 firm-year observations. All regressions include country, industry and year fixed effects. The ownership and financial variables are lagged with respect to the dependent variable. *Acquisition (Foreign_ Acquisition* and *Domestic_ Acquisition)* is a dummy variable, which is equal to one for the year following an acquisition. The definitions of all other variables are given in Table 1. Robust standard errors clustered at the firm level are in brackets. The symbols ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	TOTAL		CASH	
Constant	3.138***	3.138***	3.174***	3.179***
	[0.752]	[0.752]	[0.714]	[0.714]
Acquisition	0.225**		0.261***	
	[0.100]		[0.092]	
Foreign_Acquisition		0.213**		0.239**
		[0.107]		[0.096]
Domestic_Acquisition		0.297		0.396**
		[0.183]		[0.161]
FamilyCEO	-0.063	-0.062	0.053	0.054
	[0.121]	[0.121]	[0.112]	[0.112]
Acquisition*FamilyCEO	-0.191		-0.254	
	[0.169]		[0.155]	
Foreign_Acquisition*FamilyCEO		-0.159		-0.202
		[0.176]		[0.160]
Domestic_Acquisition*FamilyCEO		-0.481		-0.704**
		[0.393]		[0.322]
Institutions	0.501	0.497	0.640**	0.634**
	[0.308]	[0.308]	[0.289]	[0.288]
BoardSize	0.061***	0.061***	0.056***	0.056***
	[0.017]	[0.017]	[0.016]	[0.016]
BoardBusyness	0.241**	0.240**	0.118	0.117
	[0.109]	[0.109]	[0.101]	[0.101]
BoardIndependency	0.318	0.314	0.127	0.122
	[0.280]	[0.280]	[0.270]	[0.270]
CEOAge	-0.006	-0.006	-0.003	-0.003
	[0.006]	[0.006]	[0.006]	[0.006]
DualShares	0.167	0.168	0.1	0.102
	[0.111]	[0.111]	[0.104]	[0.104]
StockReturn	-0.083	-0.084	-0.051	-0.052
	[0.085]	[0.085]	[0.077]	[0.077]
Market-to-Book Ratio	-0.092	-0.091	-0.08	-0.078
	[0.081]	[0.081]	[0.075]	[0.075]
Profitability	0.057***	0.057***	0.051***	0.052***
	[0.019]	[0.019]	[0.017]	[0.017]
Size	0.201***	0.201***	0.193***	0.193***
	[0.046]	[0.047]	[0.044]	[0.045]
Risk	0.025	0.025	0.006	0.007
	[0.044]	[0.044]	[0.040]	[0.040]
Adjusted R-sq	0.427	0.426	0.425	0.425
Observations	1385	1385	1385	1385

Table 4a: CEO compensation and acquisitions in family and non-family firms

This table reports the estimates of the OLS regressions for the natural logarithm of the total compensation (*TOTAL*) and cash compensation (*CASH*) for our whole sample of family and non-family firms. *Acquisition_Family* (*Acquisition_Non-Family*) is a dummy variable, which is equal to one for the year following an acquisition by a family (non-family) firm. *Non-acquisition_Family* is a dummy variable, which is equal to one for the year when there is no any acquisition in the previous year by a family frim. All regressions include country, industry and year fixed effects. The ownership and financial variables are lagged with respect to the dependent variable. The definitions of all other variables are given in Table 1. Robust standard errors clustered at the firm level are in brackets. The symbols ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	TOTAL	CASH
Constant	2.633***	2.874***
	[0.484]	[0.452]
Acquisition_Family (β_1)	0.000	0.06
	[0.110]	[0.099]
Acquisition_Non-Family (β_2)	0.077	0.032
	[0.061]	[0.057]
Non-acquisition_Family (β_3)	-0.159***	-0.124**
	[0.061]	[0.056]
Institutions	0.442**	0.419***
	[0.180]	[0.157]
BoardSize	0.036***	0.032***
	[0.010]	[0.009]
BoardBusyness	0.329***	0.186***
	[0.066]	[0.059]
BoardIndependency	0.451***	0.258*
	[0.166]	[0.155]
CEOAge	-0.003	0.002
	[0.004]	[0.004]
DualShares	0.140*	0.107*
	[0.072]	[0.065]
StockReturn	0.041	0.041
	[0.051]	[0.047]
Market-to-Book Ratio	0.042***	0.035***
	[0.012]	[0.011]
Profitability	-0.121**	-0.081*
	[0.053]	[0.048]
Size	0.253***	0.223***
	[0.026]	[0.024]
Risk	0.023	0.01
	[0.027]	[0.025]
Adjusted R-sq	0.46	0.442
Observations	3156	3156
F Statistics		
(β_1) = (β_2)	0.43	0.07
(β_1) = (β_3)	2.76*	4.48**

Table 4b: CEO compensation, acquisitions and CEO type

This table reports the estimates of the OLS regressions for the natural logarithm of the total compensation (*TOTAL*) and cash compensation (*CASH*) for our whole sample of family and non-family firms. All regressions include country, industry and year fixed effects. The ownership and financial variables are lagged with respect to the dependent variable. The definitions of all other variables are given in Table 1. Robust standard errors clustered at the firm level are in brackets. The symbols ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	TOTAL	CASH
Constant	2.889***	3.077***
	[0.494]	[0.462]
Acquisition_FamilyCEO (β_1)	-0.283	-0.188
	[0.215]	[0.198]
Acquisition_ProfessionalCEO (β_2)	0.059	0.116
	[0.110]	[0.096]
Non-acquisition_FamilyCEO (β_3)	-0.290***	-0.189*
	[0.108]	[0.100]
Non-acquisition_ProfessionalCEO (β_4)	-0.150**	-0.136**
	[0.065]	[0.056]
Acquisition_Non-Family	0.028	-0.013
	[0.058]	[0.054]
Institutions	0.452**	0.431***
	[0.184]	[0.158]
BoardSize	0.035***	0.032***
	[0.010]	[0.009]
BoardBusyness	0.320***	0.179***
	[0.065]	[0.059]
BoardIndependency	0.421**	0.24
	[0.166]	[0.155]
CEOAge	-0.002	0.002
DualShares	0.134*	0.103
	[0.071]	[0.064]
StockReturn	0.039	0.039
	[0.051]	[0.047]
Market-to-Book Ratio	0.042***	0.034***
	[0.012]	[0.011]
Profitability	-0.127**	-0.089*
	[0.053]	[0.048]
Size	0.243***	0.215***
	[0.026]	[0.024]
Risk	0.019	0.007
	[0.027]	[0.025]
Adjusted R-sq	0.462	0.442
Observations	3156	3156
F Statistics		
(β_1) = (β_2)	2.31	2.18
(β_1) = (β_3)	0.00	0.00
(β_2) = (β_4)	4.17**	7.72***

Table 5. Deal characteristics and CEO compensation

This table reports the results from two-step Heckman correction. In the first step, we run a probit regression model estimating the likelihood that a firm engages in an acquisition and compute inverse Mill's ratio (Heckman correction variable) and include it as an explanatory variable in equation 4 where the natural logarithm of the total compensation (TOTAL) and cash compensation (CASH) are dependent variables. The definitions of all variables are given in Table 1. Robust standard errors clustered at the firm level are in brackets. The symbols ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	TOTAL	CASH
Constant	2.518***	3.570***
	[0.961]	[0.840]
Family	0.078	0.109
	[0.130]	[0.107]
FamilyCEO	-0.536*	-0.454*
	[0.311]	[0.274]
Foreign_Acquisition	0.173*	0.155*
	[0.103]	[0.088]
DealSize	0.114***	0.081***
	[0.031]	[0.025]
Diversify	-0.15	-0.096
	[0.123]	[0.103]
CAR (-1,+1)	0.034	0.04
	[1.158]	[1.003]
Time-to-complete	0.000	0.000
	[0.000]	[0.000]
Inverse Mill's ratio	-0.104	-0.244
	[0.197]	[0.179]
Acquiror's size	0.228***	0.161***
	[0.054]	[0.042]
BoardSize	0.026**	0.030***
	[0.012]	[0.010]
BoardBusyness	0.273*	0.13
	[0.148]	[0.124]
BoardIndependency	0.018	-0.168
	[0.309]	[0.274]
CEOAge	0.006	0.007
	[0.007]	[0.006]
DualShares	0.213	0.164
	[0.131]	[0.102]
Adjusted R-sq	0.376	0.358
Observations	508	508