european corporate governance institute

Takeovers and (Excess) CEO Compensation

Finance Working Paper N° 519/2017
July 2017

Isabel Feito-Ruiz
University of Leon
Luc Renneboog
Tilburg University and ECGI

© Isabel Feito-Ruiz and Luc Renneboog 2017. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

This paper can be downloaded without charge from:
https://doi.org/10.67929/ecgi-fin-519-2017

european corporate governance institute

ECGI Working Paper Series in Finance

Takeovers and (Excess) CEO Compensation

Working Paper N° 519/2017
July 2017

Isabel Feito-Ruiz
Luc Renneboog

We are grateful for interesting suggestions by Fabio Braggion, Marc Goergen, Chendi Zhang, Oliver Spalt, Yang Zhao, Ludo de Bisschop, Cara Vansteenkiste, Rik Frehen, Greg Trojanowski, Fabio Castiglionesi, William Megginson, Félix López Iturriaga, Garen Markarian, Ana I. Fernández, Susana Menéndez-Requejo, Carlo Chiarella and by the participants to seminars at the CUNEF (Madrid, Spain) and presentations at the 30th International Conference of the French Finance Association (AFFI) (Lyon, France), the XXIII ACEDE Annual Conference (Málaga, Spain) and Finance Forum (Segovia, Spain), the 14th Infiniti Conference (Dublin). This paper was completed during Isabel Feito-Ruiz' visiting stay at Tilburg University. This work was supported by the Spanish Economy and Competitiveness Ministry (ECO2012-31772) and Asturias (Project SV-PA-13_ECOEMP-19). All remaining errors are our own.

© Isabel Feito-Ruiz and Luc Renneboog 2017. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

Abstract

We study if a CEO's equity-based compensation affects the expected value generation in takeovers. When the objectives of management and shareholders are more aligned, as proxied by the use of equity-based com-pensation, more value-maximizing acquisitions are expected. Whereas in widely-held firms the decision power is with the management, in firms with concentrated ownership the decision power may be with major blockholders. This may entail that ownership concentration and equity-based pay are substitutes. We find a strongly positive relation between equity-based compensation and cumulative abnormal announcement re-turns at takeovers, but this relation is eroded when dominant share blocks are held by corporations, which confirms the substitution effect. Powerful CEOs in companies with weak boards and without actively moni-toring shareholders may set their own pay which could lead to excesses. We relate excess pay to how takeo-ver decisions are received by the market, and demonstrate that excess compensation negatively affects the acquirer's stock valuation at a takeover announcement. The market is thus able to identify firms with agency problems and is cautious in its expectations about potential value creation by means of acquisitions.

Keywords: Equity-based compensation, Mergers and acquisitions (M&As), Takeover, Shareholder protection, Ownership concentration.

JEL Classifications: G30, G32, G34, F30

Isabel Feito-Ruiz
Lecture in Finance
University of Leon, Department of Business Administration
Campus Vegazana s/n.
E-24071 Leon, Spain
phone: +00349872934900, fax: +0034987291740
e-mail: ifeir@unileon.es

Luc Renneboog*
Professor of Corporate Finance
Tilburg University, Department of Finance
P.O. Box 90153, 5000LE
Tilburg, Netherlands
phone: +13 31 466 8210, fax: +13 31 466 2875
e-mail: luc.renneboog@uvt.nl

*Corresponding Author

Takeovers and (Excess) CEO Compensation

Isabel Feito-Ruiz
University of Leon.
Department of Business Administration, Campus Vegazana s/n. E-24071 Leon (Spain).
E-mail:ifeir@unileon.es

and

Luc Renneboog
Tilburg University.
Department of Finance, P.O. Box 90153, 5000LE Tilburg (Netherlands)
E-mail: luc.renneboog@uvt.nl

Abstract.

We study if a CEO's equity-based compensation affects the expected value generation in takeovers. When the objectives of management and shareholders are more aligned, as proxied by the use of equity-based compensation, more value-maximizing acquisitions are expected. Whereas in widely-held firms the decision power is with the management, in firms with concentrated ownership the decision power may be with major blockholders. This may entail that ownership concentration and equity-based pay are substitutes. We find a strongly positive relation between equity-based compensation and cumulative abnormal announcement returns at takeovers, but this relation is eroded when dominant share blocks are held by corporations, which confirms the substitution effect. Powerful CEOs in companies with weak boards and without actively monitoring shareholders may set their own pay which could lead to excesses. We relate excess pay to how takeover decisions are received by the market, and demonstrate that excess compensation negatively affects the acquirer's stock valuation at a takeover announcement. The market is thus able to identify firms with agency problems and is cautious in its expectations about potential value creation by means of acquisitions.

Keywords: Equity-based compensation, Mergers and acquisitions (M&As), Takeover, Shareholder protection, Ownership concentration.

JEL codes: G30; G32; G34, F30.

Acknowledgment: We are grateful for interesting suggestions by Fabio Braggion, Marc Goergen, Chendi Zhang, Oliver Spalt, Yang Zhao, Ludo de Bisschop, Cara Vansteenkiste, Rik Frehen, Greg Trojanowski, Fabio Castiglionesi, William Megginson, Félix López Iturriaga, Garen Markarian, Ana I. Fernández, Susana Menéndez-Requejo, Carlo Chiarella and by the participants to seminars at the CUNEF (Madrid, Spain) and presentations at the 30th International Conference of the French Finance Association (AFFI) (Lyon, France), the XXIII ACEDE Annual Conference (Málaga, Spain) and Finance Forum (Segovia, Spain), the 14th Infiniti Conference (Dublin). This paper was completed during Isabel Feito-Ruiz' visiting stay at Tilburg University. This work was supported by the Spanish Economy and Competitiveness Ministry (ECO2012-31772) and Asturias (Project SV-PA-13_ECOEMP-19). All remaining errors are our own.

Takeovers and (Excess) CEO Compensation

1. Introduction

Corporate investment decisions such as those on mergers and acquisitions (M&As) may be driven by the managers' personal objectives such as maximizing personal wealth or private benefits, possibly even at the expense of shareholder value. An executive compensation contract, especially when it comprises equity-based remuneration, ought to align the managerial objectives with those of shareholders. According to the *optimal contracting theory*, equity-based compensation of top executives may be effective in shaping long-term corporate investment policies and encourage managers to make decisions that do not hurt the return required by shareholders (Jensen and Ruback, 1983; Shleifer and Vishny, 1986). In an M&A context, Datta, Iskandar-Datta, and Raman (2001) find a positive relation between the abnormal returns of bidding firms in takeovers and top executive stock option compensation. Thus, giving shareholder-oriented incentives to top management leads to better takeovers (this is at least what the market seems to believe). The authors also find that managers pay lower premiums in takeovers and undertake more risky investments when these have high levels of equity-compensation. Therefore, they support the efficacy of stock option-based compensation to motivate managers to take on risky projects that maximize shareholders' value (even in the absence of active ownership). Likewise, Williams and Rao (2006) document that stock options are effective means for motivating managers to alter their risk incentive behavior.

Our research aims to answer the following questions for European mergers and acquisitions, while controlling for internal corporate governance aspects (such as board structure, the existence of director networks), external governance (ownership concentration by type of owner), the countries' corporate governance regulations, and firm and takeover transaction characteristics:

First, does CEO equity-compensation (LTIPs and stock options) have a positive effect on the bidder's shareholder valuation when an M&A is announced?

Second, how does CEO equity-compensation interact with other monitoring mechanisms (such as concentrated ownership) in the context of takeover decisions?

Third, do top executives receive excess pay, and - if this is the case - does excess compensation influence the takeover decision as well as the takeover transaction' valuation?

Our results show that, first, bidder's shareholders put a higher expected value on the takeover transaction (the expected synergies) at the announcement for firms of which CEOs receive a higher

level of equity-based compensation. This suggests that the shareholders have more faith in takeover decisions when the proceeds/losses will also be shared with the top management (through their equity claims when the options and restricted stock vest). Second, the major blockholders do not have an impact on the relation between the CEOs' equity-based compensation and the M&A announcement with exception of the dominant corporate blockholders whose presence erodes the relation between the bidder's shareholder value at announcement and the equity-based bay. The latter result is consistent with a substitute effect between the monitoring role concentrated ownership (held by corporations) and the self-regulatory role of equity-based compensation (Bebchuk and Hamdani, 2009). Third, strong equity-based incentives are not always leading to value-maximizing decisions: when CEOs receive what is perceived as excessive compensation, the market reacts negatively to corporate decisions such as takeovers. Public concerns about the excess remuneration of top managers have shown that CEOs' compensation could blur fair managerial corporate investment judgments and be regarded as an agency problem (*managerial power theory*).

Our contributions to the literature are threefold. First, although some academic studies have examined the relation between CEOs' compensation and takeover performance, that focus was limited to the US market for corporate control. We analyze the effect of the top executive equity-based remuneration on the share price reaction to intra-European corporate bids. As Continental Europe's corporate governance differs from those of the US and UK (stakeholder-oriented regimes of Continental Europe versus market-oriented regimes of Anglo-American countries), we will be able to answer the question as to how equity-based compensation (stock options plans and long term incentives stock schemes (LTIPs stock)) affects the takeover decision and the market reaction to takeovers in a different regulatory context. Second, our findings contribute to the view that the effectiveness of a corporate governance mechanism depends on the corporate context such as corporate ownership, which is more concentrated in Continental Europe than Anglo-American countries (Barca and Becht, 2001; Faccio and Lang, 2002). Agency problems between shareholders and managers are in general lower in the Continental European countries because blockholders have more incentives to monitor managers and they can force the managers to carefully ponder on value-creating acquisition strategies in order to avoid suboptimal risk investment decisions. Still, in these countries, another type of agency problem may arise: that between the majority shareholder and minority blockholders. Given that our dataset covers continental Europa and the UK, both types of agency costs may arise. Still, the dichotomy between shareholder-management and majority-minority shareholders does not perfectly coincide with regional borders (market-based versus blockholder-based governance systems). Specifically, not all UK firms are widely-held: a minority of listed UK firms (about 10-15% and mostly firms in the trade and logistics industry) have larger blocks amounting to more than 25% of the equity. In addition, when we take average of the largest share block of listed UK firms, we obtain 14.5%. Whether or not the 14% share stake in the UK is powerful enough to trigger majority-minority agency problems depends on the concentration of

shares in minority blocks held. Even in a country with strong ownership concentration such as Germany, about one fifth of German listed firms do not have a blockholder owning 20% or more of the shares. Consequently, both types of agency problems may arise to some extent both in the UK and in Continental European countries. For these reasons, we study different degrees of ownership concentration, ownership by type of shareholder, and the presence of a dominant shareholder of a specific type in addition to minority shareholders (by type). Our ownership measures are based on the 'ultimate owner' as we take the direct and indirectly controlled share stakes (hence, also held by intermediate investment vehicles) into account. Finally, we also contribute to the literature on the limits of CEO compensation as a corporate governance device.

The remainder of the paper is organized as follows. Section 2 reviews the literature and formulates the hypotheses. Section 3 describes the sample and methodology. Section 4 presents the data sources and sample characteristics. Section 5 presents the findings and Section 6 concludes.

2. Literature and Hypotheses

Agency conflicts between managers and shareholders in publicly held corporations refer to the fact that corporate decisions may be influenced by managers' personal objectives rather than maximization of shareholder value. Furthermore, whereas shareholders can diversify away firm-specific risk, the managers' risk is frequently undiversified as their human capital may largely depend on their company. This may induce managers to adopt corporate policies that are too risk-averse and more likely to pass up value-enhancing risky projects (Smith and Stulz, 1985). Moreover, it may be hard for shareholders to verify whether managers undertake a project, such as a takeover transaction, with an optimal combination of return and risk. To address this agency problem and to overcome managerial risk aversion, compensation contracts (*arm´s-length contracting* between shareholders and managers) can encompass the right incentives to drive managers towards value-enhancing projects. Not all components of the compensation package have a uniform effect on the risk incentives. Cash compensation, in the form of base salary and the bonus, does not provide the right incentives for managers to increase firm risk given that the former is not performance-linked and the latter has a short-term rearview horizon (Lambert and Larcker, 1987), but long-term equity-based incentive plans (LTIPs or restricted stock) and stock options may incentivize managers to take on more risky projects with long term payoff (Sudarsanam and Huang, 2007). Previous studies focusing on US M&A decisions document that stock options are an effective means to motivate managers to alter their risk incentive behavior and maximize shareholder value in the absence of effective internal control mechanisms (Datta et al, 2001; Williams and Rao, 2006).

2.1. Compensation contract incentives and corporate ownership

The corporate governance structures in Continental Europe differ significantly from the US and the UK. For instance, in Continental Europe, firms' ownership is significantly more concentrated than US and UK firms (La Porta, Lopez-de-Silanes and Shleifer, 1999; Barca and Becht, 2001; Faccio and Lang, 2002). The median US firm does not have a shareholder owning a share stake that exceeds the disclosure threshold of 5%, whereas in the median German firm the largest shareholder has majority control. Most of major shareholder activism is happening behind the scenes (Becht, Franks, Mayer and Rossi, 2009; Cziraki, Renneboog and Szilagyi, 2010; McCahery et al., 2016) and they may force management to carefully evaluate the acquisition decision in order to avoid suboptimal risky projects (Shleifer and Vishny, 1986). We therefore argue that compensation focusing on shareholder-oriented incentives is a necessity in widely-held firms (in which the atomistic shareholders are free-riding on control) and is less important in firms with strong blockholders who are large enough to internalize the costs of monitoring and are hence closely monitoring important corporate decisions (Bebchuk and Hamdani, 2009).

Hypothesis 1: *High equity-based compensation (stock options and restricted stock) of the management of bidding firms positively influences a widely-held bidder's shareholder value in a takeover (hypothesis 1a), but the level of equity-based compensation is not related to shareholder value in the presence of large monitoring shareholders in the bidding firm (hypothesis 1b).*

While this hypothesis states that the presence of large blockholders can offset the effect of equity-based compensation, an alternative hypothesis to this substitute mechanism is that high equity-based compensation leads to value-generating takeovers regardless of the degree of ownership concentration.

2.2. Excessive compensation

While equity-based compensation seeks to minimize the agency costs between managers and shareholders, excessive equity-based compensation may lead to non-value-maximizing behavior. The convex payoff structure of stock option compensation may incentivize managers to engage in risk-seeking behavior leading to overinvestment, investments in non-value-enhancing projects (Elson, 2003). Restricted stock (which usually vests after three years and is in the UK conditional on meeting a performance benchmark) is a substitute for stock options to align managers and shareholder interests. Still, the lack of a strong pay-for-performance relation and public concern about excesses of top manager remuneration shows that CEO compensation may be an agency problem itself (Bertrand and Mullainathan, 2001; Bebchuk and Fried, 2003; Grinstein and Hribar, 2004; Weisbach, 2007). A higher CEO compensation may reflect poor corporate governance structures in that managers could hijack the CEO compensation contracting and pay themselves excessive compensation (Core et al.,1999; Weisbach, 2007). This would erode the incentives and the precision to

find value-enhancing takeover deals such that no effect or a negative effect of excessive compensation on bidder takeover returns is expected.

Hypothesis 2: *Excessive CEO compensation is negatively correlated to the bidder shareholder value at a takeover transaction.*

2.3. Controlling for other corporate governance mechanisms

The board structure, director networks, and the country corporate governance regulation may also influence the valuation of takeovers by acquiring shareholders, which is why we control for the following types of variables. The board of directors is an internal control mechanism to promote and protect shareholder interests and we take into account the board size, the number of executives, the degree of the board's independence, and the CEO/Chairman duality. A higher *board size* has been shown to be associated with less effective boards and more managerial power, also called the 'busy board' problem (Yermarck, 1996; Fich and Shivdasani, 2006). Boone, Field, Karpoff and Raheja (2007) consider that the effect of the board size on the acquiring shareholder valuation is not clear because of the fact that the board size may be endogenous; it could be determined by the characteristics of the firm. The number of *executive directors* at board level (either as members of a one-tier board or as members of a management board which exists next to a supervisory board in a two-tier system) could impact corporate decision making. To supervise the management, the board of directors should comprise independent non-executives directors, who have not been managers in the firm, and do not have a remuneration or consulting contract from the firm (with exception of fees), or any other form of financial relation (e.g. through loans from the firm). Previous studies show mixed results in relation to the effect of board independence: Franks, Mayer, and Renneboog (2001) and Sudarsanam and Huang (2007) show a positive effect on M&A announcement returns, but Weir and Laing (2000), Adams and Ferreira (2007), Harris and Raviv (2008) disagree. Duchin, Matsusaka and Ozbas (2010) find that outside directors are more effective when the costs of information are lower. *CEO/chairman duality* which captures whether the functions of CEO and chairman are accumulated by one person is usually associated with higher compensation (Core et al., 1999) and less effective corporate governance. The latter follows from that fact that one of the tasks of the chairman is monitor the CEO and the decisions of the managerial team, which is *de facto* inefficient, if not impossible, and therefore induces a negative effect on takeover value.

A CEO's *professional network* may positively or negatively influence his decisions on takeovers and other types of corporate restructurings. First, being on the board of other firms may elicit valuable information about those firms, sectors, and industries (or even interesting views on the evolution of macro-economic variables). Consequently, the takeover decisions will be more informed which could then be reflected in the expected returns (Renneboog and Zhao, 2011). Acquirer returns are also higher in transactions with a second-degree connections where one acquirer director

and one target director serve on the same third board (Cai and Sevilir, 2012). Second, the fact that executive directors have been offered non-executive directorships in other firms may reflect that they have been successful managers in the past and may signal talent (Fama and Jensen, 1983). Third, on the contrary, busy CEOs with many non-executive directorships divide their attention over the firm they manage and firms they supervise. Consequently, it may be that such busy CEOs make poorer takeover decisions. In a takeover context, Ahn, Jiraporn and Kim (2010) document a non-linear relationship between the multiple directorships and the acquiring shareholder valuation. Up to a threshold, holding multiple directorships increases the value of takeover decisions, but after exceeding the threshold, more outside director positions held by managers of bidding firms could decrease the expected value of the takeover.

In addition to the above internal corporate governance and CEO specific characteristics, country-level governance such as the quality of the legal and institutional environment may also influence the takeover decisions as a lower quality may induce more asymmetric information and agency problems (La Porta et al., 1998). Therefore, we expect a positive relation between the quality of legal and institutional environment in terms of shareholder protection and bidder shareholder valuation around M&A announcement. We consider the three indices developed by Martynova and Renneboog (2011b) on shareholder, minority shareholder, and creditor protection to capture the quality of the legal and institutional environment. Each of these indices also include the rule of law, the degree to which laws are enforced in courts. The *shareholder protection* index measures the degree of shareholder orientation of a national regulation. The index increases with the number and quality of legal provisions that provide shareholders with effective power to appoint and dismiss the board of directors and to control most of the important corporate decisions on, for instance, equity issues or anti-takeover measures. A higher index score reflects that management is required to act in accordance with the interests of shareholders. The *minority shareholder protection* index measures the regulatory provisions that increase the relative power of the minority shareholders in the presence of strong majority shareholders. In firms with concentrated ownership, dominant shareholders may extract private benefits of control by influencing managerial decisions for his own benefit (see e.g. Durnev and Kim, 2005). A higher index score reflects that the minority shareholders are more powerful vis-à-vis dominant shareholders. The *creditor protection* index captures the regulatory provisions that allow creditors to force repayment more easily, to take possession of the collateral, or even to gain control over the firm in case of financial distress. Again, the higher the index, the stronger the creditor protection.

2.4. Firm and transaction characteristics

The expected returns in takeovers have been shown to depend on several bidder and deal characteristics. For instance, Lang, Stulz and Walking (1989) demonstrate that firms with high *growth op-*

portunities (proxied by a large market-to-book ratio) obtain high abnormal returns around the time of the acquisition announcement. Dong, Hirshleifer, Richardson, and Teoh (2006) find evidence of the opposite; a negative relation prevails which leads them to regard a high market-to-book ratio as a proxy for overvaluation rather than of growth opportunities.

Jensen's (1986) *free cash flow* hypothesis predicts that unrestrained managers of firms with high free cash flow have more resources at their disposal to engage in empire building acquisitions at the detriment of shareholder value. High free cash flow could therefore be related to lower bidder returns. High debt levels reduce the future free cash flow and limit managerial discretion, so that *leverage* could be an effective bonding mechanism (Masulis, Wang and Xie, 2007; Marynova and Renneboog, 2009b) which would lead to more positive bidder returns. Information leakage, insider trading, market anticipation or trading on rumors related to the takeover deal can be reflected in the *price runup*. A high runup could thus reveal that part of the information generated by the takeover announcement is already incorporated in the stock prices such that the announcement returns are lower (Martynova and Renneboog, 2009).

The *target firm status* may also matter because takeover negotiations with private firms may be less complex and hence lead to lower acquisition costs relative to listed firms. Furthermore, takeovers of unlisted targets are often friendly and without bidder competition. Unlisted firms may also seek to be acquired because of liquidity problems which enables the acquirer to offer a lower price (Officer, 2007); that is to say, adverse selection forces the price to drop (Akerlof, 1970). Chang (1998) conforms greater gains for the bidder when the target firm is unlisted. Another issue, typical of unlisted firms, can affect the announcement returns: unlisted firms usually have a concentrated ownership structure, which entails that if the payment occurs by means of an all-equity or mixed transaction, the target shareholders of the new firm could become the controlling shareholder in the merged firm, especially in case the bidding firm has a dissipated ownership structure (Officer, Poulsen and Stegemoller, 2009).

Moeller, Schlingemann, and Stulz (2004) find that *bidder size* is negatively correlated with bidder returns around the M&A announcement. A related issue is the *relative deal size*: a larger target firm may be more transparent and fewer adverse selection problems in its valuation may arise (Asquith, Bruner and Mullins, 1983). A larger target size may generate higher integration costs (Agrawal, Jaffe and Mandelker (1992), which affects bidder expected returns negatively. Morck, Shleifer and Vishny (1990), Lang and Stulz (1994) and Berger and Ofek (1995) document that the takeover *diversification* (when bidder and target are in unrelated industries) diminishes the acquirer's wealth due to managers' tendency to overpay. On contrast, Jensen and Ruback (1983) and Campa and Kedia (2002) associate the diversification with wealth creation in M&As transactions, which makes the expected relation ambiguous.

The *method of payment (and the sources of financing)* may also influence the announcement returns. When the bidding firm offers equity it signals that their shares are overvalued (Myers and Majluf, 1984). Consequently, an acquisition announcement paid with equity will emit a negative signal about the bidder's shares and thus trigger a negative price reaction (Travlos, 1987; Sudarsanam and Mahate, 2003; Moeller et al., 2004). When a cash offer is made to a target firm, its share price increases significantly more than in the case of an all-equity offer. The reason is that a cash offer may signal that the bidding shareholders do not want to share future profits with the target shareholders, which may indicate that bidding firm is convinced about the quality of the target (Martynova and Renneboog, 2009). Golubov, Petmezas and Travlos (2015) find that stock-financed acquisitions are not value destructive.

Earlier studies found mixed results regarding the effect of *cross-border* versus domestic M&As on the acquiring firms' returns. Positive cross-border M&A bidder returns are associated with the benefits from the access to international capital markets (Francis, Hassan and Sun, 2008) and corporate governance spill-overs from bidder to target (Bris and Cabolis, 2008). The imposition of a better corporate governance system on the target firm, can generate value in the merged firm by eliminating managerial opportunism that may have existed at the target (Hagendorff, Collins and Keasey, 2007; Martynova and Renneboog, 2008; Feito-Ruiz and Menéndez-Requejo, 2011). In contrast, negative cross-border M&A bidder returns can be explained by agency conflicts and asymmetric information problems in foreign target firms (Moeller and Schlingemann, 2005).

A hostile *takeover attitude* by the target usually raises the price offered in an M&A. The bargained up price induces a negative valuation of the bidder's stock (Goergen and Renneboog, 2004; Campa and Hernando, 2004). The same occurs in the case of *multiple bidders* because competition may cause the winning bidder to succumb to the winner's curse and to pay a higher price for the target firm (Moeller et al., 2004). A *tender offer* is not unlike a hostile bid because the target board is frequently bypassed when the offer is made, which could then have a negative impact on the bidder's announcement returns (Moeller et al., 2004).

Finally, we will also include in our model a dummy indicating whether a *full acquisition* has taken place, which limits the transfer wealth from the target's minority shareholders to the major shareholders for example by using pyramidal control chains (La Porta *et al*., 1999; Martynova and Renneboog, 2011).

3. Data sources and sample description

To test the above hypotheses, we collect information on M&As announced by European listed bidding firms and involving both listed and unlisted target firms from around the world. Our sample period starts in 2002 when the M&A market was slowly recovering (subsequent to the equity crisis

of March 2000) and ends at the close of 2007 when the financial crisis struck which slowed down the market for corporate control.

We build our dataset from the *Thomson One Banker Mergers & Acquisitions Database*, *DataStream*. We retain transactions that: (1) are completed; (2) involve a change in the control; and (3) for which bidder share prices are available in Datastream. We gather CEO compensation information from *BoardEx* (compiled by *Management Diagnostics Limited),* which provides detailed information on executive compensation outside of the US for publically listed firms and includes biographic information on executive and non-executive directors. From *BoardEx*, we also collect cash and equity-based compensation data for all executive and non-executive board members. Cash compensation includes base salary and bonus, while equity-based compensation[1] includes the value of restricted stock, stock options, and other elements of long-term incentives plans (LTIPs) granted in a given year. We collect ownership data from the *Amadeus Database* from *Bureau Van Dijk* and use Lexis Nexis to cross-validate the M&A information collected from the databases above. Our final sample of M&A transactions consists of 216 cases involving firms from 26 countries (see Table 1). The fact that the UK comprises the largest European market for corporate control is also reflected in this sample.

The median CEO of the bidding companies earns about USD 1.4 million (although some very well paid outliers drive the average up to USD 2.9 million). Whereas the CEO of the median listed UK company earns more than his continental European counterpart, this is not the case in this sample where UK CEOs earn USD 1.3m and continental CEOs earn USD 1.6m. This difference in our sample is the consequence that the median bidding UK firm is considerably smaller than the median continental bidder.

The CEO of the median continental European firm earns USD 1.3 million in cash compensation (salary and bonus) and the UK CEO USD 801,000 in cash (Panel A of Table 2). About half of the sample firms do not pay out equity compensation, but when they do, this type of remuneration is typically higher than the cash compensation. On the average value of the allocated stock options and restricted stock (LTIPs) amounts to about USD 1.5 million; higher in Continental Europe

[1] BoardEx distinguishes between (1) the intrinsic value of options, which is calculated by multiplying the number of options awarded in the period by the difference between stock and exercise price, and (2) the estimated value of options awarded, which is a theoretical value that captures the potential value of the option during the vesting period by means of the Black Sholes model. We will work with the estimated value. For the value of LTIPs, BoardEx displays the maximum value obtainable under the long-term incentive plan. We call the top manager 'CEO' even when the firm calls him/her "Managing Director" or "Chairman Executive".

(USD 2.1million) than in the UK (USD 1.2 million). A similar picture is exhibited in Panel B of Table 2 for the other executive directors.

[Insert Tables 1-3 about here]

Table 3 presents an overview of the board and CEO characteristics for the Continental European and UK firms. The board size averages 9 directors; 11.6 for Continental Europe (where, in some countries such as Germany, the non-executive directors operate in a supervisory board, separated from the management or executive board) and 8 for the UK. The difference in board composition between Continental Europe and the UK is striking: the percentage of executive directors is lower for Continental Europe than for the UK (21.4% versus 46.8%, respectively). CEOs and other executive directors are busier in Continental Europe than the UK as they hold more as non-executive directorships in Continental Europe (4 on average for CEOs) versus only 1.8 in the UK. The average number of positions for executives is also higher in Continental Europe (with 3.5) than the UK (1.7). The proportion of CEOs who founded their company amounts to 4.8% for Continental Europe firms and to 14.9% for the UK firms. CEOs are in more nomination and remuneration committees in Continental Europe than in the UK.

In Table 4, we present the ownership distribution of the bidding firm, categorizing the largest blockholder by block size and type of shareholder (Panel A). The first four columns represent the number of the bidding firms in which the majority shareholder is a family firm or individual, a financial institution, a non-financial firm, a venture capital firm, or a foundation, and the share block size (smaller than 10% of the equity, between 10 and 20%, between 20 and 60%, and more than 60%). Column (5) indicates the total number of bidding firms with a specific type of shareholder as the largest blockholder. Column (6) and (7) show the mean of ownership block by type of shareholder and its standard deviation. In Panel A, we observe that a financial institution is the largest shareholder in almost 60% of bidding firms; 18.5% has an individual or a family as largest blockholder; 17.6% has a non-financial company; 3.2% has a venture capital; and less than 1% has a foundation. The mean of the ownership held by the largest shareholder in the bidder firm is 23.3% on average. The percentage of ownership held by a family or an individual is 25.2%, 41.7% if it is a non-financial firm, 17.4% if it is a financial institution, 16.9% if it is a venture capital and 32.2% if it is a foundation. In panel B we compare the ownership distribution of the M&As by type of largest shareholder in bidding firms from Continental Europe and UK, respectively. We observe that there are significant differences between the mean of the percentage of ownership when the largest shareholder is a family or an individual. In Continental Europe, the percentage held by a family or an individual is 48.5%, while in the UK it is 18.4%. Similarly, for the other categories of owner, concentrated ownership structures is stronger in Continental Europe than in the UK.

Table 5 presents the firm and M&A transaction characteristics of the sample. The market to book ratio of acquiring firms is on average 1.6, and the leverage ratio (debt/assets) amounts to 20%. On

average, there is no price run-up. The majority of the deals (66.2%) are announced by large firms (in the largest size quartile), the relative size of the target firm is small (20% only of the bidder's size). The majority of the target firms are unlisted (75% of the deals). Acquiring firms paid for the majority of M&As with cash only (69%). The majority of the M&As are focused in the sense that they take over a target in the same industry (70.4%), domestic (54.3%), friendly (99.5%), and full acquisitions in that they acquire all the target's equity (97.7% of the cases).

4. Bidder shareholder valuation and equity-based compensation

In the first part of our analysis, we estimate the acquiring shareholders' returns around the M&A announcement which is followed by modeling of the determinants of the acquiring shareholder valuation.

4.1. Bidder stock price reactions and their determinants

To examine the stock price effect of the M&A announcement, we calculate the cumulative abnormal returns (CARs) around the announcement date, by means of the market model of which the parameters are estimated in the period (-200, -21) days before the announcement date using a local index. CARs for the acquiring shareholders are positive on the announcement day with 0.7%, which is in line with earlier other findings for Europe (e.g. Martynova and Renneboog, 2011a) and the US (Moeller et al., 2004) (see Table 6). To examine the effects of the equity-based compensation on the bidder shareholder returns we carry out a multivariate analysis using an OLS regression with industry, country and year fixed effects and report robust standard errors. Besides, we control for transaction and firm characteristics and other corporate governance mechanism. The basic specification of the model is as follows:

$$\begin{aligned} CAR_{i,j} = {} & \beta_0 + \beta_1 EquityCompensation_i + \beta_2 BidderOwnership + \beta_3 EquityCompensation_i * BidderOwnership + \\ & + \beta_4 BoardCharacteristics + \beta_5 Network + \beta_6 CEOCharacteristics + \beta_7 CorporateGovernance + \\ & + \beta_8 FirmCharacteristics_i + \beta_9 DealCharacteristics + \sum_k \varphi_k IndustryDummies + \sum_m \delta_m CountryDummies + \\ & + \sum_t \psi_t YearDummies + \varepsilon_{i,j} \quad (1) \end{aligned}$$

We calculate the CAR in a two-day window before and after the announcement date and the explanatory variables include:

Equity-based compensation (EBC) which is the natural logarithm of one plus the total CEO equity compensation (stock option and restricted stock) divided by total CEO compensation over the fiscal year prior to the announcement. We will also test the stock option compensation (natural logarithm of one plus stock option divided by total CEO compensation) and the LTIPs (restricted stock) (natural logarithm of one plus LTIPs divided by total CEO compensation) separately. Hypothesis 1a points out that we expect a positive effect on the bidder shareholder valuation. We also interact

equity-based compensation with bidder ownership in order to investigate whether the presence of strong shareholder control neutralizes the impact of equity-based compensation on the bidder shareholder value (hypothesis 1b). *Salary* (and *Bonus*) are defined as the natural logarithm of one plus the total CEO salary (bonus) divided by total CEO compensation earned over the fiscal year prior to the announcement.

Bidder ownership concentration is defined as the percentage of control rights held by the ultimate owner. Following Martynova and Renneboog (2009), we focus on control rights rather than on stock because we want to control for dual class shares, pyramidal ownership structures, multiple control chains, and cross-holdings. Strong control may induce tight monitoring of managerial decisions such that management may have less discretion to undertake takeover transactions that are not value-enhancing. We not only include the percentage of ownership to capture concentration, but also the degree to which specific thresholds are reached. We include dummy variables capturing the size of the ownership stake held by the large shareholder: *Ownership10* is defined as a dummy variable that takes the value of 1 if the large shareholders held less than 10%, *ownership10/20* when the shareholder held between 10% and 20%, *ownership20/60* when it is between 20% and 60% and *ownership60* when the shareholder percentage is higher than 60% (if we consider 10, 25, 50% thresholds or (close) alternative cut-off values, the results do not differ much). Not only the voting rights concentration may matter in terms of monitoring but also the type of shareholder holding those voting rights as some types may be on average more inclined to monitor than others. Therefore, we also consider the identity of the ultimate owners partition them into these categories: (i) *Family*, for individuals or families; (ii) *Financial institutions* (*e.g.* mutual funds, pension funds, banks, insurance companies); (iii) *Non-financial firms* (private or public firms, not active in the financial industry); (iv) *Venture capital*, for venture capital firms; (v) *Foundation*, for trusts and foundations. While families and non-financial blockholders may actively monitor managerial decision making and are thus more concerned about the firm value creation in acquisitions (Feito-Ruiz and Menendez-Requejo, 2010), it is not certain whether all institutional investors try to influence the firm's strategic policies (Hartzell and Staks, 2003). While some institutions can be regarded as activists (Ferreira, Massa and Matos, 2010) demonstrate that foreign institutional investors often engage more with the firm they invest in), others take a passive stance. Considering the issue that dominant shareholders could expropriate the rights of minority shareholders, we consider the ownership structure of each firm by including its dominant shareholder (by type of shareholder) as well as the blockholders who own at least 5% but are minority blockholders (by type of shareholder). This way, we include for instance that the dominant shareholder is a family or individual and that there are also other blockholders present e.g. of the type institutional blockholder, other corporation, etc. So, in addition to the *Dominant blockholder dummies* (dominant corporations, institutional investors, and individuals/families), which are dummy variables set to one if the largest blockholder is of this type of shareholder, we also include in our models the variables *With mi-*

nority Family/ Corporate/ Institutional/ Government block which are the interaction terms of the dummy capturing the presence of a minority block of this type with the presence of a dominant shareholder of the types mentioned above. We will also include the interaction terms between the dominant blockholders and the equity-based pay.

We control for *board characteristics, networks, corporate governance, and firm and deal characteristics* (all are defined in Appendix A).

In Table 7, we present the results of the above model: we find that the abnormal returns for acquiring firms are higher when the CEO earns a higher equity-based compensation and salary, which supports hypothesis 1a. The result remains valid when we progressively add more control variables (board characteristics, the CEO's network, the bidder's ownership structure, corporate governance indices, firm financial variables, transaction characteristics) to the industry, country[2], and time fixed effects (models (1) to (6)). The board characteristics of the bidder firm (size, proportion of executive directors, chairman duality, and board independence) do not seem to affect the expected takeover returns. In contrast, the announcement returns of takeovers initiative by busy CEOs, who serve on many boards, are lower by about one third. Table 7 also reveals that the bidder's ownership structure and the corporate governance regulation (at the country level) do not have a significant impact. What does have an impact is the price runup and the relative size of the transaction: a higher price runup and a large target firm lead trigger higher expected returns. As documented in the literature (e.g. Martynova and Renneboog, 2011), friendly M&As increase the acquiring shareholder value around the M&A announcement (whereas in the case of hostile bids, the market fears that upwardly revised bids will create a winner's curse which reflects to a value-destroying takeover). The results are robust to the use of different windows for the announcement CARs such as (-1,+1), (-1,0), (-3,+3).

Table 8 presents the results of the models explaining bidder returns which now include interaction terms between the equity-based compensation and the ownership concentration (hypothesis 1b). We also confirm that equity-based compensation has a positive effect on bidder returns, but when the acquiring firm has both an ultimate shareholder with high levels of ownership concentration and a CEO with high equity-based compensation, the positive effect is reduced (Models (3) and (5)) – this is especially the case when another corporation is a blockholder ((Models (2), (4) and (6)). This finding is in line with hypothesis 1b; in a bidding firm with this type of blockholder, the managerial decisions are better monitored and important decisions that can have a substantial impact on corporate value will be screened by the blockholder, such that the need (and effect) of strong equity-based incentives for the management is lower. This result suggests that equity-based

[2] In the model that includes the corporate governance indices (which are measured by country), country fixed effects are excluded.

pay and strong ownership held by a corporation are substitute governance mechanisms, although this substitution effect is confined to ownership only held by corporations. We also observe that the bidder returns are higher when the ultimate shareholder has high levels of ownership concentration and it is a family or a company, which indicates that the ownership concentration has a managerial control effect on the acquiring firms. The positive effect of family firms on the acquiring shareholder valuation is consistent with the result found by Feito-Ruiz and Menendez-Requejo (2010). All other results from the main model presented in Table 7 are upheld.

[Insert Tables 6-8 about here]

4.2. Excess compensation

Next, we examine the impact of excessive compensation in the bidding firms on the announcement returns of the takeover transaction. It may be that CEOs whose remuneration is in the very top percentiles of remuneration have been able to dominate the remuneration contracting process and extract high rents from the firm. Such high compensation may reflect that internal monitoring (boards) or external monitoring (shareholders) are deficient, and that the management has much (uncontrolled) discretion in corporate decision making. If this were the case, then takeover decision process may not be geared towards value-maximization either. First, we estimate the total (or equity-based) compensation of CEO by means of the following Tobit model:

$$\begin{aligned} CEOCompensation = {} & \varphi_0 + \varphi_1 BoardCharacteristics + \varphi_2 Network + \varphi_3 CEOCharacteristics + \\ & + \varphi_4 BidderOwnership_i + + \varphi_5 GorporateGovernance_1 + \varphi_6 BidderPerformance + \varphi_7 BiddderSize_i + \\ & + \varphi_8 BidderGrowthOpportunities + \varphi_7 Leverage + \sum_k {}_k IndustryDummies + \sum_m \delta_m CountryDummies + \\ & + \sum_t \psi_t YearDummies + \varepsilon_{i,j} \quad (2) \end{aligned}$$

The dependent variable CEO Compensation represents the CEO's total compensation in the year prior to the M&A. The independent variables are listed under equation (1) (and are defined in Appendix A). The *excess compensation* is the difference between the real compensation and the predicted compensation from equation (2), which is input in equation (3). We expect a negative effect of CEO compensation on the CARs (Hypothesis 2).

$$\begin{aligned} CAR_{i,j} = {} & \beta_0 + \beta_1 ExcessCompensation_i + \beta_2 BidderOwnership + \beta_3 EquityCompensation * BidderOwnership + \\ & + \beta_4 BoardCharacteristics + \beta_5 Network + \beta_6 CEOCharacteristics + \beta_7 CorporateGovernance + \\ & + \beta_8 FirmCharacteristics_i + \beta_9 DealCharacteristics + \sum_k \varphi_k IndustryDummies + \sum_m \delta_m CountryDummies + \\ & + \sum_t \psi_t YearDummies + \varepsilon_{i,j} \quad (3) \end{aligned}$$

Tables 9 show the results of the estimation of the CEO's total compensation. Founder-CEOs earn less compensation. Firms with larger boards pay a higher compensation to the CEO (while board size may proxy for firms size, we do also include firm size as a control variable). Blockholders

(families, financial institutions, and other corporations)[3] seem to put a brake on total compensation. A lower pay is expected in such firms as the expected large shareholder monitoring would reduce the discretion that top management has on the remuneration contracting process. We now turn to the relation between the bidder returns and the excess total CEO compensation (Table 10). Consistent with hypothesis 2, we find that the excess CEO total compensation, negative and significantly affect the bidders' returns. Excessive compensation does not minimize the agency costs between managers and shareholders, but could rather be the expression of serious agency problems. We find that takeovers made by managers with excessive pay are more negatively received by the market.

[Insert Tables 9-10 about here]

5. Robustness

Dominant vs minority shareholders

European firms (but also a subsample of listed UK firms) may suffer from conflicts of interest between controlling and minority shareholders (Bechuck and Hamdani, 2009; Mork, Wolfenzon and Yeung, 2005, among others), which is why we perform some robustness tests on the findings of Tables 7-8: we include in our models variables capturing the ownership stakes held by the large shareholder. *Ownership5/10* is a dummy variable that takes the value of 1 if the largest shareholder hold more than 5% and less than 10%, *ownership10/20* and *ownership20/60* equal 1 when the shareholders hold between 10% and 20% and between 20% and 60%, respectively, and *ownership60* is 1 when the shareholder owns more than 60%. We also include the interaction term between these variables and the CEO's equity-based compensation. The results are shown in Table 11 and are in line with those shown in Table 7-8: the positive and significant effect of CEO equity-based compensation is maintained, and interaction term between CEO equity-based compensation and ownership concentration higher than 20% is negatively statistically significance supporting substitution effect.

In Table 12, we include whether the firm has a dominant shareholder of a specific type (family, financial institution, or corporation) and whether minority blockholders (by type) are present. We find little correlation between the bidder CARs and ownership with exception of the positive impact of family ownership and the negative correlation of the interaction between a dominant share stake held by a corporation and the equity-based compensation. This is entirely in line with the above findings on ownership concentration.

[3]Given that there is not any stated-owned firm in the sample, we cannot see the possible effect of this large shareholder on the compensation in Europe, not being possible to compare our results with the recent paper of Liang, Renneboog and Sun (2015) for Chinese firms.

[Insert Tables 11 and 12 about here]

CEO turnover risk, CEO pay slice and total CEO compensation

The CEO's excess compensation may be influenced by the risk of being dismissed and the CEO's compensation relative to the other of top managers (which may reflect the presence of agency conflicts). As a robustness check we have re-run the regressions of Table 9 by including the CEO turnover risk (estimated following Peters and Wagner (2014)) and the CEO pay slice (following Bebchuk, Cremers and Peyer (2011)). We find that CEO turnover risk has a negative impact on the total CEO compensation; this result is not in line with Peter and Wagner (2014) (see Appendix Table B1). This difference might be associated with the fact that our sample focuses on bidder firms that undertake an M&A in Europe, instead of all the US firms. The positive coefficient of CEO pay slice, the fraction of the CEO's total compensation relative to the top-five executives, may proxy for the CEO's power to influence his compensation. Our re-estimated excess CEO total compensation is input in the models of Table B2 (Appendix B) and these results are in line with what was reported for Table 10.

CEO equity-based compensation and takeover probability: selection bias

Another concern could be the possible selection bias problem in relation to the CEO equity-based compensation and the takeover deal as the propensity of undertaking a takeover may be affected by the CEO's equity-based compensation, which is the first stage of our Heckman selection model. In the second stage, we analyze the determinants of the CARs considering the possible relation between equity-based pay and the probability that an M&A is undertaken. The results of this analysis are shown in Tables B3 and B3 (Appendix B): a CEO's equity-based compensation has a negative effect on the takeover probability, which is in line with previous studies indicating that CEOs make fewer wealth-reducing mergers when they own more stock (Bliss and Rosen, 2001, among others). After controlling for this effect, we show that the effect of CEO equity-based compensation is positively correlated to the CARs around the takeover announcement, which corroborates the robustness of our results detailed above.

6. Conclusions

This paper analyzes if the CEO's equity-based compensation affects takeover decisions and their expected value generation. When the objectives of the management and shareholders are more aligned, as proxied by the use of equity-based compensation, one may expect that the right type of (value-maximizing) acquisitions are made and that this is perceived as such by the market. The bidder's stock price is then expected to be higher. Given that we work with a sample of European acquisitions and that a subsample of bidders have concentrated ownership, we also focus on the

role of large shareholders as monitors and decision makers. Whereas in widely-held firms, the decision power is with the management, in firms with concentrated ownership, the decision power may be with the major blockholders which may entail that ownership concentration and equity-based pay are substitutes. We find a strongly positive relation between equity-based compensation and stock prices, while controlling for CEO traits (age, tenure, being a founder, network size), board characteristics (size, independence of directors, CEO-chairman duality, committee membership), the degree of external monitoring (ownership concentration by type of owner: families and individuals, corporations, financial institutions, etc.), the level of shareholder protection in the country of the bidder, and firm characteristics (size, growth, free cash flow). Furthermore, the positive relation between equity-based pay is eroded in a context of concentrated ownership. A detailed analysis of ownership involving the distinction between who holds the dominant share blocks (families, corporations, financial institutions) along with minority share blocks reveals that a substitution effect between equity-based pay and concentrated ownership arises in case a corporation is the dominant blockholder.

While equity-based pay turns management into co-owners and should make their decision making more value-oriented, it is possible that powerful CEOs in companies with weak boards and lack of actively monitoring shareholders manage to set their own pay (and pay-for-performance structure) which could lead to excesses. We therefore estimate a 'normal' remuneration for the CEO considering some of his traits (such as age, and tenure or experience), firm attributes (such as size and financial performance), industry, country (e.g. the degree of investor protection), and the year of pay. We then obtain excess pay by subtracting normal from the actual pay. We relate excess pay to how takeover decisions are received by the market, and demonstrate that excess compensation negatively affects the acquirer's stock valuation at a takeover announcement. The market is thus able to identify firms with agency problems and is cautious in its expectations about the potential value creation by means of acquisitions.

References

Adams, R.B., Ferreira, D. (2007): "A Theory of Friendly Boards". Journal of Finance, 62, 217–250.

Agrawal, A., Jaffe, J., Mandelker, G. (1992): "The Post-merger Performance of Acquiring Firms: a Re-Examination of an Anomaly". Journal of Finance, 47, 1605-22.

Ahn, S., Jiraporn, P., Kim, Y.S. (2010): "Multiple directorship and acquiring returns". Journal of Banking and Finance, 34, 2011-2026.

Akerlof, G.A. (1970): "The Market for "lemons": Quality Uncertainty and the Market Mechanism". Quarterly Journal of Economic, 84, 488-00.

Asquith, P., Bruner, R., Mullins, D. (1983): "The Gains to Bidding Firms from Merger". Journal of Financial Economics, 11, 121-39.

Barca, F., Becht, M. (2001): "The Control of Corporate Europe" (Oxford: Pxford University Press).

Bebchuck, L.A., Cremers, K.J.M, Peyer, U.C. (2011): "The CEO pay slice". Journal of Financial Economics, 102, 199-221.

Bebchuk, L., Fried, J. (2003): "Executive compensation as an agency problem". Journal of Economic Perspectives, 17, 71–92.

Bebchuck, L.A., Hamdani, A. (2009): "The Elusive Quest for Governance Standards". University of Pennsylvania Law Review, 157, 1263-1317.

Becht, M., Franks, J., Mayer, C. Rossi, S. (2009): "Return to Shareholder Activism: Evidence from a Clinical Study of Hermes U.K. Focus Funds". Review of Financial Studies, 22, 3093-3129.

Berger, P.G., Ofek, E. (1995): "Diversification's Effect on Firm Value". Journal of Financial Economics, 37, 39-65.

Bertrand, M., Mullainathan,S. (2001): "Are CEOS Rewarded for Luck? The Ones without Principals Are". The Quarterly Journal of Economics, 116 (3), 901-932.

Boone, A., Field, L., Karpoff, J., Raheja, C. (2007): "The Determinants of Corporate Board Size and Composition: an Empirical Analysis". Journal of Financial Economics, 85, 66–101.

Bliss, T., Rosen, R. (2001). CEO Compensation and Bank Mergers. Journal of Financial Economics, 61, 107-138.

Bris, A., Cabolis, C. (2008): "The Value of Investor Protection: Firm Evidence from Cross-Border Mergers". The Review of Financial Studies, 21, 605-649.

Cai, Y., Sevilir, M. (2012): "Board Connection and M&A transactions". Journal of Financial Economics, 103, 327-349.

Campa, J.M., Kedia, S. (2002): "Explaining the Diversification Discount". Journal of Finance, 57, 1731-62.

Campa, J.M., Hernando, I. (2004): "Shareholder Value Creation in European M&As". European Financial Management, 10, 47-81.

Chang, S. (1998): "Takeovers of Privately Held Targets, Method of Payment, and Bidder Returns". Journal of Finance, 53, 773-84.

Core, J.E., Holthausen, R.W., Larcker, D.F. (1999): "Corporate Governance, Chief Executive Officer Compensation, and Firm Performance". Journal of Financial Economics, 51, 371-406.

Cziraki, P., Renneboog, L. Szilagyi, P.G. (2010): "Shareholder Activism through Proxy Proposals: The European Perspective". European Financial Management, 16 (5), 738-777.

Datta, S., Iskandar-Datta, M., Raman, K. (2001): "Executive Compensation and Corporate Acquisition Decisions". The Journal of Finance, 56 (6), 2299-2336.

Dodd, P., Warner, J.B. (1983): "On Corporate Governance: A study of Proxy Contests". Journal of Financial Economics, 11, 401-38.

Dong, M., Hirshleifer, D., Richardson S., Teoh, S.H. (2006): "Does Investor Misevaluation Drive the Takeover Market?" Journal of Finance, 61, 725-62.

Duchin, R., Matsusaka, J.G., Ozbas, O. (2010): "When are Outside Directors Effective?" Journal of Financial Economics, 96, 195–214.

Durnev, A., Kim, H. (2005): "To Steal or Not to Steal: Firm Attributes, Legal Environment, and Valuation". Journal of Finance, 60, 1461–1493.

Elson, C. (2003): "What´s Wrong with Executive Compensation?" Harvard Business Review. 81(1), 68-77.

Faccio, M., Lang, L.H.P. (2002): “The Ultimate Ownership of Western European Corporations”. Journal of Financial Economics, 65, 365-395.
Fama, E., Jensen, M.C. (1983): “Separation of Ownership and Control”. Journal of Law and Economics, 26, 3001-325.
Ferreira, M.A., Massa, M., Matos., P. (2010): “Shareholder at the Gate: Institutional Investors and Cross-border mergers and acquisitions”. Review of Financial Studies, 23, 601-644.
Feito-Ruiz, I., Menendez-Requejo, S. (2010): “Family Firm Mergers and Acquisitions in Different Legal Environments”. Family Business Review, 23, 60-75.
Feito-Ruiz, I., Menendez-Requejo, S. (2011): “Cross-border Mergers and Acquisitions in Different Legal Environments”. International Review of Law and Economics, 31, 169-187.
Franks, J., Mayer, C., Renneboog, L. (2001): “Who Disciplines Management in Poorly Performing Companies?” Journal of Financial Intermediation, 10, 2009-248.
Francis, B.B., Hassan, I., Sun, X. (2008): “Financial Market Intergration and the Value of Global Diversification: Evidence fior U.S. Acquirers in Cross-Border Mergers and Acquisitions”. Journal of Banking & Finance, 32, 1522-1540.
Fich, E., Shivdasani, A. (2006): “Are Busy Boards Effective Monitors?” Journal of Finance, 61(2), 689-724.
Fidrmuc, J.A., Goergen, M., Renneboog, L. (2006): “Insider Trading, News Releases and Ownership Concentration”. Journal of Finance, 61 (6), 2931-2974.
Goergen, M., Renneboog, L. (2004): “Shareholder Wealth Effects of European Domestic and Cross-border Takeover Bids”. European Financial Management, 10, 9-45.
Grinstein, Y. Hribar, P. (2004): “CEO Compensation and Incentives Evidence from M&A Bonuses”. Journal of Financial Economics, 73 (1), 119-143.
Golubov, A., Petmezas, D., Travlos, N.G. (2015): “Do Stock-Financed Acquisitions Destroy Value? New Methods and Evidence”. Review of Finance, doi: 10.1093/rof/rfv009.
Harris, M., Raviv, A. (2008): “A Theory of Board Control and Size”. Review of Financial Studies, 21, 1797–1832.
Hagendorff, J., Collins, K., Keasey, K. (2007). Investor Protection and the Value Effects of Bank Mergers Announcements in Europe and the US”. Journal of Banking and Finance, 54, 1969-1997.
Haztzell, J.C., Starks, L.T. (2003): “Institutional Investors and Executive Compensation”. Journal of Finance, 58 (6), 2351-2374.
Jensen, M.C., Ruback, R.S. (1983): “The Market for Corporate Control: the Scientific Evidence”. Journal of Financial Economics, 11, 5-50.
Jensen, M. C. (1986): “Agency Cost of Free Cash Flow, Corporate Finance, and Takeovers”. American Economic Review, 76, 323-329.
Lambert, R.A., Larcker, D.F. (1987): “Executive Compensation Effects of Large Corporate Acquistions”. Journal of Accounting and Public Policy, 6, 231-243.
Lang, L., Stulz, M., Walkling, R.A. (1989). Managerial Performance, Tobin’s Q, and the Gains from Successful Tender Offers. Journal of Financial Economics, 24, 137-154.
Lang, L., Stulz, R.M. (1994): “Tobin's Q. Corporate Diversification and Firm Performance”. Journal of Political Economy, 102, 1248-80.
La Porta, R., López-de-Silanes, F., Shleifer, A. (1999): “Corporate Ownership around the World”. Journal of Finance, 54, 471-17.
La Porta, R., López-de-Silanes, F., Shleifer, A. (1999): “Corporate Ownership around the World”. Journal of Finance, 54, 471-17.
Liang, H., Renneboog, L., Sun, S.L. (2015): “The Political Determinants of Executive Compensation: Evidence from an Emergy Economy”. Emerging Markets Review, 25, 69-91.
Myers, S., Majluf, N. (1984): “Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have”. Journal of Financial Economics, 13, 187-21.
Martynova, M., Renneboog, L. (2008): “Spillover of Corporate Governance Standard in Cross-border Mergers and Acquisitions”. Journal of Corporate Finance, 14, 200-23.
Martynova, M., and Renneboog, L. (2009): “What Determines the Financing Decision in Corporate takeovers: Cost of Capital, Agency Problems, or the Method of payment?” Journal of Corporate Finance, 15, 290-315.

Martynova, M., Renneboog, L. (2011a): "The Performance of the European Market for Corporate Control: Evidence from the Firth Takeover Wave". European Financial Management, 17, 208-259.

Martynova, M. and L. Renneboog (2011b): "Evidence on the International Evolution and Convergence of Corporate Governance Regulations". Journal of Corporate Finance, 17 (5), 1531-1557.

Masulis, R., Wang, C., Xie, F. (2007): "Corporate Governance and Acquirer Returns". Journal of Finance, 4, 1851-1889.

McCahery, J.A., Sautner, Z., Stark, L.T. (2016): "Behind the Scenes: The Corporate Governance Preferences of Institutional Investors". Journal of Finance, 71 (6), 2905-2932.

Morck, R., Shleifer, A., Vishny, R.W. (1990): "Do Managerial Objectives Drive Bad Acquisitions?" Journal of Finance, 45, 31-48.

Morck, R., Wolfenzon, D., Yeung, B. (2005): "Corporate Governance, Economic Entrenchment and Growth". Journal of Economic Literature, 43, 3, 655-720.

Moeller, S.B., Shilingemann, F.P., Stulz, R.M. (2004): "Do Shareholders of Acquiring Firms Gain from Acquisitions?" Journal of Financial Economics, 73, 201-228.

Moeller, S.B., Shilingemann, F.P. (2005): "Global Diversification and Bidder gains: A Comparison between Cross-border and Domestic Acquisitions". Journal of Banking & Finance, 29, 533-64.

Officer, M. (2007): "The Price of Corporate Liquidity: Acquisition Discounts for Unlisted Targets". Journal of Financial Economics, 83, 571–598.

Officer, M., Poulsen, A., Stegemoller, M. (2009): "Target-firm Information Asymmetry and Acquirer Returns". Review of Finance, 13, 467–493.

Peters, F.S., Wagner, A.F. (2014): "The Executive Turnover Risk Premium". Journal of Finance, 69 (4), 1529-1563.

Renneboog, L., Zhao, Y. (2011): "US Knows us in the UK: On Director Networks and CEO Compensation". Journal of Corporate Finance, nº 17, 1132-1157.

Shleifer, A., Vishny, R.W. (1986): "Large Shareholder and Corporate Control". Journal of Political Economy, nº 94, 461-488.

Smith, C., Stulz, R. (1985): "The Determinants of Firms' Hedging Policies". Journal of Financial & Quantitative Analysis, 20, 391-405.

Sudarsanam, S., Mahate, A.A. (2003): "Glamour Acquirers, Method of Payment and Post-acquisition Performance: The UK Evidence". Journal of Business Finance & Accounting, 30, 299-42.

Sudarsanam, S., Huang, J. (2007): "Executive Compensation and Managerial Overconfidence: Impact on Risk Taking and Shareholder Value in Corporate Acquisitions. International Mergers and Acquisitions Activity Since 1990". Recent Research and Quantitative Analysis. Edited by: Greg N. Gregoriou & Luc Renneboog.

Travlos, N.G. (1987): "Corporate Takeover Bids, Method of Payment and Bidding Firms´ Stock Returns". Journal of Finance, 42, 973-63.

Weisbach, M.S. (2007): "Optimal Executive Compensation versus Managerial Power: a Review of Lucian Bebchuk and Jesse Fried's ''Pay without Performance. The Unfulfilled Promise of Executive Compensation''. Journal of Economic Literature, 45, 419–428.

Weir, C., Laing, D. (2000): "The Performance-Governance Relationship: The Effect of Cadbury Compliance on U.K. Quoted Companies". Journal of Management and Governance, 4, 265- 281.

Williams, M.A., Rao, R.P. (2006): "CEO Stock Options and Equity Risk Incentives". Journal of Business Finance & Accounting, 33, 26-44.

Yermack, D. (1996): "Higher Market Valuation of Companies with a Small Board of Directors". Journal of Financial Economics, 40, 185–211.

Table 1. Geographical distribution of M&A sample

Sample includes 216 M&A deals announced by European listed bidder on listed targets from all over the world. Source: *Thomson One Banker Mergers & Acquisitions Database*

	All	
Country	***Acquiring firm***	***Target firm***
Australia		2
Austria		1
Belgium	1	1
Canada		8
China		2
Czech Republic		1
Denmark		4
Egypt		2
Finland	7	2
France	18	9
Germany	3	9
Hong Kong, China		1
Ireland-Rep	9	6
Israel		1
Italy	2	4
Netherlands	9	6
Norway	5	4
Russian Fed.		1
Singapore		1
South Africa		1
Spain	4	7
Sweden	10	3
Switzerland	3	3
United Kingdom	145	105
United States		31
Utd Arab Emirate		1
All	216	216

Table 2. Descriptive Statistics of Managerial Compensation.

Summary statistics for the sample of M&A announcements by European listed bidders. The target firms comprise both listed and non-listed firms from around the world. The table shows the mean and median, the standard deviation, and the maximum values. We winsorize the financial ratios at the bottom and top 1% level. The variable description is given in appendix A. The remuneration data are the most recent ones prior to the M&A announcement. We also consider subsamples based on bidders from Continental Europe and the UK. The difference in means is based on a t-test. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively. Data source: Own calculation based on BoardEx.

	Full Sample (N=216)				Bidder Firms From Continental Europe (N=62)				Bidder Firms From UK and Ireland (N=154)				
Variables	**Mean**	**Median**	**Std. dev.**	**Max**	**Mean**	**Median**	**Std. dev.**	**Max**	**Mean**	**Median**	**Std. dev.**	**Max**	**Mean Dif.** *(p-value)*
Panel A: CEO Compensation													
Salary (000 $)	764.76	572.50	678.54	5309	1058.13	797	1015.07	5309	646.65	557	432.75	1992	(0.000)***
Bonus (000 $)	467.23	206	694.32	4368	615.63	157	918.20	4171	407.48	226	573.39	4368	(0.046)**
Cash LITPs (000 $)	17.91	0	157.90	1568	0.19	0	1.52	12	25.04	0	186.81	1568	(0.857)
All Cash Compensation (000 $)	1249.89	847	1228.74	8745	1673.95	1276	1688.24	8745	1079.17	801	930.72	5950	(0.104)
Options (000 $)	397.29	0	1943.32	23100	970.53	0	3155.21	23100	166.50	0	1072.81	8669	(0.006)***
Stocks (000 $)	13.52	0	195.42	2872	0.68	0	5.34	42	18.70	0	231.43	2872	(0.541)
LTIPs (000 $)	1083.38	25	2693.58	21100	1147.32	0	3525.97	17200	1057.64	249	2288.32	21100	(0.825)
Equity-based Compensation (000 $)	1494.19	212	3532.01	23100	2118.53	0	5026.07	23100	1242.83	264.50	2690.22	21100	(p=0.099)*
Pension (000 $	83.79	0	239.08	2413	111.61	0	370.72	2413	72.59	16.50	158.40	1026	(0.279)
Other (000 $)	113.38	33	283.76	1790	119.35	35	319.41	1790	110.98	39	269.18	1592	(0.845)
Total Compensation (000 $)	2941.26	1376	4455.86	31900	4023.45	1618	6212.46	31900	2505.57	1331.50	3442	25700	(0.023)**
Equity Compensation (%)	25.93	19.14	27.66	99.77	21.16	0	30.24	88.17	27.85	28.54	26.42	99.77	(0.108)
Panel B: Executive Compensation (Average, excluding CEOs)													
Salary (000 $)	587.80	423.75	553.49	4574	872.46	601.95	876.47	4574	472.44	397.75	276.71	1403.17	(0.041)**
Bonus (000 $)	325.812	160.40	536.282	4171	482.14	143.50	853.03	4171	262.47	166	314.45	2220	(0.628)
Cash LITPs (000 $)	44.98	0	381.01	3802	0.76	0	5.97	47	62.78	0	450.41	3802	(0.651)
All Cash Compensation (000 $)	2818.37	1943.5	2741.34	15400	2640.90	1589	2904.16	15400	2889.82	1998	2679.50	15400	(0.084)
Options (000 $)	339.99	0	1785.35	23100	900.78	0	3127.64	23100	112.74	0	617.76	5011.33	(0.158)
Stocks (000 $)	7.27	0	98.08	1436	1.92	0	11.06	77	9.44	0	116.09	1436	(0.347)
LTIPs (000 $)	791.98	127.50	2106.93	17200	972.41	0	3387.61	17200	718.83	273	1275.06	9141.67	(0.000)***
Equity Compensat. (000 $)	1139.22	255	2997.03	23100	1875.10	0	4959.28	23100	841.02	348.33	1570.18	9253	(0.002)***
Pension (000 $)	1040.74	750.00	8769.00	1067.36	1519.23	941.67	1650.93	8769	846.85	685.50	615.56	3605.33	(0.015)**
Others (000 $)	128.58	57.43	213.01	1530.50	164.63	9.25	324.12	1530.50	113.97	61.25	144.83	1136.75	(0.001)***
Total Compensation (000 $)	3230.48	1928.50	4652.43	40600	4913.69	2414.08	7503.11	40600	2548.40	1851.50	2501.48	14400	(0.142)
Equity Compensation (%)	80.20	49.32	12.74	78.84	11.31	0	21.44	78.84	6.69	5.66	6.15	27.18	(0.001)***

Table 3. Board and CEO Characteristics: Descriptive Statistics

Summary statistics for the sample of M&A announcements by European listed firms over the period 2002 to 2007. The target firms comprise both listed and non-listed firms from around the world. The table shows the mean and median value, the standard deviation, and minimum and maximum values. We winsorize financial ratios at the bottom and top 1% levels. *Board characteristics* incorporates *Board size* (total number of executive and non-executive directors); *Executives* (%) is the proportion of executives on the board; *Independent board (5)* is the percentage of non-executive directors; *CEO/chairman duality* is 1 if the chairman and CEO is the same person and 0 otherwise. The *Network* variables consist of the average of the *CEO's and executives' board positions* (in quoted firms); *Busy CEO (Executives)* takes (take) the value 1 if the CEO (executives) has (have) more than 1 board in other firms. *CEO characteristics* incorporate: *CEO tenure* is the number of years that a CEO has held his position as CEO; *CEO male* gives the percentage of male CEOs; *CEO nomination/audit/remuneration committee* equals 1 if the CEO is a member of nomination/audit/remuneration committee. We also consider subsamples based on bidders from Continental Europe and the UK. The difference in means is based on a t-test. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively. Data source: Own calculations based on BoardEx.

	Full Sample						Bidder Firms From Continental Europe						Bidder Firms from UK and Ireland						
Variables	**Obs.**	**Mean**	**Median**	**Std. dev.**	**Min**	**Max**	**Obs.**	**Mean**	**Median**	**Std. dev.**	**Min**	**Max**	**Obs.**	**Mean**	**Median**	**Std. dev.**	**Min**	**Max**	**Mean Dif.** *(p-value)*
Board characteristics																			
Board size	215	9.11	9	3.76	3	30	62	11.62	11.50	4.83	4	30	153	8.09	8	2.63	3	19	(0.000)***
Executives (%)	215	39.48	40	17.80	6.67	83.33	62	21.44	15.48	14.70	6.67	75	153	46.80	44.44	13.15	21.43	83.33	(0.000)***
Independent board (%)	215	42.61	46.15	20.40	0	100	62	40.22	46.15	25.50	0	81.82	153	43.58	44.44	17.93	0	100	(0.274)
CEO/Chairman duality (%)	214	26.64	0	44.31	0	100	61	78.69	100	41.29	0	100	153	5.88	0	23.61	0	100	(0.000)***
Network																			
CEO's external directorships	215	2.44	2	2.34	1	13	61	4	3	3.46	1	13	154	1.83	1	1.27	1	7	(0.000)***
Busy CEO (%)	215	51.85	100	50.08	0	100	61	74.19	100	44.11	0	100	154	2.86	0	49.65	0	100	(0.000)***
Executives' external directorships	215	2.23	1.55	1.85	1	13	61	3.52	3	2.79	1	13	154	1.71	1.30	0.88	1	5.20	(0.000)***
Busy Executives (%)	215	71.30	100	45.34	0	100	61	79.03	100	41.04	0	100	154	68.18	100	46.73	0	100	(0.112)
CEO Characteristics																			
CEO tenure (years)	201	8.93	7.78	6.25	0.005	43.03	59	8.90	8.33	5.74	0.05	43.03	142	8.95	6.98	6.48	0.06	43.03	(0.963)
CEO age	213	51.93	53	7.48	33	69	59	53.80	54	7.71	33	59	154	51.22	52	7.29	34	69	(0.024)
CEO male (%)	213	100	100	0	0	100	60	100	100	0	0	100	153	100	100	0	0	100	
CEO founder (%)	216	12.04	0	32.62	0	100	62	4.84	0	21.63	0	100	154	14.94	0	35.76	0	100	(0.039)**
Same CEO one year after M&A (%)	216	89.81	100	30.31	0	100	62	90.32	100	29.81	0	100	154	89.61	100	30.61	0	100	(0.876)
CEO in nomination committee (%)	156	28.29	100	45.14	0	100	42	4.76	0	21.55	0	100	146	0.68	0	0.83	0	100	(0.064)*
CEO in audit committee (%)	188	1.60	100	12.56	0	100	34	2.94	0	17.15	0	100	122	35.25	0	47.97	0	100	(0.001)***
CEO in remuneration committee (%)	184	3.26	100	17.81	0	100	40	10	0	30.38	0	100	144	1.39	0	11.74	0	100	(0.007)***

Table 4. Bidder Ownership Structure: Descriptive Statistics.

The table shows the number of firms in which the largest shareholder has a specific ownership stake. The table also presents the mean and standard deviation of the ownership held by the majority shareholder (panel A). We distinguish the following types of the largest shareholders (panel A): family or individual; financial institution; non-financial firm; venture capital company; and foundation. For panel B, we add compare the subsample of bidder firms from Continental Europe and the UK. Data source: Own calculation based on Amadeus Bureau Van Dijk.

Panel A: Largest Blockholder by Type of Owner

Type of Shareholder	Below 10%	10-20%	20-60%	60-100%	Sum of largest blocks	Mean of largest block (%)	Stand. Dev. (%)
Family/Individual	9	14	13	4	40	25.17	21.64
Financial Institution	38	57	29	5	129	17.42	14.49
Non-Financial Firm	5	5	17	11	38	41.71	31.49
Venture Capital	3	3	1	-	7	16.91	17.13
Foundation	0	-	2	-	2	32.15	15.34
All	55	79	62	20	216	23.25	21.75

Panel B: Largest Blockholder by Type of Owner for Continental Europe and the UK

	Continental Europe							UK							
Type of Sharholder	**Below 10%**	**10-20%**	**20-60%**	**60-100%**	**Sum of largest blocks**	**Mean of largest block (%)**	**Stand. Dev. (%)**	**Below 10%**	**10-20%**	**20-60%**	**60-100%**	**Sum of largest blocks**	**Mean of largest block (%)**	**Stand. Dev. (%)**	**Mean Dif.** (p-value)
Family/Individual	-	1	5	3	9	48.45	22.23	9	13	8	1	31	18.41	16.35	(0.0004)***
Financial Institution	9	3	6	3	21	25.74	22.65	29	54	23	2	108	15.79	11.79	(0.358)
Non-Financial Firm	4	2	14	9	29	42.76	30.14	1	3	3	2	9	38.29	37.29	(0.525)
Venture Capital	-	-	1	-	1	53.50	-	3	3	-	-	6	10.81	6.31	(0.134)
Foundation	-	-	2	-	2	32.15	15.34	-	-	-	-	-	-	-	-
All	13	6	28	15	62			42	73	34	5	154			

Table 5. M&A Firm Characteristics: Descriptive Statistics.

The table shows the mean and median value, the standard deviation, minimum and maximum values of the firm and transaction characteristics. *Firm characteristics* consist of *Growth opportunities* (book value of the total assets minus book value of equity plus market value of equity divided by book value of total assets), *Cash flow* (EBITDA over total assets of the bidder firm), *Leverage* (total debt divided by total assets at the end of the previous year (WS item 003255/WS item 02999)), *Run-up* (cumulative abnormal returns (CARs) of the bidder firm over the window (-60, -20) days preceding the takeover), *Large Bidder* (is 1 if the bidder is within the highest quartile of the market cap at the end of the semester prior to the transaction announcement), *Relative deal size* (the log of the transaction value divided by the market value of bidder before the transaction). *Deal characteristics* comprise the method of payment *(stock payment, cash payment, mixed payment,* which equal 1 when the payment consists of 100% of stock, 100% of cash or of a mix of stock and cash; *Unlisted target* equals 1 if target is not listed; *Diversification* equals 1 when the bidder and target are in different industries (difference in the two first digits of the SIC codes); *Cross-border* equals 1 if the bidder and target firm country are not in the same country; *Takeover attitude (friendly)* equals 1 if the target reaction to the deal announcement is not hostile; *Multiple bidders* equals 1 when there are many bidders; *Full acquisition* equals 1 if bidder firm acquires the hundred percent of the target's shares; Tender offer takes the value of 1 in case of a tender offer. Data source: Own calculation based on Thomson One Banker M&As, and Datastream.

Independent variables	**Observation**	**Mean**	**Median**	**Std. dev.**	**Min**	**Max**
Firms' characteristics						
Market-to-Book	216	1.6	1.3	1.02	0.4	8.1
Cash flow (EBITDA/assets)	216	0.1	0.1	0.2	-0.8	0.5
Leverage (debt/assets)	216	0.2	0.2	0.1	0	0.7
Run-up (%)	216	-0.04	-0.01	1.6	-4.3	10.4
Large bidder (%)	216	66.2		47.4	0	100
Relative size	216	0.2	0.05	0.3	0.0002	2.4
Deal characteristics (as % of sample)						
Stock payment (%)	216	9.3		29.1	0	100
Cash payment (%)	216	69		46.4	0	100
Mixed payment (%)	216	21.8		41.4	0	100
Unlisted target (%)	216	75		43.4	0	100
Diversification (%)	216	29.6		45.8	0	100
Cross-border (%)	216	47.7		50.1	0	100
Takeover attitude (friendly) (%)	216	99.5		6.8	0	100
Multiple bidders (%)	216	2.8		16.5	0	100
Full acquisition (%)	216	97.7		15.1	0	100
Tender offer (%)	216	16.7		37.4	0	100

Table 6. Bidder Cumulative Average Abnormal Returns (CARs)

We show the cumulative abnormal returns for 216 M&A transactions announced by European listed firms on listed and unlisted target firms (all around the world). To test the significance of the returns, we use the (parametric) Dodd and Warner T-test (1983). ***, **, * represent statistical significance at the 1%, 5% and 10% level.

Event Window	All (N=216)	Test Dodd & Warner
0	0.72%***	6.90
	(p=0.000)	
(-1,+1)	1.38%***	6.82
	(p=0.000)	
(-2,+2)	1.62%***	5.81(
	(p=0.000)	
(-8,+8)	0.67%	1.29
	(p=0.20)	
(-20,+20)	0.46%	0.23
	(p=0.82)	
(-20,0)	0.31%	0.55
	(p=0.58)	
(0,+5)	1.60%***	5.51
	(p=0.07)	
(0,+8)	1.11%***	3.20
	(p=0.000)	
(0,+20)	0.87%	1.27
	(p=0.21)	

Table 7. CEO Compensation and Bidder Returns.

Sample includes 216 M&A deals announced by European listed firms (2002-2007). The dependent variable is the bidders' CARs from 2 days before to 2 days after the M&A announcement. Abnormal returns are calculated following a market model in which parameters are estimated from daily returns and market model. The explanatory variables comprise CEO equity-based compensation, CEO salary, CEO bonus, board and CEO characteristics, the bidders' acquiring ownership structures, corporate governance characteristics, and firm and transaction characteristics. The t-statistics in parentheses below the coefficients are based on a robust estimation of standard errors. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

Independent variables		**Dep. variable: CARs (-2,2)**					
	Expected sign	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
CEO Compensation							
Equity based compensation	+	0.0798*	0.0812*	0.0778	0.0850*	0.0810*	0.0861*
		(1.74)	(1.74)	(1.66)	(1.78)	(1.71)	(1.78)
Salary	+	0.1003*	0.1018*	0.0954*	0.1042*	0.0938*	0.1019*
		(1.95)	(1.96)	(1.81)	(1.94)	(1.76)	(1.87)
Bonus	+	0.0727	0.0759	0.0706	0.0769	0.0766	0.0804
		(1.30)	(1.32)	(1.21)	(1.31)	(1.30)	(1.35)
Board Characteristics							
Board Size	-		0.0003	-0.0002	-0.0001	-0.0003	-0.0002
			(0.12)	(-0.09)	(-0.05)	(-0.12)	(-0.07)
Executives	+		-0.0292	-0.0273	-0.0375	-0.0212	-0.0303
			(-0.58)	(-0.54)	(-0.73)	(-0.41)	(-0.58)
Independent board	+		-0.0234	-0.0172	-0.0186	-0.0133	-0.0168
			(-0.65)	(-0.46)	(-0.49)	(-0.35)	(-0.44)
CEO/Chairman duality	-		0.0240	0.0221	0.0213	0.0209	0.0192
			(1.35)	(1.23)	(1.18)	(1.15)	(1.02)
Network							
Busy CEO	+/-		-0.0282**	-0.0299**	-0.0298**	-0.0297**	-0.0299**
			(-2.43)	(-2.53)	(-2.49)	(-2.49)	(-2.46)
Bidder ownership characteristics (largest shareholder)							
Bidder ownership concentration	+/-			0.0243		0.0227	
				(0.77)		(0.71)	
Family/Individual	+/-				0.0914		0.0904
					(1.61)		(1.57)
Financial Firm	+/-				0.0212		0.0231
					(0.43)		(0.45)
Company	+/-				0.0078		0.0072
					(0.22)		(0.20)
Private Equity Company	+/-				0.1332		0.1201
					(0.93)		(0.82)
Foundation	+/-				-0.0181		0.0845
					(-0.11)		(0.35)
Corporate Governance Characteristics (bidder country level)							
Shareholder Protection	+					0.0170	0.0207
						(0.84)	(0.75)
Minority Shareh. Protection	+					-0.0002	-0.0089
						(0.001)	(-0.12)
Creditor Protection	+					-0.1768	-0.11690
						(-0.40)	(-0.36)

Table 7, continued. CEO Compensation and Bidder Returns.

Independent variables		Dep. variable: CARs (-2,2)					
	Expected sign	(1)	(2)	(3)	(4)	(5)	(6)
Firm Characteristics							
Growth opportunities (MTB)	+/-	-0.0047	-0.0043	-0.0032	0.0033	-0.0028	-0.0029
		(-0.83)	(-0.74)	(-0.54)	(-0.54)	(-0.46)	(-0.47)
Free cash flow	-	0.0416	0.0295	0.0268	0.0310	0.0283	0.0303
		(1.23)	(0.85)	(0.77)	(0.86)	(0.80)	(0.83)
Leverage	+	-0.0251	-0.0240	-0.0211	-0.0278	-0.0208	-0.0262
		(-0.62)	(-0.58)	(-0.51)	(-0.66)	(-0.50)	(-0.61)
Run-up	+/-	0.6033*	0.5709*	0.5594*	0.5635*	0.4996	0.5112
		(1.88)	(1.75)	(1.71)	(1.70)	(1.49)	(1.51)
Bidder size	-	0.0094	0.0142	0.0134	0.0141	0.0134	0.0145
		(0.69)	(0.91)	(0.85)	(0.89)	(0.84)	(0.90)
Relative target size	+	0.0368**	0.0336*	0.0339*	0.0354*	0.0348*	0.0356*
		(2.05)	(1.87)	(1.88)	(1.95)	(1.90)	(1.93)
Deal characteristics							
Method of payment (Stock)	-	0.0008	-0.0028	-0.0059	-0.0037	-0.0050	-0.0040
		(0.04)	(-0.14)	(-0.29)	(-0.18)	(-0.24)	(-0.18)
Target firm status (Unlisted)	+	-0.0002	-0.0020	-0.0024	-0.0037	0.0001	-0.0029
		(-0.01)	(-0.10)	(-0.11)	(-0.17)	(0)	(-0.13)
Diversification	+	0.0105	0.0128	0.0108	0.0106	0.0116	0.0109
		(0.94)	(1.12)	(0.92)	(0.988)	(0.98)	(0.89)
Cross-border	+/-	-0.0172	-0.0239	-0.0243	-0.0185	-0.0225	-0.0168
		(-1.03)	(-1.34)	(-1.37)	(-1.01)	(-1.18)	(-0.85)
Takeover attitude (friendly)	+	0.1852**	0.1869**	0.1780*	0.1676*	0.1796*	0.1664*
		(2.07)	(2.03)	(1.91)	(1.76)	(1.91)	(1.71)
Multiple bidder	-	-0.0099	-0.0053	-0.0045	-0.0051	-0.0051	-0.0046
		(-0.30)	(-0.16)	(-0.14)	(-0.15)	(-0.15)	(-0.14)
Full acquisition	+	-0.0354	-0.0373	-0.0298	-0.0246	-0.0285	-0.0212
		(-0.70)	(-0.72)	(-0.56)	(-0.45)	(-0.53)	(-0.38)
Tender offer	-	-0.0165	-0.0144	-0.0140	-0.0133	-0.0139	-0.0140
		(-0.83)	(-0.68)	(-0.66)	(-0.61)	(-0.65)	(-0.63)
Intercept		-0.1206	-0.0699	-0.0593	-0.0581	0.5689	0.5908
		(-0.85)	(-0.46)	(-0.39)	(-0.37)	(0.30)	(0.29)
Industry fixed effects		YES	YES	YES	YES	YES	YES
Country fixed effects		YES	YES	YES	YES	NO	NO
Year fixed effects		YES	YES	YES	YES	YES	YES
R-squared		0.2711	0.3129	0.3159	0.3299	0.3222	0.3349
Observations		216	214	214	214	214	214

Table 8. CEO Compensation and Bidder Returns: The Interaction effects.

The sample includes 216 M&A deals announced by European listed firms over the period 2002 to 2007. The dependent variable is the bidder's CAARs from 2 days before to 2 days after the first public M&A announcement. The model includes the CEO's equity-based compensation, salary and bonus, the board characteristics, CEO characteristics, bidder's ownership structure, corporate governance regulation, and firm and transaction characteristics. The t-statistics in parentheses below the coefficients are measured by means of robust estimation of standard errors. ***,**, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Independent variables		**Dep. variable: CARs (-2,2)**					
		(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
CEO Compensation							
Equity based compensation	+	0.1104**	0.1289**	0.9171*	0.1122**	0.1071**	0.1287**
		(2.13)	(2.22)	(1.83)	(2.05)	(2.13)	(2.24)
Salary compensation	+	0.0916*	0.0973*	0.0724	0.0850	0.0872	0.0985*
		(1.73)	(1.74)	(1.41)	(1.60)	(1.69)	(1.78)
Bonus compensation.	+	0.0794	0.0862	0.06456	0.0745	0.0696	0.0812
		(1.35)	(1.41)	(1.14)	(1.28)	(1.23)	(1.35)
Bidder ownership characteristics (largest shareholder)							
Ownership concentration	+/-	0.0630		0.0783*		0.0722*	
		(1.46)		(1.89)		(1.78)	
Family	+/-		0.1843**		0.1911**		0.1758**
			(2.22)		(2.48)		(2.16)
Financial Firm	+/-		0.0788		0.0833		0.0757
			(1.10)		(1.30)		(1.09)
Companies	+/-		0.0741		0.0936*		0.0780
			(1.41)		(1.94)		(1.54)
Private Equity	+/-		0.3332		0.3031		0.3469
			(0.98)		(0.91)		(1.03)
Foundation	+/-		-0.1175		-0.0407		0.0405
			(-0.29)		(-0.11)		(0.11)
Interactions							
Bidder ownership characteristics							
Ownership concentration*CEOEBC	+/-	-0.1531		-0.1543		-0.1722	
		(-1.38)		(-1.43)		(-1.64)	
Family *CEOEBC	+/-		-0.2287		-0.2074		-0.2170
			(-1.37)		(-1.34)		(-1.32)
Financial Firm*CEOEBC	+/-		-0.2066		-0.1812		-0.2121
			(-1.06)		(-1.00)		(-1.12)
Companies*CEOEBC	+/-		-0.2812*		-0.3258**		-0.2939*
			(-1.85)		(-2.27)		(-1.98)
Private Equity*CEOEBC	+/-		-0.5300		-0.3590		-0.5464
			(-0.73)		(-0.51)		(-0.76)
Foundation*CEOEBC	+/-		0.5830		0.5816		-0.0045
			(0.74)		(0.86)		(-0.01)
Intercept		-0.1188	-0.2234	0.0362	-0.0338	-0.1037	-0.0882
		(-0.19)	(-0.81)	(0.18)	(-0.15)	(-0.66)	(-0.56)
Other Characteristics and Controls							
Board Characteristics		YES	YES	YES	YES	YES	YES
Network		YES	YES	YES	YES	YES	YES
Corporate Governance Characteristics		YES	YES	YES	YES	NO	NO
Firm Characteristics		YES	YES	YES	YES	YES	YES
Deal Characteristics		YES	YES	NO	NO	YES	YES
Industry fixed effects		YES	YES	YES	YES	YES	YES
Country fixed effects		YES	YES	YES	YES	YES	YES
Year fixed effects		YES	YES	YES	YES	YES	YES
R-squared		0.3319	0.3622	0.2966	0.3425	0.3279	0.3553
Observations		214	214	214	214	214	214

Table 9. CEO Total Compensation.

Sample includes 216 M&A deals announced by European listed firms over the period 2002 to 2007. The dependent variable is the CEO total compensation. The explanatory variables comprise board characteristics, CEO characteristics, bidder's ownership structure, corporate governance regulation, and firm and transaction characteristics. The t-statistics in parentheses below the coefficients are based on robust estimation of standard errors. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Independent variables		**Dep. variable: Total CEO Compensation**				
		(1)	**(2)**	**(3)**	**(4)**	**(5)**
Board Characteristics						
Board Size	+	0.4297***	0.5384***	0.5345***	0.5438***	0.5423***
		(4.28)	(5.48)	(5.43)	(5.54)	(5.45)
Executives	-	-3.0203	-3.5329*	-3.0930	-3.2727	-2.9686
		(-1.38)	(-1.69)	(-1.48)	(-1.58)	(-1.42)
Independent board	-	3.1876**	1.6173	1.5246	1.8963	1.7455
		(2.08)	(1.08)	(1.02)	(1.26)	(1.15)
CEO/Chairman duality	+	0.7148	0.9624	0.9730	1.0734	1.0290
		(0.88)	(1.24)	(1.27)	(1.39)	(1.34)
Network						
CEO busy	+	0.2769	0.5613	0.5773	0.6001	0.6087
		(0.54)	(1.14)	(1.16)	(1.22)	(1.22)
CEO Characteristics						
CEO tenure	+/-	0.0364	0.0389	0.0310	0.0371	0.0326
		(0.90)	(1.01)	(0.80)	(0.96)	(0.85)
CEO age	-	-0.0221	-0.0291	-0.0204	-0.0282	-0.0213
		(-0.67)	(-0.92)	(-0.65)	(-0.90)	(-0.67)
CEO founder	-	-1.0269	-1.3651*	-1.4679**	-1.4217*	-1.4896**
		(-1.33)	(-1.85)	(-1.99)	(-1.93)	(-2.02)
Bidder ownership characteristics						
Ownership concentration	-		-5.6894***		-5.6405***	
			(-4.55)		(-4.51)	
Family	-			-5.8596***		-5.9165***
				(-2.98)		(-3.02)
Financial Firm	-			-6.3554***		-6.4418***
				(-3.27)		(-3.28)
Companies	-			-5.1582***		-5.2494***
				(-3.61)		(-3.62)
Private Equity	-			-8.4267		-9.1371*
				(-1.59)		(-1.71)
Foundation	-			8.6649		6.3860
				(1.09)		(0.50)
Corporate Governance Characteristics (bidder country level)						
Shareholder Protection	-				-1.2228	-0.2955
					(-1.58)	(-0.24)
Minority Shar. Protection	-				2.7438	1.7026
					(1.25)	(0.65)
Creditor Protection	-				-4.0258	-7.4185
					(-0.22)	(-0.40)
Firm Characteristics						
Growth opportunities	+	0.4343	0.3105	0.2657	0.2660	0.2581
		(1.88)	(1.41)	(1.20)	(1.20)	(1.17)
Free cash flow	+	0.0938	0.3943	0.2407	0.1877	0.1382
		(0.06)	(0.27)	(0.16)	(0.13)	(0.09)
Bidder size	+	0.2960	0.2305	0.3148	0.2465	0.3015
		(0.47)	(0.38)	(0.52)	(0.41)	(0.50)
Intercept		-1.8398	-0.7021	-1.2745	-11.95	-10.38
		(-0.60)	(-0.24)	(-0.44)	(-0.85)	(-0.73)
Industry fixed effects		YES	YES	YES	YES	YES
Country fixed effects		YES	YES	YES	NO	NO
Year fixed effects		YES	YES	YES	YES	YES
LR chi2		144.26 (34)	163.92 (35)	168.30 (39)	167.19 (38)	169.21 (42)
Prob>chi2		0.0000	0.0000	0.0000	0.0000	0,0000
Pseudo R-squared		0.1280	0.1454	0.1493	0.1483	0.1501
Observations		198	198	198	198	198

Table 10. Excess CEO Total Compensation and on Bidder Returns.

The sample includes 216 M&A deals announced by European listed firms over the period 2002 to 2007. The dependent variable consists of bidder CARs from 2 days before to 2 days after the M&A announcement. The explanatory variables are the excess CEO total compensation, board characteristics, CEO characteristics, bidder
ownership structure, corporate governance regulation, and firm and transaction characteristics as control variables, all of which are explained in Appendix A. The t-statistics in parentheses below the coefficients are based
on robust estimation of standard errors. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

Independent variables	**Dep. variable: CARs (-2,2)**					
		(1)	**(2)**	**(3)**	**(4)**	**(5)**
CEO Compensation						
Excess Total Compensation	-	-1.8939**	-0.5020**	-0.7539**	-0.5302*	-0.7748**
		(-2.26)	(-2.16)	(-2.44)	(-1.93)	(-2.36)
Board Characteristics						
Board Size	-	0.0002	-0.0007	-0.0002	-0.0010	-0.0008
		(0.07)	(-0.28)	(-0.06)	(-0.37)	(-0.30)
Executives	+	-0.0623	-0.0436	-0.0665	-0.0371	-0.0580
		(-1.12)	(-0.79)	(-1.18)	(-0.67)	(-1.02)
Independent board	+	-0.0210	-0.0223	-0.0270	-0.0166	-0.0196
		(-0.53)	(-0.54)	(-0.66)	(-0.39)	(-0.46)
CEO/Chairman duality	-	0.03878*	0.0405*	0.0355*	0.0383*	0.0307
		(1.95)	(1.98)	(1.73)	(1.84)	(1.46)
Network						
CEO busy	-	-0.0282**	-0.0280**	-0.0283*	-0.0284**	-0.0299**
		(-2.23)	(-2.15)	(1.74)	(-2.14)	(-2.24)
Bidder ownership characteristics						
Bidder ownership	+/-		0.0106		0.0076	
			(0.30)		(0.21)	
Family	+			0.1104*		0.1131*
				(1.74)		(1.77)
Financial Firm	+			-0.0062		0.0028
				(-0.11)		(0.05)
Companies	+			-0.0161		-0.0200
				(-0.40)		(-0.48)
Private Equity	+			0.1337		-0.1464
				(0.93)		(0.99)
Foundation	+			-0.0477		0.3734
				(-0.24)		(1.07)
Corporate Governance Characteristics (bidder country level)						
Shareholder Protection	+				0.0244	0.0549
					(1.13)	(1.51)
Minority Shar. Protection	+				-0.0258	-0.0702
					(-0.37)	(-0.85)
Creditor Protection	+				-0.1056	-0.1596
					(-0.18)	(-0.26)
Intercept		-0.0310	-0.0304	0.0036	0.0018	-0.0521
		(-0.20)	(-0.02)	(0.02)	(0.01)	(-0.16)
Other characteristics and controls						

Firm Characteristics	YES	YES	YES	YES	YES
Deal Characteristics	YES	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES	YES
Country fixed effects	YES	YES	YES	NO	NO
Year fixed effects	YES	YES	YES	YES	YES
R-squared	0.3399	0.3402	0.3668	0.3455	0.3765
Observations	198	198	198	198	198

Table 11. CEO Compensation, Bidder Returns, and Ownership Concentration.

The sample includes 214 M&A deals announced by European listed firms over the period 2002 to 2007. The dependent variable is the bidder's CAARs from 2 days before to 2 days after the first public M&A announcement. The model includes the CEO's equity-based compensation, salary and bonus, the board characteristics, CEO characteristics, bidder's ownership structure, corporate governance regulation, and firm and transaction characteristics. The ownership variables capture different degrees of ownership concentration and are defined in Appendix A. The t-statistics in parentheses below the coefficients are measured by means of robust estimation of standard errors. ***,**, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Independent variables		**Dep. variable: CARs (-2,2)**
CEO Compensation		
Equity based compensation	+	0.1267**
		(2.31)
Salary compensation	+	0.0887*
		(1.69)
Bonus compensation.	+	0.0502
		(0.84)
Bidder ownership characteristics (largest shareholder)		
Ownership5/10	+/-	0.0171
		(0.73)
Ownership10/20	+/-	0.0129
		(0.59)
Ownership20/60	+/-	0.0739**
		(2.49)
Ownership60	+/-	0.0622*
		(1.88)
Interactions		
Bidder ownership characteristics		
Ownership5/10*CEOEBC	+/-	-0.0544
		(-0.90)
Ownership10/20 *CEOEBC	+/-	-0.0541
		(-1.04)
Ownership20/60*CEOEBC	+/-	-0.1380*
		(-1.88)
Ownership60*CEOEBC	+/-	-0.1672**
		(-2.12)
Intercept		-0.1000
		(-0.62)
Other Characteristics and Controls		

Board Characteristics	YES
Network	YES
Deal Characteristics	YES
Firm Characteristics	YES
Industry fixed effects	YES
Country fixed effects	YES
Year fixed effects	YES
R-squared	0.36
Observations	214

Table 12. CEO Compensation, Bidder Returns, and Dominant and Minority Shareholders.

The sample includes 214 M&A deals announced by European listed firms over the period 2002 to 2007. The dependent variable is the bidder's CAARs from 2 days before to 2 days after the first public M&A announcement. The model includes the CEO's equity-based compensation, salary and bonus, the board characteristics, CEO characteristics, bidder's ownership structure, corporate governance regulation, and firm and transaction characteristics. The ownership variables capture different degrees of ownership concentration and are defined in Appendix A. The t-statistics in parentheses below the coefficients are measured by means of robust estimation of standard errors. ***,**, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Independent variables	**Dep. variable: CARs (-2,2)**
Equity based compensation	0.1135*
	(1.70)
Salary compensation	0.0879
	(1.23)
Bonus compensation.	0.0868
	(1.12)
Bidder ownership characteristics (largest shareholder)	
Dominant Family Stake	0.2317**
	(2.32)
with Minority Institut. blocks	-0.3819
	(-0.66)
with Minority Corporate blocks	-0.0678
	(-1.19)
Dominant Institutional Stake	0.5003
	(0.49)
with Minority Family blocks	-0.0005
	(-0.04)
with Minority Corporate blocks	-0.013
	(-0.08)
with Minority Gov. blocks	-0.0867
	(-1.34)
Dominant Corporate Stake	0.09005
	(1.51)
with Minority Family blocks	-0.0052
	(-0.16)
with Minority Institut. blocks	-0.059
	(-0.16)
Interactions	
Bidder ownership characteristics	
Dominant Family*CEOEBC	-0.3362
	(-1.61)
Dominant Institutional *CEOEBC	-0.3965
	(-1.30)
Dominant Corporate*CEOEBC	-0.3504*
	(-2.30)
Other Characteristics and Controls	
Board Characteristics	YES
Network	YES
Firm Characteristics	YES
Deal Characteristics	YES
Industry fixed effects	YES
Country fixed effects	YES
Year fixed effects	YES
R-squared	0.41
Observations	191

Appendix A. Variable Definitions

Variable	*Definition*	*Source*
	Dependent Variables	
CAAR	Cumulative Average Abnormal Return of the bidding firm (by interval around the M&A announcement date).	*Datastream*
	Explanatory Variables	
CEO (or executive) Compensation		
Equity-based Compensation (EBC)	Natural logarithm of 1 plus the total CEO equity-based compensation divided by total CEO compensation	*BoardEx*
Salary Compensation	Natural logarithm of 1 plus the total CEO salary compensation divided by total CEO compensation	*BoardEx*
Bonus Compensation	Natural logarithm of 1 plus the total CEO bonus compensation divided by total CEO compensation	*BoardEx*
Excess Compensation	The predicted total compensation is a predicted variable taken as a result of adding the coefficient of Board Characteristics, Network, CEO Characteristics and Bidder Ownership multiplying for each variable obtained in equation 2.	*Core et al. (1999)*
Board Characteristics		
Board Size	Number of executive and non-executives directors in the board.	*BoardEx*
Executives	Proportion of executives on the board (in the case of a two-tier board structure, the 'board' is the combination of the management and supervisor boards).	*BoardEx*
Independent Board	Proportion of independent directors on the board.	*BoardEx*
CEO/Chairman Duality	Dummy equals 1 if the positions of CEO and Chairman are held by the same person.	*BoardEx*
Network		
Busy CEO	Dummy equals 1 when the CEO hold more than one external directorship.	*BoardEx*
CEO characteristics		
CEO tenure	Number of years that CEO has held CEO position.	*BoardEx*
CEO age	Age of CEO	*BoardEx*
CEO founder	Dummy equals 1 if CEO is a founder.	*BoardEx*
CEO turnover risk	The risk that the CEO is to be replaced, measured following Peters and Wagner (2014)	*Own calculations*
CEO pay slice	The proportion of total compensation of the CEO relative to the top 5 best paid executive directors (Bebchuk, Cremers and Peyer, 2011)	

Bidder's Ownership Concentration		
Ownership by type of shareholder:	Percentage of ownership (voting rights) held by the largest shareholder at the end of the year prior to the bid. We distinguish between the following types of shareholders Family/individual (not related to an exec. or non-exec. director); Institutional investors (banks, mutual funds, pension funds, unit trusts, Financial firm); Corporation; Private Equity; Foundation; Government.	*Amadeus Bureau Van Dijk Database*
Ownership 5/10 **Ownership 10/20** **Ownership 20/60** **Ownership60**	Dummy variable equal to 1 when the ownership stake of the largest shareholder is between 5 and 10%, 10 and 20%, 20 and 60% and above 60%, respecitively	Ídem
Dominant Family/ Institutional/ Corporate Stake	These variables are dummy variables set to one if the largest blockholder is of this type of shareholder (Fidrmuc et al., 2006).	Ídem
With Minority Family/ Corporate / Institutional / Government Blocks	These variables are interaction terms of the dummy capturing the presence of a minority block of this type with the presence of a dominant shareholder of the types mentioned above (Fidrmuc et al., 2006).	idem
Corporate Governance (at country level)		
Shareholder Protection	Shareholder right index (of Martynova and Renneboog, 20011b) divided by the Rule of Law index of the World Bank.	Martynova and Renneboog (2008)
Minority shareholder protection	Minority shareholder rights index(of Martynova and Renneboog, 2011b) divided by the Rule of Law index of the World Bank.	Martynova and Renneboog (2008)
Creditor protection	Creditor right index (of Martynova and Renneboog, 2011b) divided by the Rule of Law index of the World Bank.	Martynova and Renneboog (2008)

Appendix A, continued

Variable	*Definition*	*Source*
	Explanatory Variables	
Firm Characteristics		
Growth opportunities (MTB)	Market-to-Book ratio of bidder.	*Datastream*
Free cash flow	EBITDA divided by total assets (for bidding firm).	*Datastream*
Leverage	Total debt divided by total assets (for bidder).	*Datastream*
Run-up	Cumulative abnormal returns (CARs) of bidder sixty to twenty days (-60,-20) preceding the takeover announcement day.	*Datastream*
Bidder size	Dummy equals1 if the bidder's size falls within the upper quartile of market capitalization at the end of the semester prior to the transaction's announcement, and 0 otherwise.	*Datastream*
Relative target size	The logarithm of the transaction value divided by the market value of the bidding firm before the transaction.	*Thomson One Banker M&A Database*
Transaction Characteristics		
Method of payment (Stock)	Dummy variable equals 1 if the method of payment is stock, and 0 otherwise.	*Thomson One Banker M&A Database*
Target Firm Status (Unlisted)	Dummy equals1 if target is not listed on a stock exchange, and is 0 otherwise.	*Thomson One Banker M&A Database*
Diversification	Dummy equals1 if the bidder buys a firm in an unrelated industry (with different first two SIC digits.	*Thomson One Banker M&A Database*
Cross-border	Dummy equals1 if bidder and target are located in different countries, and 0 otherwise.	*Thomson One Banker M&A Database*
Takeover attitute (friendly)	Dummy equals1 if target board does not oppose the deal, and 0 otherwise.	*Thomson One Banker M&A Database*
Multiple Bidders	Dummy equals1 if multiple bidders emerge, and 0 otherwise.	*Thomson One Banker M&A Database*
Full Acquisition	Dummy equals1 if bidder acquires of the target firm and hence holds 100% of the sahres capital after the completion of the deal, 0 otherwise.	*Thomson One Banker M&A Database*
Tender Offer	Dummy equals1 if bid consists of a tender offer, and 0 otherwise.	*Thomson One Banker M&A Database*

Appendix B. Additional results. Table B1. CEO Total Compensation.

Sample includes 216 M&A deals announced by European listed firms over the period 2002 to 2007. The dependent variable is the CEO total compensation. The explanatory variables comprise board characteristics, CEO

characteristics, bidder's ownership structure, corporate governance regulation, and firm and transaction characteristics. The t-statistics in parentheses below the coefficients are based on robust estimation of standard errors. ***, **, and * indicate statistical significance at the 1%, 5% and 10% levels, respectively.

Independent variables		**Dep. variable: Total CEO Compensation**					
		(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Board Characteristics							
Board Size	+	0.4945***	0.5179***	0.3813***	0.3900***	0.4049***	0.4204***
		(4.54)	(4.68)	(3.88)	(3.94)	(3.83)	(3.90)
Executives	-	-4.8866**	-4.9899**	-5.7579***	-5.4267**	-6.3819***	-6.3032***
		(-2.13)	(-2.16)	(-2.78)	(-2.60)	(-2.89)	(-2.83)
Independent board	-	5.2976***	5.1568***	4.1036***	4.0032**	4.4874**	4.3731**
		(2.94)	(2.83)	(2.62)	(2.55)	(2.60)	(2.50)
CEO/Chairman duality	+	0.3702	0.4171	0.6869	0.6985	0.2234	0.3206
		(0.41)	(0.45)	(0.86)	(0.88)	(0.26)	(0.36)
Network							
CEO busy	+	0.6008	0.5946	0.1971	0.2283	0.3197	0.3374
		(0.97)	(0.95)	(0.36)	(0.41)	(0.54)	(0.56)
CEO Characteristics							
CEO tenure	+/-	0.0343	0.0303	0.0337	0.0289	0.0146	0.0127
		(0.70)	(0.61)	(0.76)	(0.65)	(0.31)	(0.27)
CEO age	-	0.0640	0.0603	-0.0345	-0.0276	0.0107	0.0087
		(1.43)	(1.34)	(-0.99)	(-0.79)	(0.24)	(0.19)
CEO founder	-	-0.0998	-0.2722	0.8579	0.6789	1.0500	0.9114
		(-0.11)	(-0.29)	(0.97)	(0.76)	(1.14)	(0.97)
CEO turnover risk		-10.8316**	-10.2038**			-5.7000	-5.2513
		(-2.59)	(-2.42)			(-1.37)	(-1.26)
CEO pay slide				29.0102***	28.9108***	27.8305***	27.6361***
				(5.06)	(5.02)	(4.42)	(4.35)
Bidder ownership characteristics							
Ownership concentration	-	-4.8773***		-4.2774***		-5.0002***	
		(-3.22)		(-3.29)		(-3.47)	
Family	-		-3.9402		-3.7854*		-4.4104*
			(-1.62)		(-1.79)		(-1.90)
Financial Firm	-		-6.7867**		-6.3877***		-6.7619***
			(-2.61)		(-2.77)		(-2.72)
Companies	-		-6.7903**		-4.5613		-5.7492*
			(-2.09)		(-1.62)		(-1.85)
Private Equity	-		-4.4545**		-3.7627**		-4.5193**
			(-2.45)		(-2.46)		(-2.60)
Foundation	-		-2.9834		-5.0042		-5.7417
			(-0.46)		(-0.82)		(-0.90)
Corporate Governance Characteristics (bidder country level)							
Shareholder Protection	-	0.0746	0.1199	0.1760*	0.1963	0.1037	0.1478
		(0.61)	(0.83)	(1.69)	(1.63)	(0.89)	(1.07)
Minority Shar. Protection	-	-0.0319	-0.0690	-0.2760	-0.2899	-0.1589	-0.2049
		(-0.16)	(-0.29)	(-1.57)	(-1.41)	(-0.81)	(-0.89)
Creditor Protection	-	-0.0631	-0.0631	0.0901	0.0627	0.0477	0.0256
		(-0.22)	(-0.21)	(0.34)	(0.23)	(0.17)	(0.09)
Firm Characteristics							
Growth opportunities	+	0.4293	0.4472	0.2111	0.2221	0.2389	0.2661
		(1.53)	(1.56)	(0.83)	(0.85)	(0.88)	(0.96)
Free cash flow	+	0.7471	0.9425	3.4789*	3.6327*	3.3431*	3.5451*
		(0.40)	(0.49)	(1.86)	(1.89)	(1.66)	(1.72)
Bidder size	+	-0.7901	-0.6956	-1.1555	-1.1254	-1.4879*	-1.4219*
		(-0.97)	(-0.84)	(-1.64)	(-1.59)	(-1.87)	(-1.75)
Intercept		-4.8483	-5.7857	-3.0185	-4.0760	-3.7664	-4.4641
		(-1.17)	(-1.34)	(-0.81)	(-1.06)	(-0.96)	(-1.08)
Industry fixed effects		YES	YES	YES	YES	YES	YES
Country fixed effects		NO	NO	NO	NO	NO	NO
Year fixed effects		YES	YES	YES	YES	YES	YES
LR chi2		84.86	86.27	110.95	114.28	102.64	103.49
Prob>chi2		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R-squared		0.0823	0.0836	0.0989	0.1018	0.1000	0.1008
Observations		179	179	197	197	178	178

Table B2. Excess CEO Total Compensation and Bidder Returns.

The sample includes 216 M&A deals announced by European listed firms over the period 2002 to 2007. The dependent variable consists of bidder CARs from 2 days before to 2 days after the M&A announcement. The explanatory variables are the excess CEO total compensation, board characteristics, CEO characteristics, bidder ownership structure, corporate governance regulation, and firm and transaction characteristics as control variables, all of which are explained in Appendix A. The t-statistics in parentheses below the coefficients are based on robust estimation of standard errors. ***, **, and * indicate significance at the 1%, 5% and 10% levels, respectively.

Independent variables		**Dep. variable: CARs (-2,2)**					
		(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
CEO Compensation							
Excess Total Compensation	-	-0.8789*	-0.8992**	-0.8134*	-0.7997	-1.0195*	-1.0332*
		(-1.95)	(-2.01)	(-1.73)	(-1.64)	(-1.74)	(-1.75)
Board Characteristics							
Board Size	-	0.0002	0.0005	0.0001	0.0006	0.0003	0.0007
		(0.08)	(0.27)	(0.08)	(0.28)	(0.15)	(0.35)
Executives	+	0.0156	0.0068	0.0200	0.0098	0.0134	0.0033
		(0.39)	(0.17)	(0.49)	(0.23)	(0.34)	(0.08)
Independent board	+	0.0050	0.0080	0.0001	0.0002	0.0033	0.0061
		(0.16)	(0.26)	(0.00)	(0.01)	(0.11)	(0.20)
CEO/Chairman duality	-	0.0065	0.0047	0.0152	0.0124	0.0058	0.0035
		(0.43)	(0.31)	(0.99)	(0.79)	(0.39)	(0.23)
Network							
CEO busy	-	-0.0244**	-0.0231**	-0.0279**	-0.0258**	-0.0249**	-0.0239**
		(-2.26)	(-2.12)	(-2.57)	(-2.32)	(-2.31)	(-2.19)
Bidder ownership characteristics							
Bidder ownership	+/-	0.0049		0.0161		0.0064	
		(0.19)		(0.61)		(0.24)	
Family	+		0.0661		0.0680		0.0672
			(1.52)		(1.57)		(1.54)
Financial Firm	+		0.0099		0.0012		0.0109
			(0.22)		(0.03)		(0.24)
Companies	+		-0.0310		-0.0238		-0.0316
			(-0.51)		(-0.40)		(-0.51)
Private Equity	+		-0.0191		0.0026		-0.0174
			(-0.59)		(0.08)		(-0.54)
Foundation	+		-0.0160		0.0529		0.0151
			(-0.14)		(0.43)		(0.13)
Corporate Governance Characteristics (bidder country level)							
Shareholder Protection	+	0.0006	-0.0011	0.0020	0.0013	0.0009	-0.0007
		(0.27)	(-0.44)	(0.96)	(0.52)	(0.41)	(-0.29)
Minority Shar. Protection	+	-0.0015	0.0022	-0.0028	-0.0006	-0.0019	0.0017
		(-0.44)	(0.55)	(-0.82)	(-0.15)	(-0.57)	(0.42)
Creditor Protection	+	-0.0034	-0.0012	-0.0064	-0.0050	-0.0042	-0.0020
		(-0.68)	(-0.24)	(-1.25)	(-0.93)	(-0.83)	(-0.39)
Intercept		-0.0880	-0.1131	-0.0645	-0.0961	-0.0809	-0.1057
		(-0.86)	(-1.07)	(-0.61)	(-0.87)	(-0.79)	(-1.00)
Other characteristics and controls							
Firm Characteristics		YES	YES	YES	YES	YES	YES
Deal Characteristics		YES	YES	YES	YES	YES	YES
Industry fixed effects		YES	YES	YES	YES	YES	YES
Country fixed effects		NO	NO	NO	NO	NO	NO
Year fixed effects		YES	YES	YES	YES	YES	YES
R-squared		0.1782	0.1995	0.1628	0.1778	0.1734	0.1943
Observations		179	179	197	197	178	178

Table B3. CEO Compensation and Bidder Returns (Heckman model).

Sample includes European listed firms (2002-2007). The dependent variable is the bidders' CARs from 2 days before to 2 days after the M&A announcement (2nd Stage) and the M&A probability (1st Stage). The explanatory variables comprise CEO equity-based compensation, the bidders' acquiring ownership structures, corporate governance characteristics, and firm and transaction characteristics. The t-statistics in parentheses below the coefficients are based on a robust estimation of standard errors. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

Independent variables	**Dep.variables: CARs (-2,2) (2nd Stage) and M&A probability (1st Stage)**					
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	CARs (2nd Stage)	**M&A prob. (1st Stage)**	**CARs (2nd Stage)**	**M&A prob. (1st Stage)**	**CARs (2nd Stage)**	**M&A prob. (1st Stage)**
CEO Compensation						
Equity based compensation	0.0378*	-2.4744***	0.0428*	-2.5177***	0.0438*	-2.2900**
	(1.76)	(-2.77)	(1.94)	(-3.76)	(1.76)	(-2.32)
Bidder ownership characteristics						
Ownership concentration	0.0674**	0.0256	0.0730***	-1.9606***	0.0620*	0.1882
	(2.39)	(0.02)	(2.69)	(-2.92)	(1.70)	(0.17)
Firm Characteristics						
Growth opportunities (MTB)	0.0044	-1.5118***	0.0053	-0.9379***	0.0070	-1.4561***
	(0.65)	(-4.16)	(0.75)	(-4.98)	(0.90)	(-4.16)
Free cash flow	0.0583*	3.9424***	0.0539*	2.8338***	0.0689*	4.6870***
	(1.81)	(2.71)	(1.67)	(2.89)	(1.82)	(2.99)
Leverage	0.0485	2.6967	0.0656	-1.4419	0.0454	-0.9907
	(1.16)	(0.98)	(1.62)	(-0.79)	(0.87)	(-0.35)
Run-up	0.3768		0.3083		0.5590*	
	(1.49)		(1.24)		(1.92)	
Bidder size	-0.0064*	-0.4002**	-0.0067**	-0.0564	-0.0093**	-0.1188
	(-1.96)	(-2.32)	(-2.10)	(-0.54)	(-2.19)	(-0.75)
Relative target size	0.0359**		0.0351**		0.0324*	
	(2.26)		(2.26)		(1.80)	
Deal characteristics						
Method of payment (Stock)	-0.0076		-0.0067		-0.0070	
	(-0.53)		(-0.47)		(-0.40)	
Target firm status (Unlisted)	-0.0043		-0.0097		-0.0097	
	(-0.29)		(-0.65)		(-0.54)	
Diversification	0.0061		0.0046		0.0160	
	(0.62)		(0.47)		(1.36)	
Cross-border	0.0112		0.0101		0.0106	
	(1.07)		(0.99)		(0.86)	
Takeover attitude (friendly)	0.1095*		0.1420**		0.1410*	
	(1.69)		(2.20)		(1.76)	
Multiple bidder	0.0054		-0.0004		0.0082	
	(0.19)		(-0.01)		(0.25)	
Full acquisition	-0.0135		-0.0191		-0.0343	
	(-0.44)		(-0.65)		(-0.85)	
Tender offer	-0.0336**		-0.0415**		-0.0397*	
	(-1.99)		(-2.46)		(-1.96)	
Corporate Governance Characteristics (bidder country level)						
Shareholder Protection	0.0001	0.3987***				
	(0.07)	(3.78)				
Minority Shar. Protection	-0.0001	-0.3512***				
	(-0.04)	(-2.59)				
Creditor Protection	-0.0050	-0.5519**				
	(-1.15)	(-2.04)				
Perc_cross_border M&As		-6.6676		9.6468***		-8.8992
		(-0.98)		(3.77)		(-0.46)
Lambda	-0.0519***		-0.0353**		-0.0581***	
	(-2.68)		(-2.12)		(-2.89)	
Intercept	-0.0176	13.1707	-0.0715	9.2608***	-0.0403	14.9646
	(-0.17)	(1.44)	(-0.75)	(3.59)	(-0.35)	(0.10)
Industry fixed effects	YES	YES	YES	YES	YES	YES
Country fixed effects	NO	NO	NO	NO	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES
Observations	90	274	114	298	114	298

Table B4. CEO Compensation and Bidder Returns (Heckman model).

Sample includes European listed firms (2002-2007). The dependent variable is the bidders' CARs from 2 days before to 2 days after the M&A announcement (2nd Stage) and the M&A probability (1st Stage). The explanatory variables comprise CEO equity-based compensation, the bidders' acquiring ownership structures, corporate governance characteristics, and firm and transaction characteristics. The t-statistics in parentheses below the coefficients are based on a robust estimation of standard errors. ***,**, and * indicate significance at the 1%, 5% and 10% levels, respectively.

Independent Variables	**Dep.variables: CARs (-2,2) (2nd Stage) and M&A probability (1st Stage)**					
	(1) CARs (2nd Stage)	**(2) M&A prob. (1st Stage)**	**(3) CARs (2nd Stage)**	**(4) M&A prob. (1st Stage)**	**(5) CARs (2nd Stage)**	**(6) M&A prob. (1st Stage)**
CEO Compensation						
Equity based compensation	0.0367*	-2.1583**	0.0421*	-2.3703***	0.0435*	-2.1541**
	(1.74)	(-2.39)	(1.87)	(-3.50)	(1.77)	(-2.20)
Bidder ownership characteristics						
Ownership concentration	0.0609**	-0.3821	0.0656**	-2.0459***	0.0443	0.0644
	(2.01)	(-0.32)	(2.20)	(-2.99)	(1.09)	(0.06)
Board Characteristics						
Board Size	0.0015		0.0020		0.0026	
	(0.65)		(0.91)		(0.91)	
Executives	0.0219		0.0175		-0.0020	
	(0.54)		(0.49)		(-0.04)	
Independent board	-0.0148		-0.0139		-0.0008	
	(-0.47)		(-0.47)		(-0.02)	
CEO/Chairman duality	-0.0007		-0.0027		0.0039	
	(-0.04)		(-0.21)		(0.21)	
Network						
Busy CEO	-0.0177		-0.0180*		-0.0136	
	(-1.57)		(-1.66)		(-1.02)	
Firm Characteristics						
Growth opportunities (MTB)	0.0037	-1.6502***	0.0046	-0.9714***	0.0055	-1.4858***
	(0.54)	(-4.14)	(0.65)	(-5.01)	(0.72)	(-4.20)
Free cash flow	0.0562*	3.8171***	0.0559*	2.7357***	0.0652	4.5293***
	(1.69)	(2.65)	(1.65)	(2.77)	(1.64)	(2.89)
Leverage	0.0364	2.8377	0.0519	-1.1014	0.0411	-0.7420
	(0.87)	(1.07)	(1.27)	(-0.59)	(0.80)	(-0.26)
Run-up	0.3553		0.3021		0.5815**	
	(1.40)		(1.20)		(2.00)	
Bidder size	-0.0052	-0.4377**	-0.0062	-0.0723	-0.0105*	-0.1393
	(-1.17)	(-2.49)	(-1.42)	(-0.67)	(-1.88)	(-0.86)
Relative target size	0.0325**		0.0314**		0.0288	
	(2.07)		(2.02)		(1.62)	
Corporate Governance Characteristics (bidder country level)						
Shareholder Protection	0.0006	0.3993***				
	(0.27)	(3.78)				
Minority Shar. Protection	-0.0013	-0.3662***				
	(-0.40)	(-2.67)				
Creditor Protection	-0.0042	-0.5704**				
	(-0.89)	(-2.04)				
Perc_cross_border M&As		-7.1939		9.5043***		-5.8822
		(-1.04)		(3.70)		(-0.30)
lambda	-0.0457**		-0.0287		-0.0569***	
	(-2.28)		(-1.62)		(-2.80)	
Intercept	-0.0236	14.8726	-0.0804	9.5613***	-0.0058	14.5837
	(-0.22)	(0.09)	(-0.78)	(3.73)	(-0.05)	(0.12)
Other characteristics and controls						
Deal Characteristics	YES	YES	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES	YES	YES
Country fixed effects	NO	NO	NO	NO	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES
Observations	92	272	114	296	114	296

european corporate governance institute

about ECGI

The European Corporate Governance Institute has been established to improve *corporate governance through fostering independent scientific research and related activities.*

The ECGI will produce and disseminate high quality research while remaining close to the concerns and interests of corporate, financial and public policy makers. It will draw on the expertise of scholars from numerous countries and bring together a critical mass of expertise and interest to bear on this important subject.

The views expressed in this working paper are those of the authors, not those of the ECGI or its members.

www.ecgi.org

european corporate governance institute

ECGI Working Paper Series in Finance

Editorial Board

Editor — Ernst Maug, Professor for Corporate Finance, Mannheim Business School, University of Mannheim

Consulting Editors — Franklin Allen, Nippon Life Professor of Finance and Economics, The Wharton School, University of Pennsylvania

Julian Franks, Professor of Finance, London Business School

Marco Pagano, Professor of Economics, Facoltà di Economia Università di Napoli Federico II

Xavier Vives, Professor of Economics and Financial Management, IESE Business School, University of Navarra

Luigi Zingales, Robert C. McCormack Professor of Entrepreneurship and Finance, University of Chicago, Booth School of Business

Editorial Assistants : Tamas Barko, University of Mannheim
Ulrich Keesen, University of Mannheim
Mengqiao Du, University of Mannheim

www.ecgi.org\wp