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**Golden Parachutes, Earnings Management and
Information Asymmetry**

DOCTOR OF PHILOSOPHY DISSERTATION

CHAROULLA CHARALAMBOUS

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Information Asymmetry**

CHAROULLA CHARALAMBOUS

**A Dissertation Submitted to the University of Cyprus in Partial Fulfillment
of the Requirements for the Degree of Doctor of Philosophy**

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ΠΕΡΙΛΗΨΗ

Η πρόσφατη χρηματοπιστωτική κρίση θεωρείται ότι είναι η χειρότερη χρηματοπιστωτική κρίση στην οικονομική ιστορία με αποτέλεσμα την κατάρρευση πολλών χρηματοπιστωτικών ιδρυμάτων, την κάμψη των αγορών κεφαλαίου και την πρωτοφανή ανικανότητα των κυβερνήσεων για έξοδο από την ύφεση. Οι Διευθύνων Σύμβουλοι των Εταιρειών ήταν από τους μεγαλύτερους νικητές της οικονομικής κρίσης. Δεν είναι λίγες οι περιπτώσεις υψηλού προφίλ, όπως ο Bob Nardelli που προκάλεσε έντονη αναταραχή με την αποζημίωση των \$210 εκατομμυρίων, κατά την αναχώρηση του τον Ιανουάριο του 2007 από την Home Depot, εξαπλώνοντας αγανάκτηση μεταξύ των επενδυτών, το κοινό και τους πολιτικούς σχετικά με την πιθανή αμφιλεγόμενη φύση των συμβολαίων αλλαγής ελέγχου (change in control agreements).

Τα «χρυσά αλεξίπτωτα» (golden parachutes), τα οποία λαμβάνουν τα ανώτατα διευθυντικά στελέχη, όταν η απασχόληση τους τερματίζεται εξαιτίας της αλλαγής στον έλεγχο της εταιρείας, έχουν λάβει ιδιαίτερης προσοχής, κατά τη διάρκεια των τελευταίων δεκαετιών, τόσο από ακαδημαϊκούς όσο και από επαγγελματίες. Τα «χρυσά αλεξίπτωτα» έχουν σημαντική οικονομική σημασία δεδομένου ότι η μέση εκτιμώμενη αποζημίωση σε περίπτωση αλλαγής στον έλεγχο (με βάση στοιχεία του δείγματός μας) είναι δέκα φορές πολλαπλάσιο του ετήσιου μισθού.

Αυτή η διατριβή έχει ως στόχο να ρίξει φως στο ρόλο των «χρυσών αλεξίπτωτων» σε δύο κύρια ερευνητικά πεδία: την παραποίηση των κερδών (earnings management) και της ασύμμετρης πληροφόρησης (information asymmetry). Η εξέταση του ρόλου των χρυσών αλεξίπτωτων είναι απαραίτητη, δεδομένου ότι η βιβλιογραφία δείχνει ότι οι συμφωνίες αποζημίωσης παρέχουν κίνητρα για τα Διευθυντικά Στελέχη να αποκαλύψουν με ειλικρίνεια πληροφορίες στο κοινό (Inderst και Mueller, 2005) και ως εκ τούτου να μειωθεί η παραποίηση των κερδών από τα Διευθυντικά Στελέχη με επαγγελματικές ανησυχίες. Ο ρόλος των «χρυσών αλεξίπτωτων» στα συμβόλαια των στελεχών είναι να κάνουν την αναχώρηση αρκετά ελκυστική έτσι ώστε να ενθαρρύνουν την αποκάλυψη της πραγματικής πληροφορίας, ακόμη και αν ο Διευθύνων Σύμβουλος θα χάσει τη δουλειά του / της.

Στο πρώτο κεφάλαιο θα διερευνηθεί ο ρόλος των «χρυσών αλεξίπτωτων» στην παραποίηση των κερδών. Υποστηρίζουμε ότι σε μια επιχείρηση που ο κίνδυνος για την εξαγορά είναι υψηλός, ο σύμβουλος (που έχει χρυσό αλεξίπτωτο) έχει υψηλότερα αντικίνητρα για να παραποιήσει τα κέρδη, δεδομένου ότι το «χρυσό αλεξίπτωτο» θα «ενεργοποιηθεί» σε περίπτωση αλλαγής στον έλεγχο και ο Διευθύνοντας Σύμβουλος θα αποζημιωθεί, παρόλο το κακό αποτέλεσμα για την επιχείρηση. Τα αποτελέσματα αυτής της μελέτης δείχνουν ότι τα «χρυσά αλεξίπτωτα» έχουν αρνητική σχέση με τα δεδουλευμένα. Τα αποτελέσματα δείχνουν ότι τα «χρυσά αλεξίπτωτα» παρέχουν κάποιου είδους ασφάλεια από την αποζημίωση σε περίπτωση αλλαγής στον έλεγχο για τους διαχειριστές, προκειμένου να αποθαρρύνεται η παραποίηση των κερδών.

Στο δεύτερο κεφάλαιο η μελέτη εξετάζει πώς ένα «χρυσό αλεξίπτωτο» θα επηρεάσει τη συμπεριφορά του Διευθύνοντος Συμβούλου στη μη ικανοποιητική και έγκαιρη πληροφόρηση των μετόχων (ασύμμετρη πληροφόρηση). Η ασύμμετρη πληροφόρηση θα προσεγγιστεί από τη ρευστότητα των μετοχών, η οποία μετράται με την διαφορά της τιμής πώλησης και της τιμής ζήτησης, τον όγκο συναλλαγών και τη μεταβλητότητα των αποδόσεων των μετοχών. Τα αποτελέσματα αυτής της μελέτης δείχνουν ότι τα «χρυσά αλεξίπτωτα» οδηγούν σε μεγαλύτερη ρευστότητα δεδομένου ότι έχουμε μικρή διαφορά στην τιμή προσφοράς και ζήτησης, υψηλότερο όγκο συναλλαγών και μικρότερο ποσοστό μεταβλητότητας των αποδόσεων στις επιχειρήσεις. Ως εκ τούτου, τα «χρυσά αλεξίπτωτα» μειώνουν την ασυμμετρία πληροφόρησης μεταξύ των διευθυντικών στελεχών και των μετόχων.

Στο τελευταίο κεφάλαιο θα διερευνηθεί η επίδραση των «χρυσών αλεξίπτωτων» στην απόφαση των Διευθυντικών Στελεχών για δημοσιοποίηση αρνητικών πληροφοριών στην αγορά. Η αποκάλυψη πληροφοριών, είτε θετικών είτε αρνητικών, θα μετρηθεί από τη διαφορά στην προβλεπόμενη και πραγματική τιμή κέρδους ανά μετοχή. Τα αποτελέσματα της μελέτης δείχνουν ότι τα «χρυσά αλεξίπτωτα» και τα αρνητικά νέα έχουν αρνητική σχέση, και ως εκ τούτου μπορούμε να συμπεράνουμε ότι στην περίπτωση κατά την οποία υπάρχει «χρυσό αλεξίπτωτο» η ύπαρξη των αρνητικών ειδήσεων μειώνεται.

ABSTRACT

The recent financial crisis is considered to be the worst financial crisis in the economic history resulting in the collapse of many financial institutions, the down turn of capital markets and the unprecedented incompetence of governments exit recession. CEOs have been some of the big winners since the financial crisis. Few high profile cases such as Bob Nardelli's plentifully upheaval paid of \$210 million, upon his departure on January 2007 from Home Depot, spread stirring indignation among investors, the public, and politicians concerning a potential controversial nature of the change in control agreements.

Golden parachutes, the so debated packages, that top executives receive when their employment has been terminated because of a change in control of the firm, has receive much attention during the last decades from both academics and practitioners. Golden parachutes have a significant economical meaning since the mean estimated payment in case of change in control in our sample is ten times annual salary payment.

This dissertation aims to shed light in the role of golden parachute in two main streams: earnings management and information asymmetry. An examination of the role of golden parachutes is essential, since the literature suggest that compensation agreements provide incentives for managers to truthfully reveal information (Inderst and Mueller, 2005) and hence reduce earnings management for managers with career concerns. The role of golden parachute in the executive contract is to make the departure attractive enough to encourage the truth telling; even if the CEO will lose his/her job.

In the first chapter we investigate the role of golden parachutes in earnings management. We posit that in a firm that the risk for takeover is high, the manager (having golden parachute) has higher disincentives to manipulate earnings given that the golden parachute will be "activated" in case of change in control and the CEO will compensated although the bad outcome for the firm. The results of this study state that golden parachutes have a negative relationship with accruals. The results suggest that golden parachutes provide insurance by guarantee compensation in the case of change in control to managers in order to discourage earnings management.

In the second chapter the study examines how a golden parachute will influence CEO's behavior in terms of information asymmetry. Information asymmetry will be approached by stock liquidity, which will be measured with bid-ask spread, trading volume and share return volatility. The results of this study suggests that golden parachutes existence leads to higher liquidity; since we have small bid ask spreads, higher trading volume and lower share return volatility in firms where the CEO has a golden parachute agreement. Hence, golden parachutes decrease information asymmetry between managers and shareholders.

In the last chapter, following the results of the second chapter, we will investigate the effect of golden parachute on the disclosure behavior of CEOs on bad news. The news disclosure, either good or bad, will be measured by the forecast error. The results of the study suggest that golden parachutes and bad news have negative relationship, and hence we can conclude that in the case where the CEO has a golden parachute the existence of bad news.

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Dedication

To my parents, Minas and Maria

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CHAPTER 1

The role of golden parachutes in earnings management

In this study we examine the effect of golden parachutes on earnings management after controlling for corporate governance and CEO compensation. We hypothesize that golden parachutes differentiate the decision of the executive to engage in earnings management since they provide insurance in the case of change in control by promising to the executive a considerable amount of money. Using a sample of 360 firms that hired a new CEO during the period 2000-2014, results show that golden parachutes relate inversely with accruals and hence the existence of golden parachutes mitigates earnings management by those executives. The results suggest that golden parachutes provide insurance by guaranteed compensation in the case of change in control to managers in order to discourage earnings management.

The role of golden parachutes in earnings management

1. Introduction

The controversial role of golden parachutes has been studied extensively in the last three decades. Golden parachutes are economically significant since the mean estimated payment in the event of a change in control for a CEO is ten times the annual salary based on our sample, consistent with Brown (2015). Golden parachutes provide incentives for CEOs to truthfully disclose information to the public and consequently reduce the incentive to engage in earnings management.

Managers' decision policy is significantly related to the existence of golden parachutes. Prior literature shows that managers are prone to announce information that concerns their company, although that this will lead to their replacement, because they will be compensated (Levitt and Snyder, 1997; Ling, 2012). Furthermore, they overwhelm more effort (Narayanan and Sundaram, 1998), they undertake more risky projects (Ju, Leland and Senbet, 2014; Van Wesep, 2010) and the premium of takeover is increased (Choi, 2004). They may operate the company less effectively (Lambert and Larcker, 1985) and "rush to sell" the firm even if that would not be aligned with shareholders' interests (Fich, Tran and Walking, 2013). Moreover, with golden parachutes the shareholders cannot easily replace an inefficient CEO, (Almazan and Suarez, 2003).

The purpose of this study is to investigate the role of golden parachutes in earnings management. We posit that in a firm that the risk for takeover is high, executives (having golden parachute in their compensation agreement) have higher disincentives to manipulate earnings given that the golden parachute will be "activated" in case of change in control and the CEO will be compensated although the unsuccessful outcome for the firm. We expect that firms that offer golden parachutes to their CEOs will experience less earnings management than firms that do not offer golden parachutes because the optimal compensation contract is expected to reduce the need for earnings management. Inderst and Mueller (2005) present the optimal executive contract that includes base pay, incentive pay and severance pay; and is biased towards keeping his/her job and receiving incentive pay. The role of the golden parachute in an executive's agreement is to make the exit

option attractive enough to encourage the transparency and truth telling about the firm, even if the CEO knows that he/ she will lose his/her job.

Using a dataset of 360 hirings of CEOs for the period 2000-2014, results show: that golden parachutes provide with insurance the CEOs and create disincentives for engaging in earnings management, due to their significant economic value. Based on the results of this study, golden parachutes have a significant inverse relationship with accruals, hence the existence of golden parachutes influences the CEO in a way not managing the earnings of the firm.

In this study we contribute to the ongoing debate about golden parachutes by giving a first insight on how the executives' decision to engage in earnings management is differentiated by golden parachutes existence. To the best of our knowledge, this is the first empirical study examining this relation. The role of golden parachutes is controversial and is not clear to the literature whether they benefit the executive receiving them or the firm offering them. Academics and practitioners are stirring up with golden parachutes' role in executive compensation in order to create a clearer picture of whether this package is beneficial or detrimental for the firm at the same time when the executive receives a lucrative payment.

In the next section we develop the theoretical framework. Section 3 describes the Background and motivation and Section 4 the Methodology, the accruals measure, the models used in order to examine the proposition, the variables definition and the dataset. Section 5 Analysis the empirical results of the study and Conclusions and limitations in Section 6.

2. Theoretical framework

Several studies have examined the relation between executive compensation components such as salary, bonus, stock options and earnings management. Gao and Shrieves (2002) are concerned with the relationship between earnings management and the overall design of executive compensations contracts. Specifically they examine five different components of executive compensation: salary, stock options, restricted stock, bonuses and long term incentives. They find that salary has a statistically significant negative relationship with earnings management, suggesting that the salary creates a disincentive for earnings management. On the other hand, both stock options and bonuses have a statistically significant positive relationship to earnings management, suggesting that these two components create incentives for earnings management. Regarding restricted stock and

long term incentives, are not found to have a statistically significant relationship to earnings management.

Cheng and Warfield (2005) examine the relationship between equity incentives for CEOs and earnings management. They find that earnings management is higher in companies that rely more heavily on equity compensation, including stock options.

Furthermore, Bergstresser and Philippon (2006) provide evidence that the use of discretionary accruals to manipulate reported earnings is more pronounced at firms where the CEO's potential total compensation is more closely tied to the value of stock and option holdings.

Cornett, Marcus and Tehranian (2008) investigate whether the apparent impact of governance structure and incentive-based compensation on firm performance stands up when measured performance is adjusted for the effects of earnings management. The analysis suggests that adjusting for earnings management substantially increases the measured importance of governance variables and dramatically decreases the impact of incentive-based compensation on corporate performance.

The literature until now has developed a framework on executive compensation and earnings management suggesting that salary mitigates earnings management while bonuses and stock options increases the engagement in earnings manipulation. Golden parachutes not only include all of these components, but also they are by themselves a compensation component in an executive's contract; thus they might influence earnings management.

Even if golden parachutes are an executive compensation component as well, we cannot ex ante assume a positive relation to earnings management. This is because there is no clear image of whether golden parachutes benefit the executive receiving them or the company that offers the package. Golden parachute is a contractual agreement between a company and a top executive, specifying that the employee will receive certain benefits (may include severance pay, cash bonuses, stock options or other benefits) if his contract is terminated due to change in control of the firm. A change in control situation is typically specified in the agreement as a transfer of the firm's ownership over a certain percentage, a merger or consolidation, a major change in board composition or the liquidation of the firm (Rau and Xu, 2013). Golden parachutes consist of various components, but usually includes a multiple of the annual salary and/or bonus (usually two or three times), stock options and other benefits such as health benefits for a period of time following termination (typically 1-2 years); hence an investigation of the role of golden parachutes is essential, since the literature suggests that compensation agreements provide incentives for managers to

truthfully reveal information (Inderst and Mueller, 2005) and hence reduce earnings management for managers with career concerns.

Many studies examine the effectiveness and usefulness of golden parachutes in the recent past. Some studies conclude that golden parachutes benefit only the CEO and are usually offered in an attempt to balance the risk taken by the CEO when taking over a company. Rau and Xu (2013) stated that golden parachutes are more when the company is considered to be of a high risk. Hence, we expect that golden parachutes exist in companies with higher probability of default and consequently less earnings management.

Proponents argued that golden parachutes are a key component of a competitive pay package required to attract and retain talented top executives particularly in merger prone industries. Moreover, golden parachutes are important to shareholders since they induce executives to react in a “right” way in the event of an acquisition attempt. Many companies and economists argued on the importance of golden parachutes as a beneficial element in executive compensation since top executives usually give up independence and corporate control in the event of an acquisition. On the other hand, opponents stated that executives are already well compensated and should not be rewarded for being terminated. Additionally, executives should act in the best interest of their company and therefore, should not need additional incentives to remain objective and act in a manner that benefits the company. Shareholders resolutions opposing golden parachutes have often receive substantial support over time and indicated them as one of the main reasons of the recent financial crisis. The executives drive the firm to a hard situation and hence the shareholders, who shoulder the cost, but at the same time they receive the compensation in the form of golden parachute and subsequently better accruals quality.

Compared to long-term incentives that promise to reward executives for achievement of the company’s strategic objectives that will maximize shareholder value; golden parachutes promise ex-ante to the executive a lucrative payment in the event of a takeover but at the same time they keep him conscious to exert at least some minimal effort to support the share price received in the case of takeover.

According to Schipper (1989) earnings management is “a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain”. In a similar vein, Helay and Wahlen (1999) define earnings management as the judgement in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to

influence contractual outcomes that depend on reported accounting numbers”. Both definitions state that earnings management involves the intentional manipulation of accounting information and imply that managers have incentives for doing so.

Earnings management hides the “true” performance of the firm from shareholders and others, such that earnings become a less reliable measure of firm performance. Studies show that reported earnings are less informative to investors when the incentive to manage earnings is high and that opportunistic earnings management reduces the value relevance of accounting information (Christensen et al., 1999; Marquardt and Wiedman, 2004). Thus, unless investors can see and undo earnings management, their resource allocation decisions are potentially affected in a negative way. Thus, earnings management is understood as the process by which managers can manipulate the financial statements in order to represent what they wish to have happened or what the investors were expecting (rather than what actually happened) during a certain period.

We will try to bring together two different streams of literature: earnings management and executive compensation, and more specifically the effect of golden parachutes on earnings management. Particularly, the study will examine how the existence of a golden parachute on the contract of the CEO of the company at the time that he/she was hired, influences his/her behavior on earnings management.

3. Background and Motivation

Accountants and financial economists have recognized for years that firms use the leeway of accounting rules in order to manage reported earnings in a wide variety of contexts. According to Healy and Wahlen (1999), earnings management is used “to window dress financial statements prior to public securities offerings, to increase corporate managers’ compensation and job security, to avoid violating lending contracts or to reduce regulatory costs or to increase regulatory benefits”. Cohen, Dey and Lys (2005) find that earnings management increased steadily from 1997 to 2002 and options and stock-based compensation appeared as a particularly strong predictor of forceful accounting behavior (Gao and Shrieves, 2002; Cheng and Warfield, 2005; Bergstresser and Philippon, 2006). However, corporate governance mechanisms can be used to eliminate earnings management (Klein, 2002; Dechow, Sloan and Sweeney, 1995; Beasley, 1996).

When CEOs’ incentives, more specifically in the case of golden parachute package, are based on their company’s financial performance (whether or not a change in control will

take place), it may be in their self-interest to produce the appropriate image for change in control through earnings management. Prior studies suggest that in cases of merger or takeovers, earnings management is present (Easterwood, 1997; Erickson and Wang, 1999). Easterwood (1997) find evidence consistent with the hypothesis that targets of hostile takeover attempts inflate earnings in the period prior to the takeover attempt in order to discourage shareholders for supporting the takeover. Erickson and Wang (1999), find that in the case of mergers, earnings are inflated prior to the merger in an attempt to inflate stock price and thus reduce the cost of the merger.

Golden parachutes are components in executive compensation package that influence the decisions of the CEO with regard to the administration and the operation of the company, as well as his intention to disclose information to the market and manipulate earnings. According to the literature, the existence of golden parachutes influences either positively or negatively the intuition of the manager to disclose information to the public. On the one hand, golden parachutes align the interests of management and shareholders giving incentives to managers to encourage a profitable acquisition or takeover (Lambert and Larcker, 1985), and to reveal private information, especially bad news (Almazan and Suarez, 2003). Ling (2012) and Levitt and Snyder (1997) conclude also that golden parachutes give incentives to managers to issue bad news.

However, golden parachutes provide the manager with safety and thus be able to operate the company more effectively and efficiently (Laux, 2008). On the other hand, golden parachutes increase executive's ability to transfer wealth from shareholders to himself since he does not determine the takeover risk so serious and operates the company less effectively (Lambert and Larcker, 1985). Additionally, previous literature concludes that a CEO with a golden parachute undertakes more risk (Ju, Leland and Senbet, 2003; Van Wesep, 2010).

Hence, we are curious to examine how this kind of compensation, "golden parachute" will influence the behavior of a CEO in terms of earnings management. The golden parachute introduces a dilemma for the CEO; to manage earnings and keep his/her position or disclose the real situation of the firm and leave the firm with golden parachute. The insurance provided by the golden parachute in the event of a change in control would discourage earnings management and encourage the CEO to disclose truthful information. The proposition of this study is stated below:

Golden parachutes differentiate the decision of the CEO as to whether to engage in earnings management or not.

Furthermore, corporate governance seems to play a significant role since previous literature suggests that it affects firm performance and managers' behavior. One of the main pursuits of corporate governance is the transparency and the strict control and hence, the obligation of managers to release information to the public (Beyer, Cohen, Lys and Walther, 2010). According to Core (2001), corporate governance and executive's annual remuneration are the factors that influence manager's decisions. Subsequently, when shareholders design these packages and the structure of corporate governance in order to maximize the value of the company, they should take into consideration that these influence managers' decisions and consequently firm's value. By giving incentives to the managers or applying mechanisms of corporate governance in order to control the decisions of the management, the information asymmetry between company and shareholders could be reduced (Beyer, Cohen, Lys and Walther, 2010).

Moreover, corporate governance affects positively on both the quantity and the quality of information that is revealed. According to Laux (2008), when the board is strong, golden parachutes give incentives to the CEO to reveal information, even if this leads to his replacement. Thus, we expect that CEOs in firms that offer golden parachutes and exhibit strong corporate governance to discourage earnings management. We test this research question after controlling for corporate governance (board size, board independence, duality, insider ownership) and CEO age.

At last, we will examine the effect of annual compensation of the CEO on accruals quality in companies with golden parachutes. Inderst and Mueller (2005, 2006) showed theoretically that the optimal package of rewards that is offered to the CEO should include performance-based pay, like bonus or options, base salary and severance pay. The optimal combination of CEO compensation and severance pay gives incentives to the CEOs not manage earnings, even if these lead to his replacement. Hence, the expectation is that the differentiation of the behavior of the CEO with golden parachutes on earnings management will exist after controlling for corporate governance and components of CEO compensation.

4. Methodology

4.1 Accruals measurement

A common feature in literature to measure earnings management is the estimation of discretionary accruals. The estimation of discretionary accruals is implemented using the difference of actual total accruals to the estimated total accruals obtained by an accrual expectation model. In order to measure accruals in this study we use the methodology of Francis et al. (2005). They extend the Dechow and Dichev model (2002) since the Dechow and Dichev approach was limited to current accruals. While applying the Dechow and Dichev model to total accruals would produce an accrual metric that comprehensively measures accruals uncertainty. To address this limitation, Francis et al. (2005), consider proxies for accruals quality that are based on absolute value of abnormal accruals, where abnormal accruals are estimated using Jones (1991) model, as modified by Dechow et al. (1995). Applying the “modified Jones” approach to their setting, accruals quality is related to the extent that to which accruals are captured by fitted values obtained by regressing total accruals on changes in revenues and PPE. The limitation of Dechow and Dichev model is minimized since the abnormal accruals consider both current and non-current accruals. McNichols (2002) propose a variation of Dechow and Dichev model that includes change in revenues and the size of property, plant and equipment (PPE) since she suggests that these variables are important in the expectations of current accruals. She shows that adding these variables to the cross-sectional Dechow and Dichev (2002) regression significantly increases its explanatory power and hence reducing measurement error. Francis et al. (2005) also used this augmented model to estimate accruals.

4.2 Accruals Quality metric

In this study, the Accruals Quality (AQ) metric is based on the cross-sectional Dechow and Dichev model, augmented with the fundamental variables from the modified Jones model, PPE and change in revenues:

$$TCA_{j,t} = \varphi_{0,j} + \varphi_{1,j}CFO_{j,t-1} + \varphi_{2,j}CFO_{j,t} + \varphi_{3,j}CFO_{j,t+1} + \varphi_{4,j}\Delta Rev_{j,t} + \varphi_{5,j}PPE_{j,t} + v_{j,t}$$

where $TCA_{j,t} = \Delta CA_{j,t} - \Delta CL_{j,t} - \Delta Cash_{j,t} + \Delta STDEBT_{j,t}$: total current accruals in year t,

$CFO_{j,t} = NIBE_{j,t} - TA_{j,t}$: firm j's cash flow from operations in year t,

$NIBE_{j,t}$: firm j's net income before extraordinary items in year t,

$TA_{j,t} = (\Delta CA_{j,t} - \Delta CL_{j,t} - \Delta Cash_{j,t} + \Delta STDEBT_{j,t} - DEPN_{j,t})$: firm j's total accruals in year t,

$\Delta CA_{j,t}$: firm j's change in current assets between year t-1 and t,

$\Delta CL_{j,t}$: firm j's change in current liabilities between year t-1 and t,

$\Delta Cash_{j,t}$: firm j's change in cash between year t-1 and t,

$\Delta STDEBT_{j,t}$: firm j's change in debt in current liabilities between year t-1 and t,

$DEPN_{j,t}$: firm j's depreciation and amortization expense in year t,

$\Delta Rev_{j,t}$: firm j's change in revenues between year t-1 and t,

$PPE_{j,t}$: firm j's gross value of PPE in year t.

We estimate the regression model using 2-dig SIC groups. Consistent with previous literature, we winsorize the extreme observations by setting the value in the bottom and top 1 percent equal to 1st and 99th percentile.

Our accruals quality metric is define as $AQ_j = \sum_{t=T}^{T+2} (v_j)_t$, the sum of firm j's residuals, calculated of years t through t+2. Smaller sum of residuals indicate less earnings management.

4.3 Empirical models and variables

In order to examine the effect of golden parachutes in accruals quality (as stated in the proposition), we use the AQ metric as the dependent variable in a series of regression models that we will describe below:

$$AQ = \beta_0 + \beta_1 * GP + \beta_2 * Ln(TA) + \beta_3 * M/B + e \quad (1)$$

We also extend our basic model in order to control for corporate governance and executive compensation.

In a company with strong board, a golden parachute encourages the CEO to work effectively and do not manage earnings. Jensen (1993) argues that small boards are more effective in monitoring a CEO's actions. Yermack (1996) also concludes that smaller boards are monitoring more effective the CEO than larger boards do. Hence, the board size seems to inversely relate to performance. Based on previous literature, since small boards enhance monitoring, they would also lead to less earnings management and thus less accrual.

Additionally, the independence of the board, that has been extensively studied, should play a significant role in monitoring the CEO. According to Cornett, Marcus and Tehranian (2008), boards dominated by outsiders are arguably in advantageous position to monitor and control managers. Outside directors are likely to be more independent of the firm's

managers. Thus, higher board independence would also be associated with less earnings management.

On the other hand, duality concentrates power in the CEO's position, potentially allowing for more earnings management. Duality also offers to the CEO the chance to effectively control information available to other board members and thus may lead to less monitor role of the board and subsequently to higher manipulation of the earnings.

Higher ownership by directors and executive officers may give incentives for value maximizing behavior, but also may encourage managers to use discretionary accruals to change the apparent performance of the firm, thereby increasing their personal wealth (Cornett, Marcus and Tehranian, 2008).

The age of the CEO may determine his effectiveness in managing a firm. The older the CEO is, the lower the use of earning management, since the CEO prefer to maintain his reputation and reliability by disclosing the actual performance situation of the firm. Hence, he announce to the public in order not to be accused for insufficient information and therefore not harm his prestige.

The basic model (1), extended for corporate governance is as follows:

$$AQ = \beta_0 + \beta_1 * GP + \beta_2 * CEO\ Age + \beta_3 * Duality + \beta_4 * Board\ Size + \beta_5 * Board\ Ind + \beta_6 * Ins\ Own + \beta_7 * Ln(TA) + \beta_8 * M/B + e \quad (2)$$

The compensation package of the executives is another issue that keeps the academic researchers busy for years. Many studies examine how the executives' annual compensation aligns managers' personal benefits with those of shareholders.

Annual salary is one component of executive compensation which was examined empirically, and evidence shows that it relates to firm size. High compensated CEOs are found in big and high performance companies according to Gabaix and Landier (2006) and Diamond and Verrecchia (1991). Hermalin and Weisbach (2012) report that increased levels of disclosure leads to the increase of firm value and therefore to the increase of CEO rewards, and specifically his salary. They also showed that large companies disclose more information to their shareholders, but also pay higher salary to their CEOs. On the other hand, Core, Holthausen and Larcker (1999) claim that CEOs in companies with higher information asymmetry are compensated with higher salary. However, Gao and Shrieves (2002) find that salary has statistically significant negative relationship with earnings management.

Annual bonus is a key component of the executive compensation package that seems to influence either positively or negatively the decisions of the CEO. Jensen and Murphy (2010) showed that bonus plans give managers more incentives since they are rewarded immediately than equity-based plans (profits are based on equity value); even that the magnitude of the payoff is smaller. They also report that almost all CEOs bonus plans are badly designed since the bonus might not depend on the profitability of the company. Badly designed bonus plans give incentives to managers to manipulate earnings productively, shift earnings and cash flow from one period to other, undertake insufficient risks and resign from profitable projects. Therefore, CEOs earn the maximum bonus each year; even if this means that substantially on average he will have lower return. Furthermore, Jensen and Murphy (2010) propose that bonus plans should be linear. They mean that the bonus should be defined as a percentage of whatever measure of performance that is relevant to the situation. Holthausen, Larcker and Sloan (1995) also claim that managers manipulates profits in order to exploits the non-linear relation of profits and their benefits.

Many studies examine the executives' options-based contracts and how they use them in order to increase their wealth. Perry and Zenner (2000) supports that options attract talented and capable managers. Additionally, options encourage managers to undertake risks in companies with high growth opportunities (Smith and Watts, 1992; Gaver and Gaver, 1993; Baber, Janakiraman and Kang, 1996). According to Goldman and Slezak (2006) and Burns and Kedia (2006), stock-based compensation makes managers to overwhelm more effort, but simultaneously it makes them to hide the real performance of the firm and to manipulate information in order to increase their rewards against shareholders' interests. On the contrary, Beyer, Cohen, Lys and Walther (2010) report that equity-based packages encourage managers to announce news voluntarily. Moreover, Nagar, Nanda and Wysocki (2003) mention that managers not only issue good news but also the bad, because if they announce nothing this will be interpreted negatively.

As golden parachutes provide incentives for managers, option based compensation contracts may also provide incentives for the managers to engage or not in earnings manipulation. Managers in firms that are targets for takeover are in the position to prevent takeovers by virtue of their control. On the other hand, shareholders sought mechanisms that would encourage managers to be open to takeover bids. Option based compensation could serve as this mechanism since takeovers would offer a premium to current share prices and perhaps early vesting, but even managers with significant option holdings in the

firm nevertheless often faced significant financial loss in the event of a takeover. Golden parachutes make takeovers more pleasant since they promise additional payment (severance payment and bonus).

We include in the model variables controlling for the compensation package of the CEO (salary, bonus and options; as percentage of total compensation):

$$AQ = \beta_0 + \beta_1 * GP + \beta_2 * CEO\ Age + \beta_3 * Duality + \beta_4 * Board\ Size + \beta_5 * Board\ Ind + \beta_6 * Ins\ Own + \beta_7 * Salary + \beta_8 * Bonus + \beta_9 * Options + \beta_{10} * Ln(TA) + \beta_{10} * M/B + e \quad (3)$$

We conduct an additional test with interaction of golden parachute existence and the options that the CEO holds in order to examine the effect of options in the case where the CEO has a golden parachute in his/ her compensation contract since the options' value is based on firm's performance and thus they act as a mechanism to induce the CEO to work for the best of the firms' interest. Hence, options may provide a safety net for increased risk-taking incentives and in combination with golden parachute existence may influence the decision of the CEO to engage or not in earnings manipulation.

$$AQ = \beta_0 + \beta_1 * GP + \beta_2 * CEO\ Age + \beta_3 * Duality + \beta_4 * Board\ Size + \beta_5 * Board\ Ind + \beta_6 * Ins\ Own + \beta_7 * Salary + \beta_8 * Bonus + \beta_9 * Options + \beta_9 * GP * Options + \beta_{10} * Ln(TA) + \beta_{11} * M/B + e \quad (4)$$

In the analysis, the existence of golden parachutes is measured with a binary variable that equals to one when the CEO employment agreement includes a golden parachute, and zero otherwise:

$$GP = \begin{cases} 1, & \text{if the CEO has golden parachute} \\ 0, & \text{otherwise} \end{cases}$$

In order to ensure the robustness of the results, we implement the above-mentioned models using a continuous variable for golden parachute instead of the binary variable. The variable measures the estimated payment in the event of change in control (in dollars) as a percentage of the total compensation.

The CEO age is the age of the CEO at his hire year. The board size is the total number of directors of the board of the company (we use the natural logarithm of board size in the empirical models). Board independence is the proportion of independent directors (it is the ratio of the number of independent directors to the total number of directors on the board). Independent directors are those that are non-employees of the company; neither have any

other relation with it or with its officers. Duality is defined as a binary variable that equals 1 if CEO is also Chairman of the board, and 0 otherwise:

$$Duality = \begin{cases} 1, & \text{if the CEO is the Chairman} \\ 0, & \text{otherwise} \end{cases}$$

Insider ownership is the proportion of company equity that was held by inside directors. Inside directors are the directors that are employees of the company, and more specifically the directors that are officers.

The CEO annual compensation variables that are used in the analysis are defined as follows: Salary is the annual CEO salary (deflated by CEO's total annual compensation in the models), Bonus is the annual CEO bonus (deflated by CEO's total annual compensation in the models) and Options the stock options granted to the CEO (deflated by CEO's total annual compensation in the models).

Consistent with prior research, we use control variables: Ln(TA), defined as the natural logarithm of firm's total assets and is used as a proxy for firm size. Smaller firms are more likely to be targets, and generally it is easier to be acquired. Palepu (1986), Ambrose and Megginson (1992), Powell (1997) argue that firm size is inversely related with the likelihood of being a target. In the bibliography is reported that there is positive relation between firm size and high levels of information disclosure (Diamond and Verrecchia, 1991; Hermalin and Weisbach, 2012). Large companies adopt stricter reporting standards, and for this reason are obliged to reveal more information.

Market-to-Book is defined as the market value of equity divided by the book value of equity, to proxy for firm's growth opportunities. Firm's growth opportunities are inversely related with the likelihood of a firm being a takeover target (Palepu, 1986; Bebchuk, Cohen, and Wang, 2010).

4.5 Dataset

Our dataset consists of CEO hirings in the period 2000-2014. We collect the information regarding CEOs (name, age, hire year, salary, bonus, options) from ExecuComp and data for the firm (total assets, market value, book value, current assets, current liabilities, cash, net income before extraordinary items, debt in current liabilities, depreciation and amortizations expense, gross value of property, plant and equipment) from Compustat and CRSP. We also use GMI Ratings for corporate governance data (board size, board

independence, insider ownership, and duality) as well as proxy statements (DEF-14A file in EDGAR Company Filings) to complete information that is missing.

Initially, we had 3.016 firms that hired a new CEO in the period 2000-2014. We exclude 433 firms that are classified as financial firms (SIC codes 4900-4999 and 6000-6999). The matching procedure that was necessary to obtain information from other data sources led us to the elimination of 34 observations due to missing Ticker/Cusip. In the next step, we exclude 122 cases where the golden parachute variable cannot be defined either from ExecuComp or from Proxy Statements. We merge the ExecuComp data and hand collected data from Proxy Statements with annual financial data from CRPS - Compustat by year and firm identity. At this step of the procedure we lost about 763 observations. We also merge for CEO and corporate governance data from GMI Ratings (CEO age, board characteristics, duality and ownership). At last, we exclude 1.304 cases where the required information on the variables that we need is missing. Finally, we end up with a sample of 360 hirings of CEOs. For all the variables that we use in the analysis we conduct descriptive statistics and explore the possibility of outliers existence and winsorize at 1% and 99% percentile where it is needed.

5. Empirical results

Panel A in Table 1 includes descriptive statistics for the compensation package of the CEOs in our sample while Panel B contains descriptive statistics for the variables that we used in our analysis: accruals metric, golden parachute existence, board size, board independence, inside directors' ownership, dual role of CEO and CEO compensation (salary, bonus, options and total compensation). In this table we provide information about the means, the medians, standard deviation, minimum and maximum values for each variable.

Firstly, golden parachutes are presented with a proportion of 61,0%, which means that 61% of the CEOs in our sample have golden parachute agreements with their companies; which is consistent with prior literature that suggests that approximately 60,0% of the firms offer golden parachutes to their executives. Alvarez and Marshal conducted an analysis on 200 top US companies and found that 63% of them had change in control agreements in 2013. Furthermore, Towers Watson revealed in its latest Executive Compensation Bulletin that 70% of Fortune 500 companies offer change in control agreements to their named executive officers. Thus, we can claim that the sample used in this study is representative of the population.

Furthermore, the average Board Size is 9,5 (thus the natural logarithm that we use in the models has a mean value of 2,2) and 70,0% of the directors that are on the Board are independent. The proportion of independent directors is relatively in line with corporate governance principles that require the majority of the directors on the Board to be non-executives. Moreover, the results for inside ownership showed that 19,0% of shares are owned by inside directors. The strong board characteristics, and hence the good corporate governance is expected to encourage the CEO to work effectively and disclose timely information, leading to less earnings management and thus to lower accruals.

The average CEO age is 59, while the youngest is aged 42 and the oldest 80. The older the CEO is, the less earnings management will be, since the CEO will prefer to maintain his reputation. Only 26,0% of the CEOs held the position of the Chairman of the Board of the company; thus the majority of them are acting independently. Regarding the compensation, the average annual salary of a CEO is estimated at 711 thousand dollars, which is 27% of the total compensation. The annual bonus is about 272 thousand dollars, which is about 8% of the total compensation and the options held by the CEO is about 39% of the total compensation, with estimated value about 1.546 thousand dollars.

Table 2 illustrates the mean/ median differences of the variables used in the analysis between firms that offer golden parachutes and firms that do not offer golden parachutes. Accruals differs in terms of mean (at 5% level of significance) between the two groups, while the CEO age, board independence, bonus, options and total compensation differs at 5% in terms of mean and median. It is worth mentioning the significant difference in bonus which is five times greater compared to the bonuses offered by firms that do not offer golden parachutes. This evidence may lead us to the conclusion that firms that do not ex ante offer golden parachutes, offer higher bonus to their CEOs. On the other hand, firms that offer golden parachutes offer to their CEOs higher proportion of options than firms with CEOs without golden parachutes, while the annual salary remains at the same levels regardless of the existence of golden parachutes. The mean value of the board independence differs significantly at 5% between the two groups as well as the medians of the inside ownership variable. In firms that offer golden parachutes, the board seems more independent and the inside ownership is lower than in firms without golden parachute.

We create a correlation matrix in Table 3 (Pearson correlations above the diagonal and Spearman's rho below) in order to investigate the relations among earnings management, golden parachutes, corporate governance and compensation components. The correlation coefficients presented to be significant among the existence of golden parachutes, the accruals metric, the CEO age, board independence, bonus, options. Golden parachute has

strong negative correlation with bonus and positive with options, confirming the conclusions from Table 2. Furthermore, the size of the company (measured by $\ln(TA)$) is presented to correlate significantly with the board size, duality, inside ownership as well as with the compensation components (more specifically with the salary and options).

Table 4 presents the results of the different regression models examining the relationship of accruals and golden parachutes. In the table are presented the regression coefficients and the respective significance level. In all the models that we are examined the coefficient of golden parachute existence is negative and statistically significant. That means that golden parachutes have a negative relationship with accruals, hence the existence of golden parachute influence the CEO in a way of not engaging in earnings management. This result is consistent with the expectation that the golden parachute provide insurance for the CEO and incentive to disclose the truthful situation of the firm. Based on previous literature, golden parachutes aligns the interests of management and shareholders giving incentives to managers to encourage a profitable acquisition or takeover (Lambert and Larcker, 1984), and to reveal private information, especially bad news (Almazan and Suarez, 2003). Ling (2012) and Levitt and Snyder (1997) conclude also that golden parachutes give incentives to managers to issue bad news. Hence, the manager that has a golden parachute do not manage earnings in order to change the company image since he will benefit even if the company do not have a successful way.

The influence of the golden parachutes on accruals remains negative and statistically significant although we control for corporate governance and executive compensation. The situation for less earnings management, based on the results, need the board size to be larger and less independent, the CEO hold the position of Chairman of the Board as well. This can be explained as that the decision policy of the CEO who has the golden parachute, regarding earnings management, is influenced much stronger from the fact that his has golden parachute as a safety cushion than the strong corporate governance (board independence, duality). Inside ownership has positive relation with accruals, result that is consistent with Cornett, Marcus and Tehranian (2008) arguing that higher levels of inside ownership by directors and executive officers may give incentives for value maximizing behavior, but also may encourage managers to use discretionary accruals to change the apparent performance of the firm, thereby increasing their personal wealth. The older the CEO is, the lower the use of earning management, since the CEO prefer to maintain his reputation and reliability by disclosing the actual performance situation of the firm. Hence,

he announce to the public in order not to be accused for insufficient information and therefore not harm his prestige.

Additionally, the compensation of the CEO (annual salary, bonus and options or the total compensation) seems to influence accruals. Higher proportion of salary, bonus and options lead to more earnings management, consistent with prior literature that argue for the incentive that options and bonus contracts give to managers to engage in earnings management (Bergstresser and Philippon, 2006; Cornett et al., 2008). When the CEO has a golden parachute in his contract, options have negative relationship with accruals, although not statistically significant.

In addition, the control variables for size and growth opportunities present the image of a small firm with lower growth opportunities to have lower levels of earnings management.

6. Additional sensitivity analysis

We examine the effect of golden parachute on earnings management using as a measure for golden parachute the estimated value of the payment in the event of a change in control deflated by the total compensation of the CEO. The results of the linear regression models are presented in Table 5 as robustness tests. The coefficients of the variables incorporated in each model are similar to these in regression models in Table 4 but they are not statistically significant. The percentage of golden parachute value to total compensation value although is negatively related to accruals, is not significant.

In order to further examine the robustness of our results, we examine the relationship of earnings management and golden parachutes using a different earning management measure. We implement the same models described above using as dependent variable a binary variable which takes value 1 if the value of net income scale by total assets is positive and less than 0.01. The results in Table 6 show that the effect of golden parachute in earnings management is negative, confirming the negative relation with accruals in previous regression models. We control for corporate governance, CEO compensation, firm size and growth opportunities and result in a negative relationship between golden parachutes and earnings management. In short, this additional test provides reasonable assurance that our results are robust.

We implement robustness econometric tests in order to test for heteroscedasticity (the variance of regression errors in OLS is not constant) and multicollinearity (independent

variables in regression model are highly correlated). It is important to state that all the results presented in the Tables 4 and 5 are heteroscedasticity consistent (provide robust standard errors) and the issue of multicollinearity among the independent variables is not present. Regarding heteroscedasticity, we run the regression models and enable the statistical package to test for heteroscedasticity and correct standard errors and significance of each variable using a command for heteroscedasticity-consistent standard errors that corrects for heteroscedasticity without altering the values of the coefficients. Furthermore, to test for multicollinearity we use variance inflation factor (VIF). Values of VIF between 5 and 10 indicates multicollinearity problem, something that is not present in any of the variables in the models used in this study.

7. Conclusions

In an attempt to fill the gap in the literature for the role that a golden parachute has in earnings management, we examine the effect of golden parachutes on accruals. More specifically, we examine companies that hire new CEOs and offer golden parachutes to their CEOs. The study examines how the existence of a golden parachute on the contract of the CEO of the company at the time that he/she was hired influences CEO's decision in earnings manipulation.

According to previous studies, since golden parachutes provide incentives to the managers to work to the best interest of the company and encourage the disclosure of any news and the transparency, the golden parachute may act as a key component in a compensation package of the CEO in order not to manage earnings, especially in the case of a takeover or an acquisition, since it provides the insurance that a CEO desires.

Based on the results of this study, golden parachutes have an inverse relationship with accruals, hence the existence of golden parachute influences the CEO to mitigate earnings management. These results are consistent with our expectations since the safety that golden parachutes offer to the CEO induces him/her not engaging in earnings manipulation. The influence of the golden parachutes remains negative and statistically significant although we control for corporate governance, CEO compensation and firm characteristics. Older CEOs may not engage in earnings management in order to maintain his reputation and reliability by disclosing the actual performance situation of the firm. Furthermore, inside

ownership encourage managers to use accruals to change the apparent performance of the firm, thereby increasing their personal wealth. Additionally, the compensation of the CEO (annual salary, bonus and options) seems to influence accruals. Higher proportion of salary, bonus and options lead to more earnings management, consistent with prior literature that suggest that bonus and options based contracts create opportunistic incentives for use of earnings management. The results of the empirical analysis when we incorporated a continuous variable that measures the magnitude of golden parachute instead of the incidence remain the same although they are not statistically significant. To sum up, the current research design does not allow for causality statements to be made but it best describes the association between the variables of interest and especially accruals and golden parachutes.

Lastly, this study has limitations that can be eliminated by control for the sensitivity of the CEO compensation to option-based compensation using as control variables delta and vega and for long-term incentives using data on pensions benefits. The effect of option-based compensation and long-term incentive plans may differentiate the results and consequently the conclusion of this study. Additionally, the effect of golden parachute can be investigated before and after the financial crisis since many opponents argue that these packages are one of the main reasons that lead to the financial ruin. Furthermore, the study should take into account any endogeneity issues by implementing a model that will examine the firm's decision to offer golden parachutes to their executives.

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Appendices

TABLE 1
Descriptive Statistics

Panel A: Descriptive Statistics for executive's compensation components

Total number of observations, the mean, the median, the standard deviation, the minimum and the maximum are illustrated. All the values are presented in thousands of dollars.

	<i>N</i>	<i>Mean</i>	<i>Median</i>	<i>St.Deviation</i>	<i>Minimum</i>	<i>Maximum</i>
<i>Golden Parachute (\$)</i>	360	7.236	3.154	10.633	0	85.961
<i>Salary(\$)</i>	360	711	675	309	23	2.000
<i>Bonus(\$)</i>	360	272	0	594	0	5.000
<i>Options(\$)</i>	360	1.546	389	2.720	0	19.047
<i>All Other Compensation(\$)</i>	360	255	58	776	0	7.646
<i>Total Compensation(\$)</i>	360	4.484	3.136	4.278	117	37.552

Panel B: Descriptive Statistics for variables used in the regression models.

Total number of observations, the mean, the median, the standard deviation, the minimum and the maximum are illustrated. *Accruals quality* is defined as the sum of firm *j*'s residuals, calculated of years *t* through *t+2*. *Golden Parachute* is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation, *Options* is the value of CEO options as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>N</i>	<i>Mean</i>	<i>Median</i>	<i>St.Deviation</i>	<i>Minimum</i>	<i>Maximum</i>
<i>Accruals Quality</i>	360	-0,21	-0,11	2,12	-7,44	7,26
<i>Golden Parachute</i>	360	0,61	1,00	0,49	0,00	1,00
<i>CEO Age</i>	360	58,81	59,00	7,57	42,00	80,00
<i>Ln(Board Size)</i>	360	2,23	2,20	0,24	1,39	2,83
<i>Duality</i>	360	0,26	0,00	0,44	0,00	1,00
<i>Board Independence</i>	360	0,70	0,75	0,16	0,18	1,00
<i>Inside Ownership</i>	360	0,19	0,06	0,25	0,00	1,00
<i>Salary</i>	360	0,27	0,21	0,20	0,02	1,00
<i>Bonus</i>	360	0,08	0,00	0,14	0,00	0,57
<i>Options</i>	360	0,39	0,15	0,72	0,00	5,31
<i>Ln(Total Compensation)</i>	360	8,01	8,05	0,93	4,77	10,53
<i>Ln(TA)</i>	360	6,72	6,60	1,44	3,68	10,80
<i>M/B</i>	360	1,65	1,86	8,48	-64,23	18,87

TABLE 2

Comparison of means and medians for variables used in the analysis

Panel A: Mean (T-test) and median (Wilcoxon signed rank test) differences for firms with a golden parachute and firms without golden parachute.

	Mean differences				Median differences			
	With golden parachute	Without golden parachute	Difference	Significance (**: $a=0,05$ *: $a=0,10$)	With golden parachute	Without golden parachute	Difference	Significance (**: $a=0,05$ *: $a=0,10$)
Golden Parachute(\$)	11.895	0	11.895	0,000**	8.691	0	8.691	0,000**
Salary(\$)	768	624	144	0,000**	730	630	100	0,034**
Bonus(\$)	92	552	-460	0,000**	0	250	-250	0,000**
Options(\$)	2.038	782	1.256	0,000**	895	0	895	0,000**
AllOtherCompensation (\$)	151	417	-265	0,009**	55	67	-12	0,388
Total Compensation(\$)	4.732	4.098	634	0,170	3.638	2.685	953	0,018**
N	219	141			219	141		

Panel B: Mean (T-test) and median (Wilcoxon signed rank test) differences for firms with a golden parachute and firms without golden parachute. *Accruals quality* is defined as the sum of firm j 's residuals, calculated of years t through $t+2$. *Golden Parachute* is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation, *Options* is the value of CEO options as % of Total Compensation and $Ln(TC)$ is the logarithm of the Total Compensation of the CEO. $Ln(TA)$ is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	Mean differences				Median differences			
	With golden parachute	Without golden parachute	Difference	Significance (**: $a=0,05$ *: $a=0,10$)	With golden parachute	Without golden parachute	Difference	Significance (**: $a=0,05$ *: $a=0,10$)
Accruals Quality	-0,41	0,10	-0,51	0,045**	-0,14	-0,03	-0,11	0,517
CEO Age	57,16	61,38	-4,22	0,000**	57,00	61,00	-4,00	0,000**
Ln(Board Size)	2,24	2,21	0,03	0,251	2,20	2,20	0,00	0,837
Duality	0,26	0,28	0,02	0,662	0,00	0,00	0,00	0,752
Board Independence	0,72	0,68	0,04	0,030**	0,75	0,71	0,04	0,095*
Ins Ownership	0,18	0,21	-0,03	0,281	0,05	0,08	-0,03	0,004**
Salary	0,26	0,28	-0,02	0,360	0,21	0,21	0,00	1,000
Bonus	0,03	0,15	-0,12	0,000**	0,00	0,11	-0,11	0,000**
Options	0,50	0,22	0,38	0,001**	0,28	0,00	0,28	0,000**
Ln(Total Compensation)	8,12	7,83	0,29	0,005**	8,20	7,90	0,30	0,018**
Ln(TA)	6,73	6,69	0,04	0,753	6,50	6,72	-0,22	0,195
M/B	1,81	1,40	0,41	0,655	1,90	1,86	0,04	0,829
N	219	141			219	141		

TABLE 3
Correlation Matrix

A correlation matrix among all the variables used in the analysis; above the diagonal is presented the Pearson correlation and below the Spearman's rho. *Accruals* is defined as the sum of firm j's residuals, calculated of years t through t+2. *Golden Parachute* is a binary variable that takes value 1 when the firm offers Golden Parachute and 0 otherwise. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation, *Options* is the value of CEO options as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>Golden Parachutes</i>	<i>Accruals</i>	<i>CEO Age</i>	<i>Ln(Board Size)</i>	<i>Duality</i>	<i>Board Independence</i>	<i>Insider Ownership</i>	<i>Salary</i>	<i>Bonus</i>	<i>Options</i>	<i>Ln(TC)</i>	<i>Ln(TA)</i>	<i>M/B</i>
<i>Golden Parachutes</i>	1,000	-0,115*	-0,272**	0,061	-0,023	0,114*	-0,057	-0,051	-0,472**	0,194**	0,148**	0,017	0,024
		(0,029)	(0,000)	(0,251)	(0,662)	(0,030)	(0,281)	(0,336)	(0,000)	(0,000)	(0,005)	(0,753)	(0,655)
<i>Accruals</i>	-0,088	1,000	-0,011	-0,032	-0,028	-0,017	0,087	0,091	0,059	0,020	-0,108*	-0,051	-0,039
	(0,095)		(0,832)	(0,546)	(0,596)	(0,754)	(0,098)	(0,085)	(0,266)	(0,712)	(0,040)	(0,334)	(0,465)
<i>CEO Age</i>	-0,256**	-0,045	1,000	0,061	0,167**	0,081	-0,037	0,049	0,225**	0,012	-0,046	0,077	-0,028
	(0,000)	(0,399)		(0,251)	(0,001)	(0,127)	(0,485)	(0,354)	(0,000)	(0,824)	(0,389)	(0,144)	(0,596)
<i>Ln(Board Size)</i>	0,062	-0,017	0,115*	1,000	0,054	0,092	0,037	-0,195**	-0,003	0,121*	0,334**	0,479**	-0,048
	(0,244)	(0,751)	(0,028)		(0,308)	(0,082)	(0,479)	(0,000)	(0,957)	(0,022)	(0,000)	(0,000)	(0,360)
<i>Duality</i>	-0,023	-0,001	0,140**	0,086	1,000	0,118*	-0,017	0,012	0,102	0,049	0,049	0,140**	-0,107*
	(0,662)	(0,978)	(0,008)	(0,103)		(0,025)	(0,742)	(0,820)	(0,053)	(0,357)	(0,358)	(0,008)	(0,042)
<i>Board Independence</i>	0,110*	0,042	0,109*	0,152**	0,152**	1,000	-0,057	-0,054	0,009	0,117*	0,053	0,086	-0,032
	(0,036)	(0,427)	(0,039)	(0,004)	(0,004)		(0,282)	(0,304)	(0,872)	(0,026)	(0,312)	(0,105)	(0,539)
<i>Insider Ownership</i>	-0,095	0,025	-0,069	-0,142**	-0,033	-0,124*	1,000	0,180**	0,157**	0,083	-0,127*	0,021	-0,079
	(0,072)	(0,642)	(0,191)	(0,007)	(0,539)	(0,018)		(0,001)	(0,003)	(0,115)	(0,016)	(0,687)	(0,137)
<i>Salary</i>	-0,006	0,112*	0,037	-0,188**	0,008	-0,010	0,241**	1,000	0,012	0,176**	-0,749**	-0,353**	-0,172**
	(0,915)	(0,033)	(0,483)	(0,000)	(0,877)	(0,850)	(0,000)		(0,821)	(0,001)	(0,000)	(0,000)	(0,001)
<i>Bonus</i>	-0,521**	0,040	0,235**	0,015	0,086	-0,038	0,142**	0,050	1,000	-0,089	-0,096	0,008	-0,070
	(0,000)	(0,452)	(0,000)	(0,776)	(0,104)	(0,472)	(0,007)	(0,340)		(0,092)	(0,067)	(0,883)	(0,183)
<i>Options</i>	0,362**	-0,007	-0,098	0,214**	-0,034	0,135*	-0,143**	-0,006	-0,256**	1,000	-0,090	0,057	0,065
	(0,000)	(0,900)	(0,064)	(0,000)	(0,515)	(0,010)	(0,007)	(0,913)	(0,000)		(0,087)	(0,280)	(0,222)
<i>Ln(TC)</i>	0,133*	-0,118*	-0,041	0,332**	0,040	0,046	-0,275**	-0,842**	-0,048	0,079	1,000	0,619**	0,120*
	(0,012)	(0,025)	(0,443)	(0,000)	(0,449)	(0,389)	(0,000)	(0,000)	(0,363)	(0,135)		(0,000)	(0,023)
<i>Ln(TA)</i>	-0,010	-0,062	0,100	0,494**	0,139**	0,097	-0,224**	-0,436**	0,006	0,132*	0,632**	1,000	0,056
	(0,855)	(0,243)	(0,059)	(0,000)	(0,008)	(0,066)	(0,000)	(0,000)	(0,908)	(0,012)	(0,000)		(0,292)
<i>M/B</i>	0,022	0,059	-0,060	-0,022	-0,040	-0,070	-0,039	-0,279**	-0,056	0,052	0,269**	0,099	1,000
	(0,676)	(0,264)	(0,258)	(0,680)	(0,450)	(0,187)	(0,465)	(0,000)	(0,293)	(0,325)	(0,000)	(0,059)	
<i>N</i>	360	360	360	360	360	360	360	360	360	360	360	360	360

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

TABLE 4

Regression Analysis

A regression with dependent variable the accruals quality and independent the golden parachute, the board size, the board independence, the inside directors ownership, the dual role and the age of the CEO, the salary of CEO, the bonus of the CEO the Ln(TA), the M/B. The value of the coefficients and the corresponding p-value in parenthesis are given in the table. *Accruals quality* is defined as the sum of firm *j*'s residuals, calculated of years *t* through *t+2*. *Golden Parachute* is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>Model I</i>	<i>Model II</i>	<i>ModelIII</i>	<i>ModelIV</i>	<i>Model V</i>
<i>(Constant)</i>	0,490 (0,402)	0,897 (0,566)	0,645 (0,687)	0,627 (0,695)	2,052 (0,245)
<i>Golden parachute</i>	-0,494** (0,033)	-0,522** (0,022)	-0,547** (0,033)	-0,509* (0,068)	-0,476** (0,039)
<i>CEOAge</i>		-0,010 (0,567)	-0,012 (0,501)	-0,012 (0,505)	-0,012 (0,508)
<i>Ln(Board Size)</i>		-0,000 (0,999)	-0,002 (0,997)	-0,004 (0,992)	0,047 (0,919)
<i>Duality</i>		-0,091 (0,703)	-0,110 (0,648)	-0,107 (0,658)	-0,099 (0,676)
<i>Board Independence</i>		0,094 (0,877)	0,076 (0,902)	0,061 (0,922)	0,078 (0,898)
<i>InsideOwnership</i>		0,702 (0,127)	0,580 (0,239)	0,582 (0,239)	0,595 (0,198)
<i>Salary</i>			0,627 (0,254)	0,652 (0,244)	
<i>Bonus</i>			0,009 (0,992)	0,002 (0,999)	
<i>Options</i>			0,097 (0,452)	0,201 (0,353)	
<i>GP*Options</i>				-0,133 (0,611)	
<i>Ln(TC)</i>					-0,215 (0,144)
<i>Ln(TA)</i>	-0,057 (0,502)	-0,053 (0,572)	-0,023 (0,813)	-0,023 (0,812)	-0,031 (0,785)
<i>M/B</i>	-0,009 (0,312)	-0,008 (0,389)	-0,007 (0,490)	-0,007 (0,487)	-0,007 (0,499)
<i>N</i>	360	360	360	360	360
<i>Adjusted R Squared</i>	0,008	0,003	0,001	0,000	0,005

** Significant at the 0.05 level.

* Significant at the 0.10level.

TABLE 5

Robustness Analysis

A regression with dependent variable the accruals quality and independent the Golden parachute as a percentage of Total Compensation, the board size, the board independence, the inside directors ownership, the dual role and the age of the CEO, the salary of CEO, the bonus of the CEO the Ln(TA), the M/B. The value of the coefficients and the corresponding p-value in parenthesis are given in the table. *Accruals quality* is defined as the sum of firm *j*'s residuals, calculated of years *t* through *t+2*. *Golden Parachute* is the estimated value of the payment in case of change in control deflated by the total Compensation of the CEO. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>Model I</i>	<i>Model II</i>	<i>Model III</i>	<i>Model IV</i>	<i>Model V</i>
<i>(Constant)</i>	0,258 (0,651)	0,346 (0,821)	0,086 (0,955)	0,126 (0,935)	1,893 (0,283)
<i>Golden parachute (% of Total Compensation)</i>	-0,034 (0,463)	-0,036 (0,416)	-0,062 (0,227)	-0,045 (0,443)	-0,044 (0,310)
<i>CEOAge</i>		-0,002 (0,898)	-0,073 (0,478)	-0,007 (0,668)	-0,006 (0,741)
<i>Ln(Board Size)</i>		-0,041 (0,930)	-0,016 (0,973)	-0,024 (0,958)	0,037 (0,937)
<i>Duality</i>		-0,082 (0,734)	-0,110 (0,653)	-0,106 (0,664)	-0,089 (0,709)
<i>Board Independence</i>		-0,030 (0,962)	-0,010 (0,987)	-0,042 (0,947)	-0,009 (0,988)
<i>InsideOwnership</i>		0,777 (0,099)	0,574 (0,250)	0,579 (0,247)	0,632 (0,178)
<i>Salary</i>			0,829 (0,135)	0,837 (0,135)	
<i>Bonus</i>			0,544 (0,571)	0,494 (0,610)	
<i>Options</i>			0,138 (0,375)	0,333 (0,139)	
<i>GP*Options</i>				-0,273 (0,349)	
<i>Ln(TC)</i>					-0,274 (0,061)
<i>Ln(TA)</i>	-0,058 (0,500)	-0,053 (0,572)	-0,015 (0,879)	-0,016 (0,865)	0,053 (0,638)
<i>M/B</i>	-0,010 (0,239)	-0,008 (0,322)	-0,007 (0,478)	-0,007 (0,478)	-0,007 (0,477)
<i>N</i>	360	360	360	360	360
<i>Adjusted R Squared</i>	0,000	0,000	0,000	0,000	0,000

** Significant at the 0.05 level.

* Significant at the 0.10 level.

TABLE 6

Robustness Analysis

A logistic regression with dependent variable the binary variable small positive earnings and independent the golden parachute, the board size, the board independence, the inside directors ownership, the dual role and the age of the CEO, the salary of CEO, the bonus of the CEO the Ln(TA), the M/B. The value of the coefficients are given in the table and below in parentheses the corresponding p-value. *Golden Parachute* is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>Model I</i>	<i>Model II</i>	<i>Model III</i>	<i>Model IV</i>	<i>Model V</i>
<i>(Constant)</i>	-1,809 (0,114)	-0,477 (0,862)	-0,650 (0,825)	-0,659 (0,823)	0,726 (0,820)
<i>Golden Parachute</i>	-0,896* (0,057)	-0,816* (0,097)	-1,043* (0,052)	-1,012* (0,086)	-0,752 (0,132)
<i>CEOAge</i>		0,004 (0,902)	0,009 (0,759)	0,009 (0,761)	0,002 (0,938)
<i>Ln(Board Size)</i>		-1,288 (0,229)	-1,289 (0,250)	-1,291 (0,248)	-1,242 (0,252)
<i>Duality</i>		0,187 (0,725)	0,265 (0,628)	0,269 (0,623)	0,178 (0,739)
<i>Board Independence</i>		0,499 (0,738)	0,717 (0,634)	0,707 (0,639)	0,473 (0,748)
<i>InsOwnership</i>		1,299 (0,115)	1,538* (0,070)	1,543* (0,069)	1,192 (0,155)
<i>Salary</i>			-0,136 (0,904)	-0,118 (0,917)	
<i>Bonus</i>			-3,050 (0,153)	-3,050 (0,152)	
<i>Options</i>			-0,330 (0,498)	-0,253 (0,736)	
<i>GP*Options</i>				-0,127 (0,898)	
<i>Ln(TC)</i>					-0,222 (0,452)
<i>Ln(TA)</i>	-0,086 (0,611)	-0,005 (0,978)	0,011 (0,958)	0,011 (0,956)	0,074 (0,733)
<i>M/B</i>	0,002 (0,950)	0,003 (0,911)	0,002 (0,945)	0,002 (0,942)	0,006 (0,835)
<i>N</i>	360	360	360	360	360

** Significant at the 0.05 level.

* Significant at the 0.10 level.

CHAPTER 2

The effect of Golden Parachutes on Information Asymmetry

This study investigates information asymmetry in companies that give or not golden parachutes to their Chief Executive Officers (CEOs) the year that hire them. Information asymmetry is approached by stock liquidity, which is measured with bid-ask spread, trading volume and share return volatility. More specifically, using a sample of 256 hirings of CEOs between 2000-2013, it is examined how the fact the CEO has or not golden parachute at his hire year, influences stock liquidity. Since corporate governance is used as a mechanism in order to minimize information asymmetry, this study takes into account the effect of corporate governance on stock liquidity. The empirical results showed that golden parachute lowers the level of information asymmetry. Controlling for corporate governance, CEO age, annual compensation, firm size and growth opportunities we could conclude that a golden parachute encourages the CEO to disclose information more easily.

The effect of Golden Parachutes on Information Asymmetry

1. Introduction

The disclosure of high quality information that concerns the financial situations and the future plans of the company decrease the information asymmetry between firm's management and shareholders. Managers usually notify the investors for various news of the firm, like its performance, future plans, ownership and corporate governance. This information becomes known in the investment public via annual financial reports and other reports during the year, in journalistic conferences, in meetings with the analysts and in the annual conferences of shareholders. The announcements are based on regulations (financial statements, notes and other statements) or made voluntarily (presentations in analysts, earnings forecast, announcements in media or web pages).

The information asymmetry between managers and investors lead to a higher demand for information. Different mechanisms are used to control the reliability of managers such as regulations, corporate governance, audit firms and analysts. By issuing forecasts, management guides the investors for the expected trend of the profits, avoids litigations and influences his reputation for transparent and precise information. The reaction of the investor to these announcements may influence the price and the liquidity of the stock, as well as the reports of analysts. However, the decision of managers with regard to the quantity and the quality of information they disclose, is influenced by their remuneration and especially the reward in the case of their dismissal.

The purpose of this study is to examine how a golden parachute in the compensation package of the CEO will influence his/her behavior in terms of information asymmetry. Information asymmetry will be approached by stock liquidity, which will be measured with bid-ask spread, trading volume and share return volatility. The results of this study suggests that golden parachutes existence leads to higher level of liquidity; since we have smaller bid ask spreads, higher trading volume and lower stock return volatility in firms where the CEO has a golden parachute agreement. Hence, golden parachutes decrease the levels of information asymmetry between managers and shareholders.

This study contributes to the literature by bringing together the topic of information asymmetry and the so debated packages of the last three decades, the golden parachutes. Golden parachutes may provide incentives to the executives receiving them to disclose

information to the public since their economic value is large enough to capture the possible job loss in case of change in control. The role of golden parachutes is controversial and is not clear to the literature whether they benefit the executive receiving them or the firm offering them. Academics and practitioners are stirring up with golden parachutes' role in executive compensation in order to create a clearer picture of whether this package is beneficial or detrimental for the firm at the same time when the executive receives a lucrative payment.

The remainder of this study will consist of the following: Section 2 describes the Background and Theoretical Framework, Section 3 the Literature Review and Motivation, Section 4 is the Methodology – Dataset and Variables description, models used in the analysis, and Section 5 includes the empirical results of the study and Section 6 Conclusions.

2. Background and Theoretical Framework

Several studies examined the relation of information asymmetry and **corporate governance** (Ajinkya, Bhojraj and Sengupta, 2005; Karamanou and Vafeas, 2005; Hermalin and Weisbach, 2012; Kanagaretnam, Lobo and Whalen, 2007; Cai, Liu, Qian and Yu, 2015), **CEO compensation** (Core, Holthausen and Larcker, 1999; Beyer, Cohen, Lys and Walther, 2010; Nagar, Nanda and Wysocki, 2003; Aboody and Kasznik, 2000; Inderst and Muller, 2005; Laux, 2008), **increased level of disclosure** (Hermalin and Weisbach, 2012; Leuz and Verrecchia, 2000), **liquidity of the firm stock** (Leuz and Verrecchia, 2000; Sahut, Gharbi and Gharbi, 2011; Waymire, 1985; Heflin, Shaw and Wild, 2005; Diamond and Verrecchia, 1991; Bhattacharya, Desai and Venkataraman, 2013; Pevzner, 2007; Coller and Yohn, 1997) and **managements earnings forecast** (Ajinkya, Bhojraj and Sengupta, 2004; Karamanou and Vafeas, 2005; Brown, Hillegeist and Lo, 2005; Lakhil, 2004).

2.1. Management earnings forecasts

The announcement of the estimates for the future of the company may hide benefits and costs at the same time, thus, before the management decides to disclose the news it should balance the benefits and the costs of the announcements. If the company decides to issue the forecasts, it has to select the characteristics of the forecast, like the type, the horizon, the precision and the time of announcement. According to previous studies the decrease of

information asymmetry favors the issue of new securities from the company that leads to the increase of its value (Hermalin and Weisbach, 2012; Beyer, Cohen, Lys and Walther, 2010). These studies confirm the finding of Trueman (1986) who stated that when the forecasts are announced, the firm value increases. Some years before, Jovanovic (1982) also showed that when managers want to increase the firm value, they announce positive news.

Regarding the effects of management earnings forecast on liquidity, based on several studies (Diamond and Verrecchia, 1991; Coller and Yohn, 1997; Pevzner, 2007; Brown, Hillegeist and Lo, 2005), the conclusions are that firms that issue forecasts have higher liquidity. Moreover, Bhattacharya, Desai and Venkataraman (2008) and Heflin, Shaw and Wild (2001) conclude that low quality information announcement leads to low liquidity. It is interesting how the market reacts after the announcement. The accuracy and the point of estimates seem to play significant role to the reaction of investors. The market reaction is positive when the estimate is more precise (Williams, 1996). Lakhal (2004) showed that investors react more with bad news, something that implies that bad news is considered more reliable. Also, Lakhal showed that the voluntary announcement of either bad or good news leads to a reduction of information asymmetry. There are some managers that they do not make any forecasts or they prefer to make them more general because they believe that erroneous estimates have bad impact in their reputation (Lees, 1981) or because they would like to protect the company from competitive companies.

2.2. Liquidity of the firm

Firm's liquidity is one of the most studied factors. The relation of liquidity with corporate governance have been studied by Leuz and Verrecchia (2000) who stated that information asymmetry is reduced between shareholders and managers and thus, the liquidity is increased when there is high level of information disclosure and strict reporting standards. Kanagaretnam, Lobo and Whalen (2007) and Cai, Liu, Qian and Yu (2015) also studied the relation of liquidity and corporate governance and conclude that the more effective corporate governance and more insider ownership decrease information asymmetry, and consequently increase liquidity. Coller and Yohn (1997) and Pevzner (2007) have similar results in their studies that suggest that liquidity is influenced positively by management earnings forecasts. Moreover, Heflin, Shaw and Wild (2001) and Bhattacharya, Desai and Venkataraman (2008) showed that low quality information leads to reduction of liquidity. A newer study of Sahut, Gharbi and Gharbi (2011) also showed that there is positive relation between institutional ownership, volatility and volume. Besides, Brown, Hillegeist

and Lo (2005) showed that the companies that make forecasts are larger, have more institutional ownership, lower bid-ask spreads and larger depths. Bid-ask spreads are decreased and volume is increased in the disclosure of either good or bad news (Lakhal, 2004).

2.3. Corporate Governance, Golden Parachutes and Information Asymmetry

It is worth to examine the relation of corporate governance and information asymmetry in firms with golden parachutes. Golden parachutes are the contracts that are given to executives in the event of a change in control. The package usually contains severance pay, cash bonuses, stock option or a combination of the aforementioned and the estimated value of payment to an executive at the event of change in control is approximately ten times his annual salary. There is no clear image of the whether golden parachutes benefit the executive receiving them or the company that offer the packages. Many studies examined the effectiveness and usefulness of golden parachutes in the recent past. Some studies conclude that golden parachutes are to benefit only the CEO and are usually offered in an attempt to balance the risk taken by the CEO when taking over a company. Rau and Xu (2009) stated that golden parachutes are more when the company is considered to be of a high risk. Hence, we expect that golden parachutes exist in companies with higher probability of default and consequently less information asymmetry between managers and shareholders.

On the contrary, golden parachutes can serve as incentives for the CEO to reveal any news and therefore, reduce information asymmetry between managers and shareholders. According to Van Wesep (2008), Berkovitch et al. (2000), Almazan and Suarez (2003) golden parachutes encourage CEOs to disclose more easily bad news. If the disclosure of bad news has negative effect on the CEO without any compensation or adequate compensation, then he/she will probably take the decision to hide the news. Ling (2012) supports that CEOs are interested in their wellbeing and their remuneration, thus they need an incentive to disclose bad news.

Proponents argued that golden parachutes are a key component of a competitive pay package required to attract and retain talented top executives particularly in merger prone industries. Moreover, golden parachutes are important to shareholders since they induce executives to react in a “right” way in the event of an acquisition attempt. Many companies and economists argued on the importance of golden parachutes as a beneficial element in executive compensation since top executives usually give up independence and corporate

control in the event of an acquisition. On the other hand, opponents stated that executives are already well compensated and should not be rewarded for being terminated. Additionally, executives should act in the best interest of their company and therefore, should not need additional incentives to remain objective and act in a manner that benefits the company. Shareholders resolutions opposing golden parachutes have often receive substantial support over time and indicated them as one of the main reasons of the recent financial crisis. The executives drive the firm to a hard situation and hence the shareholders, who shoulder the cost, but at the same time they receive the compensation in the form of golden parachute.

In the last decades, many studies examined the effect of executive compensation components on information asymmetry, while to the best of our knowledge, the relation of golden parachute and information asymmetry was never examined empirically. Hence, it is considered important an empirical study to be made that would investigate the relation between golden parachute and information asymmetry.

Thus, the purpose of this study is to investigate the influence of golden parachute on information asymmetry. More specifically we will examine companies that offer golden parachutes to their CEOs in terms of information asymmetry. Information asymmetry is the situation when managers voluntarily reveal information that concerns the company. In bibliography various proxies of information are used, like the market to book ratio, leverage ratio, liquidity, management earnings forecast, analyst's forecasts, cost of capital and earnings to price ratio. At the present study, based on Leuz and Verrecchia (2000), information asymmetry will be approached by stock liquidity, which will be measured by bid-ask spread (the most common proxy for liquidity measurement in literature), trading volume (a less reliable proxy for liquidity) and stock return volatility (is not considered as a reliable proxy for liquidity since volatility captures the risk of the firm than the information asymmetry between managers and shareholders). Small bid-ask spreads, large trading volume and low volatility are clues of increased liquidity. In other words, when information asymmetry decreases, bid-ask spread and volatility decreases and volume increases.

The decisions of the managers are affected by the fact whether executives have or not golden parachute. If they have golden parachute, they announce information that concerns their company, despite that this may lead to their replacement, because they will be compensated (Levitt and Snyder, 1997; Ling, 2012). Furthermore, they overwhelm more effort (Narayanan and Sundaram, 1998), they undertake more risky projects (Ju, Leland

and Senbet, 2004; Van Wesep, 2010) and the premium of takeover is increased (Choi, 2004). On the other hand, they may operate the company less effectively (Lambert and Larcker, 1985) and “rush to sell” the firm even if that would not be aligned with shareholders interests (Fich, Tran and Walkling, 2013). Moreover, with golden parachute the shareholders cannot easily replace an inefficient CEO (Almazan and Suarez, 2003). Thus, the effect of golden parachute on information asymmetry is confused.

A way of control and follow-up managers and information that reveals is corporate governance. Corporate governance mechanisms are indirect tools by which shareholders attempt to reduce agency costs by changing the behavior of managers. Managers' actions can be changed by justifying information asymmetry in two ways: a) through incentives and b) through monitoring.

Hence, the study will examine how the existence of a golden parachute on the contract of the CEO of the company at the time that he/she was hired, influences stock liquidity, as well as when a golden parachute, relative to corporate governance and CEO compensation, influences the information asymmetry after the hiring of the CEO.

3. Literature Review and Motivation

3.1. Literature Review

Previous studies have shown that the good corporate governance increases the quantity and the quality of information that is made known in the investment public (Ajinkya, Bhojraj and Sengupta, 2004; Karamanou and Vafeas, 2005).

Several studies dealt with golden parachutes and corporate governance issues such as the composition of the board of directors, the dual role of CEO, the ownership structure and the compensation committee, and more specifically what is the influence of corporate governance on the existence of golden parachutes (e.g. Singh and Harianto, 1989; Wade, O'Reilly and Chandratat, 1990, Huang and Goldman, 2010). The board of directors is responsible for the decision of granting an executive with golden parachute and thus the size of the board, the independence of the board and the ownership concentration seems to play a significant role on that decision (e.g. Singh and Harianto, 1989; Cotter et. al, 1997; Davidson et. al, 1998).

A number of studies investigate the profile of the firm that would most probable offer to the executive a golden parachute. As we have already mentioned above, the golden

parachute is included in the employment contract of the executive and is being activated if his contract is terminated due to change in control of the firm, such as a transfer of the firm's ownership over a certain percentage, a merger or consolidation, a major change in board composition or the liquidation of the firm (Rau and Xu, 2013).

Cochran, Wood and Jones (1985) examine the characteristics of the firms that give managers contracts with golden parachutes in a sample of 406 Fortune 500 firms and conclude that firms with comparatively higher percentages of directors who are insiders are less likely to give golden parachutes. Furthermore, they show that the smaller firms that are underperforming financially will be more likely to provide their managers with golden parachutes than others.

Singh and Harianto (1989) examine different characteristics of the firms that adopted golden parachutes as well as the executive managers that receive the packages. They examine large public Fortune 500 firms that adopted golden parachutes as from December 1985 and conclude that firms that have experienced a prior takeover, have smaller board of directors, lower proportion of outside directors and lower concentration of stock ownership in non-management hands are more likely to offer golden parachutes. Consistent with Singh and Harianto (1989), Wade, O'Reilly and Chandratat (1990) argue that the higher a CEO's tenure is relative to the board, the greater the probability that the CEO will have a golden parachute. Wade, O'Reilly and Chandratat (1990) also note that larger firms are less likely to give golden parachutes since are less likely to become takeover targets. Furthermore, newer CEOs and CEOs who serve on many outside boards are more likely to have golden parachutes.

Some years later, Buchholtz and Ribbens (1994) examine the influence of CEO's incentive and individual characteristics on the likelihood that target firms will resist takeover attempts. They conclude that the higher the level of CEO stock ownership, the lower the likelihood of takeover resistance. They also conclude that golden parachute does not affect takeover resistance. The CEO's age seems to play a significant role but not his tenure. This study was the first empirical study that examines the interaction of CEO stock ownership and golden parachutes by that time. They use as sample firms for which tender offers was made during 1986-1989.

Almazan and Suarez (2003) examine in their paper how the motivation of a current CEO to undertake actions that improve the effectiveness of his management interacts with the

firms' policy on CEO replacement. The firms' corporate governance structure should be designed to minimize the cost of CEO compensation.

Gillan, Hartzell and Parrino (2006) examine the characteristics of the firm and the CEO that offer and receive employment agreements respectively. They concluded that employment agreements are more likely to be used in firms with weak corporate governance and in firms that have poor reputations. By poor reputation they mean less independent boards and poor recent operating firm's performance. This conclusion confirms the findings of previous studies (Almazan and Suarez, 2003). They examine the profile of the CEO that receive employment agreements and find that outside directors are more probable to have employment contract as well as young CEOs, something that Wade, O'Reilly and Chandratat (1990) also state in their paper.

On a detailed paper in 2013, Rau and Xu by examining 3.600 contracts in 800 firms confirm the past literature by arguing that younger executives are more likely to receive contracts since once an executive is being fired and without an established track record, it takes more time for younger executives to find a similar job with similar pay.

Klein (2002) observe that, "in corporate finance, asymmetric information refers to the notion that firm insiders, typically the managers, have better information than do market participants on the value of their firm's assets and investment opportunities". This results in an agency problem. According to agency problem, there is a conflict of interest between a company's management and the company's shareholders but imposes costs, the agency costs. The manager, acting as the agent for the shareholders, is supposed to make decisions that will maximize shareholder wealth. However, it is in the manager's own best interest to maximize his own wealth. In order to minimize the agency problem, the manager should have incentives to act to the best of the shareholders' wealth. Incentives could be compensation schemes that not only encourage managers to work effectively for the best of shareholders, but also, align the interest of managers and shareholders. Golden parachutes may act as an incentive for the CEO in the event of a change in control in order to release information to the public?

Specifically, golden parachutes may be earned only in change in control situation, thereby increasing information asymmetry concerning their actions. The effect of golden parachutes on the firm is examined in many studies but the results are contradictory. Some support that golden parachutes align the interests of shareholders and CEO and also increase the wealth of shareholders. Lambert and Larcker (1985) at first propose that the

adoption of golden parachute is related with positive reaction in market. Moreover, golden parachute decreases the conflict of interests between shareholders and firm management in cases of takeover, since it is beneficial for the manager. The manager of the takeover target firm will lose his wages, benefits, power and prestige, if he oppose to the takeover and act to the best of his interests. However, a golden parachute reduces his damage and thus the motives that he has in order to prevent the takeover are lower. Besides, golden parachute gives to the manager the impulse to overwhelm bigger effort and self-confidence to reorganize the company without worrying for losing his job, than to close it, sell it or destroy its value (Narayanan and Sundaram, 1998), as well as the incentive to undertake more risky projects, since it protects him if something goes wrong (Ju, Leland and Senbet, 2003; Van Wesep, 2010).

3.2 Motivation

Between the abovementioned prevailed opinions, this study aims to examine whether the information asymmetry in companies that offer golden parachute to the new CEO differs than that in companies which do not offer the package.

The level of information asymmetry is differentiated by the fact whether the CEO has or not golden parachute.

Golden parachute is a component in executive compensation package that influences the decisions of the CEO with regard to the administration and the operation of the company, as well as his/her intention to disclose information to the market. According to the literature, the existence of golden parachutes influences either positively or negatively the information asymmetry. On the one hand, golden parachutes aligns the interests of management and shareholders giving incentives to managers to encourage a profitable acquisition or takeover (Lambert and Larcker, 1985), and to reveal private information, especially bad news (Almazan and Suarez, 2003). Ling (2012) and Levitt and Snyder (1997) conclude also that golden parachutes give incentives to managers to issue bad news. Furthermore, corporate governance seems to play significant role since when the board independence is high, the likelihood the CEO to release news is higher. However, a golden parachute provide the manager with safety and thus he operate the company more effectively and efficiently (Laux, 2008). On the other hand, golden parachute increases the manager ability to transfer wealth from shareholders to himself since he does not determine the takeover risk so serious and operates the company less effectively (Lambert and Larcker, 1985).

Compared to long-term incentives that promise to reward executives for achievement of the company's strategic objectives that will maximize shareholder value; golden parachutes promise ex-ante to the executive a lucrative payment in the event of a takeover but at the same time they keep him conscious to exert at least some minimal effort to support the share price received in the case of takeover.

According to Core (2001), corporate governance and executive's annual remuneration are the factors that influence manager's decisions. Subsequently, when shareholders design these packages and the structure of corporate governance in order to maximize the value of the company, they should take into consideration that these influence managers' decisions and consequently firm's value. By giving incentives to the managers or applying mechanisms of corporate governance in order to control the decisions of the management, the information asymmetry between company and shareholders could be reduced (Beyer, Cohen, Lys and Walther, 2010).

Corporate governance mechanisms might reduce information asymmetry indirectly by improving monitoring systems, by splitting the role of the CEO from the Chairman of the board, or by increasing the number of independent directors on the board. There has been limited literature of the relation among the nature of firm's corporate governance, the degree of information asymmetry and the golden parachutes. The literature on the relation between the firm's corporate governance and the degree of information asymmetry is limited but is also contradictory to the results. According to Shleifer and Vishny (1997), Perotti and Thadden (2003), Pawlina and Renneboog (2005) and Florackis, Kostakis and Ozkan (2010) find that large shareholders can reduce information asymmetry and improve long-term performance. In contrast, Heflin and Shaw (2000), O'Neill and Swisher (2003) and Fehle (2004) find that greater institutional ownership is associated with greater information asymmetry, as there is a lower degree of informed trading.

Moreover, corporate governance affects positively on both the quantity and the quality of information that is revealed. According to Laux (2008), when the board is strong, golden parachute gives incentives to CEO to reveal information, even if this lead to his replacement, since he/she will be compensated.

Thus, the study will take into account the effect of corporate governance (board size, board independence, duality, insider ownership) and CEO age on information asymmetry.

One of the main pursuits of corporate governance is the transparency and the strict control and hence, the obligation of managers to release information to the public (Beyer, Cohen,

Lys and Walther, 2010). According to previous literature, better corporate governance and more insider ownership decrease information asymmetry and consequently increased liquidity (Kanagaretnam, Lobo and Whalen; 2007, Cai, Liu, Qian and Yu; 2015). Additionally, Kanagaretnam, Lobo and Whalen (2007) conclude that the structure of the board and the inside ownership have negative influence on bid-ask spread change and positive relation with depth change when earnings forecasts are announced. In some cases, when there is not enough demand for information from analysts and investors, high inside ownership decrease liquidity. Cai, Liu, Qian and Yu (2015) conclude that the structure of the board influence positively the liquidity. Regarding duality, if CEO is also the Chairman of the board, he will have important influence on directors; hence the directors will act as dependent even if they are formally “independent”. Both Jensen (1993) and Klein (1998) claim that the separation of the role of CEO and Chairman of the board seems to play an important role on the effectiveness of the board while Cai, Liu, Qian and Yu (2015) showed that increase liquidity.

Taking into consideration previous literature, it is expected that good corporate governance will reduce information asymmetry (Cai, Liu, Qian and Yu, 2009; Ajinkya, Bhojraj and Sengupta, 2005; Karamanou and Vafeas, 2005; Kanagaretnam, Lobo and Whalen, 2007). Hence, good corporate governance increases share liquidity, and thus, the optimal board size, the high board independence and the separate role of CEO and Chairman will contribute in the increase of liquidity. Regarding the influence of insider ownership on liquidity, the results of prior studies are controversial; in some cases influences positively while in some other cases negatively.

Moreover, in a company with strong board, a golden parachute encourages the CEO to work effectively and disclose information. Hence, golden parachute in combination with good corporate governance is expected to have lower levels of information asymmetry. We expect to have stronger negative relation of good corporate governance with information asymmetry in companies with golden parachute.

CEO age is another factor that will be examined whether influences information asymmetry. Based on previous literature, we can claim that CEO age influences information asymmetry. The older the CEO is, the lower the information asymmetry, since the CEO prefer to maintain his reputation and reliability by disclosing news. Hence, he announce to the public in order not to be accused for insufficient information and therefore not harm his prestige.

At last, we will examine the effect of annual compensation of the CEO on liquidity in companies with golden parachutes. Inderst and Mueller (2005, 2006) showed theoretically that the optimal package of rewards that is offered to the CEO should include performance-based pay, like bonus or options, base salary and severance pay. The optimal combination of CEO compensation and severance pay gives incentives to the CEO to reveal information, even if these lead to his replacement. Thus, the effect of golden parachute controlling for annual compensation on information asymmetry should be examined.

The compensation package of the executives is another one issue that keeps the academic researchers busy for years. Many studies examine how the executives' annual compensation aligns managers' personal benefits with those of shareholders. Jensen and Meckling (1976) underline the importance of incentive alignment solution to agency problem when they propose that the executive compensation should be design in a way that minimizes the conflict of interests between managers and shareholders. Fama (1980) conclude that compensation should reflect the executive performance and changes in the performance should have impact on his bonus and salary (Coughlan and Schmidt, 1985; Jensen and Murphy, 1990). Perry and Zenner (2000) and Lambert and Larcker (2004) propose options based contracts while Dittmann et al. (2016) showed that the optimal contract includes base salary, stocks and options.

Annual salary is the fixed component of executive compensation which was examined extensively by academic researches. They conclude that is related with firm size. High compensated CEOs are found in big and high performance companies according to Gabaix and Landier (2006) and Diamond and Verrecchia (1991). Hermalin and Weisbach (2012) report that increased levels of disclosure leads to the reduction of information asymmetry between company and investors, consequently leads to the increase of firm value and therefore to the increase of CEO rewards, and specifically his salary. They also showed that large companies disclose more information to their shareholders, but also pay higher salary to their CEOs. On the other hand, Core, Holthausen and Larcker (1999) claim that CEOs in companies with higher information asymmetry are compensated with higher salary. However, Cao and Wang (2008) conclude that salary is one of the important aspects to use to attract the new CEO.

Bonus is a key component of the executive compensation package that seems to influence either positively or negatively the decisions of the CEO. Jensen and Murphy (2011), showed that bonus plans give managers more incentives since they are rewarded immediately than equity-based plans (profits are based on equity value); even that the

magnitude of the payoff is smaller. They also report that almost all CEOs bonus plans are bad designed since the bonus might not depends on the profitability of the company. Bad designed bonus plans give incentives to managers to manipulate earnings productively, shift earnings and cash flow from one period to other, undertake insufficient risks and resign from profitable projects. Therefore, CEO earns the maximum bonus each year; even if this means that substantially on average he will have lower return. Furthermore, Jensen and Murphy (2011) propose that bonus plans should be linear. They mean that the bonus should be defined as a percentage of whatever measure of performance that is relevant to the situation. Holthausen, Larcker and Sloan (1995) also claim that managers manipulates profits in order to exploits the non-linear relation of profits and their benefits.

Many studies examine the executives' options-based contracts and how they use them in order to increase their wealth. Perry and Zenner (2000) support that options attract talented and capable managers. Additionally, options encourage managers to undertake risks in companies with high growth opportunities (Smith and Watts, 1992; Gaver and Gaver, 1993; Baber, Janakiraman and Kang, 1996). According to Goldman and Slezak (2006) and Burns and Kedia (2006), stock-based compensation makes managers to overwhelm more effort, but simultaneously it makes them to hide the real performance of the firm and to manipulate information in order to increase their rewards against shareholders' interests. On the contrary, Beyer, Cohen, Lys and Walther (2010) report that equity-based packages encourage managers to announce news voluntarily. Moreover, Nagar, Nanda and Wysocki (2003) mention that managers not only issue good news but also the bad, because if they announce nothing this will be interpreted negatively.

As golden parachutes provide incentives to managers to not withhold information, option based compensation contracts may provide influence the managers decisions to disclose information to the public. Managers in firms that are target for takeover are in the position to prevent takeovers by virtue of their control. On the other hand, shareholders sought mechanisms that would encourage managers to be open to takeover bids. Option based compensation could serve as this mechanism since takeovers would offer a premium to current share prices and perhaps early vesting, but even managers with significant option holdings in the firm nevertheless often faced significant financial loss in the event of a takeover. Golden parachutes make takeovers more pleasant since they promise additional payment (severance payment and bonus).

In balance, previous literature showed that it is not clear whether high CEO compensation influences positively or negatively information asymmetry. The decision to disclose or not

private information depends on the fact whether and how the CEO can maximize his wealth. The time of the announcement in some case it depends on whether his wealth will be increased. Moreover, he might disclose manipulated earnings or cash flows if this will lead to higher compensation. In addition to these, a golden parachute encourages the CEO to disclose news and at the same time to operate the company less efficient and take higher risks. Consequently, there is need for investigation of the effect of golden parachute and CEO compensation on information asymmetry.

4. Methodology

4.1. Dataset

Our dataset consists of CEO hirings in the period 2000-2013. We collect the information regarding CEOs (name, age, hire year, salary, bonus, options) from ExecuComp and data for the firm (total assets, market value, book value, current assets, current liabilities, ask price, bid price, number of shares traded, firm shares outstanding, stock return) from Compustat and CRSP. We also use GMI Ratings for corporate governance data (board size, board independence, insider ownership, and duality) and complete information that is missing using proxy statements (DEF-14A file in EDGAR Company Filings) in a hand collected way.

Initially we have 3.016 hires of CEO in the period 2000-2014. We exclude 433 cases that are classified as financial firms (SIC codes 4900-4999 and 6000-6999). 34 cases that cannot be identified due to missing key variables like CUSIP and TICKER where removed. Additionally, 122 observations were removed due to missing information regarding golden parachute. We merge the ExecuComp data and hand collected data from Proxy Statements with annual financial data from CRPS - Compustat by year and firm identity. At this step, we lost 814 observations. We also merge for CEO and corporate governance data from GMI Ratings (CEO age, board characteristics, duality and ownership). We exclude firms for which we cannot find corporate governance data neither from GMI Ratings database nor from proxy statements. A number of cases were removed because the required information is missing regarding on the variables that we need (total 1.304 cases). We have to note that although in the initial sample we have hirings for the year 2014; in the final sample we exclude these cases since data regarding the firm performance are not available due to the time of data collection. Finally, we end up with a sample of 256 hirings of CEOs. All the variables used in the analysis are examined through

descriptive statistics for the existence of outliers and have been winsorize at 1% and 99% percentile where this is needed.

4.2. Variables description

The variables used for the investigation of the abovementioned hypotheses are described below.

Information asymmetry, which is the dependent variable in the model, is approached by stock liquidity since in several studies there are evidences that information asymmetry and illiquidity are reflected in stock returns (Amihud and Mendelson, 1986, 1989; Brennan and Subrahmanyam, 1996). Stock liquidity is measured in three different ways based on the paper of Leuz and Verrecchia (2000):

- a) Bid-ask spread is commonly used in order to measure information asymmetry since it addresses the adverse selection problem that arises from transacting in firm shares when the investors are not symmetrically informed.

$\ln(\text{Bid-ask spread})$ = the natural logarithm of mean daily percentage spread the year after the hire of new CEO. The percentage spread is defined as:

$$\% \text{ spread} = \frac{(\text{Ask Price} - \text{Bid Price})}{(\text{Ask Price} + \text{Bid Price})} \times 2$$

- b) An alternative measure of liquidity is the trading volume, which reflects the willingness of some investors to sell the firm shares and others to buy. Trading volume can be influenced by a number of other factors than information and for this reason is consider being less explicit than bid-ask spread.

$\ln(\text{Volume})$ = the natural logarithm of mean daily trading volume the year after the hire of CEO. The trading volume is defined as:

$$\text{Volume} = \frac{\text{Number of shares traded on day } I}{\text{Shares outstanding}}$$

- c) We also consider including stock return volatility as the third measure of liquidity, based on Leuz and Verrecchia (2000), although it may reflect the risk of a firm's investments than the information difference between managers and shareholders. Volatility, as volume, may be influenced by many factors unrelated to information asymmetry and for this reason; volatility is perhaps the least reliable measure among the three proxies.

Volatility = the standard deviation of daily stock return.

The existence of golden parachute is measured with a binary variable that equals to one when the CEO employment agreement includes a golden parachute, and zero otherwise:

$$GP = \begin{cases} 1, & \text{if the CEO has golden parachute} \\ 0, & \text{otherwise} \end{cases}$$

In order to ensure the robustness of the results, we implement the empirical models (discussed in the next section) using a continuous variable for golden parachute instead of the binary variable. The variable measures the estimated payment in the event of change in control (in dollars) as a percentage of the total compensation.

The corporate governance variables that are used in the analysis and CEO characteristics are defined as follows: The CEO age is the age of the CEO at his hire year, the Board Size is the total number of directors on the board of the firm (in the regression models we use the natural logarithm of the number of the members of the board) and the Board Independence is the proportion of independent directors (it is the ratio of the number of independent directors to the total number of directors on the board). Independent directors are those that are non-employees of the company; neither have any other relation with it or with its officers. Duality is a binary variable that equals 1 if CEO is also Chairman of the board, and 0 otherwise:

$$Duality = \begin{cases} 1, & \text{if the CEO is the Chairman} \\ 0, & \text{otherwise} \end{cases}$$

Insider ownership is the proportion of company equity that was held by inside directors. Inside directors are the directors that are employees of the company, and more specifically the directors that are officers.

The CEO annual compensation variables that are used in the analysis are: Salary is the annual CEO salary (deflated by CEO's total annual compensation in the models), Bonus is the annual CEO bonus (deflated by CEO's total annual compensation in the models) and Options the stock options granted to the CEO (deflated by CEO's total annual compensation in the models).

Consistent with prior research, we use control variables in order to control for other factors that possibly influence liquidity. Size, defined as the natural logarithm of firm's total assets. Smaller firms are more likely to be targets, and generally it is easier to be acquired. Palepu (1986), Ambrose and Megginson (1992), Powell and Thomas (1994) argue that

firm size is inversely related with the likelihood of being a target. In the bibliography is reported that there is positive relation between firm size and high levels of information disclosure (Diamond and Verrecchia, 1991; Hermalin and Weisbach, 2012), as well as liquidity (Leuz and Verrecchia, 2000; Pevzner, 2007). Large companies adopt stricter reporting standards, and for this reason are obliged to reveal more information.

Market to book ratio, defined as the market value of equity divided by the book value of equity, to proxy for firm's growth opportunities. Firm's growth opportunities are inversely related with the likelihood of a firm being a takeover target (Palepu, 1986; Bebchuk, Cohen, and Wang, 2010).

4.3. Empirical models

The influence of golden parachute on information asymmetry, as it was described in the proposition, was examined using the following models:

$$Y = \beta_0 + \beta_1*GP + \beta_2*Ln(TA) + \beta_3*M/B + e$$

$$Y = \beta_0 + \beta_1*GP + \beta_2*CEO\ age + \beta_3*Board\ Size + \beta_4*Board\ Independence + \beta_5*Duality + \beta_6*Insider\ Ownership + \beta_7*Ln(TA) + \beta_8*M/B + e$$

$$Y = \beta_0 + \beta_1*GP + \beta_2*CEO\ age + \beta_3*Board\ Size + \beta_4*Board\ Independence + \beta_5*Duality + \beta_6*Insider\ Ownership + \beta_7*Salary + \beta_8*Bonus + \beta_9*Options + \beta_{10}*Ln(TA) + \beta_{11}*M/B + e$$

Where the dependent variable $Y = \ln(\text{Bid-Ask spread})$ for the first set of models, $Y = \ln(\text{Volume})$ for the second set of models and $Y = \text{Volatility}$ for the last set of models.

In order to examine the effect of options in the case where the CEO has a golden parachute in his/ her compensation contract, we conduct an additional test with interaction of golden parachute existence and the options that the CEO holds. We examine this interaction term since the options' value is based on firm's performance and thus they act as a mechanism to induce the CEO to work for the best of the firms' interest. Hence, options may provide a safety net for increased risk-taking incentives and in combination with golden parachute existence may influence the decision of the CEO to release information to the public.

5. Analysis of the empirical results

The results in Table 1 include descriptive statistics for the variables used in the analysis. Information asymmetry is approached by three different measures: the logarithm of the

mean percentage Bid-Ask Spread which has a mean value of -7,88, the logarithm of mean daily volume with mean 2,15 and the mean volatility with mean value 0, 03.

Golden parachutes are presented with a proportion of 65,0%, which means that 65% of the CEOs in our sample have golden parachute agreements with their companies; which is consistent with prior literature that suggest that approximately 60,0% of the firms offer golden parachutes to their executives. Alvarez and Marshal conducted an analysis on 200 top US companies and found that 63% of them had change in control agreements in 2013. Furthermore, Towers Watson revealed in its latest Executive Compensation Bulletin that 70% of Fortune 500 companies offer change in control agreements to their named executive officers. Thus, we can claim that the sample used in this study is representative of the population.

Furthermore, the average Ln(Board Size) is 2,21 which means that the average board size is 9 members and 71,0% of the directors that are on the Board are independent, they are non-employees. The proportion of independent directors is relatively in line with corporate governance principles that require the majority of the directors on the Board to be non-employees. Moreover, the results for inside ownership showed that 19,0% of equity own to inside directors. The strong board characteristics, and the hence the good corporate governance is expected to encourage the CEO to work effectively and disclose timely information.

The average CEO age is 59, while the youngest is aged 42 and the oldest 80. The older the CEO is, the less the information asymmetry will be, since the CEO will prefer to maintain his reputation. Only 26,0% of the CEOs held the position of the Chairman of the Board of the company; thus the majority of them are acting independently. Regarding the compensation, the average annual salary of a CEO is estimated at about 697 thousand dollars, percentage 27% of the total compensation, annual bonus at approximately 245 thousand dollars, with percentage 7% of the total compensation and the options at about 1.598 thousand dollars with a percentage of 44% of the total compensation.

Table 2 presents the results of the equality of the means (T-test) and the medians (Wilcoxon signed rank test) of the variables used between the firms that offer a golden parachute and those that do not. In Panel A the size of the payment in the event of a change in control seems to be a multiple of the other components of compensation package that the CEO receives in annual basis. This result exhibits the great importance of the golden parachute. It is worth mentioning the significant difference that bonus payment and options

have between the two groups of firms. We can conclude that firms that do not offer golden parachute may prefer to offer bonus to their CEOs and less options. In Panel B, based on the all the three proxies that we use in this paper for liquidity (bid-ask spread, volume, volatility), information asymmetry seems to differ significantly from the one group to the other. Also, the CEO age, the board independence and the compensation components (bonus and options) are statistically significant different in companies that offer golden parachutes with those that do not.

The correlation table is presented in Table 3. Golden parachutes have significant negative correlation with bid-ask spread and volatility, while they have significant positive correlation with trading volume. This could be interpreted as a first sign of low information asymmetry in cases where the golden parachute exists. Golden parachutes are also negatively correlated with CEO age and the CEO bonus, while they are positively correlated with board independence and options. Regarding liquidity proxies, bid-ask spread is positively correlated with CEO age and CEO salary and bonus and negatively correlated with board size, the total annual compensation of the CEO and the size of the firm; volume is positively correlated with annual total compensation and market to book but negatively correlated with board size, insider ownership, CEO salary and CEO bonus. Furthermore, volatility has negative relation with board size, options the total compensation and the size of the firm. Consistent with previous literature the relation between trading volume and volatility is positive (Leuz and Verrecchia, 2000; Lakhali, 2004; Sahut, Gharbi and Gharbi, 2011).

In order to investigate the influence of golden parachutes on liquidity measures we implemented the models described in previous section. The models with dependent variable the bid-ask spread are presented in Table 4. The golden parachute seems to influence significantly the bid-ask spread, more specifically in the case where the CEO has golden parachute the bid-ask spread is decreased. A possible explanation for this result is that when the CEO has golden parachute, he has incentive to release news, since if something goes bad for the firm he will be compensated, consequently he prefer not to withhold information on the strategy that he will follow. After controlling for corporate governance and CEO compensation, the influence of golden parachute on bid-ask spread remains negative and statistically significant. Furthermore, the CEO age and the salary influence positively and statistically significant the bid-ask spread. The older the CEO is the bigger the bid-ask spread and thus the information asymmetry. This result is contradictory with our expectations. Older CEO may prefer to hide news, especially bad

news, to the public in order to maintain his reputation and prestige, because he is afraid of being accused for erroneous managerial decisions. Regarding salary, the bid-ask spread increases when the salary of the CEO is higher. Salary is a fixed component in CEO compensation package, and therefore do not fluctuate if he announces news or not, hence the CEO remains indifferent. He will receive his monthly compensation if he releases news about the company or not. According to Core, Holthausen and Larcker (1999), CEOs in companies with higher information asymmetry are compensated with higher salary.

In Table 5, the same models are applied with dependent variable the second proxy for liquidity, the Ln (Volume). The image regarding golden parachutes remains the same, or we can said that it is confirmed, since there is positive relation between golden parachute and volume, and thus the existence of golden parachutes leads to more information disclosure. The positive effect of golden parachute on the volume is statistically significant. After controlling for corporate governance, board size and insider ownership presented to have negative relation with volume, something that is not expected; but it can be explained because when insider ownership is high, the informing demand from analysts and investors is lower and this has as a result the increase of information asymmetry, and consequently the decrease of liquidity, and extensively the decrease of volume. Besides, big boards cannot be effective and thus they encourage information asymmetry. Furthermore, CEO annual salary influence negatively the trading volume, and thus higher salary lead to lower levels of information asymmetry. The annual total compensation increases the information asymmetry between managers and shareholders.

The results in Table 6 suggest that golden parachute influence negatively and statistically significant the volatility, the third proxy for liquidity in this paper, although is less reliable measure of liquidity. Hence, the golden parachute give incentive to the CEO to release news, either good or bad, as we can conclude for the various models used in this paper. The relationship remains steady and significant after controlling for corporate governance and CEO compensation. In models with dependent variable the volatility, board size adds negative effect to the volatility, meaning that bigger boards decrease volatility, and extensively decrease information asymmetry.

Overall, the results of this paper fill the gap in literature regarding the effect of golden parachute on information asymmetry. We argue that a golden parachute in a compensation package act to the best of the company since the CEO has incentives do not withhold any news, either good or bad, and be honest and transparent to shareholders. For sensitivity reasons, we control for corporate governance, since good corporate governance is proved

to decrease information asymmetry, and we conclude that the golden parachute remains a key component for CEO to release news.

6. Additional robustness tests

We examine the effect of golden parachute on information asymmetry using as a measure for golden parachute the estimated value of the payment in the event of a change in control deflated by the total compensation of the CEO. The results of the linear regression models are presented in Table 7 as robustness tests. The coefficients of the variables incorporated in each model are similar to these in regression models in Tables 4 and 5. The percentage of golden parachute value to total compensation value is negatively related to bid-ask spread and positively to trading volume, leading us to the conclusion of lower information asymmetry. The bonus of the CEO influences the information asymmetry in a positive way. This result can be explained by the fact that bonus give to managers incentives to withhold any news since bonus payments are based on firm performance. The age of the CEO, the board size, inside ownership and salary influence remains the same as in the models in Tables 4 and 5. In short, this additional test provides reasonable assurance that our results are robust.

We implement robustness econometric tests in order to test for heteroscedasticity (the variance of regression errors in OLS is not constant) and multicollinearity (independent variables in regression model are highly correlated).in the variables used in the analysis. It is important to state that all the results presented in the Tables 4, 5, 6 and 7 are heteroscedasticity consistent (provide robust standard errors) and the issue of multicollinearity among the independent variables is not present. Regarding heteroscedasticity, we run the regression models and enable the statistical package to test for heteroscedasticity and correct standard errors and significance of each variable using a command for heteroscedasticity-consistent standard errors that corrects for heteroscedasticity without altering the values of the coefficients. Furthermore, to test for multicollinearity we use variance inflation factor (VIF). Values of VIF between 5 and 10 indicates multicollinearity problem, something that is not present in any of the variables in the models used in this study.

7. Conclusions

The information asymmetry between managers and shareholders attract the attention of researchers for many years, while the relationship of information asymmetry and golden parachutes investigated in this study. We use a sample of firms that hire a new CEO and examine the relationship of golden parachutes on stock liquidity. Stock liquidity is used as a proxy for information asymmetry and was measured by bid-ask spread, trading volume and share return volatility.

Since there has been limited literature of the relation among information asymmetry, golden parachutes and corporate governance, we implement this study to shed light in this research question. Controlling for corporate governance, CEO age, annual compensation and firm size and growth opportunities we conclude that a golden parachute may encourage the CEO to disclose information more easily. The explanation is that when the CEO has golden parachute, he has incentive to release news, since if the result for the firm is not satisfactory, he will be compensated, consequently he prefer not to withhold information on the strategy that he will follow and be more honest to the shareholders.

To sum up, the current research design does not allow for causality statements to be made but it best describes the association between the variables of interest and especially information asymmetry and golden parachutes.

Lastly, this study have limitations that can be eliminated by control for the sensitivity of the CEO compensation to option-based compensation using as control variables delta and vega and for long-term incentives using data on pensions benefits. The effect of option-based compensation and long-term incentive plans may differentiate the results and consequently the conclusions of this study. Additionally, the effect of golden parachute can be investigated before and after the financial crisis since many opponents argue that these packages are one of the main reasons that lead to the financial ruin. Furthermore, the study should take into account any endogeneity issues by implementing a model that will examine the firm's decision to offer golden parachutes to their executives. Finally, the sample of the study could be updated using more recent data.

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Appendices

TABLE 1
Descriptive Statistics

Panel A: Descriptive Statistics for executive's compensation components

Total number of observations, the mean, the median, the standard deviation, the minimum and the maximum are illustrated.

	<i>N</i>	<i>Mean</i>	<i>Median</i>	<i>St.Deviation</i>	<i>Minimum</i>	<i>Maximum</i>
<i>Golden Parachute</i> (\$)	256	7.547	3.661	11.134	0	85.961
<i>Salary</i> (\$)	256	697	667	320	23	2.000
<i>Bonus</i> (\$)	256	245	0	526	0	3.500
<i>Options</i> (\$)	256	1.598	454	2.769	0	19.047
<i>All Other Compensation</i> (\$)	256	221	63	609	0	6.696
<i>Total Compensation</i> (\$)	256	4.259	2.998	3.965	117	19.852

Panel B: Descriptive Statistics for variables used in the regression models.

Total number of observations, the mean, the median, the standard deviation, the minimum and the maximum are illustrated. *Golden Parachute* is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *Ln (Bid-Ask Spread)* is the natural logarithm of mean daily percentage spread the year after the hire of new CEO. *Ln (Volume)* is the natural logarithm of mean daily trading volume the year after the hire of CEO. *Volatility* is standard deviation of daily stock return. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>N</i>	<i>Mean</i>	<i>Median</i>	<i>Std. Deviation</i>	<i>Minimum</i>	<i>Maximum</i>
<i>Golden Parachute</i>	256	0,65	1,00	0,477	0,00	1,00
<i>Ln(Bid-Ask Spread)</i>	256	-7,88	-8,11	1,271	-10,15	0,00
<i>Ln(Volume)</i>	256	2,15	2,18	0,649	0,42	4,25
<i>Volatility</i>	256	0,03	0,03	0,016	0,01	0,13
<i>CEO Age</i>	256	58,82	59,00	7,385	42,00	80,00
<i>Ln(Board Size)</i>	256	2,21	2,20	0,241	1,39	2,83
<i>Duality</i>	256	0,26	0,00	0,440	0,00	1,00
<i>Board Independence</i>	256	0,71	0,75	0,163	0,18	1,00
<i>Ins Ownership</i>	256	0,19	0,06	0,254	0,00	0,97
<i>Salary</i>	256	0,27	0,23	0,196	0,02	0,99
<i>Bonus</i>	256	0,07	0,00	0,126	0,00	0,56
<i>Options</i>	256	0,44	0,17	0,963	0,00	8,04
<i>Ln(TC)</i>	256	7,95	8,01	0,938	4,77	9,90
<i>Ln(TA)</i>	256	6,58	6,38	1,446	3,68	10,80
<i>M/B</i>	256	1,88	1,79	6,766	-36,31	17,72

TABLE 2

Comparison of means and medians for variables used in the analysis

Panel A: Comparison of executive's compensation components

Mean (T-test) and median (Wilcoxon signed rank test) differences for firms with a golden parachute and firms without golden parachute.

	Mean differences				Median differences			
	With golden parachute	Without golden parachute	Difference	Significance (**: a=0,05 *: a=0,10)	With golden parachute	Without golden parachute	Difference	Significance (**: a=0,05 *: a=0,10)
Golden Parachute (\$)	11.569	0	11.569	0,000**	7.660	0	7.660	0,000**
Salary (\$)	751	597	154	0,000**	700	600	100	0,115
Bonus (\$)	114	492	-378	0,000**	0	250	-250	0,000**
Options (\$)	2.083	689	1.394	0,000**	845	0	845	0,000**
AllOther Compensation (\$)	136	382	-245	0,018**	56	71	-15	0,431
Total Compensation (\$)	4.500	3.805	695	0,182	3.260	2.524	736	0,115
N	167	89			167	89		

Panel B: Comparison of liquidity, firm characteristics and CEO characteristics

Mean (T-test) and median (Wilcoxon signed rank test) differences for firms with a golden parachute and firms without golden parachute. *Golden Parachute* is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *Ln (Bid-Ask Spread)* is the natural logarithm of mean daily percentage spread the year after the hire of new CEO. *Ln (Volume)* is the natural logarithm of mean daily trading volume the year after the hire of CEO. *Volatility* is standard deviation of daily stock return. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is held by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	Mean differences				Median differences			
	With golden parachute	Without golden parachute	Difference	Significance (**:a=0,05 *)	With golden parachute	Without golden parachute	Difference	Significance (**:a=0,05 *)
<i>Ln(Bid-Ask Spread)</i>	-8,278	-7,142	-1,136	0,000**	-8,247	-7,134	-1,113	0,000**
<i>Ln(Volume)</i>	2,257	1,963	0,294	0,002**	2,232	1,969	0,263	0,018**
<i>Volatility</i>	0,027	0,033	-0,006	0,029**	0,026	0,026	0,000	1,000
<i>CEO Age</i>	57,862	60,629	-2,767	0,007**	57	60	-3	0,016**
<i>Ln(Board Size)</i>	2,215	2,200	0,015	0,654	2,197	2,197	0	0,990
<i>Duality</i>	0,245	0,292	-0,047	0,421	0	0	0	0,510
<i>Board Independence</i>	0,723	0,678	0,045	0,035**	0,750	0,714	0,036	0,108
<i>Ins Ownership</i>	0,178	0,217	-0,039	0,244	0,052	0,076	-0,024	0,066*

<i>Salary</i>	0,271	0,263	0,004	0,775	0,237	0,205	0,032	0,189
<i>Bonus</i>	0,031	0,143	-0,112	0,000**	0,000	0,106	-0,106	0,000**
<i>Options</i>	0,572	0,188	0,384	0,001**	0,283	0,000	0,283	0,000**
<i>Ln(TC)</i>	8,044	7,777	0,267	0,041**	8,089	7,899	0,190	0,115
<i>Ln(TA)</i>	6,584	6,574	0,010	0,957	6,248	6,530	-0,282	0,600
<i>M/B</i>	2,074	1,518	0,556	0,532	1,803	1,775	0,028	1,000
<i>N</i>	167	89			167	89		

TABLE 3
Correlation Matrix

A correlation matrix among all the variables used in the analysis; above the diagonal is presented the Pearson correlation and below the Spearman's rho. In the parentheses is the corresponding p-value. *Golden Parachute* is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *Ln(Bid-Ask Spread)* is the natural logarithm of mean daily percentage spread the year after the hire of new CEO. *Ln(Volume)* is the natural logarithm of mean daily trading volume the year after the hire of CEO. *Volatility* is standard deviation of daily stock return the year after the hire of the CEO. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>Golden Parachute</i>	<i>Ln(Bid-Ask Spread)</i>	<i>Ln(Volume)</i>	<i>Volatility</i>	<i>CEO Age</i>	<i>Ln(Board Size)</i>	<i>Duality</i>	<i>Board Independence</i>	<i>Ins Ownershi p</i>	<i>Salary</i>	<i>Bonus</i>	<i>Options</i>	<i>Ln(TC)</i>	<i>Ln(TA)</i>	<i>M/B</i>
<i>Golden Parachute</i>	1,000	-0,426** (0,000)	0,216** (0,000)	-0,161** (0,010)	-0,179** (0,004)	0,030 (0,634)	-0,051 (0,421)	0,132* (0,035)	-0,073 (0,244)	0,018 (0,775)	-0,423** (0,000)	0,190** (0,002)	0,136* (0,030)	0,003 (0,957)	0,039 (0,532)
<i>Ln(Bid-Ask Spread)</i>	-0,367** (0,000)	1,000	-0,359** (0,000)	0,500** (0,000)	0,191** (0,002)	-0,145* (0,020)	-0,013 (0,834)	-0,028 (0,658)	0,085 (0,177)	0,232** (0,000)	0,269** (0,000)	-0,122 (0,051)	-0,325** (0,000)	-0,348** (0,000)	-0,119 (0,058)
<i>Ln(Volume)</i>	0,219** (0,000)	-0,285** (0,000)	1,000	0,184** (0,003)	-0,051 (0,419)	-0,147* (0,019)	-0,017 (0,782)	0,109 (0,081)	-0,167** (0,007)	-0,202** (0,001)	-0,171** (0,006)	0,040 (0,527)	0,231** (0,000)	0,106 (0,090)	0,136* (0,030)
<i>Volatility</i>	-0,079 (0,209)	0,541** (0,000)	0,236** (0,000)	1,000	0,004 (0,946)	-0,229** (0,000)	-0,105 (0,095)	-0,083 (0,185)	0,003 (0,964)	0,111 (0,075)	0,031 (0,618)	-0,133* (0,034)	-0,152* (0,015)	-0,194** (0,002)	-0,068 (0,280)
<i>CEO Age</i>	-0,166** (0,008)	0,128* (0,041)	-0,096 (0,126)	-0,030 (0,638)	1,000	0,084 (0,182)	0,182** (0,004)	0,101 (0,108)	-0,059 (0,349)	-0,011 (0,856)	0,203** (0,001)	0,092 (0,143)	0,010 (0,870)	0,128* (0,040)	-0,050 (0,428)
<i>Ln(Board Size)</i>	0,044 (0,483)	-0,210** (0,001)	-0,143* (0,022)	-0,323** (0,000)	0,139* (0,026)	1,000	0,029 (0,639)	0,095 (0,130)	0,075 (0,229)	-0,199** (0,001)	-0,032 (0,608)	0,061 (0,332)	0,346** (0,000)	0,474** (0,000)	-0,100 (0,112)
<i>Duality</i>	-0,051 (0,421)	-0,005 (0,938)	-0,071 (0,254)	-0,100 (0,111)	0,154* (0,013)	0,072 (0,249)	1,000	0,110 (0,079)	0,001 (0,993)	0,004 (0,952)	0,190** (0,002)	0,042 (0,505)	0,025 (0,695)	0,139* (0,026)	-0,065 (0,299)
<i>Board Independence</i>	0,129* (0,039)	-0,084 (0,182)	0,083 (0,183)	-0,122 (0,052)	0,134* (0,032)	0,176** (0,005)	0,135* (0,030)	1,000	-0,056 (0,372)	-0,089 (0,156)	0,003 (0,963)	0,083 (0,184)	0,081 (0,194)	0,089 (0,156)	0,007 (0,913)
<i>Ins Ownership</i>	-0,086 (0,168)	0,203** (0,001)	-0,166** (0,008)	0,111 (0,077)	-0,087 (0,166)	-0,096 (0,126)	0,022 (0,731)	-0,086 (0,168)	1,000	0,180** (0,004)	0,095 (0,128)	0,071 (0,258)	-0,098 (0,118)	0,034 (0,588)	-0,099 (0,115)
<i>Salary</i>	0,053 (0,403)	0,328** (0,000)	-0,198** (0,001)	0,174** (0,005)	0,001 (0,992)	-0,215** (0,001)	0,034 (0,589)	-0,044 (0,484)	0,267** (0,000)	1,000	-0,026 (0,679)	0,199** (0,001)	-0,719** (0,000)	-0,384** (0,000)	-0,232** (0,000)
<i>Bonus</i>	-0,466** (0,000)	0,298** (0,000)	-0,214** (0,001)	-0,033 (0,603)	0,197** (0,002)	-0,012 (0,855)	0,166** (0,008)	-0,036 (0,568)	0,118 (0,060)	0,024 (0,703)	1,000	-0,135* (0,031)	-0,076 (0,224)	0,014 (0,821)	-0,111 (0,075)
<i>Options</i>	0,355** (0,000)	-0,183** (0,003)	0,036 (0,568)	-0,163** (0,009)	-0,029 (0,645)	0,168** (0,007)	-0,100 (0,111)	0,060 (0,343)	-0,161** (0,010)	-0,074 (0,239)	-0,289** (0,000)	1,000	-0,086 (0,169)	0,052 (0,404)	0,086 (0,172)
<i>Ln(TC)</i>	0,108	-0,404**	0,213**	-0,260**	-0,004	0,361**	0,017	0,082	-0,293**	-0,814**	-0,009	0,122	1,000	0,650**	0,143*

	(0,084)	(0,000)	(0,001)	(0,000)	(0,951)	(0,000)	(0,785)	(0,190)	(0,000)	(0,000)	(0,882)	(0,051)	(0,000)	(0,022)	
<i>Ln(TA)</i>	-0,017	-0,432**	0,127*	-0,326**	0,148*	0,476**	0,127*	0,100	-0,252**	-0,459**	0,041	0,105	0,652**	1,000	0,043
	(0,783)	(0,000)	(0,043)	(0,000)	(0,018)	(0,000)	(0,042)	(0,110)	(0,000)	(0,000)	(0,513)	(0,094)	(0,000)	(0,497)	
<i>M/B</i>	0,018	-0,331**	0,096	-0,272**	-0,025	-0,021	-0,003	-0,005	-0,107	-0,295**	-0,055	0,083	0,268**	0,120	1,000
	(0,775)	(0,000)	(0,124)	(0,000)	(0,692)	(0,735)	(0,967)	(0,932)	(0,088)	(0,000)	(0,384)	(0,188)	(0,000)	(0,056)	
<i>N</i>	256	256	256	256	256	256	256	256	256	256	256	256	256	256	256

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

TABLE 4
Regression Analysis

Linear regression analysis where the dependent variable is Ln(Bid-Ask Spread).

Golden Parachute is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *Ln (Bid-Ask Spread)* is the natural logarithm of mean daily percentage bid ask spread the year after the hire of new CEO. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>Model A</i>	<i>Model B</i>	<i>Model C</i>	<i>Model D</i>	<i>Model E</i>
<i>(Constant)</i>	-5,138** (0,000)	-7,162** (0,000)	-7,849** (0,000)	-7,863** (0,000)	-6,912** (0,000)
<i>Golden Parachute</i>	-1,123** (0,000)	-1,051** (0,000)	-0,944** (0,000)	-0,906** (0,000)	-1,040** (0,000)
<i>Ln (TA)</i>	-0,301** (0,000)	-0,330 (0,000)	-0,291** (0,000)	-0,286** (0,000)	-0,309** (0,000)
<i>M/B</i>	-0,017 (0,173)	-0,014 (0,302)	-0,006 (0,655)	-0,007 (0,640)	-0,013 (0,332)
<i>CEO Age</i>		0,028** (0,029)	0,028** (0,047)	0,027** (0,049)	0,028** (0,032)
<i>Ln(Board Size)</i>		0,071 (0,853)	0,151 (0,689)	0,130 (0,727)	0,084 (0,827)
<i>Duality</i>		-0,062 (0,684)	-0,105 (0,489)	-0,104 (0,493)	-0,067 (0,665)
<i>Board Independence</i>		0,361 (0,454)	0,413 (0,407)	0,414 (0,408)	0,363 (0,456)
<i>Ins Ownership</i>		0,364 (0,166)	0,260 (0,328)	0,266 (0,318)	0,344 (0,195)
<i>Salary</i>			0,791** (0,036)	0,830** (0,035)	
<i>Bonus</i>			0,840 (0,293)	0,886 (0,263)	
<i>Options</i>			-0,093 (0,144)	0,049 (0,893)	
<i>GP*Options</i>				-0,154 (0,683)	
<i>Ln(TC)</i>					-0,051 (0,667)
<i>N</i>	256	256	256	256	256
<i>Adjusted R Squared</i>	0,301	0,321	0,331	0,329	0,319

** Significant at the 0.05 level.

* Significant at the 0.10 level.

TABLE 5
Regression Analysis

Linear regression analysis where the dependent variable is Ln (Volume).

Golden Parachute is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *Ln (Volume)* is the natural logarithm of mean daily trading volume the year after the hire of CEO. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>Model A</i>	<i>Model B</i>	<i>Model C</i>	<i>Model D</i>	<i>Model E</i>
<i>(Constant)</i>	1,650** (0,000)	2,768** (0,000)	3,202** (0,001)	3,221** (0,000)	2,026** (0,002)
<i>Golden Parachute</i>	0,287** (0,016)	0,261** (0,005)	0,213** (0,038)	0,163 (0,140)	0,229** (0,014)
<i>Ln (TA)</i>	0,045 (0,107)	0,100** (0,001)	0,072** (0,034)	0,065* (0,067)	0,039 (0,326)
<i>M/B</i>	0,012** (0,039)	0,007 (0,157)	0,003 (0,648)	0,003 (0,612)	0,005 (0,409)
<i>CEO Age</i>		-0,002 (0,646)	-0,001 (0,800)	-0,001 (0,864)	-0,001 (0,758)
<i>Ln(Board Size)</i>		-0,661** (0,001)	-0,710** (0,000)	-0,682** (0,001)	-0,701** (0,000)
<i>Duality</i>		-0,045 (0,619)	-0,015 (0,863)	-0,016 (0,850)	-0,030 (0,734)
<i>Board Independence</i>		0,343 (0,194)	0,311 (0,245)	0,309 (0,251)	0,336 (0,207)
<i>Ins Ownership</i>		-0,335** (0,064)	-0,247 (0,177)	-0,254 (0,164)	-0,275 (0,117)
<i>Salary</i>			-0,578** (0,037)	-0,630** (0,030)	
<i>Bonus</i>			-0,498 (0,151)	-0,558 (0,106)	
<i>Options</i>			0,026 (0,586)	-0,161 (0,436)	
<i>GP*Options</i>				0,202 (0,345)	
<i>Ln(TC)</i>					0,150** (0,021)
<i>N</i>	256	256	256	256	256
<i>Adjusted R Squared</i>	0,062	0,117	0,136	0,137	0,140

** Significant at the 0.05 level.

* Significant at the 0.10 level.

TABLE 6

Regression Analysis

Linear regression analysis where the dependent variable is Volatility.

Golden Parachute is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *Volatility* is standard deviation of daily stock return. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>Model A</i>	<i>Model B</i>	<i>Model C</i>	<i>Model D</i>	<i>Model E</i>
<i>(Constant)</i>	0,047** (0,000)	0,068** (0,000)	0,046** (0,000)	0,063** (0,000)	0,067** (0,000)
<i>Golden Parachute</i>	-0,005** (0,032)	-0,005** (0,049)	-0,005** (0,036)	-0,005* (0,062)	-0,005** (0,017)
<i>Ln (TA)</i>	-0,002** (0,006)	-0,001 (0,273)	-0,001 (0,403)	-0,001 (0,440)	-0,001 (0,277)
<i>M/B</i>	0,001 (0,534)	0,000 (0,345)	0,000 (0,443)	0,000 (0,437)	0,000 (0,181)
<i>CEO Age</i>		0,000 (0,707)	0,000 (0,549)	0,000 (0,562)	0,000 (0,729)
<i>Ln(Board Size)</i>		-0,013** (0,001)	-0,012** (0,002)	-0,013** (0,002)	-0,013** (0,008)
<i>Duality</i>		-0,004 (0,088)	-0,004 (0,135)	-0,004 (0,136)	-0,004 (0,111)
<i>Board Independence</i>		-0,003 (0,619)	-0,002 (0,731)	-0,002 (0,735)	-0,003 (0,646)
<i>Ins Ownership</i>		0,000 (0,992)	0,000 (0,945)	0,000 (0,933)	0,000 (0,975)
<i>Salary</i>			0,004 (0,435)	0,005 (0,388)	
<i>Bonus</i>			-0,006 (0,556)	-0,006 (0,583)	
<i>Options</i>			-0,001 (0,005)	0,000 (0,945)	
<i>GP*Options</i>				-0,002 (0,646)	
<i>Ln(TC)</i>					0,000 (0,879)
<i>N</i>	256	256	256	256	256
<i>Adjusted R Squared</i>	0,055	0,073	0,073	0,069	0,070

** Significant at the 0.05 level.

* Significant at the 0.10 level.

TABLE 7

Robustness Tests

Golden Parachute is the estimated value of the payment in case of change in control deflated by the Total Compensation of the CEO. *Ln (Bid-Ask Spread)* is the natural logarithm of mean daily percentage bid ask spread the year after the hire of new CEO. *Ln (Volume)* is the natural logarithm of mean daily trading volume the year after the hire of CEO. *Volatility* is the standard deviation of daily stock return. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>Ln(Bid-Ask Spread)</i>			<i>Ln(Volume)</i>		
	<i>Model A</i>	<i>Model B</i>	<i>Model C</i>	<i>Model A</i>	<i>Model B</i>	<i>Model C</i>
<i>(Constant)</i>	-5,722** (0,000)	-8,074** (0,000)	-8,727** (0,000)	1,815** (0,000)	3,003** (0,000)	3,403** (0,000)
<i>Golden Parachute (% of Total Compensation)</i>	-0,111** (0,023)	-0,105* (0,071)	-0,113** (0,024)	0,015 (0,543)	0,015 (0,533)	0,016 (0,497)
<i>Ln (TA)</i>	-0,290** (0,000)	-0,326** (0,000)	-0,271** (0,000)	0,043 (0,123)	0,099** (0,001)	0,069** (0,050)
<i>M/B</i>	-0,020 (0,101)	-0,016 (0,246)	0,006 (0,676)	0,013** (0,047)	0,008 (0,181)	0,003 (0,688)
<i>CEO Age</i>		0,037** (0,009)	0,030** (0,039)		-0,005 (0,381)	-0,003 (0,671)
<i>Ln(Board Size)</i>		0,062 (0,877)	0,183 (0,638)		-0,651** (0,002)	-0,713** (0,001)
<i>Duality</i>		0,003 (0,984)	-0,092 (0,576)		-0,058 (0,521)	-0,015 (0,864)
<i>Board Independence</i>		0,178 (0,729)	0,282 (0,597)		0,416 (0,120)	-0,359 (0,182)
<i>Ins Ownership</i>		0,554** (0,049)	0,307 (0,252)		-0,378** (0,042)	-0,261 (0,159)
<i>Salary</i>			1,148** (0,008)			-0,630** (0,035)
<i>Bonus</i>			1,710** (0,034)			-0,734** (0,029)
<i>Options</i>			0,022 (0,756)			0,016 (0,772)
<i>N</i>	256	256	256	256	256	256
<i>Adjusted R Squared</i>	0,181	0,223	0,262	0,021	0,086	0,118

** Significant at the 0.05 level.

* Significant at the 0.10 level.

CHAPTER 3

Do Golden Parachutes induce CEOs to provide timely disclosure of Bad News?

In this study, we examine the effect of golden parachutes on the disclosure of bad news. Managers with career concerns that have a golden parachute with their firm should have strong incentives not withhold any bad news. In a sample of 358 newly hired CEOs in the period 2000-2014 we examine this prediction, controlling for corporate governance and CEO compensation. The results suggest that golden parachutes align the interests of management and shareholders giving incentives to managers reveal private information, especially bad news.

Do Golden Parachutes induce CEOs to provide timely disclosure of Bad News?

1. Introduction

The decision of managers with regard to the quantity and the quality of information they disclose, is influenced by their remuneration and especially the reward in the case of their dismissal. CEO golden parachutes present a quandary because they guarantee a significant amount of money if the CEO's employment agreement is terminated due to change in control.

Prior literature suggests that managers systematically delay disclosing bad news to investors (Kothari et. al, 2009). Managers' tendency to delay the disclosure of bad news can emanate from the agency problem where managerial disclosure incentives are not aligned with those of shareholders. Various incentives can motivate managers to withhold or to disclose their private information (Healy and Palepu, 2001; Verrecchia, 2001). According to previous literature, golden parachutes can serve as an incentive for the CEO to reveal any bad news (Van Wesep, 2010; Berkovitch, Israel and Spiegel, 2000; Almazan and Suarez, 2003).

Several studies examined the effectiveness and usefulness of golden parachutes in the recent past. Some studies conclude that golden parachutes are to benefit only the CEO and are usually offered in an attempt to balance the risk taken by the CEO when taking over a company. Firms provide golden parachutes to their CEOs to provide insurance for their CEOs' human capital and CEOs with these agreements invest in riskier projects that increase firm value (Ju, Leland and Senbet, 2014; Van Wesep, 2010). On the contrary, golden parachutes encourage CEOs to reveal information truthfully and hence reduce the incentive for CEOs with career concerns to engage in the delay of bad news.

The aim of this study is to investigate the effect of golden parachute agreements on the disclosure behavior of CEOs on bad news. Examining this effect controlling for corporate governance and CEO annual compensation in a sample of 358 newly hired CEOs for the period 2000-2014, we conclude that golden parachute influence negatively the existence of bad news, giving incentive to CEO to disclose to the public any private information he/she might have.

This study contributes to the literature by examining empirically the influence of golden parachutes, the packages that the executives receive after a change in control in the company, and the disclosure of bad news. Golden parachutes may provide incentives to the executives receiving them to disclose information to the public since their economic value is large enough to capture the possible job loss in case of change in control. The role of golden parachutes is controversial and is not clear to the literature whether they benefit the executive receiving them or the firm offering them. The literature is stirring up with golden parachutes' role in executive compensation in order to create a clearer picture of whether this package is beneficial or detrimental for the firm at the same time when the executive receives a lucrative payment.

The remainder of this study includes Section 2 for Background and Motivation, Section 3 for Research design, sample and sources of data. Section 4 describes the major Findings and Section 5 the Conclusions and limitation of this study.

2. Background and Motivation

According to previous literature, golden parachutes can serve as an incentive for the CEO to reveal any bad news (Van Wesep, 2010; Berkovitch, Israel and Spiegel, 2000; Almazan and Suarez, 2003). If the disclosure of bad news has negative effect on the CEO without any compensation or adequate compensation, then he/she will probably take the decision to hide the news. Ling (2012) supports that CEOs are interested in their wellbeing and their remuneration, thus they need an incentive to disclose bad news, and thus do not manipulate earnings in order to present a different situation of the firm.

Managers possess superior private information and they face various incentives that affect when they release that information to the public (Healy and Palepu, 2001; Verrecchia, 2001). Several studies argue that managers may rush to disclose bad news in order to mitigate personal liability over litigation (Skinner, 1994; Kasznik and Lev, 1995; Baginski, Hassell and Kimbrough, 2002). On the other hand, if managers face career concerns, they may withhold bad news and gamble that subsequent events will allow them to hide the bad news. Kothari, Shu and Wysocki (2009) provide convincing evidence from management forecasts, that, on average, managers delay the disclosure of bad news relative to good news.

According to Kothari et al. (2009) managers' career concerns could induce managers to delay the release of bad news. More specific, previous literature shows that investors react

asymmetrically to bad news versus good news disclosures, as the magnitude of the negative price reaction to bad news is greater than the magnitude of the positive stock price reaction to good news (Hutton, Miller and Skinner, 2003; Kothari et al., 2009; Ng, Tuna and Verdi 2013). Kothari et al. (2009) argue that this asymmetry arises from the disclosure behavior of managers that gradually reveal good news but accumulate and withhold bad news until it is clear that subsequent events will not reverse or offset the bad news.

Assuming that new information, either good or bad, arrives randomly and that the management reaction is indifferent between good or bad news, we expect that the dissemination of the information will also be random, and thus the managers will not withhold any news, especially the bad ones. Good news disclosure is usually ensured managers with continued employment and with possible extra compensation while bad news usually lead to contract termination and lose of benefits. In the case when the CEO has a golden parachute, the insurance provided in the event of a change of control, may induce the CEO to release the bad news as he will do with good news. Hence, we expect that in firms that offer golden parachutes to their CEOs the bad news will not be hidden.

The effect of golden parachute on the disclosure of bad news will be investigated in this study. The news disclosure, either good or bad, will be measured by earnings figures. A number of prior studies used earnings figures to develop a measure of voluntary disclosure of good or bad news (e.g., Skinner, 1994; Clarkson, Kao and Richardson 1994; Ali et al., 2007). In previous literature, GARCH models are also used for measuring the disclosure of information (Kee-Hong B., G. A. Karolyi, 1994; P. A. Braun, D. B. Nelson and A. M. Sunier, 1995).

The decisions of the managers are affected by the fact whether executives have or not golden parachute. If they have golden parachute, they announce information that concerns their company, despite that this may lead to their replacement, because they will be compensated (Levitt and Snyder, 1997; Ling, 2012). Furthermore, they overwhelm more effort (Narayanan and Sundaram, 1998), they undertake more risky projects (Ju, Leland and Senbet, 2003; Van Wesep, 2010) and the premium of takeover is increased (Choi, 2004). On the other hand, they may operate the company less effectively (Lambert and Larcker, 1985) and “rush to sell” the firm even if that would not be aligned with shareholders’ interests (Fich, Tran and Walkling, 2013). Moreover, with golden parachute the shareholders cannot easily replace an inefficient CEO (Almazan and Suarez, 2003).

Between the abovementioned prevailed opinions, this study aims to examine whether the bad news disclosure in companies that offer golden parachute to the new CEO is different than in companies which do not offer the package.

The golden parachutes in the compensation agreement of the CEO affect the decision of the CEO to release bad news.

A way of control and follow-up managers and information that reveals is corporate governance. Corporate governance mechanisms are indirect tools by which shareholders attempt to reduce agency costs by changing the behavior of managers. Corporate governance mechanisms might reduce the delay of bad news indirectly by improving monitoring systems, by splitting the role of the CEO from the Chairman of the board, or by increasing the number of independent directors on the board. Furthermore, prior literature investigates how the optimal compensation should be designed and concludes that an optimal contract, which includes base salary, bonus or options and also severance pay, encourages CEO to disclose information, and especially bad news, even if this might lead to his dismissal.

Thus, the inclusion of corporate governance variables and CEO compensation in the models used in the study is imposed.

In a company with strong board, a golden parachute encourages the CEO to work effectively and do not withhold information. Jensen (1993) argues that small boards are more effective in monitoring a CEO's actions. Yermack (1996) also concludes that smaller boards are monitoring more effective the CEO than larger boards do. Hence, the board size seems to inversely relate to performance. Based on previous literature, since small boards enhance monitoring, they would also lead to more information disclosure.

Additionally, the independence of the board, that has been extensively studied, should play a significant role in monitoring the CEO. According to Cornett, Marcus and Tehranian (2008), boards dominated by outsiders are arguably in advantageous position to monitor and control managers. Outside directors are likely to be more independent of the firm's managers. Thus, higher board independence would also be associated with more information disclosure.

On the other hand, duality concentrates power in the CEO's position, potentially allowing for "burying" news. Duality also offer to the CEO the chance to effectively control information available to other board members and thus may lead to less monitor role of the board and subsequently to less information disclosure.

Regarding the influence of insider ownership on information asymmetry, the results of prior studies are controversial; in some cases influences positively while in some other cases negatively. The age of the CEO may determine his effectiveness in managing a firm. Based on previous literature, we can claim that CEO age influences information disclosure. The older the CEO is, the lower the information asymmetry, since the CEO prefer to maintain his reputation and reliability by disclosing news. Hence, he announce to the public in order not to be accused for insufficient information and therefore not harm his prestige.

The effect of annual compensation of the CEO on disclosure in companies with golden parachutes should be taken into account. Inderst and Mueller (2005, 2006) showed theoretically that the optimal package of rewards that is offered to the CEO should include performance-based pay, like bonus or options, base salary and severance pay. The optimal combination of CEO compensation and severance pay gives incentives to the CEO to reveal information, even if these lead to his replacement. Compared to long-term incentives that promise to reward executives for achievement of the company's strategic objectives that will maximize shareholder value; golden parachutes promise ex-ante to the executive a lucrative payment in the event of a takeover but at the same time they keep him conscious to exert at least some minimal effort to support the share price received in the case of takeover.

Annual salary is the fixed component of executive compensation which was examined extensively by academic researches. High compensated CEOs are found in big and high performance companies according to Gabaix and Landier (2006) and Diamond and Verrecchia (1991). Hermalin and Weisbach (2012) report that increased levels of disclosure leads to the reduction of information asymmetry between company and investors, consequently leads to the increase of firm value and therefore to the increase of CEO rewards, and specifically his salary. They also showed that large companies disclose more information to their shareholders, but also pay higher salary to their CEOs.

Bonus is a key component of the executive compensation package that seems to influence either positively or negatively the decisions of the CEO. Jensen and Murphy (2011), showed that bonus plans give managers more incentives since they are rewarded immediately than equity-based plans (profits are based on equity value); even that the magnitude of the payoff is smaller.

Many studies examine the executives' options-based contracts and how they use them in order to increase their wealth. Perry and Zenner (2000) support that options attract talented and capable managers. Additionally, options encourage managers to undertake risks in companies with high growth opportunities (Smith and Watts, 1992; Gaver and Gaver, 1993; Baber, Janakiraman and Kang, 1996). According to Goldman and Slezak (2006) and Burns and Kedia (2006), stock-based compensation makes managers to overwhelm more effort, but simultaneously it makes them to hide the real performance of the firm and to manipulate information in order to increase their rewards against shareholders' interests. On the contrary, Beyer, Cohen, Lys and Walther (2010) report that equity-based packages encourage managers to announce news voluntarily. Moreover, Nagar, Nanda and Wysocki (2003) mention that managers not only issue good news but also the bad, because if they announce nothing this will be interpreted negatively.

As golden parachutes, option based compensation contracts may provide influence the managers decisions to disclose information to the public. Managers in firms that are target for takeover are in the position to prevent takeovers by virtue of their control. On the other hand, shareholders sought mechanisms that would encourage managers to be open to takeover bids. Option based compensation could serve as this mechanism since takeovers would offer a premium to current share prices and perhaps early vesting, but even managers with significant option holdings in the firm nevertheless often faced significant financial loss in the event of a takeover. Golden parachutes make takeovers more pleasant since they promise additional payment (severance payment and bonus).

3. Research design, sample and sources of data

3.1.Dataset

Our dataset consists of CEO hirings in the period 2000-2014. We collect the information regarding CEOs (name, age, hire year, salary, bonus, options) from ExecuComp, data for the firm (total assets, market value, book value) from Compustat and CRSP and IBES for data regarding earnings (analyst forecasts, actual values, announcement date). We also use GMI Ratings for corporate governance data (board size, board independence, insider ownership, and duality) as well as proxy statements (DEF-14A file in EDGAR Company Filings) to complete information that is missing.

We collect all the new hirings of CEOs the period 2000-2014 (3.016 cases). We exclude 433 cases that are classified as financial firms (SIC codes 4900-4999 and 6000-6999). 34

cases that cannot be identified due to missing key variables like CUSIP and TICKER were removed. In the next step, we exclude 122 cases where the golden parachute variable cannot be defined either from ExecuComp or from Proxy Statements. We merge the ExecuComp data and hand collected data from Proxy Statements with annual financial data from CRPS - Compustat by year and firm identity. At this step of the procedure we lost about 763 observations. We also merge for CEO and corporate governance data from GMI Ratings (CEO age, board characteristics, duality and ownership) where we exclude 1.304 observations. In the next step, we merge our dataset with the data from IBES Summary History that includes analysts' forecasts and actual earnings per share; we exclude another 2 cases where the required information on the variables that we need is missing. Finally, we end up with a sample of 358 hirings of CEOs. All the variables used in the analysis are examined through descriptive statistics for the existence of outliers and have been winsorize at 1% and 99% percentile where this is needed.

3.2. Variables description

Bad news disclosure, which is the dependent variable in the model, is measured by the forecast error, the difference of the forecast of analysts on earnings per share from the actual earnings of the year of the announcement as a proxy for disclosure of bad news (positive difference) and good news (negative difference). The data are obtained from IBES Summary History that includes the average of the analysts' forecasts for each announcement, the actual price and the announcement date. We use the latest quarter information before the year of the hire of the new CEO. Thus, we construct a binary variable that equals to one when the difference between forecast price and actual price was positive (bad news) and zero otherwise.

The existence of golden parachute is measured with a binary variable that equals to one when the CEO employment agreement includes a golden parachute, and zero otherwise:

$$GP = \begin{cases} 1, & \text{if the CEO has golden parachute} \\ 0, & \text{otherwise} \end{cases}$$

In order to ensure the robustness of the results, we use additionally a continuous variable for golden parachute instead of the binary variable in the empirical models. The variable measures the estimated payment in the event of change in control (in dollars) as a percentage of the total compensation.

The corporate governance variables that are used in the analysis and CEO age are defined as follows: CEO age: the age of the CEO at his hire year, Board size: the total number of directors of the board of the company (we use the natural logarithm of the board size in the analysis), Board independence: the proportion of independent directors (it is the ratio of the number of independent directors to the total number of directors on the board), Duality: binary variable that equals 1 if CEO is also Chairman of the board, and 0 otherwise, Insider ownership: the proportion of company equity that was held by inside directors (inside directors are the directors that are employees of the company, and more specifically the directors that are officers).

The CEO annual compensation variables that are used in the analysis are the CEO annual CEO salary (as percentage of total compensation), annual CEO bonus (as percentage of total compensation), options (as percentage of total compensation) or the total CEO compensation (the natural logarithm of the total value).

Consistent with prior research, we control variables for firm size and growth opportunities. Firm size, is approached by the natural logarithm of firm's total assets. Smaller firms are more likely to be targets, and generally it is easier to be acquired. In the bibliography is reported that there is positive relation between firm size and high levels of information disclosure (Diamond and Verrecchia, 1991; Hermalin and Weisbach, 2012). Large companies adopt stricter reporting standards, and for this reason are obliged to reveal more information. Market to book ratio, defined as the market value of equity divided by the book value of equity, to proxy for firm's growth opportunities. Firm's growth opportunities are inversely related with the likelihood of a firm being a takeover target (Palepu, 1986; Bebchuk, Cohen, and Yang, 2010).

3.3. Empirical model

The basic model that we are implementing is a logistic regression with dependent variable the binary variable *Bad News* and independent the existence of golden parachutes (binary variable), corporate governance characteristics (board size, board independence, dual role of CEO, insider ownership), firm characteristics (size, growth opportunities), annual compensation of CEO (salary, bonus, options or total compensation).

$$Bad\ News = \beta_0 + \beta_1*GP + \beta_2*Ln(TA) + \beta_3*MB + e \quad (1)$$

$$Bad\ News = \beta_0 + \beta_1*GP + \beta_2*CEO\ age + \beta_3*Ln(Board\ Size) + \beta_4*Board\ Independence + \beta_5*Duality + \beta_6*Inside\ Ownership + \beta_7*Ln(TA) + \beta_8*MB + e \quad (2)$$

$$\begin{aligned} \text{Bad News} = & \beta_0 + \beta_1*GP + \beta_2*CEO \text{ age} + \beta_3*\text{Ln}(\text{Board Size}) + \beta_4*\text{Board Independence} + \\ & \beta_5*\text{Duality} + \beta_6*\text{Inside Ownership} + \beta_7*\text{Salary} + \beta_8*\text{Bonus} + \beta_9*\text{Options} + \beta_{10}*\text{Ln}(\text{TA}) + \beta_{11}*\text{MB} + \\ & e \end{aligned} \quad (3)$$

$$\begin{aligned} \text{Bad News} = & \beta_0 + \beta_1*GP + \beta_2*CEO \text{ age} + \beta_3*\text{Ln}(\text{Board Size}) + \beta_4*\text{Board Independence} + \\ & \beta_5*\text{Duality} + \beta_6*\text{Inside Ownership} + \beta_7*\text{Ln}(\text{TC}) + \beta_8*\text{Ln}(\text{TA}) + \beta_9*\text{MB} + e \end{aligned} \quad (4)$$

In order to examine the effect of options in the case where the CEO has a golden parachute in his/ her compensation contract, we conduct an additional test with interaction of golden parachute existence and the options that the CEO holds. We examine this interaction term since the options' value is based on firm's performance and thus they act as a mechanism to induce the CEO to work for the best of the firms' interest. Hence, options may provide a safety net for increased risk-taking incentives and in combination with golden parachute existence may influence the decision of the CEO to release information to the public and especially bad news.

4. Empirical results

Table 1 contains descriptive statistics for the variables regarding the compensation package of the CEO and variables we used in our analysis, golden parachute existence, board size, board independence, inside directors' ownership, dual role of CEO and CEO compensation. The table gives information about the mean, the standard deviation, the minimum and the maximum of each variable.

Firstly, in Panel A golden parachutes are presented with a proportion of 61,0%, which means that 61% of the CEOs in our sample have golden parachute agreements with their companies; which is consistent with prior literature that suggest that approximately 60,0% of the firms offer golden parachutes to their executives. Alvarez and Marshal conducted an analysis on 200 top US companies and found that 63% of them had change in control agreements in 2013. Furthermore, Towers Watson revealed in its latest Executive Compensation Bulletin that 70% of Fortune 500 companies offer change in control agreements to their named executive officers. Thus, we can claim that the sample used in this study is representative of the population.

Furthermore, the average Board Size is 9 (since the natural logarithm is 2,2) and 70,0% of the directors that are on the Board are independent, they are non-employees. Moreover, the results for inside ownership showed that 19,0% of equity own to inside directors. The strong board characteristics, and the hence the good corporate governance is expected to

encourage the CEO to work effectively and disclose timely information, although they are bad news.

The average CEO age is 59, while the youngest is aged 42 and the oldest 87. The older the CEO is, the higher the disclosure of news will be, since the CEO will prefer to maintain his reputation. Only 27,0% of the CEOs held the position of the Chairman of the Board of the company; thus the majority of them are acting independently. Regarding the compensation, the average annual salary of a CEO is estimated at 713 thousand dollars, which is 27% of the total compensation. The annual bonus is about 272 thousand dollars, which is about 7% of the total compensation and the options held by the CEO is about 40% of the total compensation, with estimated value about 1.569 thousand dollars.

According to Table 2, where we compare means and medians, the bad news mean is different and statistically significant in firms that offer golden parachutes (28%) than in firms that do not (37%). We can conclude that in firms with golden parachute the existence of bad news is reduced compared to the firms without. Also, CEO age, the bonus, options and total compensation has significant difference between the two groups of firms. Bonus is five times more on forms that do not offer golden parachute, leading to the conclusion that if the CEO does not have golden parachute may receive a generous bonus at the end of the year. Furthermore, options are double in the case the CEO has a golden parachute.

The correlation matrix, in Table 3, shows negative correlation between the bad news and the existence of golden parachutes. Bad news presented to have positive and statistically significant correlation with the bonus that the CEO receives. Consequently, we can argue that the larger bonus payment give incentive to the CEO to not withhold information, consistent with previous literature (Jensen and Murphy, 2011).

The results of the logistic regression models are presented in Table 4. Using the coefficients of variables in the models, the influence of golden parachute on the bad news is negative, and statistically significant, which means that a golden parachute may give incentives to the CEOs to release bad news. This is consistent with the literature since golden parachutes aligns the interests of management and shareholders giving incentives to managers to encourage a profitable acquisition or takeover (Lambert and Larcker, 1985), and to reveal private information, especially bad news (Almazan and Suarez, 2003). The relation of golden parachute to bad news remains negative after including variables regarding corporate governance (Model II) and also after adding executive compensation components (Model III, IV, V). The corporate governance and the compensation of the CEO do not have significant influence on bad news. The combination of golden parachute

and options in the compensation package of a CEO do not let us draw conclusion on the influence of them on bad news.

In unreported results, where we implement the same model using different metric [forecast error = (forecast-actual)/|actual|] for bad news we got the same negative influence of golden parachutes on bad news.

Furthermore, we examine the effect of golden parachute on bad news using as a measure for golden parachute the estimated value of the payment in the event of a change in control deflated by the total compensation of the CEO. The results of the linear regression models are presented in Table 5 as robustness tests. The coefficients of the variables incorporated in each model are similar to these in regression models in Table 4. The percentage of golden parachute value to total compensation value is negatively (statistically significant) related to bad news in all the logistic regressions.

5. Conclusions

In this study, we examine the effect of golden parachute on bad news. Motivate by previous literature that suggests that managers systematically delay disclosing bad news to investors; we investigate the influence of a golden parachute on information disclosure. Golden parachute can serve as an insurance for the CEO personal wealth and benefits after a change in control, and thus, giving incentives to him in order to release information to the public unbiased.

The results of the study suggest that golden parachutes and bad news have negative relationship, and hence we can conclude that in the case where the CEO has golden parachute released information early and the analysts forecasts are more precise to actual earnings. The effect does not influence from any corporate governance issues or by the CEO compensation package since when we reexamine the hypothesis controlling for these variables we result in the negative relationship.

Managers face various incentives to disclose or withhold any news, good, or bad. Good news lead to continuation of employment and are usually followed by generous bonus while bad news usually lead to termination of employment or decrease of wealth of the CEO. In the case of change in control, the CEO that has a golden parachute may receive a considerable amount of payment although he will lose his job, hence he will be willing to announce bad news to the public.

The current research design does not allow for causality statements to be made but it best describes the association between the variables of interest and especially bad news (as forecast error) and golden parachutes.

Lastly, this study have limitations that can be eliminated by control for the sensitivity of the CEO compensation to option-based compensation using as control variables delta and vega and for long-term incentives using data on pensions benefits. The effect of option-based compensation and long-term incentive plans may differentiate the results and consequently the conclusions of this study. Additionally, the effect of golden parachute can be investigated before and after the financial crisis since many opponents argue that these packages are one of the main reasons that lead to the financial ruin. Furthermore, the study should take into account any endogeneity issues by implementing a model that will examine the firm's decision to offer golden parachutes to their executives.

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Appendices

TABLE 1

Descriptive Statistics

Panel A: Descriptive Statistics for executive's compensation components

Total number of observations, the mean, the median, the standard deviation, the minimum and the maximum are illustrated.

	<i>N</i>	<i>Mean</i>	<i>Median</i>	<i>St.Deviation</i>	<i>Minimum</i>	<i>Maximum</i>
<i>Golden Parachute (\$)</i>	358	7.276	3.165	10.649	0	85.961
<i>Salary(\$)</i>	358	713	675	310	23	2.000
<i>Bonus(\$)</i>	358	272	0	595	0	5.000
<i>Options(\$)</i>	358	1.569	401	2.800	0	19.047
<i>All Other Compensation(\$)</i>	358	255	58	778	0	7.646
<i>Total Compensation(\$)</i>	358	4.502	3.187	4.282	117	37.552

Panel B: Descriptive statistics for the variables used in the regression models.

Total number of observations, the mean, the median, the standard deviation, the minimum and the maximum are illustrated. *Golden Parachute* is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *Bad News* is a binary variable which takes value 1 if the sign of the earnings change (forecast-actuals) is positive and 0 otherwise. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>N</i>	<i>Mean</i>	<i>Median</i>	<i>St.Deviation</i>	<i>Minimum</i>	<i>Maximum</i>
<i>Golden Parachute</i>	358	0,61	1,00	0,488	0,00	1,00
<i>Bad News</i>	358	0,31	0,00	0,464	0,00	1,00
<i>CEO Age</i>	358	58,78	58,50	7,597	42,00	87,00
<i>Ln(Board Size)</i>	358	2,23	2,20	0,236	1,39	2,83
<i>Duality</i>	358	0,27	0,00	0,442	0,00	1,00
<i>Board Independence</i>	358	0,70	0,75	0,163	0,18	1,00
<i>Inside Ownership</i>	358	0,19	0,06	0,249	0,00	1,00
<i>Salary</i>	358	0,27	0,21	0,201	0,02	1,00
<i>Bonus</i>	358	0,07	0,00	0,131	0,00	0,57
<i>Options</i>	358	0,40	0,15	0,765	0,00	5,80
<i>Ln(TC)</i>	358	8,01	8,07	0,934	4,77	10,53
<i>Ln(TA)</i>	358	6,72	6,60	1,441	3,68	10,80
<i>M/B</i>	358	1,65	1,88	8,499	-64,23	18,87

TABLE 2

Comparison of means and medians for variables used in the analysis

Panel A: Mean (T-test) and median (Wilcoxon signed rank test) differences for firms with a golden parachute and firms without golden parachute.

	<i>Mean differences</i>				<i>Median differences</i>			
	<i>With golden parachute</i>	<i>Without golden parachute</i>	<i>Difference</i>	<i>Significance (**: a=0,05 *: a=0,10)</i>	<i>With golden parachute</i>	<i>Without golden parachute</i>	<i>Difference</i>	<i>Significance (**: a=0,05 *: a=0,10)</i>
<i>Golden Parachute(\$)</i>	11.895	0	11.895	0,000**	8.691	0	8.691	0,000**
<i>Salary(\$)</i>	768	626	142	0,000**	730	630	100	0,045**
<i>Bonus(\$)</i>	92	554	-462	0,000**	0	250	-250	0,000**
<i>Options(\$)</i>	2.038	828	1.210	0,000**	895	0	895	0,000**
<i>All Other Compensation(\$)</i>	150	422	-272	0,008**	55	67	-12	0,386
<i>Total Compensation(\$)</i>	4.732	4.139	593	0,202	3.638	2.685	953	0,017**
<i>N</i>	219	139			219	139		

Panel B: Mean (T-test) and median (Wilcoxon signed rank test) differences for firms with a golden parachute and firms without golden parachute. *Golden Parachute* is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *Bad News* is a binary variable which takes value 1 if the sign of the earnings change (forecast-actual) is positive and 0 otherwise. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>Mean differences</i>				<i>Median differences</i>			
	<i>With golden parachute</i>	<i>Without golden parachute</i>	<i>Differences</i>	<i>Significance (**: a=0,05 *: a=0,10)</i>	<i>With golden parachute</i>	<i>Without golden parachute</i>	<i>Differences</i>	<i>Significance (**: a=0,05 *: a=0,10)</i>
<i>Bad News</i>	0,28	0,37	-0,09	0,084*	0,00	0,00	0,00	0,101
<i>CEO Age</i>	57,16	61,33	-4,17	0,000**	57,00	61,00	-4,00	0,000**
<i>Ln (Board Size)</i>	2,24	2,21	0,03	0,223	2,20	2,20	0,00	0,723
<i>Duality</i>	0,26	0,28	0,02	0,605	0,00	0,00	0,00	0,692
<i>Board Independence</i>	0,72	0,68	0,04	0,033**	0,75	0,71	0,04	0,117
<i>Inside Ownership</i>	0,18	0,21	-0,03	0,380	0,05	0,08	-0,03	0,009**
<i>Salary</i>	0,26	0,28	-0,02	0,426	0,21	0,21	0,00	1,000
<i>Bonus</i>	0,02	0,15	-0,13	0,000**	0,00	0,11	-0,11	0,000**
<i>Options</i>	0,51	0,23	0,28	0,001**	0,28	0,00	0,28	0,000**
<i>Ln(TC)</i>	8,12	7,85	0,27	0,010**	8,20	7,90	0,30	0,017**
<i>Ln(TA)</i>	6,73	6,69	0,04	0,850	6,50	6,78	-0,28	0,129
<i>M/B</i>	1,81	1,40	0,41	0,660	1,90	1,86	0,04	1,000
<i>N</i>	219	139			219	139		

TABLE 3
Correlation Matrix

A correlation matrix among all the variables used in the analysis; above the diagonal is presented the Pearson correlation and below the Spearman's rho. *Golden Parachute* is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *Bad News* is a binary variable which takes value 1 if the sign of the earnings change (forecast-actual) is positive and 0 otherwise. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is held by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	<i>Golden Parachute</i>	<i>Bad News</i>	<i>CEO Age</i>	<i>Ln(Board Size)</i>	<i>Duality</i>	<i>Board Independence</i>	<i>Ins Ownership</i>	<i>Salary</i>	<i>Bonus</i>	<i>Options</i>	<i>Ln(TC)</i>	<i>Ln(TA)</i>	<i>M/B</i>
<i>Golden Parachute</i>	1,000	-0,093	-0,268**	0,065	-0,027	0,115*	-0,047	-0,044	-0,465**	0,179**	0,142**	0,013	0,023
		(0,079)	(0,000)	(0,223)	(0,605)	(0,029)	(0,380)	(0,402)	(0,000)	(0,001)	(0,007)	(0,810)	(0,660)
<i>Bad News</i>	-0,093	1,000	0,000	0,040	-0,023	0,059	0,032	0,032	0,056	-0,020	-0,005	0,090	-0,016
			(0,993)	(0,447)	(0,658)	(0,263)	(0,543)	(0,551)	(0,288)	(0,709)	(0,924)	(0,090)	(0,757)
<i>CEO Age</i>	-0,251**	0,006	1,000	0,056	0,172**	0,080	-0,046	0,046	0,216**	0,016	-0,041	0,080	-0,028
		(0,000)	(0,907)	(0,287)	(0,001)	(0,130)	(0,384)	(0,381)	(0,000)	(0,766)	(0,436)	(0,129)	(0,598)
<i>Ln(Board Size)</i>	0,067	0,045	0,112*	1,000	0,056	0,091	0,034	-0,197**	-0,008	0,113*	0,338**	0,481**	-0,048
		(0,206)	(0,391)	(0,035)		(0,293)	(0,084)	(0,527)	(0,000)	(0,876)	(0,033)	(0,000)	(0,000)
<i>Duality</i>	-0,027	-0,023	0,144**	0,088	1,000	0,119*	-0,012	0,011	0,111*	0,047	0,046	0,139**	-0,107*
		(0,605)	(0,658)	(0,006)	(0,096)		(0,025)	(0,818)	(0,832)	(0,037)	(0,380)	(0,383)	(0,009)
<i>Board Independence</i>	0,110*	0,082	0,110*	0,153**	0,152**	1,000	-0,058	-0,053	0,008	0,120*	0,053	0,086	-0,032
		(0,037)	(0,120)	(0,038)	(0,004)		(0,277)	(0,322)	(0,877)	(0,023)	(0,315)	(0,105)	(0,540)
<i>Ins Ownership</i>	-0,087	0,042	-0,077	-0,149**	-0,028	-0,124*	1,000	0,174**	0,140**	0,088	-0,119*	0,027	-0,079
		(0,102)	(0,426)	(0,147)	(0,005)	(0,591)	(0,019)		(0,001)	(0,008)	(0,097)	(0,025)	(0,611)
<i>Salary</i>	0,003	0,068	0,032	-0,192**	0,012	-0,008	0,234**	1,000	0,005	0,183**	-0,749**	-0,350**	-0,158**
		(0,953)	(0,198)	(0,551)	(0,000)	(0,828)	(0,878)	(0,000)		(0,931)	(0,000)	(0,000)	(0,003)
<i>Bonus</i>	-0,515**	0,133*	0,228**	0,009	0,092	-0,037	0,131*	0,040	1,000	-0,084	-0,086	0,015	-0,071
		(0,000)	(0,012)	(0,000)	(0,871)	(0,082)	(0,484)	(0,013)		(0,450)		(0,112)	(0,105)
<i>Options</i>	0,357**	-0,022	-0,092	0,219**	-0,038	0,135*	-0,136**	0,002	-0,249**	1,000	-0,091	0,063	0,065
		(0,000)	(0,672)	(0,082)	(0,000)	(0,473)	(0,011)	(0,010)	(0,973)	(0,000)		(0,085)	(0,231)
<i>Ln(TC)</i>	0,126*	-0,021	-0,036	0,337**	0,037	0,044	-0,270**	-0,840**	-0,038	0,072	1,000	0,617**	0,116*
		(0,017)	(0,695)	(0,502)	(0,000)	(0,488)	(0,402)	(0,000)	(0,476)	(0,173)		(0,000)	(0,028)
<i>Ln(TA)</i>	-0,013	0,078	0,102	0,498**	0,137**	0,097	-0,222**	-0,434**	0,012	0,129*	0,632**	1,000	0,056
		(0,799)	(0,140)	(0,055)	(0,000)	(0,009)	(0,068)	(0,000)	(0,823)	(0,014)	(0,000)		(0,294)
<i>M/B</i>	0,015	-0,125*	-0,055	-0,019	-0,044	-0,071	-0,031	-0,274**	-0,046	0,046	0,264**	0,096	1,000
		(0,781)	(0,018)	(0,296)	(0,722)	(0,408)	(0,178)	(0,558)	(0,000)	(0,386)	(0,390)	(0,000)	(0,069)
<i>N</i>	358	358	358	358	358	358	358	358	358	358	358	358	358

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

TABLE 4

Regression Analysis

A logistic regression with dependent variable the bad news and independent the golden parachute, the board size, the board independence, the inside directors ownership, the dual role and the age of the CEO, the salary of CEO, the bonus of the CEO, the options of the CEO, the Ln(TA), the M/B. The values of the coefficients are given in the table and below the corresponding p-value in parenthesis. *Golden Parachute* is a binary variable that takes value 1 when the firm offers Golden Parachute packages and 0 otherwise. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Bad News* is a binary variable which takes value 1 if the sign of the earnings change (forecast-actual) is positive and 0 otherwise. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>(Constant)</i>	-1,477**	-1,485	-2,105	-2,160	-0,539
	(0,009)	(0,309)	(0,170)	(0,160)	(0,750)
<i>Golden Parachute</i>	-0,415*	-0,496**	-0,436	-0,335	-0,458*
	(0,075)	(0,044)	(0,118)	(0,266)	(0,066)
<i>CEO Age</i>		-0,010	-0,012	-0,011	-0,011
		(0,533)	(0,478)	(0,486)	(0,482)
<i>Ln (Board Size)</i>		-0,028	0,046	0,052	0,026
		(0,961)	(0,936)	(0,928)	(0,964)
<i>Board Independence</i>		0,990	1,050	1,010	0,969
		(0,182)	(0,160)	(0,408)	(0,190)
<i>Duality</i>		-0,224	-0,240	-0,229	-0,231
		(0,415)	(0,384)	(0,177)	(0,402)
<i>Inside Ownership</i>		-0,211	0,100	0,109	0,118
		(0,645)	(0,834)	(0,819)	(0,800)
<i>Salary</i>			0,857	0,919	
			(0,181)	(0,154)	
<i>Bonus</i>			0,258	0,237	
			(0,796)	(0,812)	
<i>Options</i>			-0,098	0,135	
			(0,554)	(0,675)	
<i>GP*Options</i>				-0,324	
				(0,392)	
<i>Ln(TC)</i>					-0,180
					(0,267)
<i>Ln(TA)</i>	-0,139*	0,144	0,185*	0,182*	0,213*
	(0,081)	(0,120)	(0,059)	(0,064)	(0,057)
<i>M/B</i>	-0,005	-0,005	-0,002	-0,002	-0,004
	(0,707)	(0,695)	(0,898)	(0,897)	(0,770)
<i>N</i>	358	358	358	358	358

** Significant at 0.05 level

*Significant at 0.10 level

TABLE 5

Robustness Tests

A logistic regression with dependent variable the bad news and independent the golden parachute, the board size, the board independence, the inside directors ownership, the dual role and the age of the CEO, the salary of CEO, the bonus of the CEO, the options of the CEO, the Ln(TA), the M/B. The values of the coefficients are given in the table and below the corresponding p-value in parenthesis. *Golden Parachute* is the estimated value of the payment in case of change in control deflated by the Total Compensation of the CEO. *CEO Age* is defined as the age of the CEO. *Board size* is the number of the members of the board of directors and *Board Independence* is the proportion of directors that are not executives. *Duality* is a binary variable that takes the value 1 if CEO=Chairman. *Inside Ownership* is the proportion of the stock that is hold by insiders. *Salary* is the CEO annual salary as % of Total Compensation, *Bonus* is the CEO annual bonus as % of Total Compensation and *Ln(TC)* is the logarithm of the Total Compensation of the CEO. *Bad News* is a binary variable which takes value 1 if the sign of the earnings change (forecast-actual) is positive and 0 otherwise. *Ln(TA)* is the logarithm of total assets, *M/B* is the Market-to-Book ratio.

	Model 1	Model 2	Model 3	Model 4	Model 5
<i>(Constant)</i>	-1,469**	-1,662	-2,304	-2,303	-0,305
	(0,009)	(0,250)	(0,131)	(0,131)	(0,857)
<i>Golden Parachute (%)</i>	-0,176**	-0,198**	-0,228**	-0,228**	-0,195**
	(0,010)	(0,006)	(0,004)	(0,009)	(0,006)
<i>CEO Age</i>		-0,012	-0,015	-0,015	-0,014
		(0,469)	(0,371)	(0,371)	(0,376)
<i>Ln (Board Size)</i>		0,077	0,137	0,137	0,158
		(0,892)	(0,814)	(0,814)	(0,785)
<i>Board Independence</i>		1,118	1,190	1,189	1,125
		(0,133)	(0,114)	(0,114)	(0,131)
<i>Duality</i>		-0,182	-0,202	-0,201	-0,189
		(0,510)	(0,471)	(0,472)	(0,496)
<i>Inside Ownership</i>		0,201	0,031	0,031	0,082
		(0,668)	(0,949)	(0,949)	(0,864)
<i>Salary</i>			1,192*	1,192*	
			(0,070)	(0,070)	
<i>Bonus</i>			-0,108	-0,109	
			(0,910)	(0,910)	
<i>Options</i>			0,105	0,107	
			(0,594)	(0,736)	
<i>GP*Options</i>				-0,004	
				(0,991)	
<i>Ln(TC)</i>					-0,252
					(0,125)
<i>Ln(TA)</i>	0,143*	0,137	0,192*	0,192*	0,234**
	(0,074)	(0,144)	(0,054)	(0,055)	(0,040)
<i>M/B</i>	-0,007	-0,005	-0,005	-0,005	-0,005
	(0,610)	(0,610)	(0,738)	(0,738)	(0,715)
<i>N</i>	358	358	358	358	358

** Significant at 0.05 level

*Significant at 0.10 level

Conclusions

The purpose of this dissertation was to investigate the role of golden parachutes, the so debated packages that top executives receive when their employment has been terminated because of a change in control of the firm. Golden parachutes have a significant economical meaning since the mean estimated payment in case of change in control in our sample is ten times annual salary payment.

This dissertation aims to shed light in the role of golden parachute in two main streams: earnings management and information asymmetry. An examination of the role of golden parachutes is essential, since the literature suggest that compensation agreements provide incentives for managers to truthfully reveal information (Inderst and Mueller, 2005) and hence reduce earnings management for managers with career concerns. The role of golden parachute in the executive contract is to make the departure attractive enough to encourage the truth telling; even if the CEO will lose his/her job.

In the first chapter we investigated the role of golden parachutes in earnings management and the results of this study state that golden parachutes have a negative relationship with accruals. The results suggest that golden parachutes provide insurance by guarantee compensation in the case of change in control to managers in order to discourage earnings management.

In the second chapter the study examines how a golden parachute will influence CEO's behavior in terms of information asymmetry. Information asymmetry has been approached by stock liquidity. The results of this study suggest that golden parachutes existence leads to higher liquidity in firms where the CEO has a golden parachute agreement. Hence, golden parachutes decrease information asymmetry between managers and shareholders.

In the last chapter, following the results of the second chapter, we investigated the effect of golden parachute on the disclosure behavior of CEOs on bad news. The results of the study suggest that golden parachutes and bad news have negative relationship, and hence we can conclude that in the case where the CEO has a golden parachute the existence of bad news is decreased.

This study have limitations that can be eliminated by control for the sensitivity of the CEO compensation to option-based compensation using as control variables delta and vega and for long-term incentives using data on pensions benefits. The effect of option-based compensation and long-term incentive plans may differentiate the results and consequently

the conclusions of this study. Additionally, the effect of golden parachute can be investigated before and after the financial crisis since many opponents argue that these packages are one of the main reasons that lead to the financial ruin. Furthermore, the study should take into account any endogeneity issues by implementing a model that will examine the firm's decision to offer golden parachutes to their executives.