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The compensation of independent corporate governance actors at board-level

Evidence from different institutional contexts

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INTRODUCTION

Literature related to directors' compensation has grown in the last 30 years at a pace rivalled only by the growth of compensation itself. However, in spite of the pivotal role played by compensation and the recognized importance of independent corporate governance mechanisms at board-level, compensation's literature related to these corporate governance actors did not soar as executive's one.

In order to highlight the relevance of this gap, I propose in the first study a summary of the theoretical background and the main conceptualizations with which compensation is designed. By doing so, I highlight how scholars might have undervalued some theoretical factors of compensation design and how such underestimation led to more than one gap in current literature.
In particular, I highlight how prior studies undervalued the importance of the influence of contingent factors on the compensation of independent corporate governance actors at board-level. In addition, I underline how the (scarce) focus on independent corporate governance actors could not disentangle the effects that the functions performed had on the compensation received.

For this reasons, I first examine the compensation of independent non-executive directors serving in non-financial listed companies composing the Standard & Poor's 500 and the Eurostoxx600. By doing so, I contribute to the scant literature on these debated corporate governance mechanism, which mainly focused on a single institutional setting. In addition, studying separately, and jointly, level-specific factors (i.e. individual, firm and country) I also highlight how compensation is mould at different levels of analysis and how the underestimation of contingent factors may lead an oversimplification of the agency problem analysed.

Finally, I analyse the economic determinants of the compensation of the members of the board of statutory auditors. This particular corporate governance mechanism, which is typical of the Italian traditional board structure, acts merely as a monitor of the board of directors on behalf of the shareholders. By studying its compensation determinants I bypass the limit of prior literature which could not disentangle the effects that the

activities performed by independent directors, i.e. advisory and monitoring, had on compensation. In addition, studying in an institutional context, such as the Italian one, in which the risk of collusion between agent and supervisor is higher than elsewhere, I highlight how the two perspectives encompassed in the agency framework (i.e. optimal contracting theory and managerial power approach) can co-exist at the individual-level.

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Introduction

The compensation paid to directors of large corporations rose dramatically in the last 30 years and the recent financial crisis created public uproar over pay packages and leading to calls for reforms on compensation worldwide. However, these debates and its resulting regulations often reflect unintended consequences such as regulatory responses to perceived abuses in directors pay, stemming from relatively isolated events or situations. Therefore, while pay design can always be improved and there will always be isolated abuses, it is of paramount importance to understand how and why compensation is designed in order to resist temptations to further regulate pay without having a whole picture of the problem (Conyon, Fernandes, Ferreira, Matos & Murphy, 2011).

As previous scholars pointed out (Bebchuk, Fried & Walker, 2004; Murphy, 1999; Bruce, Buck & Main, 2005) compensation related literature has grown at a pace rivalled only by the growth of compensation itself and a whole review on the topic would be cumbersome for the average reader. To bypass this limit, and to understand why compensation analysis is beneficial and realize why analysing directors' pay one should go beyond a mere evaluation of the amount perceived, in the first section it is summarized the theoretical background in which compensation is designed. Second section explains why compensation is necessary as driver of directors' behaviour. Third section describes instead theoretical and practical issues when designing directors' compensation. Finally, in the last section underlines how scholars might have undervalued some theoretical factors in compensation analysis and how this underestimation led to two possible avenues of research.

Agency problem and the role of compensation

Enhanced complexity and the necessity to have special knowledge in business activity have been some of the reasons that led to the appearance of a typical phenomenon of modern companies: the separation between ownership and control (Berle & Means, 1932). Property-rights pulverization, diminishing the incidence of quote possessed by each shareholder with respect to the total equity, reduced the effective possibility to have quotas of capital that allow an exclusive and secure control of business activities. By assuming that directors might have different purposes not always consistent with all, or a part of, the shareholders that nominated them, it arises the possibility of conflicts in the

relationship between the former and the ownership-right possessors (Jensen & Meckling, 1976). Such conflicts all have the qualities of what is known as "agency problem", namely a situation in which the welfare of one subject, the principal, depends upon actions taken by another one, the agent. It is relevant therefore regulating the relationship through the adoption of the agency contract that is not only necessary where multiple principals have to run the company, but also fundamental if principals want to avoid the coordination costs, which would inhibit their ability to engage in collective action (Jensen & Meckling, 1976). However, "complete" contracts can hardly be made, since only by taking into account all the relevant information and contingent verifiable variables would make it possible to specify each party's obligations in every conceivable eventuality (Holmström and Tirole, 1989). Directors' compensation, together with monitoring and bonding directors' actions, is one of the mechanisms that principals can use to optimize the agency contract (Milgrom & Roberts, 1992).

Extrinsic incentives and intrinsic motivation

Historically compensation has been recognized as one of the necessary links when delegation of activities is involved, such as in firms in which ownership and control does not rely on the same individual. In Smith's "Wealth of Nations" (1776) it his highlighted how directors of large companies, being the managers of other people's money rather than of their own, could not behave with the same "anxious vigilance" with which the partners in a private company frequently watch over their own investment. Since Maslow (1954)'s postulation, academics recognized that there is a general pattern of needs recognition and satisfaction that people follow in (generally) the same sequence. The so-known Maslow's hierarchy of needs often illustrated as a pyramid, with the survival needs at the bottom and the self-actualization needs at the top. However, individuals often have problems consistently articulating what they want and might "climb" the pyramid even if low-level needs are not completely satisfied. In the same way corporate directors, differently to their executive counterparts, might deal with similar situations valuing the intrinsic rewards by serving at well-known public companies instead of the pecuniary compensation received from the role they play. A case in point is the landmark study of Mace (1971), which noticed how directors did not accept board positions for the income, but for the opportunity to learn how other companies operated and for the prestige derived from identification with other impressive names. Similar results were reached by Lorsch and MacIver (1989) which stated that directors joined the board to have the opportunity to

learn rather than the compensation itself. Therefore, it would be foolish not to recognize the role of intrinsic in motivating individual behaviour. Nevertheless individuals, at the very minimum, want to be rewarded for their work, even if they are not primarily interested in monetary compensation, as it reflects the opportunity cost of their time spent in a determinate job (Cordeiro, Veliyath & Eramus, 2000). In addition, although compensation might not be a real factor of motivation, it represents the minimum level with which individuals can satisfy their primary needs before "climbing" to higher-level needs. Therefore, when scholars want to look more carefully at individuals' behaviour, extrinsic incentives, such as compensation, become the central focus of the analysis and are predominant over other kind of rewards (Clark & Wilson, 1961; Baker, Jensen & Murphy, 1988).

Moreover, shareholders, the market, and directors themselves are paying attention to the message sent by the compensation and organizations must work to ensure that this message conveys a commitment to the health of the company and the value of its stock (Brown, 2007).

At the same time, compensation design is a minefield since several issues, such as attracting and retaining high quality directors at the lowest possible cost, must be considered (Milgrom & Roberts, 1992). Therefore, compensation design must deal with several problems and despite its universal objective, i.e. to create shareholder value[1], there is not such a universal formula for creating shareholder value through compensation (Holmström, 1979).

Since delegation of activities in business require time and directors must invest resources in order to improve their skills and talent, a first step of compensation design would be a direct response to first-level needs highlighted by Maslow. Therefore, a first component of the compensation plan is needed, namely the salary. In addition, the more the director is talented, the more the market labour will consider them as a valuable and scarce resource (Fama & Jensen, 1983). Hence, it is reasonable that companies will compete to acquire the most talented directors who will have a higher payoff than their less talented

[1] It is worth to note that scholars (e.g. Donaldson & Davis, 1994; Pound, 1992 & 1993; Hawley & Williams, 1996; Keasey, Thompson & Wright, 1997; Jensen, 2001) raised the question about what is, or should be, the actual purpose of corporate governance. In short, in contrast with the shareholder perspective, of which agency theory can be considered as an embedded theoretical framework, there are several theoretical perspectives that can be linked to another perspective, namely the stakeholder perspective. At the base of this perspective, and the theories embedded in it (e.g.) there is the assumption that corporate governance, and its mechanisms, are "too important to be left to shareholders" (Sheridan & Kendall, 1992). Therefore, companies must focus on the balance of interests of a wider group than the one composed by them. By doing so, stakeholders and shareholders may favor different solutions to the agency problem resulting in different corporate governance structures (Mallin, 2010).

competitors (Murphy & Zabojnik, 2004). However, besides dealing with cost constraints, independently to the amount awarded to directors, compensation design must also cope with two other problems: asymmetry of information and unobservability of directors' actions.

Theoretical principles in compensation design and (non)optimal solutions

Information asymmetry is one of the pillars on which agency relationship is built. As noticed above, there is a good reason to believe, that directors will not always act in the best interest of the principal driven by opportunistic behaviour[2] (Jensen & Meckling, 1976). Hence, shareholders will be tempted monitoring directors' day-to-day activities. However, information asymmetry and insufficient expertise will hamper this solution and since shareholders are not able to know the performance of directors, they cannot verify if they behaved appropriately (Eisenhardt, 1989). Therefore, in non-programmable jobs, such as director's activities, the full observation of agent's actions and performance by the principal is, generally, either impossible or prohibitively costly (Holmström, 1979).

In designing and evaluating director's compensation, a pivotal role is played by the informativeness principle according to which, by evaluating agent's outcome, principal must consider all the information that minimize the error on the esteem of the agent's outcome and exclude all those performance measures that increase the error with which effort is estimated (Milgrom & Roberts, 1992). In a nutshell, the shareholders should be able to measure performance indicators that are directly affected by agent's actions and not altered by external factors or chance. Unfortunately, directors' work is often constituted by a plurality of activities, usually classified into monitor and advisor of the board of directors on behalf of shareholders (Fama & Jensen, 1983). Therefore, when designing compensation one should also consider a second principle, namely the equal compensation principle, according to which, when the agent must allocate their time on more than one activity, and it is not possible to disentangle the time dedicated to each activity, the marginal rate of return to the agent from the time spent in each of the activities must be equal (Milgrom & Roberts, 1992). Designing compensation to

[2] Opportunistic behavior, here, is defined as the pursuit by a subject of its own egoistic purposes with cunning and, when necessary, even deception, that can rise before and after the stipulation of the agency contract. Pre-contractual opportunism, known as adverse selection, is relative to the ensemble of opportunistic behaviors that a subject can make before or at the moment of the stipulation of the agency contract, in order to deceive another subject, leveraging on the asymmetry of information existing between the two parts, referring to its intentions and future behaviors. The second one instead, known as the moral hazard, is constituted by all opportunistic behaviors made after the stipulation of the contract and refer to the decision to take advantage of the incompleteness of information or incapacity of other subjects to verify its work in an effective way (Williamson, 1985).

emphasize one activity's performance (e.g. monitoring) may come at the expense of the other (e.g. advising) because these two primary roles compete for directors' time and, in the worst scenario, directors may not dedicate any time to the activity with lowest marginal return established in the contract.

Because of the problem abovementioned, it is useful to introduce, in addition with the base salary, a second component, namely the incentive, that is linked with directors' performance. In this way, compensation not only serves as a proxy of individual performance, but its design will also lead directors to make decisions that serve shareholders' interests, by rewarding (sanctioning) in case of achievement (not achievement) of predetermined objectives. By introducing incentives, however, not only compensation links directors and shareholders' wealth, but it also transfers part of firm's risk from shareholders to directors. Differently to shareholders, directors cannot diversify their portfolio, since their intellectual capital, which constitutes their main source of income, is mainly invested in the firm in which they work (Fama & Jensen, 1983). A bad outcome of firm's performance therefore will have a completely different weight, in welfare terms, from shareholders to directors. The latters, indeed will have more negative consequences than shareholders since they will have to cope not only with the lack of a missed premium, but also with a non-strictly pecuniary cost that will affect their reputation and lead their main source of income in the future (Fama, 1980). Hence, it is appropriate to establish an adequate trade-off between the necessity of risk-neutral shareholders and risk-adverse directors.

According to Jensen & Meckling (1976)'s perspective, even though the best contract can never achieved and agency costs cannot be completely eliminated, a second-best solution will always be achieved. Although Jensen & Meckling (1976) offered a convincing depiction of how corporate governance mechanisms might solve the agency problem, in practice the solution might be far than thought. As already observed by Berle & Means (1932) while in office, top corporate executives have almost complete discretion in management. Following this approach, some scholars pointed out how the perspective encompassed in the original postulation proposed by Jensen & Meckling (1976), namely optimal contracting, and the corporate governance mechanisms necessary for its functioning, are not completely effective as suggested by previous literature (e.g. Murphy, 1999). On this point, scholars highlighted how not only executives, but also those directors without executive powers might wield discretion into the design of compensation contracts (Bebchuk, Fried & Walker, 2002). Therefore, another

perspective, namely the managerial power approach, largely evolved as researchers, perhaps beginning with Jensen and Murphy (1990) and Yermack (1995), uncovered anomalies seemingly inconsistent with optimal contracts. In order to understand how the presence of such anomalies, it is thus useful to make a recap of the mechanisms that, according to optimal contracting approach, are essential to obtain a compensation contract that minimizes agency costs: arm's length model of the board, the power of market forces and the shareholder's power.

According to the arm's length model, optimal contracting approach suggests that boards select the compensation arrangement that maximizes shareholders value. In practice however, beside the claimed independence of all the corporate governance actors involved in the mechanism (e.g. remuneration committee members) there are several reasons to be sceptical that the process of setting board compensation approximates the arm's length ideal (Bebchuk, Fried & Walker, 2002). Empirical evidence on this highlighted this problem on the timing of CEO option awards that tends to precede immediately favourable movements in company stock prices or the release of bad news prior to the grant date of options in order to reduce the strike price (Yermack, 1997). Alternatively, Morse, Nanda & Seru (2011) highlighted also how powerful CEOs induce boards to shift weight on performance measures toward the better performing measures (i.e. rigging incentive pay). In addition, managers influence the appointment of independent directors, which in many cases enables them to block the appointment of directors who are likely to try to bargain with the managers at arm's length (Bebchuk, Fried & Walker, 2002). Jensen (1993) referred to this problem highlighting how the board culture sometimes is more toward a great emphasis on politeness and courtesy rather than truth and frankness. Directors with a potential conflict of interest, such as those who have a significant business relationship with the company, a family relationship with corporate insiders, or interlocking board memberships with the CEO, may not act in a truly independent manner (Yermack, 2004). In such a climate, phenomenon as "mutual back scratching" might happen in the boardroom at the expenses of shareholders (Brick, Palmon & Wald, 2006). Directors could collude with corporate insiders, i.e. a sub-set of shareholders (e.g., the controlling shareholder) or the executive directors, and help those insiders in pursing their own interests rather those of shareholders. In such cases, the managerial power perspective suggests that directors who provide generosity to the corporate insiders find the latter reciprocating (Bebchuk et al., 2002). Consistently with this, Vafeas (2003) noticed that tenured directors are almost twice as likely to occupy a 'management-

affiliated' profession compared to the rest, and that they are also more likely to staff the firm's nominating and compensation committees.

Following optimal contracting approach, when arm's length is jeopardized executives are constrained by market forces to select the compensation arrangement that best serves shareholder interests. According to Fama (1980) stock prices summarize the implications of internal decision for current and future cash flows and have a direct effect on executives' compensation. In addition, in the stock market alternative managerial teams compete for the rights to manage corporate resources (Jensen & Ruback, 1983). Therefore, market competition limits the presence of inefficient activities by boards. In the market for corporate control companies whose share price drops should become more vulnerable to a hostile takeover, which would likely cause the executives to lose their positions, pay, and perquisites. However, as noticed by Bebchuk et al. (2002) takeovers control transactions are very costly and useful only as a response to substantial performance shortfalls. In addition, these mechanisms are also slowed in other institutional contexts where corporate insiders' power is enforce through other corporate governance mechanisms. In particular, in such contexts where ownership is concentrated, and "certainty of control is favoured at the expenses of shareholders' protection" (Bianchi, Bianco & Enriques, 1997) the effectiveness of the abovementioned corporate governance mechanisms is hampered by control structure and other instruments adopted by corporate insiders (Bebchuk, Kraakman & Triantis, 2000; Bianchi & Bianco, 2006).

Finally, as an alternative (or complementary) mechanism shareholders can use their rights to block pay arrangements that are not optimal for shareholders, and forcing directors to adopt arrangements that maximize shareholder value. However, none of the mechanisms provided to shareholders has revealed to be highly effective (Bebchuk et al. 2002).

Limits on current literature and future avenues of research

Contingent factors and independent non-executive directors. In spite of the pivotal role played by compensation and the recognized importance of independent non-executive directors (Fama & Jensen, 1983), hereafter INEDs, compensation's literature related to this particular corporate governance mechanism did not soar as executive's one (e.g. Murphy, 1999). On the contrary, scholars labelled it as an enigma (e.g. Shen, 2005; Brown, 2007; Hahn & Lasfer, 2011; Magnan, St-Onge & Gélinas, 2010) and related studies mainly focused on a single, generally Anglo-American, institutional setting leading to qualitatively similar results. (e.g., Boyd, 1996; Cordeiro, Veliyath & Eramus,

2000; Yermack, 2004; Adams & Ferreira, 2008; Bugeja et al., 2016; Goh and Gupta, 2016). As noted by prior studies the adoption of the theoretical framework proposed by the agency theory, without the consideration of the contingency factors in corporate governance relationships, results into a depiction of an incomplete picture and hence suffers from unobserved heterogeneity and miss-specification (Filatotchev & Allcock, 2010; Wiseman, Cuevas-Rodrìguez & Gomez-Mejia, 2011; Aguilera, Desender, Bednar & Lee, 2013; Aguilera, Desender, Bednar & Lee, 2015; Schiehll & Castro Martins, 2016). Therefore, analysing within the conceptual framework of agency theory, prior literature on this topic could not examine the effect of higher-level contingent factors (i.e. institutional factors) and their effect on INED compensation due to the similarities in the institutional contexts analysed (Weimer & Pape, 1999).

For this reason, I will examine the compensation of INEDs operating in non-financial listed companies composing the Standard & Poor's 500 and the Eurostoxx600. By doing so, I contribute to the scant literature stream on comparative corporate governance that examine the compensation of INEDs in different institutional settings (Mallin, Melis & Gaia, 2011). Therefore, by analysing separately level-specific factors (i.e. individual, firm and country) I will highlight how the role performed by INEDs in several institutional settings is rewarded by firms. In addition, from a theoretical point of view, I question how such level-specific factors mould, separately and jointly, the compensation received by this debated corporate governance mechanism in different institutional settings.

Disentangling monitor and advisory functions. In the case of non-executive directors, given the fact that they are expected to act as monitors of and advisors to the board on behalf of shareholders (Fama & Jensen, 1983), prior literature (e.g. Hahn &Lasfer, 2011; Andreas et al., 2012; Mallin et al., 2015; Goh & Gupta, 2016) debated on the possibility of disentangling the different effect on pay by each of the roles played by this corporate governance mechanism. However, none of prior studies could disentangle the effect that the activities performed by non-executive directors, i.e. advisory and monitoring, had on their compensation.

In order to fill this gap, I will conduct a study about the compensation of a specific corporate governance mechanism, present in the Italian traditional board structure, that act only as a monitor of the board of directors, namely the board of statutory auditors. Similarly to other corporate governance mechanisms, such as independent non-executive directors, firm's outcomes of statutory auditor's performance are not observable by shareholders due to information and expertise asymmetries (Melis, 2004). However,

differently to other corporate governance mechanisms the members of the board of statutory auditors serve as pure monitors at a board-level. Hence, studying the determinants of this particular corporate governance mechanism I isolate the determinants of the compensation for the monitoring function, contributing to understand how shareholders reward monitoring responsibilities at board-level.

By doing so, I will contribute to prior literature studying a corporate governance mechanism that re-creates a principal-supervisor-agent structure (e.g., Faure-Grimaud, Laffont & Martimort, 2003; Kofman & Lawarrée, 1993; Tirole 1986), in a context, such as the Italian one, in which the risk of collusion is higher than elsewhere (e.g. La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1997; Melis, 2000; Volpin, 2002; Zattoni, 1999). On the other hand, I will highlight whether and how the two perspectives encompassed in the agency framework can co-exist not only at an aggregate-level (e.g., at country-level), as demonstrated by prior literature (Bebchuk et al., 2002), but also at firm-level as well as at the individual-level.

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Compensation and contingency factors
Evidence from independent non-executive directors

Introduction

Board of directors has been the subject of extensive research and independent directors (hereafter INEDs) constitute a conspicuous object of academic debate. On the one hand, there is a continued controversy about the practical relevance of INEDs and their effects on board outcomes and firm's performance (Bhagat & Black, 2001; Bhagat & Bolton, 2008; Coles, Daniel & Naveen, 2008; Dalton, Daily, Ellstrand & Johnson, 1998). On the other hand, there is a commonly held opinion, among corporate governance scholars and practitioners, that increasing the number of non-executive directors may have beneficial effects on board activities. Therefore, the introduction of INEDs on the board of directors is still nowadays a recommended good corporate governance practice worldwide (Cuomo, Mallin & Zattoni, 2016; Zattoni & Cuomo, 2010).

In spite of the argument that candidates could be attracted to INEDs positions for other than pecuniary reasons (Fama & Jensen, 1983; Mace, 1971; Lorsch & MacIver, 1989), empirical evidence has shown that compensation is an essential factor for independent directors (Adams & Ferreira, 2008; Cert, Dalton, Dalton & Lester, 2008; Mallin, Melis & Gaia, 2015). The underlying idea is that the structure and determinants of the compensation of these individuals can be a proxy of the quality and effectiveness of their role performed at board-level (e.g. Boyd, 1996; Cordeiro et al., 2000; Adams & Ferreira, 2008). On the one hand, INED appointment brings reputational benefits and increase career perspectives. On the other hand, compensation represents the outcome of the balance of individuals' input brought to a job (Mallin et al., 2015).

Previous research defined INEDs compensation as an 'enigma' (Hahn & Lasfer, 2011; Magnan, St-Onge & Gélinas, 2010), regarding both the amount and the design (Shen, 2005; Brown, 2007; Magnan et al., 2010). The limited existing empirical studies have mainly focused on a single - generally Anglo-American - institutional setting (e.g., Boyd, 1996; Cordeiro, Veliyath & Eramus, 2000; Yermack, 2004; Adams & Ferreira, 2008; Bugeja et al., 2016; Goh & Gupta, 2016). Existing research has also largely focused on firm-specific determinants, such as firm size (Adams & Ferreira, 2008; Brick, Palmon, & Wald, 2006; Cordeiro et al., 2000; Hempel & Fay, 1994), growth and investment opportunities (Linn & Park, 2005) or task complexity (Cordeiro et al., 2000). Compared

to executive compensation' research, only recently studies considered director-specific determinants (e.g. Adams & Ferreira, 2008; Horton, Millo & Serafeim, 2012; Goh & Gupta, 2016; Bugeja et al., 2016).

Although previous literature (Mace, 1971; Lorsch & MacIver, 1989) suggested that many executives seek non-executive position for non-pecuniary reasons, recent findings assessed that compensation is pivotal on motivating directors' behaviour (Adams & Ferreira, 2008). Despite the availability on data about compensation among all board members, INEDs compensation's literature did not soar as executive's one. This gap is somewhat curious, for several reasons. In certain institutional contexts (e.g. US) pay per director rose by more than 50% compared with an increase of 24% in CEO compensation in light of heavy new regulatory requirements (i.e. Sarbanes-Oxley Act) (Linck, Netter & Yang, 2008). In addition, previous studies pointed out how INEDs compensation reached the same magnitude of executive counterparts (Boyd, 1996; Brick et al., 2006; Ferris, Jagannathan, & Pritchard, 2003; Fich & Shivdasani, 2006; Goh & Gupta, 2016), but also because the aggregate INEDs compensation is often higher than CEO pay (Bugeja, Fohn & Matolcsy, 2016). Moreover, beside pecuniary costs, by holding several non-executive positions, per-capita INEDs combined remuneration may be the outcome of a low devotion of time on boards (Ferris, Jagannathan, & Pritchard, 200; Fich & Shivdasani, 2006, Faleye et al., 2011).

To the best of my knowledge, only Mallin et al. (2015) studied the INED's compensation determinants considering different institutional contexts, namely Italy and UK. By analysing the compensation of 5585 INEDs serving on non-financial listed companies composing the Standard & Poor's 500 and the Eurostoxx600, our study contributes new evidence on this research stream by highlighting how firms reward the role performed by INEDs in several institutional settings. By adopting an institutional based approach of agency theory, this study also contributes to the literature on INEDs compensation consistent with suggestions of most recent literature on comparative corporate governance (Aguilera, Desender, Bednar & Lee, 2015; Schiehll & Castro Martins, 2016). Therefore, in addition to director and firm-level characteristics' in this study are included contextual factors (e.g. country-level) that are specific of the institutional setting in which the agency conflict analysed is embedded. This allows us to examine whether, and how, level-specific factors shape the corporate governance mechanism analysed in different contexts

even if the agency problem is the same (Wiseman et al., 2012; Van Essen, Heugens, Hotten & van Hoosterhout, 2012).

On a theoretical point of view, by investigating INED's compensation this study contributes to the scant literature about INED's characteristics as relevant factors of compensation determinants in non-Anglo-Saxon institutional contexts. Moreover, analysing several institutional settings, this study extends prior literature that mainly focused on one institutional setting and investigate whether agency theory can be applied to very different contexts (e.g., Bowe, Filatotchev, & Marshall, 2010). In addition, by availing of the heterogeneity of the institutional settings in our sample, our study analyse whether and how the agency problem, and its solution, is shaped by specific social factors that are typical of the institutional setting in which the agency relationship is embedded (Wiseman et al., 2012).

This study has important practical implications. Our results, on the one hand allow practitioners to detect which are the factors that affect INEDs compensation. On the other hand, institutions can avail our study to properly identify which are the determinants of INEDs compensation in order to develop in the future more effective rules and codes of best practice. In particular, our results warn policymakers to be cautious on the emission of specific corporate governance guidelines or regulations due to their effects on compensation design and effectiveness.

The remainder of the article is structured as follows. The next section covers the literature review, conceptual framework and the development of the hypotheses. In the third section, research methodology is outlined and is followed by the data analysis. The empirical findings are reported in section four. Key findings, theoretical and policymaking implications and limitations of the study are discussed in section five. Concluding remarks are presented in the final section.

Literature review and conceptual framework

Although board compensation has been object of debate among academics and created public uproar, research on compensation of governance bodies without executive functions is relatively scarce compared to those of executives, and in particular the CEO (Murphy & Zábojník,2004; Brick et al., 2006; Fernandes et al., 2013; Van Essen et al., 2015). Previous studies, have however some common characteristics being mainly descriptive (e.g., Lazar, Metzner, Rapp & Wolff, 2014; Bugeja, Fohn & Matolcsy, 2016)

or by adopting the conceptual framework provided by agency theory (e.g., Hempel & Fay, 1994; Boyd, 1996; Cordeiro et al., 2000; Adams & Ferreira, 2008; Mallin et al., 2015; Goh & Gupta, 2016).

Barring some notable exceptions there is very little systematic evidence of what determines INED compensation. Hempel & Fay (1994) analysed board compensation and their findings highlighted how it is related to the number of meetings and not with firm performance. Boyd (1996), analysing director and firm-level determinants, reported that, beside firm size, director stockholdings and resource richness were significantly related to director compensation. However, both studies focused on a single institutional context (i.e. US) and narrowed their analysis on cash compensation. By exploiting this gap, Cordeiro et al. (2000) analysed the total director compensation (i.e. including stock-based compensation) of US listed firms finding, however, similar results.

In non-US institutional contexts, prior studies (Marchetti & Stefanelli; 2009; Goh & Gupta; 2016) found that, characteristics of director's profile (i.e. age, role and responsibility, meeting activities and length of service), are relevant determinants of compensation. However, being based on UK, these studies may have found similar determinants given the similarity between UK and US institutional settings (Shleifer & Vishny, 1997; Weimer & Pape, 1999).

To our knowledge, only two other studies analysed the compensation of non-executive directors in different institutional settings. Andreas et al. (2012) found that directors operating in German listed firms are paid in a way that provides incentives to monitor executives. In their study, compensation is associated with firm's characteristics, such as size, capital structure and corporate performance. Their results highlight also that the average compensation is rather low (€38,000), and performance-based compensation accounts less than half (38%) of the of average compensation package. On the other hand Bugeja et al. (2016), examining the determinants of non-executive directors serving in Australian firms, found that director compensation is associated with director's characteristics (e.g. number of director board seats and committees involvement) and firm-specific determinants (e.g. firm size and number of meetings).

Only Mallin et al. (2015) compared the remuneration of INEDs in two different institutional settings, namely Italy and UK. Their findings highlighted that independent directors' pay is not based upon their actual performance or firm outcomes. Rather,

similarly to abovementioned literature, firms rely on measures of effort and responsibilities that are observable to shareholders (e.g., committee membership, board meetings). In addition, although analysing between two different institutional contexts that can be characterized as opposite ends of a spectrum in terms of their corporate governance mechanisms, they did not directly analyse the effects of higher-level factors (e.g. country-level determinants) that might affect INEDs compensation.

Agency theory of the firm suggests that corporate governance's aim is to reduce conflicts of interest among different actors involved in corporate organizations (Fama & Jensen, 1983; Jensen & Meckling, 1976). It is therefore necessary to redistribute rights and responsibilities, and the board of directors is one of the centrepieces of corporate governance mechanisms (Aguilera & Jackson, 2003; Aguilera, 2005). Following the logic of agency theory, INEDs' compensation is an important issue given the potential for agency problems between board of directors and shareholders (Bebchuk et al., 2002; Certo et al., 2008; Andreas et al, 2012). Despite it has already been criticized (Bruce et al., 2005; Davis et al., 1997; Lubatkin et al., 2007), empirical research has been rooted on agency theory that remains the most adopted theoretical framework in the previous academic literature (e.g. Boyd, Franco Santos & Shen, 2012; Cuomo, Mallin & Zattoni, 2016; Schiehll & Castro Martins, 2016). Some scholars argued its under-contextualized nature, and hence its inability to accurately compare and explain the diversity of corporate governance practices across different institutional contexts (e.g., Aguilera & Jackson, 2003; Van Essen, Heugens, Otten, & Van Oosterhout, 2012). Therefore, while agency problems (such as information asymmetry, conflicts of interest, and opportunistic agent's behaviour) are universal, their explicit manifestation and their solutions may vary depending on institutional context (Wiseman et al., 2012). Agency contracts are socially embedded such that differences in the institutional contexts surrounding the principal-agent relation can affect the form of governance that is used (Wiseman et al., 2012). Building on strategic governance and institutional analysis, a number of studies (e.g., Aguilera et al., 2008; Aguilera & Desender, 2012; Filatotchev, Toms, & Wright, 2006) proposed that effective corporate governance is contingent upon the alignment of interdependent organizational and environmental characteristics. Aguilera and Jackson (2005) on this point argued that corporate governance is most often in a universalistic fashion linked to a very specific micro-economic or managerial problem setting, that neglects the environment (e.g. institutional, legal, and cultural) in which organizations are

embedded. In order to bypass these limits, comparative studies must go look in a contextualized way at the underlying characteristics and the ensemble of factors in which corporate governance is called to operate. A conceptual framework that incorporates an institutional perspective, which takes into account the distinct contexts in which the phenomenon under analysis is embedded is, therefore, desirable (Murphy, 2013; Mallin et al., 2015; Sur, Cordeiro & Magnan, 2015; Van Essen et al., 2015).

Hypotheses' development

Efforts and responsibilities of INEDs

INEDs are expected to fulfil a variety of activities, i.e. monitoring and advisory functions, while sitting on the board of directors (Fama & Jensen, 1983). However, a direct supervision of INED work, similarly to executives (if not more), is therefore difficult or costly for shareholders. Beside the unlikely professional expertise of shareholders, directors have an information advantage over shareholders about the outcomes of their actions. As highlighted by Epstein (1985), it is unlikely that any single small shareholder will supervise the firm when the gains from that supervision must be shared with all the shareholders, none of whom contributed to the cost of that supervision. Hence, when dealing with non-programmable jobs, such as INED's one, individuals are likely to write down more efficient contracts with payoffs that are based on outcomes that the principals can observe (Holmström, 1979). In addition, those outcomes that can be measured more precisely and unequivocally can be expected to have greater influence over the distribution of rewards (Gomez-Mejia & Balkin, 1992). Shareholders are also interested on determining INEDs' compensation on the basis of their effort and responsibilities because firms that fail to do so would find it difficult to attract and retain talented directors (Cordeiro et al., 2000; Hempel & Fay, 1994). In the same vein, it is in the interest of INEDs to maintain an equilibrium between the inputs that they bring to a job and the outcomes they receive from it (Mallin et al., 2015). Hence, although INEDs compensation may be set for a group of individuals as a whole rather than for their unique characteristics, inter-directorial differences in remuneration may rather stem from taking on additional functions (e.g. chairing committees or committee membership) or responsibilities (e.g., Chair of the board, Lead independent directors) that are proved of requiring high commitment (Adams, Hermalin, & Weisbach, 2010; Engel et al., 2010; Marchetti & Stefanelli, 2009; Mallin et al., 2015; Bugeja et al., 2016). Likewise, exerting more effort (e.g. attending more meetings) will require INED to sacrifice their time and

will create a higher amount of work (Hempel & Fay, 1994; Cordeiro et al., 2000; Mallin et al., 2015; Bugeja et al., 2016). Hence, we expect that:

Hypothesis 1. INED's efforts and responsibilities observable by shareholders will positively influence INED's level of compensation

Experience and reputation of INEDs

While paying INEDs only for additional characteristics and responsibilities in the board of directors might reflect a "one-size-fits all" approach, firms may rely on different criteria in setting INEDs compensation. Therefore, INEDs' compensation could be based on the unique characteristics that a particular director brings to the board, such as their experience and reputation (Fama & Jensen, 1983; Zajac & Westphal, 1996). Firm-specific expertise increase effectiveness since routine activities become easier as they spend time in a single firm. In addition, as time goes by, INEDs develop greater experience and competence about the firm (Vafeas, 2003). Shareholders may therefore recognize this experience and be prone to retain, through a higher compensation, INEDs that are proved to be more effective. On the other hand, developing a good reputation in a single firm may result into additional board seats because the market may have recognized INEDs skills and knowledge in board-related activities (Fama & Jensen, 1983). Shareholders from different firms may therefore recognize additional board seats as a source from which directors have developed skills or can acquire information to challenge more effectively a wayward CEO (Fogel et al., 2014). Therefore, busy directors will be considered as pivotal figure in the board since through their social network they will have access to more market information (Fogel et al., 2014).

However, directors' busyness may be considered by shareholders as a detrimental factor on INED's curriculum. Previous studies demonstrated that the presence of busy directors was positively related to the probability of committing accounting fraud (Beasley, 1996); setting excessively high levels of CEO compensation (Core, Holthausen, & Larcker, 1999); negative firm's performance (Fich & Shivdasani, 2006). For this reason, shareholder may recognize those INEDs concurrently serving on multiple boards, as individuals who lack in devotion of significant time to their responsibilities (Faleye et al., 2011; Masulis & Mobbs, 2014).

Hence, the link between director's expertise and reputation may not be fully captured in a simple linear relation. Therefore, compensation may initially increase with increasing

board seats. This may be, among other factors, due to that the demand for the directors to serve in other boards as an independent certification or signal of their ability (Fama & Jensen, 1983). Once passed this initial phase, firms may not be available to have busy directors on boards as they have higher risk of being "too busy to mind the business" (Ferris, Jagannathan & Pritchard, 2003). Hence, we expect that:

Hypothesis 2. INED's expertise and reputation observable by shareholders will positively influence INED's level of compensation until a threshold-level after which their effect will be negative.

INED legal responsibility and risk at country-level

External incentives for directors, in the form of heightened legal duties, shareholder activism, and calls for more transparency in the boardroom, are acknowledged as one of the reasons of director's compensation growth to monitor management increased (Brown, 2007). Increased legal requirements not only affected the director' work, in terms of workload and personal liability, but also their demand as a scarce resource in the labour market (Linck, Netter & Yang, 2008). Examining which independent directors are held accountable helps in assessing directors' incentives to function as monitors (Brochette, Srinivasan, 2014). However, as emphasized by La Porta, Lopez-de-Silanes, Shleifer and Vishny (1997), corporate governance systems appear to differ systematically across countries. Since the corporation is itself a legal institution, where the rights and responsibilities of different parties are anchored in law, corporate governance actors have diverse sets of legally constituted boundaries that vary across countries. Therefore, differences among institutional contexts (e.g. personal liabilities and reputational risks) might influence directly INED's compensation.

Thus, an higher level of protection and a higher confidence on it by investor could expose INEDs to higher risks than those serving in the board of firms headquartered in legally-underdeveloped countries in which individuals do not lean into the power of courts in case of director misbehaviour. Therefore, those INEDs operating in countries where investor's protection is higher than elsewhere, might require a reputational-risk premium since the risk of consequences on their actions is high and may severely affect their reputation. Hence, we expect that:

Hypothesis 3: Country-level reputational risk and personal liabilities for INEDs will positively influence INED's level of compensation

INEDs compensation and soft-law pressure

Historically, directors were major shareholders and received no compensation for their services (Elson, 1996). However, by owning a substantial amount of the company's capital stock directors were enabled to act as shareholders independent from executive counterparts and were directly linked with company's business. Only after the high pulverization of share-capital, compensation forms' growth started as a tool to retain the services of top director talent (Elson, 1996). Contrarily to executives, whose pay structure is quite uniform worldwide (Conyon, Fernandes, Ferreira, Matos & Murphy, 2011) there has been an historical geographical distinction on compensation form of independent directors. Cadbury Report (1992) stated that, in order to safeguard their independence, non-executive directors should not participate in any scheme related to the performance of the company in which they serve. On the other side, although the UK has been recognized as a pioneer and trend-setter in codes of good governance (Aguilera, 2005; Cheffins, 1999) the National Association of Corporate Directors' (NACD) in United States released a cornerstone report making a series of recommendations aimed to change directors pay practices that aimed almost at the opposite of what proposed by Cadbury report some years before (NACD, 1995). Of greatest importance, the panel called upon companies to pay their directors primarily in stock, set substantial stock ownership targets for directors and, similarly to Cadbury Report, abolish all benefit programs, such as pension plans, for board members.

Since then, corporate governance practices travelled the industrialized world and governance codes (i.e. soft-law) pushed convergence towards the Anglo-Saxon model in corporate governance systems (Collier & Zaman, 2005). However, despite this clear-cut distinction between two of the most prominent corporate governance exporter, practitioners strongly believed that a relationship between directors' wealth and share price would create the perverse incentive for directors not to discourage management to 'cook the books' so as to inflate the share price and their wealth (Dalton and Daily, 2001; Frey and Osterloh, 2005). Therefore, as noticed by Zattoni and Cuomo (2010) this resulted worldwide in a large number of codes of governance explicitly discouraging companies from offering share-option pay to non-executive directors.

Contrary to other forms of regulation, corporate governance codes are "formally nonbinding and voluntary in nature, issued by multi-actor committees, flexible in their application, built on the market mechanism for evaluation of deviations and evolutionary

in nature" (Haxhi & Aguilera, 2014). Therefore, one of the problems with governance codes is that it is hard to assess whether or not organizations use them as a box-ticking corporate governance tool led by institutional pressure rather than an instrument toward economic efficiency (Aguilera & Cuervo-Cazurra, 2004).

The controversial debate about actual INEDs' role and the impossibility of measuring unequivocally their performance led to heterogeneity of compensation guidelines that are not universally accepted, but vary in different countries (Hahn & Lasfer, 2011). In addition, firms may have adopted compensation practices generally accepted in the country for institutional pressure, peer-influence or the need to conform to market expectations rather than adopt an effective instrument to reward director's behaviour. Hence, we expect that:

Hypothesis 4: Country-level best practices will influence INED's compensation design.

Research design

Sample and data gathering

Our sample is based on the firms belonging to the Standard & Poor's 500 (hereafter S&P500) and the Eurostoxx600 (hereafter Euro600) on December 31, 2014 and their independent directors as of the fiscal year ending on 2014. Starting from a total number of 1103 firms, we excluded 229 financial firms, according to Global Industry Classification Standard (GICS), due to the peculiarity of financial sector in terms of regulation and corporate governance practices (e.g., Yermack, 2004; Mallin et al., 2015; Goh & Gupta, 2016). We also excluded six stocks that were representing the same firm in different stock markets or were dual-class shares. In both cases we considered exclusively the principal (market) share with (in) which the firm was listed. We also excluded 42 firms due to data unavailability.

Despite the large emphasis on their governance role, there is no common definition of independent directors (Brudney, 1982; Hopt, 2011) and the independence definition almost varies by code and country (Gregory and Simmelkjaer, 2002). The most common approach defines independent directors as persons without a business or family relationship that may determine a conflict of interests with the corporation and the majority of codes of good governance provide a quasi-legal definition of independent directors stating the relationships with specific subjects that the director must avoid to be considered independent (Zattoni & Cuomo, 2010).

We then considered "independent" only those directors expressively classified by companies as "independent director", considering that the coverage of different countries has forbidden us to categorize common characteristics to identify a unique definition of independent director. Therefore, in our sample some directors may be considered "independent" in a specific institutional context and non-independent (i.e. grey directors) in others. To reduce the effect of outliers, we restricted our sample considering only those independent directors who were in role for at least one year and who did not renounced to their compensation. Our final sample, reported in Table 1 Panel A, resulted composed of 5585 independent directors serving in 805 firms, divided in 3293 independent directors serving on 393 firms belonging to the S&P500 and 2292 independent directors serving on 412 firms listed in the Euro600. Panel B of Table 1, breaking down sample composition according to GICS (Global Industry Classification Standard) reports that, in decreasing order, Industrials, Consumer Discretionary and Information Technology are the most represented market sectors in our sample. Panel C of Table 1, reports instead that US, UK, France and Germany are the most represented countries in our sample.

[INSERT TABLE 1 HERE]

The data for our dependent variables are gathered, i.e. the compensation received by each independent director (TOTAL COMPENSATION, DIRECT COMPENSATION INCENTIVE RATIO DUMMY and INCENTIVE RATIO), from BoardEx database. However, as noticed by prior studies (Huttenbrink et al, 2014), BoardEx coverage, especially in the European firms is relatively scarce to those in the US. Thus, for those firms whose compensation data was absent in the database we gathered data by hand from the annual reports and the proxy statements referred to fiscal year 2014. From BoardEx database, we also collected all independent variables at individual-level (CHAIR, LID, COMMITTEE MEMBERSHIPS, COMMITTEE CHAIRS, TENURE, CURRENT BOARD SEATS, AGE, GENDER and QUALIFICATIONS) and whether the firms awarded performance-based compensation to its INEDs (INCENTIVE POLICY). Data about the meetings held by the board of directors (MEETINGS) were gathered from the Asset4 database, other firm-level data were gathered from Thomson WorldScope's database (FIRM SIZE, LEVERAGE, ROA and TSR) and Bloomberg Platform (INDUSTRY). Similarly to individual-level data, when absent from database, we hand-collected firm-level data from 10-K and DEF-14 forms, for S&P500 companies, and annual reports, for Euro600 companies. ANTI-SELF-DEALING is the index developed

by Djankov, La Porta, Lopez de Silanes & Shleifer (2008). RULE OF LAW and GDP per capita were gathered from World Bank database. The code recommendation on performance-based pay (CODE RECOMMENDATION) for independent directors was gathered from the applicable corporate governance code of the country in which the firm was legally headquartered.

Dependent variables

BoardEx database classifies the annual compensation of independent directors in direct compensation and equity-linked compensation. According to BoardEx classifications, direct compensation is composed of four sub-components: salary, bonus, pension and other direct forms of compensation (e.g. attendance fees, fees for work on committees); while equity-linked compensation is composed of three sub-components: value of shares (e.g. stock awards, restricted stock grants), maximum value of long term incentive plans and the value of estimated shares under option. Despite this accurate distinction, due to the already mentioned scarce coverage of BoardEx in non-US countries (Huttenbrink et al., 2014), in our analysis, apart from TOTAL COMPENSATION that is the sum of all the sub-component abovementioned, we only consider the cash-based compensation (DIRECT COMPENSATION) and the incentive ratio (INCENTIVE RATIO). The first component includes all the four sub-components of direct compensation provided by BoardEx, except for the bonuses. This last sub-component, added to all three sub-components of equity-linked compensation, is divided by the total compensation received by the INED during the financial year to obtain the INCENTIVE RATIO. In alternative specifications, incentive ratio is also considered as a dichotomous variable (INCENTIVE RATIO DUMMY), indicating whether the INED received any performance based compensation during the financial year (1), or not (0).

Following previous literature (e.g. Andreas et al., 2012; Engel, Hayes & Wang, 2010; Farrell et al., 2008; Fernandes et al., 2013; Mallin et al., 2015), in order to reduce heteroscedasticity, our dependent variables, except the INCENTIVE RATIO and INCENTIVE RATIO DUMMY, are the natural logarithm of the compensation (TOTAL COMPENSATION and DIRECT COMPENSATION) received by INED during the financial year.

Independent variables at the individual-level

BOARD AND COMMITTEE ROLES: in order to enhance board effectiveness, companies might delegate specific functions to independent directors (Engel, Hayes & Wang, 2010; Marchetti & Stefanelli, 2009; Faleye, Hoitash & Hoitash, 2011; Mallin, Melis & Gaia, 2015; Bugeja, Fohn & Matolcsy, 2016). Additional functions (e.g. chair of the board of directors and/or membership of specific committees) demand higher commitment and responsibilities relatively to those independent directors with any of them (Adams, Hermalin, and Weisbach, 2010). Board and committees additional functions were measured as four separate variables. Two separate dummy variables indicate whether the independent director considered was chair of the board of directors (CHAIR), or lead independent director (LID). Two categorical variables were included to control for additional memberships in one (or more) board committees (COMMITTEE MEMBERSHIPS), or chairmanship in one (or more) board committees (COMMITTEE CHAIRS).

TENURE: as tenure increases, routine activities become easier for INEDs and firms might recognize their higher business knowledge and their advisory's skills by rewarding their effectiveness. A long-term director engagement may lead to greater experience, commitment, and competence, because it provides a director with important knowledge about the firm and its business environment (Vafeas, 2003). It is measured as the natural logarithm of the number of years that an independent director has been in role, at the end of the previous financial year.

CURRENT BOARD SEATS: directors with several board seats may have proved their skills to the market with a greater knowledge in board-related activities and their reputation will be recognized in their compensation package (e.g., Hogan & McPheters, 1980; Fama & Jensen, 1983; Marchetti & Stefanelli, 2009; Ferris, Jagannathan, and Pritchard, 2003; Mallin et al., 2015; Goh & Gupta, 2016). Likewise, additional board seats carry the most responsibility and status exposing the individual's ability to those inside (i.e. executives) and outside the firm (i.e. shareholders) (Adams, Hermalin, and Weisbach, 2010). In addition, shareholders may recognize current board seats as a source from which directors can acquire information to challenge more effectively a wayward CEO (Fogel et al., 2014). On the other hand, busy directors may lead to negative firm's outcomes (e.g. less CEO turnover sensitivity) (Fich and Shivdasani, 2006) and their busyness may be considered by shareholders as a distraction from board-related activities

(Faleye et al., 2010). In line with prior literature (e.g. Mallin et al., 2015; Goh & Gupta, 2016) it is estimated as the number of current positions in other board of directors held by each INED in other listed firms (i.e. excluding the position in the current board) during the financial year.

AGE: elderly independent directors are generally more experienced and knowledgeable, and thus might receive a higher compensation than their younger colleagues (e.g., Hogan & McPheters, 1980; Marchetti & Stefanelli, 2009; Mallin et al., 2015). Elder directors might have developed useful connections over the course of their careers and deeper industry knowledge, about the companies on whose boards they sit and companies might reward it. AGE can be a proxy for the independent director's general level of expertise and network. It measured as the natural logarithm of the age of the independent director at the end of the previous financial year;

GENDER: firms might recognize female directors as a valuable and scarce resource, due to the glass-ceiling effect (e.g. Arfken, Bellar & Helms, 2004; Francoeur, Labelle & Sinclair-Descagné, 2008). On the other hand gender diversity, although marginally, is likely to enhance corporate performance and reduce governance-related issues, such as directors' participation or pay-for-performance structure (Adams & Ferreira, 2004). It is measured as a dichotomous variable equal to whether the independent director considered is a female (1), or a male (0);

QUALIFICATIONS: the qualifications held can express the specific knowledge that an INED can bring to the board and firms might reward this. In line with prior literature (e.g., Hogan & McPheters, 1980; Marchetti & Stefanelli, 2009; Mallin et al., 2015), it was measured as the sum of the qualifications (e.g. Bachelor, Master, PhD, MBA etc.) possessed by the INED.

Independent variables at the firm-level

INCENTIVE POLICY: differently to executives, firms might design compensation in a uniform way for all the INEDs (Hahn & Lasfer, 2011; Boivie, Bednar & Barker, 2015). Therefore, a performance-based compensation may be given to an INED only because the firm designs INED's compensation with a "one size fit all" approach. In the case of Amazon Inc. for example, the firms justify the adoption of solely performance-based compensation (periodic stock unit awards in this specific case) without any direct compensation for their INEDs "to enhance their alignment with the interests of our long-

term shareholders". On the other hand, Enel Spa. declared that "with regard to non-executive Directors, the policy *(omissis)* provides that their remuneration consists solely of a fixed emolument. *(omissis)* Such Directors' remuneration is, therefore, composed only of the fixed component approved by the ordinary Shareholders' Meeting *(omissis)*, not being provided any variable component". It is measured as a dichotomous variable indicating whether at least one INED in the board received any kind of performance based compensation during the financial year (1) or not (0).

MEETINGS: board meetings are important sources of information for independent directors and its attendance might reflect their ability to protect shareholders' interests (Liu, Wang and Wu, 2016). Independent directors attending a higher number of meetings are expected a higher amount of work (Hempel & Fay, 1994; Cordeiro et al., 2000; Mallin et al., 2015; Bugeja et al., 2016). We measured the effort exerted by independent directors as the number of the meetings held by the board of directors during the previous financial year, expressed in natural logarithmic terms;

FIRM SIZE: larger firms are likely to be characterized by more complex activities with larger stakes involved, hence paying more their independent directors (Andreas et al., 2012; Brick et al., 2006; Mallin et al., 2015; Bugeja et al.,2016). In addition, larger firms might reward the reputational risk taken by their INEDs and the additional attention provided compared to smaller firms (Fama, 1980; Fama & Jensen, 1983; Masulis & Mobbs, 2014). It is measured as the natural logarithm of the total assets of the firm at the end of the previous financial year;

LEVERAGE: the level of debt could influence independent directors' need to advise board of directors on delicate decisions about firm business (i.e. availability of resources for risky long-term projects) or require higher monitoring activity to protect shareholders' interests (Williamson, 1988). It is measured as the ratio between the book value of debt over liabilities at the end of the previous financial year;

FIRM PERFORMANCE: companies that achieved a higher performance are likely to pay more their directors rather than those firms with lower performance (Mehran, 1995; Core et al., 1999; Mallin, Melis & Gaia, 2015). Following previous literature (Cordeiro et al., 2000; Goh & Gupta, 2016; Mallin et al., 2015), we considered both an accounting measure of performance (ROA), and a market measure of firm performance (TSR), both considered at the end of the previous financial year;

INDUSTRY: independent directors' compensation may reflect a need to conform to market expectations that could be predicted by examining peer references or industry traditions (Aguilera & Jackson, 2003; Sur et al., 2015). It is a set of dichotomous variables indicating whether the firm belongs to a specific industry, according to the Global Industry Classification Standard.

Independent variables at the country-level

ANTI-SELF-DEALING: the legal system of a specific country defines the rules and the power of institutional mechanisms created to enforce property rights (Aguilera, Desender, Bednar & Lee, 2015). In countries where enforcement of property rights is higher, INEDs are exposed to a higher likelihood of being sued and dismissed from their position. These economic and reputational risks might reflect a higher compensation for those INEDs serving in countries where enforcement is higher than other contexts where it is lower. It is measured as the index developed by Djankov et al. (2008).

RULE OF LAW: operating in countries where agents have confidence in the quality of contract enforcement, regardless to their effective execution, expose INEDs to public outrage and the possibility of higher reputational risk in case of misconduct. A higher risk of damaging public reputation in courts may lead to higher compensation for those INEDs operating in institutional contexts where individuals believe that their rights are empowered. It is measured as the index developed by Kaufman, Kraay & Mastruzzi (2016) that, ranging between -2.5 and +2.5, indicates the perceptions of the extent to which citizens have confidence in and abide by the rules of society.

CODE RECOMMENDATIONS: when designing INEDs compensation, firms may follow institutional and social contexts, rather than economic constraints (DiMaggio and Powell, 1983; Hahn & Lasfer, 2011). Therefore, this choice could reflect in the presence (or not) of particular component in the compensation package. It is measured as a categorical variable indicating whether the performance based compensation (i.e. equity and not) for INEDs is discouraged (-1), recommended (1) or (0) not mentioned in the applicable corporate governance code of the country in which the firm is headquartered.

GDP pc: compensation design must consider that all the components included are able to satisfy primary needs. In order to do so, compensation must be aligned with the contextual cost of living in which the INEDs operate. Following prior literature (e.g. Boyd, Franco Santos & Shen, 2012; Denis & Xu, 2013), it is measured as the natural

logarithm of the gross domestic product per capita of the country in which the firm is headquartered, at the end of the previous financial year.

[INSERT TABLE 2 HERE]

Data Analysis

The basis and the amounts of the compensation of each independent director's compensation were analysed by using descriptive statistics tools. In order to highlight the role of individual, firm and country-level characteristics in influencing INEDs' compensation, following previous literature (Doidge et al., 2007; Melis, Gaia & Carta, 2015) we estimated the following cross-sectional regression models with clustered errors at firm-level:

Model 1) $y_{j,i} = \alpha_0 + \beta' s_{j,i} + \varepsilon_{j,i}$

Model 2) $y_{j,i} = \alpha_0 + \delta' f_{j,i} + \varepsilon_{j,i}$

Model 3) $y_{j,i} = \alpha_0 + \gamma' c_{j,i} + \varepsilon_{j,i}$

Model 4) $y_{j,i} = \alpha_0 + \beta' s_{j,i} + \delta' f_{j,i} + \gamma' c_{j,i} + \varepsilon_{j,i}$

Model 5) $y_{j,i} = \alpha_0 + country\ dummies + \varepsilon_{j,i}$

Model 6) $y_{j,i} = \alpha_0 + \beta' s_{j,i} + \delta' f_{j,i} + country\ dummies + \varepsilon_{j,i}$

In our specifications $y_{j,i}$ is the compensation (TOTAL COMPENSATION, DIRECT COMPENSATION) or the ratio of incentive-based compensation over total compensation (INCENTIVE RATIO DUMMY, INCENTIVE RATIO) of the j-th director serving in the i-th firm; $s_{j,I}$, $f_{j,i}$, and $c_{j,i}$ are a set of individual, firm and country-level variables for director j-th serving in firm i-th. The coefficients β, δ, and γ measure the sensitivity of INEDs compensation to individual, firm and country variables.

To check for multicollinearity we verified the level of correlation among the independent variables and the variance inflation factors (VIFs).

Findings

Descriptive Statistics

The descriptive statistics for INED's compensation and its components are shown in Table 3 Panel A. The typical INED received almost $230 thousand Dollars, and their average TOTAL COMPENSATION is significantly different when he serves in a

company listed in one index rather than another ($337.18 vs. $151.04, p<0.001). Maximum values reveal also that in some cases INEDs compensation (TOTAL COMPENSATION) reached the magnitude of executive directors, similarly to what highlighted by previous literature (Ferris, Jagannathan, & Pritchard, 2003; Fich & Shivdasani, 2006; Goh & Gupta, 2016). The breakdown analysis of DIRECT COMPENSATION and PERFORMANCE BASED COMPENSATION reveals that geographic distance affects also the composition of INEDs compensation. INEDs serving on companies forming the Euro600 are slightly, but significantly, paid more in cash than their peers serving on companies forming the S&P500 500 ($141.15 vs. $109.64, p<0.001). On the other hand, INEDs serving on companies present in the S&P500 receive a higher performance-based compensation ($227.53 vs. $9.90, p<0.001). In addition, the median values on this component also reveal that PERFORMANCE-BASED COMPENSATION is not spread among those companies present in the Euro600.

Table 3 Panel B, reports the descriptive statistics for INCENTIVE RATIO used in our models. As already suggested by absolute values of PERFORMANCE-BASED COMPENSATION, the ratio is generally higher for those directors serving in companies forming the S&P500 than those in the Euro600 (0.590 vs. 0.034, p<0.001). In addition, minimum and maximum values reveal that in both indexes there are companies that reward INEDs entirely in cash or (almost) entirely with performance-based compensation.

An in depth analysis of those INEDs receiving a positive amount of performance-based compensation is reported in Table 3 Panel C. At first glance it its clear how, only a trivial fraction of INEDs serving in Euro600 companies, received performance-based compensation in their compensation package (161 INEDs with an average value of $140.87). In addition, by comparing the average INCENTIVE RATIOs, there is further confirmation of how there is significant difference even in the way of adopting performance-based composition. S&P500's firms tend not only to use more this form of compensation (3085 vs. 161) but also with an higher weight in the compensation package (0.629 vs. 0.482, p<0.001).

Table 3 Panel D reports the descriptive statistics of the incentive ratio, when measured as a dichotomous variable (INCENTIVE RATIO DUMMY). Mean values confirms here that, on average, almost the totality of INEDs serving in S&P500's firms received

performance-based compensation. At the opposite end of the spectrum, Euro600's firms tend to .pay their INEDs with cash based compensation.

[INSERT TABLE 3 HERE]

Panel A of Table 4 reports some descriptive statistics of our independent variables at individual-level. Typically INEDs do not have board roles, such as CHAIR, Lead Independent Director (LID). However, when serving in S&P500's firms, INEDs are more present as members (1.63 vs. 1.31, $p<0.001$) or chairs (0.46 vs. 0.39, $p<0.001$) in board sub-committees. This may be led by NYSE requirement that imposes the three principal board committees (audit, compensation, and nominating) of listed companies to be composed solely of independent directors; while on other countries this imposition is less strict. Likewise, tenure restrictions for INEDs, such as corporate governance codes in the old continent (e.g. Italy, UK), make S&P500's INEDs more tenured than others (7.82 vs. 5.31, $p<0.001$). In average INEDs have an additional board seats, but there are not significant differences between the two indexes (1.20 vs. 1.19). In addition, INED's serving in Euro600 firms are generally younger than S&P500's counterparts (60.0 vs. 63.9, $p<0.001$). Moreover, nonetheless median values reveals a low concentration in both indexes, women are generally more in the Euro600 firms rather than S&P500's ones (0.28 vs. 0.21, $p<0.001$). Together with abovementioned results, even this last characteristic may be led by country recommendations on gender quota inside boards from certain corporate governance codes (e.g. Italy, Norway, and UK) or regulations (e.g. Sweden). Finally, INEDs in our sample have two qualifications in average, with S&P500's INEDs being more qualified than Euro600's peers are (2.33 vs. 2.01, $p<0.001$).

Panel B of Table 4 reports the descriptive statistics of our independent variables at firm level. In general, as already underlined by descriptive statistics of the dependent variable (see INCENTIVE RATIO DUMMY distribution in Table 3 Panel D) firms adopt performance-based compensation for their INEDs when listed in the S&P500 index rather than in the Euro600 one (0.95 vs. 0.06). Generally, firms held 8 meetings during the previous financial year, with Euro600's firms having a higher formal commitment than S&P500's counterparts (8.75 vs. 7.99, $p<0.001$). Firms have, on average, $33 billion on total assets (FIRM SIZE) and a debt-to-assets ratio of 0.3 (LEVERAGE). Finally, accounting (ROA) and market measure (TSR) of firm's performance, at the end of the previous financial year, were almost 8 and 35 percent, respectively.

Panel C of Table 4 reports the descriptive statistics of our independent variables at country level. The average values reveal that our sample is composed of countries in which minority shareholders are well protected against self-dealing transactions benefiting controlling shareholders (ANTI-SELF-DEALING) and, on average, individuals have high confidence on the quality of contract enforcement (RULE OF LAW). In addition, performance-based compensation for INED is not encouraged by the majority of the corporate governance codes of the countries in our sample (CODE RECOMMENDATION) and the gross domestic product per capita is almost US$ 50'000 (GDP pc).

[INSERT TABLE 4 HERE]

Table 5 reports the correlations between all the variables used in the analysis. VIF values have been checked are low, but are not reported for brevity. It is worth to note that some "extreme" values of correlations might suggest some interesting results. In particular, by looking at the correlations between CODE RECOMMENDATION, INCENTIVE RATIO DUMMY, and FIRM INCENTIVE POLICY, we can note how higher level factors (i.e. recommendation of incentives for INEDs) influence the adoption of performance-based compensation by firms at board-level (FIRM INCENTIVE POLICY) and individual-level (INCENTIVE RATIO DUMMY). In addition, the correlation between FIRM INCENTIVE POLICY and INCENTIVE RATIO DUMMY (0.98) reveals how firms, when adopting performance-based compensation for INEDs, they do so by awarding it to all the independent members of the board rather than to someone in particular. On a methodological point of view, however these results do not represent a concern because these variables have been adopted in alternative specifications.

In addition, some counterintuitive results deserve some explanations. When looking at CHAIR and LID correlations with INCENTIVE RATIO (-0.10 and +0.10, respectively) one might argue why this additional roles behave differently. On this point, we have to consider the distribution of these roles in the sample. There are in fact more independent CHAIRS in the Euro600 than in the S&P500. The contrary is valid for LID. Therefore, the correlations here capture the abovementioned different weigh of performance-based compensation in the INEDs compensation package, rather than the INED's additional qualifications. The opposite interpretation is valid for the correlations of CHAIR and LID with DIRECT COMPENSATION, 0.10 and -0.03, respectively.

Another counterintuitive result is provided by the correlation between MEETINGS and TOTAL COMPENSATION (-0.07). Prima facie, INEDs that held more meetings are paid less. However, descriptive statistics from Table 4 Panel B underline how Euro600 firms tend to hold more meetings than their S&P500's counterparts. After considering this, the significant differences in compensation between the two indexes in favour of S&P500 firms, as reported in Table 1 Panel A, justify this somewhat curious result from correlation matrix.

Finally, RULE OF LAW is negatively correlated with TOTAL COMPENSATION (-0.06). Similarly to what happened for other variables, this may be led by geographical distribution of firms in our sample. In particular, US legal context, in the view of the index provided by Kaufman et al. (2016) is not among the top in terms of perceptions by citizens (in our sample US are almost in the middle according to the ranking of RULE OF LAW). Therefore, being US INEDs' paid relatively more than their peers; the correlation may capture this disturbance. On the contrary, US, whose wealth per capita is among the highest in the sample, operate in an institutional context where DIRECT COMPENSATION is not so diffused and its weight on the compensation package is less relevant, as highlighted in Table 3 Panel A. Therefore, the negative correlation between GDP pc and DIRECT COMPENSATION (-0.03) is justified.

[INSERT TABLE 5 HERE]

Multivariate Analysis

Table 6 reports the results of the multivariate analyses and the coefficients of level-specific determinants with INED's TOTAL COMPENSATION. Model (1), (2) and (3) refer to individual, firm and country-level determinants, respectively. Then we jointly estimate individual, firm and country-level effects considering alternative measures of the presence of performance-based compensation, whether they are included at individual-level (INCENTIVE RATIO DUMMY) in Model (4); because of a firm's policy (FIRM INCENTIVES POLICY) in Model (5) or recommended at country-level (CODE RECOMMENDATIONS) in Model (6). Model (7) and (8) respectively estimates the effect of country dummies alone and jointly with individual and firm-level characteristics.

Adjusted-R^2 is similar between Models (1) and (2) implying that analysed separately the factors at firm and individual level explains similar amount of variance. In Model (3) instead, adjusted-R^2 drops and all independent variables at country-level, except CODE

RECOMMENDATION, are not significant. When controlling for the joint effects, Models (4), (5) and (6) the adjusted-R^2 is volatile maybe indicating that there are potential factors at country level that are missing. The most interesting results however, lies in Models (7) and (8). When estimating the model with the country dummies alone, Model (7), the variance explained soars to the levels previously obtained in Models (4), (5) and (6) testing all the factors at several level of analysis. In addition, substituting our country measures with a set of country dummies, the adjusted-R^2 is higher demonstrating how the variables, adopted to estimate the differences at country-level in our sample, capture less variance than the dichotomous variables alone, as found by Doidge et al. (2007).

Beside this, it is worth to note how, although using different estimates (i.e. specific country-level variables rather than country dummies) our models - (4), (5), (6) and (8) - lead to qualitatively similar results. In particular, it is worth note how compensation is significantly, and positively, affected by additional roles in the board (CHAIR, LID) or in the committees (COMM. MEMBERSHIPS and COMM. CHAIRS) supporting H1. However, BOARD MEETINGS' lack of significance, demonstrate how INED's compensation is not significantly affected to a firm-level commitment. Rather differences in INEDs compensation stems on the observable effort exerted by each INED alone. On the other hand, the lack of significance of TENURE, and the weak significance of CURRENT BOARD SEATS, provides small evidence for H2. In particular, only in Model (6) it is highlighted the u-shape relationship between director's busyness (CURRENT BOARD SEATS) and their compensation. Then, in Model (6) only, H3 find support due to the, weak, statistical significance of the ANTI-SELF-DEALING Index.

In addition, we also find that women are paid less (GENDER), and INEDs with more qualifications (QUALIFICATIONS), or serving in large firms (FIRM SIZE), are paid significantly more.

[INSERT TABLE 6]

Given the differences on compensation design, highlighted in Table 3, we performed additional specifications on TOTAL COMPENSATION considering the INEDs serving in the two indexes separately. Table 7 reports the results of the multivariate analyses and the coefficients of level-specific determinants considering separately INED serving in S&P500 and Euro600 firms. The models reported jointly estimate individual, firm and

country-level effects considering alternative measures of the presence of performance-based compensation, whether they are included at individual-level (INCENTIVE RATIO DUMMY) in Models (1) and (2); because of a firm's policy (FIRM INCENTIVES POLICY) in Models (3) and (4) or recommended at country-level by corporate governance codes (CODE RECOMMENDATIONS) in Models (5) and (6). Model (7) and (8) respectively estimates the effect of country dummies alone and jointly with individual and firm-level characteristics.

The estimates reported highlight that, similarly to the analysis on the whole sample, additional roles in the board (CHAIR, LID) or in the committees (COMM. MEMBERSHIPS and COMM. CHAIRS) have a positive influence on the compensation received by INEDs (TOTAL COMPENSATION). However, their magnitude is different when we consider the specific institutional setting in which the INEDs is operating. In particular, from our results we highlight how the formal roles are significantly paid more to those INEDs serving in the firms composing the Euro600 than in the S&P500. However, as in the analysis of the entire sample, formal commitment at board level (MEETINGS) is not significant in any of the institutional contexts analysed, although analysed separately. Moreover, only Model (8) beta coefficients partially support H2.

Considering INEDs serving in Euro600's firms, we also find that women are significantly paid less (GENDER) with a coefficient's magnitude that is significantly higher than the one of the entire sample. In addition, when serving in larger firms (FIRM SIZE) INEDs tend to be paid significantly more if they are serving on the old continent rather than elsewhere.

[INSERT TABLE 7 HERE]

Table 8 reports the results of the multivariate analyses and the relationship between level-specific determinants and INED's DIRECT COMPENSATION. Model (1), (2) and (3) refer to individual, firm and country-level determinants, respectively. Then, since we noticed in univariate analysis (see Table 3 Panel A) a profound difference on the adoption of this compensation component between the two indexes we jointly estimate individual, firm and country-level effects analysing the whole sample in Model (4) and (7), then analysing separately the two indexes. Model (5) and (8) reports the coefficients for the INEDs serving in firms belonging to the S&P500. Model (6) and (9) report the coefficients for the Euro600. Since the correlation between INCENTIVE RATIO and

FIRM INCENTIVES POLICY demonstrated that once those firms decide to adopt performance-based compensation for their INEDs they do so for all of them, and not deciding at individual-level, we omitted the first step with the INCENTIVE RATIO together with firm and country-level determinants.

It is worth to note how the adjusted-R^2 ranges among the different specifications. In particular our models, apparently explain between five and six times more of the variance of our sample when we consider the sub-sample referred to INEDs serving in the firms composing the Euro600. This seems to challenge prior literature on compensation and it is somewhat an interesting result that not all our variables, which mainly comes from studies in US context, are able to explain the difference in this institutional setting. However, as already noticed by Magnan, St-Onge & Gelinas (2009), the limitations of the explanatory power of such variables may stem on the fact that such studies reflect another corporate governance era.

Nonetheless, analysing the sign and the magnitude of the coefficients, we can notice some interesting result. In particular, additional committee roles (COMM. MEMBERSHIPS and COMM. CHAIRS) are always significantly paid more, considering both the whole sample and the two indexes separately. However, when looking at the responsibilities at board-level, chairs of the board (CHAIR) and lead independent directors (LID) are significantly paid more than other INEDs only in the Euro600. Therefore, this provide contrasting results since they all estimate additional responsibilities, but only some of them contribute positively to DIRECT COMPENSATION. In addition, MEETINGS' coefficient is positive and significant, although marginally in the whole sample. However, when controlling for the two indexes, only US firms pay more for the formal commitment linked to the general activities of the board of directors. Hence, H1 is not completely supported.

The lack of significance of TENURE and CURRENT BOARD SEATS does not provide any support for. On the other hand, our country measures of INEDs' responsibility (ANTI-SELF-DEALING and RULE OF LAW) provide support for H3. However, directors serving in S&P500 firms, whose coefficients are represented in Model (5), are generally paid more when serving in countries which gives shareholders the perception that their interest are protected (RULE OF LAW) rather than the actual protection (ANTI-SELF-DEALING). The opposite is true instead for directors serving in Euro600, represented in Model (6).

Finally, we also find that larger firms (FIRMS SIZE) tend to pay more their directors regardless of which index they belong. Women (GENDER) tend to be paid more in the S&P500 and less in the Euro600.

[INSERT TABLE 8]

Table 9 reports the results of the multivariate analysis of the INCENTIVE RATIO determinants. Model (1) reports the estimates of the logit specification after transforming the INCENTIVE RATIO in INCENTIVE RATIO DUMMY, which is equal to 1 if the INED received any kind of performance-based compensation, 0 otherwise. Setting apart the interpretation of the logit estimation, it is immediately clear how the probability of adopting a performance-based compensation is significantly affected by higher-level factors, namely CODE RECOMMENDATION. Therefore, we provide support for H4, highlighting how some compensation components, might be adopted by firms just to adopt compensation practices generally accepted in the country rather than improving corporate effectiveness. In addition, INCENTIVE RATIO DUMMY is also significantly related with CURRENT BOARD SEATS and ANTI-SELF-DEALING. This result, might be explained by the fact US is among the countries whose shareholders' protection index is relatively high, and performance-based compensation is more frequent than elsewhere, see Table 3 Panel D. CURRENT BOARD SEATS coefficients instead, although marginally significant, seems to suggest that firms, other things equal, tend to recognize directors with additional boards seats as individuals whose ability should be tied with firm performance (Fama & Jensen, 1983). However, firms recognize that individuals holding more board seats have less time to spend serving on board activities in multiple boards (Ferris, Jagannathan & Pritchard, 2003; Faleye et al., 2010). Therefore, once reached a certain threshold firms may prefer to rely on the payment of more deterministic way of compensation in order to ensure that the competencies of such individuals remains in the board.

Models (2), (3) and (4) report the beta coefficients of individual, firm and country-level variables, respectively, on the INCENTIVE RATIO controlling only among those INEDs that has received a positive amount of performance-based compensation. Model (5) reports the coefficients of the joint effects of the variables adopted in the previous models. Model (6) adopts only country dummies and Model (7) use country dummies as alternative measure of country-level variables. Although this alternative specifications, the goodness of fit of our models does not reach qualitatively significant level similarly to

the analysis to the other component (DIRECT COMPENSATION) and the whole compensation received by INEDs (TOTAL COMPENSATION). This may signal that, although controlling for several factors at different levels, the causes which influence the amount of incentive ratio's growth might go beyond the variables adopted in this study.

However, our findings reveal that INEDs observable efforts and responsibilities at individual (COMMITTEE MEMBERSHIPS, COMMITTEE CHAIRS, CHAIR) and firm-level (MEETINGS) have a negative influence on the INCENTIVE RATIO. When controlling for country-level measure, we also find that when shareholder's protection (ANTI-SELF-DEALING) or citizens' confidence in the judicial system (RULE OF LAW) are higher, INED's compensation shift toward more "definite" way of compensation.

[INSERT TABLE 9]

Discussion

This study examined the determinants of the compensation of independent non-executive directors (INEDs) by using an international sample of INEDs serving in non-financial listed firms at international level. In particular, this study analysed the extent to which individual, firm and country-level factors are able to explain INEDs compensation in different institutional contexts. To do this, it tested whether INEDs compensation is linked with observable efforts, responsibilities, expertise and reputation measured at individual and firm level. In addition, it also tested whether INEDs compensation is affected by legal responsibilities and policy recommendations at country-level.

In spite of its recognized theoretical importance (Fama & Jensen, 1983), and although board compensation has been object of debate among academics and public, research on INEDs compensation is not well developed in previous literature such as executives' one (Murphy & Zábojník,2004; Brick et al., 2006; Fernandes et al., 2013; Van Essen et al., 2015). Prior studies (Hempel & Fay, 1994; Boyd, 1996; Cordeiro et al., 2000) highlighted the importance of the formal commitment inside the board, characteristics of director profile or firm's features as relevant factors influencing INED's compensation. However prior literature, focusing in US contexts, or similar (Marchetti & Stefanelli; 2009; Goh & Gupta; 2016; Bugeja et al, 2016) all reported qualitatively similar results due to the high degree of resemblance among institutional contexts.

This focus created a gap about the relevance of INEDs compensation's drivers in different institutional contexts and whether they differ or not. On the other hand, by focusing in a single institutional context, and by adopting the agency theory framework without considering the nature of the social mechanisms that influence the agency relationship, prior literature may have overly simplified the nature of the problem analysed (Wiseman et al., 2012). Therefore, since prior studies demonstrated how corporate governance practices across different institutional contexts (e.g., Aguilera & Jackson, 2003; Van Essen, Heugens, Otten, & Van Oosterhout, 2012), here an agency theory framework is adopted to analyse the influence that the social context has on the agency relationship.

By using a sample of 5585 INEDs serving in non-financial listed firms composing the Standard & Poor's 500 and the Eurostoxx600 indexes, this study highlighted that INEDs compensation differs significantly between the two indexes not only on its amount, but also on its design. Findings provide evidence of how INEDs serving on the Standard & Poor are generally paid more than their peers serving in Euro600 firms are. However, when breaking down the different components of the compensation package, we find that this difference is mainly due to the large diffusion of performance-based compensation component among INEDs serving on Standard & Poor's firms. Not only performance-based compensation among INEDs serving on Euro600 firms is lower in magnitude, but its adoption is also reduced to a trivial amount of INEDs. On the other hand, when looking at direct forms of compensation (i.e. salary, attendance fees) INEDs serving in the Eurostoxx's firms are significantly paid more than their counterparts. These results are in line to what highlighted by prior literature (Conyon et al. 2013; Fernandes et al., 2013) on executives compensation's differences between US and Europeans' CEOs. In particular, similarly to prior findings on executives, we find that INEDs pay is more tightly linked to performance in the S&P500 than throughout Euro600's firms. In addition, we also find that most of the difference in cross-continental INED's compensation levels is attributable to the higher use of variable components in the compensation package rather than differences in the cash-related component.

Despite the differences in amount and design, when looking at INEDs compensation determinants, our findings show how INEDs are generally paid in a similar way in the two indexes analysed. In particular, INEDs compensation increases as long as INEDs, by taking additional roles in the board, intensify their observable effort or responsibilities

(e.g. committee memberships, committee chairs, chair and lead independent directors). This evidence is in line with previous literature (e.g., Holmström, 1979; Gomez-Mejia & Balkin, 1992; Mallin et al., 2015) which predicts that in case of non-programmable jobs, it is more efficient to write a contract with outcomes that can be easily observed by the principal. On the other hand, when looking at other factors, such as expertise and reputation, findings suggest that INEDs compensation is marginally affected. Therefore, we provide partial support to the view of literature (Fama & Jensen, 1983; Zajac & Westphal, 1996) that expertise and reputation on market labour affect INEDs compensation. In addition, there is only partial evidence of how INED's busyness may negatively influence INEDs compensation, as found in prior literature (Faleye et al., 2011; Masulis & Mobbs, 2014).

By analysing the relevance of country-level determinants, this study provides significant evidence of how INEDs compensation, in particular its cash component, is influenced by the social context in which the agency relationship analysed is embedded. Our results highlight that, when operating in an institutional context where the level of protection for shareholders is higher, and shareholders acknowledge this protection through the judicial system, INEDs direct compensation tend to increase. Therefore, it is provided support to the view that a higher responsibility, which in turn leads to higher reputational risks and career concerns for INED (Fama & Jensen, 1983), positively influence the compensation received. In addition, our results provide evidence to the view that compensation represents the outcome of the balance of individuals' input brought to a job (Mallin, Melis & Gaia, 2015). Finally, when testing the effects of soft-law pressure on compensation design, findings provide support of how INEDs compensation is designed according to compensation practices generally accepted in the country rather than firm or individual characteristics. In particular, firms tend to give to their INEDs performance-based compensation only when there is an explicit suggestion in the corporate governance code to do it, rather than according to firm or INED's individual characteristics. This study therefore, provides support to the view that the evolution of forms of non-executive director compensation may be stifled simply when corporate governance guidelines are specific or bureaucratic creep (Hahn & Lasfer, 2011). In addition, when performance-based compensation is adopted it is inversely related to additional functions that involve additional individual effort (i.e. committee membership, committee chair, chair of the board). Likewise, the weight of the performance-based compensation on INEDs pay

package, tend to decrease when INEDs serve in a social context in which their actions may put at risk their reputation more easily than elsewhere.

Although evidence is supportive of some of our hypotheses, at the same time, however, there are important limitations to our approach that may open lead to future avenues of research. First, on a methodological point of view, OLS regression might not fit well for our sample because it assumes the independence between observations that in our sample might be violated. Although prior studies (e.g. Holcomb, Combs, Sirmon, & Sexton, 2010) recognized the nested nature of corporate governance data, i.e. lower level units of analysis (i.e. individual-level) are members of a higher level group (i.e. firm and country-level) alternative specifications, i.e. hierarchical linear models (Hox, 2010; Raudenbush & Bryk, 2002; Snijders & Bosker, 2012; Wertens, Pugliese & Recker, 2017), are not so widespread in literature as highlighted by Van Essen, Engelen & Carney (2013). In our specific case, due to the three-level interaction (i.e. individual, firm and country), it was not possible to assess the effective quality of the model adopted and results were unstable. As recognized by Aguinis, Gottfredson & Culpepper (2013) this may be attributed to the complexity of the model. We do believe however that, alternative specifications such as hierarchical linear modelling, by treating variance at different levels and interactions among higher and lower level units as further phenomenon to analyse rather than a nuisance to deal with such as in OLS, might be an interesting avenue of research for corporate governance scholars. Therefore, we recommend their adoption in future comparative corporate governance studies. In addition, it is worth to mention that endogeneity might be an issue and might potentially affect the results of our study since more experienced directors might self-selected to firms that offer the best compensation (i.e. reverse causality). Moreover, the heterogeneity of the sample hampered the quality of certain data, such as the number of board meetings, that may have overvalued the effects of specific coefficients on the compensation received. In addition, some variables (e.g. CEO power) resulted significant in prior literature could have not been gathered due to time constraints, creating thus a problem by omitted variable. On a theoretical point of view it is worth to note that the interpretation of some variables that we used as proxy may be ambiguous in different contexts. TENURE for example is one of the most controversial topics in corporate governance literature (e.g. Vafeas, 2003). In addition, of the expertise and the identification perspectives adopted in this study, long tenured INEDs might signal also a lack of de facto independence that could lead to a possible

collusion of INEDs and corporate insiders (Bebchuk et al., 2002). This phenomenon may be also heightened in those frameworks in which the so-known agency problem of the first type is less relevant and different factors (e.g. concentrated ownership, lower market forces) lead to the agency problem between majority and minority shareholders. In our specific case, we could not deal with the managerial power perspective because tenure itself is not sufficient to demonstrate a lack of de facto independence. Basically, it cannot be made a clear-cut distinction between tenured individuals as dear friends, mere acquaintances, enemies, or if they talk daily, every ten months, or are not on speaking terms. Therefore, we suggest future researchers to deal also with this further interpretation of the agency relationship between INEDs, executives and shareholders, once identified more contingent factors (i.e. non-business connections) that are proved to alter the de facto independence of INEDs in certain institutional contexts.

Beside its limits, this study has theoretical implications. On the one hand, by adopting an institutional based approach of agency theory, it contributes to comparative corporate governance literature by analysing how contingent factors at different levels (i.e. individual, firm and country) mould the agency relationships in different institutional contexts. On the other hand, by analysing the compensation of INEDs in different countries, this study contributes to the scant literature related to INEDs compensation that mainly focused on US context (e.g. Boyd, 1996; Yermack, 2004; Cordeiro, Veliyath & Eramus, 2000; Adams & Ferreira, 2008), similar (e.g. Bugeja et al., 2016; Goh & Gupta, 2016) and to a less extent to different ones (Mallin, Melis & Gaia, 2015). Our results, are therefore generally applicable to the great majority of comparable firms (i.e. large non-financial listed firms) legally headquartered in the countries present in our sample. At the same time, we therefore encourage researchers to deal with different institutional contexts (e.g. emerging economies, Asia) that may add further heterogeneity in terms of contingent factors at different levels (e.g. identification in the firm, legal responsibilities etc.).

On a practitioner's perspective, the results provided in this study may be beneficial because they allow highlighting what are the factors that exert more pressure in shaping INEDs compensation. Apparently, in accordance with Hahn & Lasfer (2011), a "one size fit all" approach to INED compensation's design seems to persist, at least if the two realities highlighted by the results are considered (i.e. Standard & Poor's more performance based, Eurostoxx more cash based). At the same time, this study underlines

how the evolution of forms of INED compensation may have been influenced by the pressure exerted by specific corporate governance guidelines (Hahn & Lasfer, 2011). Therefore, this study suggests policy makers to be careful on the issuance of compensation guidelines and regulations, since their dramatic impact among individuals called to operate in specific institutional contexts. In addition, by paying INEDs only in accordance with specific bureaucratic rigmaroles, without considering other contingent factors (i.e. firm and individual characteristics), could also influence the effectiveness of this already debated corporate governance mechanism.

Conclusions

This study investigated the determinants of the compensation of independent non-executive directors (INEDs) by controlling separately the influence of individual, firm and country characteristics. By using a sample of 5585 INEDs serving on non-financial listed firms composing the Standard & Poor's 500 and the Eurostoxx600, our results provide evidence of how INEDs compensation varies not only in its amount, but also in its design. In particular, this study provided evidence of how Eurostoxx's firms tend to pay their INEDs with direct compensation. On the other hand, INEDs serving on Standard & Poor's firms receive a compensation that is more performance-based. Beside this distinction, INEDs compensation determinants are generally similar and are linked with the effort and responsibilities and the reputation of the INED. On the other hand, our results provide evidence of how certain compensation component, such as performance-based compensation, are generally adopted by firms only because they are following compensation practices generally accepted in the country rather than improving corporate effectiveness. From a theoretical perspective the contribution of this study is twofold. First, it contributes to the scant prior literature on INEDs compensation and to the almost absent on cross-comparative corporate governance literature on INEDs compensation in different institutional context. Second, by analysing different countries, it avails of the heterogeneity of the institutional settings to test whether and how INEDs compensation is shaped by specific social factors that mould the agency problem analysed. Our results also offer insights to policymakers by warning them on the issuance of specific corporate governance guidelines or regulations due to their effects on compensation design and effectiveness.

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TABLE 1. Sample composition, industries and countries breakdown analysis

Panel A	**Standard & Poor's 500**	**Eurostoxx600**	**Total**
Firms on the Indexes (December 31st 2014)	**502**	**601**	**1103**
Exclusion criteria			
- Financial sector	85	144	229
- Double listing	2	4	6
- Missing data	22	20	42
- Sample restrictions	0	21	21
FINAL SAMPLE			
TOTAL FIRMS	**393**	**412**	**805**
TOTAL INEDs	**3293**	**2292**	**5585**

Panel B	**Standard & Poor's 500**		**Eurostoxx600**		**Total**	
INDUSTRY	**No**	**%**	**No**	**%**	**No**	**%**
Consumer Discretionary	80	9.94%	78	9.69%	158	19.63%
Consumer Staples	36	4.47%	44	5.47%	80	9.94%
Energy	43	5.34%	26	3.23%	69	8.57%
Health Care	50	6.21%	32	3.98%	82	10.19%
Industrials	60	7.45%	109	13.54%	169	20.99%
Information Technology	63	7.83%	26	3.23%	89	11.06%
Materials	26	3.23%	55	6.83%	81	10.06%
Telecommunications	6	0.75%	19	2.36%	25	3.11%
Utilities	29	3.60%	23	2.86%	52	6.46%
TOTAL	**393**	**48.82%**	**412**	**51.18%**	**805**	**100%**

Panel C	Standard & Poor's 500		Eurostoxx600		Total	
COUNTRY	**No**	**%**	**No**	**%**	**No**	**%**
Australia	0	0.00%	1	0.24%	1	0.12%
Austria	0	0.00%	3	0.73%	3	0.37%
Belgium	0	0.00%	9	2.18%	9	1.12%
Bermuda	1	0.25%	0	0.00%	1	0.12%
Denmark	0	0.00%	10	2.43%	10	1.24%
Finland	0	0.00%	15	3.64%	15	1.86%
France	0	0.00%	65	15.78%	65	8.07%
Germany	0	0.00%	45	10.92%	45	5.59%
Hong Kong	1	0.25%	0	0.00%	1	0.12%
Ireland	3	0.76%	11	2.67%	14	1.74%
Italy	0	0.00%	12	2.91%	12	1.49%
Jersey	0	0.00%	1	0.24%	1	0.12%
Luxembourg	0	0.00%	3	0.73%	3	0.37%
Mexico	0	0.00%	1	0.24%	1	0.12%
Netherlands	0	0.00%	20	4.85%	20	2.48%
Norway	0	0.00%	8	1.94%	8	0.99%
Portugal	0	0.00%	3	0.73%	3	0.37%
South Africa	0	0.00%	1	0.24%	1	0.12%
Spain	0	0.00%	18	4.37%	18	2.24%
Sweden	0	0.00%	30	7.28%	30	3.73%
Switzerland	3	0.76%	27	6.55%	30	3.73%
United Kingdom	4	1.02%	129	31.31%	133	16.52%
United States	381	96.95%	0	0.00%	381	47.33%
TOTAL	**393**	**48.82%**	**412**	**51.18%**	**805**	**100%**

Table 1 reports the sampling procedure and the motivations of exclusion that led to the final sample used in the analyses (**Panel A**). *Sample restrictions* refers to firms in which INEDs were in role for less than 1 year or that did not receive any compensation for their duties. **Panel B** reports the sample composition separating firms by industry while **Panel C** considers the country in which firms were legally headquartered.

TABLE 2. Variables' definitions and sources

Panel A

Variable	Definition	Source
TOTAL COMPENSATION	Is the total compensation received by the INED during the financial year, it is the sum of salary, bonus, pension and other direct forms of compensation (e.g. attendance fees, fees for work on committees), plus value of shares (e.g. stock awards, restricted stock grants), maximum value of long term incentive plans and the value of estimated shares under option.	Board Ex
DIRECT COMPENSATION	Direct compensation is the sum of salary, pension and other direct forms of compensation (e.g. attendance fees, fees for work on committees)	Board Ex
INCENTIVE RATIO	It is the ratio of the sum of bonus, value of shares (e.g. stock awards, restricted stock grants), maximum value of long term incentive plans and the value of estimated shares under option over the total compensation received by the INED during the financial year	Board Ex
INCENTIVE RATIO DUMMY	Dichotomous variable indicating if the INED received any kind of performance based compensation during the financial year (1), or not (0).	Board Ex
CHAIR	Dichotomous variable indicating if the INED is chairing the board of directors (1) or not (0)	Board Ex
LID	Dichotomous variable indicating if the INED is the lead independent director (1) or not (0)	Board Ex
COMMITTEE MEMBERSHIPS	Categorical variable indicating in how many committees has been the INED during the financial year. Chairmanship of board committees is counted as zero.	Board Ex
COMMITTEE CHAIRS	Categorical variable indicating in how many committees has been chaired by the INED during the financial year. Normal membership of board committees is counted as zero.	Board Ex
TENURE	Number of years that an INED has been serving in the board of directors of the firm.	Board Ex
CURRENT BOARD SEATS	Categorical variable indicating the number of current positions in other board of directors held by each INED in other listed firms (i.e. excluding the position in the current board) during the financial year.	Board Ex
AGE	Age of the INED at the end of the previous financial year.	Board Ex
GENDER	Dichotomous variable indicating if the statutory auditor considered is a female (1) or a male (0).	Board Ex
QUALIFICATIONS	Categorical variable indicating the qualifications (e.g. Bachelor, Master, PhD, MBA) possessed by each INED.	Board Ex

Panel B		
Variable	**Definition**	**Main source**
INCENTIVE POLICY	Dichotomous variable indicating if the firm, in which the INED served during the financial year, provided to at least 1 INED in the board any kind of performance based compensation during the financial year (1), or not (0).	Board Ex
MEETINGS	Number of meetings held by the board of directors during the previous financial year.	Asset4
FIRM SIZE	Total of assets of the firm, measured at the end of the previous financial year, in which the INED served during the financial year.	Thomson WorldScope
LEVERAGE	Ratio of debt over liabilities, measured at the end of the previous financial year, of the firm in which the INED served.	Thomson WorldScope
TSR	Ratio of market price year end, plus dividend per share, over last year market price minus 1, measured at the end of the previous financial year, of the firm in which the INED served.	Thomson WorldScope
ROA	Ratio of net income over total assets, measured at the end of the previous financial year, of the firm in which the INED served.	Thomson WorldScope
INDUSTRY	It is a set of dichotomous variables that indicate whether the firm belongs to a specific industry, according to the Global Industry Classification Standard.	Bloomberg Platform
ANTI-SELF-DEALING	It is the index developed by Djankov et al. (2008) that measures the extent to which minority shareholders are protected against self-dealing transactions benefiting controlling shareholders.	Djankov et al., 2008
RULE OF LAW	It is the index developed by Kaufman, Kraay & Mastruzzi (2016) that indicates the perceptions of the extent to which citizens have confidence in and abide by the rules of society.	WGI Project by WorldBank
CODE RECOMMENDATION	Categorical variable indicating whether the incentive based compensation for INEDs is discouraged (-1), recommended (1) or (0) not mentioned in the applicable corporate governance code of the country in which the firm is legally headquartered.	Corporate governance code
GDP pc	It is the Gross Domestic Product per capita of the country in which the firm is legally headquartered	World Bank
COUNTRY	It is a set of dichotomous variables that indicate the country in which the firm is legally headquartered.	Bloomberg Platform

Table 2 reports in **Panel A** the definition and sources of the dependent variables and independent variables individual level. **Panel B** reports the definition and sources of the independent variables at firm and country level.

TABLE 3. Total compensation received by independent non-executive directors

Panel A

INDEX	DIRECT COMPENSATION						PERFORMANCE-BASED COMPENSATION						TOTAL COMPENSATION					
	No	Mean	St. Dev.	Median	Min	Max	No	Mean	St. Dev.	Median	Min	Max	No	Mean	St. Dev.	Median	Min	Max
S&P's 500	3293	109.64	62.97	108.00	0.00	1296.00	3293	227.53	753.04	159.00	0.00	15700.00	3293	337.18	750.24	272.00	19.00	15800.00
Eurostoxx600	2292	141.15	170.73	101.86	1.00	3454.58	2292	9.90	62.40	0.00	0.00	1513.78	2292	151.04	179.94	105.70	1.00	3454.58
TOTAL	**5585**	**122.57**	**120.57**	**105.00**	**0**	**3454.58**	**5585**	**138.22**	**589.39**	**110.00**	**0**	**15700.00**	**5585**	**260.79**	**594.56**	**231.00**	**1.00**	**15800.00**

Panel B

Index	INCENTIVE RATIO					
	No	Mean	St. Dev.	Median	Min	Max
S&P's 500	3293	0.590	0.222	0.584	0.000	1.000
Eurostoxx600	2292	0.034	0.141	0.000	0.000	0.975
TOTAL	**5585**	**0.362**	**0.335**	**0.474**	**0.000**	**1.000**

Panel D	INCENTIVE RATIO DUMMY					
Index	**No**	**Mean**	**St. Dev.**	**Median**	**Min**	**Max**
S&P's 500	3293	0.937	0.243	1.000	0.000	1.000
Eurostoxx600	2292	0.070	0.256	0.000	0.000	1.000
TOTAL	**5585**	**0.581**	**0.493**	**1.000**	**0.000**	**1.000**

Panel C	INCENTIVE RATIO (POSITIVE VALUES ONLY)					
Index	**No**	**Mean**	**St. Dev.**	**Median**	**Min**	**Max**
S&P's 500	3085	0.629	0.166	0.595	0.004	1.000
Eurostoxx600	161	0.482	0.260	0.486	0.057	0.975
TOTAL	**3246**	**0.622**	**0.175**	**0.590**	**0.004**	**1.000**

Table 3 reports in **Panel A** the number of observations, mean values, standard deviations, median values, minimum and maximum values of the compensation received by each INED during the financial year. TOTAL COMPENSATION is the sum of DIRECT COMPENSATION and PERFORMANCE-BASED COMPENSATION. DIRECT COMPENSATION is composed of salary, pension and other direct forms of compensation (e.g. attendance fees, fees for work on committees). PERFORMANCE-BASED COMPENSATION is composed of value of shares (e.g. stock awards, restricted stock grants), maximum value of long term incentive plans (hereafter LTIP's), the value of estimated shares under option and bonus. All amounts are in thousands of US Dollars. **Panel B** reports the number of observations, mean values, standard deviations, median values, minimum and maximum values for the INCENTIVE RATIO, computed as PERFORMANCE-BASED COMPENSATION over TOTAL COMPENSATION received by each INED during the financial year. **Panel C** reports the number of observations, mean values, standard deviations, median values, minimum and maximum values for the INCENTIVE RATIO, only among those INEDs that received a performance based compensation during the financial year. **Panel D** reports the number of observations, mean values, standard deviations, median values, minimum and maximum values for the INCENTIVE RATIO measured as a dichotomous variable indicating if the INED received any kind of performance based compensation during the financial year (1), or not (0).

TABLE 4. Summary statistics of independent and control variables at individual, firm and country-level

	Standard & Poor's 500						Eurostoxx600						Total					
Panel A	**No**	**Mean**	**St. Dev.**	**Median**	**Min**	**Max**	**No**	**Mean**	**St. Dev.**	**Median**	**Min**	**Max**	**No**	**Mean**	**St. Dev.**	**Median**	**Min**	**Max**
CHAIR	3293	0.03	0.17	0	0	1	2292	0.07	0.25	0	0	1	5585	0.04	0.21	0	0	1
LID	3293	0.06	0.23	0	0	1	2292	0.01	0.09	0	0	1	5585	0.04	0.19	0	0	1
COMMITTEE MEMBERSHIPS	3293	1.64	0.87	2	0	6	2292	1.31	1.04	1	0	7	5585	1.50	0.96	1	0	7
COMMITTEE CHAIRS	3293	0.46	0.53	0	0	3	2292	0.40	0.57	0	0	6	5585	0.44	0.55	0	0	6
TENURE	3293	7.82	5.77	6.7	1	46.9	2292	5.31	3.73	4.4	1	31.9	5585	6.79	5.18	5.6	1	46.9
CURRENT BOARD SEATS	3293	1.20	0.35	1	0	40	2292	1.19	0.35	1	0	11	5585	1.19	0.35	1	0	40
AGE	3293	63.9	7.3	65	32	90	2292	60.0	7.8	60	31	88	5585	62.3	7.7	63	31	90
GENDER	3293	0.21	0.40	0	0	1	2292	0.28	0.45	0	0	1	5585	0.23	0.42	0	0	1
QUALIFICATIONS	3293	2.33	1.14	2	0	11	2292	2.01	1.28	2	0	11	5585	2.20	1.21	2	0	11
Panel B	**No**	**Mean**	**St. Dev.**	**Median**	**Min**	**Max**	**No**	**Mean**	**St. Dev.**	**Median**	**Min**	**Max**	**No**	**Mean**	**St. Dev.**	**Median**	**Min**	**Max**
INCENTIVE POLICY	393	0.95	0.23	1.00	0.00	1.00	412	0.06	0.23	0.00	0.00	1.00	805	0.49	0.50	0.00	0.00	1.00
MEETINGS	393	7.99	3.15	7.00	4.00	24.00	412	8.75	3.48	8.00	2.00	27.00	805	8.38	3.34	8.00	2.00	27.00
FIRM SIZE (bil. USD)	393	29.47	51.91	13.80	1.29	656.00	412	35.36	66.72	10.20	0.09	603.00	805	32.48	59.98	11.72	0.09	656.00
LEVERAGE	393	0.27	0.17	0.26	0.00	1.48	412	0.26	0.18	0.25	0.00	1.44	805	0.26	0.17	0.25	0.00	1.48
TSR (%)	393	37.55	33.11	34.64	-47.77	297.63	412	32.26	58.79	25.99	-57.19	911.21	805	34.84	48.04	28.97	-57.19	911.21
ROA (%)	393	8.55	6.01	7.41	-16.94	40.76	412	7.76	13.33	5.97	-16.44	234.42	805	8.15	10.42	6.76	-16.94	234.42

Panel C	No	Mean	St. Dev.	Median	Min	Max	No	Mean	St. Dev.	Median	Min	Max	No	Mean	St. Dev.	Median	Min	Max
ANTI-SELF-DEALING	6	1.27	1.36	0.86	0.27	4.00	20	1.18	3.26	0.42	0.18	15.00	23	1.27	3.09	0.46	0.18	15.00
RULE OF LAW	6	1.58	0.23	1.62	1.15	1.80	20	1.42	0.69	1.72	-0.57	1.98	23	1.42	0.65	1.68	-0.57	1.98
CODE RECOMMENDATION	6	0.17	0.75	0.00	-1.00	1.00	20	-0.55	0.69	-1.00	-1.00	1.00	23	-0.44	0.73	-1.00	-1.00	1.00
GDP pc (US$ th.)	6	58.95	24.30	52.75	35.35	85.75	20	51.71	26.85	50.01	6.61	113.73	23	52.65	26.13	50.50	6.91	113.73

Table 4 reports the number of observations, mean values, median values, standard deviations, minimum and maximum values of the independent variables at the individual-level (**Panel A**), firm-level variables (**Panel B**) and country-level variables (Panel C).

TABLE 5. Pearson pairwise correlation matrix of independent and control variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	TOTAL COMPENSATION	1.00																								
2	DIRECT COMPENSATION	0.06*	1.00																							
3	INCENTIVE RATIO	0.64*	-0.39*	1.00																						
4	INCENTIVE RATIO DUMMY	0.64*	-0.17*	0.92*	1.00																					
5	INCENTIVE POLICY	0.63*	-0.17*	0.90*	0.98*	1.00																				
6	COMMITTEE CHAIRS	0.15*	0.06*	0.00	0.03*	0.03*	1.00																			
7	COMMITTEE MEMBERSHIPS	0.15*	0.03	0.12*	0.15*	0.16*	-0.22*	1.00																		
8	CHAIR	0.18*	0.10*	-0.10*	-0.09*	-0.09*	0.15*	-0.14*	1.00																	
9	LID	0.13*	-0.03*	0.10*	0.11*	0.11*	0.12*	0.01	0.00	1.00																
10	TENURE	0.16*	-0.01	0.21*	0.23*	0.22*	0.17*	0.02	-0.08*	-0.09*	1.00															
11	CURRENT BOARD SEATS	0.05*	0.02	-0.10	-0.01	-0.01	0.11*	0.00	0.06*	0.02	-0.02	1.00														
12	AGE	0.22*	0.04*	0.17*	0.20*	0.20*	0.18*	0.03*	0.10*	0.11*	0.37*	0.08*	1.00													
13	GENDER	-0.13*	0.01	-0.07*	-0.08*	-0.08*	-0.10*	-0.00	-0.11*	-0.07*	-0.09*	0.01	-0.27*	1.00												
14	QUALIFICATIONS	0.13*	0.02	0.09*	0.09*	0.09*	0.09*	0.06*	0.03*	0.01	0.04*	0.19*	0.11*	0.03*	1.00											
15	MEETINGS	-0.07*	0.09*	-0.15*	-0.13*	-0.14*	0.04*	0.03*	0.04*	-0.01	-0.10*	0.02	-0.03*	0.04*	0.09*	1.00										
16	INDUSTRY	0.01	0.04*	-0.05*	-0.03*	-0.03*	0.02	0.05*	0.01	-0.01	-0.02	-0.03	0.02	-0.01	0.03*	0.11*	1.00									
17	FIRM SIZE	0.20*	0.08*	0.06*	0.10*	0.11*	-0.03*	0.09*	-0.09*	0.02	0.02	0.04*	0.07*	0.01	0.01	0.04*	0.10*	1.00								
18	LEVERAGE	-0.01	-0.02	0.01	0.04*	0.04*	0.01	0.07*	-0.01	0.00	-0.01	0.00	0.04*	0.01	0.02	0.05*	0.09*	0.11*	1.00							
19	TSR	0.06*	-0.03*	0.07*	0.05*	0.05*	0.02	0.01	0.01	0.01	-0.01	0.00	-0.01	-0.01	-0.01	0.00	-0.15*	-0.08*	-0.07*	1.00						
20	ROA	0.02	-0.01	0.05*	0.04*	0.04*	0.00	-0.00	0.02	-0.00	0.05*	0.00	-0.01	-0.01	0.02	-0.09*	-0.12*	-0.27*	-0.15*	0.04*	1.00					
21	CODE RECOMMENDATION	0.52*	-0.12*	0.70*	0.75*	0.76*	-0.02	0.07*	-0.12*	0.10*	0.23*	-0.07*	0.18*	-0.09*	0.01	-0.20*	0.01	0.21*	0.02	0.04*	-0.02	1.00				
22	ANTI-SELF-DEALING	0.12*	0.01	0.08*	0.11*	0.11*	0.05*	0.12*	-0.01	0.01	-0.02	-0.00	0.03*	-0.01	0.06*	-0.05*	-0.01	-0.06*	-0.03*	-0.01	0.04*	-0.06*	1.00			
23	RULE OF LAW	-0.06*	0.04*	-0.14*	-0.14*	-0.14*	-0.02	-0.05*	0.09*	-0.05*	-0.04*	0.02	-0.09*	0.00	-0.01	0.04*	-0.03*	-0.26*	-0.10*	-0.04*	0.08*	-0.21*	0.01	1.00		
24	GDP pc	0.21*	-0.03*	0.25*	0.26*	0.27*	-0.00	-0.05*	0.01	0.02	0.09*	0.03	0.05*	-0.04*	0.08*	0.00	-0.03	-0.13*	-0.08*	-0.04*	0.04*	0.32*	-0.11*	0.59*	1.00	
25	COUNTRY DUMMY	0.52*	-0.05*	0.51*	0.53*	0.53*	0.10*	0.22*	-0.01	0.08*	0.11*	0.08*	0.17*	-0.07*	0.22*	0.00	-0.04*	-0.11*	0.04*	0.09*	0.11*	0.34*	0.18*	0.04*	0.23*	1.00

Table 5 reports the correlations among the variables for the 5585 INEDs included in the final sample. * Significant at the 5% level.

TABLE 6. INEDs total compensation and its determinants

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
INCENTIVE RATIO DUMMY	0.906***			0.820***				
	(24.21)			(18.74)				
INCENTIVE POLICY		0.873***			0.808***			
		(22.85)			(17.87)			
CODE RECOMMENDATION			0.455***			0.405***		
			(17.14)			(14.52)		
COMMITTEE MEMBERSHIPS	0.078***			0.079***	0.080***	0.114***		0.045***
	(6.07)			(6.21)	(6.28)	(7.42)		(4.17)
COMMITTEE CHAIRS	0.129***			0.140***	0.139***	0.164***		0.114***
	(8.36)			(9.10)	(8.95)	(9.35)		(8.62)
CHAIR	0.775***			0.804***	0.808***	0.803***		0.758***
	(18.20)			(19.04)	(19.14)	(19.07)		(20.48)
LID	0.144***			0.143***	0.151***	0.183***		0.149***
	(4.01)			(4.08)	(4.22)	(4.89)		(4.38)
TENURE	-0.075			0.191	0.195	0.357		-0.088
	(-0.12)			(0.33)	(0.33)	(0.56)		(-0.15)
$TENURE^2$	0.037			-0.080	-0.078	-0.146		0.047
	(0.14)			(-0.32)	(-0.31)	(-0.52)		(0.18)
CURRENT BOARD SEATS	0.588			0.187	0.452	2.530†		-0.390
	(0.48)			(0.15)	(0.36)	(1.71)		(-0.33)
$CURRENT\ BOARD\ SEATS^2$	-0.233			-0.070	-0.184	-1.060†		0.183
	(-0.44)			(-0.13)	(-0.34)	(-1.67)		(0.36)
AGE	0.190*			0.133	0.107	0.211*		0.136†
	(2.26)			(1.63)	(1.30)	(2.40)		(1.96)
GENDER	-0.067***			-0.066***	-0.068***	-0.059**		-0.030*
	(-4.10)			(-4.14)	(-4.21)	(-3.41)		(-2.20)
QUALIFICATIONS	0.075*			0.060*	0.060*	0.110**		0.043
	(2.31)			(2.13)	(2.13)	(3.75)		(1.64)
MEETINGS		0.026		-0.026	-0.018	0.012		-0.017
		(0.45)		(-0.48)	(-0.31)	(0.20)		(-0.29)
FIRM SIZE		0.088***		0.107***	0.105***	0.084***		0.124***
		(5.73)		(6.94)	(6.76)	(4.77)		(7.68)
LEVERAGE		-0.045		-0.069	-0.064	0.051		-0.093
		(-0.49)		(-0.75)	(-0.69)	(0.51)		(-1.00)
TSR		0.001*		0.001†	0.001†	0.001†		0.000
		(1.96)		(1.85)	(1.82)	(1.94)		(0.49)
ROA		0.204		0.167	0.160	0.266		0.042
		(1.06)		(0.90)	(0.86)	(1.05)		(0.28)
ANTI-SELF-DEALING			0.226	0.078	0.079	0.194†		
			(1.49)	(1.40)	(1.41)	(1.73)		
RULE OF LAW			0.118	0.010	0.004	0.151		
			(1.00)	(0.10)	(0.04)	(1.30)		
GDP pc			0.093	0.252*	0.253*	0.127		
			(0.60)	(1.98)	(1.97)	(0.91)		
Constant	10.315***	9.447***	10.634***	5.389**	5.386**	5.607**	12.526***	8.963***
	(16.78)	(25.97)	(6.71)	(3.45)	(3.40)	(3.35)	(601.62)	(13.31)
INDUSTRY DUMMIES	NO	YES	NO	YES	YES	YES	NO	YES
COUNTRY DUMMIES	NO	NO	NO	NO	NO	NO	YES	YES
Observations	5585	5585	5585	5585	5585	5585	5585	5585
Adjusted R-squared	0.487	0.441	0.297	0.543	0.532	0.450	0.477	0.596
F	114.8***	84.63***	121.9***	88.79***	84.63***	72.05***	-	-

Table 6 reports the beta coefficients of the determinants of INEDs compensation considering individual (1) firm (2) and country-level (3) determinants. Models (4), (5) and (6) report the coefficients analyzing jointly individual, firm and country-level determinants with alternative measures of performance-based compensation. These models consider alternatively whether the performance-based compensation was given to the INED considered (4), if was given to at least one INED in the board in which the INED served (5), or was recommended in the applicable corporate governance code (6). Model (7) and (8) consider the effects of country dummies and the joint effect of individual-level, firm-level and country dummies effects on INEDs compensation. Level of significance: † p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

TABLE 7. Analysis of INEDs total compensation and its determinants in the two indexes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
INCENTIVE RATIO DUMMY	0.723***	0.492**						
	(8.57)	(3.75)						
INCENTIVE POLICY			0.709***	0.460**				
			(6.77)	(3.58)				
CODE RECOMMENDATION					0.292	0.143**		
					(0.40)	(3.32)		
COMMITTEE MEMBERSHIPS	0.005	0.134***	0.007	0.133***	0.019	0.138***	0.022	0.072***
	(0.33)	(7.78)	(0.51)	(7.75)	(1.22)	(7.77)	(1.39)	(5.36)
COMMITTEE CHAIRS	0.050*	0.169***	0.049*	0.167***	0.058**	0.170***	0.065***	0.143***
	(3.20)	(6.61)	(3.08)	(6.54)	(3.35)	(6.84)	(4.11)	(6.55)
CHAIR	0.409***	1.048***	0.416***	1.049***	0.437***	1.056***	0.434***	0.962***
	(9.47)	(18.09)	(9.59)	(18.11)	(9.45)	(18.43)	(9.46)	(20.09)
LID	0.136***	0.355*	0.144***	0.359*	0.144***	0.341*	0.129***	0.331***
	(4.46)	(2.40)	(4.58)	(2.43)	(4.39)	(2.33)	(4.17)	(3.93)
TENURE	0.353	-1.083	0.337	-1.107	0.270	-1.391	0.405	-2.303*
	(0.56)	(-1.04)	(0.52)	(-1.06)	(0.39)	(-1.27)	(0.59)	(-2.44)
TENURE^2	-0.151	0.465	-0.139	0.476	-0.107	0.598	-0.173	1.000*
	(-0.54)	(1.04)	(-0.49)	(1.06)	(-0.35)	(1.27)	(-0.58)	(2.46)
CURRENT BOARD SEATS	-1.740	2.587	-1.472	2.667	-1.289	3.395	-0.932	1.870
	(-1.34)	(1.28)	(-1.11)	(1.31)	(-0.96)	(1.62)	(-0.71)	(1.03)
CURRENT BOARD SEATS^2	0.744	-1.081	0.631	-1.117	0.547	-1.416	0.395	-0.760
	(1.33)	(-1.26)	(1.10)	(-1.28)	(0.95)	(-1.59)	(0.70)	(-0.98)
AGE	0.050	0.067	0.017	0.055	0.015	0.033	0.057	0.210*
	(0.55)	(0.55)	(0.19)	(0.45)	(0.14)	(0.27)	(0.56)	(2.40)
GENDER	-0.014	-0.132***	-0.015	-0.134***	-0.013	-0.133***	-0.006	-0.057*
	(-0.72)	(-5.14)	(-0.78)	(-5.18)	(-0.66)	(-5.05)	(-0.29)	(-3.01)
QUALIFICATIONS	0.024	-0.008	0.020	-0.008	0.016	-0.021	0.010	0.033
	(1.16)	(-0.19)	(0.98)	(-0.19)	(0.75)	(-0.47)	(0.49)	(0.76)
MEETINGS	-0.031	0.058	-0.023	0.063	-0.045	0.104	-0.052	0.224*
	(-0.59)	(0.60)	(-0.44)	(0.64)	(-0.72)	(1.00)	(-0.84)	(2.30)
FIRM SIZE	0.054*	0.158***	0.051*	0.159***	0.053*	0.155***	0.051*	0.197***
	(2.47)	(8.08)	(2.28)	(8.07)	(2.31)	(7.06)	(2.21)	(9.90)
LEVERAGE	-0.149	-0.019	-0.147	-0.018	-0.130	0.027	-0.166	-0.040
	(-1.23)	(-0.14)	(-1.20)	(-0.13)	(-0.99)	(0.19)	(-1.29)	(-0.32)
TSR	0.001	0.001	0.001	0.001	0.001	0.000	0.001	-0.000
	(1.15)	(1.21)	(1.08)	(1.17)	(1.08)	(1.04)	(1.19)	(-0.16)
ROA	-0.154	0.322†	-0.192	0.322†	-0.112	0.321†	0.180	0.175†
	(-0.30)	(1.73)	(-0.38)	(1.72)	(-0.21)	(1.68)	(0.37)	(1.92)
ANTI-SELF-DEALING	0.019	0.079*	0.020	0.081*	0.374	0.118*		
	(0.15)	(2.31)	(0.16)	(2.40)	(0.34)	(3.04)		
RULE OF LAW	0.182	0.132	0.183	0.134	1.710	0.256*		
	(0.26)	(1.30)	(0.26)	(1.32)	(0.34)	(2.31)		
GDP pc	0.206	0.232†	0.228	0.233†	-0.324	0.097		
	(0.46)	(1.66)	(0.51)	(1.66)	(-0.16)	(0.69)		
Constant	8.344†	3.773†	8.188†	3.758†	11.867	4.957*	11.219***	5.646***
	(1.83)	(1.96)	(1.82)	(1.94)	(0.88)	(2.58)	(12.43)	(6.37)
INDUSTRY DUMMIES	YES	YES	YES	YES	YES	YES	YES	YES
COUNTRY DUMMIES	NO	NO	NO	NO	NO	NO	YES	YES
Observations	3293	2292	3293	2292	3293	2292	3293	2292
Adjusted R-squared	0.297	0.368	0.262	0.365	0.155	0.356	0.188	0.581
F	22.86***	28.24***	17.87***	28.27***	14.50***	29.30***	-	-

Table 7 reports the beta coefficients of the determinants of INEDs compensation determinants analyzing jointly individual, firm and country-level determinants (or country dummies) with alternative measures of performance-based compensation in the Standard & Poor's 500 (1), (3), (5) and (7); or in the Eurostoxx600 (2), (4), (6) and (8). Level of significance: † p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

TABLE 8. Analysis of cash compensation determinants

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
INCENTIVE RATIO DUMMY	-0.766***								
	(-7.42)								
INCENTIVE POLICY		-0.693***		-0.750***	-0.894***	-0.383*			
		(-6.93)		(-7.03)	(-5.14)	(-2.34)			
CODE RECOMMENDATION			-0.266***				-0.288***	0.155	0.064
			(-5.22)				(-5.07)	(0.18)	(1.39)
COMMITTEE MEMBERSHIPS	0.164**			0.150**	0.190*	0.149***	0.114*	0.174*	0.156***
	(3.84)			(3.74)	(2.27)	(8.27)	(2.86)	(2.09)	(7.97)
COMMITTEE CHAIRS	0.241***			0.250***	0.317*	0.184***	0.230**	0.305*	0.196***
	(4.17)			(4.25)	(2.88)	(7.21)	(3.89)	(2.78)	(7.48)
CHAIR	0.780***			0.808***	0.462	1.050***	0.826***	0.437	1.052***
	(5.89)			(6.08)	(1.44)	(17.87)	(6.17)	(1.37)	(17.98)
LID	-0.255			-0.244	-0.337	0.368*	-0.297	-0.337	0.343*
	(-1.27)			(-1.22)	(-1.50)	(2.55)	(-1.48)	(-1.50)	(2.33)
TENURE	0.222			0.671	-0.209	0.084	0.276	-0.125	-0.514
	(0.14)			(0.42)	(-0.09)	(0.08)	(0.17)	(-0.05)	(-0.46)
TENURE^2	-0.100			-0.292	0.075	-0.037	-0.128	0.036	0.213
	(-0.14)			(-0.42)	(0.07)	(-0.08)	(-0.18)	(0.04)	(0.45)
CURRENT BOARD SEATS	-1.230			-1.725	-1.061	1.168	-3.683	-1.260	2.217
	(-0.35)			(-0.48)	(-0.19)	(0.58)	(-0.99)	(-0.23)	(1.04)
CURRENT BOARD SEATS^2	0.512			0.706	0.393	-0.483	1.537	0.486	-0.925
	(0.34)			(0.46)	(0.17)	(-0.56)	(0.97)	(0.21)	(-1.02)
AGE	0.964*			0.858*	1.693*	0.077	0.741*	1.693*	0.167
	(3.15)			(2.89)	(3.11)	(0.60)	(2.47)	(3.08)	(1.29)
GENDER	0.116†			0.103	0.272*	-0.126***	0.101	0.268*	-0.111**
	(1.80)			(1.63)	(2.55)	(-4.43)	(1.60)	(2.50)	(-3.92)
QUALIFICATIONS	0.109			0.079	0.242†	0.017	0.038	0.248*	0.074
	(1.64)			(1.22)	(1.95)	(0.33)	(0.58)	(2.00)	(1.49)
MEETINGS		0.353*		0.288†	0.608*	0.016	0.298†	0.633*	0.091
		(2.02)		(1.66)	(2.05)	(0.16)	(1.66)	(2.13)	(0.85)
FIRM SIZE		0.158***		0.180***	0.164*	0.136***	0.190***	0.162*	0.112***
		(5.02)		(5.49)	(2.14)	(6.46)	(5.33)	(2.07)	(4.56)
LEVERAGE		-0.232		-0.292	-0.386	-0.073	-0.409	-0.411	-0.042
		(-0.63)		(-0.80)	(-0.61)	(-0.51)	(-1.11)	(-0.65)	(-0.28)
TSR		-0.000		-0.000	-0.003	0.001	-0.001	-0.003	0.001
		(-0.26)		(-0.29)	(-0.67)	(1.42)	(-0.40)	(-0.68)	(1.54)
ROA		0.752		0.642	1.801	0.270	0.536	1.661	0.297
		(1.39)		(1.22)	(0.91)	(1.36)	(1.11)	(0.83)	(1.42)
ANTI-SELF-DEALING			-0.009	0.089*	0.235	0.105**	-0.012	0.507	0.095*
			(-0.15)	(2.15)	(1.07)	(3.37)	(-0.15)	(0.40)	(2.18)
RULE OF LAW			0.305*	0.361*	5.453***	0.091	0.406*	6.772	0.134
			(1.99)	(2.26)	(4.67)	(0.87)	(2.39)	(1.17)	(1.18)
GDP pc			-0.165	-0.012	-0.331	0.268†	-0.133	-0.918	0.183
			(-0.74)	(-0.06)	(-0.65)	(1.84)	(-0.57)	(-0.39)	(1.26)
Constant	7.588**	7.241***	12.637***	2.895	-5.277	4.107*	5.298†	-1.992	4.726*
	(3.79)	(8.54)	(5.62)	(1.02)	(-0.83)	(2.06)	(1.68)	(-0.13)	(2.41)
INDUSTRY DUMMIES	NO	YES	NO	YES	YES	YES	YES	YES	YES
COUNTRY DUMMIES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Observations	5585	5585	5585	5585	3293	2292	5585	3293	2292
Adjusted R-squared	0.047	0.051	0.014	0.069	0.051	0.334	0.055	0.046	0.321
F	10.90***	4.782***	11.19***	7.078***	62.09***	27.20***	6.306***	60.94***	25.04***

Table 8 reports in the beta coefficients of the determinants of INEDs direct compensation considering individual (1) firm (2) and country-level (3) determinants. Models (4), (5) and (6) reports the coefficients analyzing jointly individual, firm and country-level determinants considering whether performance-based compensation was given to at least one INED in the board. Model (4) analyze the whole sample, Models (5) and (6) analyze separately INED's serving on Standard & Poor's and Eurostoxx600's firms, respectively. Models (7), (8) and (9) reports the coefficients analyzing jointly individual, firm and country-level determinants considering whether performance-based compensation was recommended, discouraged or not mentioned in the applicable corporate governance code in which the firm, where the INED served, was legally headquartered. Model (7) analyze the whole sample, Models (8) and (9) analyze separately INED's serving on Standard & Poor's and Eurostoxx600's firms, respectively. Level of significance: † p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

TABLE 9. Analysis of incentive ratio determinants

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
COMMS. CHAIR	0.127	-0.025***			-0.024***		-0.024**
	(1.25)	(-4.00)			(-4.06)		(-3.89)
COMMS. MEMB.	0.019	-0.040***			-0.044***		-0.045***
	(0.16)	(-5.07)			(-6.16)		(-6.07)
CHAIR	-0.119	-0.089**			-0.099***		-0.097***
	(-0.55)	(-3.88)			(-4.48)		(-4.33)
LID	0.542	0.012			0.005		0.004
	(1.54)	(0.84)			(0.38)		(0.32)
TENURE	1.082	0.119			0.162		0.168
	(0.26)	(0.59)			(0.91)		(0.95)
$TENURE^2$	-0.338	-0.047			-0.069		-0.071
	(-0.18)	(-0.53)			(-0.88)		(-0.91)
CURRENT BOARD SEATS	17.825†	0.077			-0.314		-0.580
	(1.95)	(0.18)			(-0.75)		(-1.45)
$CURRENT\ BOARD\ SEATS^2$	-7.614†	-0.031			0.137		0.249
	(-1.94)	(-0.16)			(0.76)		(1.45)
AGE	-0.458	-0.061			-0.075*		-0.098*
	(-0.61)	(-1.54)			(-2.20)		(-3.00)
GENDER	-0.023	-0.016*			-0.016*		-0.019*
	(-0.19)	(-2.20)			(-2.61)		(-3.09)
QUALIFICATIONS	-0.162	0.028†			0.010		-0.006
	(-0.98)	(1.66)			(0.72)		(-0.60)
MEETINGS	-0.631		-0.044†		-0.050*		-0.063*
	(-1.44)		(-1.76)		(-2.13)		(-2.73)
FIRM SIZE	0.168		-0.009		-0.007		-0.004
	(1.21)		(-1.23)		(-1.05)		(-0.55)
LEVERAGE	0.899		-0.031		-0.043		-0.043
	(1.08)		(-0.74)		(-1.07)		(-1.07)
TSR	-0.002		0.000		0.000		0.000
	(-0.49)		(1.19)		(1.04)		(0.86)
ROA	0.383		-0.021		0.018		-0.029
	(0.43)		(-0.15)		(0.13)		(-0.22)
ANTI-SELF-DEALING	9.325***			-0.017***	-0.019***		
	(9.02)			(-4.27)	(-4.22)		
RULE OF LAW	-1.031			-0.844*	-1.032**		
	(-0.65)			(-3.24)	(-3.82)		
GDP pc	-0.349			0.183	0.238		
	(-0.29)			(1.15)	(1.50)		
CODE RECOMMENDATION	4.313***			0.010	0.008		
	(10.34)			(0.23)	(0.18)		
Constant	-11.884	0.814*	0.884***	-0.058	0.294	0.632***	1.452***
	(-0.94)	(3.22)	(5.14)	(-0.04)	(0.23)	(87.94)	(5.47)
INDUSTRY DUMMIES	YES	NO	YES	NO	YES	NO	YES
COUNTRY DUMMIES	NO	NO	NO	NO	NO	YES	YES
Observations	5585	3246	3246	3246	3246	3246	3246
Adjusted R-squared		0.028	0.067	0.044	0.148	0.055	0.164
F		4.946***	3.615***	22.22***	9.104***	-	-
Wald $\chi 2$	213.10***						

Table 9 reports in Model (1) the estimations of the logit model adopting as dependent variable INCENTIVE RATIO DUMMY which indicates whether the INED considered received performance-based compensation (1) or not (0). Models (2), (3) and (4) report the beta coefficients analyzing separately individual, firm and country-level determinants of the INCENTIVE RATIO considering only those INED that received a positive amount of performance-based compensation. Model (5) reports the beta coefficients analyzing jointly individual, firm and country-level variables determinants of INCENTIVE RATIO considering only those INED that received a positive amount of performance-based compensation. Models (6) report the beta coefficients of the INCENTIVE RATIO considering only those INED which received a positive amount of performance-based compensation, using only a set of country dummies. Model (7) use as country-level determinants a set of country dummies, and analyzes the joint effect of individual, firm and country-level coefficients of the determinants of INCENTIVE RATIO considering only those INED which received a positive amount of performance-based compensation. Level of significance: † p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

Are Optimal Contracting and Managerial Power Competing or Complementary Views? Evidence from the compensation of statutory auditors in Italy

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Introduction

The compensation of individuals who operate at board-level, with or without an executive role, represents a controversial topic in corporate governance (e.g., Boyd, 1996; Cordeiro, Veliyath & Eramus, 2000; Murphy, 2002; Brick, Palmon & Wald, 2006; Conyon, 2006; Adams & Ferreira, 2008; Hahn & Lasfer, 2011; Fernandes, Ferreira, Matos & Murphy, 2013; Mallin, Melis & Gaia, 2015). The underlying idea is that the structure and determinants of the compensation of these individuals can be a proxy of the quality and effectiveness of their role performed at board-level (e.g. Boyd, 1996; Cordeiro et al., 2000; Adams & Ferreira, 2008; Mallin et al., 2015). On the one hand, high levels of compensation could reflect the high levels of effort, responsibilities and reputational risk that accompany the role (e.g., Adams & Ferreira, 2008; Mallin et al., 2015). On the other hand, they might also reveal lack of efficiency because of the potential reciprocity and collusion among corporate insiders (Bebchuk, Fried & Walker, 2002; Brick et al., 2006; Mallin et al., 2015).

One of the questions that has been widely investigated, but which is still of great potential interest as prior studies have not provided a definite answer, is whether compensation at board-level is the outcome of managerial power, rather than being the result on an optimal contract between independent parties (Bebchuk et al., 2002; Murphy, 2002;

Bebchuk & Fried, 2003; Van Essen, Otten & Carberry, 2015). Most prior literature has focused on executive compensation, in particular on the highest paid executive, the CEO (Murphy & Zábojník, 2004; Brick et al., 2006; Fernandes et al., 2013; Van Essen et al., 2015). Despite its theoretical and practical relevance, the compensation of the independent governance institutions that monitor the board of directors' decisions has received relatively little attention so far and their structure and determinants have been referred as an 'enigma' (Hahn & Lasfer, 2011; Magnan, St-Onge & Gélinas, 2010; Shen, 2005). This limited research stream focused on independent non-executive directors (e.g., Hempel & Fay, 1994; Brick et al., 2006; Farrell, Friesen & Hersch, 2008; Adams & Ferreira, 2008; Marchetti & Stefanelli, 2009; Hahn & Lasfer, 2011; Mallin et al., 2015; Goh & Gupta, 2016) and, to a less extent, on the members of the supervisory council (Andreas, Rapp & Wolff, 2012). Given the fact that prior literature focused on governance actors who are expected to monitor and advice executives (e.g., Fama & Jensen, 1983; Andreas et al., 2012; Goh & Gupta, 2016), this choice has not allowed prior studies to disentangle the effect on pay of the advisory role from the monitoring role (Hahn & Lasfer, 2011; Mallin et al., 2015; Goh & Gupta, 2016). This gap is important as these effects differ depending on the individual's role (and tasks) at the board-level (e.g., Schöndube-Pirchegger & Schöndube 2010; Courteau et al., 2016). By using a unique hand-collected dataset of 559 individuals who operate exclusively as monitors at board-level in 181 Italian non-financial listed firms, this study is able to isolate the monitoring function from the advisory one and address this gap.

This study aims to understand whether, and to what extent, optimal contracting and managerial power represent alternative or complementary views on the compensation of board-level monitor. The members of the board of statutory auditors, a corporate

governance institution that is typical of the board structure of Italian firms, are expected to provide reassurance to shareholders that corporate directors are monitored. They should oversee the internal control system of the firm similarly to the independent non-executive directors in an audit committee. However, in contrast to independent directors, statutory auditors are expected to act as independent monitors of the board of directors' decision-making process on behalf of shareholders, by also taking part on its meetings, without having any advisory role in the decision taken (Melis, 2004). For this reason, the analysis of their compensation basis and amount provides an ideal setting to examine the compensation of individual members who are expected to serve exclusively as independent monitors at board-level. Therefore, our study contributes to understanding how monitoring responsibilities at board-level are rewarded.

The paper makes a number of key contributions to corporate governance literature. First, this study provides new insights on how, and to what extent, optimal contracting and managerial power perspectives provide complementary, rather than competing, explanations to statutory auditors' compensation, within the different contracting arrangements covered by agency theory. Second, to the best of our knowledge, this is the first archival-based effort that examines the criteria of the compensation of the members of a formally independent governance institution that acts exclusively as a monitor of board of directors' decision. By exploiting the uniqueness of the activity performed by the board of statutory auditors in Italy, this study addresses one of the main limitations of prior literature, which could not fully disentangle the effect on pay of the advisory role from the monitoring role (Hahn & Lasfer, 2011; Mallin et al., 2015; Goh & Gupta, 2016). The focus on this corporate governance institution also allows us to conduct the empirical analysis in an institutional context (Italy) in which the risk of collusion between corporate

insiders and supposedly independent monitors is potentially high (e.g. La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1997; Melis, 2000; 2005; Volpin, 2002; Zattoni, 1999; 2015). This is an important corporate governance issue given the potential for agency problems (Jensen & Meckling, 1976) between different types of principals (controlling and minority shareholders) and the members of a board appointed by them to exercise an independent monitoring on corporate insiders and the board of directors (Andreas et al., 2012, Bebchuk et al., 2002; Mallin et al. 2015). Given the institutional characteristics of Italy (e.g., prevailing principal-principal agency problem, concentrated ownership and control structure, high risk of collusion at the boards-level, etc.)[1], our findings are potentially highly generalizable to the great majority of firms listed around the world. These firms, possibly with the exclusion of those headquartered in some important Anglo-American countries, generally cope with similar agency problems (e.g., Volpin, 2002; Djankov, La Porta, Lopez-de-Silanes, & Shleifer, 2008).

Our study also offers important insights to policymakers. First, it questions the formally strict regulation on *de jure* independence which seems to allow threats to statutory auditors' *de facto* independence. Secondly, it suggests improvements in the disclosure of the criteria for the compensation of individuals who are expected to serve as independent monitors at the board-level in the interest of all shareholders. In addition, this study also cautions investors and other stakeholders, who may rely on the work of internal independent monitors (such as the board of statutory auditors), to be careful about the way they are paid.

[1] See Institutional Setting.

The remainder of the article is structured as follows. The next section provides some background on the institutional setting, describing the agency problem that characterizes Italian listed firms and the role of the board of statutory auditors within the Italian corporate governance regulatory framework. The third section covers the literature review, the conceptual framework and the development of the hypotheses. In the fourth section, we outline our research methodology, followed by the data analysis. The empirical findings are reported in section five. Key findings, theoretical and policymaking implications and limitations of the study are discussed in section six. Concluding remarks are presented in the final section.

Institutional setting

The control of Italian non-financial listed firms usually rests in the hands of one shareholder (or a closely allied set of shareholders) either through high level of direct ownership or some control enhancement devices, such as pyramidal groups and shareholders' agreements (Zattoni, 1999; Melis & Gaia, 2011; Cuomo, Zattoni & Valentini, 2012). Controlling shareholders are generally willing and able to influence board decision-making, by monitoring executive directors, either appointing themselves (or their close relatives) to board positions or appointing professional executives who are accountable and 'loyal' to them (Zattoni 1999; Melis 2000). In such a context, the presence of a controlling shareholder reduces the agency problem between executive directors and shareholders but shifts the problem to the relationship between the controlling shareholder and minority shareholders, leading to the so-called 'principal-principal' agency problem (Zattoni 1999; Melis, 2000).

In line with the 'principal–principal' agency model, which recognizes the potential conflict among principals and encourages a more internal monitoring process using

supervisory bodies (Wiseman, Cuevas-Rodríguez & Gomez-Mejia, 2012), the Italian regulator has introduced a third-layer into the agency model, by requiring Italian firms to set-up a board of statutory auditors[2], appointed by the shareholders. This particular board structure re-creates *de facto* a principal-supervisor-agent structure (e.g., Faure-Grimaud, Laffont & Martimort, 2003; Kofman & Lawarrée, 1993; Tirole 1986).

The board of statutory auditors has comprised the professional elite of the Italian society (e.g., lawyers, accountants, and academics). This professional elite was (and still is) motivated to take this position by the social and economic benefits attached to this role, in terms of prestige and compensation (Jones & Melis, 2016). Statutory auditors are required to review the firm's organizational structure in relation to its internal audit system, its administrative and accounting system without, however, auditing corporate financial statements. Statutory auditors should also monitor corporate directors' performance, by being responsible to check the compliance of the acts and decisions of the board of directors with the law and the corporate bylaws as well as with the so-called 'principles of business administration'. The members of the board of statutory auditors have also the duty to report to the court any decision made by the board of directors which they believe to be against corporate interest (Melis, 2004). At a first glance, their duties and responsibilities may look similar to those of other monitoring mechanisms such as the independent non-executive directors, especially those who sit on the audit committee. However, unlike independent non-executive directors, statutory auditors do not have any advisory role during the board of directors' meetings, but they exclusively act as monitors, with an oversight role that is broader than audit committees in the UK and US

[2] Italian listed firms are required to have a board of statutory auditors until 2005. The 2005 Company Law allowed them to choose between a one-tier British like board structure and a two-tier German like board structure (i.e. with a supervisory council). However, all but a handful of Italian non-financial listed firms continued to adopt the 'traditional' board structure (Assonime, 2016) that is composed of the board of directors (named *Consiglio di Amministrazione*) and the board of statutory auditors (named *Collegio Sindacale* or *Collegio dei Sindaci*).

(Melis, 2004). Not only does the board of statutory auditors have to meet at least quarterly, but statutory auditors are also required to attend the meetings of the board of directors and shareholders' meetings.

In addition, the 1998 Draghi Law regulated the board size (which ranges from three to five members) and the appointment criteria for its candidates. The regulator recognized that statutory auditors, although expected to be independent, could in fact collude with the principal that appointed them and that unified interests among principals cannot be assumed (Ferrarini & Giudici, 2006). Hence, the Draghi law required firms to allow minority shareholders to present a slate and appoint one of the statutory auditors (two if the board of statutory auditors is composed of five members). If appointed, the statutory auditor selected from a slate presented by minority shareholders will chair the board of statutory auditors. To contrast with this requirement, and to reduce the number of statutory auditors not directly appointed by the controlling shareholder, some firms have reduced the size of their board of statutory auditors (Melis, 2004). Controlling shareholders have always wanted to be directly involved in the appointment of board of statutory auditors' members. Even after the Draghi Law, controlling shareholders have always presented a list to appoint the majority, if not all, of statutory auditors of the board (Assonime, 2017).

Candidates for the board of statutory auditors are required to comply with the 'honor' and 'professional' requirements set forth by the Italian Ministry of Justice, in agreement with the Ministry of Treasury and CONSOB (*Commissione Nazionale per le Società e la Borsa*, the Italian SEC), proving also that their civil rights are not constrained (e.g., because of past fraudulent behavior). The candidates must also come from a pool of certified public accountants who have been involved in audit activities for at least three

years (a minimum of one of the statutory auditors should comply with this condition). Alternatively, they must be experienced senior managers, business lawyers, or academics in firm-related subjects as specified in corporate by-laws. In addition, candidates should meet formally strict independence criteria in order to exclude, for example, those with close family ties with corporate directors, as well as individuals who are involved with the firm (or its subsidiaries) through employment relationships or any other financial or professional relationship that may compromise their independence. The Italian Corporate Governance Code (2015, art 8, P.1) underlined that statutory auditors should be fully independent and act exclusively in the firm's interest, without taking into account the interests of the specific (group of) shareholder(s) that appointed them. Statutory auditors are also recommended to accept their office only if they can devote enough time and effort to the diligent performance of their duties (Corporate Governance Code, 2015, art. 8, C.2.).

The board of statutory auditors reports its activity at the annual shareholders' general meeting. Its final report (named *Relazione del Collegio Sindacale*) is included in the corporate annual report. However, prior studies have pointed out that statutory auditors are generally more concerned with complying with formal requirements, rather than on giving substantial information to shareholders and the majority of their reports contain set formulas and summary attestations (Melis, 2004). No additional information about the statutory auditors' activities is published. Hence, the actual performance of statutory auditors is hardly observable from outside the board, apart from exceptional circumstances where either the board publicly intervenes against corporate directors' misconduct or does not prevent it and the scandal becomes public, as in the Parmalat fraud (e.g., Ferrarini and Giudici, 2006).

The compensation of the statutory auditors is determined by the shareholders. The professional code of practice of the Italian chartered accountants' association has recommended that statutory auditors' compensation should take into account the size of the firm in which they serve. It has also recommended that the individual chairing the board of statutory auditors should receive a fifty percent increase in salary compared to other members of the board. In the same vein, the Italian Corporate governance Code, in its most recent version (2015, Art. 8, C.3), has recommended that the compensation of the statutory auditors should be 'proportionate to the commitment required from each of them, to the importance of his/her role as well as to the size and business sector of the firm'. The disclosure of the compensation of statutory auditors is regulated by CONSOB. Firms are required to provide a full disclosure on the amount received by each statutory auditor. Total compensation and its main components are generally properly disclosed in compensation reports. However, despite the full disclosure required, Assonime (2017) reported that the criteria and rationales for the compensation paid to a statutory auditor in addition to salary were rarely properly disclosed. This component of statutory auditor's compensation generally comprises non-audit services given to the firm by the statutory auditor, including additional positions in other firms controlled by the same shareholder (Assonime, 2017). Consequently, this additional compensation has raised important concerns among policymakers (e.g., Assonime, 2016; 2017), practitioners (e.g., leading national proxy advisory agencies such as Frontis governance, 2013) and academics (Melis & Zattoni, 2017). For example, the national association of joint stock companies considered as 'statutory auditors at risk of independence' those statutory auditors who received this additional compensation (Assonime, 2017: 101).

Literature review and hypotheses development

The relatively limited research on the compensation of the governance bodies that monitor the board of directors' decisions (e.g., independent directors, supervisory directors) is either descriptive (e.g., Lazar, Metzner, Rapp & Wolff, 2014; Bugeja, Fohn & Matolcsy, 2016) or tends to rely on agency theory (e.g., Hempel & Fay, 1994; Boyd, 1996; Cordeiro et al., 2000; Adams & Ferreira, 2008; Mallin et al., 2015; Goh & Gupta, 2016). These studies have mainly focused on the adoption of performance-based compensation to reduce the potentially misaligned interest between shareholders and independent non-executive directors (e.g., Hempel & Fay, 1994; Boyd, 1996; Cordeiro et al., 2000; Yermack, 2004; Bugeja et al., 2016). They also investigated the adoption of meeting fees to provide independent non-executive directors with an incentive to exert more effort (e.g., Hempel & Fay 1994; Brick et al., 2006; Farrell et al., 2008; Adams & Ferreira, 2008). Prior studies also examined the importance of formal roles within the board of directors (e.g., Cordeiro et al., 2000; Marchetti & Stefanelli, 2009; Mallin et al., 2015; Bugeja et al., 2016; Goh & Gupta, 2016) or the supervisory council (Andreas et al., 2012). Two recent studies have also investigated the influence of the lack of either formal or substantial independence on the non-executive director's pay (Mallin et al., 2015; Goh & Gupta, 2016). Goh and Gupta (2016) explicitly acknowledge as a major limitation of their study that they could not differentiate between the effects of the different roles that an independent directors serves on his/her compensation. To our knowledge, only one study (Mallin et al., 2015) has combined an optimal contracting view with a managerial power view of agency theory to explain the determinants of the compensation of a corporate governance oversight mechanism, specifically independent directors. Mallin et al. (2015) found that independent directors' pay is not based upon their actual performance or firm outcomes, as they are extremely difficult areas for shareholders to observe and measure. Rather, firms rely on measures of effort and responsibilities that are

observable to shareholders (e.g., committee membership, board meetings). Their study also reveals that independent director's compensation could signal his/her collusion with corporate insiders, rather than his/her performance as independent monitor at the board-level.

Agency theory remains the most adopted conceptual framework in the academic literature on the compensation of the key actors in corporate governance, including those that are expected to monitor the board of directors (e.g. Boyd, Franco Santos & Shen, 2012; Cuomo, Mallin & Zattoni, 2016). In addition, agency theory also represents the underlying logic upon which the recommendations on corporate governance best practices are developed in the various codes of corporate governance worldwide (Zattoni & Cuomo, 2010; Cuomo et al., 2016). Thus, agency theory seems to provide an appropriate theoretical framework to examine statutory auditors' compensation. By incorporating an institutional perspective which takes into account the distinct contexts in which the phenomenon under analysis is embedded (Wiseman et al., 2012), we exploit the uniqueness of the activity performed by the board of statutory auditors and the institutional characteristics of Italy to deepen agency theory. We investigate whether, and to what extent, the optimal contracting and the managerial power perspectives of agency theory (Bebchuk & Fried, 2003; Mallin et al., 2015; Van Essen et al., 2015) are alternative explanations or they provide complementary views (i.e. they can co-exist at the firm-level as well as the individual-level) in explaining the compensation of statutory auditors.

Previous literature on executive and non-executive director compensation has traditionally assumed that the optimal contracting and the managerial power perspectives are alternative and competing with each other (e.g., Murphy, 2002; Bebchuk et al., 2002;

Hall & Murphy, 2003; Murphy & Zábojník, 2004; Conyon, 2006; Zattoni & Minichilli, 2009; Melis et al., 2012). However, more recently, some scholars started to point out that these two theoretical perspectives could provide complementary, rather than competing, explanations to executive and non-executive director compensation. Hence, a conceptual framework that integrates the two theoretical perspectives is, therefore, desirable (Murphy, 2013; Mallin et al., 2015; Sur, Cordeiro, Magnan, 2015; Van Essen et al., 2015).

Both optimal contracting and managerial power perspectives recognize the existence of an agency problem between principals, supervisors and agents (Baker, Jensen & Murphy, 1988; Bebchuk et al., 2002). They also share the view that markets forces and reputation play a key influence on the behavior and compensation of the individuals who serve as monitors at the board-level (e.g., Fama & Jensen, 1983; Bebchuk et al., 2002). However, they provide a different interpretation of this influence. On the one hand, according to the optimal contracting perspective, market forces are sufficiently efficient to stimulate supervisors to perform their monitoring activity in the interests of all shareholders (Fama & Jensen, 1983). On the other hand, the managerial power view casts doubts on this assumption, by taking into consideration the personal interactions between corporate insiders and allegedly independent supervisors (Bebchuk et al., 2002). Both perspectives share the view that effective monitors could signal to the labor market that they are experts in monitoring (Fama & Jensen, 1983; Bebchuk et al., 2002). However, the managerial power perspective recognizes that this reputational mechanism may only work in certain cases. It suggests that for a supervisor aspiring to be reappointed (or appointed in other boards), the market creates incentives not to challenge corporate insiders, but rather to accommodate their interests (Bebchuk et al., 2002). In this view, reputation is

likely to limit, rather than enhance, the degree to which supervisors at the board-level are willing to challenge corporate insiders in most of the cases (Bebchuk et al., 2002). There is likely to be, for efficient supervisors, a reputational cost of trying to challenge corporate insiders that will reduce their possibilities to be reappointed in the same board or in others. Insiders in other firms are unlikely to be willing to appoint to their boards an individual with a reputation for independent monitoring, rather they will prefer those candidates who are unlikely to challenge them (Bebchuk et al., 2002). Therefore, there is likely to be a considerable number of individuals who are interested less in establishing reputations as 'efficient' monitors than in being reappointed (and/or joining other boards) (Bebchuk et al., 2002). In consideration of all of the above, while the optimal contracting view assumes that compensation is the result of an arm's length transaction and can contribute to minimize agency costs, the managerial power perspective casts doubts on this assumption recognizing that power and connections between individuals at board-level influence the definition of their compensation arrangements.

Power and connections can affect the overall compensation or a specific component of it where, for example, the limited level of disclosure enables corporate insiders to camouflage the additional compensation paid to friendly monitors. When compensation practices deviate from those that are 'optimal', they tend to do so in a way that minimizes the amount easily visible to outsiders (e.g., Murphy, 1996; Bebchuk et al., 2002; Bebchuk & Fried, 2003; Kalyta & Magnan, 2008). In this view, compensation of supervisors at board-level can, therefore, be the result of an agency problem, rather than its solution. Reputation as an independent monitor will negatively, rather than positively, influence compensation (Bebchuk et al., 2002; Mallin et al., 2015; Van Essen et al., 2015).

Based on a framework that incorporates an institutional perspective into agency theory, we view the relation among shareholders, the board of statutory auditors, and directors as a three-tier principal-supervisor-agent hierarchy (e.g. Faure-Grimaud et al., 2003; Kofman & Lawarrée, 1993; Tirole, 1986). The supervisor (board of statutory auditors) is appointed by the principals (controlling and, possibly, minority shareholders) to monitor the agent (directors). The supervisor should independently serve both principals. However, given the principal-principal agency problem that characterizes corporate governance in Italy (Zattoni, 1999; Melis, 2000), it could collude with one of them (i.e. the controlling shareholder) at the expense of the other (minority shareholders).

Hypotheses' development

According to an optimal contracting perspective of agency theory, individuals who are strong monitors have an incentive to maintain (and develop) their reputation. The labor market will demand strong monitors at board-level because of the value that they bring to the shareholders (Fama, 1980; Fama & Jensen, 1983). This should result in higher levels of compensation for those individuals (e.g., Fama, 1980; Watts & Zimmerman, 1981; Goh & Gupta, 2016). Nonetheless, the asymmetry of information among these monitors and shareholders may not allow individual actions of monitoring to be observed and, hence, contracted upon. A potential remedy to the agency problem between shareholders and those individuals they appointed as monitors at the board-level is to monitor their actions and performance. However, in non-programmable jobs, the full observation of agent's actions and performance by the principal is, generally, either impossible or prohibitively costly (Holmström, 1979). Hence, it is efficient to write down a contract with payoffs that are based on the actions of the agents that can be observed by the principals (Eisenhardt, 1989; Holmström, 1979). As a consequence, the outcomes that the principals can measure in a more precise and unequivocal way are also those that can be

expected to have greater influence over the distribution of the agent's rewards (Gomez-Mejia & Balkin, 1992).

Following this logic, in the boards' context the basis and amount of the compensation paid to the boards' members is an important issue, given the potential for agency problems not only between boards of directors and shareholders (e.g., Bebchuk et al., 2002; Certo, Dalton, Dalton & Lester, 2008; Andreas et al., 2012; Mallin et al., 2015), but also between the board of statutory auditors and shareholders. Similarly to the work of an independent non-executive director, the statutory auditor's performance is an extremely difficult area for the principals (i.e. the shareholders) to observe and measure, as the latter are not likely to have either the information and/or the expertise to express a professional judgment upon a statutory auditor's performance (Melis, 2004).

Given the information and expertise asymmetries between the statutory auditors and the shareholders, the agency costs are likely to be too steep to allow the shareholders, especially those that are not involved in the management of the firm, to monitor the quality of performance of a statutory auditor directly. Thus, rather than monitoring the statutory auditor's quality of performance, the shareholders may determine the compensation of a statutory auditor on observable measures, such as his/her effort and responsibilities that are visible by them. At the same time, determining the statutory auditors' compensation on the basis of their observable effort and responsibilities is also in the interest of shareholders. Similarly to the case of independent directors (Hempel & Fay, 1994; Cordeiro et al., 2000; Mallin et al., 2015), firms that fail to do so would find it difficult to attract and retain talented statutory auditors. Individuals seek to retain equilibrium between the inputs (in terms of efforts and responsibilities) that they bring to

a job and the financial outcomes they receive from it (Mallin et al., 2015). Therefore, differences in compensation among individual statutory auditors may arise from taking on additional functions and responsibilities (e.g., chairmanship of the board of statutory auditors) or differences in meeting attendance (Hempel & Fay, 1994; Brick et al., 2006; Farrell et al., 2008; Mallin et al., 2015) as those responsibilities and efforts are observable by shareholders. Hence, from an optimal contracting perspective, we expect that:

Hypothesis 1. Statutory auditor's compensation will be positively related to the statutory auditor's efforts and responsibilities that are observable by shareholders.

However, as in the case of executive and independent non-executive directors (e.g., Bebchuk et al., 2002; Mallin et al., 2015; Goh & Gupta, 2016), firms may adopt different criteria in setting statutory auditors' compensation, or at least those components which are less visible to corporate outsiders (Bebchuk et al., 2002).

The managerial power view of board monitoring suggests that strong monitors at board-level may actually be less desirable by corporate insiders due to consequent greater scrutiny in the decision-making process (Mallin et al., 2015; Goh & Gupta, 2016). According to this perspective, there is no reason to assume that self-interested directors will automatically seek to act in the shareholders' interest (Bebchuk et al., 2002; Mallin et al., 2015). Using a similar reasoning, there is no reason to expect that statutory auditors will either. Collusions do not necessarily occur in the lower tiers of firm's hierarchy, but also between individuals at the 'upper tiers' (Tirole, 1986).

Similarly to independent directors nominated in a board by a powerful CEO (Bebchuk et al., 2002), statutory auditors appointed from a controlling shareholder's slate might be

grateful to those corporate insiders who have placed them in the board of statutory auditors. Given the nature of reciprocity, especially when a group of individuals interacts over time, boards are unlikely to be truly independent (O'Reilly & Main, 2010). In this perspective, allegedly independent monitors are more likely to befriend and 'collude' with corporate insiders, the longer they serve in the firm (Tirole, 1986; Higgs, 2003; Vafeas, 2003). Similarly to the case of directors' appointment (Bebchuk & Fried, 2003), the adoption of a slate voting system for statutory auditors is unlikely to solve this problem when a firm is characterized by a highly concentrated control structure, as most (if not all) statutory auditors are likely to be appointed by a corporate insider (the controlling shareholder). For this reason, a long tenure has been considered as an important threat to a statutory auditor's *de facto* independence by policymakers (Assonime, 2016), practitioners (e.g., leading national proxy advisory agencies, such as Frontis governance, 2013, and national representatives of the accounting profession as Carunchio, 2010) and academics (Melis & Zattoni, 2017).

Statutory auditors' behavior is subject to an agency problem, which, in turn, undermines statutory auditors' ability to address effectively the agency problem in the relationship between directors and shareholders. The key to being re-appointed to a statutory auditor's position is being placed on the firm's slate. Thus, the easier alternative for statutory auditors, especially those appointed by the controlling shareholder, is to choose not to 'rock the boat' as they need the controlling shareholder's support in order to be re-appointed (Melis, 2004). Therefore, in line with the argument of Bebchuk et al. (2002) on independent directors' appointment, confronting corporate insiders (i.e. the executive directors or the controlling shareholder), or developing a reputation for doing so, would

hurt, rather than help, a statutory auditor's chances of being invited to re-join the firm's board of statutory auditors or even boards of other firms.

Market forces, which have not been considered as sufficiently strong to guarantee optimal contracting outcomes in the US (Bebchuk et al., 2002), are generally even less strong in other countries, especially in relationship-based systems such as Italy (Weimer & Pape, 1999; Clarke, 2007). Therefore, developing a reputation as a strong independent monitor could be even less desirable for an individual who wants to continue to serve as a statutory auditor. The incentive on the (re)appointment, together with the lack of appropriate market forces, may serve as a curb for statutory auditors to exercise their monitoring duties effectively, including those on executive directors, who usually act as loyal agents for controlling shareholders (Melis, 2000; 2004).

For these reasons, as argued by Baker et al. (1988), individuals serving as monitors at the board-level could be reluctant to exercise their role effectively because they would personally bear an important share of the non-pecuniary costs (in terms of personal interactions and reputation, for example), but would receive essentially none of the pecuniary benefits. Previous literature on non-executive directors has pointed out that directors with a potential conflict of interest (e.g., a significant business relationship with the firm or corporate insiders, familiarity due to long tenure, etc.) may not act in a truly independent manner (Yermack, 2004; Mallin et al., 2015; Goh & Gupta, 2016). These directors could collude with corporate insiders and help those insiders in pursing their own interests, rather those of all shareholders (i.e. including those who are not involved in the control of the firm). In such cases, the managerial power perspective of agency theory predicts that individuals who are 'generous' to the corporate insiders, promoting an

environment of ‘collegiality’, rather than confrontation, find the latter reciprocating (Bebchuk et al., 2002; Mallin et al., 2015; Goh & Gupta, 2016). This may result in lower compensation for monitors who are perceived to be less ‘friendly’ to corporate insiders (Goh & Gupta, 2016).

These arguments could be extended to the statutory auditors, who take part in meetings of the board of directors as monitors on behalf of the shareholders. It could be argued that, after accounting for their observable effort and responsibilities in the board of statutory auditors, the statutory auditor’s compensation, or at least some of its less visible parts, might depend on whether he or she is, or is not, in a situation of potential involvement with the firm and/or the controlling shareholder.

The extent to which a monitor is truly independent is pivotal to the issue of whether he or she will exert an ‘objective independent judgment’ or not (e.g., Watts & Zimmerman, 1981; Mallin et al., 2015). In the assessment of statutory auditor’s independence, the Italian regulator has adopted a ‘rules-based’ approach. By taking for granted that the controlling shareholder could wield its influence over the appointment of statutory auditors, firms are required to appoint an individual in the board of statutory auditors only when several formal independence criteria are met (e.g., Ferrarini, 2005; Ferrarini & Giudici, 2006). Nevertheless, whilst all statutory auditors are deemed to be formally independent, in reality they may not be. Statutory auditors who are involved with the firm and/or with its controlling shareholder may collude, exercise their monitoring duties less efficiently and act in the interests of corporate insiders, rather in the shareholders’ interest (Melis, 2005; Clark, Wójcik & Bauer, 2006; Mallin et al., 2015). Thus, according to a managerial power approach of agency theory, these statutory auditors may be paid significantly more than other peers who are not so involved with the firm (and the

controlling shareholder), after accounting for their level of effort and responsibilities observable by shareholders. This would be the result of their lack of *de facto* independence and potential to collude with corporate insiders. Hence, in line to the managerial power perspective, we expect that:

Hypothesis 2. Statutory auditor's compensation will be positively related to the statutory auditor's involvement with the controlling shareholder and/or the firm.

Research design

Sample And Data Gathering

This study focuses on Italian non-financial listed firms that adopted the Italian traditional board structure with the board of statutory auditors. At the end of 2012, we identified 260 firms listed on the MTA ("Mercato Telematico Azionario") – the main market of Italian stock exchange. First, we excluded 59 financial firms (banks, insurance firms, financial services and other financial institutions) due to the particularities of the financial sector in terms of regulation and corporate governance practices (e.g., Yermack, 2004; Mallin et al., 2015; Goh & Gupta, 2016). Then, we dropped: 4 firms which did not have a board of statutory auditors; 5 firms that had their share's quotation suspended, and 4 foreign firms. Finally, due to unavailability of data about the compensation of the board of statutory auditors, we had to exclude 7 firms. Therefore, the final sample is constituted by a total number of 559 statutory auditors in 181 Italian non-financial listed firms - representing 97.25% of Italian stock market capitalization, after excluding financial firms.

Due to the absence of a complete database on our variables of interest, all data was hand-collected from several sources. First of all, data on the compensation received by statutory auditors was gathered from the compensation report. Statutory auditor's age and

professional qualifications were collected from his/her CV available in the minutes of the shareholders' meeting, archived on Borsa Italiana website. Data about the number of meetings, chairpersonship, and the slate from which each statutory auditor was appointed were gathered from the corporate governance report. Statutory auditor's expertise and network were gathered from the Calepino Azionista by Mediobanca which provides information about membership in corporate boards of listed companies. Tenure in the board of statutory auditors as well as the identity of the major shareholder were gathered from the CONSOB database. Data on firm size and leverage were collected from corporate annual reports, while industry from Borsa Italiana website. Data about local auditor pool were collected from Aida Database.

Variables

Dependent Variables

The annual compensation of statutory auditors is disclosed in the compensation report in a tabular format. The table is composed of three columns labeled as 'total', 'salary' and 'other'. TOTAL COMPENSATION is the sum of SALARY and OTHER. SALARY is paid to the statutory auditor for performing his/her role in the board of statutory auditors. Firms report that additional compensation (OTHER COMPENSATION) is paid to the statutory auditor for 'other services' given to the firm (or other firms in the group). These services generally comprise non-audit services, including positions in other firms in the group. For example, during his last year of term of office, one statutory auditor in Atlantia received – via his legal and tax firm – € 344,000 payments, related to consultancy services given, by an Atlantia's subsidiary, Autostrade per l'Italia. The statutory auditor was, then, reappointed.

Following previous literature (e.g. Andreas et al., 2012; Engel, Hayes & Wang, 2010; Farrell et al., 2008; Fernandes et al., 2013; Mallin et al., 2015), our dependent variables are the natural logarithm of the annualized compensation received by the statutory auditor[3].

Key Independent Variables

Statutory auditor's observable effort and responsibilities were estimated as follows:

- BOARD MEETINGS: statutory auditors attending a higher number of meetings are expected a higher amount of work (Hempel & Fay, 1994; Cordeiro et al., 2000; Mallin et al., 2015; Bugeja et al., 2016). Statutory auditor's observable effort was measured as the number of the meetings s/he had to participate[4] (expressed in natural logarithm terms), i.e. those of the board of statutory auditors and the ones of the board of directors;

- CHAIR: individuals chairing the board generally face higher responsibilities and exert additional effort (e.g. in preparation for meetings) (Engel et al., 2010; Marchetti & Stefanelli, 2009; Mallin et al., 2015; Bugeja et al., 2016). Statutory auditor's observable responsibility was measured as a dichotomous variable that equals 1 if the statutory auditor is the Chair of the board of statutory auditors during the financial year, and 0 otherwise.

The presence of a potential involvement of a statutory auditor with the firm and its controlling shareholder was measured as follows:

[3] The dependent variables are annualized in order to enable the comparison of the compensation for statutory auditors appointed during the year and are expressed as logarithm to reduce the level of heteroscedasticity (e.g., Fernandes et al., 2013, Mallin et al., 2015).
[4] Data about the actual attendance of each statutory auditor to those meetings was rarely disclosed by firms. However, this is not a particular shortcoming as statutory auditors can be assumed to have attended all meetings, as their absence is one of the few reasons of dismissal from the role.

- TENURE: supervisory bodies, such as statutory auditors, are more likely to befriend and 'collude' with corporate insiders, and less likely to serve as effective monitors, the longer they serve in the firm (Tirole, 1986; Higgs, 2003; Vafeas, 2003; Goh & Gupta, 2016). The length of board tenure serves as an observable proxy for what remains unobserved but is truly at-issue: the extent to which a statutory auditor is involved with the firm (Vafeas, 2003). Italian policymakers (e.g., Assonime, 2016), practitioners (e.g., leading national proxy advisory agencies such as Frontis governance, 2013) and academics (Melis and Zattoni, 2017) considered a long tenure as an important threat to a statutory auditor's *de facto* independence. We used two alternative measures of tenure. TIME IN ROLE estimates the overall length of service as a statutory auditor in a given firm. It was measured, at the end of the previous financial year, as the natural logarithm of the number of years that a statutory auditor has been serving in the board of statutory auditors of a given firm. An alternative measure of tenure is TERM OF OFFICE, which estimates whether a statutory auditor recently appointed exhibit a different behavior than one who is close to the end of the term of office (i.e. about to be reappointed). It was measured, at the end of the previous financial year, after taking into account which of the three-year term of office the statutory auditor was in (0 if recently appointed, 1 if mid of term of office, 2 if about to be reappointed).

- APPOINTMENT: statutory auditors appointed from the controlling shareholder's slate are more likely to be involved with the controlling shareholder; therefore they could be less independent than those appointed from slates presented by minority shareholders (Ferrarini, 2005; Ferrarini & Giudici, 2006; Melis & Zattoni, 2017). For example, Melis and Zattoni (2017: 116) noted that 'their interest in being re-appointed may be a deterrent to carrying out their duties in monitoring ... especially in the case of statutory auditors appointed from the slate presented by the controlling shareholder'. It was measured as a

dichotomous variable that is equal to 1 when the statutory auditor was appointed from a slate presented by the controlling shareholder and 0 when the statutory auditor was appointed from a slate presented by minority shareholders.

Control variables at the individual-level

- AGE: older statutory auditors are generally more experienced and knowledgeable, and thus might receive a relatively higher compensation (e.g., Hogan & McPheters, 1980; Marchetti & Stefanelli, 2009; Mallin et al., 2015). AGE is a proxy for the statutory auditors' general level of experience. However, statutory auditors who serve in listed firms are generally highly experienced and knowledgeable as they comprise the professional elite. The general level of experience was found influence independent director's compensation in the UK, but not in Italy (Mallin et al., 2015). Hence, statutory auditors' age might not influence the compensation received. It was measured as the natural logarithm of the age of the statutory auditor at the end of the previous financial year;

- QUALIFICATION: the qualifications held can express the specific knowledge on audit process possessed by each statutory auditor. Highly qualified statutory auditors could receive higher compensation. However, statutory auditors who serve in listed firms are generally highly qualified as they comprise professional elite. In addition, their qualifications are highly regulated. Thus, their qualification might not influence the compensation received. In line with prior literature (e.g., Hogan & McPheters, 1980; Mallin et al., 2015), it was measured as the sum of the legally recognized qualifications (chartered accountant, auditor, business lawyer, and professor in accounting, business law

or in a subject strictly related to the industry in which the firm operates) possessed by the statutory auditor at the end of the previous financial year;

- EXPERTISE: a greater expertise in the statutory auditor's field adds knowledge in routine activities, improves efficiency and effectiveness in finding threats and enhances the quality of the monitoring as an estimate of the expertise as a statutory auditor (e.g., Hogan & McPheters, 1980; Marchetti & Stefanelli, 2009; Mallin et al., 2015; Goh & Gupta, 2016). A higher level of expertise could positively influence the compensation received by a statutory auditor. However, the level of expertise of a statutory auditor is hardly observable by shareholders as this information is not publicly disclosed in detail. Hence, a higher level of expertise might not influence the compensation received by a statutory auditor. In line with prior literature (e.g. Mallin et al., 2015; Goh & Gupta, 2016) it was estimated as the number of previous positions in the board of statutory auditors held by each statutory auditor in other listed firms (i.e. excluding the position in the current board) during his/her career, measured at the end of the previous financial year;

- NETWORK: a statutory auditor with a strong social capital may be less reliant on any single firm for his/her compensation, therefore s/he could be more independent from the firm (and its controlling shareholder) s/he serves as statutory auditor and improve his/her performance as monitor (Horton, Millo & Serafeim, 2012; Goh & Gupta, 2016). Similarly, a weak social capital could make a statutory auditor less independent from the firm (and its controlling shareholder) and reduce his/her effectiveness as monitor. On the one hand, an optimal contracting perspective predicts that a strong social capital will positively influence statutory auditor's compensation. On the other hand, according to a

managerial power perspective, a weak social capital will positively influence the level of compensation. Hence, NETWORK could either positively or negatively influence statutory auditor's compensation. It was estimated as the number of previous directorships held by the statutory auditor in listed firms during his/her career, measured at the end of the previous financial year.

Control variables at the firm-level

- FIRM SIZE: larger firms are likely to be characterized by more complex activities with larger stakes involved, hence pay the individuals in charge of monitoring the board of directors more (Andreas et al., 2012; Brick et al., 2006; Mallin et al., 2015; Bugeja et al., 2016). It was measured as the natural logarithm of the total assets of the firm at the end of the previous financial year;

- FIRM LEVERAGE: the level of debt could influence the statutory auditor's need to monitor the board of directors as well as the internal control system (Williamson, 1988, Mallin et al, 2015). It was measured as the ratio between the book value of equity over liabilities at the end of the previous financial year;

- BLOCKHOLDER: similarly to the case of directors, the identity of the ultimate owner of the firm could affect the compensation received by statutory auditors (e.g., Barontini & Bozzi, 2011). Following previous literature, when the direct blockholder of a firm was another corporate entity, further investigation was needed to find 'the major shareholders in these entities, then the major shareholder of the major shareholders, and so on, until one finds the ultimate controller of the votes', as described by La Porta La Porta, Lopez-de-Silanes & Shleifer (1999). It is a dichotomous variable that indicates whether the main

shareholder, at the end of the previous financial year, was the State (1) or other entities (0);

- INDUSTRY: the statutory auditor's compensation may reflect a need to conform to market expectations which could be predicted by examining peer references or industry traditions (Aguilera & Jackson, 2003; Sur et al., 2015). It was measured as a categorical variable that indicates whether the firm belongs to a specific industry, according to the classification of Borsa Italiana.

LOCAL AUDITOR POOL: the statutory auditor's compensation may reflect the availability of prospective statutory auditors in the firm's vicinity. Headquarters' locations are likely to be most relevant for determining a statutory auditor's cost of board participation. Following Knyazeva, Knyazeva and Masulis (2013), it was measured as the natural logarithm of the number of listed firms headquartered within the same region of the firm's headquarters.

[INSERT TABLE 1 HERE]

Data Analysis

The basis and the amounts of the compensation of each statutory auditor were analyzed by using descriptive statistics tools. In order to test our hypotheses we estimated a series of hierarchical linear regression models with the compensation of the individual statutory auditor as the dependent variable. Hierarchical linear regression models are a generalization of linear modeling which simultaneously investigate relationships within a specific hierarchical level, as well as between or across hierarchical levels of grouped data (Bryk & Raudenbush, 1992; Hoffman, 1997; Gelman, 2006). These models share

assumptions (e.g., linearity and normality) with other general linear models (e.g., regression), but some of these assumptions (above all, independence of observations) are modified for the hierarchical nature of the design (i.e. data are nested in groups at different levels) (Goldstein, 1995; Chang , Lin, Liu, Shiue & Wheatley, 2016). First of all, units of observations in the same group are assumed to have a higher level of similarity than those in different groups. Second, groups are assumed to be independent of each other, but observations within a group are not (e.g., Hoffman, 1997; Van Essen, Engelen, Carney, 2013). Chang et al. (2016) suggested adopting hierarchical linear regression models in auditing research to analyze variance in the outcome variables when the predictor variables are at varying hierarchical levels. These models account for shared variance in hierarchically structured data, by estimating lower-level slopes and employing them in estimating higher-level outcomes (Chang et al., 2016). Therefore, in line with recent literature on corporate governance (e.g., Van Essen et al., 2013) and, more specifically, on independent director's compensation (Mallin et al., 2015) and auditing (Chang et al., 2016), we employed a multi-level hierarchical linear model with random intercept and random slope. This is because our sample is characterized by the presence of individual observations for each statutory auditor (j) nested within firm-level observations (i), as a given board of statutory auditors comprises several statutory auditors and an individual statutory auditor may sit in two (or more) boards of statutory auditors at the same time. The multilevel hierarchical linear model relates our control factors ($c_{j,i}$) and our independent variables of interest BOARD MEETINGS ($Effort_{j,i}$), CHAIR ($Responsibility_{j,i}$), TIME IN ROLE (or TERM OF OFFICE) and APPOINTMENT ($Involvement_{j,i}$) to the total compensation (TOTAL $COMPENSATION_{j,i}$) paid to the statutory auditor j in firm i and its two components

($SALARY_{j,i}$ and $OTHER\ COMPENSATION_{j,i}$), by controlling for firm-level random effects $u^{(1)}_{j,i}$, and individual-level random effects $u^{(2)}_{j,i}$.

$$TOTAL\ COMPENSATION_{j,i} = \alpha_0 + \beta_1 Effort_{j,i} + \beta_2 Responsibility_{j,i} + +\beta_3 Involvement_{j,i} + \gamma c_{j,i} + Z^{(1)}_{j,i} u^{(1)}_{j,i} + +Z^{(2)}_{j,i} u^{(2)}_{j,i} + \varepsilon_{j,i}$$

$$SALARY_{j,i} = \alpha_0 + \beta_1 Effort_{j,i} + \beta_2 Responsibility_{j,i} + \beta_3 Involvement_{j,i} + \gamma c_{j,i} + + Z^{(1)}_{j,i} u^{(1)}_{j,i} + Z^{(2)}_{j,i} u^{(2)}_{j,i} + \varepsilon_{j,i}$$

$$OTHER\ COMPENSATION_{j,i} = \alpha_0 + \beta_1 Effort_{j,i} + \beta_2 Responsibility_{j,i} + +\beta_3 Involvement_{j,i} + \gamma c_{j,i} + Z^{(1)}_{j,i} u^{(1)}_{j,i} + +Z^{(2)}_{j,i} u^{(2)}_{j,i} + \varepsilon_{j,i}$$

To check for multicollinearity we verified the level of correlation among the independent variables and the variance inflation factors (VIFs).

Findings

Descriptive Statistics and Univariate Analysis

The descriptive statistics for statutory auditors' compensation and its components are shown in Table 2. The median and mean compensation (TOTAL COMPENSATION), is similar to the amounts generally paid to independent non-executive directors in Italy (Mallin et al., 2015). On average, the main component of compensation was the amount paid to the statutory auditor for his/her duties on the board of statutory auditors (SALARY). This accounts for 83% and 75% of the total compensation perceived by Chairs and other statutory auditors, respectively. In line with the higher responsibilities given to the individuals chairing the board of statutory auditors, the average value of their salary is higher when compared to other statutory auditors (€ 48,655 vs. € 33,219, p<.001). However, the average amount of the compensation paid for services that are not part of statutory auditor's tasks in the board, but are related to other services to the firm (or other firms in the group) is higher for statutory auditors than for Chairs (€ 10,800 vs. € 9,853). Only one third of the statutory auditors received additional compensation for

‘services to the firm’ (or ‘in other firms in the group’) that are not related to his/her duties in the board of statutory auditors (OTHER COMPENSATION).

[INSERT TABLE 2 HERE]

Panel A of Table 3 reports some descriptive statistics of our independent variables at individual level. The average statutory auditor (including the Chairperson) has been serving on the board of statutory auditors for approximately five years (TIME IN ROLE). On average, statutory auditors are in the mid of their TERM OF OFFICE (0.92). Eighty-six percent of them was directly appointed from the slate presented by the controlling shareholder (APPOINTMENT). The controlling shareholder is clearly involved in the statutory auditors’ appointment process. In all firms the controlling shareholder presented a list and in two-thirds of the firms s/he was able to appoint all statutory auditors. A case in point is Cofide, where the controlling shareholder – who owned 52.373 % of equity - appointed all the members of the board of statutory auditors. This also happened when the controlling shareholder did not own the majority of the shares. An exemplary case of this practice is provided by Itway, where the board of statutory auditors was entirely appointed by the controlling shareholder who owned 32.56% of equity. The controlling shareholder’s influence is weaker in relation to the appointment of the Chair of the board of statutory auditors. In thirty-seven percent of the firms analyzed, the Chair was selected among those statutory auditors appointed by minority shareholders.

There are slight, yet significant, differences between statutory auditors and Chairpersons in terms of AGE (54 vs. 57, $p<.01$), while no major difference in terms of legally recognized qualifications (QUALIFICATION). Most of statutory auditors are chartered accountants and auditors, with only few of them having either additional or other

professional qualifications (e.g. business lawyer and/or academic professor). Previous experience in other listed firms as statutory auditors (EXPERTISE) is relatively low, with Chairpersons having a higher expertise than other statutory auditors (1.70 vs. 0.94, p<.001). Other experiences at board-level (NETWORK) are lower, with Chairs, again, having slightly more experience than other statutory auditors (0.64 vs. 0.39, p<.01).

Panel B of Table 3 reports the descriptive statistics of our independent and control variables at firm level. The average statutory auditor had to attend 19 board meetings during the financial year (BOARD MEETINGS). Firms have, on average, nearly € 5 Billions of total assets (FIRM SIZE) and an equity-to-debt ratio of 0.8 (FIRM LEVERAGE)[5]. The State (BLOCKHOLDER) controls 11 percent of the firms. The average number of listed firms headquartered within the same region is 24 (LOCAL AUDITOR POOL). Industrial Goods & Services are the most represented industry in the sample, followed by Technology, Telecommunications & Media and Personal Households & Goods[6].

[INSERT TABLE 3 HERE]

Table 4 reports the correlations between all the variables used in the analysis. The first column in the table reports the variance inflation factors (VIFs) for each explanatory variable. VIF values are low (average VIF is 1.28, maximum VIF is 1.48) and the independent variables do not have correlations with each other greater than |0.5|, thus multicollinearity is unlikely to be a concern. It is worth noting that TOTAL

[5] For eight firms in the sample, due to a negative book-value of the equity, we stated the leverage at 0, in order to reduce the effect of the outliers.
[6] Due to a low number of firms in certain industries – i.e. less than six per group - , starting from the classification of Borsa Italiana we merged 'Oil & Gas' with 'Chemicals' and 'Basic Resources' industries; 'Technology' with 'Telecommunications' and 'Media'; and 'Travel & Leisure' with "Retail".

COMPENSATION is negatively correlated with being appointed from the controlling shareholder's slate (APPOINTMENT) ($p<.05$). This is due to the evidence that statutory auditors chairing the board, who are usually paid significantly more than other statutory auditors, are often appointed by minority shareholders, as required by the law. The amount of the additional compensation received for other services to the firm (or other firms in the group) (OTHER COMPENSATION) is positively and significantly correlated ($p<.05$) with the age of the statutory auditor (AGE) and the size of the firm (FIRM SIZE). OTHER COMPENSATION is also positively and significantly correlated with TIME IN ROLE, TERM OF OFFICE and APPOINTMENT ($p<.05$). This evidence, together with the lack of significance in the correlation between OTHER COMPENSATION and EXPERTISE and NETWORK, as well as the lack of disclosure on the criteria and rationales for this part of compensation, seems to suggest, *prima facie*, that OTHER COMPENSATION could signal a potential collusion between an allegedly independent statutory auditor and the firm (and its controlling shareholder).

[INSERT TABLE 4 HERE]

Table 5 reports main differences of means between our independent variables. TOTAL COMPENSATION is significantly higher for those statutory auditors who attended a high number of board meetings (€55,979 vs. €42,070, $p<.001$), have a long tenure (€45,216 vs. €52,973, $p<.05$) or are at the end of their term of office (€52,107 vs. €45,731,$p<.10$). TOTAL COMPENSATION is also significantly higher for those statutory auditors appointed by minority shareholders' slates (€58,454 vs. €47,086, $p<.05$). This counter-intuitive finding is due to the fact that chairpersons - who are paid significantly more than other statutory auditors – are required to be chosen from those

statutory auditors appointed from minority shareholders' slates. Indeed, as shown in Table 4, the variables 'CHAIR' and 'APPOINTMENT' are negatively and significantly correlated (-0.45, p<.001). More specifically, SALARY is significantly higher for those statutory auditors who attended a high number of board meetings (€45,534 vs. €31,527, p<.001) and those who are appointed by the minority shareholders' slate (as those serve as Chairpersons) (€53,812 vs. 35,613, p<.001). OTHER COMPENSATION is significantly higher for those statutory auditors with long tenure (€15,361 vs. €6,498, p<.001) or at the end of their term of office (€12,454 vs. 7,156,p<.05), and those appointed by the controlling shareholder's slate (€11,470 vs. €4,643, p<.05).

[INSERT TABLE 5 HERE]

Multivariate Analysis

Table 6 reports the results of the multivariate analyses. Models (1) and (2) refer to the total annual compensation (TOTAL COMPENSATION) received by the statutory auditors in our sample. Models (3) and (4) refer to the amount paid to the statutory auditor for his/her duties in the board of statutory auditors (SALARY), while models (5) and (6) to the additional compensation received by a statutory auditor for other services to the firm (or other firms in the group) (OTHER COMPENSATION).

The total compensation received by a statutory auditor is significantly influenced by the observable effort and responsibilities of the statutory auditor as well as by his/her tenure in the board of the statutory auditors. Larger firms tend to pay more, while State-controlled firms tend to pay less. More specifically, the breakdown analysis reported in Models 3 and 4 reveal that SALARY is positively and statistically influenced by the observable effort (BOARD MEETINGS) and responsibilities (CHAIR) of the statutory auditor. Thus, hypothesis 1 is supported. Models 5 and 6 report the breakdown analysis

on OTHER COMPENSATION. The amount of other compensation that a statutory auditor received in addition to the compensation related to his/her duties as statutory auditor is found to be significantly influenced by the level of involvement of the statutory auditor with the firm (TIME IN ROLE and TERM OF OFFICE) and the controlling shareholder (APPOINTMENT). Thus, hypothesis 2 is supported.

Overall, variations in TOTAL COMPENSATION and SALARY are mainly due to differences between the groups (i.e. at the firm-level) than differences within the groups (i.e. within the board of statutory auditors of a given firm), while the variation in OTHER COMPENSATION is mainly due to differences within the members of a given board of statutory auditors. This evidence provides further support to the importance of statutory auditor's individual-level characteristics in explaining his/her potential involvement with the firm and/or the controlling shareholder.

[INSERT TABLE 6 HERE]

Additional analyses

We performed a number of alternative analyses to assess the robustness of our results. First, we conducted two separate regressions to analyze whether the relationship between compensation and our variables of interest is different between Chairpersons and the other members of the board of statutory auditors. Although compensation levels are significantly different, the determinants of total compensation and its components are consistent with our main results (See Table 7). Secondly, we examined whether our findings were robust to alternate modeling approaches. We estimated an alternative specification of our hierarchical models by running an OLS regression with clustered standard errors. Our findings are robust to this alternative approach (See Table 8).Third, we acknowledge that some of our variables (TOTAL COMPENSATION and BOARD

MEETINGS) might be endogenously determined (i.e. reverse causality issue). In theory, TOTAL COMPENSATION could influence statutory auditor's effort (BOARD MEETINGS). Given the characteristics of our sample, we assessed whether or not interaction exists between such variables, by using the Wooldridge's (1995)'s test[7]. Wooldridge's score test does not reject the null hypothesis that BOARD MEETINGS is exogenous at conventional significance levels (p = 0.2920) (results are not reported for brevity and available on request from the authors). We did not find any evidence of endogeneity. Such a finding seems due to the fact that while statutory auditor's effort could be influenced by his/her compensation, the level of effort observable by shareholders (BOARD MEETINGS) is not. There is no additional fee for board meeting attendance. The law requires boards of statutory auditors to meet at least quarterly. Board of directors' meetings are called by the Chair of the board of directors. In contrast with corporate directors, statutory auditors are required by law to attend board meetings. Lack of attendance automatically determines statutory auditor's dismissal. Fourth, we examined which statutory auditors were more likely to be involved with corporate insiders. We ran a logistic regression with a binary variable which equals one if the statutory auditor received other compensation and zero otherwise. After controlling for industry-level and firm-level characteristics, we found that those statutory auditors with a longer tenure (p<.01), those who were appointed by the controlling shareholder (p<.05) and those with less 'network' (p<.10) were more likely to receive additional compensation not linked with the duties in the board of statutory auditors (See Table 8).

[7] We identified two instrumental variables. Ideally, a good exogenous instrument is one which has a strong correlation with the endogenous variable but is not correlated with the error term. In practice, however, it is difficult to identify such an instrument (Maddala, 1977). As noted by Renders et al (2010), corporate governance studies generally use instruments which are either 'weak' (i.e. exogenous but have a low correlation with the endogenous variable), or are partially endogenous but have a high correlation with the endogenous variable. The use for 'weak' instrument may result in a bias that is larger than the original one. Following prior corporate governance literature (e.g., Renders et al., 2010) we identified the first instrumental variable: the lagged value of BOARD MEETINGS. The second instrumental variable is BOD_MEETINGS, i.e. the natural logarithm of the number of meetings held by the board of directors during the financial year). Both instruments are partially endogenous (p = 0.0598), but have a high correlation with the potentially endogenous variable and passed the test for weak instruments (p < 0.001) (Stock & Yogo, 2005). This suggested us to interpret the results of the 2SLS – which are fully consistent with the main results – with caution.

Fifth, we checked for potential non-linear relations between our dependent and independent variables at individual-level (e.g., age, network, etc.). We find no significant evidence of such non-linear relationships (results are not reported for brevity and available on request from the authors). Sixth, we also acknowledge that some variables (e.g., TIME IN ROLE, NETWORK) could be an increasing function of AGE. Our results hold after excluding AGE from the estimation (results are not reported for brevity and available on request from the authors). Seventh, we performed cross-sectional tests to investigate whether the controlling shareholder's power moderates the relationship between compensation and our variables of interest. We do not find any significant difference (results are not reported for brevity and available on request from the authors). Finally, following prior literature (Knyazeva et al., 2013) we adopted alternative estimations of LOCAL AUDITOR POOL: a categorical variable indicating in which Italian region the firm is headquartered, the average income of the Italian region where the firm is headquartered, the average income reported by chartered accountants of the region where the firm is headquartered and the percentage of chartered accountants over the whole population in the region where the firm is headquartered. Our results are invariant to these alternative measures of local auditor pool (results are not reported for brevity and available on request from the authors).

[INSERT TABLE 7]

[INSERT TABLE 8]

Discussion

This study contributes to our understanding of the compensation basis and criteria of statutory auditors, i.e. individuals who serve in a formally independent corporate governance board that monitor the board of directors' decisions and the firm's internal

control system. By adopting an agency theory framework that incorporates an institutional perspective, this study analyzed the extent to which both optimal contracting theory and managerial power perspectives of agency theory are able to explain statutory auditors' compensation among Italian non-financial listed firms. More specifically, it investigated whether, and to what extent, their compensation reflects their responsibilities and effort that are observable by shareholders and/or their potential involvement with the firm and connection with its controlling shareholder.

Given the specific function of the members of the board of statutory auditors, who serve as monitors at a board-level, by attending the board of directors' meetings without having any advisory role, our empirical analysis has allowed us to address an important limitation pointed out by prior literature. By focusing on independent director's compensation, prior literature could not disentangle the effect on pay of the advisory role from the monitoring role (Mallin et al., 2015; Goh & Gupta, 2016), as an independent director's characteristics inherently capture both aspects. Hence, prior studies could not differentiate between different role effects on compensation. Our study was able to isolate the determinants of the compensation for the monitoring function at the board-level, so that it contributes to understanding how shareholders reward monitoring responsibilities at board-level. Firm's outcomes of statutory auditor's performance are not observable by shareholders due to information and expertise asymmetries. Although at a first sight this could seem a limitation of the setting, in fact it provides an opportunity to investigate the determinants of a supervisor's compensation when his/her impact on firm's outcome is not observable by the principal(s).

By using a sample of 559 statutory auditors who served in Italian non-financial listed firms, we find that statutory auditors' compensation is mainly based on their effort and responsibilities that are observable by shareholders. This evidence is in line with an optimal contracting view of agency theory (e.g., Holmström, 1979; Gomez-Mejia & Balkin, 1992; Mallin et al., 2015) which predicts that in case of non-programmable jobs, when there is high uncertainty and the principal cannot easily monitor the actions of the agent (or, as in this case, of the supervisor) it is more efficient to write a contract with outcomes that can be easily observed by the principal (e.g., the shareholders).

However, our findings also show that those statutory auditors with more involvement with the firm and its controlling shareholder received additional compensation that is not related to their role in the board of statutory auditors but to non-audit services given to the firm (or other positions taken in firms in the group). This finding casts doubts on the assumption that statutory auditor's compensation is the result of an arm's length transaction. It is in line with a managerial power perspective of agency theory, which recognizes that power and connections between individuals influence the definition of compensation arrangements at board-level (Bebchuk et al., 2002; Mallin et al., 2015; Van Essen et al., 2015). Furthermore, the evidence of poor disclosure on this additional compensation, paid to those statutory auditors who are more involved with the firm and its controlling shareholder, provides further support to the managerial power view as limited disclosure enables firms to camouflage the additional compensation paid. In line with prior literature on executive compensation schemes (e.g., Bebchuk et al., 2002; Bebchuk & Fried, 2003; Kalyta & Magnan, 2008; Laksmana, Tietz & Yanget, 2012), limited disclosure on this specific compensation component seems to be the result of

statutory auditors' potential lack of *de facto* independence and collusion with corporate insiders.

In addition, this study also provided interesting insights of how a *de facto* three-tier agency model (e.g., Faure-Grimaud et al., 2003; Kofman & Lawarrée, 1993; Tirole, 1986) works in practice. Prior corporate governance literature either illustrated analytically the relationship between shareholders, supervisory council and senior management (e.g., Schöndube-Pirchegger & Schöndube, 2010) or conducted empirical analyses focusing on the role of compensation committees as supervisors in US firms (Conyon & He, 2004). Our study extends this literature exploiting the principal-principal agency problem that characterizes corporate governance in Italy and the uniqueness of the statutory auditors' role. Supervisors are found to be likely to collude with one of the principals (i.e. the controlling shareholder) at the expense of the other (minority shareholders). The additional, poorly disclosed, compensation given to those statutory auditors who are likely to be more involved with the firm and/or its controlling shareholder seems to provide a signal of such potential collusion. Such monetary transfers could be an approximate for the overall covert transfer to the supervisor (Tirole, 1986). These findings are potentially generalizable to different corporate governance relationships which involve the role of a supervisor whose performance cannot be observed by (some of) the principals (e.g., the relationship between shareholders, external auditor and executive directors, or the one between shareholders, compensation committee and CEO).

As any study, we acknowledge that this paper has some limitations which, in turn, might provide avenues for future research. First, the lack of disclosure on the compensation paid to statutory auditors for other services limited the depth of our investigation on the

reasons why this part of compensation was received by each individual statutory auditor. However, especially when compared with the high level of disclosure on the part of compensation that is based on observable effort and responsibilities, poor disclosure provided further support to our interpretation of the findings as it is a key element of the managerial power view (e.g., Bebchuk et al., 2002). Tirole (1986) predicted that covert transfers to the supervisor could also include non-monetary transfers such as social exchange relations. However, as noted by prior related literature (e.g., Bugeja et al., 2016), social exchange relationships are difficult to identify. Given the relative importance of informal vs. formal (e.g., educational) networks in Italy (Melis and Zattoni, 2017), and the consequent limitations in the dataset used, we invite further research to address these issues empirically. Second, our sample examined the statutory auditor's compensation for a single year. This choice enhances internal validity, but consequently treats compensation as a static concept. Although the way statutory auditor's compensation is designed (i.e. no long-term or performance-based compensation) helps to reduce the potential harm which might derive from the choice of focusing on a single financial year (e.g., potential endogeneity due to reverse causality), future studies could encompass a longitudinal dynamic model in which variation in statutory auditor's compensation could be associated with a variation in its main determinants. This choice could address potential endogeneity concerns more comprehensively. Third, the choice of focusing on a single country is able to foster internal validity and exploits the uniqueness of the Italian institutional setting (above all, the existence of statutory auditors and their unique role as monitors at board-level), but might potentially limit the extent to which the results of this study may be applied to other settings. The general applicability of our findings is primarily limited to settings characterized by a concentrated ownership and control structure, a principal-principal agency problem and a high risk of collusion at the

top. This means that our findings are potentially highly generalizable to the great majority of firms listed around the world; possibly with the exclusion of those headquartered in some important Anglo-American countries.

This study has theoretical implications. First of all, it points out that optimal contracting and managerial power perspectives represent complementary, rather than competing, explanations to the compensation of individuals that serve at board-level, as they encompass different contractual arrangements within agency theory. Our results seem to contrast with the literature on executive and non-executive director compensation that has traditionally assumed that these two perspectives are alternative and compete with each other (e.g., Murphy, 2002; Hall & Murphy, 2003; Murphy & Zábojník, 2004; Conyon, 2006; Zattoni & Minichilli, 2009; Melis et al., 2012). More specifically, this study expands prior literature by pointing out that not only do these two perspectives co-exist at an aggregate-level (e.g., at country-level, Bebchuk et al., 2002), but they can also be complementary at firm-level as well as at the individual-level. This study highlights the relevance of analyzing individual-level characteristics for studies which seek to understand how collusion works at the top. The devil is likely to be in the detail. More research is needed to understand whether these two perspectives of agency theory are complementary at several levels of analysis. We suggest to design future studies by analyzing compensation determinants at several levels (e.g. country, firm and individual) and identify level-specific characteristics (i.e. contextual factors) which might reveal the co-presence of these two perspectives at each level of analysis. Last but not least, our study also contributes to our understanding of the value of the three-tier agency model, which involve a *de facto* principal-supervisor-agent structure, by helping to focus the attention on the supervisor's incentives and rewards. We invite future research to adopt

this model to understand how complex corporate governance relationships work. More specifically, how the presence of a formally independent supervisor influences existing agency problems.

This study has also important practical implications. The lack of disclosure on the amount paid to the statutory auditor not for his/her duties in the board of statutory auditors, associated with the potential collusion of the statutory auditor with corporate insiders, leaves us with important questions. To what extent can the board of statutory auditors be relied on as an effective independent corporate governance oversight mechanism? Or does it merely represent a legitimating device? We, therefore, suggest investors and other stakeholders, who may rely on the work of the board of statutory auditors as independent monitor, to be careful about the way statutory auditors are paid. Moreover, we recommend that policymakers improve existing regulation. They should enforce the level of full mandatory disclosure on the criteria and the amount paid to a statutory auditor for other services to the firm (or the firms in the group). At the same time, they should issue a stricter regulation (e.g., a limitation of the time in service) on the potential threats to the statutory auditor's *de facto* independence.

Conclusions

This study investigated whether, and to what extent, optimal contracting and managerial power represent alternative or complementary views on compensation of supervisors at board-level. It used a hand-collected sample of 559 statutory auditors, members of an Italian independent oversight governance institution whose main task is to monitor the acts and the decision-making process of the board of directors. This study provided evidence that, in line with an optimal contracting perspective of agency theory, the statutory auditors' compensation is mainly based upon the effort and responsibilities that

are observable by shareholders. At the same time, the additional, poorly disclosed, compensation that a statutory auditor may receive for services non-related to his/her role is associated with his/her involvement with the firm and its controlling shareholder. From a theoretical perspective, our findings provide support for the emerging view that optimal contracting and managerial power perspectives seem to provide complementary, rather than competing, explanations to compensation at the board-level. This is because they encompass different contracting arrangements within agency theory. Our study also offers insights to policymakers by questioning the current regulation that allows threats to statutory auditors' independence (e.g., no limits to the service period and to the additional compensation given to a specific member of a board of statutory auditors for services that are not related to its monitoring role and are not observable by minority shareholders). Investors and other stakeholders, who may rely on the work of the board of statutory auditors as independent monitor, are cautioned to be careful about the way statutory auditors are paid.

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TABLE 1. Variables' Definitions and Sources

Variable name	Definition	Source
TOTAL COMPENSATION	Total of annual compensation received by the statutory auditor during the financial year	Compensation Report
SALARY	Compensation received by the statutory auditor for his/her role in the board of the statutory auditors during the financial year	Compensation Report
OTHER COMPENSATION	Compensation received by the statutory auditor for 'other services' to the firm (or other firms in the group) during the financial year	Compensation Report
BOARD MEETINGS	Number of meetings held by the board of statutory auditors and board of directors during the financial year	Corporate Governance Report
CHAIR	Dichotomous variable indicating if the statutory auditor considered is chairing the board of statutory auditors (1) or not (0)	Corporate Governance Report
TIME IN ROLE	Number of years that a statutory auditor has been serving in the board of statutory auditors of the firm	CONSOB Database
TERM OF OFFICE	Categorical variable indicating if the statutory auditor is recently appointed (0), in the mid of term of his/her office (1), or about to be reappointed (2).	CONSOB Database
APPOINTMENT	Dichotomous variable indicating if the statutory auditor considered has been appointed from a majority shareholder's slate (1) or from a minority shareholder's slate (0)	Corporate Governance Report
AGE	Age of the statutory auditor at the end of the previous financial year	Curriculum Vitae provided in the Borsa Italiana website
QUALIFICATION	Sum of legally recognized qualifications possessed by the statutory auditor. Each qualification (chartered accountant, auditor, business lawyer, and professor in accounting, business law or in a subject strictly related to the industry in which the firm operates) is accounted as equal to 1	Curriculum Vitae provided in the Borsa Italiana website
EXPERTISE	Number of previous positions in the board of statutory auditors held by each statutory auditor in other listed firms (i.e. excluding the position in the current board) during his/her career, measured at the end of the previous financial year	Calepino Azionista by Mediobanca
NETWORK	Number of previous directorships held by the statutory auditor in listed firms during his/her career, measured at the end of the previous financial year	Calepino Azionista by Mediobanca
FIRM SIZE	Total of assets of the firm, measured at the end of the previous financial year, in which the statutory auditor served	Annual Report
FIRM LEVERAGE	Ratio of equity over liabilities, measured at the end of the previous financial year, of the firm in which the statutory auditor served	Annual Report
BLOCKHOLDER	Dichotomous variable that indicates if the firm's main shareholder, at the end of the previous financial year, is the State (1) or other (0)	CONSOB Database
INDUSTRY	Categorical variable indicating if the firm, in which the statutory auditor served during the financial year, belong to a specific industry	Borsa Italiana Website
LOCAL AUDITOR POOL	Number of listed firms headquartered within the same region of the firm's headquarter, in which the statutory auditor served during the financial year	Aida Database

This table reports the definition and sources of the variables used in the analyses.

TABLE 2. Total compensation received by statutory auditors and its two components

	Total						Chairpersons of the board of statutory auditors						Members of the board of statutory auditors					
	No	Mean	Median	St. Dev.	Min	Max	No	Mean	Median	St. Dev.	Min	Max	No	Mean	Median	St. Dev.	Min	Max
TOTAL COMPENSATION	559	48,714	36,965	43,393	5,200	376,300	181	58,509	48,000	41,820	5,888	297,000	378	44,023	31,405	43,403	5,200	376,300
SALARY	559	38,217	30,000	26,198	4,028	202,500	181	48,655	41,424	31,498	4,028	202,500	378	33,219	27,382	21,559	5,200	139,390
OTHER COMPENSATION	559	10,493	0	30,137	0	341,300	181	9,853	0	22,137	0	180,106	378	10,800	0	33,317	0	341,300

This table reports the number of observations, mean values, median values, standard deviations, minimum and maximum values of the compensation received by each statutory auditor during the financial year. TOTAL COMPENSATION is the sum of SALARY and OTHER COMPENSATION. All amounts are in units of Euro.

TABLE 3. Summary statistics of the independent and control variables at individual-level and firm-level

Panel A

	Total						Chairperson of the board of statutory auditors						Members of the board of statutory auditors					
Variable	No	Mean	Median	St. Dev.	Min	Max	No	Mean	Median	St. Dev.	Min	Max	No	Mean	Median	St. Dev.	Min	Max
CHAIR	559	0.32	0.00	0.47	0	1	181	1.00	1.00	0.00	1	1	378	0.00	0.00	0.00	0	0
TIME IN ROLE	559	4.94	4.00	4.16	0	14	181	5.21	4.00	4.38	0	14	378	4.81	4.00	4.06	0	14
TERM OF OFFICE	559	0.92	1.00	0.82	0	2	181	1.00	1.00	0.83	0	2	378	0.88	1.00	0.81	0	2
APPOINTMENT	559	0.86	1.00	0.35	0	1	181	0.63	1.00	0.48	0	1	378	0.97	1.00	0.18	0	1
AGE	559	55	53	10.36	34	91	181	57	55	10.33	37	79	378	54	52	10.26	34	91
QUALIFICATION	559	2.12	2.00	0.60	1	4	181	2.13	2.00	0.61	1	4	378	2.12	2.00	0.59	1	4
EXPERTISE	559	1.18	0.00	2.34	0	17	181	1.70	1.00	2.98	0	17	378	0.94	0.00	1.92	0	16
NETWORK	559	0.47	0.00	1.15	0	10	181	0.64	0.00	1.38	0	10	378	0.39	0.00	1.01	0	8

Panel B

Variable	No	Mean	Median	St. Dev.	Min	Max
BOARD MEETINGS	181	19	17	8.047	7	52
FIRM SIZE	181	4702.72	375.26	18836.43	15.87	169891.00
FIRM LEVERAGE	181	0.80	0.51	1.1519	0.00	12.55
BLOCKHOLDER	181	0.11	0.00	0.31	0.00	1.00
LOCAL AUDITOR POOL	181	24	8	37.84	2	142

INDUSTRY		
Automobiles & Parts	9	5.0%
Construction & Materials	14	7.7%
Food & Beverage	9	5.0%
Health Care	7	3.9%
Industrial Goods & Services	43	23.8%
Oil, Chemicals & Basic Resources	11	6.1%
Personal & Households Goods	25	13.8%
Tech, Telecommunications & Media	36	19.9%
Travel, Leisure & Retail	11	6.1%
Utilities	16	8.8%
Total	181	

This table reports the number of observations, mean values, median values, standard deviations, minimum and maximum values of the independent variables at the individual-level (**Panel A**) and firm-level variables (**Panel B**). Panel B also reports the industry distribution of the firms in the sample.

TABLE 4. Pearson pairwise correlation matrix and VIFs of independent and control variables

		VIF	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	TOTAL COMPENSATION		1.00																
2	SALARY		0.88*	1.00															
3	OTHER COMPENSATION		0.52*	0.12*	1.00														
4	BOARD MEETINGS	1.32	0.31*	0.38*	-0.00	1.00													
5	CHAIR	1.38	0.21*	0.26*	0.01	-0.02	1.00												
6	TIME IN ROLE	1.17	0.09*	-0.02	0.22*	-0.16*	0.04	1.00											
7	TERM OF OFFICE	1.07	0.06	0.014	0.11*	-0.04	0.07	0.31*	1.00										
8	APPOINTMENT	1.46	-0.11*	-0.19*	0.11*	-0.11*	-0.45*	0.19*	0.10*	1.00									
9	AGE	1.23	0.19*	0.17*	0.09*	0.06*	0.13*	0.26*	0.13*	0.03*	1.00*								
10	QUALIFICATION	1.03	-0.02*	0.00*	-0.04*	-0.01*	0.09*	-0.08*	-0.02	0.02*	-0.03*	1.00*							
11	EXPERTISE	1.48	0.24*	0.23*	0.06*	0.01*	0.16*	0.13*	0.06	0.08*	0.30*	0.07*	1.00*						
12	NETWORK	1.36	0.24*	0.27*	-0.03*	0.14*	0.11*	0.03*	0.03	-0.04*	0.23*	0.05*	0.45*	1.00*					
13	FIRM SIZE	1.48	0.64*	0.65*	0.14*	0.37*	-0.02*	-0.06*	-0.04	-0.14*	0.19*	-0.01*	0.25*	0.28*	1.00*				
14	FIRM LEVERAGE	1.08	-0.09*	-0.10*	-0.00*	-0.21*	0.00*	0.04*	0.04	-0.02*	0.02*	0.05*	-0.03*	0.05*	-0.10*	1.00*			
15	BLOCKHOLDER	1.27	0.11*	0.16*	-0.03*	0.31*	-0.02*	-0.09*	0.08	-0.21*	0.04*	-0.01*	-0.12*	-0.02*	0.31*	-0.05*	1.00*		
16	LOCAL AUDITOR POOL	1.05	0.02	0.05	-0.05	0.03	0.01	-0.10*	0.01	0.05	-0.05	-0.05	0.02	0.08	0.03	0.06	-0.05	1.00	
17	INDUSTRY	1.08	-0.03*	-0.02*	-0.04*	0.08*	0.01	-0.00*	-0.00*	-0.05*	-0.10*	0.03*	-0.00*	-0.13*	-0.12*	0.06*	1.00*	0.04	1.00

This table reports the VIF values and the correlations among the variables for the 559 statutory auditors included in the final sample. * Significant at the 5% level.

TABLE 5. Differences of means of compensation between our independent variables

		Total			Chairperson of the board of statutory auditors			Members of the board of statutory auditors		
		Low	**High**	**High vs. Low**	**Low**	**High**	**High vs. Low**	**Low**	**High**	**High vs. Low**
BOARD MEETINGS	TOTAL COMPENSATION	42,070	55,979	13,909***	51,008	66,980	15,972**	37,693	50,841	13,149**
	SALARY	31,527	45,534	14,007***	40,826	57,498	16.671***	26,972	39,946	12,974***
	OTHER COMPENSATION	10,555	10,426	(129)	10,182	9,481	(700)	10,737	10,868	130
TIME IN ROLE	TOTAL COMPENSATION	45,216	52,973	7,757*	55,902	61,656	5,755	40,131	48,786	8,655*
	SALARY	38,701	37,626	(1,075)	50,297	46,673	(3,625)	33,183	33,263	80
	OTHER COMPENSATION	6,498	15,361	8,862***	5,603	14,983	9,380**	6,924	15,542	8,618**
TERM OF OFFICE	TOTAL COMPENSATION	45,731	52,107	6,376†	56,756	60,135	3,379	41,174	47,321	6,147
	SALARY	38,551	39,672	1,121	50,561	46,991	(3,570)	33,587	35,310	1,722
	OTHER COMPENSATION	7,156	12,454	5,298*	6,195	13,143	6,948†	7,553	12,043	4,490†
AGE	TOTAL COMPENSATION	44,467	54,483	10,016*	59,120	57,877	(1,243)	39,497	49,866	10,369*
	SALARY	35,470	41,949	6,479**	50,311	46,944	(3,367)	29,963	37,422	7,459***
	OTHER COMPENSATION	8,992	12,534	3,542†	8,808	10,933	2,125	9,526	12,444	2,918
QUALIFICATION	TOTAL COMPENSATION	49,179	47,192	(1,988)	58,428	58,769	341	44,778	41,535	(3,243)
	SALARY	38,127	38,513	386	48,374	49,558	1,184	33,250	33,116	(136)
	OTHER COMPENSATION	11,049	8,679	(2,369)	10,053	9,211	(842)	11,523	8,419	(3,104)
EXPERIENCE	TOTAL COMPENSATION	43,045	56,762	13,717***	52,888	63,946	11,058*	39,380	52,008	12,628**
	SALARY	35,427	42,179	6,752**	46,461	50,778	4,317	31,318	36,488	5,170*
	OTHER COMPENSATION	7,613	14,583	6,969**	6,427	13,167	6,739*	8,055	15,520	7,465*
NETWORK	TOTAL COMPENSATION	43,286	65,927	22,641***	52,671	71,882	19,211**	39,331	61,782	22,450***
	SALARY	34,162	51,078	16,916***	43,216	61,116	17,900***	30,347	44,089	13,742***
	OTHER COMPENSATION	9,120	14,850	5,729*	9,454	10,765	1,311	8,979	17,693	8,714*
		Minority	**Majority**	**Majority vs. Minority**	**Minority**	**Majority**	**Majority vs. Minority**	**Minority**	**Majority**	**Majority vs. Minority**
APPOINTMENT	TOTAL COMPENSATION	58,454	47,086	(11,368)**	62,713	56,038	(6,675)	36,508	44,291	7,783
	SALARY	53,812	35,613	(18,199)***	57,178	43,646	(13,532)**	36,460	33,103	(3,356)
	OTHER COMPENSATION	4,643	11,470	6,827*	5,535	12,390	6,855*	48	11,183	11,135*

This table reports the mean values, the difference of means and the levels of significance. Total number of observations is 559. All amounts are in units of Euro.
Significance: † p<0.1 * p<0.05, ** p<0.01, *** p<0.001. Negative values are in parentheses.

TABLE 6. The relationship between statutory auditor's compensation and its determinants

		(1) TOTAL COMPENSATION	(2) TOTAL COMPENSATION	(3) SALARY	(4) SALARY	(5) OTHER COMPENSATION	(6) OTHER COMPENSATION
H1	BOARD MEETINGS	0.212*	0.203*	0.268**	0.274**	-0.017	-0.092
		(2.08)	(1.98)	(2.91)	(2.98)	(-0.07)	(-0.36)
H1	CHAIR	0.348***	0.354***	0.370***	0.370***	0.198†	0.221†
		(10.20)	(10.10)	(19.49)	(19.32)	(1.65)	(1.80)
H2	TIME IN ROLE	0.107***		0.020		0.366***	
		(4.60)		(1.48)		(4.76)	
H2	TERM OF OFFICE		0.051*		0.013		0.167*
			(1.99)		(0.86)		(2.04)
H2	APPOINTMENT	0.060	0.086	0.003	0.007	0.443*	0.549**
		(1.14)	(1.62)	(0.11)	(0.23)	(2.45)	(3.00)
	AGE	0.036	0.105	0.019	0.030	-0.038	0.220
		(0.38)	(1.12)	(0.37)	(0.58)	(-0.12)	(0.69)
	QUALIFICATIONS	0.002	-0.005	0.025†	0.024†	-0.042	-0.071
		(0.10)	(-0.18)	(1.77)	(1.69)	(-0.47)	(-0.79)
	EXPERTISE	-0.006	0.001	0.008	0.009	-0.017	0.007
		(-0.24)	(0.05)	(0.52)	(0.62)	(-0.19)	(0.08)
	NETWORK	-0.036	-0.046	-0.025	-0.027	-0.299*	-0.328*
		(-0.98)	(-1.24)	(-1.20)	(-1.31)	(-2.35)	(-2.52)
	FIRM SIZE	0.260***	0.259***	0.220***	0.220***	0.192***	0.193***
		(12.09)	(12.02)	(10.95)	(10.93)	(3.58)	(3.57)
	FIRM LEVERAGE	0.012	0.016	0.004	0.005	0.067	0.077
		(0.39)	(0.50)	(0.15)	(0.18)	(0.86)	(0.99)
	BLOCKHOLDER	-0.338*	-0.350*	-0.229†	-0.234†	-0.304	-0.336
		(-2.45)	(-2.53)	(-1.75)	(-1.79)	(-0.89)	(-0.98)
	LOCAL AUDITOR POOL	-0.008	-0.018	0.004	0.002	-0.080	-0.114
		(-0.25)	(-0.58)	(0.15)	(0.08)	(-1.03)	(-1.47)
	INDUSTRY						
	2	-0.003	0.019	0.012	0.020	-0.226	-0.167
		(-0.01)	(0.09)	(0.06)	(0.10)	(-0.42)	(-0.31)
	3	-0.321	-0.320	-0.280	-0.278	-0.599	-0.612
		(-1.61)	(-1.60)	(-1.49)	(-1.47)	(-1.21)	(-1.23)
	4	0.062	0.068	-0.024	-0.021	0.237	0.245
		(0.30)	(0.33)	(-0.12)	(-0.11)	(0.47)	(0.48)
	5	-0.091	-0.077	-0.214	-0.210	0.178	0.215
		(-0.55)	(-0.46)	(-1.36)	(-1.34)	(0.43)	(0.52)
	6	-0.091	-0.101	-0.111	-0.112	-0.150	-0.194
		(-0.51)	(-0.57)	(-0.67)	(-0.67)	(-0.34)	(-0.44)
	7	-0.024	-0.085	-0.025	-0.036	-0.524	-0.741
		(-0.11)	(-0.37)	(-0.12)	(-0.17)	(-0.93)	(-1.31)
	8	0.095	0.076	0.085	0.082	-0.247	-0.315
		(0.46)	(0.37)	(0.44)	(0.43)	(-0.49)	(-0.62)
	9	-0.029	0.003	-0.047	-0.039	-0.207	-0.103
		(-0.17)	(0.02)	(-0.29)	(-0.25)	(-0.50)	(-0.25)
	10	0.054	0.041	-0.027	-0.028	0.224	0.171
		(0.27)	(0.20)	(-0.14)	(-0.15)	(0.44)	(0.34)
	CONSTANT	1.030*	0.916†	1.104**	1.068**	-0.480	-0.829
		(2.04)	(1.79)	(2.88)	(2.79)	(-0.31)	(-0.54)
	Wald χ^2	385.42***	360.58***	824.53***	820.77***	65.70***	46.39**
	LR test (vs. linear regression)	243.68***	233.82***	553.27***	551.62***	94.10***	87.58***
	Log-likelihood	-289.937	-298.322	-54.336	-55.051	-935.231	-944.227
	Average VIF	1.27	1.27	1.27	1.27	1.27	1.27
	N	559	559	559	559	559	559

This table reports the beta coefficients estimated with the hierarchical linear models. The dependent variable is the compensation received by each statutory auditor during the financial year. TOTAL COMPENSATION (Models 1 and 2) is the sum of SALARY (Models 3 and 4) and OTHER COMPENSATION (Models 5 and 6). t statistics are displayed in parentheses. Level of significance: † p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

TABLE 7. A breakdown analysis of Chair and Members of the board of statutory auditors

	TOTAL COMPENSATION		SALARY		OTHER COMPENSATION	
	Chair	Members of the board of statutory auditors	Chair	Members of the board of statutory auditors	Chair	Members of the board of statutory auditors
	(1)	(2)	(3)	(4)	(5)	(6)
BOARD MEETINGS	0.294*	0.209*	0.295*	0.320***	0.099	-0.149
	(2.43)	(2.44)	(2.62)	(4.46)	(0.29)	(-0.64)
TIME IN ROLE	0.096†	0.103*	0.011	0.041	0.469*	0.251*
	(1.81)	(2.86)	(0.22)	(1.34)	(3.12)	(2.55)
APPOINTMENT	0.111	0.270†	0.037	0.033	0.501†	1.223*
	(1.14)	(1.69)	(0.41)	(0.25)	(1.83)	(2.76)
AGE	-0.440†	0.263	-0.304	0.138	-1.045	0.582
	(-1.80)	(1.60)	(-1.34)	(1.00)	(-1.52)	(1.25)
QUALIFICATIONS	-0.067	0.009	-0.046	0.017	-0.084	-0.012
	(-1.02)	(0.18)	(-0.75)	(0.43)	(-0.45)	(-0.09)
EXPERTISE	0.153*	-0.070	0.132*	-0.056	0.172	-0.027
	(2.23)	(-1.39)	(2.06)	(-1.34)	(0.89)	(-0.19)
NETWORK	-0.021	0.014	0.054	0.007	-0.481†	-0.110
	(-0.23)	(0.19)	(0.65)	(0.11)	(-1.90)	(-0.53)
FIRM SIZE	0.262***	0.244***	0.225***	0.206***	0.242*	0.133*
	(10.24)	(13.29)	(9.47)	(13.47)	(3.35)	(2.67)
FIRM LEVERAGE	0.014	0.009	0.000	0.004	0.097	0.047
	(0.39)	(0.34)	(0.01)	(0.18)	(0.95)	(0.67)
BLOCKHOLDER	-0.373*	-0.303*	-0.303*	-0.187*	-0.048	-0.367
	(-2.27)	(-2.86)	(-1.99)	(-2.11)	(-0.10)	(-1.25)
LOCAL AUDITOR POOL	-0.013	-0.006	0.001	0.011	-0.134	-0.102
	(-0.37)	(-0.23)	(0.02)	(0.50)	(-1.31)	(-1.40)
INDUSTRY						
2	-0.262	0.084	-0.248	0.120	-0.188	-0.504
	(-1.03)	(0.47)	(-1.05)	(0.79)	(-0.26)	(-1.07)
3	-0.532*	-0.237	-0.505*	-0.180	-0.775	-0.870†
	(-2.28)	(-1.43)	(-2.33)	(-1.30)	(-1.17)	(-1.96)
4	-0.179	0.141	-0.141	0.012	-0.424	0.466
	(-0.76)	(0.83)	(-0.64)	(0.08)	(-0.63)	(1.02)
5	-0.328†	0.002	-0.430*	-0.130	0.059	0.116
	(-1.70)	(0.02)	(-2.38)	(-1.12)	(0.11)	(0.31)
6	-0.316	-0.030	-0.319†	-0.036	-0.237	-0.420
	(-1.54)	(-0.21)	(-1.67)	(-0.29)	(-0.41)	(-1.06)
7	-0.399	0.111	-0.300	0.085	-0.715	-0.686
	(-1.52)	(0.58)	(-1.22)	(0.53)	(-0.96)	(-1.31)
8	-0.081	0.182	-0.024	0.143	-0.708	-0.253
	(-0.35)	(1.08)	(-0.11)	(1.02)	(-1.08)	(-0.56)
9	-0.291	0.066	-0.264	0.027	-0.382	-0.253
	(-1.48)	(0.47)	(-1.45)	(0.23)	(-0.69)	(-0.67)
10	-0.366	0.178	-0.297	0.040	-0.556	0.433
	(-1.51)	(1.04)	(-1.32)	(0.28)	(-0.81)	(0.93)
CONSTANT	3.336*	-0.068	2.932*	0.436	3.342	-2.721
	(3.10)	(-0.09)	(2.93)	(0.72)	(1.10)	(-1.33)
Wald χ^2	-	343.31***	-	402.25***	-	54.83***
Adj-R^2	0.478	-	0.480	-	0.116	-
N	181	559	181	559	181	559

This table reports separately the beta coefficients of the compensation received by Chairs (Models 1, 3 and 5) and Members of the board of statutory auditors (Models 2, 4 and 6). TOTAL COMPENSATION (Models 1 and 2) is the sum of SALARY (Models 3 and 4) and OTHER COMPENSATION (Models 5 and 6). Models 1, 3 and 5 are estimated adopting OLS models; Models 2, 4 and 6 with hierarchical linear models. t statistics are displayed in parentheses. Level of significance: † p<0.10, * p<0.05, ** p<0.01, *** p<0.001.

TABLE 8. OLS regressions with clustered standard errors and logistic regression

	TOTAL COMPENSATION (1)	SALARY (2)	OTHER COMPENSATION (3)	OTHER COMPENSATION (4)
BOARD MEETINGS	0.222†	0.298*	-0.035	-0.030
	(1.87)	(2.77)	(-0.12)	(-0.09)
CHAIR	0.371***	0.371***	0.269*	0.316
	(8.79)	(10.24)	(2.04)	(1.36)
TIME IN ROLE	0.103*	0.032	0.333**	0.483**
	(2.48)	(0.82)	(3.82)	(3.64)
APPOINTMENT	0.123	0.017	0.616**	0.931*
	(1.59)	(0.24)	(3.65)	(2.64)
AGE	0.048	0.006	0.024	-0.004
	(0.32)	(0.05)	(0.06)	(-0.01)
QUALIFICATIONS	-0.010	0.002	-0.050	-0.259
	(-0.26)	(0.05)	(-0.52)	(-1.55)
EXPERTISE	-0.001	0.009	0.011	0.032
	(-0.02)	(0.29)	(0.08)	(0.19)
NETWORK	0.025	0.051	-0.257†	-0.486†
	(0.60)	(1.37)	(-1.68)	(-1.94)
FIRM SIZE	0.248***	0.208***	0.177*	0.137*
	(11.33)	(11.56)	(3.25)	(2.12)
FIRM LEVERAGE	0.013	0.005	0.071	0.063
	(0.36)	(0.14)	(0.94)	(0.66)
BLOCKHOLDER	-0.323*	-0.212*	-0.347	0.147
	(-2.70)	(-2.01)	(-1.04)	(0.39)
LOCAL AUDITOR POOL	-0.008	0.004	-0.080	-0.065
	(-0.25)	(0.14)	(-1.01)	(-0.72)
INDUSTRY				
2	0.009	0.033	-0.238	-0.800
	(0.04)	(0.14)	(-0.47)	(-1.29)
3	-0.318	-0.268	-0.628	-0.949†
	(-1.36)	(-1.16)	(-1.34)	(-1.67)
4	0.056	-0.014	0.172	-0.428
	(0.21)	(-0.06)	(0.30)	(-0.76)
5	-0.095	-0.210	0.148	-0.192
	(-0.45)	(-1.04)	(0.37)	(-0.42)
6	-0.090	-0.102	-0.177	-0.761
	(-0.40)	(-0.47)	(-0.41)	(-1.53)
7	-0.038	-0.028	-0.577	-1.471†
	(-0.18)	(-0.13)	(-1.19)	(-1.91)
8	0.109	0.095	-0.188	-0.844
	(0.45)	(0.42)	(-0.37)	(-1.45)
9	-0.039	-0.055	-0.232	-0.702
	(-0.18)	(-0.26)	(-0.56)	(-1.49)
10	0.049	-0.030	0.197	-0.336
	(0.20)	(-0.13)	(0.42)	(-0.59)
CONSTANT	0.970	1.142*	-0.705	-1.736
	(1.47)	(2.07)	(-0.39)	(-0.70)
Adj-R^2	0.512	0.551	0.123	-
Wald χ^2	-	-	-	46.22**
N	559	559	559	559

This table reports the beta coefficients estimated with OLS regressions with clustered standard errors (Models 1, 2 and 3) and the logistic regression (Model 4). In Models 1, 2 and 3 the dependent variable is the compensation received by each statutory auditor during the financial year. TOTAL COMPENSATION (Model 1) is the sum of SALARY (Model 2) and OTHER COMPENSATION (Model 3). In Model 4 the dependent variable is dichotomous. It takes the value 1 when the statutory auditor received a compensation not linked with the duties in the board of statutory auditors or zero otherwise. t statistics are displayed in parentheses. Level of significance: † $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$.