Executive directors, pay disclosures and incentive compensation in Europe

Volkan Muslu
The University of Texas at Dallas
SM 41 800 West Campbell Road
Richardson, TX 75080-3021
vmuslu@utdallas.edu

August 2009

This paper is based on my dissertation at MIT Sloan School of Management. I gratefully acknowledge the guidance and encouragement of my advisors S.P. Kothari, Peter Wysocki, and Sugata Roychowdhury. I thank Ashiq Ali, Mark Andersen, John Core, Fabrizio Ferri, Surya Janakiraman, Dirk Jenter, Peter Joos, Ying Li, Suresh Radhakrishnan, Michael Rebello, and seminar participants at Baruch College, Boston University, University of Chicago, University of Connecticut, Dartmouth College, Georgia State University, Harvard University, London Business School, MIT, Purdue University, The University of Texas at Dallas, and Tulane University for their valuable comments and Yuhui Xia for excellent research assistance.

Abstract

Using a proprietary database for the largest 158 European companies between years 1999 and 2004, I find that transparency of pay disclosures and sensitivity of executive pay to performance increase with the proportion of top executives serving as company directors and with dual CEO/board chairs. These relations are stronger in countries with stronger protection for outside shareholders. The positive marginal effects of executive directors (i.e., insiders) on transparency of pay disclosures and sensitivity of pay to performance are not significant when i) insiders already have the numerical majority on boards, ii) CEOs are board chairs, iii) pay levels and company ownership of executives are relatively high. Overall, the evidence supports the optimal contracting argument over the rent seeking argument. Specifically, companies mitigate agency costs associated with the existence of company executives on boards through more transparent pay disclosures and higher incentive compensation. However, such actions are limited to companies with strong country-level investor protection and significant representation of independent directors on company boards.

JEL classification: G34, G30, J33, M52

Keywords: International corporate governance, executive compensation, board of directors, company disclosure

1. Introduction

Worldwide escalation in the level and complexity of executive pay during the last two decades has attracted significant public and academic interest. However, the lack of reliable executive pay data across different countries traditionally resulted in researchers testing pay-related hypotheses in single-country settings, most often the United States (Conyon and Schwalbach 1999).[1] The single country studies arguably do not present powerful tests of agency theory because of identical institutional characteristics as well as similar pay practices across observations. This concern is especially germane to the corporate governance research that seeks to distinguish between equilibrium and out-of-equilibrium explanations such as whether pay contracts are set to maximize share value, *the contracting hypothesis*, or whether executives rig their contracts at the expense of shareholders, *the opportunism hypothesis* (Hermalin and Weisbach 2003; Bushman et al. 2004).[2]

High-quality data on executive pay, which is at the company level yet comparable across countries, became available only recently as many companies in Europe have started transparent disclosures due either to stricter requirements or increased investor demand (Ferrarini et al. 2003). I capitalize on this transformation and perform tests on the validity of the contracting and opportunism hypotheses using hand-collected data from the largest 158 European companies for years between 1999 and 2004. The sample comprises company-year observations from twelve European countries and exhibits extensive variation in institutional characteristics, board structures, pay disclosures, and executive pay.

---

[1] The non-U.S. studies mostly examine descriptive aspects of executive pay in a specific country—sometimes in comparison to the U.S. (Conyon and Schwalbach 1999; Conyon and Murphy 2000). The multiple-country studies are limited in number and descriptive at best (Ferrarini and Moloney 2005, Abowd and Kaplan 1999).

[2] Bebchuk et al. (2002) provide detailed discussions about the opportunism hypothesis, also known as rent seeking, managerial power, or skimming hypotheses. Holmstrom (1979), Datar et al. (2001), and Core et al. (2003) provide theory and evidence on the contracting hypothesis, also known as efficient or arm's length contracting hypotheses.

My empirical tests examine predictions of the opportunism and contracting hypotheses about how compensation policies relate to executives serving on board of directors. The *opportunism* hypothesis predicts that when executives are more influential on company boards, companies would make less transparent pay disclosures to hide opportunistic wealth transfers to executives. In addition, executive pay would be less sensitive to company performance because executives prefer cash salaries over incentive pay. In contrast, the *contracting* hypothesis predicts that when executives are more influential on company boards, companies would make more transparent pay disclosures to assure shareholders that executives do not extract excessive rents. Further, executive pay would be more sensitive to company performance to offset the potentially greater monitoring problems associated with executives on company boards.

I find that European companies with a greater number of executives on company boards and with CEOs serving as board chairs make more transparent pay disclosures. Furthermore, these companies and their U.S. counterparts design executive pay to be more sensitive to performance. My findings support the contracting hypothesis for the full sample.

The findings, however, are sensitive to institutional characteristics. At the country level, the positive relations of the number of executives serving on company boards (hereafter, insiders) with pay transparency and incentive pay are more pronounced in countries with strong investor protection. At the company level, the positive marginal effects of a greater number of insiders on pay transparency and incentive pay disappear when i) insiders are already in positions to dominate boards (i.e., when insiders already hold numerical majority on boards or CEOs serve as board chairs), and when ii) executives are likely to be entrenched (i.e., executive pay or executive stock ownership are relatively high). In sum, the support for the contracting hypothesis is limited to situations where the opportunistic actions of insiders are mitigated by country-level

investor protection and by a significant representation of independent directors on company boards.

I acknowledge that it is difficult—as in prior governance studies—to draw strong inferences about causality from the regression analyses (Larcker et al. 2007). This is because the individual elements of a company's governance structure are determined endogenously with respect to the contracting environment of the companies (Shleifer and Vishny 1997, Bushman et al. 2004, Gillan et al. 2007, Adams, Hermalin, and Weisbach 2008). For instance, the number of insiders on company boards may increase with growth options and uncertainty because boards need more information and discretion from insiders (Hermalin and Weisbach 1998, 2003). At the same time, pay transparency and incentive pay may also increase with growth options and uncertainty because management of growth options and uncertainty is difficult to monitor (Smith and Watts 1992; Nagar 2002; Nagar et al. 2003). Therefore, an alternative hypothesis is that an underlying construct such as growth options and uncertainty—not necessarily boards' deliberate action to curb agency costs—leads to positive correlations of insiders with pay disclosures and incentive pay. In order to distinguish between the contracting hypothesis and the alternative explanation, I control for the known determinants of executive pay (including growth and uncertainty as well as country, industry, and year fixed effects) in the empirical analyses. I also perform a sensitivity check—a two-stage regression, which uses company legal origins to proxy for board characteristics—with similar results. However, potential explanations about the endogeneity of board characteristics with different aspects of a company's contracting environment cannot be ruled out especially if the control variables and instruments are imperfect.

Despite the above caveat and of interest to policy makers who regulate on observable aspects of corporate governance, my findings contribute to knowledge about how companies

cope with insiders on boards of directors. While the potential of insiders to exploit their position for personal gains is well established (Jensen 1993), my findings suggest that companies check the opportunistic behavior of executives through voluntary pay disclosures and incentive pay—especially in settings of strong investor protection. Such international evidence offers an alternative perspective for those who call for universal regulations on board independence and pay restrictions as primary solutions for agency problems.

The rest of the paper is organized as follows. Section 2 develops the competing hypotheses. Section 3 describes the sample and empirical variables. Section 4 presents results on pay disclosure, and Section 5 presents results on incentive pay. Section 6 examines the effect of institutional factors and insider domination of boards on the results. Section 7 concludes.

2. Hypothesis Development

Despite large differences in business and governance practices across the world, boards of directors invariably exist with a mandate to oversee company operations and to select and monitor executives.[3] In order to fulfill their duties, boards need effective communication with their own executives and often employ executives as directors (Brickley et al. 1997, Fama and Jensen 1983). Previous research documented that inside directors help companies make superior decisions especially when companies have high growth options and operate under uncertainty (Brickley et al. 1997; Klein 1998; Burkart et al. 1997).

At the same time, inside directors impair boards' monitoring ability because insiders cannot self-monitor or serve owners' interests when their own interests are at stake (Hermalin

[3] The exact entity that boards primarily serve differs by country-specific regulations and company bylaws. A general distinction is that boards in common law companies primarily serve shareholders, whereas boards in code law companies serve all stakeholders other than executives. This distinction is less critical for the purposes of this paper, since the focus is on monitoring costs associated with executives irrespective of the boards' immediate patrons. For consistency of presentation throughout the rest of the paper, I denote shareholders as the primary patrons of boards.

and Weisbach 2003).[4] Moreover, the existence of insiders generates economic and psychological incentives for other directors to be overly tolerant toward executives (Jensen 1993, Bebchuk and Fried 2005). Hence, inside directors on boards may be costly. Companies with more insiders record greater abnormal accruals (Klein 2002) and pay CEOs more for performance beyond CEOs' control (Bertrand and Mullainathan 2001). Moreover, companies with insider influence fail to make value-enhancing decisions regarding financial investments, CEO replacements, and takeovers (Del Guercio et al. 2003; Weisbach 1988; Cotter et al. 1997; Byrd and Hickman 1992).

Given the offsetting benefits and costs of insiders (Klein 1998), a company-specific balance of inside and outside directors is considered the most optimal board configuration (Johnson et al. 1996). In fact, distinct governance systems evolved over centuries around the world, where not only insiders but also workers, partners, and government officials serve on boards to ensure efficiency and value allocation among stakeholders (Ball et al. 2000). In light of this balance, I examine how company compensation policies relate to inside directors.

My empirical tests use European data, which became available only in the last decade as international companies improved their pay disclosures (Ferrarini et al. 2003). The European data offers larger variation relative to U.S. data in board structures and compensation policies, and thus potentially results in more powerful empirical tests on how inside directors relate to transparency of pay disclosures and incentive pay.

2.1. Insiders and transparency of pay disclosures

It is well established that executives time the release of company news for personal benefit around their stock trades and option grants (Noe 1999; Aboody and Kazsnik 2000).[5] This "disclosure agency problem" can result in non-disclosure of material information and is likely to

[4] There are some opposing arguments that insiders may improve boards' monitoring ability (Drymiotes 2007).
[5] Executives' timing of good and bad news is not necessarily at the expense of shareholders (Aboody and Kazsnik 2000, p.98; Core 2001, p.445).

be more severe when private control benefits of executives, such as pay, are at stake (Nagar et al. 2003). For instance, U.S. executives attempt to understate (or conceal) in the proxy statements the estimated values of the option grants (Murphy 1996, Yermack 1998, Baker 1999).

The opportunism hypothesis predicts that when insiders are influential on company boards, they set pay disclosure policies and hide information about opportunistic wealth transfers to insiders. In contrast, the contracting hypothesis predicts that companies with influential insiders proactively make transparent disclosures to assure shareholders that such wealth transfers do not take place. Hypothesis 1 states the prediction of the contracting hypothesis.

> ***Hypothesis 1:*** *Companies with greater influence of top executives on their board of directors make more transparent disclosures about executive pay.*

The literature on pay disclosures and governance is limited due to low variation in pay disclosures in single country settings. Aboody et al. (2006) shows that U.S. companies understate executive option values when they have weak governance. Laksmana (2008) documents that independent U.S. boards make more transparent disclosures about executive pay. The findings are consistent with the opportunism hypothesis. The European setting of this paper brings a richer variation regarding pay disclosures, such as i) the type of pay, i.e., salary, bonus, and equity-based grants, ii) the number of executives whose pay are disclosed, and iii) the quality of discussion about the general compensation policy, goals, and future determinants of pay. The richer variation partly stem from the fact that the more liberal regulations in Europe enable companies to more freely tailor their disclosures based on company-specific factors.

2.2. Insiders and incentive pay

Executives typically prefer less risky pay and a greater diversification of their wealth and human capital (Hall and Murphy 2000). The opportunism hypothesis predicts that the more

influential insiders on company boards successfully influence compensation committees for less incentive pay *ceteris paribus*. In contrast, the contracting hypothesis predicts that companies with greater insider influence on boards grant more incentive pay to alleviate the more severe monitoring problems and thereby to more strongly align the interests of executives and shareholders (Core et al. 2003). Hypothesis 2 states the prediction of the contracting hypothesis.

> ***Hypothesis 2:*** *Companies with greater influence of top executives on their board of directors make executive pay more sensitive to performance.*

The literature on incentive pay and board structures yields mixed results for the U.S. companies. Mehran (1995) examines U.S. manufacturing firms in 1979 and 1980 and finds greater equity pay with more outside directors. For a sample of U.S. companies in 1997, Ryan and Wiggins (2004) find that weak boards and powerful executives result in less equity pay for outside directors. Both findings support the opportunism hypothesis. Recently, Fahlenbrach (2008) find that equity incentives of top executives are lower when U.S. boards are more independent during years between 1993 and 2004. Chhaochharia and Grinstein (2008) find that recent regulatory changes in the U.S. for fewer insiders on boards led companies grant fewer options to executives. The latter two findings are in line with the contracting hypothesis.

3. Method

I collect pay- and board-related information from 939 annual reports of 158 companies listed as the Europe's largest according to sales in year 2000.[6] The annual reports are for fiscal years between 1999 and 2004. Appendix 1 presents sample companies. Sixteen companies in the original list reorganized or merged with smaller companies after 2000. These companies remain

[6] I obtain the list from the "Global Top 800 List" of Forbes magazine in 2000. The list perfectly overlaps with the Compustat Global database ranked by sales in fiscal year 2000.

in the sample. Four other companies in the original list were acquired by larger companies. These companies are removed from the list following the takeovers.

In the annual reports I locate pay-related information about top executives by conducting text searches for executive names and the following keywords: 'compensation', 'remuneration', 'pay', 'salary', 'bonus', 'option', 'grant', 'LTIP', 'governance', 'board', and 'director'. Overall, 741 out of 939 observations report information about annual pay and equity portfolios of top executives. These observations are labeled as "disclosers" because they disclose sufficient pay information to test Hypothesis 2. Some disclosers (n=411) report individual pay contracts, whereas others (n=330) report only pay averages for a number of executives ranging from 2 to 60. Responding to calls to examine pay across corporate hierarchy (Core and Guay 2001), I keep all disclosers in the sample. At the same time, in order to ensure comparability with the U.S. data, I form a second set of disclosers with pay data for at most top five executives (n=486). The second set includes companies reporting pay contracts of individual executives (whereby pay averages are computed using top five executives only; n=411) and those reporting pay averages for a maximum of top five executives (n=75). Unless otherwise noted, the paper's discussion focuses on the second set of disclosers.

Panel A of Table 1 presents the sample by country. The U.K., France, and Germany are the most represented countries in the sample.[7] The disclosers and non-disclosers cluster across certain countries. While U.K. companies are always disclosers, Russian and Italian companies are usually non-disclosers. German and French companies traditionally disclosed little but have

[7] The primary criterion in data collection is availability and reliability of data. I met this criterion by focusing on the largest European companies. The reason for clustering of sample companies in certain countries and industries is because large European companies are clustered in certain countries and industries. Considering the extant literature on European pay disclosures (Ferrarini, Moloney, and Ungureanu 2009) and my preliminary analysis before the data collection, my best guess is that an alternative data collection method of giving equal weight to all European countries or industries would result in with a sample similar to the current one. This is because many companies from certain countries (e.g., Austria, Greece, and Portugal) would fail to report pay details during the sample period.

recently started more transparent disclosures, a trend attributed both to regulatory changes and market demand (Ferrarini et al. 2003). Panel B of Table 1 presents the sample by economic sectors using the Global Industry Classifications Standard (GICS), shown to be a superior industry classification for financial research (Bhojraj, Lee, and Oler 2003). Financials, industrials, and consumer discretionary sectors have the highest number of observations.

Table 2 presents descriptive statistics regarding board structure, pay disclosure, executive pay (Panel A), and economic determinants of pay gathered from Compustat Global and Hoover's databases (Panel B). Table 3 Panel A compares the European sample with the U.S. sample, which include U.S. companies individually matched to the sample companies without replacement by sales in fiscal year 2000.[8] Table 3 Panel B presents averages of selected variables by country. Below, I discuss the key empirical variables.

3.1. Board Structures

The average number of directors in the sample, $N\_Director_t$, is 14.4, of which 2.7 are reported as executives (insiders); 4.0 as independent; 1.8 as non-executive employees such as union representatives; and 5.9 as other directors such as government officials and unidentified or gray directors (i.e., CEO-appointed directors, retired-executive directors, and directors in business relations with the company). The average number of directors is higher than the U.S. average of 12.1, reflecting a broader representation of stakeholders on European boards.

I measure insider influence with two proxies. The first proxy, $Insider\ Ratio_t$, is the ratio of insiders to total number of directors. The second proxy, $Dual\ CEO/Chair_t$, is an indicator that is one if the company CEO serves as the board chair and zero otherwise. The average $Insider\ Ratio_t$ of 0.21 is lower than the U.S. average of 0.29. Insider ratios vary across countries. U.K.

[8] Comparisons between the European sample and the U.S. sample are similar to those reported, if matching is based on market capitalization or both sales and industry.

boards have the highest ratio (0.42). This figure was higher in the 1980s before U.K. companies adopted the recommendations of the Cadbury (1992) and Hampel (1998) committees. At the lowest extreme, *Insider Ratio*$_t$ of German companies are zero because Germany bans executives from supervisory boards, the equivalents of board of directors in the U.S. This ban is unique to Germany in the sample.[9] The sample has an average *Dual CEO/Chair*$_t$ of 0.30, lower than that in the U.S., 0.79. The average *Dual CEO/Chair*$_t$ varies across countries, highest in France and Spain (0.65 and 0.75) and lowest in Germany, Norway, and Russia (0.00). Alternative measures of insider influence, such as executive tenure, structure of compensation committees, and number of gray directors, are unavailable or defined differently across observations.

3.2. Pay disclosure

In order to measure the transparency of pay disclosure in the annual reports, I construct *Disclosure*$_t$ index, which equally weighs the following three aspects of disclosure:

Type of disclosure (TD) measures whether companies report different types of pay for at least one executive. Companies reporting both base salaries (as well as bonuses) and equity-based grants receive 2 points; those reporting either base salaries (and bonuses) or equity-based grants receive 1 point; and those reporting neither type receive no points for *TD*. If companies do not grant a specific type of compensation (e.g., equity), an explicit statement of this policy warrants full points for the respective disclosure.

Amount of disclosure (AD) measures the number of executives whose pay details are reported. The companies disclosing pay contracts of more than two executives receive 2 points; those disclosing two contracts receive 1 point; and the rest receive no points for *AD*. Disclosures of pay averages count towards disclosure of a single contract.

[9] Yet, attesting to the difficulty of accurately measuring insider influence, a full separation of management and supervisory boards in Germany is disputable. For instance, retired managers and business partners usually join the supervisory boards of their companies (Hopt and Leyens 2005).

Quality of disclosure (QD) measures the quality of pay disclosures. The companies receive 2 points for *QD* if they adequately discuss the following items: (1) general compensation policy, goals, and future determinants of pay, and (2) details of executive pay in the current and previous years. The companies that sufficiently disclose either item receive 1 point; those that disclose neither item receive no points.

$Disclosure_t$ is defined as the sum of TD, AD, and QD.[10] $Disclosure_t$ ranges from 0 to 6 with a mean (median) of 4.08 (4.00). Not surprisingly, disclosers have higher scores (mean=4.79; median=5.00) than non-disclosers (mean=1.40; median=1.00). There is also significant variation within disclosers and non-disclosers. For instance, a company may not report any pay information ($Disclosure_t$ will be 0). Another company may disclose pay levels but not a breakdown into salaries, stocks, and options, resulting in omission from the empirical analyses (yet, $Disclosure_t$ will be greater than 0). Appendix 2 illustrates the computation of the Disclosure index for three companies with scores 6 (a discloser), 4 (a discloser), and 2 (a non-discloser).[11]

The quality of mandated pay disclosures in the U.S. is high. Overall, U.S. companies would rate the maximum 6 points for $Disclosure_t$. In contrast, many European companies do not make sufficient disclosures, especially regarding pay policies and equity grants. As an exception, U.K. companies disclose pay policies as well as past and current option grants, thereby arguably surpassing the U.S. disclosure quality during the sample period (Conyon and Sadler 2001).

[10] The choice of the pay disclosure aspects coincide with Ferrarini, Moloney, and Ungureanu (2009) who document significant cross-country differences in executive pay disclosure in 2007.

[11] The $Disclosure_t$ index unavoidably relies on subjective design choices. In order to build confidence on $Disclosure_t$'s effectiveness, Section 4.2.1 uses different alternatives to $Disclosure_t$ (such as the length of the compensation section in the annual report or components of $Disclosure_t$) and documents that the empirical results to Hypothesis 1 are not sensitive to design choices. Furthermore, I examine whether $Disclosure_t$ correlates with company characteristics known to be related to company disclosures internationally. Summarizing 29 previous studies, Ahmed and Courtis (1999) identify three determinants of disclosure transparency: listing status, size, and leverage. I find that $Disclosure_t$ is positively correlated with listing status in the U.S., but not with size or leverage. The lack of correlations is possibly because the sample includes only the largest European companies.

3.3. Executive Compensation

I group executive pay in four categories. $Salary_t$ (€792,000) includes base salaries and perquisites. $Bonus_t$ (€544,000) includes cash payments based on short-term bonuses and long-term incentive plans (LTIPs). $Stock_t$ (€404,000) includes value of stock grants based on LTIPs and deferred bonus plans (valued at 100% of face value for performance-contingent awards).[12] $Option_t$ (€737,000) includes Black-Scholes value of option grants and stock appreciation rights (SARs). The stock and option grants have comparable terms across Europe. Similar to the U.S., options are typically granted at the money with vesting periods of three to five years and maturity periods of five to ten years. I have not detected any companies that "reprice" or "market-index" the exercise prices of executive options.

Overall, a top European executive earns €2.5 million per year, faring lower than a U.S. executive (€6.6 million).[13] Executive pay varies across countries; Swiss companies pay the highest (€4.3 million) and Swedish companies the lowest (€1.1 million). The pay levels are greater for executives higher in corporate hierarchy. The average pay is €2.3 million for all reported executives (N=741), €2.5 million for top five executives (N=486), €3.0 million for insiders (N=398), and €3.9 million for CEOs (N=527).

Incentive pay relates to the sensitivity of an executive's total wealth to company performance. The components of an executive's wealth sensitive to performance are i) his outstanding stock and option portfolios at the beginning of the year, ii) changes in his current pay, and iii) his future pay and future probability of dismissal. Out of these, stock and option

[12] While performance-contingent stock awards are typically valued at 100% by academics and the media (Conyon Guay and Larcker 2008), some studies use a lower valuation rate (e.g., 80% in Conyon and Murphy 2000). Sensitivity analyses show that my findings do not change if a lower valuation rate (between 50% and 100%) is used.

[13] Pension contributions are excluded from the analysis because of the incomparable pension plan types, actuarial computations, and reporting quality across sample companies. The exclusion does not affect the regression results, since pension contributions are largely unrelated to the main variable of interest, pay-for-performance sensitivity.

portfolios provide the highest incentives (Jensen and Murphy 1990; Hall and Liebman 1998; Core et al. 2003). Therefore, as the primary measure for incentive pay, I use pay-for-performance sensitivity (PPS_{t-1}), the ex ante change in the value of an executive's stock and option portfolio as a result of a 1% change in stock price at the beginning of year t (Core and Guay 2002).

A top European executive holds company stocks and options worth €4.3 million and €1.3 million respectively, considerably lower than those of a U.S. executive (€181 million and €18 million for stock and option holdings). Consequently, a top European executive's wealth goes up by €85,440 as a result of a 1% increase in company stock price (versus €2,175,000 for a U.S. executive). Average PPS_{t-1} varies across European countries, Finnish companies with the highest PPS_{t-1} (€128,000) and Norwegian companies with the lowest PPS_{t-1} (€4,000).

Similar to pay levels, incentive pay is greater for executives higher in corporate hierarchy. The average PPS_{t-1} is €67,630 for all reported executives, €85,440 for top five executives, €97,850 for insiders, and €153,920 for CEOs. For comparison, I follow Core and Guay (2002) to compute PPS_{t-1} of U.S. companies using the Execucomp database. Table 3 Panel A shows that average PPS_{t-1} is significantly higher in the U.S., €2,175,000 for top five executives and €6,393,000 for CEOs. A comparison between the average PPS_{t-1}'s of the CEO and top five executives shows that incentive pay of a top executive is 70% that of his immediate superior in Europe (e.g., second-ranked executive versus CEO). This "incentives persistence coefficient" across top executive ranks is 40% in the U.S., indicating a larger incentive gap between CEOs and their immediate subordinates in the U.S. (Bebchuk et al. 2002)

3.4. Unconditional correlations between insiders, disclosure, and pay-for-performance

For descriptive purposes, Table 4 presents correlations between insiders, disclosure, and incentive pay. $Disclosure_t$ positively correlates with $Insider\ Ratio_t$ and $Dual\ CEO/Chair_t$

(Spearman correlation coefficients 0.50 and 0.08). PPS_{t-1} also positively correlates with *Insider* $Ratio_t$ and *Dual CEO/Chair*$_t$ (correlation coefficients 0.40 and 0.29). Similarly, the country-average correlations of $Disclosure_t$ and PPS_{t-1} with *Insider* $Ratio_t$ (0.20 and 0.17) and *Dual* $CEO/Chair_t$ (0.17 and 0.51) are significant and positive. One should interpret the correlations with caution, because pay disclosures and incentive pay depend upon multiple factors, such as size, growth options, and institutional characteristics.

4. Results: Insider directors and pay disclosures (Hypothesis 1)

This section tests the relation between inside directors and pay disclosures conditional on factors that affect both. Pay disclosures are potentially related to factors that relate to general company disclosures, such as size, performance, and information asymmetry between managers and investors (Lang and Lundholm 1993). Companies with smaller boards are also expected to make more transparent disclosures for stakeholders that are not represented on company boards. Moreover, cross-listings in countries with high disclosure standards are expected to improve pay disclosures (Khanna et al. 2004). A potential determinant specific to pay disclosures is the level of pay (Coulton et al. 2001). Panel B of Table 3 also points to cross-country differences in board structures and pay disclosures. Moreover, disclosure requirements get stricter over time (average $Disclosure_t$ goes up from 3.6 in 1999 to 4.6 in 2004).[14] In light of the above factors, I estimate the following OLS regression for the full sample (disclosers and non-disclosers combined):[15]

$$Disclosure_t = \alpha_0 + \alpha_1\, Insider\ Ratio_t + \alpha_2\, Dual\ CEO/Chair_t + \alpha_3\, Log(Size_t) + \alpha_4\, Net\ income_t + \alpha_5\, Book\text{-}to\text{-}market_t + \alpha_6\, Sales\ volatility_t + \alpha_7\, N\_Director_t + \alpha_8\, U.S.\ listed_t + \alpha_9\, U.K.\ listed_t + \theta\, Industry + \delta\, Country + \lambda\, Year_t + \gamma\, Country * Year_t + \varepsilon_t \qquad (1)$$

[14] "EU businesses face new push on transparency", *The Wall Street Journal*, October 6, 2004. A17, col 3, "CEO leads Swiss backlash over executive pay", *The Wall Street Journal,* May 26-27, 2007. A4, col. 1, and "Porsche CEO adds to pay debate", *The Wall Street Journal,* December 1-2, 2007. A7, col. 1

[15] The choice of OLS over a probit regression model, which takes into account the ordinal nature of $Disclosure_t$, is because OLS test statistics are better specified especially in small samples (Noreen 1988). In untabulated sensitivity analyses, I also find that the ordered probit regression yields similar coefficients as the reported OLS coefficients.

where $Disclosure_t$ is the index of pay transparency during fiscal year t; $Insider\ Ratio_t$ is the ratio of insiders to the total number of directors; $Dual\ CEO/Chair_t$ is an indicator taking the value of one if the CEO serves as the chair of the board and zero otherwise; $Log(Size_t)$ is the natural logarithm of company sales;[16] $Net\ income_t$ is net income of the company deflated by sales; $Book\text{-}to\text{-}market_t$ is book divided by the market value of assets at the fiscal year end; $Sales\ volatility_t$ is the coefficient of variation of company sales, i.e., the standard deviation of sales over the prior six years divided by its mean; $N\_Director_t$ is the number of directors on the board; $U.S.\ listed_t$ is an indicator taking the value of one if the company is listed as a non-ADR in the U.S.; and $U.K.\ listed_t$ is an indicator taking the value of one if a non-U.K. company is listed in the U.K. Due to lack of data, Eq. (1) excludes analyst following as a potential control (Botosan 1997).

Table 5 presents regression results, with standard errors adjusted for heteroskedasticity and intra-company residual correlation. The coefficients on $Insider\ Ratio_t$ (Column 1) and $Dual\ CEO/Chair_t$ (Column 2) are positive and significant. When both $Insider\ Ratio_t$ and $Dual\ CEO/Chair_t$ are included in the regression in Column 3, the coefficients on $Insider\ Ratio_t$ (α_1=0.63, t=1.66) and $Dual\ CEO/Chair_t$ (α_2=0.36, t=2.96) remain positive and significant. The positive coefficient estimates are consistent with the contracting hypothesis.

The estimated coefficients on control variables—though not always significant—have signs consistent with prior literature. For instance, pay transparency improves with size and performance and reduces with board size. The U.S. listings also improve pay disclosures. The coefficients on the information asymmetry variables, sales volatility and book-to-market ratio, have the predicted signs but are insignificant. The untabulated coefficients for fixed effects show

[16] Given cross-country differences in asset recognition rules and choices, I measure company size by sales (Wysocki 2004). Alternative proxies such as total assets or market capitalization do not materially change the results.

that indicators for the U.K., Holland, Finland, consumer discretionary sector, and years 2002, 2003, and 2004 are significant and positive across all models.

In Column 4 of Table 5, I address the concern that $Disclosure_t$ may not be measured reliably for non-disclosers and re-estimate Eq. (1) for disclosers only. The model also includes $Log(Total\ pay_t)$ as a control variable. The coefficients on $Insider\ Ratio_t$ (α_1=1.03, t=4.57) and $Dual\ CEO/Chair_t$ (α_2=0.21, t=2.31) are significant and positive. In Column 5 of Table 5, I address the concern that observations are significantly dependent within companies and re-estimate Eq. (1) using company averages for dependent and independent variables. The results show a positive and significant coefficient on $Insider\ Ratio_t$ (α_1=1.86, t=2.28), but an insignificant coefficient on $Dual\ CEO/Chair_t$ (α_2=0.51, t=1.55).

Since the contracting and opportunism hypotheses relate to voluntary pay disclosures, Eq. (1) controls for country-specific regulations deemed exogenous in the literature for simplicity (Core 2001). In addition to country and year fixed effects, Eq. (1) also includes country*year fixed effects to control for the tightening disclosure regulations over time (e.g., France in 2001). In this regard, German companies present an interesting case. $Insider\ Ratio_t$ and $Dual\ CEO/Chair_t$ are invariably zero due to German regulations and hence one cannot distinguish between the board dependence variables and German fixed effects in Eq. (1). Despite this caveat, I choose to include German companies (versus removing German companies from the sample) in order to present pay practices comprehensively across top European economies. Unreported regression analyses excluding German companies produce similar results to those in Table 5.

4.1. Insiders and pay disclosure across countries

In order to build confidence that the findings in Table 5 are not a product of pooling across countries, I re-estimate Eq. (1) for U.K. companies only (Column 1 of Table 6), French

companies only (Column 2), and companies not headquartered in the U.K., France, or Germany (Column 3).[17] The results suggest varying level of support for the contracting hypothesis across countries. Both *Insider Ratio*$_t$ and *Dual CEO/Chair*$_t$ improve pay disclosures in the U.K; and marginally in countries other than the U.K., France, and Germany. The French companies do not exhibit any significant relation between insiders and pay disclosures.

4.2. Alternative Explanations and Sensitivity Checks

4.2.1. Empirical validity of the Disclosure index

A number of findings suggest the empirical validity of *Disclosure*$_t$. First, the components of *Disclosure*$_t$ (i.e., *TD*, *AD*, and *QD*) are highly correlated, consistent with Botosan (1997)'s finding that components of a company's disclosure strategy are correlated. Second, the Cronbach's coefficient alpha is estimated at 0.72, suggesting that each component independently contributes to *Disclosure*$_t$ (Nunnally 1978). Third, replacing *Disclosure*$_t$ with its individual components (i.e., *TD*, *AD*, and *QD*) in Eq. (1) results in similar results. That is, i) the company's very decision to disclose pay data, ii) the number of pay contracts disclosed, iii) quality of reported pay data are independently associated with *Insider Ratio*$_t$. Fourth, the length of pay disclosures, i.e., number of words in the compensation section of the annual report, is highly correlated with QD (Pearson correlation coefficient of 0.80). Replacing QD with the number of words or adding the number of words as an independent component to *Disclosure* does not change the results. Finally, to address the concern that *Disclosure*$_t$ values of zero may be problematic in the empirical analyses, I re-estimate Eq. (1) using companies with positive *Disclosure*$_t$ only. The regression results are similar to those reported in Column 4 of Table 5. I conclude that the results in Table 5 are insensitive to design choices of *Disclosure*$_t$.

[17] In Column 3 in Table 6, I exclude all German companies that have non-varying Insider Ratio's and Dual CEO/Chair's in order to show the insensitivity of the empirical results to German companies.

4.2.2. Endogeneity between board composition and pay disclosure

The regressions in Table 5 follow prior literature in assuming exogenous board structures (Ryan and Wiggins 2004; Hermalin and Weisbach 2003). However, pay disclosure and board characteristics are likely to be endogenous, potentially confounding the interpretation of the OLS coefficients. I address this possibility by using a two-stage least squares (2SLS) estimation. In the first stage, I use a company's German, English, French, or Scandinavian origin to estimate $InsiderRatio_t$ and $Dual\ CEO/Chair_t$ (La Porta et al. 1998). Appendix 3 favors the choice of instruments. First, companies of the same legal origin have similar board structures yet diverse pay disclosures. Second, first-stage regressions of $InsiderRatio_t$ and $Dual\ CEO/Chair_t$ on the legal origins result in significant coefficients. The second stage regression of $Disclosure_t$ on the predicted values of $InsiderRatio_t$ and $Dual\ CEO/Chair_t$ as well as other control variables result in positive and significant coefficients for both $InsiderRatio_t$ and $Dual\ CEO/Chair_t$.

5. Results: Insider directors and incentive compensation (Hypothesis 2)

This section tests the relation between inside directors and incentive pay conditional on factors that affect both. Incentive pay increases with size (Core et al. 2003), uncertainty (Bushman et al. 2004), and growth options (Baber et al. 1996; Smith and Watts 1992). Incentive pay is also expected to relate to cash availability, foreign listings, and board size. Furthermore, low level executives with little ability to affect stock prices are expected to receive low incentive pay (Core and Guay 2001; Bushman et al. 1995; Ittner et al. 1997). Finally, country-specific factors affect incentive pay. For instance, minor differences in the tax treatment of options persist across European countries (Main 1999). In another context, different levels of social benefits or purchasing power provide different levels of insurance to individuals and affect incentives to executives. In light of the above factors, I estimate the following OLS regression model:

$$\frac{\sum PPS_{t-1}^{Executive}}{N\_Executive_{t-1}} = \alpha_0 + \alpha_1 \frac{N\_Insider_{t-1}}{N\_Director_{t-1}} + \alpha_2 Dual\ CEO/Chair_{t-1} + \alpha_3 Log(Size_{t-1})$$
$$+\alpha_4 Book\text{-}to\text{-}market_{t-1} + \alpha_5 Sales\ volatility_{t-1} + \alpha_6 Cash_{t-1} + \alpha_7 Cash_{t-1} * Financials\ industry\ dummy + \alpha_8 N\_Executive_{t-1} + \alpha_9 N\_Director_{t-1} + \alpha_{10} U.S.\ listed_{t-1} + \alpha_{11} U.K.\ listed_{t-1}$$
$$+\alpha_{12} Tax\ differential_{t-1} + \alpha_{13} Purchasing\ power_{t-1} + \alpha_{14} Social\ spending_{t-1}$$
$$+\theta\ Industry + \delta\ Country + \lambda\ Year_{t-1} + \varepsilon_{t-1} \quad (2)$$

where $\frac{\sum PPS_{t-1}^{Executive}}{N\_Executive_{t-1}}$, or PPS_{t-1}, is the average pay-for-performance sensitivity, defined as the ex ante change in an executive's stock and option portfolio at the beginning of year t if the company stock price increases by 1%; $\frac{N\_Insider_{t-1}}{N\_Director_{t-1}}$, or *Insider Ratio*$_{t-1}$, is the ratio of insiders to total number of directors; $Cash_{t-1}$ is cash and short-term investments deflated by total assets ($Cash_{t-1}$* *Financials industry dummy* is also included because cash management in financial companies are unique to the sector); $N\_Executive_{t-1}$ is the number of executives used to compute averages about executive pay; *Tax differential*$_{t-1}$ is the country-specific difference between effective tax rates on capital and labor income (Carey and Tchilinguirian 2000); *Purchasing power*$_{t-1}$ is the country's purchasing power parity from the OECD; and *Social spending*$_{t-1}$ is the country's public and private social spending per capita from the OECD. Other variables are the same as in Eq. (1). Similar to Section 4, the sample includes German companies, which have zero *Insider Ratio*$_t$ and *Dual CEO/Chair*$_t$ by law, even though one cannot distinguish between the board dependence variables and German fixed effects in a pooled regression. Unreported sensitivity checks excluding German companies produce similar results to those reported.

Table 7 Panel A presents the results of Eq. (2) for different levels of executives. The first column shows that CEO pay-for-performance sensitivity does not depend on the ratio of insiders (α_1=420.50, t=1.45) but on whether the CEO is the board chair (α_2=238.21, t=1.83). The coefficients suggest that a *Dual CEO/Chair*'s wealth increases by €238,210 compared with that of a CEO who is *not* a board chair, if company stock price increases by 1%.

The second column shows that insiders' wealth is higher when the number of insiders is greater (α_1=260.72, t=2.40) and when the CEO is the board chair (α_2=70.22, t=2.60). Similarly, the third column shows that the wealth of an executive ranked in top five is higher by €251,920 (€55,450) as a result of a 1% increase in stock price when all directors are executives (CEO is board chair) relative to when none of the directors are executives (CEO is not board chair). The fourth column shows that the wealth of a top executive is higher by €191,960 (€45,300) as a result of a 1% increase in stock price when all directors are executives (CEO is board chair) relative to when none of the directors are executives (CEO is not board chair).

The coefficients in Column 1 suggest that CEO pay-for-performance is primarily associated with the CEO's position with the board rather than the proportion of insiders. Similarly, declining coefficient estimates on *Insider Ratio*$_{t-1}$ across Columns 2 to 4 (the coefficient differences are significant at 5%) suggest that incentive pay to different sets of top executives depend on the agency costs related to these very executives.

The estimated coefficients on control variables show that incentive pay increases with size and operational complexity and reduces with cash balances (the effect of cash balance is muted in financial companies). The signs of other control variables are consistent with the predictions, but not statistically significant. This is possibly because industry, year, and country fixed effects subsume the effect of the control variables. The untabulated coefficients for fixed effects show that indicator variables for Holland, industrials and IT sectors, and years 2003 and 2004 are significant and positive. The untabulated regressions without the fixed effects generate significant coefficients for *Book-to-market*$_{t-1}$, *U.S. listed*$_{t-1}$ and *N_Executive*$_{t-1}$. On another note, regression models with interaction terms between country and year variables result in significant coefficients for *Insider Ratio*$_{t-1}$ and insignificant coefficients for *Dual CEO/Chair*$_{t-1}$.

Similar to Section 4, I address the concern about within-company dependence of observations by re-estimating Eq. (2) using company averages. The results (not reported) show that the coefficient on *Insider Ratio*$_{t-1}$ remains significant (α_1=205.76, t=2.63). The results are also insensitive to i) adding long-term debt ratio (to proxy for monitoring of debtholders) and/or global operations intensity, defined as international sales to total sales, as control variables; ii) excluding Cash and/or Cash*Financials industry dummy, iii) using a balanced sample across countries, such as using a fixed number of companies (3, 5, and 10) only from each country; or iv) using alternative definitions, such as *Incentive pay*$_t$, defined as the ratio of the sum of bonus, stock, and option grants to total pay, instead of *PPS*$_{t-1}$ (Mehran 1995); total assets or MCap instead of sales; and operating income volatility instead of sales volatility.

5.1. Insiders and incentive compensation across countries

The results in Table 7 lend credence to the contracting hypothesis. To ensure that the results are not a product of pooling across different countries, I re-estimate Eq. (2) for different countries using the *PPS*$_{t-1}$ of CEOs (Table 8 Panel A) and top five executives (Table 8 Panel B). Each panel reports results for U.K. companies (Column 1), French companies (Column 2), and companies not headquartered in U.K., France, or Germany (Column 3).[18] For comparative purposes, Column 4 of each panel reports results for the comparable U.S. companies.

Table 8 Panel A shows that pay-for-performance sensitivity of a CEO depends on whether the CEO is the board chair, but not on the ratio of insiders, in the sample countries except France. In contrast, pay-for-performance sensitivity of a U.S. CEO depends on the ratio of insiders, but not on whether the CEO is the board chair.

[18] Similar to Eq. (1), Eq. (2) cannot be tested for German companies alone, because insider ratio and CEO/Chair in German companies are invariably zero. In Column 3 in Table 8, I exclude all German companies that have non-varying Insider Ratio's and Dual CEO/Chair's in order to show the insensitivity of the results to German companies.

Table 8 Panel B shows that, pay-for-performance sensitivity of a top executive depends on the ratio of insiders, but not on whether the CEO is the board chair, in all countries except France. A similar result holds for the U.S. sample—yet with remarkably larger coefficients. For instance, the wealth of a top U.S. executive is higher by an extra €4,408,000 as a result of a 1% increase in stock price when all board members are insiders relative to when none of the board members are insiders. This figure is €349,000 in the U.K.; not different from €0 in France; and €330,000 in other European countries. Overall, the results show varying levels of support for the contracting hypothesis across different countries for PPS_{t-1}^{CEO} and $PPS_{t\text{-}1}$ for top five executives.

5.2. Alternative Explanations and Sensitivity Checks

5.2.1. Endogeneity between board composition and incentive compensation

The regressions in Tables 6, 7, and 8 follow most of prior literature in assuming exogenous board characteristics (Ryan and Wiggins 2004; Hermalin and Weisbach 2003). However, executive pay and board characteristics are likely to be endogenously determined. Similar to Section 4.2.2, I address this possibility by using a 2SLS estimation, in which a company's German, English, French, or Scandinavian legal origin are used as instruments for $InsiderRatio_t$ and $Dual\ CEO/Chair_t$ (La Porta et al. 1998). Appendix 3 favors this choice. Companies of the same legal origin have similar board structures but diverse pay practices. Furthermore, first-stage regressions of $InsiderRatio_t$ and $Dual\ CEO/Chair_t$ on company legal origins result in significant coefficients and a high goodness-of-fit. The results of the second stage regression of PPS_t on the predicted values of $InsiderRatio_t$ and $Dual\ CEO/Chair_t$ as well as other control variables show positive coefficients on $InsiderRatio_t$ (significant) and $Dual\ CEO/Chair_t$ (marginally significant).

5.2.2. Endogeneity between incentive compensation and the level of compensation

The regressions in Table 7 and 8 do not control for the level of pay in order to avoid the effect of a mechanical correlation between PPS_{t-1} and the level of pay. Despite opposing arguments (Gabaix and Landier 2008), a significant number of practitioners and academics argue that insiders prefer incentive pay over base salaries to camouflage excessive pay levels. This is because pay through equity-based grants may be less visible to shareholders and regulators (Bebchuk et al. 2002). Such camouflage may take the form of linking expectedly better performing measures in pay packages (Morse et al. 2006), or even illegally linking ex-post information to pay, as in the case of backdating options (Lie 2005). These rigged incentive contracts inflate both the pay level and incentive pay. The resulting positive correlation between insiders and incentive pay may spuriously support the contracting hypothesis.

I find little evidence for the alternative explanation. First, the coefficient on *Insider* $Ratio_{t-1}$ remains significant when Eq. (2) includes average pay deflated by company sales, *Total* pay_t. Second, when *Total* pay_t is regressed on *Insider* $Ratio_{t-1}$, *Dual CEO/Chair* $_{t-1}$, and the other control variables, the coefficients for *Insider* $Ratio_{t-1}$ and *Dual CEO/Chair* $_{t-1}$ are insignificant (The coefficients on *Log(Size* $_{t-1}$*)*, *book-to-market* $_{t-1}$, *sales volatility* $_{t-1}$, and *U.S. listed* $_{t-1}$ are significant). Third, a 2SLS regression, using company size and the average pay of the company's industry and country as instruments for *Total* pay_t, results in positive coefficients for *Insider* $Ratio_{t-1}$. Fourth, Eq. (2) that uses the annual value of stock and option grants deflated by total pay as an alternative measure of incentive pay continues to result in positive coefficients for *InsiderRatio* $_t$ and *Dual CEO/Chair* $_t$. I conclude that the positive relation between insiders and incentive pay is not driven by the endogeneity between incentive pay and the pay levels.

5.2.3. Missing Black-Scholes parameters

The company annual reports as well as the DataStream and Bloomberg databases make available three Black-Scholes parameters: stock price, exercise price, and time horizon of options. However, one third of the sample lacks information on other parameters, i.e., stock volatility, dividend yield, and risk-free rate. Using the methodology in the Execucomp database, I estimate missing parameters as follows: Stock volatility is estimated by standard deviation of daily stock prices over the last 60 months.[19] Dividend yield is estimated by the dividend yield of a matching company in the same industry and closest in performance. The risk-free rate is estimated by the annual yield of a U.S. Treasury bond carrying a seven-year term. The sensitivity analyses (not reported) show that the coefficients in Table 8 fluctuate by less than 15% in response to a ±50% change on estimated parameters. I conclude that the empirical results are not spuriously driven by missing Black-Scholes parameters.

5.2.4. Sample Selection Bias

The regressions in Tables 7 and 8 exclude non-disclosers from the sample. I investigate selection bias by exploring two possibilities. First, non-disclosers may not report their option grants due to proprietary costs (Verrecchia 1983). To test this possibility, I assume executives of non-disclosers are granted the average of their industry and country PPS_{t-1}, and re-run Eq. (2) for the full sample. The results (not reported) show a positive and significant coefficient on *Insider Ratio*$_{t-1}$ (α_1=103.20, t=2.15). The coefficient on *Dual CEO/Chair*$_{t-1}$ remains insignificant.

The second possibility is that non-disclosers may not grant incentive pay. Supporting this possibility is the low stock and option holdings of executives in companies that started pay disclosures after 1999 (average PPS_{t-1}: €38,500) relative to those that have disclosed over the

[19] As in Execucomp, stock price volatilities at the 5th and 95th percentiles are winsorized in order to avoid past volatility figures so outside the norm as to unlikely repeat in the long-term.

sample period (€90,300). The change in the disclosure regime is likely due to both exogenous and endogenous factors (e.g., changes in regulation versus changes in shareholder demand). However, in the more likely exogenous case of France mandating pay disclosures after May 2001, French companies switching their disclosure regime after the mandate show lower average PPS_{t-1} than those that started pay disclosures before the mandate (€9,100 vs. €90,000). To test the second possibility, I assume that PPS_{t-1}'s of all non-disclosers are 0, and re-run Eq. (2) for the full sample. The results (not reported) show a positive and significant coefficient on *Insider* $Ratio_{t-1}$ (α_1=123.05, t=2.50). The coefficient on *Dual CEO/Chair*$_{t-1}$ is insignificant.

The executive pay of non-disclosers is ultimately not known. However, the selection bias does not seem to confound the empirical support for the contracting hypothesis, if i) non-disclosers follow pay practices of disclosers in their country and industry, or ii) non-disclosers grant relatively less incentive pay than disclosers.

6. The validity of the contracting hypothesis across sample segments

This section examines empirical results for different sample segments.

6.1. Country-specific institutional characteristics

The contracting hypothesis suggests that companies compensate for weak governance mechanisms by emphasizing other mechanisms. Therefore, the marginal influence of insiders on pay transparency and pay-for-performance sensitivity must be more pronounced when few alternative country-specific institutions protect investors. To test this prediction, I re-run the tests for Hypotheses 1 and 2 using the sample partitioned across extant indices of country-specific institutional characteristics tabulated in Appendix 3. The first partition is based on whether a company is operating under code or common law (La Porta et al. 1998). The second partition is based on the *Importance of equity market index*, which aggregates stock market capitalization

held by outside shareholders, number of listed domestic firms, and number of IPO's (Leuz et al. 2003). The third partition is based on the *Outside investor rights index*, which measures the extent of outside shareholder rights (La Porta et al. 1998). The fourth partition is based on the *Global governance index*, GOV_{44}, which aggregates 44 attributes of governance covering board, audit, anti-takeover, compensation and ownership (Aggarwal et al. 2007).

6.1.1. Pay disclosures (Hypothesis 1)

Panel A of Table 9 presents average $Disclosure_t$ and results of Eq. (1) run separately for each partition. The average $Disclosure_t$ is higher in countries where capital markets are important and regulations and company bylaws better protect outside investors. Furthermore, the positive relation between insiders and $Disclosure_t$ is significant only in these countries.

6.1.2. Incentive compensation (Hypothesis 2)

Panel B of Table 9 reports average PPS_{t-1} and the results of Eq. (2) for each partition. The average PPS_{t-1} is not significantly different between countries with more or less effective institutions to protect outside shareholders. For all partitions, the coefficients on $Insider\ Ratio_{t-1}$ are significantly positive. For the first three partitions, the coefficients on $Insider\ Ratio_{t-1}$ are greater in companies with more effective institutions (the differences are significant at 5%); for the fourth partition, the difference of coefficient estimates on $Insider\ Ratio_{t-1}$ is insignificant.

Overall, Table 9 suggests that companies make more transparent pay disclosures (Hypothesis 1) and grant greater incentive pay (Hypothesis 2) in relation to greater insider influence on boards when country-specific institutions better protect outside shareholders.[20] The country-specific institutions protecting outside investors seem to be essential for the validity of the "substitution of alternative governance mechanisms" argument.

[20] The findings are qualitatively similar when regressions are run, instead of the partitions, for the whole sample by also including indicators for the institutional characteristics and interactions between the indicators and *Insider Ratio* as independent variables.

6.2. Insider-dominated boards

The contracting hypothesis predicts that boards with more insiders comply with shareholder demands for more transparent pay disclosures and greater incentive pay. An important question, in light of this prediction, is whether this relation continues to hold for boards dominated by insiders (Bebchuk et al. 2002). To empirically test this question, I re-run the tests for Hypotheses 1 and 2 when the sample is partitioned according to whether inside directors are likely to dominate boards and whether executives are likely to be entrenched.

The first partition is based on whether insiders have the majority, and hence the voting power on boards (Weisbach 1998). The second partition is based on whether CEOs serve as board chairs, because a dual CEO/Chair likely influences board agendas more forcefully than other board members (Bebchuk et al. 2002). The third partition is based on excessive pay to top executives, which is considered to be an outcome of managerial entrenchment and weak governance partly due to boards (Core et al. 1999). This partition ranks the sample according to the average level of executive pay deflated by company sales, and defines the top 25% as companies with relatively excessive pay. The cutoff value for the average level of executive pay deflated by sales is 0.00016. The fourth partition is based on non-option-related stock holdings of executives as a result of family ownership or managerial entrenchment (Nagar et al. 2003, La Porta et al. 1999, Ang et al. 2000). This partition ranks the sample according to the average value of stocks held by top executives, and defines the top 25% as companies with significant insider ownership. The cutoff corresponds to an executive with €2.1 million worth of company stock.

6.2.1. Pay disclosures (Hypothesis 1)

Panel A of Table 10 presents the average $Disclosure_t$ and results of Eq. (1) run separately for each partition. The first partition shows that when insiders do not have the majority on boards

(N=860), the coefficient on *Insider Ratio*$_t$ is positive and significant. On the other hand, when insiders have the majority (N=79), the coefficient is insignificant. The second partition by *Dual CEO/Chair*$_t$ does not result in significant coefficients for *Insider Ratio*$_t$. The third partition shows that the coefficient on *Insider Ratio*$_t$ is positive and significant for companies without excessive pay, whereas it is insignificant for companies with excessive pay.[21] The fourth partition shows that the coefficient on *Insider Ratio*$_t$ is positive and significant when executives are not significant shareholders (N=363), whereas it is insignificant for companies when executives are major shareholders.[22] The findings are consistent with the evidence in Larcker, Richardson and Tuna (2007) that insider power (a factor incorporating executive ownership and inside board membership) relates to bad disclosure quality as measured by restatements.

6.2.2. Incentive compensation (Hypothesis 2)

Panel B of Table 10 reports average $PPS_{t\text{-}1}$ and the results of Eq. (2) run separately for each partition. The average levels of $PPS_{t\text{-}1}$ are consistently higher for companies with insider-dominated boards. However, the significant positive relation between insiders and incentive compensation holds only when insiders are not likely to dominate the boards (i.e., when insiders do not have the numerical majority on boards, and when CEO is not board chair); and when executives are not likely to be entrenched (i.e., when the company is not in the top 25% of the sample according to executive pay). The forth partition does not result in significant coefficients for sub-samples of high and low stock ownership.

Overall, Table 10 suggests that companies make more transparent disclosures (Hypothesis 1) and grant greater incentive pay (Hypothesis 2) in response to insiders, only when

[21] The empirical results are essentially the same when the cutoff for excessive compensation is 10%, 20%, and 30% (not 40% or more) of the sample; or when the partition is made using residuals from the regression of *Total pay* on *Log(Size)*, *Net income*, *B/M*, *Sales volatility*, *U.S. listed*, *U.K. listed*, and industry, year, and country controls.

[22] The empirical results are essentially the same when the cutoff for stock ownership is 10%, 20%, 30%, or 40% (not 50% or more) of the sample.

insiders do not dominate the boards and executives are not entrenched.[23] In other words, the opportunism hypothesis cannot be ruled out for companies under intense insider influence.

7. Conclusion

This study examines the relation between the extent of inside directors and compensation policies in large European companies. The cross-country and company-level nature of the sample brings extensive variation to key variables of interest and thereby enables powerful tests of agency theory predictions, which were only tested using the U.S. data in the prior literature. I find that companies with a greater insider influence on their boards disclose more transparent pay information and grant company executives more incentive pay. Overall, the findings are inconsistent with the opportunism hypothesis, which predicts that influential insiders successfully lobby for less transparent disclosures and less incentive pay. Rather, the evidence is in line with the contracting hypothesis or the "substitutability of alternative governance mechanisms" argument suggested by a number of prior studies, e.g., ownership concentration versus legal protection for investors (La Porta et al. 1998); ownership concentration versus independent boards (Kim et al. 2007); independent boards versus shareholder protection in company charter provisions (Gillan et al. 2007); and threat of dismissal versus pay-for-performance (Hallman et al. 2005). Of particular interest to policy makers, my findings suggest that companies voluntarily offset agency problems related to inside directors through compensation policies.

However, the support for the contracting hypothesis is not universal. The findings are more pronounced in countries with strong institutional protection for outside investors.

[23] The findings are similar when regressions are run for the whole sample, instead of the partitions, by including indicators for insider-dominated boards and interactions between the indicators and *Insider Ratio*.

Furthermore, the findings hold only when insiders are not likely to dominate company boards and managers are not likely to be entrenched.

I conclude with two caveats. First, due to data limitations, insider influence on company boards is measured by two proxies only, namely i) the ratio of inside directors to total number of directors and ii) dual CEO/Chairs. Accordingly, empirical tests omit significant information regarding insider influence such as executive tenure, gray directors, and CEO-appointed directors. Second, individual elements of a company's governance structure (including incentive compensation and board structures) are determined endogenously with respect to the contracting environment of the companies, and the empirical analyses in this paper may not perfectly account for such endogenous relations. Both caveats are likely to confound the regression coefficients and the casuality interpretation of the results (Larcker et al. 2007).

An interesting future study, in light of the international trend towards more transparent disclosures, may compare executive pay in companies that improve disclosures voluntarily with pay in companies that do so due to regulatory changes. Such a study has the potential to address concerns about endogeneity that limit, to some degree, the extant governance studies including this paper.

References

Aboody, D., R. Kazsnik. 2000. CEO stock option awards and the timing of corporate voluntary disclosures. Journal of Accounting and Economics 29, 73-100.

Aboody, D., M. E. Barth, R. Kasznik. 2006. Do firms understate stock option-based compensation expense disclosed under SFAS 123? Review of Accounting Studies 11(4), 429-461.

Abowd, J. M., and D. S. Kaplan. 1999. Executive compensation: Six questions that need answering. Journal of Economic Perspectives 13 (4), 145-168.

Adams, R. B., B. E. Hermalin, and M. S. Weisbach. 2008. The role of board of directors in corporate governance: A conceptual framework & survey. Working paper.

Aggarwal, R., I. Erel, R. Stulz, and R. Williamson. 2008. Differences in governance practices between U.S. and foreign firms: Measurement, causes, and consequences. Forthcoming Review of Financial Studies.

Ahmed, K., and J. K. Courtis. 1999. Associations between corporate characteristics and disclosure levels in annual reports: A meta-analysis. British Accounting Review 31, 35-61.

Ang, J. S., R. A. Cole, and J. W. Lin. 2000. Agency costs and ownership structure. Journal of Finance 55 (1), 81-106.

Baber, W. R., S. N. Janakiraman, and S. Kang. 1996. Investment opportunities and the structure of executive compensation. Journal of Accounting and Economics 21, 297-318.

Baker, T. A. 1999. Options reporting and the political costs of CEO pay. Journal of Accounting, Auditing and Finance 14, 125-145.

Ball, R., S. P. Kothari, and A. Robin. 2000. The effect of international institutional factors on properties of accounting earnings. Journal of Accounting and Economics 29, 1-51.

Bebchuk, L., M. F. Jesse, and D. Walker. 2002. Managerial power and rent extraction in the design of executive compensation. University of Chicago Law Review 69, 751-846.

Bebchuk L., J. M. Fried. 2005. Pay without performance: Overview of the issues. Journal of Applied Corporate Finance 17 (4), 8-23.

Bertrand, M., and S. Mullainathan. 2001. Are CEOs rewarded for luck? The ones without principals are. The Quarterly Journal of Economics 116 (3), 901-932.

Bhojraj,S., C.M.C.Lee, and D.Oler. 2003. What's my line? A comparison of industry classification schemes for capital market research. Journal of Accounting Research 14, 745–774.

Botosan, C. 1997. Disclosure level and the cost of equity capital. The Accounting Review 72, 323-349.

Brickley, J., J. Coles, and G. Jarrell. 1997. Leadership structure: Separating the CEO and chairman of the board. Journal of Corporate Finance 3: 189-220.

Burkart, M., D. Gromb, and F. Panunzi. 1997. Large shareholders, monitoring, and the value of the firm. The Quarterly Journal of Economics 112, 693-729.

Bushman, R., R. Indjejikian, and A. Smith. 1995. Aggregate performance measures in business unit manager compensation: The role of intrafirm interdependencies. Journal of Accounting Research 33 (supplement), 101-28.

Bushman, R., Q. Chen, E. Engel, and A. Smith. 2004. Financial accounting information, organizational complexity and corporate governance systems. Journal of Accounting and Economics 37, 167-201.

Byrd, J., and K. Hickman. 1992. Do outside directors monitor managers? Evidence from tender offer bids. Journal of Financial Economics 32, 195-207.

Carey, D., and H. Tchilinguirian. 2000. Average effective tax rates on capital, labour and consumption. OECD Economics Department Working Papers, No. 258, OECD Publishing.

Chhaochharia, V., Y. Grinstein. 2008. CEO compensation and board structure. Forthcoming Journal of Finance.
Conyon, M, J. E. Core, W. R. Guay. 2008. How high is US CEO pay? A comparison with UK CEO pay. Working paper.
Conyon, M., and K. J. Murphy. 2000. The prince and the pauper? CEO pay in the United States and United Kingdom. The Economic Journal 110, 640-671.
Conyon, M., and J. Schwalbach. 1999. Corporate governance, executive pay and performance in Europe. In: Carpenter, J., Yermack, D., eds. 1999. Executive Compensation and Shareholder Value. Boston, MA: Kluwer Academic Publishers.
Conyon, M., and G. V. Sadler. 2001. CEO compensation, option incentives, and information disclosure. Review of Financial Economics 10, 251-277.
Core J. E. 2001. A review of the empirical disclosure literature: discussion. Journal of Accounting and Economics 31, 441-456.
Core, J. E., and W. Guay. 2001. Stock option plans for non-executive employees. Journal of Financial Economics 61, 253-287.
Core, J. E., and W. Guay. 2002. Estimating the value of employee stock option portfolios and their sensitivities to price and volatility. Journal of Accounting Research 40, 613-630.
Core, J. E., W. Guay, and D. Larcker. 2003. Executive equity compensation and incentives: A survey. Federal Reserve Bank of New York Economic Policy Review 9, 27-50.
Core, J. E., J., R. Holthausen, and D. Larcker. 1999. Corporate governance, chief executive officer compensation, and firm performance. Journal of Financial Economics 51, 371-406.
Cotter, J., A. Shivdasani, and M. Zenner. 1997. Do independent directors enhance target shareholder wealth during tender offers? Journal of Financial Economics 43, 195-218.
Coulton, J., C. James, and S. Taylor. 2001. The effect of compensation design and corporate governance on the transparency of CEO compensation disclosures. Working paper, University of Technology, Sydney.
Datar, S., S. Kulp, and R. Lambert. 2001. Balancing performance measures. Journal of Accounting Research 39, 75-92.
Del Guercio, D., L. Y. Dann, and M. M. Partch. 2003. Governance and boards of directors in closed-end investment companies. Journal of Financial Economics 69, 111-152.
Drymiotes, G. 2007. The monitoring role of insiders. Journal of Accounting and Economics 44, 359-377.
Fahlenbrach, R. 2008. Shareholder rights, boards, and executive compensation. Forthcoming Review of Finance.
Fama, E., and M. Jensen. 1983. Separation of ownership and control. Journal of Law and Economics 26, 301-325.
Ferrarini, G., N. Moloney, and C. Vespro. 2003. Executive remuneration in the EU: Comparative law and practice. ECGI Working Paper Series in Law, June 2003.
Ferrarini, G., and N. Moloney. 2005. Executive remuneration in the EU: The context for reform. Oxford Review of Economic Policy 21 (2), 304-323.
Ferrarini, G., N. Moloney, and M.C. Ungureanu. 2009. Understanding Directors' Pay in Europe: A Comparative and Empirical Analysis. ECGI Working Paper Series in Law, August 2009.
Gabaix, X., and A. Landier. 2008. Why has CEO pay increased so much? Quarterly Journal of Economics 123, 49-100.
Gillan, S. L., J. C. Hartzell, and L. T. Starks. 2007. Explaining corporate governance: Boards, bylaws, and charter provisions. Working paper, University of Texas at Austin.

Hall, B., and J. B. Liebman. 1998. Are CEOs really paid like bureaucrats? Quarterly Journal of Economics 112 (3), 653-691.
Hall, B., and K. Murphy. 2000. Optimal exercise prices for executive stock options. The American Economic Review 90 (2), 209-214.
Hallman, G., J. C. Hartzell, and C. Parsons. 2005. Carrots and sticks: The threat of dismissal and incentive compensation. Working Paper, University of Texas at Austin, TX.
Hermalin, B. E., and M. S. Weisbach. 1998. Endogenously chosen boards of directors and their monitoring of the CEO. The American Economic Review 88 (1), 96-118.
Hermalin, B. E., and M. S. Weisbach. 2003. Board of directors as an endogenously determined institution: A survey of the economic literature. Federal Reserve Bank of New York Economic Policy Review 9, 7-27.
Holmstrom, B. 1979. Moral hazard and observability. Bell Journal of Economics 10, 74-91.
Hopt, K. J., C. L. Leyens. 2005. Board Models in Europe-Recent developments of internal corporate governance structures in Germany, the United Kingdom, France, and Italy. In: Gepken-Jager E., van Sloigne, G., Timmerman, L., eds. 2005. VOC 1602-2004: 400 years of company law. Deventer: Kluwer Academic Publishers.
Ittner, C., D. Larcker, and M. Rajan. 1997. The choice of performance measures in annual bonus contracts. The Accounting Review 72 (2), 231-255.
Jensen, M. 1993. The modern industrial revolution, exit, and the failure of internal control systems. Journal of Finance 48, 831-880.
Jensen, M., and K. Murphy. 1990. Performance pay and top-management Incentives. The Journal of Political Economy 98 (2), 225–264.
Johnson, J. L., C. M. Daily, and A. E. Ellstrand. 1996. Board of directors: A review and research agenda. Journal of Management 22 (3), 409-438.
Khanna, T., K. Palepu, and S. Srinivasan. 2004. Disclosure practices of foreign companies interacting with U.S. markets. Journal of Accounting Research 42, 475-508.
Kim, K. A., P. Kitsabunnarat-Chatjuthamard, J. R. Nofsinger. 2007. Large shareholders, board independence, and minority shareholder rights: Evidence from Europe. Journal of Corporate Finance 13, 859-880.
Klein, A. 1998. Firm performance and board committee structure. Journal of Law and Economics XLI, 275-303.
Klein, A. 2002. Audit committee, board of director characteristics, and earnings management. Journal of Accounting and Economics 33, 375-400.
Laksmana, I. 2008. Corporate board governance and voluntary disclosure of executive compensation practices. Contemporary Accounting Research 25 (4), 1147-1182.
Lang, M., and R. Lundholm. 1993. Cross-sectional determinants of analyst ratings of corporate disclosures. Journal of Accounting Research 31, 246-271.
Larcker, D. F., S. A. Richardson, and I. Tuna. 2007. Corporate governance, accounting outcomes, and organizational performance. The Accounting Review 82 (4), 963-1008.
La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny. 1997. Legal determinants of external finance. Journal of Finance 52, 1131-1150.
La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny. 1998. Law and finance. Journal of Political Economy 106, 1113-1155.
La Porta, R., F. Lopez-de-Silanes, and A. Shleifer. 1999. Corporate ownership around the world. Journal of Finance 54, 471-517.

Larcker, D. F., S. A. Richardson, I. Tuna. 2007. Corporate governance, accounting outcomes, and organizational performance. The Accounting Review 82 (4), 963-1008.
Leuz, C., D. Nanda, and P. Wysocki. 2003. Earnings management and investor protection: an international comparison. Journal of Financial Economics 69, 505-527.
Lie, E. 2005. On the timing of CEO stock option awards, Management Science 51, 802–812.
Main, B. G. M. 1999. The rise and fall of executive share options in Britain. In: Carpenter, J., Yermack, D., eds. 1999. Executive Compensation and Shareholder Value. Boston, MA: Kluwer Academic Publishers.
Mehran, H. 1995. Executive compensation structure, ownership, and firm performance. Journal of Financial Economics 38 (2), 163-184.
Morse, A., V. Nanda, and A. Seru. 2006. Are incentive contracts rigged by powerful CEOs? Working paper, University of Michigan.
Murphy, K. J. 1996. Reporting choice and the 1992 proxy disclosure rules. Journal of Accounting, Auditing, and Finance 11, 497-515.
Murphy, K. J. 1999. Executive compensation. In: Ashenfelter, O., Card, D., eds. 1999. Handbook of Labor Economics Volume 3.
Nagar, V. 2002. Delegation and innovative compensation. The Accounting Review 77, 379-396
Nagar, V., D. Nanda, and P. Wysocki. 2003. Discretionary disclosure and stock-based incentives. Journal of Accounting and Economics 34, 283-309.
Noe, C. 1999. Voluntary disclosures and insider transactions. Journal of Accounting and Economics 27, 305-327.
Noreen, E. 1988. An empirical comparison of probit and OLS regression hypothesis tests. Journal of Accounting Research 26 (1), 119-133.
Nunnally, J., ed. 1978. Psychometric Theory. New York: McGraw-Hill Companies.
Perry, T. 2000. CEO compensation in the 1990s: Shareholder alignment or shareholder expropriation? Wake Forest Law Review 35, 123-152.
Rogers, W. 1993. Regression standard errors in clustered samples. Stata Technical Bulletin 13, 19-23.
Ryan, H. E., and R. A. Wiggins III. 2004. Who is in whose pocket? Director compensation, board independence, and barriers to effective monitoring. Journal of Financial Economics 73, 497-524.
Shleifer, A., R. W. Vishny. 1997. A survey of corporate governance. Journal of Finance 52, 737-783.
Sloan, R. G. 1993. Accounting earnings and top executive compensation. Journal of Accounting and Economics 16, 55-100.
Smith, C. and R. Watts. 1992. The investment opportunity set and corporate financing, dividend, and compensation policies. Journal of Financial Economics 32, 263-292.
Verrecchia, R. 1983. Discretionary disclosure. Journal of Accounting and Economics 5, 179-194.
Weisbach, M. 1988. Outside directors and CEO turnover. Journal of Financial Economics 20, 431-460.
Wysocki, P. 2004. Discussion of 'Ultimate ownership, income management, and legal and extra-legal institutions'. Journal of Accounting Research 42, 463-474.
Yermack, D. 1996. Higher market valuation of companies with a small board of directors. Journal of Financial Economics 40, 185-211.
Yermack, D. 1998. Companies' modest claims about the value of CEO stock option awards. Review of Quantitative Finance and Accounting 10, 207-226.

Table 1
Sample selection

Panel A: Breakdown of the sample by country

Country	Unique companies	Annual observations	Annual observations with pay data for top five executives	Annual observations with pay data for all top executives
U.K.	43	254	244	250
France	33	193	58	139
Germany	27	162	49	126
Holland	11	66	54	60
Switzerland	11	66	16	46
Italy	9	54	6	33
Spain	6	36	23	26
Sweden	6	36	18	23
Belgium	5	30	9	24
Finland	3	18	9	11
Russia	3	18	0	0
Norway	1	6	2	3
	158	939	486	741

The sample is comprised of the largest 158 European companies by sales in year 2000. The sample period is between years 1999 and 2004. The first column presents the number of unique companies for each country; the second column the number of annual observations; the third column the number of annual observations with pay data for top five executives ranked according to pay level; and the fourth column the number of annual observations with pay data for all top executives reported by their companies.

Panel B: Breakdown of the sample by economic sector

Economic Sector	Unique companies	Annual observations	Annual observations with pay data for top five executives	Annual observations with pay data for all top executives
Financials	43	254	138	200
Industrials	24	142	62	115
Consumer Discretionary	21	126	70	101
Materials	13	75	27	59
Consumer Staples	11	66	43	62
Information Technology	11	66	36	58
Energy	11	66	26	35
Health Care	9	54	37	48
Utilities	8	48	18	30
Telecom. Services	7	42	29	33
	158	939	486	741

The sample is divided across the following ten Global Industry Classification Standard (GICS)^{SM} economic sectors: **Financials** includes commercial banks, thrifts and mortgage finance, diversified financial services, consumer finance, capital markets, insurance, REIT, and real estate management and development industry groups. **Industrials** includes aerospace & defense, building products, construction & engineering, electrical equipment, industrial conglomerates, machinery, trading companies & distributors, commercial services & supplies, air freight & logistics, airlines, marine, road & rail, and transportation infrastructure industry groups. **Consumer Discretionary** includes automobiles, auto components, household durables, leisure equipment and products, textiles, apparel & luxury goods, hotels, restaurants & leisure, diversified consumer services, media, distributors, internet & catalog retail, multi-line retail, and specialty retail industry groups. **Materials** includes chemicals, construction materials, containers & packaging, metals & mining, and paper & forest products industry groups. **Consumer Staples** includes food & staples retailing, beverages, food products, tobacco, household products, and personal products industry groups. **Information Technology** includes internet software & services, IT services, software, communications equipment, computers & peripherals, electronic equipment & instruments, office electronics, and semiconductors & semiconductor equipment industry groups. **Energy** includes energy equipment & services, gas & consumable fuels, and oil industry groups. **Health Care** includes health care equipment, supplies & services, health care technology, biotechnology, pharmaceuticals, and life sciences tools & services industry groups. **Utilities** includes electric, gas, water, multi-utilities, and independent power producers & energy traders industry groups. **Telecommunication Services** includes diversified and wireless telecommunication services industries.

The first column displays the number of unique companies for each industry; the second column the number of annual observations; the third column the number of annual observations with pay data for top five executives ranked according to pay level; and the fourth column the number of annual observations with average pay data for all top executives reported by their companies.

Table 2
Descriptive statistics

Panel A: Board structure, pay disclosure, and executive compensation

	N	Mean	Q1	Median	Q3
Board Structure					
$N\_Insider_t$	939	2.72	0	2	5
$N\_Independent\ director_t$	939	3.99	0	0	8
$N\_Employee\ director_t$	939	1.80	0	0	3
$N\_Other\ director_t$	939	5.89	0	6	10
$N\_Director_t$	939	14.42	11	13	18
$Insider\ Ratio_t = \frac{N\_Insider_t}{N\_Director_t}$	939	0.21	0.00	0.13	0.37
$Dual\ CEO/Chair_t$	939	0.30	0	0	1
Pay Disclosure					
Type of disclosure (TD)	939	1.75	2.00	2.00	2.00
Amount of disclosure (AD)	939	1.06	0.00	1.00	2.00
Quality of disclosure (QD)	939	1.27	1.00	2.00	2.00
$Disclosure_t$	939	4.08	3.00	4.00	6.00
Executive Compensation					
$N\_Executive_t$	486	4.27	4	5	5
$Salary_t$ (`000 €)	486	792	550	707	927
$Bonus_t$ (`000 €)	486	544	171	372	713
$Stock_t$ (`000 €)	486	404	0	20	524
$Option_t$ (`000 €)	486	737	17	295	732
$Total\ pay_t$ (`000 €)	486	2,479	1,198	1,827	2,849
$Total\ pay_t$ (x1,000)	486	0.17	0.05	0.09	0.16
$Log(Total\ pay_t)$	486	7.54	7.09	7.51	7.95
$Stock\ portfolio_{t-1}$ (`000 €)	486	4,343	52	601	2,063
$Option\ portfolio_{t-1}$ (`000 €)	486	1,258	66	417	1,342
Stock portfolio PPS_{t-1} (`000 €)	486	44.02	0.53	6.15	21.20
Option portfolio PPS_{t-1} (`000 €)	486	41.42	3.83	16.70	43.67
$PPS_{t-1} = \frac{\sum PPS_{t-1}^{Executive}}{N\_Executive_{t-1}}$	486	85.44	10.81	31.94	77.35
$Insider\ total\ pay_t$ (`000 €)	398	2,981	1,361	2,114	3,542
$Insider\ PPS_{t-1} = \frac{\sum PPS_{t-1}^{Insider}}{N\_Insider_{t-1}}$	398	97.85	16.08	38.56	89.17
$CEO\ total\ pay_t$ (`000 €)	527	3,878	1,657	2,625	4,328
$CEO\ PPS_{t-1} = PPS_{t-1}^{CEO}$	527	153.92	13.20	47.35	117.88

Board Structure

N_Insider$_t$ is the number of company executives who also serve as directors in a company for year t. **N_Independent director$_t$** is the number of independent directors. **N_Employee director$_t$** is the number of directors who are employees but not executives. **N_Other director$_t$** is the number of non-employee directors who are not classified as independent. **N_Director$_t$** is the total number of directors. **Insider Ratio$_t$** is the ratio of the number of insiders to the total number of directors. **Dual CEO/Chair$_t$** is an indicator equal to 1 if the CEO serves as the chair of the board and 0 otherwise.

Pay Disclosure

Type of disclosure (TD) measures whether company annual reports disclose base salaries and stock-based grants. TD is two if both types of pay are reported; one if either base salaries or stock-based grants is reported; and zero if neither type is reported. **Amount of disclosure (AD)** measures the number of pay contracts disclosed in the company annual reports. AD is two if a company discloses more than two contracts; one if it discloses two contracts; and zero if it discloses average executive pay or the contract of one executive. **Quality of disclosure (QD)** measures the extent to which company annual reports adequately discuss: (1) compensation policy and future determinants of compensation, and (2) details of executive compensation in the current year and in previous years. QD is two if a company discusses both of the above items; one if it discusses one of the items; and zero if it discusses neither item. **Disclosure$_t$** is the overall measure for the type, amount, and quality of executive pay disclosure. Disclosure is the sum of TD, AD, and QD, and ranges from zero to six. A higher value for Disclosure$_t$ indicates a more transparent disclosure of executive compensation.

Executive Compensation

N_Executive$_t$ is the number of executives used to compute averages of executive pay for each company-year observation. N_Executive$_t$ is capped at five for main analyses. **Salary$_t$** is the average base salary per executive. **Bonus$_t$** is the average bonus per executive. **Stock$_t$** is the average value of stock grants, calculated as the number of shares granted times the annual average stock price. **Option$_t$** is the average Black-Scholes value of option grants per executive. **Total pay$_t$** is the sum of Salary$_t$, Bonus$_t$, Stock$_t$, and Option$_t$. **Total pay$_t$ (x1,000)** is the total annual compensation per executive divided by company sales. **Stock portfolio$_{t-1}$** and **Option portfolio$_{t-1}$** are respective average values of stocks and options held per executive at the beginning of the fiscal year t. **Stock portfolio PPS$_{t-1}$** is the ex ante change of an executive's stock portfolio value at the beginning of the fiscal year t if company stock price increases by 1%. **Option portfolio PPS$_{t-1}$** is the ex ante change of executive's option portfolio value at the beginning of the fiscal year t if company stock price increases by 1%. **PPS$_{t-1}$** is the ex ante change in executive's wealth related to the executive's stock and option portfolio at the beginning of the fiscal year t if company stock price increases by 1%.

Insider total pay$_t$ is the average total pay for an executive who is also a director (insider). **Insider PPS$_{t-1}$** is the ex ante change in an insider's wealth related to the insider's stock and option portfolio at the beginning of the fiscal year t if company stock price increases by 1%. **CEO total pay$_{t-1}$** is the sum of base salary, bonus, and values of stock and option grants to the CEO. **CEO PPS$_{t-1}$** is the ex ante change in CEO's wealth related to CEO's stock and option portfolio at the beginning of the fiscal year t if company stock price increases by 1%.

Panel B: Economic determinants of executive pay

	N	Mean	Q1	Median	Q3
$Sales_t$ (mn €)	486	28,868	12,307	19,184	36,126
$Log(Size_t)$	486	9.90	9.42	9.86	10.49
$MCap_t$ (mn €)	486	32,273	6,512	14,999	39,123
Total $assets_t$ (mn €)	486	138,486	12,224	26,648	158,539
$Cash_t$ (mn €)	486	11,108	714	1,882	6,860
$Cash_t$	486	0.09	0.04	0.06	0.11
Net $income_t$ (mn €)	486	1,221	190	669	2,197
Net $income_t$	486	0.05	0.01	0.04	0.08
$Return_t$	486	0.03	-0.19	0.01	0.19
Book-to-$market_t$	486	0.80	0.62	0.87	0.98
Sales $volatility_t$	486	0.24	0.11	0.18	0.29
Global $operations_t$	445	0.53	0.28	0.58	0.75
U.S. $listed_t$	486	0.52	0.00	1.00	1.00
U.K. $listed_t$	486	0.11	0.00	0.00	0.00

$Sales_t$ (mn €) are total net sales during the year. **Log ($Size_t$)** is the natural logarithm of total net sales during the year. **$MCap_t$ (mn €)** is the market capitalization of equity at the fiscal year end. **Total $assets_t$ (mn €)** is the total assets at the fiscal year end. **$Cash_t$ (mn €)** is the cash and short-term investments of a company at the fiscal year end. **$Cash_t$** is cash and short-term investments deflated by company total assets at the fiscal year end. **Net $income_t$ (mn €)** is the net income during the year. **Net $income_t$** is net income divided by company sales during the year. **$Return_t$** is the annual stock return in the primary stock exchange of the company. **Book-to-$market_t$** is total book value of assets divided by the market value of assets at the fiscal year end. **Sales $volatility_t$** is the coefficient of variation of company sales, computed as the time-series standard deviation of sales over the six years before (and including) the current year divided by time-series average of sales. A high value of Sales $volatility_t$ indicates volatile company sales. **Global $operations_t$** is the ratio of international sales to total company sales. **U.S. $listed_t$** is an indicator equal to 1 if a company's shares are listed as ADR or OTC in the U.S. and 0 otherwise. **U.K. $listed_t$** is an indicator equal to 1 if a non-U.K. company's shares are listed in the U.K. and 0 otherwise.

Table 3
Executive compensation across countries

Panel A: Top European companies versus U.S. matches

	Europe			U.S.	
	Mean	Median		Mean	Median
Board Structures					
$N\_Director_t$	14.4	13.0	>	12.1	12.0
$Insider\ Ratio_t$	0.21	0.13	<	0.29	0.27
$Dual\ CEO/Chair_t$	0.30	0.00	<	0.79	1.00
Executive Compensation					
$Salary_t$ (`000 €)	792	707	≈	1,022	720
$Bonus_t$ (`000 €)	544	372	<	1,456	875
$Stock_t$ (`000 €)	404	20	<	938	140
$Option_t$ (`000 €)	737	295	<	3,224	1,736
Total pay_t (`000 €)	2,479	1,827	<	6,640	4,321
Stock $portfolio_{t-1}$ (`000 €)	4,343	601	<	180,811	7,850
Option $portfolio_{t-1}$ (`000 €)	1,258	417	<	18,091	7,963
PPS_{t-1} (`000 €)	86	32	<	2,175	322
CEO total pay_t (`000 €)	3,878	2,625	<	13,218	8,865
CEO PPS_{t-1} (`000 €)	154	47	<	6,393	735
Economic Determinants of Executive Compensation					
$Sales_t$ (mn €)	28,868	19,184	≈	28,629	17,892
$MCap_t$ (mn €)	32,273	14,999	<	41,888	16,798
Total $assets_t$ (mn €)	138,486	26,648	>	76,527	20,123
Net $income_t$ (mn €)	1,221	669	<	1,528	787
B/M_t	0.80	0.87	>	0.68	0.74

The panel compares the 486 annual observations from 158 largest European companies with those of U.S. companies matched (without replacement) to the European companies by sales in year 2000. The European companies are presented in the "Global Top 800 List" by *Forbes* magazine in year 2000. The U.S. data are obtained from the Compustat Execucomp and IRRC databases. The sample period is between years 1999 and 2004. In order to mitigate the effect of differences in managerial level, executive pay averages are computed using pay information of top five officers of each company. Differences in all variables are significant at 1% level, unless otherwise noted by symbol '≈'. Variable definitions appear in Table 2.

Panel B: Averages of selected variables across sample countries

	Company-specific variables									Country-specific variables		
Country	Insider Ratio$_t$	Dual CEO/Chair$_t$	Disclosure$_t$	Salary$_t$ (`000 €)	Bonus$_t$ (`000 €)	Stock$_t$ (`000 €)	Option$_t$ (`000 €)	Total pay$_t$ (`000 €)	PPS$_{t-1}$ (`000 €)	Tax differential	Purchasing power$_t$	Social spending$_t$ (€)
U.K.	0.42	0.29	5.84	805	486	615	605	2,512	110	-17.4%	0.96	5,553
France	0.18	0.65	3.53	478	597	61	1,136	2,272	70	16.6%	1.03	7,620
Germany	0.00	0.00	3.18	768	770	125	352	2,034	27	16.0%	1.05	7,074
Holland	0.09	0.11	5.15	829	441	106	641	2,017	54	16.3%	1.01	6,016
Switzerland	0.10	0.27	3.18	938	1,081	1,600	680	4,299	125	5.1%	0.75	6,094
Italy	0.33	0.33	2.67	930	628	209	2,186	3,953	121	5.3%	1.17	6,293
Spain	0.28	0.75	2.97	1,403	745	115	487	2,750	35	9.8%	1.26	4,616
Sweden	0.04	0.08	4.28	725	187	1	209	1,120	20	18.0%	0.87	8,432
Belgium	0.20	0.00	3.07	753	235	36	200	1,225	7	8.9%	1.06	7,329
Finland	0.12	0.50	4.33	663	346	0	2,377	3,386	128	25.0%	0.97	5,927
Russia	0.12	0.00	0.33	-	-	-	-	-	-	-	3.60	-
Norway	0.00	0.00	3.17	705	87	600	0	1,392	4	15.3%	0.88	8,622
Sample average	0.21	0.30	4.08	792	544	404	737	2,479	86	-1.1%	0.99	6,149

The panel reports averages of selected variables across the sample countries. The number of observations for each country (company-specific variable definitions) appears in Table 2. In order to mitigate the effect of differences in managerial level, executive pay averages are computed using pay information of top five officers of each company. Country-specific variables are defined as follows. **Tax differential** is the country-specific difference between effective tax rates on capital and labor income, from Carey and Tchilinguirian (2000). **Purchasing power**$_t$ is the country- and year-specific purchasing power parity, from the OECD statistics portal. **Social spending**$_t$ is the country- and year-specific public and private social spending per capita, from the OECD social expenditure database (SOCX).

Table 4
Correlations among selected variables

	$Disclosure_t$	PPS_{t-1}	Insider $Ratio_t$	Dual $CEO/Chair_t$	Total pay_t	Log $(Size_t)$	Net $income_t$	Book-to-$market_t$	Sales $volatility_t$	Global $operations_t$
$Disclosure_t$		0.16***	0.34***	0.04	0.10***	0.01	-0.06*	-0.12***	-0.11***	0.06
PPS_{t-1}	0.37***		0.20***	0.11**	0.04	0.03	0.00	-0.13***	0.06	0.06
Insider $Ratio_t$	0.50***	0.40***		0.26***	0.13**	-0.18***	-0.05	-0.09***	0.01	-0.19***
Dual $CEO/Chair_t$	0.08**	0.29***	0.29***		0.03	-0.03	-0.02	-0.15***	-0.04	-0.01
Total pay_t	0.271***	0.24***	0.30***	0.09**		-0.60***	0.25***	-0.14***	0.29***	0.02
$Log(Size_t)$	-0.10***	0.17***	-0.23***	-0.08**	-0.57***		-0.18***	0.03	-0.07**	0.03
Net $income_t$	0.11***	0.21***	0.05	0.06	0.08**	0.06*		-0.08**	0.09***	-0.03
Book-to-$market_t$	-0.19***	-0.26***	-0.23***	-0.19***	-0.20***	0.09**	-0.30***		0.16***	-0.05
Sales $volatility_t$	0.11***	0.04	0.04	-0.04	-0.02	0.08**	-0.06	0.07*		-0.01
Global $operations_t$	0.02	0.04	-0.19***	-0.00	0.07*	-0.04	-0.04	-0.08*	0.04	

***, **, * correspond to significance at 1%, 5%, and 10% levels.

The table presents pairwise Pearson (above the diagonal) and Spearman (below the diagonal) correlations among the selected variables. Variable definitions appear in Table 2.

Table 5
Insiders and transparency of pay disclosure

	Predicted sign	Full sample	Full sample	Full sample	Disclosers	Company averages
Insider Ratio$_t$	+ / -	0.83**		0.63*	1.03***	1.86**
		(2.18)		(1.66)	(4.57)	(2.28)
Dual CEO/Chair$_t$	+ / -		0.38***	0.36**	0.21**	0.51
			(3.19)	(2.96)	(2.31)	(1.55)
Log(Total pay$_t$)	+				0.15***	
					(2.52)	
Log(Size$_t$)	+	0.33***	0.33***	0.35***	0.03	0.46***
		(4.88)	(4.89)	(5.05)	(0.49)	(2.88)
Net income$_t$	+	0.45***	0.31***	0.45**	0.01	1.17***
		(3.13)	(2.63)	(3.13)	(0.08)	(2.55)
Book-to-market$_t$	-	-0.06	0.09	-0.00	0.34*	-0.10
		(-0.34)	(0.50)	(0.01)	(1.88)	(-0.28)
Sales volatility$_t$	+	0.24	0.19	0.26	0.21	0.72**
		(1.05)	(1.11)	(1.20)	(1.27)	(1.44)
N_Director$_t$	-	-0.04***	-0.04***	-0.05***	0.01	-0.09**
		(-3.09)	(-3.24)	(-3.61)	(0.99)	(-2.52)
U.S. listed$_t$	+	0.22**	0.24**	0.22**	-0.01	0.17
		(2.11)	(2.22)	(2.06)	(-0.15)	(0.74)
U.K. listed$_t$	+	0.01	-0.04	-0.03	0.06	-0.03
		(0.03)	(-0.23)	(-0.17)	(0.42)	(-0.09)
Industry, country, year, and country*year fixed effects		Yes	Yes	Yes	Yes	Yes
R^2		58.5%	54.9%	59.0%	61.6%	71.6%
N		939	939	939	741	158

***, **, * correspond to significance at 1%, 5%, and 10% levels.

The table reports results of the following OLS regression with $Disclosure_t$ as the dependent variable:

$$Disclosure_t = \alpha_0 + \alpha_1\, Insider\ Ratio_t + \alpha_2\, Dual\ CEO/Chair_t + \alpha_3\, Log(Size_t) + \alpha_4\, Net\ income_t + \alpha_5\, Book\text{-}to\text{-}market_t + \alpha_6\, Sales\ volatility_t + \alpha_7\, N\_Director_t + \alpha_8\, U.S.\ listed_t + \alpha_9\, U.K.\ listed_t + \theta\, Industry + \delta\, Country + \lambda\, Year_t + \gamma\, Country * Year_t + \varepsilon_t$$

The sample consists of annual observations of the 158 largest European companies over six years (t=1999 to 2004). Variable definitions appear in Table 2. The first three columns use the full sample. The fourth column uses observations from disclosers, and includes $Log(Total\ Pay_{t-1})$ as an additional independent variable. The fifth column uses time-series company averages of dependent and independent variables. The t-statistics (reported in parentheses) are based on the Huber-White robust standard errors adjusted for firm-level clustering (Rogers 1993).

Table 6
Insiders and transparency of pay disclosure in different countries

	Predicted sign	U.K. companies	French companies	Companies not headquartered in the U.K., France, and Germany
Insider Ratio$_t$	+ / -	1.13***	0.78	0.65
		(3.57)	(0.90)	(1.64)
Dual CEO/Chair$_t$	+ / -	0.29***	0.16	0.36*
		(4.05)	(0.52)	(1.90)
Log(Size$_t$)	+	0.09	1.13***	0.45***
		(1.32)	(3.85)	(3.49)
Net income$_t$	+	-0.23	0.93	0.43**
		(-1.48)	(0.53)	(2.30)
Book-to-market$_t$	-	-0.09	-0.01	-0.42
		(-0.43)	(-0.01)	(-1.48)
Sales volatility$_t$	+	0.57***	-1.84***	0.73
		(4.02)	(-3.94)	(1.64)
N_Director$_t$	-	-0.00	0.05	-0.12***
		(-0.29)	(1.30)	(-4.24)
U.S. listed$_t$	+	-0.02	0.52	0.76***
		(-0.35)	(1.59)	(3.07)
U.K. listed$_t$	+	n/a	-0.37	-0.11
			(-0.57)	(-0.47)
Industry, year, country, country*year fixed effects		Yes	Yes	Yes
R^2		29.2%	33.4%	64.0%
N		254	193	330

***, **, * correspond to significance at 1%, 5%, and 10% levels.

The table reports results of the following OLS regressions across different countries with *Disclosure*$_t$ as the dependent variable:

$$Disclosure_t = \alpha_0 + \alpha_1\, Insider\ Ratio_t + \alpha_2\, Dual\ CEO/Chair_t + \alpha_3\, Log(Size_t) + \alpha_4\, Net\ income_t + \alpha_5\, Book\text{-}to\text{-}market_t + \alpha_6\, Sales\ volatility_t + \alpha_7\, N\_Director_t + \alpha_8\, U.S.\ listed_t + \alpha_9\, U.K.\ listed_t + \theta\, Industry + \delta\, Country + \lambda\, Year_t + \gamma\, Country * Year_t + \varepsilon_t$$

The sample consists of annual observations of the 158 largest European companies over six years (t=1999 to 2004). Variable definitions appear in Table 2. The first column uses U.K. companies only; the second uses French companies only; the third uses companies which are not headquartered in the U.K., France, or Germany. Variable definitions appear in Table 2. The t-statistics (reported in parentheses) are based on the Huber-White robust standard errors adjusted for firm-level clustering (Rogers 1993).

Table 7
Insiders and pay-for-performance sensitivity

	Predicted sign	CEO	insiders	top five executives	all executives
		PPS_{t-1}^{CEO}	$\frac{\sum PPS_{t-1}^{Insider}}{N\_Insider_{t-1}}$	$\frac{\sum PPS_{t-1}^{Executive}}{N\_Executive_{t-1}}$	$\frac{\sum PPS_{t-1}^{Executive}}{N\_Executive_{t-1}}$
$\frac{N\_Insider_{t-1}}{N\_Director_{t-1}}$	+ / -	420.50 (1.45)	260.72** (2.40)	251.92** (3.12)	191.96*** (2.91)
Dual CEO/Chair$_{t-1}$	+ / -	238.21* (1.83)	70.22*** (2.60)	55.45* (1.89)	45.30** (1.96)
Log(Size$_{t-1}$)	+	58.48* (1.84)	3.05 (0.29)	21.29** (2.15)	26.51*** (3.84)
Book-to-market$_{t-1}$	-	401.93* (1.74)	129.09** (2.29)	36.82 (0.85)	38.47 (0.94)
Sales volatility$_{t-1}$	+	170.51 (1.06)	18.26 (0.31)	101.33* (1.79)	71.93** (2.11)
Cash$_{t-1}$(x100)	-	-13.52** (-2.27)	-8.01*** (3.96)	-5.64*** (-3.09)	-4.17*** (-3.25)
Cash$_{t-1}$ (x100)* Financials industry	?	11.03* (1.89)	10.41*** (4.20)	10.53*** (3.63)	5.72*** (3.84)
N_Executive$_{t-1}$	-	n/a	-0.15 (-0.03)	2.10 (0.27)	0.61 (0.98)
N_Director$_{t-1}$	-	-10.61 (-0.92)	-5.55 (-1.47)	0.09 (0.02)	0.16 (0.09)
U.S. listed$_{t-1}$	+	-199.51** (-2.08)	-13.03 (-0.62)	-8.15 (-0.39)	-9.99 (-0.58)
U.K. listed$_{t-1}$	+	24.20 (0.39)	41.08 (1.10)	2.53 (0.09)	-20.45 (-1.50)
Tax differential$_{t-1}$	+	3.69 (0.91)	5.79 (0.95)	2.44 (1.58)	1.73 (1.44)
Purchasing power$_{t-1}$	?	16.70 (0.02)	495.28 (1.62)	331.00 (1.35)	218.94 (1.15)
Social spending$_{t-1}$	?	0.33 (1.47)	-0.04 (-0.53)	0.10 (1.36)	0.05 (0.98)
Industry, country, and year fixed effects		Yes	Yes	Yes	Yes
R^2		21.9%	45.69%	29.74%	25.1%
N		527	398	486	741

***, **, * correspond to significance at 1%, 5%, and 10% levels.
[a] N_Executive is replaced by N_Insider when Insider PPS$_{t-1}$ is the dependent variable (the second column).

The table reports results of the following OLS regressions with pay-for-performance sensitivity from the portfolio holdings of different levels of executives (PPS_{t-1}) as the dependent variable (for years t=1999 to 2004):

$$PPS_{t-1} = \alpha_0 + \alpha_1 \frac{N\_Insider_{t-1}}{N\_Director_{t-1}} + \alpha_2 Dual\ CEO/Chair_{t-1} + \alpha_3 Log(Size_{t-1}) + \alpha_4 Book\text{-}to\text{-}market_{t-1}$$
$$+ \alpha_5 Sales\ volatility_{t-1} + \alpha_6 Cash_{t-1} + \alpha_7 Cash_{t-1} * Financials\ industry\ dummy$$
$$+ \alpha_8 N\_Executive_{t-1} + \alpha_9 N\_Director_{t-1} + \alpha_{10} U.S.\ listed_{t-1} + \alpha_{11} U.K.\ listed_{t-1}$$
$$+ \alpha_{12} Tax\ differential_{t-1} + \alpha_{13} Purchasing\ power_{t-1} + \alpha_{14} Social\ spending_{t-1}$$
$$+ \theta\ Industry + \delta\ Country + \lambda\ Year_{t-1} + \varepsilon_{t-1}$$

The first column uses available pay data for CEOs in the regression model. The second column uses pay data for insiders only. The third column uses pay data for the top five company executives. The fourth column uses pay data for all executives reported by their companies. Variable definitions appear in Table 2. The t-statistics (reported in parentheses) are based on the Huber-White robust standard errors adjusted for firm-level clustering (Rogers 1993).

Table 8
Insiders and pay-for-performance sensitivity in different countries

Panel A: CEOs only

		PPS_{t-1}^{CEO} in			
	Predicted sign	U.K. companies	French companies	Companies not headquartered in the U.K., France, and Germany	U.S. companies
$\frac{N\_Insider_{t-1}}{N\_Director_{t-1}}$	+ / -	841.29 (1.39)	17.66 (0.17)	-133.37** (-2.04)	27,115*** (2.92)
Dual CEO/Chair$_{t-1}$	+ / -	329.25* (1.68)	30.23 (0.96)	85.41*** (2.90)	2,596 (0.93)
Log(Size$_{t-1}$)	+	-71.68 (-1.00)	118.64*** (3.86)	4.29 (0.54)	2,756** (2.55)
Book-to-market$_{t-1}$	-	491.30* (1.78)	28.73 (0.26)	-103.09* (-1.66)	-9,269** (-2.56)
Sales volatility$_{t-1}$	+	-252.09* (-0.74)	-221.91*** (-3.03)	55.30 (1.58)	14,521** (2.23)
Cash$_{t-1}$(x100)	-	-34.76*** (-2.62)	-1.89 (-0.69)	2.32 (1.58)	997.29*** (2.81)
Cash$_{t-1}$(x100) * Financials industry	?	45.08** (1.96)	-1.95 (-0.30)	-2.78 (-1.46)	-1,077.54*** (-2.78)
N_Director$_{t-1}$	-	-27.34 (-1.07)	2.00 (0.52)	6.23* (1.88)	-1,975*** (-2.71)
U.S. listed$_{t-1}$	+	-339.90** (-2.41)	23.40 (0.82)	18.82 (0.49)	-
U.K. listed$_{t-1}$	+	-	-12.53 (-0.26)	6.24 (0.37)	-541 (-0.42)
Tax differential$_{t-1}$	+	-	-	-16.92* (-1.76)	-
Purchasing power$_{t-1}$	?	-	-	-2.83 (-0.01)	-
Social spending$_{t-1}$	?	0.27** (2.41)	-0.05 (-0.72)	0.12* (1.74)	-7.38 (-1.52)
Industry, country, and year fixed effects		Yes	Yes	Yes	Yes
R^2		38.8%	48.9%	45.9%	21.2%
N		249	100	151	860

***, **, * correspond to significance at 1%, 5%, and 10% levels.

Panel B: Top five company executives

		$\frac{\sum PPS_{t-1}^{Executive}}{N\_Executive_{t-1}}$ for top five company executives in			
	Predicted sign	U.K. companies	French companies	Companies not headquartered in the U.K., France, and Germany	U.S. companies
$\frac{N\_Insider_{t-1}}{N\_Director_{t-1}}$	+ / -	348.66* (1.82)	111.26 (0.62)	330.25* (1.86)	4,408* (1.95)
Dual CEO/Chair$_{t-1}$	+ / -	80.78** (2.23)	-23.14 (-0.47)	46.97 (1.47)	-240 (-0.27)
Log(Size$_{t-1}$)	+	-11.84 (-0.55)	93.51*** (3.58)	-14.51 (-1.04)	1,281*** (3.52)
Book-to-market$_{t-1}$	-	76.81 (1.28)	-115.23 (-0.87)	-15.01 (-0.30)	3,431*** (-3.46)
Sales volatility$_{t-1}$	+	-33.95 (-0.47)	-20.52 (-0.43)	-24.22 (-0.49)	1,342 (0.86)
Cash$_{t-1}$	-	-11.25*** (-3.79)	-2.40 (-0.64)	-0.96 (-0.53)	364.47*** (2.88)
Cash$_{t-1}$ * Financials industry	?	24.57** (2.40)	2.23 (0.60)	9.35*** (2.50)	-354.84*** (-2.70)
N_Executive$_{t-1}$	-	14.86 (0.75)	15.67** (2.08)	-1.99 (-0.22)	-47,307*** (-7.20)
N_Director$_{t-1}$	-	-10.96 (-1.64)	5.32 (1.05)	3.24 (0.57)	-431** (-2.33)
U.S. listed$_{t-1}$	+	-56.50* (-1.69)	5.42 (0.23)	59.38 (2.39)	n/a
U.K. listed$_{t-1}$	+	n/a	1.07 (0.02)	10.71 (0.44)	-6 (-0.02)
Tax differential$_{t-1}$	+	n/a	n/a	-0.45 (-0.03)	n/a
Purchasing power$_{t-1}$	?	n/a	n/a	-209.23 (-0.77)	n/a
Social spending$_{t-1}$	?	0.06* (1.73)	-0.02 (-0.47)	0.10 (1.31)	-2 (-1.64)
Industry, country, and year fixed effects		Yes	Yes	Yes	Yes
Adjusted R^2		54.4%	57.2%	61.9%	45.5%
N		244	58	135	863

***, **, * correspond to significance at 1%, 5%, and 10% levels.

The table reports results of the following OLS regressions across different countries with pay-for-performance sensitivities of the CEO (Panel A) and top five company executives (Panel B) as dependent variables (for years t=1999 to 2004):

Panel A:

$$PPS_{t-1}^{CEO} = \alpha_0 + \alpha_1 \frac{N\_Insider_{t-1}}{N\_Director_{t-1}} + \alpha_2 Dual\ CEO/Chair_{t-1} + \alpha_3 Log(Size_{t-1}) + \alpha_4 Book\text{-}to\text{-}market_{t-1}$$
$$+ \alpha_5 Sales\ volatility_{t-1} + \alpha_6 Cash_{t-1} + \alpha_7 Cash_{t-1} * Financials\ industry\ dummy$$
$$+ \alpha_8 N\_Director_{t-1} + \alpha_9 U.S.\ listed_{t-1} + \alpha_{10} U.K.\ listed_{t-1} + \alpha_{11} Tax\ differential_{t-1}$$
$$+ \alpha_{12} Purchasing\ power_{t-1} + \alpha_{13} Social\ spending_{t-1} + \theta\ Industry + \delta\ Country$$
$$+ \lambda\ Year_{t-1} + \varepsilon_{t-1}$$

Panel B:

$$\frac{\sum PPS_{t-1}^{Executive}}{N\_Executive_{t-1}} = \alpha_0 + \alpha_1 \frac{N\_Insider_{t-1}}{N\_Director_{t-1}} + \alpha_2 Dual\ CEO/Chair_{t-1} + \alpha_3 Log(Size_{t-1})$$
$$+ \alpha_4 Book\text{-}to\text{-}market_{t-1} + \alpha_5 Sales\ volatility_{t-1} + \alpha_6 Cash_{t-1} + \alpha_7 Cash_{t-1} * Financials\ industry$$
$$dummy + \alpha_8 N\_Executive_{t-1} + \alpha_9 N\_Director_{t-1} + \alpha_{10} U.S.\ listed_{t-1} + \alpha_{11} U.K.\ listed_{t-1} + \alpha_{12}$$
$$Tax\ differential_{t-1} + \alpha_{13} Purchasing\ power_{t-1} + \alpha_{14} Social\ spending_{t-1} + \theta\ Industry + \delta$$
$$Country + \lambda\ Year_{t-1} + \varepsilon_{t-1}$$

The columns in both panels are ordered as follows: The first column uses U.K. companies only. The second column uses French companies only. The third column uses companies which are not headquartered in the U.K., France, or Germany. The fourth column uses comparable U.S. companies matched to the European sample with respect to € sales in year 2000. Variable definitions appear in Table 2. The t-statistics (reported in parentheses) are based on the Huber-White robust standard errors adjusted for firm-level clustering (Rogers 1993).

Table 9
The effect of country-specific institutional characteristics on the relation between insiders and compensation policies

Panel A: Insiders and transparency of pay disclosure (Hypothesis 1)

Partitions		N	Average $Disclosure_t$	Coefficient for $Insider\ Ratio_t$ Estimate	t	R^2
1. Legal tradition	Code	685	3.43	0.68	1.38	41.9%
	Common	254	5.84	1.01***	3.25	23.5%
2. Importance of equity market index	Low	493	3.14	0.14	0.24	34.3%
	High	446	5.12	0.97***	3.71	67.7%
3. Outside investor rights index	Low	625	3.54	0.75	1.43	36.8%
	High	314	5.15	0.78**	2.17	86.2%
4. Global governance index	Low	355	3.37	0.34	0.58	31.5%
	High	584	4.51	1.19***	4.73	72.6%

Panel A reports number of observations, average $Disclosure_t$, and coefficient estimates for $Insider\ Ratio_t$ and R^2 of the following OLS regression run separately for the sample segments partitioned according to country-specific institutional characteristics:

$$Disclosure_t = \alpha_0 + \alpha_1\, Insider\ Ratio_t + \alpha_2\, Log(Size_t) + \alpha_3\, Net\ income_t + \alpha_4\, Book\text{-}to\text{-}market_t + \alpha_5\, Sales\ volatility_t + \alpha_6\, N\_Director_t + \alpha_7\, U.S.\ listed_t + \alpha_8\, U.K.\ listed_t + \theta\, Industry + \delta\, Country + \lambda\, Year_t + \gamma\, Country * Year_t + \varepsilon_t$$

The sample consists of annual observations of the 158 largest European companies over six years (t=1999 to 2004). Variable definitions appear in Table 2. The t-statistics (reported in parentheses) are based on the Huber-White robust standard errors adjusted for firm-level clustering (Rogers 1993).

The four independent partitions in the panel divide the sample according to whether country-specific institutional characteristics provide effective alternative protection for outside shareholders. The first partition divides the sample into **common** and **code law** companies. U.K is the only common law country in the sample. The second partition divides the sample into whether a company's **Importance of equity market index** is above 12.5, the median of the sample countries. The third partition divides the sample into whether a company's **Outside investor rights index** is above 3, the median of the sample countries. The fourth partition divides the sample into whether a company's **Global governance index**, $\mathbf{GOV_{44}}$, is above 49, the median of the sample countries.

Panel B: Insiders and pay-for-performance sensitivity (Hypothesis 2)

Partitions		N	Average PPS_{t-1}	Coefficient for *Insider Ratio*$_t$ Estimate	t	R^2
1. Legal tradition	Code	242	61.0	127.4***	3.28	43.4%
	Common	244	109.7	327.3*	1.73	53.1%
2. Importance of equity market index	Low	157	56.3	212.5***	4.05	48.8%
	High	329	99.3	306.2***	2.73	39.6%
3. Outside investor rights index	Low	222	63.6	135.0***	3.19	46.5%
	High	264	103.8	287.1*	1.75	53.1%
4. Global governance index	Low	116	66.1	242.4***	4.22	57.0%
	High	370	91.5	235.9**	2.22	30.1%

***, **, * correspond to significance at 1%, 5%, and 10% levels.

Panel B reports number of observations, average PPS_{t-1} for top five company executives, and coefficient estimates for *Insider Ratio*$_t$ and R^2 of the following OLS regression run separately for the sample segments partitioned according to country-specific institutional characteristics (for years t=1999 to 2004):

$$\frac{\sum PPS_{t-1}^{Executive}}{N\_Executive_{t-1}} = \alpha_0 + \alpha_1 \frac{N\_Insider_{t-1}}{N\_Director_{t-1}} + \alpha_2 Log(Size_{t-1}) + \alpha_3 Book\text{-}to\text{-}market_{t-1}$$
$$+ \alpha_4 Sales\ volatility_{t-1} + \alpha_5 Cash_{t-1} + \alpha_6 Cash_{t-1} * Financials\ industry\ dummy$$
$$+ \alpha_7 N\_Executive_{t-1} + \alpha_8 N\_Director_{t-1} + \alpha_9 U.S.\ listed_{t-1} + \alpha_{10} U.K.\ listed_{t-1}$$
$$+ \alpha_{11} Tax\ differential_{t-1} + \alpha_{12} Purchasing\ power_{t-1} + \alpha_{13} Social\ spending_{t-1}$$
$$+ \theta\ Industry + \delta\ Country + \lambda\ Year_{t-1} + \varepsilon_{t-1}$$

Variable definitions appear in Table 2. The t-statistics (reported in parentheses) are based on the Huber-White robust standard errors adjusted for firm-level clustering (Rogers 1993).

The four independent partitions in the panel divide the sample according to whether country-specific institutional characteristics provide effective alternative protection for outside shareholders. The first partition divides the sample into **common** and **code law** companies. U.K is the only common law country in the sample. The second partition divides the sample into whether a company's **Importance of equity market index** is above 12.5, the median of the sample countries. The third partition divides the sample into whether a company's **Outside investor rights index** is above 3, the median of the sample countries. The fourth partition divides the sample into whether a company's **Global governance index**, $\mathbf{GOV_{44}}$, is above 49, the median of the sample countries.

Table 10
The effect of insider-dominated boards on the relation between insiders and compensation policies

Panel A: Insiders and transparency of pay disclosure (Hypothesis 1)

Partitions		N	Average *Disclosure*$_t$	Coefficient for *Insider Ratio*$_t$ Estimate	t	R^2
1. Insider majority	No	860	3.99	1.04**	2.05	57.7%
	Yes	79	5.03	-3.09	-1.55	92.9%
2. Dual CEO/Chair	No	655	4.02	0.39	0.77	66.7%
	Yes	284	4.21	0.39	0.50	56.3%
3. Top executives are granted relatively excess pay	No	363	5.24	1.05***	2.98	57.2%
	Yes	123	5.60	-0.49	-1.09	94.0%
4. Top executives own relatively more company stocks	No	363	5.20	0.90***	2.98	56.9%
	Yes	123	5.71	-0.15	-0.83	91.1%

***, **, * correspond to significance at 1%, 5%, and 10% levels.

Panel A reports number of observations, average *Disclosure*$_t$, and coefficient estimates for *Insider Ratio*$_t$ and R^2 of the following OLS regression run separately for the sample segments partitioned according to whether inside board members are likely to dominate company boards:

$$Disclosure_t = \alpha_0 + \alpha_1\, Insider\ Ratio_t + \alpha_2\, Log(Size_t) + \alpha_3\, Net\ income_t + \alpha_4\, Book\text{-}to\text{-}market_t + \alpha_5\, Sales\ volatility_t + \alpha_6\, N\_Director_t + \alpha_7\, U.S.\ listed_t + \alpha_8\, U.K.\ listed_t + \theta\, Industry + \delta\, Country + \lambda\, Year_t + \gamma\, Country * Year_t + \varepsilon_t$$

The sample consists of annual observations of the 158 largest European companies over six years (t=1999 to 2004). Variable definitions appear in Table 2. The t-statistics (reported in parentheses) are based on the Huber-White robust standard errors adjusted for firm-level clustering (Rogers 1993).

The four independent partitions in the panel divide the sample according to whether insiders are likely to dominate company boards. The first partition divides the sample according to whether insiders have the numerical majority on the boards. The second partition divides the sample according to whether company CEOs serve as board chairs. The third partition divides the sample according to whether company executives receive relatively high compensation, i.e., whether the average level of executive compensation deflated by annual company sales is in the top 25% of the sample. The cutoff value for average compensation deflated by company sales is 0.00016. The fourth partition divides the sample according to whether company executives hold relatively high number of shares, i.e., whether the value of an executive's company stock holdings is in the top 25% of the sample. The cutoff value for an average executive's stock holdings is €2,062,500.

Panel B: Insiders and pay-for-performance sensitivity (Hypothesis 2)

Partitions		N	Average PPS_{t-1}	Coefficient for *Insider Ratio*$_t$ Estimate	t	R^2
1. Insider majority	No	430	75.3	236.9**	2.21	26.6%
	Yes	56	163.0	602.5	0.92	81.1%
2. Dual CEO/Chair	No	335	72.5	348.9**	2.30	24.1%
	Yes	151	114.2	44.3	0.40	67.9%
3. Top executives are granted relatively excess pay	No	363	81.3	371.6***	3.39	31.2%
	Yes	123	97.6	123.7	0.96	53.3%
4. Top executives own relatively more company stocks	No	363	36.7	24.5	0.98	27.2%
	Yes	123	230.9	355.9	1.45	79.0%

***, **, * correspond to significance at 1%, 5%, and 10% levels.

Panel B reports number of observations, average PPS_{t-1} for top five company executives, and coefficient estimates for *Insider Ratio*$_t$ and R^2 of the following OLS regression run separately for the sample segments partitioned according to whether inside board members are likely to dominate company boards (for years t=1999 to 2004):

$$\frac{\sum PPS_{t-1}^{Executive}}{N\_Executive_{t-1}} = \alpha_0 + \alpha_1 \frac{N\_Insider_{t-1}}{N\_Director_{t-1}} + \alpha_2 Log(Size_{t-1}) + \alpha_3 Book\text{-}to\text{-}market_{t-1}$$
$$+ \alpha_4 Sales\ volatility_{t-1} + \alpha_5 Cash_{t-1} + \alpha_6 Cash_{t-1} * Financials\ industry\ dummy$$
$$+ \alpha_7 N\_Executive_{t-1} + \alpha_8 N\_Director_{t-1} + \alpha_9 U.S.\ listed_{t-1} + \alpha_{10} U.K.\ listed_{t-1}$$
$$+ \alpha_{11} Tax\ differential_{t-1} + \alpha_{12} Purchasing\ power_{t-1} + \alpha_{13} Social\ spending_{t-1}$$
$$+ \theta\ Industry + \delta\ Country + \lambda\ Year_{t-1} + \varepsilon_{t-1}$$

Variable definitions appear in Table 2. The t-statistics (reported in parentheses) are based on the Huber-White robust standard error, which is a generalization of the White (1980) standard error that is robust to both serial correlation and heteroscedasticity (Rogers 1993).

The four independent partitions in panel divide the sample according to whether insiders are likely to dominate company boards. The first partition divides the sample according to whether insiders have the numerical majority on the boards. The second partition divides the sample according to whether CEOs serve as board chairs. The third partition divides the sample according to whether company executives receive relatively high compensation, i.e., whether the average level of executive compensation deflated by annual company sales is in the top 25% of the sample. The cutoff value for average compensation deflated by company sales is 0.00016. The fourth partition divides the sample according to whether company executives hold relatively high number of shares, i.e., whether the value of an executive's company stock holdings is in the top 25% of the sample. The cutoff value for an average executive's stock holdings is €2,062,500.

Appendix 1
The list of companies

	Name	Country		Name	Country
1	DaimlerChrysler	Germany	41	BASF Group	Germany
2	Royal Dutch/Shell Group	Holland	42	British Telecom	UK
3	BP Amoco	UK	43	Olivetti (Italian Tel.)	Italy
4	AXA Group	France	44	France Telecom	France
5	Volkswagen Group	Germany	45	UBS	Switzerland
6	TotalFina Elf	France	46	Societe Generale Group	France
7	Siemens Group	Germany	47	J Sainsbury	UK
8	Allianz Worldwide	Germany	48	Royal & Sun Alliance	UK
9	CGNU (Aviva)	UK	49	Bayer Group	Germany
10	ING Group	Holland	50	CNP Assurances	France
11	Deutsche Bank Group	Germany	51	LM Ericsson	Sweden
12	E.On	Germany	52	ABB Group	Switzerland
13	Fiat Group	Italy	53	Commerzbank	Germany
14	Generali	Italy	54	Banco Santander Central	Spain
15	Credit Suisse Group	Switzerland	55	Alcatel	France
16	Nestle	Switzerland	56	Telefonica	Spain
17	Metro	Germany	57	Saint-Gobain	France
18	Vivendi	France	58	Aegon Insurance Group	Holland
19	Prudential	UK	59	Lloyds TSB Group	UK
20	Unilever	Holland	60	Dresdner Bank	Germany
21	Fortis	Belgium	61	ENEL	Italy
22	Zurich Financial Services	Switzerland	62	Aventis (Sanofi-Aventis)	France
23	HSBC Group	UK	63	Barclays	UK
24	Peugeot Groupe	France	64	Repsol-YPF	Spain
25	Legal & General Group	UK	65	Nokia	Finland
26	Renault Group	France	66	PPR	France
27	BNP Paribas	France	67	Preussag Group (TUI)	Germany
28	Carrefour Group	France	68	Kingfisher	UK
29	ABN-Amro Holding	Holland	69	Swiss Re Group	Switzerland
30	Deutsche Telekom	Germany	70	Roche Group	Switzerland
31	Munchener Ruck	Germany	71	Abbey National *	UK
32	RWE Group	Germany	72	Rallye	France
33	BMW-Bayerische Motor	Germany	73	Swiss Life Ins & Pension	Switzerland
34	Ahold	Holland	74	Diageo	UK
35	ENI	Italy	75	Novartis Group	Switzerland
36	Suez Lyonnaise	France	76	Bouygues Group	France
37	Philips Group	Holland	77	Skandia Insurance	Sweden
38	Thyssen Krupp	Germany	78	Credit Lyonnais Group	France
39	Bayer HypoVereinsbank	Germany	79	Alstom	France
40	Tesco	UK	80	AstraZeneca	UK

	Name	Country		Name	Country
81	Karstadt Quelle	Germany	121	Arbed (Arcelor)	France
82	Corus Group	UK	122	Stora Enso	Finland
83	Halifax	UK	123	Lafarge	France
84	Volvo Group	Sweden	124	Lukoil Holding	Russia
85	British Amer Tobacco	UK	125	Air France Group	France
86	Akzo Nobel Group	Holland	126	Alliance Unichem	UK
87	Delhaize Le Lion Group	Belgium	127	Cable & Wireless	UK
88	Dexia	Belgium	128	Somerfield	UK
89	British Airways	UK	129	CEA-Industrie (Areva)	France
90	Electrolux Group	Sweden	130	Pechiney *	France
91	Gehe (Celesio)	Germany	131	Sodexho Alliance	France
92	Michelin Group	France	132	Sberbank of Russia	Russia
93	BBVA-Banco Bilbao	Spain	133	Skanska	Sweden
94	Old Mutual	UK	134	Continental	Germany
95	Usinor *	France	135	Royal KPN	Holland
96	M A N Group	Germany	136	Sanpaolo IMI	Italy
97	Glaxo Wellcome (GSK)	UK	137	Wolseley	UK
98	Endesa Group	Spain	138	Great Universal Stores	UK
99	Groupe Danone	France	139	Christian Dior	France
100	KBC Bankassurance	Belgium	140	Bank of Scotland *	UK
101	Aerospatiale Matra (EADS)	France	141	Tomkins	UK
102	Degussa-Huls	Germany	142	Marconi	UK
103	Marks & Spencer	UK	143	TNT Post Group	Holland
104	Deutsche Lufthansa	Germany	144	Schneider Electric	France
105	Norsk Hydro	Norway	145	Schlumberger	Holland
106	Compart (Edison)	Italy	146	UPM-Kymmene	Finland
107	UniCredito Italiano	Italy	147	Cepsa	Spain
108	Vodafone AirTouch	UK	148	Boots	UK
109	Royal Bank of Scotland	UK	149	Solvay Group	Belgium
110	Safeway (Morrisons)	UK	150	Compass Group	UK
111	Adecco	Switzerland	151	Valeo	France
112	Gruppo Intesa	Italy	152	Mg technologies (GEA)	Germany
113	Imperial Chemical Inds	UK	153	Aegis Group	UK
114	Bankgesellschaft Berlin	Germany	154	BG Group	UK
115	Centrica	UK	155	Holderbank (Holcim)	Switzerland
116	Henkel Group	Germany	156	Rolls-Royce	UK
117	Gazprom	Russia	157	SCA-Svenska Cellulosa	Sweden
118	BAE Systems	UK	158	Bass (Intercontinental)	UK
119	Invensys	UK			
120	L'Oreal Group	France			

Appendix 1 lists the sample of 158 European companies that have the largest sales in 2000. Some companies changed names due to restructurings or mergers with smaller companies, but stayed in the sample for the entire sample period (years 1999 to 2004) with their new names in parentheses. Some companies are taken over by larger companies. These companies are marked with an asterisk and are omitted from the sample after the following years of takeover: Abbey (2004); Usinor (2002); Pechiney (2003); and Bank of Scotland (2001).

Appendix 2
Disclosure index

The company- and year-specific *Disclosure* index rates the type, amount, and quality of compensation disclosures in company annual reports. *Disclosure* ranges from 0 to 6, and is the sum of three components: Type of disclosure (TD, which ranges from 0 to 2), Amount of disclosure (AD, which ranges from 0 to 2), and Quality of disclosure (QD, which ranges from 0 to 2). Below is a brief description about how the components are rated:

Type of disclosure (TD): Companies that disclose neither base salaries (including bonuses and pensions) nor stock-based grants receive no points; those that disclose either of base salaries and stock-based grants receive 1 point; those that disclose both base salaries and stock-based grants receive 2 points for TD. If companies do not grant a specific type of compensation, an explicit statement of this policy warrants full points for the respective disclosure.

Amount of disclosure (AD): Companies that disclose the compensation contract of one executive receive no points; those that disclose two contracts receive 1 point; and those that disclose more than two contracts receive 2 points for AD. Disclosures of company averages count towards disclosures of a single contract.

Quality of disclosure (QD): It measures the extent to which a company reports: (QD1) general compensation policy, goals, and future determinants of compensation, and (QD2) details of executive compensation in the current year and in previous years. Companies that disclose none of the items receive no points; those that disclose one item receive 1 point; those that disclose both items receive 2 points for QD.

Below are the excerpts from the 2004 annual reports of three companies from different countries and with different *Disclosure* ratings: Royal Dutch/Shell (Holland, 6 points), Munchener Ruck (Germany, 4 points), and Stora Enso (Finland, 2 points). The relevant sections are underlined and coded with abbreviations TD, AD, QD1, and QD2. "[…]" indicates that less relevant parts of the text are omitted for brevity. The computation table for *Disclosure* is at the end of each report.

Example 1: Excerpts from the 2004 annual report of Royal Dutch/Shell (pages 121-131)

Remuneration Report

Message to shareholders

In our 2003 report to you, the Remuneration and Succession Review Committee undertook to conduct a thorough review of the remuneration policies and practices for Executive Directors and to present proposals for any changes at the 2005 General Meeting of Shareholders. In conducting this review, the committee consulted with shareholders and also took into account current market practices and governance developments. We believe the resulting proposals will serve shareholders well by linking the remuneration of Executive Directors even more closely to the performance of the Group and providing greater transparency in our reward structures. The key recommendations are:

– to discontinue stock option grants in favour of grants under the amended Long-Term Incentive Plan, originally approved by shareholders in 2003, which provides a clear focus on performance relative to the Group's peers; and

– to amend the Deferred Bonus Plan, under which Executive Directors can elect to invest a portion of their annual bonus in shares, and to introduce long-term performance conditions to the release of most of the matching shares.

In the following pages you will find further information on our current policies, the proposed changes and the actual remuneration of Directors of the Company in 2004. I hope that on reviewing this information, you will agree that the new plan proposals put forward at the forthcoming General Meeting of Shareholders are in the best interests of the Company and its shareholders. The committee commends these proposals to you. [QD1]

Aarnout Loudon, Chairman of the Remuneration and Succession Review Committee

About this report

This report sets out the remuneration policy as it applies and will apply to the Group Chief Executive and other Executive Directors, including those who are also Managing Directors of Royal Dutch, and to the members of the Supervisory Board of Royal Dutch. The policies described are also expected to apply to Directors of Royal Dutch Shell plc if the proposed unification of the Group's two parent companies under the single parent company, Royal Dutch Shell plc, takes place. [QD1]

This report also discloses the individual remuneration of the Managing Directors and Supervisory Board members of Royal Dutch for the year ended December 31, 2004. [AD] […]

This report contains the following sections:

– The Remuneration and Succession Review Committee;
– Remuneration policy;
– 2004 actual remuneration; and
– Supervisory Board members.

The Remuneration and Succession Review Committee

The committee

The Remuneration and Succession Review Committee (REMCO) is a joint committee of the Supervisory Board of Royal Dutch and the Board of Shell Transport. REMCO has three members appointed from the Supervisory Board of Royal Dutch and three members appointed from the Board of Shell Transport. Members of the committee during 2004 are shown in the table below:[...]

The Chairman of the committee is currently Aarnout Loudon. Of the current Royal Dutch members of the committee only Maarten van den Bergh is not an independent member of the Royal Dutch Supervisory Board, as he served as a Managing Director of the Group from 1992 to 2000, as President of Royal Dutch from 1998 to 2000, and he currently serves as a Managing Director of one of the Group Holding Companies. The Shell Transport members of the committee are currently all independent Non-executive Directors. Biographical details of the REMCO members are shown on page 7.

REMCO's responsibilities

REMCO is responsible for making recommendations to the Supervisory Board of Royal Dutch and the Board of Shell Transport on the performance of Executive Directors, and on all issues related to remuneration and benefits of Executive Directors. It advises on the terms of any contract to be offered to any Executive Director, including the Group's liabilities in relation to any provisions for the termination of such contracts. It also reviews and endorses candidates for appointments to the position of Chief Executive and Executive Director and reviews other relevant human resource matters. […]

During 2004, REMCO met eight times; attendance figures for the individual committee members are shown below: […]

Advisers to REMCO

During 2004 REMCO sought advice from John Hofmeister, Group Human Resources Director and Secretary to the committee, and from Michael Reiff, Group Head of Remuneration and Benefits. No formal internal or external adviser was appointed by REMCO. Kepler Associates and Towers Perrin provided external data that was collated by Group staff and used in the preparation of briefing papers that REMCO considered when making its decisions. The remuneration policy and plans for the Executive Directors for the 2005 financial year and beyond are described below.

Philosophy

The remuneration policy is intended to recognise and support the Group's:
– Statement of General Business Principles, including the Group's core values and commitment to contribute to sustainable development;
– strategic direction;
– need to attract and retain talented individuals;
– aim to motivate and reward Executive Directors for exceptional performance that enhances the value of the Group; and
– desire to align Executive Directors' interests with those of shareholders.

The Group's remuneration policy is based on the following working principles:

Performance driven

The remuneration structures for Group employees are designed to reward performance that contributes to the achievement of the Group's objectives. Consistent with this principle, more than half of an Executive Director's target total remuneration (excluding pension) is performance-linked and weighted to the long term. This proportion is in line with market practice and the long-term nature of the Group's business.

Competitiveness

Remuneration levels are set by reference to the practice of global groups of companies of comparable size, complexity and international scope. The Group takes a conservative approach to executive remuneration levels within the range of our industry peers, which are the major integrated oil companies.

Consistency

Group remuneration plans covering base pay, annual bonus, and long-term incentives contain similar performance measures and reward structures for Executive Directors and senior management. [QD1]

Base pay

Base pay is set at a competitive level, appropriate to the scope and complexity of the roles of Chief Executive and Executive Director, and reflecting the reporting structure in the Executive Committee. Base pay levels are set by reference to market-based salary scales. Appropriate market levels are established by benchmarking against three comparator groups. The major integrated oil companies serve as the Group's industry peers and the AEX10 and FTSE20 are used as the home markets peers. The salary scales are reviewed annually by REMCO and are adjusted in line with market practice with effect from July 1 each year. The committee recognised the enhanced role of the Chief Executive, compared to his previous role of Chairman of the Committee of Managing Directors and it has adjusted the Chief Executive's salary level to reflect the increased responsibilities. The current base pay levels of the Chief Executive and the Managing Directors of the Company are: [TD, QD2]

Chief Executive	Jeroen van der Veer	500,000
Managing Director	Linda Cook	810,000
Managing Director	Rob Routs	900,000

Remuneration policy [QD1]

Annual incentive [QD1]

Executive Directors are eligible for an annual bonus, designed to reward the achievement of results that further the Group's objectives. Similar structures and mechanisms also apply to annual bonus plans for other Group employees. As part of the annual business planning process, challenging financial, operational and sustainable development targets are set to form a Group Scorecard. Performance during the year is then measured against this Scorecard and annual bonus awards are made on this basis. For 2005 the Group Scorecard has been simplified and the elements made more transparent as part of the Group's efforts to set clear priorities and reduce complexity. There are four components to the new Scorecard, each with its own different weighting:
– Total shareholder return (TSR) relative to our industry peers, with a 25% weighting;
– Operational cash flow, with a 25% weighting;
– Operational excellence in each of the businesses, with a 30% weighting; and
– Sustainable development, primarily based on the number of reportable cases of work-related injuries, with a 20% weighting.

A clear process of measuring performance against the Scorecard has been put in place with agreed definitions, calculation methodologies and controls. The Scorecard elements will also be auditable. Targets are set at stretching but realistic levels. At the end of the financial year the results are translated into an overall Group score, which can range anywhere between zero and two, the minimum and maximum, respectively. Bonus awards are based on the Group score multiplied by the target bonus level with REMCO using its judgment in making its final recommendations. The target level for Executive Directors for 2005 will be 100% of base pay, in line with competitive practices.

Long-term incentives [QD1]

In 2004, REMCO reviewed the Group's long-term incentives for Executive Directors and senior management and the outcomes of its review are described below. The committee is recommending changes which will provide greater transparency and a closer link between the remuneration of Executive Directors and senior management and the performance of the Group. Stock option grants will be discontinued in favour of conditional share awards […] The proposed amendments to the Deferred Bonus Plan and the LTIP, outlined below, would not lead to an increase in the overall value of compensation for Executive Directors.

Deferred Bonus Plan [QD1]

Executive Directors are eligible to participate in the Deferred Bonus Plan. Participation is currently on a voluntary basis only. The plan serves to provide Executive Directors with an investment opportunity which aligns their interests with those of shareholders during the deferral period and encourages share ownership. […]

The performance condition is the Total Shareholder Return (TSR) of the Group against the major integrated oil companies, as follows:

– TSR ranked 5th or 4th: no performance-based matching shares;
– TSR ranked 3rd: one performance-based matching share;
– TSR ranked 2nd: two performance-based matching shares;
– TSR ranked 1st: three performance-based matching shares.

Deferrals in relation to the 2004 annual bonus have been made on these amended terms, conditional upon the approval of the Plan.

Long-Term Incentive Plan [QD1]

Under the LTIP, performance shares are awarded conditionally once a year. […]

The number of shares received by Executive Directors at the end of the performance period will depend on the TSR performance of the Group relative to its industry peers:

– 200% of an award will be released if the Group is in first place;
– 150% for second place;
– 80% for third place;
– awards will lapse entirely if the Group is in fourth or fifth place.

Industry peer group for base pay, annual bonus, deferred bonus, and LTIP

Major integrated oil companies

BP; ChevronTexaco; ExxonMobil; Royal Dutch/Shell Group; Total

Pension policy

Retirement benefit arrangements for all staff are based on local market conditions and the overall value of the remuneration package necessary to attract and retain high-calibre individuals. They take into account factors such as costs, affordability, sustainability, sharing of investment risks, and local legislation. For the Dutch Executive Directors1 the principal source of their pensions is the Stichting Shell Pensioenfonds (SSPF). […]

Other benefits policy

Executive Directors are eligible to participate in regular employee benefit plans applying in their home countries including a company car benefit. Personal loans or guarantees are not granted to Executive Directors.

All-employee share schemes

Executive Directors are not eligible to participate in the Global Employee Share Purchase Plan.

Contracts policy

Contracts for Executive Directors are based on country-specific labour laws and market practice. They contain similar terms and conditions as for senior employees in the country concerned. […]

External appointments

External appointments are considered to be valuable in terms of broadening the experience and knowledge of Executive Directors to the benefit of the Group, provided there is no conflict of interest and the commitment required is not excessive. […]

Shareholdings

Following discussions with shareholders in 2004, a new shareholding policy has been introduced. Executive Directors are expected to build up shareholdings to the value of two times their base pay over five years [QD1]. Until the targets are met, they are required to retain 50% of the shares received through the vesting of future LTIP awards and vested matching shares under the Deferred Bonus Plan. Once the targets have been met, they are required to hold the shares and maintain that level until retirement. Details of Managing Directors' shareholdings can be found under Other Information on page 134. Details of Managing Directors' options can be found in the Stock options table on page 129.

Base pay [TD]

Salary scales were not increased during 2004.With effect from March 3, 2004, Jeroen van der Veer's base pay was increased to the base pay level of the Chairman of the Committee of Managing Directors on his appointment to this role and with effect from November 1, 2004, it was increased to reflect the increased responsibilities of Chief Executive of the Group.

Annual incentive [TD]

Executive Directors were eligible for a bonus related to the 2004 financial year. Performance during the year was measured against the 2004 Group Scorecard which contained stretching financial, operational and sustainable development targets. The financial objectives related to TSR relative to other major integrated oil companies, and to Return on Average Capital Employed (ROACE). [...]

2004 actual remuneration

Stock options[TD]

Stock options granted to Executive Directors in 2004 were 100% performance-linked. The financial performance criteria were TSR and ROACE, calculated as the average result of the three financial years prior to grant. […]

The Royal Dutch/Shell Group ranked fourth in TSR against the industry peer group (three-year average over the period 2002 to 2004). Taking all these factors into consideration, the committee determined that none of the performance vesting stock options should vest. Based on this determination, half of the stock options granted to Executive Directors and Senior Executives in 2002 will vest based on time, and the other half of the stock options granted in 2002 will lapse. [QD2]

Long-Term Incentive Plan[TD]

REMCO recommended that Executive Directors be made a conditional award of performance shares under the LTIP with a face value of two times the individual's base pay. The actual number of shares received will be determined in 2007 and will be based on the Group's performance and competitive position over the period 2004 to 2006. [QD1]

The performance targets are linked to relative TSR over the three-year performance period. TSR is measured relative to two separate groups of comparator companies. The first comparator group consists of the AEX10 together with the FTSE20 as at January 1, 2004 (see table opposite). The second comparator group consists of the five major integrated oil companies. Half of each conditional award will be tested against the first group and half against the second group. For the first comparator group, 100% of the shares tested against that group will be awarded for performance in the top quartile and 25% will be awarded for performance at the median. Between these two points a straight-line calculation will be used. No shares will be received for performance below the median. For the second comparator group, 100% of the shares tested against that group will be received if the Group is in first place, 75% for second place and 50% for third place. No shares will be received for fourth or fifth place.

Home markets peer group for LTIP in 2004

AEX10 FTSE20 (as at January 1, 2004)

ABN AMRO Anglo American; AEGON AstraZeneca; Ahold Barclays; Fortis BHP Billiton; Heineken BP; ING[…]

Emoluments of Managing Directors of Royal Dutch in office during 2004 [QD2] €

	Salaries	Annual bonus	Payment following severance	Other benefits	Total
Jeroen van der Veer					
2004	**1,281,774**	**1,350,000**	**–**	**18,043**	**2,649,817**
2003	1,120,000	0	–	11,502	1,131,502
2002	1,013,729	1,230,500	–	4,768	2,248,997
Malcolm Brinded [...] [AD]					

Deferred Bonus Plan [QD2]

	Number of deferred bonus and dividend shares under award as	Deferred bonus shares awarded during the	Market price of deferred bonus shares at award	Dividend shares accrued during the year €	Average market price of dividend shares paid during the year	Total number of deferred bonus and dividend shares under

	at January 1, 2004	year			€	award as at December 31, 2004
Jeroen van der Veer						
2003 award	11,695	–	36.66	503	41.71	12,198
2002 award	3,710	–	60.09	159	41.71	3,869

[…] [AD]

Stock Options [QD2]

	Number of options								
	At Jan 1, 2004	Granted during the year	Exercised (cancelled/ lapsed) during the year	At Dec 31, 2004	Exercise price, €	Exercisable from date	Expiry date	Expected value of 2004 stock options grant	Realisable gains as at Dec 31, 2004
Jeroen van der Veer	40,850	–	–	40,850	41.16	22.12.01	21.12.08	–	48,612
	33,750	–	–	33,750	59.54	23.03.03	22.03.10	–	0
	80,000	–	(40,000)	40,000	62.60	26.03.04	25.03.11	–	0
	105,000	–	–	105,000	62.10	21.03.05	20.03.12	–	–
	150,000	–	–	150,000	36.81	19.03.06	18.03.13	–	–
	–	150,000	–	150,000	41.29	07.05.07	06.05.14	1,362,570	–
[...][AD]									

Long-Term Incentive Plan (LTIP) [QD2]

	At Jan 1, 2004	Performance shares conditionally awarded during the year	Released (cancelled /lapsed) during the year	At Dec 31, 2004	Market price at date of award €	Start of performance period	End of performance period	Expected value of the 2004 performance shares award €
Jeroen van der Veer								
2004	–	63,211	–	63,211	41.29	01.01.04	31.12.06	1,122,292
2003	57,142	–	–	57,142	40.95	01.01.03	31.12.05	–
[...][AD]								

Pensions [QD2]

€ thousand	Age as at Dec 31, 2004	Years of Group service as at Dec 31, 2004	Increase in accrued pension during 2004	Accumulated annual pension as at Dec 31, 2004	Pension premium 2004 paid by employer	Pension premium 2003 paid by employer
Jeroen van der Veer	57	33	102	777	256	171
[...][AD]						

Pensions

For employees in the Netherlands, their 2004 contribution to the pension plan offered by the Stichting Shell Pensioenfonds was 8% of the amount of pensionable salary above the premium threshold. The company contribution rate was 20% during 2004.

[…]

Managing Directors' contracts of service

Managing Directors of Royal Dutch do not have a contract of service with Royal Dutch. Jeroen van der Veer and Rob Routs have employment contracts with one of the Group Holding Companies that provide entitlement to the statutory notice period applicable to the employees in the Netherlands, being one month for an employee and, depending on the duration of employment, a maximum of four months for the employer.

[…]

Computation of Disclosure for Royal Dutch/Shell 2004		
Components of Disclosure	**Explanation**	
Type of disclosure (TD)	Both base salaries and stock-based grants	2
Amount of disclosure (AD)	All individual executives	2
Quality of disclosure (QD1, QD2)	Both QD1 and QD2	2
	Disclosure	**6**

Example 2: Excerpts from the 2004 annual report of Munchener Ruck (pages 190-193)

Corporate governance: Transparent and efficient

We have expanded and broken down further the data we provide on the Board of Management's compensation, thus offering extensive information even without individualised disclosure [AD]

Corporate governance stands for a form of responsible company management and control geared to long-term creation of value. Of particular importance to the Munich Re Group in this context are the promotion of shareholders' interests, efficient practices on the Board of Management and Supervisory Board, good collaboration between these bodies, and corporate communications that are open and transparent internally and externally. With its international organisation, the Munich Re Group has to consider corporate governance rules in different national legal systems. Clearly, we observe the respective national standards and internationally recognised best practices. In Germany, where Munich Re has its registered seat, corporate governance rules are contained in statutory provisions and also in the German Code of Corporate Governance, which came into force in 2002 and was revised in 2003. The Code contains the main legal rules to be observed by listed German companies; in addition, it gives recommendations and proposals based on nationally and internationally recognised standards of good and responsible management.

The corporate governance issue that dominated public debate in Germany this year was undoubtedly the individualized disclosure of compensation paid to management boards. The subject is a controversial one. Munich Re has carefully weighed up the arguments for and against individualised disclosure. In so doing, we have found it disquieting how far the important topic of corporate governance has been reduced to this one aspect. In our view, whether a company has "good" or "bad" corporate governance does not depend on whether it discloses its individual board members' remuneration or not. On mature reflection, the Board of Management has ultimately decided against publication in this form because it does not consider such disclosure to be appropriate. The notes to our consolidated financial statements show how much the Board of Management as a whole earned in the business year 2004 (see p. 190f.), broken down according to the different compensation components. In addition, the notes specify the structure of the Board of Management's compensation system (see p. 191). Supplementary to the data provided last year, there is now information on the Board members' pension entitlements as well. Even without individualised disclosure, Munich Re thus meets the objective needs of investors and shareholders for information, [AD] since they are in a position to assess the relationship between the Board of Management's performance and compensation on the basis of the details they receive regarding the Board of Management as a collegial body. We thus cover the most important grounds advanced in favour of individualised publication. The allegation that if a company does not disclose compensation on an individual basis, it may be concealing unreasonably high amounts does not withstand scrutiny. Any excessive remuneration of individual Board members could be deduced from the amount of compensation for the Board as a whole, which is published every year. And as the relationship between performance and compensation can be ascertained on the basis of the existing information, the requirements of transparency are also met. The publication of managers' remuneration in the Anglo-American legal sphere has in no way prevented compensation excesses there.

[…]

– Item 4.2.4 sentence 2

For the business year 2003, the remuneration of the members of Munich Re's Board of Management was shown in detail for the whole Board in the notes to the consolidated financial statements, broken down according to fixed compensation, performance-related components and components with long-term incentive effect, although not individualised as recommended by the German Code of Corporate Governance. For the business year 2004, too, the Board of Management's remuneration will be published in detail for the whole Board but not individualised."[TD]

On our website, we provide detailed information on the Board of Management and the Supervisory Board. This includes information on the duties and composition of the four committees of the Supervisory Board (see also page 79), on the powers of the Annual General Meeting and how to participate in it, and on other topics of corporate governance.

(38) Compensation and loans for Board members

The compensation of the Board of Management of the Munich Reinsurance Company for fulfilment of its duties in respect of the parent company and the subsidiaries totalled €18.2m (13.8m). This includes the

compensation components that Mr. Phelan received for his work as President, Chief Executive Officer and Chairman of the Board of American Re Corporation. Taken into account for the first time in the disclosure are the provisions for the long-term incentive plan and the provisions/expenses of subsidiaries for variable compensation components of the parent company's Board of Management. [TD] The previous year's figures have been adjusted for comparative purposes.[QD2]

All figures in €'000	2004	Prev. year
Overall compensation	18,200	13,770
Fixed components	6,328	7,399
Basic remuneration	5,674	6,423
Remuneration in kind/fringe benefits	654	976
Statutory social benefits	20	16
Voluntary social benefits	35	4491
Company car	97	102
Healthcare	4	3
Security measures	–	1
Insurance	59	69
Special remittances	2782	172
Tax for remuneration in kind/fringe benefits	161	164
Variable components	11,872	6,371
Annual bonus 2002		
Reversal of provision	–	–5743
Annual bonus 2003		
Allocation to provision 2003	–	3,288
Expenses	1,635	4 –
Annual bonus 2004		
Allocation to provision 2004	4,860	–
Medium-term incentive plan		
Allocation to provision 2003	–	1,440
Allocation to provision 2004	3,2625	–
Long-term incentive plan		
Allocation to provision 2003	–	469
Allocation to provision 2004	506	–
Provisions/expenses of subsidiaries		
Annual bonus	627	669
Long-term bonus	982	1,079

Basic remuneration made up 31% of overall compensation in 2004, and remuneration in kind and fringe benefits 4%. The variable compensation includes allocations to provisions for the payments probable on the basis of current estimates. Whether these reserved amounts will actually be paid out to the Board members, and if so how high the sums will be, is not yet certain and will depend on the degree to which individual objectives are achieved and on the exercise conditions of the long-term incentive plans. In accordance with the plan conditions, there were no payments made under the medium-term incentive plan in the business year. The average level of provision for the pension entitlements of the members of the Board of Management amounts to 38% of the basic remuneration. Payments to retired members of the Board of Management or their surviving dependants total €4.3m (3.3m). Basic remuneration made up 31% of overall compensation in 2004, and remuneration in kind and fringe benefits 4%. The variable compensation includes allocations to provisions for the payments probable on the basis of current estimates. Whether these reserved amounts will actually be paid out to the Board members, and if so how high the sums will be, is not yet certain and will depend on the degree to which individual objectives are achieved and on the exercise conditions of the long-term incentive plans. In accordance with the plan conditions, there were no payments made under the medium-term incentive plan in the
business year. The average level of provision for the pension entitlements of the members of the Board of Management amounts to 38% of the basic remuneration. Payments to retired members of the Board of Management or their surviving dependants total €4.3m (3.3m). [QD2]

Remuneration of Supervisory Board members in the business year 2004 in accordance with Article 15 of the Articles of Association [QD2]

	Fixed remuneration		Dividend-related remuneration		
Name	Annual	For committee work	Annual	For committee work	Total
Dr. Schinzler, Chairman from 26 May 2004	39890.70	14,959.02	73,797.81	27,674.18	156,321.71
Bach, Deputy Chairman	37500.00	12,500.00	69,375.00	23,125.00	142,500.00
Hartmann, Chairman until 26 May 2004	35040.99	10,040.98	64,825.82	18,575.82	128,483.61
[…]					

For retired members of the Board of Management or their surviving dependants, the present value of pension commitments amounts to €58m (55m). The aforementioned group of persons is included in the contractual trust agreement set up in the previous year. The members of the Supervisory Board and Board of Management did not receive any advances or loans in the year under review.

(39) Board of Management compensation structure

The Board of Management's compensation is made up of various components, as shown in the following table: [QD1]

Component	Assessment basis/ parameters	Corridor	Precondition for Payment	payment
Basic remuneration, remuneration in kind/fringe benefits (company car, healthcare, security measures, insurances, special remittances)	Function, responsibility, risk-based capital, length of service on the Board	Fixed	Contractual provisions	Monthly
Annual bonus	50% annual result 50% achievement of personal objectives	0–100% 0–100%	Achievement of objectives	Once annually in following year
Medium-term incentive plan	50% annual result 50% achievement of personal objectives	70–100% 70–100%	Achievement of objectives at least 70% on average over three years	In fourth year
Long-term incentive plan(stock appreciation rights;term: seven years)	Appreciation in share price	0–150%	> End of vesting period (two years) > 20% share price increase > Munich Re shares have outperformed euro stoxx 50 twice at the end of three-month period during the term of the plan	As from third year of plan until end of plan
Pension entitlement	Basic remuneration, number of years on the Board	Fixed amount	Insured event or retirement	–

In the case of 100% achievement of objectives (annual bonus, medium-term incentive plan) and a 35% share price increase (long-term incentive plan), the weightings of the individual components are as follows: basic remuneration approx. 33%, annual bonus approx. 29%, medium-term incentive plan approx. 14%, and long-term incentive plan approx. 24%. For valuing the stock appreciation rights from the longterm incentive plan, an imputed value at the granting date has been used, arrived at by financial mathematics. Whether the stock appreciation rights can be exercised, and if so when, is not certain at the time they are granted. The exercising and proceeds depend on the development of the share price and the exercise price and date. Up to now it has only been possible to exercise stock appreciation rights under the plan set up as at 1 July 1999. The compensation components of the annual bonus and medium-term incentive plan are based on different categories of objectives. For the portions dependent on the annual result, an

objective is agreed on for the whole Munich Re Group; for the achievement of personal objectives, division financial targets and individual objectives form the basis. The targets and scaling for Group and division objectives are geared to particular indicators. In the case of the Group objective, these are key indicators of external accounting; in the case of division objectives, they are performance measures of value-based management.

Annual bonus, medium-term incentive plan and longterm incentive plan together form a well-balanced incentive system. In the case of seats held on other boards, compensation for board memberships not classified as personal memberships must be paid over to the Company or is deducted in the course of regular compensation computation. Compensation for seats held on other boards is paid over to the Company or deducted in the course of regular compensation computation, unless these board memberships are classified as purely personal memberships. As far as the pension entitlement is concerned, the pension level starts at 30% and can reach a maximum of 60% of annual basic remuneration. In accordance with the recommendations of the Code of Corporate Governance, the total compensation of the Board members thus comprises fixed and variable components, all of which are appropriate in themselves and as a whole. Criteria for the appropriateness of compensation are in particular the respective Board member's duties, the Board member's personal performance, the performance of the Board as a whole and the financial situation, performance and future prospects of Munich Re, taking into account the relevant benchmarks for Board remuneration. A different arrangement applies to the compensation structure for Mr. Phelan, who is not only a member of the Board of Management but also the President, Chief Executive Officer and Chairman of the Board of American Re Corporation and therefore has special compensation agreements, with the major portion of his income in the USA. [QD1]

Share trading and shares held by members of the Board of Management and the Supervisory Board

No acquisition or sales transactions notifiable under Section 15a of the German Securities Trading Act had occurred up to the end of the business year 2004. The total number of Munich Re shares held by all members of the Board of Management and Supervisory Board amount to less than 1% of the shares issued by the Company.

Computation of Disclosure for Munchener Ruck, 2004		
Components of Disclosure	**Explanation**	
Type of disclosure (TD)	Both base salaries and stock-based grants	2
Amount of disclosure (AD)	Averages only	0
Quality of disclosure (QD1, QD2)	Both QD1 and QD2	2
	Disclosure	**4**

Example 3: Excerpts from the 2004 annual report of Stora Enso (pages 40-44)

Management Group
John F Bergin *B.Sc. (Eng.), MBA*
Senior Vice President, Stora Enso North America
Born 1943, joined the Company in 1968. Has ADRs representing 80 715 R shares, and 50 000 year 1999–2003 and 11 250 year 2004 options/synthetic options in Stora Enso. [TD]

Walter Haberland *M.Sc. (Phys.)*
Senior Vice President, Information Technology
Born 1946, joined the Company in 1995. Has no shares in Stora Enso. Has 82 900 year 1999–2003 and 11 250 year 2004 options/synthetic options in Stora Enso. [TD]
[…]

Facts about incentive programmes
Share-Based Option Programmes
In 2004 Stora Enso established two new share-based option programmes for top 200 managers. The purpose of the programmes is to complement and replace 50% of the existing option programmes for these employees. The new programmes are synthetic share awards where designated employees may receive shares already issued (not new shares). The total number of shares that may be awarded under these two programmes is 652 500. [QD2]

Option/Synthetic Option Programmes [QD2]
Stora Enso has six option/synthetic option programmes for key personnel. Options/synthetic options were issued in 1999, 2000, 2001, 2002, 2003 and 2004. Depending on local circumstances, holders may receive either cash compensation or an option to purchase shares already issued (not new shares).

Warrants[QD2]
A maximum of 3 000 000 new Stora Enso Series R shares were subscribed under the terms of the bonds with warrants issued to members of the senior management on 10 April 1997. According to the terms of the option programme, the exercise period was 1 December 1998 to 31 March 2004 and the subscription price FIM 45.57 (about EUR 7.66) each. The programme is fully subscribed and closed.

Stora Enso North America option programme[QD2]
Following the acquisition of Consolidated Papers, Inc. the Board of Directors decided to convert the Consolidated Papers' share option plans into Stora Enso share option plans. The options entitle the holder to either cash compensation or an option to subscribe for shares already issued (not new shares).

Facts about option programmes [QD2]							
Option programme	**Type**	**Year of issue**	**Number of staff**	**Strike price**	**Number of options issued**	**Number of options outstanding**	**Exercise period**
2004	Synthetic	2004	1 000	EUR 11.15	4 675 300	4 644 050	1 Mar 2007-28 Feb 2011
2003	Synthetic	2003	1 000	EUR 10.00	6 064 150	5 945 400	8 Feb 2006-7 Feb 2010
North America	Stock options	2000	839	EUR 5.51	5 680 000	1 166 559	11 Sep 2000-4 Feb 2010

Computation of Disclosure for Stora Enso, 2004		
Components of Disclosure	**Explanation**	
Type of disclosure (TD)	Only stock-based grants	1
Amount of disclosure (AD)	Averages only	0
Quality of disclosure (QD1, QD2)	QD2 only	1
	Disclosure	**2**

Appendix 3
Extant indices on the institutional characteristics of European countries

Country	Legal Origin	Legal Tradition	Importance of Equity Market	Outside Investor Rights	Global Governance Index
U.K.	English	Common	25.0 (1)	5 (1)	56 (1)
France	French	Code	9.3 (0)	3 (1)	49 (0)
Germany	German	Code	5.0 (0)	1 (0)	50 (1)
Holland	French	Code	19.3 (1)	2 (0)	51 (1)
Switzerland	German	Code	24.8 (1)	2 (0)	55 (1)
Sweden	Scandinavian	Code	16.7 (1)	3 (1)	44 (0)
Italy	French	Code	6.5 (0)	1 (0)	41 (0)
Spain	French	Code	7.2 (0)	4 (1)	47 (0)
Belgium	French	Code	11.3 (0)	0 (0)	39 (0)
Finland	Scandinavian	Code	13.7 (1)	3 (1)	57 (1)
Russia	French	Code	5.4 (0)	4 (1)	-
Norway	Scandinavian	Code	20.3 (1)	4 (1)	44 (0)

The appendix reports the extant indices on the institutional characteristics of the sample countries and indicators (in parentheses) that are equal to 1 if the index is above the median and 0 otherwise. **Legal origin** and **Legal tradition** are obtained from La Porta et al. (1998). **Importance of equity market** is based on Leuz et al. (2003), and is measured by the mean rank across three variables in La Porta et al. (1997): (1) the ratio of aggregate stock market capitalization held by outside shareholders to GNP, (2) the number of listed domestic firms relative to population, and (3) the number of IPOs relative to population. **Outside investor rights** is the anti-director rights index in La Porta et al. (1998). It is an aggregate measure of outside shareholder rights. **Global governance index** or **$\mathbf{GOV_{44}}$** is based on 44 attributes for good governance practices covering board, audit, anti-takeover, compensation and ownership. GOV_{44} is developed by Aggarwal et al. (2007).