

# Does Transparency Increase Executive Compensation? \*

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**Abstract:** I study the impact of changes in compensation disclosure on the level and structure of executive compensation. I exploit exogenous variation of compensation information among executives after a corporate governance reform in Germany in the late 2000s. The reform, for the first time in Germany, required firms to publicly disclose the individual compensation packages of key executives. Prior to the reform, only outside board members deciding on the compensation packages were privileged to this information. Thus, prior to the reform, each firm had a subset of key executives - those with outside board mandates - that had more information about other managers' salaries. Hence, I examine changes in the compensation of managers without a supervisory board mandate (treatment group) relative to the executives who already had the information due to their mandates (control group). I find that, relative to the control group, the treatment group's wage increases when connected firms disclose. These findings show that enhanced disclosure can lead to a, likely unintended, effect of higher compensation levels and might explain recent excessive compensation.

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# 1 Introduction

The level of executive compensation is subject to an extensive debate around the world.<sup>1</sup> Recent disclosure reforms were, at least partly, motivated to reduce the self-serving compensation setting.<sup>2</sup> In this paper I examine changes in compensation setting around a recent compensation disclosure reform in Germany. Using a staggered, quasi-experimental setup, I find that more disclosure causes higher compensation.

In the U.S. there is a long history of public disclosure going back to 1932. In 1992 and, most recently, in 2006 the SEC further enhanced the disclosure rules. Regarding recent disclosure changes in the US, Dan Ariely (2009) notes,

*"o[O]nce salaries became public information, the media regularly ran<sup>3</sup>] special stories ranking CEOs by pay. Rather than suppressing the executive perks, the publicity had CEOs in America comparing their pay with that of everyone else. In response, executives' salaries skyrocketed. The trend was further 'helped' by compensation consulting firms (scathingly dubbed 'Ratchet, Ratchet, and Bingo' by the investor Warren Buffett) that advised their CEO clients to demand outrageous raises. The result? Now the average CEO makes about 369 times as much as the average worker - about three times the salary before the executive compensation went public."*

Concluding that disclosure causes higher salaries is difficult if one compares only two periods. Confounding effects can have an impact on salaries. Hence, it is necessary to find a clean empirical strategy to tackle the question. My paper exploits exogenous variation in salary information over time and across corporate executives. I argue that through board membership, some managers have privileged access to individual compensation which other managers learn after disclosure. This assumption allows to evaluate a quasi-experimental setup. In my setting, I examine the change in compensation across two groups. The treatment group consists of executives who learn new information through the disclosure of individual compensation data. Executives of the control group already possess this information through their board mandates. I examine the salary changes exactly when the firm for which one of the managers possesses the information discloses for the

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<sup>1</sup>Fernandes, Ferreira, Matos, and Murphy (2010) compare the executive compensation around the world and give as well a very detailed overview about recent disclosure reforms: Canada adapted a U.S. disclosure system in 1993. The UK expanded the disclosure for stock options and equity grants in 1997. Australia's reform was in 2004. The EU member states reform the disclosure rules in the 2000s.

<sup>2</sup>The European Corporate Governance Forum (23/03/2009) concludes *"t[T]he remuneration of executive directors clearly is an important element of the governance regime of companies. In the last two decades a fundamental shift has occurred to introduce and regularly increase the level of variable pay, both in cash and in shares and rights to acquire shares. The key justification provided for this is that such variable pay could help to align the interests of executive directors with the interests of shareholders of listed companies. Meanwhile, experience has shown that variable pay schemes have become increasingly complex and that in certain instances this has led to excessive remuneration and manipulation. This has raised questions of appropriate disclosure of director remuneration and of the role of shareholders and non-executive directors in the process of determining director remuneration."*

<sup>3</sup>Core, Guay, and Larcker (2008) analyze the impact of press on executive compensation practices. Among other things, they find that negative press coverage is related to excess annual pay and not to raw annual pay. Furthermore, they fail to find evidence that firms decrease excess compensation in the response to negative stories.

first time, since at this point both groups of managers become equally well informed. Hence, by comparing the salary changes of the two groups at the time at which the connected firms disclose allows me to identify the causal impact of information on compensation.

Since my empirical strategy requires the subsequent individual disclosure of compensation data as well as frequent interboard links, I hand-collect compensation data and board memberships of German DAX companies in the late 2000s. Traditionally, large German corporations listed in the DAX have frequent interboard links<sup>4</sup>, very often because of their (former) cross-shareholdings. Regarding the individual disclosure, in the late 2000s, the so-called corporate governance codex was created with suggestions and recommendations to foster corporate governance. One suggestion was the individual disclosure of executive compensation. Before the reform, listed companies had to disclose only the aggregate payment they make to their key corporate executives. Since corporations were reluctant to accept individual disclosure, the Federal Government of Germany passed a bill in 2005 that requires individual disclosure. I collect compensation data for firms that accepted the suggestion and for firms after the law was passed. For my main empirical result I analyze 112 manager-year observations, spread over 22 firm-years.

I show that disclosure leads to a higher level of compensation, since previously less informed managers demand higher salaries. In particular, similar levels of information due to the disclosure drive up the salaries of the uninformed relative to the informed managers. This hypothesis is contrary to the conventional wisdom and to the motivation of recent disclosure reforms which tried, at least to certain extent, to limit the excessive compensation by facilitating shareholder monitoring. Empirically, I find that total individual compensation increases due to the enhanced disclosure by 5.9% in the event year. Placebo regressions for non-event years do not show such an effect. These non-findings suggest that there is an immediate response of salaries to more information and strengthen the causal interpretation of disclosure. The increase is mostly driven by the variable compensation which increases by 11.2%. The latter observation is consistent with compensation renegotiation if one considers variable compensation to be easier renegotiable. The results are robust to outliers.

My tests are based on the following theory. Enhanced individual disclosure changes the wage bargaining position for corporate officers, since outside opportunities bear less uncertainty. Hence, for risk averse managers less uncertainty regarding the outside opportunities results in higher wages. This result is caused by the lowered threat point which equals the expected utility of the outside opportunities. I argue that managers who are board members of another firm that discloses for the first time already made use of the reduced uncertainty. On the contrary their colleagues reduce the uncertainty via the first disclosure. Hence, examining the difference between the wage changes of the two allows me to cleanly identify the effect of disclosure on executive compensation. I also discuss

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<sup>4</sup>See, for instance, Balsmeier and Peters (2009).

an alternative channel which is motivated by recent advances in the behavioral corporate finance literature. In particular, it might be plausible to assume that executives who have a supervisory board mandate already have frequent social interactions with the managers of another firm. Hence, they already increased, due to social pressure, their wages. Thus, the first disclosure of the other firm will drive up salaries of their colleagues without the mandate, who then become subject of managerial envy.<sup>5</sup>

Based on this line of arguments, I construct my empirical strategy as follows. I examine the wage changes of executives without a supervisory board mandate relative to the executives that already had the information because of their mandates. I focus only on the wage changes one fiscal year after the first disclosure of the 'connected' firm, so the firm for which one of his colleagues has a supervisory board mandate. Even though disclosure at any other firm will increase the information available to corporate executives, focusing on the first disclosure of the connected firm allows me to cleanly identify the additional value of this information. In particular, my strategy is appropriate to determine the impact of some additional information that other managers (those with the board mandate) already possessed.

I use the first difference because I suspect that most of the salary changes stem from the particular year in which the informational gap disappears, even though compensation contracts are not easily renegotiable. I treat the first disclosure of the connected firm as an exogenous variation for the information difference among managers of another firm. Comparing the wage changes for the two groups allows me to control for any confounding effect since I compare the wage changes for the same firm and the same year. Hence, company performance that impacts the compensation does not bias my result, since it should be the same for all managers working for the same corporation. Even though this setting neglects other forces, it allows me to cleanly identify the causal impact of information on the level of salaries.

So far the evidence for the impact of disclosure on executive compensation is mixed. Park, Nelson, and Huson (2001) examine a law change in Ontario in 1993, which required corporations to report individual executive compensation for the current year and the previous years. A simple comparison between the pre- and post-law period led them to the conclusion that disclosure increases compensation levels. However, Zhou and Swan (2006) reexamine the Ontario experiment and find that adding US firms as a control group removes the previous effect of disclosure on compensation levels. Hence, the findings made by Park, Nelson, and Huson (2001) seem to suffer from an omitted variable bias. In comparison to the previous papers my novel identification strategy does not seem to be prone to an omitted variable bias. I exploit several timely staggered exogenous changes of salary information for managers of the same company. Thus, my setting allows me to

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<sup>5</sup>Evidence for social pressure and geographic peer group effects are shown by Ang, Nagel, and Yang (2010) or Kelly (2011) and Bouwman (2010), respectively. Analyzing board connections, Fracassi (2009) finds that board members use their social ties as reference points in determining their own compensation.

control for any confounding factor at the firm or time dimension.

Other research on the impact of disclosure on executive compensation include Perry and Zenner (2001). The authors analyze the effect of the SEC disclosure reform in 1992-1993. The reform required firms in the US to disclose detailed information about executive compensation. Contemporaneously, the Congress enacted the Section 162(m) of the Internal Revenue Code to limit the tax deductibility of non-performance related compensation to \$ 1 million. The authors find that after the reform became effective, executive compensation growth increased. For firms around the \$ 1 million threshold, they show a decrease in compensation accompanied by an increased pay-for-performance sensitivity. The latter results are confirmed by Rose and Wolfram (2002). Furthermore, Rose and Wolfram (2002) as well as Rose and Wolfram (2000) fail to find overall evidence that the 162(m) reduced executive compensation. Lo (2003) analyzes also the 1992 revision of the U.S. disclosure rules. Consistent with a corporate governance improvement hypothesis, he finds that firms which lobbied against the rules had better accounting profits as well as stock returns during the regulation change. Analyzing the 2006 US disclosure reform Grinstein, Weinbaum, and Yehuda (2011) show that firms which disclosed its compensation perks for the first time had a negative announcement return if they acted in response to the new regulation.

The remainder of the article is structured as followed. Section 2 briefly underlies the empirical strategy with a stylized wage negotiation model. Section 3 explains the empirical strategy, while Section 4 shows us the main results. In Section 5 I perform various robustness checks to validate my results. Section 6 discusses an alternative, behavioral motivation for my empirical strategy. Section 7 concludes.

## 2 Rational Motivation

In the following part, I briefly underline my empirical strategy with a very stylized, rational model. I discuss an alternative motivation in Section 6.

For the rational motivation I consider a simple wage bargaining game under uncertainty. Suppose a risk-neutral firm needs two managers with which she is negotiating about their wages,  $w$ . Each manager has a utility function of  $u(w)$ , with  $u' > 0$  and  $u'' < 0$ . The firm needs both managers and bargains independently with both. I argue the two managers will receive a different wage because of the uncertainty of their outside opportunities. Regarding the outside opportunities, I assume that manager A knows for sure that if the bargaining breaks down, he receives a wage of  $d_1$ , while manager B believes she gets  $\tilde{d}_1 = d_1 + \epsilon$ , where  $\epsilon$  takes 1 with probability  $\frac{1}{2}$  and  $-1$  with the same probability. Hence, manager B has an *unbiased* estimate of her own outside opportunities. However, the estimate is uncertain and the uncertainty about the outside opportunities is resolved after the bargaining breaks down. Hence, manager B needs to build an expectation of the utility

he achieves when the bargaining breaks down. On the contrary, the firm is perfectly informed and knows, therefore,  $d_1$ . Hence, the generalized Nash bargaining game, with a bargaining power of  $\alpha$  and a firm's residual profit of  $\delta$ , leads to the wage in equilibrium. The wage for manager A is the solution of equation

$$w_A = \operatorname{argmax}_w (u(w) - u(d_1))^\alpha \cdot (\delta - w)^{(1-\alpha)} \quad (1)$$

Since manager B does not know his outside opportunity for sure, he builds his expectation, hence I rewrite for manager B,

$$w_B = \operatorname{argmax}_w (u(w) - Eu(\tilde{d}_1))^\alpha \cdot (\delta - w)^{(1-\alpha)}. \quad (2)$$

Simple calculation shows that, since  $Eu(\tilde{d}_1) < u(d_1)$  because of  $u' > 0$  and  $u'' < 0$ ,  $w_B < w_A$ . Hence, I state that

**Proposition 1** *The difference between the wages is increasing in the uncertainty about outside opportunities.*

*I believe it is plausible to assume that manager A already made use of his informational advantage. On the contrary, manager B learns via disclosure of the firm for which A has a supervisory board mandate about his outside opportunities. Hence, I expect that the wage differential vanishes around the first disclosure.*

### 3 Empirical Strategy

In this part I describe my empirical strategy to test whether individual disclosure causes an increase in executive compensation. I start by describing an ideal experiment to test my hypothesis and highlight where I need to depart. It follows a description of recent changes in corporate governance in Germany that made my empirical analysis possible. The part ends with the data description.

An ideal experiment would require a random change in transparency for only a subset of corporate executives. One group receives more or less information on salaries, while the other does not and, hence, serves as a solid control group. In the real world, such an experiment is not feasible. Thus, I need to relax the requirement of random transparency changes. If the transparency changes are not random, I need to carefully assign a control group which is not affected by the transparency change. Furthermore, I need to require that changes in transparency are exogenous given a set of covariates.

I exploit the staggered adoption of a new corporate governance rule about individual disclosure of executive compensation in Germany in the late 2000s. First, the individual disclosure was recommended, later it was enforced by law with only a minor exception (see below). In particular,

I use the adoption to the rule of one firm as an exogenous variation in transparency for the managers of another firm which is already disclosing the salaries individually (and, hence, makes it feasible to measure the wage changes). The new adoption of the rule in one firm does not treat all corporate executives of the other firm equally. I argue that some corporate executives are not affected, since they serve as a supervisory board member in the other firm. I assume they almost surely know about the salaries in the other firm. Hence, those managers suit as a valid control group for their colleagues who learn about the new information concerning the other firm via the disclosure. This empirical strategy allows me to control for any confounding year and firm effect. And, hence, it identifies the causal effect of disclosure on the general level of executive compensation.

Managers who have board connections might differ from other corporate executives in various dimensions. However, this presumption does not bias my result under the assumption that the attitude in which they differ persists over time, since I analyze compensation changes.

Another issue might bias my results. Any lump-sum increase of salaries in one firm-year could result in a lower percentage increase for managers with board mandates (and typically higher salaries), while the other managers with lower salaries exhibit a higher percentage increase. I believe, however, that those lump-sum salary increases are rare. In addition, placebo tests for non-event years fail to document a lump-sum salary change by accident.

### **3.1 Executive Compensation Disclosure Reform in Germany**

Since 2002, the so-called Regierungskommission Deutscher Corporate Governance Kodex, an advisory committee to the Federal Ministry of Justice, maintains a codex on how to improve corporate governance in German corporations. The committee comprises representatives of industry, unions, academia and interprets its function as proposing self-regulation in corporate governance. Among their suggestions they distinguish between 'shall', 'should' and 'can'-suggestions. Each corporation follows the comply-or-explain-principle regarding their suggestions. The actions described in the codex vary from the selection of members of the supervisory council or the transparency of security transactions up to how to structure executive compensation.

One suggestion of the codex was the individual disclosure of executive compensation. However, only very few firms followed this suggestion in the beginning. The large majority kept on publishing the required aggregate compensation for all members together. The companies frequently explained they do not see how their shareholders can benefit from individual disclosure since the corporate executive board is altogether responsible for the leadership of the company.<sup>6</sup>

However, since not many firms followed the suggestion, the Federal Government of Germany initiated a law that required all firms to individually disclose for each corporate executive (Vor-

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<sup>6</sup>See, for instance, p. 115 of the annual report 2005 of Daimler: 'As the Board of Management operates according to the principle of collective responsibility, the incentives provided for the Board of Management as a whole are the decisive factor, not those for each individual member.'

standsmitglied) its remuneration. The law allowed one opt-out clause: If three-fourth of the shareholders voted against the individual disclosure, the company could relinquish it. The law was initially proposed in September 2004, since up until then only nine out of 30 DAX-companies followed the suggestion<sup>7</sup>. In the German parliament the draft was subject to a debate on 31/05/2005 and it passed shortly thereafter. The second German chamber confirmed the law on 08/07/2005.<sup>8</sup> The law required, starting from fiscal year 2006, all listed German companies to disclose their compensation individually. The law was intended to facilitate judging whether the remuneration is adequate for the responsibility of each corporate executive as well as for the economic performance of the company.<sup>9</sup>

## 3.2 Data

I start the sample construction of compensation data with all 30 DAX companies<sup>10</sup> in the fiscal year 2005. For each company I collect, if available, remuneration data of all corporate executives (Vorstandsmitglieder) from the annual report and similar sources for the fiscal years 2002 to 2008. For two companies the data is not available: First, Schering merged with Bayer in 2006 and, thus, the former annual reports are not available. However, using the reports of the Deutsche Schutzvereinigung für Wertpapierbesitz DSW (2005), DSW (2004) and DSW (2003) I reconstruct the first fiscal year of individual disclosure.<sup>11</sup> Second, the Hypo-Vereinsbank with its large shareholder UniCredit made use of the opt-out clause in which a majority of shareholders decided to not follow the rule of individual disclosure. For the remaining 28 companies I require that for each corporate executive compensation data is available. If the compensation is only available for the CEO and not for the other managers<sup>12</sup>, I drop the firm-year observation.<sup>13</sup>

For every corporate executive I collect her remuneration, her title, when she began and quit her job (if available) and whether she got promoted. In particular, I check for the corporate functions CEO, Deputy CEO, CFO, Deputy Officer and Officer. If a manager is the Deputy CEO and CFO at the same time, I assign only the Deputy CEO function to him.

Furthermore, I gather for each corporate executive the mandates in other DAX and (mid caps) MDAX companies. Specifically, I require that the mandate corresponds to the main firm and not to a subsidiary company. For instance, regarding the E-ON company some DAX managers have a

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<sup>7</sup>See Handelsblatt/Finanzbetrieb (29/09/2004).

<sup>8</sup>See Deutsche Presse Agentur/Frankfurter Allgemeine Zeitung (08/07/2005).

<sup>9</sup>See Bundestag (31/05/2005).

<sup>10</sup>I restrict my sample to DAX companies since DAX executives have the most board connections.

<sup>11</sup>Even though I fail to observe the compensation data for this firm, I use the first disclosure as a change in information for another firms' managers.

<sup>12</sup>This is the case for the fiscal year 2003 of Commerzbank, 2005 of Infineon, 2004 and 2005 of MAN and 2004 of Volkswagen.

<sup>13</sup>I, additionally, exclude the fiscal year 2008 of Commerzbank, since Commerzbank raised in 2008 capital from the SoFFin, a German governmental agency, that supervised banks in economic distress. One requirement for the support was that the remuneration for corporate executives was capped at 500'000 EUR.



supervisory board mandate in the subsidiary E-ON Ruhrgas AG and not in the parent company E-ON. However, I believe that both types of mandates are not comparable with respect to their information about salaries. Thus, I only use the mandate in the board of the parent company. For additional data sources I employ Datastream and Compustat Global. In particular, the fiscal year closing stock prices come as well as the market value of equity outstanding from Datastream. I consult the Compustat Global Database to collect the total assets (*at*), the sales (*sale*) as well as the earnings per share excluding (*epsexcon*) and including (*epsincon*) extraordinary items. The latter variables are both in the consolidated format.

Table 1 here

I arrive at 134 firm-years from which six refer to the fiscal year 2002, nine to 2003, 17 to 2004, 19 to 2005, 28 to 2006, 28 to 2007 and 27<sup>14</sup> to 2008. Table 1 shows when the DAX companies individually disclose their compensation packages and, hence, which companies potentially belong to my sample.<sup>15</sup> Companies that accepted the suggestion<sup>16</sup> of individual disclosure for the fiscal year 2002 are Altana, Bayer, Deutsche Bank, Deutsche Börse, SAP and ThyssenKrupp. For the fiscal year 2003, Deutsche Post, Deutsche Telekom and RWE disclosed as well. In the following fiscal year Allianz, Commerzbank, Continental, E-ON, Lufthansa, Metro, Siemens, Schering and TUI decided to individually disclose. Thereafter, Adidas and Volkswagen also accepted the suggestion. The remaining firms started to disclose due to the law in the fiscal year 2006.

From the 134 firm-years I take only firm-year observations for which at least one corporate executive has a supervisory board mandate in one or more DAX and MDAX companies. Furthermore, I only include firm-years around the first disclosure of the firm for which one executive has a board mandate.

My empirical setting requires that executives working for the same firm are comparable with each other. Hence, I face the problem that executives working for group companies receive only part of their compensation from the parent company and another part from some subsidiary company. This circumstance limits the comparability. For instance, Dr. Walter, an executive of Allianz SE, was as well the head of Dresdner Bank. He received the major stake of his salary from Dresdner Bank. Hence, using his salary as a part of the control group for another executive at Allianz SE could lead to wrong inferences. However, some of the group companies disclose, at least for some fiscal years, the compensation packages from the parent company and from the group. Thus, I decide to use, whenever feasible, the salaries paid by one single corporation. This is possible

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<sup>14</sup>The number is lower since I dropped the Commerzbank 2008 observation because of the imposed salary restriction after the governmental support.

<sup>15</sup>The entries correspond also to the findings in several compensation studies of the Deutsche Schutzvereinigung für Wertpapierbesitz, see DSW (2006), DSW (2005), DSW (2004) and DSW (2003).

<sup>16</sup>I discuss the endogeneity of this decision and how it might impact my results in Section 5.3.

for Allianz, Deutsche Post and Tui. Allianz published for 2004 and 2005 only the individual compensation packages of the group, whereas from 2006 onwards both, the parent and the group data, are available. To tackle the problem of comparability, I decide to use only the compensation made by the parent company, Allianz SE, to all executives and, thus, discard the data for 2004 and 2005.<sup>17</sup> For Deutsche Post the annual reports 2003 and 2004 contain only the group salary, whereas from 2005 onwards the financial statement of Deutsche Post AG contains the components paid by the listed corporation only. Hence, I only include Deutsche Post from 2005 onwards. Regarding Tui I consult the financial statements of TUI AG. Those are available from 2004 onwards, like the group compensation shown in the annual report as well. Taken together my final sample comprises of 54 firm-years. In the Appendix I describe the data collection in more detail.

To construct robustness tests, I analyze as well mid caps, listed in the MDAX. In particular, I gather the timing of the first disclosure for companies for which a DAX manager has a supervisory mandate and which were member of the MDAX in the fiscal years 2006/2007<sup>18</sup>. Table 2 shows the timing. For the fiscal year 2002 only Deutsche Euroshop disclosed. In 2003 also Fraport and RHÖN-KLINIKUM accepted the suggestion. In the year thereafter Bilfinger and IVG Immobilien disclosed individually for the first time. The companies Aareal, GEA, GILDEMEISTER, Heidelberger Druckmaschinen, HOCHTIEF, LANXESS and Salzgitter disclosed in the fiscal year 2005 for the first time. In the fiscal year 2006 K+S, LEONI, RHEINMETALL, Symrise and Tognum had to disclose, whereas Celasio, KRONES and Hannover Rück made use of the opt-out clause.

Table 2 here

Table 3 shows us the summary statistics for the 54 company-years of DAX companies in my final sample. See appendix for a detailed description of the company-years. The median company has a market capitalization of 30 bn EUR and earnings per share of 2.9 EUR. The average change of the equity market value is 18 %.

Table 3 here

Next, I describe how I calculate the remuneration. I define the total salary (*TOTSAL*) as the sum of fixed compensation (*FXSAL*), benefits (*BENEFITS*), short-term (*STSAL*), and the sum of long-term and share-based compensation (*LTSHSAL*). I exclude pension plan contributions, since the data availability is very limited. With fixed compensation, companies usually describe some per month installments. With benefits companies specify the money they spend for company cars,

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<sup>17</sup>My results improve in magnitude and significance when I, additionally, exclude executives who receive only part of their compensation from Allianz SE and another part from subsidiaries. This is the case for Messrs. Cucchiani, Rupprecht, Thierry and Walter.

<sup>18</sup>I use the MDAX constitutes from the DSW/TUM (2008) Vergütungsstudie.

insurances and other similar expenses in connection with their executives. Often only the total sum of benefits for all corporate executives together is depicted. If this is the case, I take the average per capita. If benefits are missing I replace the item by 0. Short-term compensation refers to a bonus usually paid on a yearly basis.<sup>19</sup> Long-term and share-based compensation describe payments of either phantom shares, stock options (that may vest at some later date) and a bonus paid over some long-term horizon. Often, it is difficult to distinguish long-term and share-based compensation, since a part of long-term compensation can be based on a share price component. Thus, I take the sum of these two for the analysis in my paper. For this salary component, I focus on the value of each instrument in a given year.<sup>20</sup> This means for stock options I take the value of all options granted in a given fiscal year. For the long-term bonus, I use the accounting accruals for a particular year. For more details, I refer the reader to the Appendix.

Over the sample period there is turnover of corporate executives. I discard the manager-year if the executive did not work the complete fiscal year and exclude golden hellos and golden parachutes for executives who start or terminate their appointment. With other words I exclude lump-sum payments made at beginning of the contract to compensate for lost claims concerning his previous employer and payments because of cancellation of the contract before expiration, respectively. Furthermore I, explicitly, control for promotions. The promotion variables in the regression equals 1 if the corporate executive got promoted in the current fiscal year. In unreported robustness checks I exclude all promoted executives and my results lead to the same conclusions. The variables for the corporate functions (CEO, CFO, Deputy CEO etc.) are also indicator variables that equal 1 if the manager served in that function in the current fiscal year.

Table 4 here

Table 4 shows us the different components of salaries in my sample. An average officer, ignoring his function, receives a fixed remuneration of 703 kEUR, with a median of 680 kEUR. Hence, the distribution is skewed towards large salaries. The median benefits are with 41 kEUR negligible in comparison to the fixed remuneration. The mean short-term bonus is roughly twice as large as the fixed compensation. The value of the long-term and share-based compensation is with a median of 705.3 kEUR approximately the same as the fixed compensation. The average yearly changes of the total salary is 15%, while the average variable compensation components (short-term, long-term and share-based compensation) have an average increase of 30%. The fixed salary part increases by 7% on average.

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<sup>19</sup>For the fiscal years 2002 and 2003 the SAP AG discloses the short-term bonus jointly with the fixed compensation. In this case I set the short-term compensation to 0 and exclude the observations when I differentiate salary components in Section 5.4.

<sup>20</sup>If the value of the options granted or a similar instrument is not available I set this component to 0. I do not use the payments caused by stock options or other instruments.

## 4 Results

In this part I present my main results. In particular, I test whether enhanced disclosure increases salaries of corporate executives. To do so, I compare first differences of salaries<sup>21</sup> of two groups in one and the very same firm and year. One group, which can be interpreted as the informed group, consists of well-connected and informed managers. I proxy their informedness by being a supervisory board member of a specific other firm. The second group consists of corporate executives who do not have such a connection. Hence, they learn via the individual disclosure of salaries of the other firm for which one of their colleagues has a supervisory board mandate. However, focusing only on the first differences is likely to underestimate the result, since not all compensation contracts are easily renegotiable.

As a preliminary analysis, I show in Table 5 summary statistics for the salaries along four dimensions. The term  $TRANSPARENCY = 1$  specifies a group of corporate executives in all sample firms that will get informed via the first disclosure of another firm, whereas  $TRANSPARENCY = 0$  refers to corporate executives who are already informed via board mandates. As event year I identify the particular year after the fiscal year in which the first disclosure of the other firm takes place. In particular, I require that for the disclosing firm at least one corporate executive of the sample firm has a board mandate. Hence, the pre-event year is the year in which the disclosure takes place and the event year is one year after the first disclosure.

Comparing the median total compensation for the first group ( $TRANSPARENCY = 1$ ) around the event-year indicates an increase of 22.2% from 2178 kEUR to 2661 kEUR in the event year. The other group which, under my assumption, should not benefit from disclosure increases its median total salary by 14.8%, from 2925 kEUR to 3357 kEUR. The latter group exhibits a higher compensation level, since higher paid executives (CEOs and CFOs) have more board mandates and, thus, are more likely in the informed group. This simple comparison does not lead us to a causal interpretation, since firm-year or person specific factors, including promotions might impact the results.

Table 5 here

Hence, I estimate the following regression for manager  $i$ , in year  $t$  and for firm  $y$ :

$$\Delta TOTSAL_{ity} = \rho_{ty} + \beta_1 TRANSPARENCY + \gamma \Gamma_{ity} + \epsilon_{ity}, \quad (3)$$

in which  $\Delta TOTSAL_{ity} = (TOTSAL_{ity} - TOTSAL_{i(t-1)y})/TOTSAL_{i(t-1)y}$  stands for the change

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<sup>21</sup>Bertrand, Duflo, and Mullainathan (2004) show that autocorrelated dependent variables can lead to wrong inference if one estimates a difference-in-difference test over a long time period. To alleviate this problem I use first differences.

in total salary. The terms  $\rho_{ty}$  describe firm-year fixed effects,  $\Gamma_{ity}$  the relevant individual controls and  $\epsilon_{ity}$  the error term, respectively. The indicator variable *TRANSPARENCY* deserves more explanation. It takes the value of 0 if the manager is serving on a board of another firm that has individually disclosed for the first time in the previous fiscal year and the value of 1 if this is not the case. I require that the manager was already on the same board in the previous fiscal year.

The variable  $\beta_1$ , hence, estimates the difference between the salary changes of two groups; the informed group and the uninformed group. I only consider firm-years in which at least one manager is in each group. I discard all other observations. However, I also include one firm-year observation in which I do not have salary changes for one of the two groups (Tui, 2007), since the executive got assigned to his position less than one year ago. I end up with a sample of 112 managers in 22 firm-years.<sup>22</sup> Of the 112 managers 84 managers are classified with *TRANSPARENCY* = 1, whereas 28 are in the group that already had the information. Per firm-year I only have two managers at most in the informed group, whereas I have up to nine managers in the uninformed group.

As relevant individual controls I include three groups of variables. First, I include two variables regarding their board connections. Balsmeier and Peters (2009) show that board connections are valuable for executives also in Germany. Hence, it might be the case that having a board connection became more valuable when disclosure increases, which I proxy with the variable *CONNECT DAXMDAX*. The indicator variable takes the value of 1 if the manager has a board mandate in at least one DAX or MDAX company in the current fiscal year. Furthermore, I include, the change in the number of board mandates from the previous to the current fiscal year ( $\Delta$ *CONNECTDAXMDAX*). Second, I include all possibilities of promotions of corporate executives, since, for obvious reasons, when a manager becomes, for instance, the CEO he receives a higher salary. Third, I include the functions of each manager. It might be the case that over time the salary of, for example, a *CFO* increases since financial skills are more important. This concern is motivated by the fact that many observations stem from the fiscal year 2007, in which some financial turmoil occurred.

Table 6 here

Table 6 presents the estimation results of equation 3. All specifications include firm-year fixed effects. In all specifications I find that the not-informed group increases relative to the informed groups its total salary. The estimates of transparency ranges from 4.8% to 5.9%. The identifier variable *CONNECT DAXMDAX*, which equals 1, if the corporate executive is a board member in any DAX or MDAX company is positive (1.4%), but statistically insignificant. If an executive

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<sup>22</sup>Allianz 2007; Bayer 2007; Commerzbank 2006, 2007; Deutsche Bank 2003, 2005; E-On 2005, 2006; Lufthansa 2007; RWE 2005, 2006; SAP 2003, 2007; Siemens 2007; ThyssenKrupp 2005, 2006, 2007; Tui 2005, 2006, 2007; Volkswagen 2006, 2007

increases the number of mandates I find that, his salary slightly increases (1.3%), insignificant as well. Some promotions have, on the contrary, an effect on the salary. If a corporate executive gets promoted from an Officer to a CEO, he doubles his previous salary. The corporate executive functions (CEO, CFO, Officer, Deputy CEO, Deputy Officer) themselves have virtually no statistically significant impact on the salary changes. In column 2 I exclude from the individual characteristics the change of the board mandates. The estimation results are unchanged. For the regression, which results are shown in column 3, I omit the executives' functions. The point estimate of transparency decreases in its magnitude. However, it remains statistically and economically significant. In the last column 4, I exclude the indicator variable for a DAX/MDAX board mandate, as well as the change in the number of the mandates. The effect of transparency remains with 4.8% robust, statistically and economically. The  $R^2$  of all my regression results shows the within estimation fit. Given the number of indicator variables, particularly due to promotions, it is not surprising to have such a high within  $R^2$ .

## 5 Robustness

To validate my main result, I perform various robustness checks. First, I rerun my main regression in non-event years. Second, I test my results with respect to outliers by excluding each firm one time from my sample. Third, I tackle endogeneity issues. Fourth, I reestimate equation 3 and differentiate between variable and fixed compensation components. Fifth, I check whether new salary information about DAX or MDAX companies are more important for the DAX managers.

### 5.1 Placebo Regressions in Non-Event Years

In this part, I investigate whether the documented effect of transparency is only present in the first fiscal year after the first disclosure of the corresponding connected firm. If there would be also an effect in other fiscal years, there might be a confounding factor other than transparency driving my results. Hence, my conclusion that transparency increases executive compensation could be misleading. To do so, I rerun the estimation of equation 3 in two other fiscal years.

First, I repeat the experiment and change the fiscal year for which I analyze the wage differentials from the first fiscal year after the first disclosure of the connected firm, to the very same fiscal year. With other words I reexamine the salary changes of, let is say, BAYER not from 2006 to 2007, since in 2006 a connected company disclosed for the first time. Instead, I analyze the changes from 2005 to 2006. In the same fiscal year I do not expect to find an effect, since I hypothesize the uninformed group of managers learns via the disclosure in the annual report (or the news articles based on it). Hence, these managers can incorporate the information only the year thereafter. In the same fiscal year there is no effect.

Since the total number of managers employed varies among fiscal years as well as their board mandates, the sample consists of 81 manager-year observations. Of those 81 manager-years 22 are in the informed group ( $TRANSPARENCY = 0$ ) and for 59 manager-years the indicator variable  $TRANSPARENCY$  equals 1. The 81 manager-year observations spread among 17 firm-years.<sup>23</sup>

Table 7 shows us the first placebo regression of equation 3. Column 1 includes all sets of individual controls. The point estimate of transparency is with  $-0.06\%$  negligibly small in comparison to the  $5.9\%$  estimated in the event year. Columns 2 to 3 exclude sets of individual characteristics and confirm the result. However, in column 4 if I exclude the individual characteristics about the connectedness of the corporate executives the point estimate for transparency is larger ( $1.5\%$ ), but not statistically significant and not comparable with the estimate of  $5.9\%$  in the event year.

Table 7 here

Second, I rerun the estimation of equation 3 in the year after the corresponding event year. Hence, I estimate the wage changes two years after the first disclosure of the connected firm. With other words if the connected firm discloses in 2006 for the first time, I examine the compensation changes for the two groups in the other firm from the fiscal year 2007 to 2008. Table 8 shows us the results. Of the 106 managers in my sample 25 are in the informed group. All observations stem from 20 firm-years.<sup>24</sup> The point estimate of the  $TRANSPARENCY$  is around  $-0.8\%$  to  $-3.5\%$  for all specifications. All  $TRANSPARENCY$  estimates are statistically insignificant and in absolute terms smaller than my main result of  $5.9\%$ .

Comparing the results of Table 7 and Table 8 with the main regression results in Table 6 my findings suggest that there has been only a difference in the wage changes for the two managerial groups in the event year. This conclusion provides indirect evidence that the salary increase is likely caused by renegotiation due to enhanced disclosure.

Table 8 here

## 5.2 Sensitivity of Results

Since my sample is small, I perform the following additional robustness check. I exclude one firm and rerun the firm-year fixed effect regression for equation 3 with all sets of covariates. I, again, compare wage changes for two groups of corporate executives: One group is connected via

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<sup>23</sup>Those are Bayer 2006, Commerzbank 2005, 2006; Deutsche Bank 2004, 2005, 2006; E-ON 2005; Lufthansa 2006; RWE 2004, 2005, 2006; SAP 2006; Siemens 2006; ThyssenKrupp 2004, 2006; Tui 2005 and Volkswagen 2006.

<sup>24</sup>These are Allianz 2007, 2008; Bayer 2008; Commerzbank 2007; Deutsche Bank 2004, 2006; Deutsche Post 2006; E-ON 2006, 2007; Lufthansa 2008; RWE 2006; SAP 2004, 2008; ThyssenKrupp 2007, 2008; Tui 2006, 2007; Volkswagen 2006, 2007, 2008.

a supervisory board mandate to another firm. The other group is not. Hence, it suggests that the not connected groups can be seen as the treated group if the other firm decides to first disclose the individual salaries. Table 9 shows us the results. Excluding, for instance, the ALLIANZ SE from my sample leaves 101 manager-year observations. The estimate for transparency is with 7 % comparable to the previous estimates shown in Table 6 and statistically significant to conventional levels. Excluding other firms leads to similar conclusions. Hence, the results of Table 9 suggest that my main results are not caused by outliers.

Table 9 here

Table 9 also highlights one of the drawbacks of my empirical strategy. Excluding the Allianz SE increases the point estimate for *TRANSPARENCY* as well as the corresponding t-value from 5.9% to 7.0% and 2.3 to 2.8, respectively. The board of Allianz SE comprises of several managers<sup>25</sup> who have their main appointments in subsidiary companies as you can infer when you compare the Allianz group reports with the reports of the Allianz SE. Hence, analyzing changes in the compensation provided by Allianz SE could underestimate the effect of transparency on executive compensation, because they might get a pay increase from their main employer, the subsidiary company. On the contrary, the managers are less comparable and might not serve as a valid control group since they work for virtually independent companies. Similar concerns refer to Tui.

### 5.3 Endogeneity of Disclosure Decision

Before introducing the law regarding individual disclosure of executive compensation, the disclosure was voluntary. Firms could or could not disclose detailed individual information about salaries. Hence, the firms which decide to disclose might be different from other firms. Indeed, Andres and Theissen (2007) and Andres and Theissen (2008) find that a DAX, MDAX or NYSE listing increases the likelihood for disclosure, whereas firms with a higher average remuneration per corporate executive are less likely to comply. Firms with higher Tobin's Q are more likely to comply. The authors, furthermore, establish a non-monotonic impact of ownership concentration and compliance of the individual disclosure rule. On the contrary, the opt-out clause is exploited by small firms with high per capita compensation and high ownership concentration.

Despite their findings about the endogeneity of disclosure, I believe that it does not cause a bias of my results. This is due to the fact that I use the availability of detailed information made public by one firm to study the wage changes of another firm which already took the decision to disclose beforehand. Hence, I need to assume that given one firm publishes already this information, the availability of new information is exogenous. So far, I did not succeed to find a plausible channel via which endogeneity might cause a bias in my results.

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<sup>25</sup>For instance, Dr. Walter, who was at the same time head of the Dresdner Bank, a subsidiary of Allianz SE.



## 5.4 Compensation Components

Unfortunately, I fail to observe details and renegotiation possibilities of the executive compensation contracts. If contracts are not renegotiable, a salary increase due to the described mechanism cannot occur and my findings might be caused by a spurious correlation. However, I presume some components are easier renegotiable than others. In particular, I suspect that of the five components fixed compensation, benefits, short-term bonus, share-based and long-term bonus, the variable parts of the compensation are better renegotiable. Hence, I repeat my previous analysis for wage differences and split the total compensation changes in two parts:<sup>26</sup> First, the variable  $\Delta VARSAL_{ity} = (VARSAL_{ity} - VARSAL_{i(t-1)y})/VARSAL_{i(t-1)y}$  describes the change of variable components (short-term bonus, long-term bonus and share-based compensation), as  $VARSAL_{ity} = STSAL_{ity} + LTSHSAL_{ity}$ . I expect that those components are more likely to be subject of renegotiation if renegotiation is possible at all. Second and on the contrary, the item  $\Delta FSAL_{ity} = (FSAL_{ity} - FSAL_{i(t-1)y})/FSAL_{i(t-1)y}$  stands for the yearly change of the fixed compensation component (*FXSAL*) and benefits (*BENEFITS*).

Table 10 here

Table 10 shows us the results for the firm-year fixed effect regression. Columns 1 and 2 are based on changes in fixed salary, whereas columns 3 and 4 refer to the variable salary components changes. Disclosure (*TRANSPARENCY*) increases only marginally (2.0%) the fixed salary of not-connected corporate executives relative to connected executives in the fiscal year after the first disclosure of the connected firm. The result differs for the variable component. Transparency increases the variable salary of the not-connected corporate executives by 11.2% to 9.8%, both statistically and economically significant.

Taken together both results suggest that the salary changes might come from salary renegotiations, if one assumes that variable salary components are more likely to be renegotiable.

## 5.5 DAX vs. MDAX Salary Information

As an additional robustness check, I examine whether the documented effect that more information leads to higher salaries depends on the relevance of information. In particular, I distinguish whether the information, that is learned, is about salaries of another DAX or a (mid cap) MDAX company. One might argue that salary information of other DAX companies are more relevant for DAX managers, since they both belong to the same index. Otherwise, DAX managers might believe that both jobs are not comparable, since MDAX companies are smaller. In addition, MDAX salaries

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<sup>26</sup>I exclude from my analysis the SAP AG for the fiscal year 2002, 2003 and 2004 since in the fiscal years 2002 and 2003 the short-term and fixed compensation was not disclosed separately.

are lower than DAX salaries. To perform the analysis, I reestimate the previous equation 3 and distinguish whether the informational gap that was closed consists of DAX or of MDAX salary information. In particular, I estimate for manager  $i$ , in year  $t$  and for firm  $y$ ,

$$\Delta TOTSAL_{ity} = \rho_{ty} + \beta_1 TRANSPARENCY_{DAX} + \beta_2 TRANSPARENCY_{MDAX} + \gamma \Gamma_{ity} + \epsilon_{ity}, \quad (4)$$

in which  $\Delta TOTSAL_{ity} = (TOTSAL_{ity} - TOTSAL_{i(t-1)y})/TOTSAL_{i(t-1)y}$  stands for the change of total salary. The terms  $\rho_{ty}$  describe firm-year fixed effects,  $\Gamma_{ity}$  the relevant individual controls and  $\epsilon_{ity}$  the error term, respectively.

There are two indicator variables capturing the change in compensation information: First,  $TRANSPARENCY_{DAX}$  equals 0 if the manager is a board member of a DAX company that disclosed for the first time in the last fiscal year. For all other managers in the same firm and year it takes the value of 1. Hence,  $\beta_1$  estimates by how much the salaries of corporate managers change who learn via the disclosure about salaries of the other firm. As a control group I use the corporate managers who possess already the information due to their board mandates. The second transparency indicator variable,  $TRANSPARENCY_{MDAX}$ , is constructed in a similar fashion with the only difference that the informational gap comes from a MDAX board membership.

Table 11 here

Table 11 shows us the results. The estimate of  $TRANSPARENCY_{DAX}$  is with 6.5 to 9.0% economically large and statistically significant in all specifications. The estimates also exceed the findings shown in Table 6 in which I do not control for MDAX salary information changes. DAX managers increase their salaries due to more information about other DAX companies. Contrary, DAX managers do not profit from MDAX salary information. The statistical insignificant estimates for  $TRANSPARENCY_{MDAX}$  range from  $-1.1\%$  to  $2.3\%$ . Taken together, both findings suggest that disclosure of salary information about more similar firms, like those which are in the same index, is more important for the own salary.

## 6 Discussion

### Behavioral Channel

The assumption regarding the wage differential in my empirical strategy can also be motivated by recent findings in the behavioral corporate finance literature. In particular, Ang, Nagel, and Yang (2010), Kelly (2011), Bouwman (2010) and Fracassi (2009) find that CEO compensation exhibits strong peer effects. Ang, Nagel, and Yang (2010) show that CEO compensation growth is linked to the number of local CEO peers. The authors explain their finding with an increased

social pressure due to more local CEO peers and the likely social interaction among them. They also find that a wider geographic area decreases the social interaction and results in less pressure on salaries. Kelly (2011) observes that there exists a positive elasticity among randomly assigned MBA class peers concerning their salaries. She concludes that there is an effect of 'pay-for-friends-luck'. Bouwman (2010) shows that 1% compensation increase of a geographically linked CEO results *ceteris paribus* in a 0.3% increase of own salary. She motivates her findings by the literature of spatially-influenced envy and by geographically-segmented labor markets. Analyzing board connections, Fracassi (2009) finds that board members use their social ties as reference points in determining their own compensation.

The finding of peer effects could also serve as a motivation for my empirical strategy. Executives serving on several boards do not only have less uncertainty about their outside opportunities (as explained in Section 2) but they probably compare themselves more frequently to the executives they are interacting with. Hence, the more board connections they possess the higher will be the effect of social pressure on them. Evidence for the positive impact of board mandates on executive compensation in Germany comes from Balsmeier and Peters (2009). For their colleagues without a board mandate, more individual disclosure of the other firm results in social pressure and increases their wages relative to the previously socially pressured corporate executives.

#### Headhunters and Managerial Talk

In the following I discuss the importance of headhunters and managerial talk for my findings, since both arguments would be contrary to the existence of an informational gap between board members and not-board members.

First, headhunters could be believed to disseminate information about outside opportunities among corporate executives. Hence, if headhunters did a perfect job there would be no informational gap and my results could not be caused by a reduction in this gap. However, I believe that the headhunter argument is difficult to support. To be more precise, this argument would require that each and every corporate executive in one firm got recently an offer by an headhunter for the very same firm at which one of her colleagues hold a board mandate and is, hence, informed about the salary structure. Even though it is impossible for me to rule out this possibility completely, I believe that offers made by headhunters for very top executives are not that frequent and concentrated for a firm and year.

Second, managerial talk could reduce the informational gap among corporate executives. This argument would require that managers do not only talk about each other salaries but also about the salaries of others. In particular, it would require that the corporate executive with a board mandate informs her colleagues about the salary in the company for which she possesses the board

mandate. Due to legal restriction, I, however, doubt that circumstance. Taken together, I fail to find support for the two arguments why there should not be an informational gap.

#### Compensation Data of other Countries

Because of enhanced disclosure, compensation data of other countries is easily accessible for German executives. Hence, they might use the data for their wage negotiation. This circumstance is, however, not a concern for my empirical strategy because of two reasons. First, since this data is available to every executive it does not alter the informational gap between colleagues with and without board mandates. Second, compensation data from another country might not be relevant for German executive because of institutional differences. See Fernandes, Ferreira, Matos, and Murphy (2010) for an exhaustive comparison of international compensation.

#### Ex-ante versus Ex-post Compensation

Ideally, I would like to analyze how disclosure changes the compensation contracts closed. This approach refers to the ex-ante compensation. However, it is not possible for me to observe the ex-ante compensation for all salary parts. Only for the share-based compensation I collect the ex-ante value of the corresponding instruments (options, phantom shares etc.). I use the value of the instruments granted, since I interpret the options granted and not the corresponding payoff as a payment to the executives. Imagine a corporate executive gets in the fiscal year 2010 a large chunk of options, which corresponds to an option value of EUR 1,000,000. In 2011, the options vest and lead to a payoff of EUR 5,000,000, because the stock price of the company skyrockets. To make the salary components comparable, I believe, it is necessary to attribute EUR 1,000,000 to the salary in 2010, because also investors could have bought similar options, for which they would have paid EUR 1,000,000. The outcome of the option holdings is, hence, not crucial.

For the remaining salary components I have to rely on the ex-post realization. Even though I cannot rule out the possibility that salary differences among the other components arise because of a difference of personal achievements, I think that it is not likely because of two reasons. First, I believe that the major stake of the performance induced payments is linked to the company performance and, hence, should equally increase salaries for all corporate executives of a particular firm. Second, placebo regressions do not show an impact in non-event years.

#### Pay-for-Performance Sensitivity

Another important research subject regarding executive compensation is the pay-for-performance sensitivity. This sensitivity describes how much of the compensation depends on the actual company performance. Disclosure could not only have an impact on the level of compensation as I show, but also on this sensitivity. Indeed, Zhou and Swan (2006) find that after the Ontario disclo-

sure reform the sensitivity of compensation regarding company performance increased. However, I believe that my empirical setting is less appropriate to determine an impact on the sensitivity since both the treated managers as well as the control group work for the same company and the company performance is a major driver of the realized variable compensation. In addition, I fail to find a reason why enhanced information should impact the pay-for-performance sensitivity of some corporate managers in comparison to others at the same firm.

### Is the Outcome Good or Bad?

So far I did not say much about whether the outcome is good or bad for shareholders. To tackle this question one is tempted to compare the cumulative abnormal return (CAR) around the announcement date of the annual reports. However, given an average market capitalization of EUR 33 bn a CAR of 0.5 % would correspond to a loss of EUR 165 m and, in turn, by far exceed the total salary increase of roughly 6% or 171 kEUR per executive. Thus, I leave it to the reader to judge whether my finding is a good or bad outcome for shareholders. However, I believe my findings show, maybe unintended, side effects of a recent disclosure reform.

## **7 Conclusion**

The effect of disclosure on compensation levels is ambiguous and to identify a clean empirical strategy to answer this question is challenging. This paper tackles the question by exploiting the staggered adoption of suggestions in the context of a corporate governance reform in Germany in the late 2000s. In particular, I argue that via frequent interboard links I can identify managers who already had the information that will be disclosed by other companies in the future. Hence, those managers serve as a valid control group for other managers who are treated by the extended individual disclosure. Based on this argument I can control for firm-year effects that impact the compensation.

I find that disclosure increases the total compensation of managers who learn the information via the disclosure relative to managers who are likely to have the information already before. The salary increase is clustered at the event-year and I do not find a similar effect in non-event years. If I differentiate the compensation components into fixed compensation and benefits and variable compensation, so the sum of short-term bonus, long-term bonus and share-based compensation, I find that the increase in total compensation is mostly driven by the increase of the variable part. This result confirms my hypothesis that corporate executives who learn new information via disclosure renegotiate their salaries, because I believe that variable components are easier renegotiable.

Overall, my study illustrates that disclosure leads to an increase in compensation, as it is hypothesized by the popular press or, theoretically, by Hermalin and Weisbach (2011). Hence, it is a fact that needs to be taken into account, when governments around the world are discussing

whether to enhance disclosure.

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# Appendix

## Data Collection

In the following I describe how I gathered the compensation data from the annual reports and similar sources. For the main regression I use 112 manager salary changes. These observations refer to 22 firm-years<sup>27</sup>, which are Allianz 2007, Bayer 2007, Commerzbank 2006, 2007, Deutsche Bank 2003, 2005, E-ON 2005, 2006, Lufthansa 2007, RWE 2005, 2006, SAP 2003, 2007, Siemens 2007, ThyssenKrupp 2005, 2006, 2007, Tui 2005, 2006, 2007, Volkswagen 2006, 2007. In addition I describe how I collected the compensation components for the placebo regression in non-event years. For the post-event year regression I have gathered data of 106 salary changes, spanning 20 firm-years. In particular, I collected them for Allianz 2007, 2008, Bayer 2008, Commerzbank 2007, Deutsche Bank 2004, 2006, Deutsche Post 2006, E-ON 2006, 2007, Lufthansa 2008, RWE 2006, SAP 2004, 2008, ThyssenKrupp 2007, 2008, Tui 2006, 2007, Volkswagen 2006, 2007, 2008. For the pre-event year regression I used 81 manager salary changes of 17 firm-years. Those are Bayer 2006, Commerzbank 2005, 2006, Deutsche Bank 2004, 2005, 2006, E-ON 2005, Lufthansa 2006, RWE 2004, 2005, 2006, SAP 2006, Siemens 2006, ThyssenKrupp 2004, 2006, Tui 2005 and Volkswagen 2006.

### Allianz (2006-2008):

The salary information for the executives of Allianz SE comes from the annual reports of 2006 to 2008 of Allianz SE. Those salaries only refer to the compensation paid by the Allianz SE and not by the Allianz group. The fixed compensation refers to ‘Fixed salary’, benefits to ‘Perquisites’ and the latter include travel expenses. The short-term bonus corresponds to the bonus actually paid out in the fiscal year 2008, 2007 and 2006, respectively. For the long-term bonus (‘Three-year Bonus’) I use the pro rata value that corresponds to 2008 (2007, 2006), as depicted in the annual report. For the share-based compensation I use the value of the instruments (Stock Appreciation Rights, SAR and Restricted Stock Units, RSU) granted in 2008 (2007, 2006), even though they have a vesting period of two years (SAR) and five years (RSU), respectively. The compensation does not include salaries for board memberships in other companies. Allianz SE states that compensation for inhouse board mandates are to be paid back, while compensation for outside board mandates needs to be partly (50%) paid to Allianz.

### Bayer (2005-2008):

The salary information for the executives of Bayer AG comes from the group management report of the annual reports 2005 to 2008. I use as the fixed salary the ‘Base salary’, whereas benefits

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<sup>27</sup>Note that the observation of, for example, Allianz 2007 requires data gathering in 2006 and 2007 for Allianz SE

comprises of the 'Fixed supplement' and 'Remuneration in kind and other benefits'. The short-term bonus is captured by 'Short-term incentive'. Regarding the share-based compensation I collect the 'Fair value of newly granted stock-based compensation as of grant date'. I do not use the change in value of existing positions of share-based compensation that refers to a long-term compensation.

#### Commerzbank (2004-2007):

The salary information for the executives of Commerzbank comes from the annual reports 2004 to 2007. In all annual reports short-term compensation refers to 'Variable remuneration (compensation)'. In the annual reports of 2006 and 2007 the payments made because of consolidated subsidiaries are settled with the variable compensation. For 2006 and 2007 I collect the fixed salary as the 'Basic salary', while for benefits I use the 'Other' item. I do not consider payouts from the long-term performance plans (LTP). Instead I collect the 'attributable fair value when the shares were granted' for the LTP 2007 and for 2006, respectively. It equals the share-based compensation. The Commerzbank explains that 'In the appropriate cases, the remuneration of individual members of the Board of Managing Directors includes the fees paid for serving on the boards of consolidated subsidiaries' (2004 and similarly for 2005). For 2005 the fixed salary is called the 'Fixed salary'. I approximate benefits by dividing the depicted sum of 651 kEUR by the total number of executives in that fiscal year. For 2005 I assign the fair value to the LTP. For 2004 the compensation is collected on accrual basis and not by 'cash method'. Fixed salary is 'fixed salary'. Regarding benefits I divide the sum of 843 kEUR of 'remuneration in kind' by the number of executives. The bank also states that there is a 2000-2004 long-term performance plans, but I fail to assign a fair value because of a lack of information. Hence, I set it to 0.

#### Deutsche Bank (2002-2006):

The salary information for the executives of Deutsche Bank comes from the annual reports 2003 to 2006 as well as from the corporate governance report in 2002. For 2002 the fixed compensation corresponds to the 'Fixed Salary', whereas the short-term bonus is the 'Cash Bonus'. For the benefits I use the sum of 'Other remuneration' (672 kEUR) and divide it by number of executives. I omit the share-based compensation since there is no fair value as of granting date. Regarding 2003 the fixed compensation is captured by 'Salary', the short-term by 'Cash Bonus/cash MTI', while benefits are the sum of 'Other remuneration' (762 kEUR) divided by the number of executives. As for 2002 I omit for 2003 the share-based compensation. For 2005 and 2004 the fixed compensation equals the 'Salary' and short-term the 'Cash bonus/cash MTI', respectively. For the share-based compensation I use the variable 'Equity-based MTI' which corresponds to the value of share-based awards. Concerning the benefits I divide the 'Other remuneration' by the number of executives. For 2006 the fixed salary is 'Salary', benefits are depicted on an individual basis as 'Other benefits',

short-term bonus is 'Performance-related components' and share-based components are 'Components with long-term incentives'. The Deutsche Bank states for 2006 that 'Management Board members did not receive any compensation for mandates on boards of our Group's own companies'.

#### Deutsche Post (2005-2006):

The salary information for the executives of Deutsche Post comes from the annual financial statement of Deutsche Post AG 2005 to 2006 and show only the remuneration paid by the Deutsche Post AG, not from other group companies. The fixed salary is taken from the 'Fixed component', whereas the short-term compensation is the 'Bonus'. For 2006 I take for the share-based compensation the 'Value 2006 of allocated SO/SAR'. The benefits are captured by 'Ancillary benefits'. For 2005 I use as share-based compensation the 'Value of allocated stock options 2005'. The benefits are captured by 'Ancillary benefits' (150 kEUR) which I distribute equally to all executives.

#### E-ON (2004-2007):

The salary information for the executives of E-ON stems from the annual reports 2004 to 2007. In the fiscal years 2004 to 2006 fixed salary is 'Fixed annual compensation', the short-term bonus is equivalent to 'Annual bonus'. I proxy the benefits by dividing 'Other compensation' of 500 kEUR by the number of executives. For the share-based compensation I use the stock appreciation rights (SAR) granted to each corporate executive. As a value per SAR I take the expense (23.9 m EUR) for the 6th (2004) tranche divided by the number of SARs issued to all employees (2.4 m). For the share-based compensation in 2005 I use the 'Fair value of the 7th tranche SAR granted'. For 2006 the share-based compensation is captured by the 'Fair value of the 1th tranche of performance rights'. I exclude the reimbursement for a long-term compensation contract concerning a former employer. For 2007 (not for fiscal year 2007) fixed salary is proxied by 'Base pay', short-term salary by 'Bonus', benefits by 'Other emoluments' and share-based compensation by 'Value of performance rights granted'.

#### Lufthansa (2005-2008):

The salary information for the executives of Lufthansa stems from the annual reports 2005 to 2008. In all reports, fixed salary refers to 'Basic salary', short-term bonus to 'Variable remuneration' or 'Bonus' (for 2005). Benefits are gathered from 'Other' which include the 'non-cash benefits of using company cars, discount granted in connection with option programme issues, benefits from concessionary travel etc.'. This item also includes fees paid in connection to supervisory board mandates at subsidiaries. I proxy the share-based compensation by 'total fair value of the 2008 option programme', by 'total fair value of the 2007 option programme' and by 'the total market value of the 2006 option programme', respectively. For the fiscal year 2005 I fail to find a fair value

for the option programme, hence, I set it to '0'. The bonus payments for 2006 in the annual report of 2006 do not correspond to the bonus payments as depicted in the annual report 2007 for the same year. However, I decide to use the latter.

#### RWE (2003-2006):

The salary information for the executives of RWE stems from the annual reports 2003 to 2006. For 2003 fixed salary is 'Fixed compensation', short-term bonus is 'Variable compensation'. Since I fail to determine a fair value for the stock options granted, I assign for stock-based compensation '0'. For benefits I distribute equally the depicted sum of 166 kEUR for 'non-cash emoluments'. RWE states that 'In accordance with their contracts, these payments [for the exercise of Supervisory Board mandates at subsidiaries] will be credited to them in 2004 together with the variable component'. For 2004 fixed salary is captured by 'Fixed compensation in 2004', short-term bonus refers to 'Variable compensation in 2004'. I assign to share-based compensation a 0, since I cannot determine the value of the stock option plan. Regarding benefits I divide the sum of 195 kEUR by the number of executives. I do not consider the retroactive variable compensation for 2003. Regarding compensation from mandates held in subsidiaries RWE states that this compensation will be credited in 2004 to them. For 2005 as well as for 2006 fixed salary is 'Fixed compensation', short-term bonus is 'Variable compensation' and benefits refer to 'Non-cash and other remuneration'. According to the annual report which states that fees for exercising mandates at affiliates are set off variable compensation, I add the 'payment for exercise of mandates' to the 'Variable compensation'. For the share-based compensation I use the 'Fair value upon grant' for the 2005 Beat tranche and for the fiscal year 2006 the Beat 2006 fair value, respectively.

#### SAP (2002-2008):

The salary information for the executives of SAP stems from the annual reports 2002 to 2008. For 2002 and 2003 fixed salary, the short-term bonus as well as benefits are depicted jointly. Regarding the share-based compensation for 2002, I use the number of convertible bonds and stock options assigned during the fiscal year 2002 under the LTI 2000 plan multiplied by the fair value at grant date. For the share-based compensation in 2003 I use the fair value at grant date of the stock options under the SAP SOP 2002. For 2004 fixed salary is 'Salary', short-term compensation 'Directors' profit sharing' and the item benefits refers to 'Others' ('payout pension contributions, insurance contributions, non-cash benefits (company cars)'). For the share-based compensation I multiply the stock options granted under SAP SOP 2002 by the fair value of 43.61 EUR. For 2005 I use 'Salary' for fixed, 'Directors profit sharing' for short-term compensation, and 'Others' for benefits. As share-based I use the item 'Stock Options' which is described as the 'fair value of SAP SOP 2002 at the time of grant'. The item 'Others' is defined as 'Retirement pension

plan contributions, insurance contributions, benefits in kind, compensation from seats on other governing bodies in SAP group'. For 2006 to 2008 the fixed salary refers to 'Salary', benefits to 'Other' (which includes besides of benefits in kind also fees associated with mandates in the SAP group) and short-term compensation to 'Performance-related compensation Directors' profit sharing'. For 2006 the share-based compensation refers to the sum of 'Regular long-term incentive elements stock-based compensation (SAP SOP 2002)' and 'Nonrecurring long-term incentive element Stock-based compensation (Incentive Plan 2010)'. Both items are shown as 'Fair value at the time of allocation'. For 2007 it equals the 'Regular Long-Term Incentive Elements Share-based compensation (SAP SOP 2007)'. For 2008 share-based compensation equals 'Long-Term Incentive Elements Share-Based Compensation (SAP SOP 2007)' and corresponds to the fair value at grant date.

#### Siemens (2005-2007):

The salary information for the executives of Siemens stems from the annual reports 2005 and 2007, respectively. For all fiscal years the fixed salary refers to 'Salary', short-term compensation to 'Annual bonus', long-term compensation to 'LT bonus', benefits to 'Other' and share-based compensation to 'Fair value of stock-based compensation'.

#### ThyssenKrupp (2003-2008):

The salary information for the executives of ThyssenKrupp stems from the annual reports 2003 to 2008. In all fiscal years, fixed salary is 'Fixed salary' and short-term compensation refers to 'Bonus'. For 2008 to 2006 benefits refer to '(Value of) Additional benefits', which includes 'the tax value of real property, related incidental costs and the use of Company cars'. For 2008 and 2007 share-based compensation refers to the MTI rights granted in fiscal year and for 2006 to the 'Rights granted in fiscal year under 4th MTI installment', respectively. For 2005 I use the value of the 3rd installment of the MTI at grant date and not the payouts caused by the LTMI. The benefits are capture by 'Non-cash benefits'. For 2004 and 2003 I fail to determine the value of the stock appreciation rights granted. Hence, I set both components to 0 and I assign the 'non-cash benefits' to benefits by dividing the total sum of 826.4 kEUR for 2004 and 547,5 kEUR for 2003 equally to each executive, respectively.

#### Tui (2004-2007):

The salary information for the executives of Tui stems from the Financial Statements of Tui AG 2004 to 2007. For 2004 fixed salary is 'Fixed compensation', short-term bonus refers to 'Performance-related remuneration'. For 2005 to 2007, fixed salary is 'Non-performance related compensation' and short-term bonus refers to 'Performance-related compensation'. For all statements there are

no benefits described and share-based components are captured by the item ‘Long-term incentive programme’.

Volkswagen (2005-2008):

The salary information for the executives of Volkswagen stems from the annual reports of 2005 to 2008. For fixed salary, I use the item ‘Fixed’. This item also includes ‘appointments at Group companies and non-cash benefits’, while short-term compensation refers to ‘Variable’. For the share-based compensation I use the options contributed and value them with the fair value (and not the subscription price of 2.56 EUR) per convertible bond of the corresponding tranche.

Company	2001	2002	2003	2004	2005	2006	2007	2008
ADIDAS	no	no	no	no	yes	yes	yes	yes
ALLIANZ	no	no	no	yes	yes	yes	yes	yes
ALTANA	no	yes	yes	yes	yes	yes	yes	yes
BASF	no	no	no	no	no	yes	yes	yes
BAYER	no	yes	yes	yes	yes	yes	yes	yes
BMW	no	no	no	no	no	yes	yes	yes
COMMERZBANK	no	no	CEO	yes	yes	yes	yes	yes
CONTINENTAL	no	no	no	yes	yes	yes	yes	yes
DAIMLER	no	no	no	no	no	yes	yes	yes
DEUTSCHE BANK	no	yes	yes	yes	yes	yes	yes	yes
DEUTSCHE BÖRSE	no	yes	yes	yes	yes	yes	yes	yes
DEUTSCHE POST	no	no	yes	yes	yes	yes	yes	yes
DEUTSCHE TELEKOM	no	no	yes	yes	yes	yes	yes	yes
EON	no	no	no	yes	yes	yes	yes	yes
FMC	no	no	no	no	no	yes	yes	yes
HENKEL	no	no	no	no	no	yes	yes	yes
INFINEON	no	no	no	no	CEO	yes	yes	yes
LINDE	no	no	no	no	no	yes	yes	yes
LUFTHANSA	no	no	no	yes	yes	yes	yes	yes
MAN	no	no	no	CEO	CEO	yes	yes	yes
METRO	no	no	no	yes	yes	yes	yes	yes
MÜNCHNER RÜCK	no	no	no	no	no	yes	yes	yes
RWE	no	no	yes	yes	yes	yes	yes	yes
SAP	no	yes	yes	yes	yes	yes	yes	yes
SCHERING	n/a	CEO	CEO	yes	n/a	n/a	n/a	n/a
SIEMENS	no	no	no	yes	yes	yes	yes	yes
THYSSEN KRUPP	no	yes	yes	yes	yes	yes	yes	yes
TUI	no	no	no	yes	yes	yes	yes	yes
VOLKSWAGEN	no	no	no	CEO	yes	yes	yes	yes

Table 1: **Individual Compensation Disclosure for DAX companies, 2001-2008**

This table shows for which fiscal years DAX companies individually disclose for each corporate executive her compensation package. The entry 'CEO' indicates that only the CEO compensation is available.

MDAX Company	2001	2002	2003	2004	2005	2006	2007	2008
AAREAL	no	no	no	no	yes	yes	yes	yes
BILFINGER	no	no	no	yes	yes	yes	yes	yes
CELESIO	no	no	no	no	no	no	no	no
DEUTSCHE EUROSHOP	n/a	yes	yes	yes	yes	yes	yes	yes
FRAPORT	no	no	yes	yes	yes	yes	yes	yes
GEA(until 2004 mg technologies)	n/a	n/a	n/a	no	yes	yes	yes	yes
GILDEMEISTER	no	no	no	no	yes	yes	yes	yes
HANNOVER RÜCK	no	no	no	no	no	no	no	no
HEIDELBERGER DRUCKMASCHINEN	no	no	no	no	yes	yes	yes	yes
HOCHTIEF	no	no	no	CEO	yes	yes	yes	yes
IVG IMMOBILIEN	no	no	no	yes	yes	yes	yes	yes
K+S	no	no	no	no	no	yes	yes	yes
KRONES	n/a	n/a	n/a	no	no	no	no	no
LANXESS	n/a	n/a	n/a	n/a	yes	yes	yes	yes
LEONI	no	no	no	no	no	yes	yes	yes
RHEINMETALL	n/a	no	no	no	no	yes	yes	yes
RHÖN-KLINIKUM	no	no	yes	yes	yes	yes	yes	yes
SALZGITTER	no	no	no	no	yes	yes	yes	yes
SYMRISE	n/a	n/a	n/a	n/a	n/a	yes	yes	yes
TOGNUM	n/a	n/a	n/a	n/a	n/a	no	yes	yes

Table 2: **Individual Compensation Disclosure for selected MDAX companies, 2001-2008**

This table shows for which fiscal years selected MDAX companies individually disclose for each corporate executive her compensation package. I include only 2006/2007-MDAX companies in which at least one DAX manager had a supervisory board mandate over the sample period. The entry CEO indicates that only the CEO compensation is available. Unfortunately, I could not find an annual report for Deutsche Euroshop for 2001. Some information for LANXESS and Tognum is missing as well, because LANXESS was created as a spin-off from Bayer in 2004 and Tognum was founded in 2006. Symrise went public in 2006



	Median	Mean	S.D.	Quartile 1	Quartile 3	Obs.
MKTCAP[Million EUR]	30364.37	33345.16	23308.50	13680.26	47671.95	54
EPSEXCON	2.92	4.18	4.09	1.62	4.83	53
EPSINCON	2.82	4.14	4.35	1.69	5.02	54
$\Delta$ MKTCAP [%]	20.06	18.42	33.88	-1.48	39.05	54
$\Delta$ EPSEXCON [%]	16.30	31.52	89.61	-1.48	69.58	52
FYRET [%]	18.47	18.36	34.54	-1.94	39.88	54

Table 3: **Summary Statistics Sample Firms, 2002-2008**

This table shows us the summary statistics for the DAX company-years in my final sample, 2002-2008. The variables *EPSEXCON* stands for the earnings per share excluding extraordinary items, whereas *EPSINCON* includes these items. The term *MKTCAP* refers to the market capitalization in million EUR. The variable  $\Delta$ *MKTCAP* and  $\Delta$ *EPSEXCON* shows us the year to year changes in market capitalization and earnings per share, respectively. The term *FYRET* refers to the fiscal year stock return.

	Median	Mean	S.D.	Quartile 1	Quartile 3	Obs.
<i>FXSAL</i>	680.00	703.46	359.75	480.00	800.00	326
<i>BENEFITS</i>	41.49	67.14	78.20	18.10	92.00	326
<i>STSAL</i>	1238.50	1384.07	1016.44	782.15	1700.00	326
<i>LTSHSAL</i>	480.40	705.30	859.55	87.00	1000.00	326
<i>TOTSAL</i>	2589.15	2859.97	1577.19	1891.00	3497.00	326
$\Delta TOTSAL$ [%]	7.81	14.79	39.26	-7.73	24.45	218
$\Delta VARSAL$ [%]	11.11	30.36	79.02	-8.39	32.85	218
$\Delta FSAL$ [%]	2.78	7.40	33.42	0.00	10.02	218

Table 4: **Summary Statistics Corporate Executive Compensation of Final Sample Firms, 2002-2008**

This table shows us the summary statistics of the salary components for each corporate executive in my final sample. The variable *FXSAL* describes the fixed compensation, whereas *BENEFITS* stands for the expenses for companies cars, insurances and similar things. The component *STSAL* refers to the short-term bonus payment and *LTSHSAL* is the sum of long-term and share-based compensation. The sum of all these components is depicted by *TOTSAL*. All the latter entries are in thousand EUR. The variables  $\Delta TOTSAL$ ,  $\Delta VARSAL$  and  $\Delta FSAL$  describe in percentage the change in the total salary, the variable salary, and the fixed salary (including benefits), respectively. The variable salary is defined as the sum of short-term, long-term and share-based compensation.

	Median	Mean	S.D.	Quartile 1	Quartile 3	Obs.
<b>TRANSPARENCY = 1</b>						
<b>PRE-EVENT</b>						
TOTSAL	2178.92	2594.33	1183.99	1739.94	3253.84	84
VARSAL	1568.65	1893.21	1109.24	1129.21	2488.50	84
FSAL	654.45	701.12	239.87	561.38	830.98	84
<b>EVENT</b>						
TOTSAL	2661.20	2841.33	1156.14	2035.50	3549.30	84
VARSAL	1867.00	2054.88	1037.61	1303.15	2715.30	84
FSAL	713.50	786.45	381.32	571.23	839.50	84
<b>TRANSPARENCY = 0</b>						
<b>PRE-EVENT</b>						
TOTSAL	2925.06	3628.35	2121.37	2227.13	3974.84	28
VARSAL	1898.28	2714.61	2025.32	1460.76	2941.68	28
FSAL	885.40	913.73	211.49	779.78	1094.65	28
<b>EVENT</b>						
TOTSAL	3357.00	4012.27	2143.33	2745.16	5063.00	28
VARSAL	2342.10	2980.93	1997.24	1887.47	3343.50	28
FSAL	975.70	1031.34	508.49	811.36	1102.05	28

Table 5: **Summary Statistics Corporate Executive Compensation Around Event-Years**  
This table shows us the summary statistics of the salary components for corporate executives for the two groups around the event-year. The group *TRANSPARENCY* = 1 corresponds to managers who do not have a board mandate in the company that discloses for the first time in the event-year and *TRANSPARENCY* = 0 describes managers who have a mandate. The variable *TOTSAL* equals the sum of fixed salary, benefits, short-term bonus, share-based compensation and long-term compensation. The term *FSAL* is the sum of fixed compensation and benefits and *VARSAL* refers to the sum of short-term bonus, share-based compensation and long-term bonus. All variables are in kEUR.

	$\Delta TOTSAL_{ity} * 100$			
TRANSPARENCY	5.942 (2.552)**	5.479 (2.429)**	5.390 (2.479)**	4.797 (2.015)**
CONNECT DAXMDAX	1.427 (2.694)	1.362 (2.682)	2.966 (2.261)	
$\Delta$ CONNECT DAXMDAX	1.300 (2.115)		0.719 (2.033)	
PROMOTION O $\rightarrow$ CEO	101.101 (9.169)***	100.949 (9.130)***	103.667 (9.120)***	100.916 (9.089)***
PROMOTION O $\rightarrow$ DEP-CEO	-15.573 (9.445)*	-13.438 (10.217)	-15.661 (8.563)*	-14.531 (9.943)
PROMOTION DEP-O $\rightarrow$ O	156.913 (8.560)***	156.552 (8.507)***	155.283 (8.470)***	156.280 (8.451)***
CEO	3.577 (5.393)	-8.326 (9.049)		-7.449 (8.842)
CFO	-0.015 (5.603)	-11.645 (8.910)		-11.018 (8.784)
DEP-CEO		-11.079 (10.194)		-9.723 (9.794)
DEP-OFFICER	12.231 (10.403)			
OFFICER	-0.567 (5.489)	-12.437 (8.507)		-12.164 (8.451)
Constant	9.019 (6.615)	21.361 (8.889)**	9.288 (2.729)***	21.990 (8.762)**
Fixed-Effects	Firm-Year	Firm-Year	Firm-Year	Firm-Year
Observations	112	112	112	112
$R^2$	0.86	0.859	0.85	0.859
$F$ statistic	49.075	54.908	79.588	62.303

Table 6: **Main Regression Results for Event-Years**

I estimate  $\Delta TOTSAL_{ity} = \rho_{ty} + \beta_1 TRANSPARENCY + \gamma \Gamma_{ity} + \epsilon_{ity}$ , in which  $\Delta TOTSAL_{ity}$  refers to the total salary change from the previous fiscal year to the current fiscal year. The indicator variable  $TRANSPARENCY$  is 1 if the manager does **not** possess a supervisory board mandate in the current and previous fiscal year for the firm that started to disclose in the previous fiscal year. Otherwise the variable is 0. Hence, the estimate  $\beta_1$  refers to the causal estimate of disclosure on total compensation. I only include firm-year observations, for which I have at least one corporate executive with  $TRANSPARENCY = 0$  and one with  $TRANSPARENCY = 1$ . The variable  $CONNECTDAXMDAX$  equals 1 if the manager has at least one board mandate in a DAX or MDAX company, whereas  $\Delta CONNECTDAXMDAX$  stands for the change in the number of mandates in comparison to the previous year. The promotion variables equal 1 if the manager got promoted in the current fiscal year. The executive positions are, mostly, self-explanatory;  $DEP$  stands for deputy. Asterisks indicate significance at the 10%(\*), 5%(\*\*), and 1%(\*\*\*) level, respectively.

	$\Delta TOTSAL_{ity} * 100$			
TRANSPARENCY	-0.058 (4.778)	-0.512 (4.590)	0.511 (4.601)	1.522 (3.531)
CONNECT DAXMDAX	-2.988 (5.440)	-3.598 (5.154)	-0.297 (4.630)	
$\Delta$ CONNECT DAXMDAX	-1.480 (3.928)		-2.264 (3.697)	
PROMOTION (n/a)				
CEO	2.187 (9.980)	2.919 (9.716)		3.330 (9.656)
CFO	-3.551 (10.309)	-3.267 (10.205)		-2.071 (10.016)
DEP-CEO				
DEP-OFFICER	3.366 (13.599)	3.848 (13.438)		6.342 (12.898)
OFFICER	-2.633 (9.675)	-2.055 (9.482)		-0.224 (9.072)
Constant	30.823 (11.663)***	30.818 (11.576)***	27.649 (5.181)***	26.302 (9.558)***
Fixed-Effects	Firm-Year	Firm-Year	Firm-Year	Firm-Year
Observations	81	81	81	81
$R^2$	0.043	0.04	0.008	0.032
$F$ statistic	0.364	0.407	0.165	0.395

Table 7: **Placebo Regression Results for Pre-Event Years**

I reestimate  $\Delta TOTSAL_{ity} = \rho_{ity} + \beta_1 TRANSPARENCY + \gamma \Gamma_{ity} + \epsilon_{ity}$ , in which  $\Delta TOTSAL_{ity}$  refers to the total salary change from the previous fiscal year to the current fiscal year. The indicator variable  $TRANSPARENCY$  is 1 if the manager does **not** possess a supervisory board mandate in the current and previous fiscal year for the firm that started to disclose in the **current** fiscal year. Otherwise the variable is 0. Hence, the estimate  $\beta_1$  refers to the causal estimate of disclosure on total compensation. I only include firm-year observations, for which I have at least one corporate executive with  $TRANSPARENCY = 0$  and one with  $TRANSPARENCY = 1$ . The variable  $CONNECTDAXMDAX$  equals 1 if the manager has at least one board mandate in a DAX or MDAX company, whereas  $\Delta CONNECTDAXMDAX$  stands for the change in the number of mandates in comparison to the previous year. In the examined fiscal years there was no promotion. The executive positions are, mostly, self-explanatory;  $DEP$  stands for deputy. Asterisks indicate significance at the 10%(\*), 5%(\*\*), and 1% (\*\*\*) level, respectively.

	$\Delta TOTSAL_{ity} * 100$			
TRANSPARENCY	-2.517 (4.070)	-3.452 (4.025)	-3.230 (3.780)	-0.858 (3.693)
CONNECT DAXMDAX	-3.803 (4.229)	-6.036 (3.888)	-1.525 (3.593)	
$\Delta$ CONNECT DAXMDAX	-5.391 (4.115)		-5.783 (4.026)	
PROMOTION DEP-CEO $\rightarrow$ CEO	18.879 (17.769)	18.480 (17.847)	22.096 (13.233)*	24.413 (17.586)
PROMOTION O $\rightarrow$ CEO	98.326 (14.436)***	98.489 (14.501)***	99.838 (14.158)***	99.377 (14.617)***
CEO	1.781 (4.846)	1.978 (4.865)		0.999 (4.867)
CFO				
DEP-CEO	-0.871 (10.161)	0.647 (10.140)		-1.404 (10.142)
DEP-OFFICER				
OFFICER	-2.942 (3.892)	-3.232 (3.903)		-1.226 (3.715)
Constant	6.401 (5.991)	7.805 (5.921)	4.361 (4.187)	2.047 (4.655)
Fixed-Effects	Firm-Year	Firm-Year	Firm-Year	Firm-Year
Observations	106	106	106	106
$R^2$	0.441	0.429	0.431	0.411
$F$ statistic	7.689	8.465	12.279	9.31

Table 8: **Placebo Regression Results for Post-Event Years**

I reestimate  $\Delta TOTSAL_{ity} = \rho_{ty} + \beta_1 TRANSPARENCY + \gamma \Gamma_{ity} + \epsilon_{ity}$ , in which  $\Delta TOTSAL_{ity}$  refers to the total salary change from the previous fiscal year to this fiscal year. The indicator variable  $TRANSPARENCY$  is 1 if the manager does **not** possess a supervisory board mandate in the **second** and first fiscal year after the firm for which he possesses the mandate started to disclose. Otherwise the variable is 0. Hence, the estimate  $\beta_1$  refers to the causal estimate of disclosure on total compensation. I only include firm-year observations, for which I have at least one corporate executive with  $TRANSPARENCY = 0$  and one with  $TRANSPARENCY = 1$ . The variable  $CONNECTDAXMDAX$  equals 1 if the manager has at least one board mandate in a DAX or MDAX company, whereas  $\Delta CONNECTDAXMDAX$  stands for the change in the number of mandates in comparison to the previous year. The promotion variables equal 1 if the manager got promoted in the current fiscal year. The executive positions are, mostly, self-explanatory;  $DEP$  stands for deputy. Asterisks indicate significance at the 10%(\*), 5%(\*\*), and 1%(\*\*\*) level, respectively.

EXCLUDING	TRANSPARENCY ESTIMATE	T-VALUE	OBS
ALLIANZSE	6.98	2.81	101
BAYERAG	6.50	2.44	109
COMMERZBANK	5.83	2.11	99
DEUTSCHEBANK	6.66	2.36	104
E-ON	5.74	2.10	102
LUFTHANSA	5.91	2.29	110
RWE	5.63	2.05	105
SAP	5.24	2.06	100
SIEMENS	4.84	1.96	105
THYSSENKRUPP	6.37	2.15	91
TUI	4.96	1.93	102
VOLKSWAGEN	6.61	2.39	104

Table 9: **Sensitivity of Main Results**

Each row shows the  $\beta_1$  estimate of equation  $\Delta TOTSAL_{ity} = \rho_{ty} + \beta_1 TRANSPARENCY + \gamma \Gamma_{ity} + \epsilon_{ity}$ , in which I exclude one sample firm. The term  $\Delta TOTSAL_{ity}$  refers to the total salary change from the previous fiscal year to the current fiscal year. In each regression I include firm-year fixed effects and all sets of covariates as used in the regression shown in column 1 of Table 6. The indicator variable  $TRANSPARENCY$  is 1 if the manager does **not** possess a supervisory board mandate in the current and previous fiscal year for the firm that started to disclose in the previous fiscal year. Otherwise the variable is 0. Hence, the estimate  $\beta_1$  refers to the causal estimate of disclosure on total compensation. I only include firm-years, for which I have at least one corporate executive with  $TRANSPARENCY = 0$  and one with  $TRANSPARENCY = 1$ . For more details and a description of the control variables  $\Gamma_{ity}$  see Table 6.

	$\Delta FSAL_{ity} * 100$		$\Delta VARSAL_{ity} * 100$	
TRANSPARENCY	1.955 (1.560)	1.786 (1.497)	11.222 (5.076)**	9.762 (4.900)**
CONNECT DAXMDAX	0.045 (1.657)	-0.126 (1.359)	8.159 (5.391)	10.024 (4.449)**
$\Delta$ CONNECT DAXMDAX	3.106 (1.289)**	2.950 (1.222)**	-1.717 (4.194)	-3.195 (4.000)
PROMOTION O $\rightarrow$ CEO	48.498 (5.582)***	49.057 (5.466)***	125.770 (18.160)***	130.784 (17.893)***
PROMOTION O $\rightarrow$ DEP-CEO	10.476 (5.740)*	12.119 (5.129)**	-14.320 (18.672)	-16.995 (16.791)
PROMOTION DEP-O $\rightarrow$ O	161.790 (5.201)***	161.966 (5.073)***	150.912 (16.920)***	148.235 (16.608)***
CEO	-1.703 (3.285)		9.720 (10.686)	
CFO	-3.846 (3.418)		2.078 (11.118)	
DEP-CEO				
DEP-OFFICER	-2.841 (6.333)		22.451 (20.603)	
OFFICER	-1.468 (3.347)		2.696 (10.889)	
Constant	3.553 (4.040)	1.940 (1.652)	12.926 (13.141)	17.382 (5.409)***
Fixed-Effects	Firm-Year	Firm-Year	Firm-Year	Firm-Year
Observations	106	106	106	106
$R^2$	0.936	0.934	0.664	0.646
$F$ statistic	110.423	185.741	14.821	24.01

Table 10: **Compensation Components Changes in Event-Year**

I estimate  $\Delta FSAL_{ity} = \rho_{ty} + \beta_1 TRANSPARENCY + \gamma \Gamma_{ity} + \epsilon_{ity}$  and  $\Delta VARSAL_{ity} = \rho_{ty} + \beta_1 TRANSPARENCY + \gamma \Gamma_{ity} + \epsilon_{ity}$ , in which  $\Delta FSAL_{ity}$  refers to the fixed salary (including benefits) change from the previous fiscal year to the current fiscal year. With  $\Delta VARSAL_{ity}$  I describe the fiscal year changes of the sum of short-term, long-term and share-based compensation. The share-based compensation refers only to the value of new instruments granted. The indicator variable  $TRANSPARENCY$  is 1 if the manager does **not** possess a DAX supervisory board mandate in the current and last fiscal year of the firm that started to disclose in the last fiscal year. Otherwise the variable is 0. Hence, the estimate  $\beta_1$  refers to the causal estimate of disclosure on total compensation. I only include firm-year observations, for which I have at least one corporate executive with  $TRANSPARENCY = 0$  and one with  $TRANSPARENCY = 1$ . The variable  $CONNECTDAXMDAX$  equals 1 if the manager has at least one board mandate in a DAX or MDAX company, whereas  $\Delta CONNECTDAXMDAX$  stands for the change in the number of mandates in comparison to the previous year. The promotion variables equal 1 if the manager got promoted in the current fiscal year. The executive positions are, mostly, self-explanatory;  $DEP$  stands for deputy. Asterisks indicate significance at the 10%(\*), 5%(\*\*), and 1%(\*\*\*) level, respectively. I exclude from my analysis the SAP AG for the fiscal year 2002, 2003 and 2004 since in the fiscal years 2002 and 2003 the short-term and fixed compensation were not disclosed separately. Hence, the sample size is smaller than in Table 6.



	$\Delta TOTSAL_{ity} * 100$			
$TRANSPARENCY_{DAX}$	8.961 (2.918)***	8.070 (2.753)***	6.488 (2.700)**	7.504 (2.431)***
$TRANSPARENCY_{MDAX}$	-0.167 (3.931)	-0.414 (3.919)	2.341 (3.869)	-1.054 (3.629)
CONNECT DAXMDAX	1.261 (2.645)	1.178 (2.641)	3.144 (2.267)	
$\Delta$ CONNECT DAXMDAX	1.949 (2.101)		0.823 (2.035)	
PROMOTION O $\rightarrow$ CEO	101.098 (8.998)***	100.876 (8.987)***	104.280 (9.136)***	100.847 (8.942)***
PROMOTION O $\rightarrow$ DEP-CEO	-13.923 (9.305)	-11.977 (10.086)	-15.845 (8.562)*	-12.907 (9.819)
PROMOTION DEP-O $\rightarrow$ O	155.898 (8.416)***	155.441 (8.394)***	155.011 (8.471)***	155.197 (8.334)***
CEO	8.134 (5.755)	-5.118 (9.066)		-4.333 (8.849)
CFO	2.712 (5.663)	-10.011 (8.812)		-9.455 (8.680)
DEP-CEO		-11.723 (10.040)		-10.559 (9.646)
DEP-OFFICER	13.499 (10.229)			
OFFICER	1.716 (5.504)	-11.326 (8.394)		-11.082 (8.334)
Constant	3.722 (8.135)	17.927 (9.836)*	5.812 (5.436)	19.076 (9.445)**
Fixed-Effects	Firm-Year	Firm-Year	Firm-Year	Firm-Year
Observations	112	112	112	112
$R^2$	0.867	0.865	0.852	0.865
$F$ statistic	46.692	51.365	68.411	57.62

Table 11: **DAX vs. MDAX Information in Event-Year**

I estimate  $\Delta TOTSAL_{ity} = \rho_{ty} + \beta_1 TRANSPARENCY_{DAX} + \beta_1 TRANSPARENCY_{MDAX} + \gamma \Gamma_{ity} + \epsilon_{ity}$ , in which  $\Delta TOTSAL_{ity}$  refers to the total salary change from the previous fiscal year to the current fiscal year. The indicator variable  $TRANSPARENCY_{DAX}$  is 1 if the manager does **not** possess a DAX supervisory board mandate in the current and last fiscal year of the firm that started to disclose in the last fiscal year. Otherwise the variable is 0. Hence, the estimate  $\beta_1$  refers to the causal estimate of disclosure on total compensation. The variable  $TRANSPARENCY_{MDAX}$  is the very same for the MDAX company for which one of his colleagues has a board mandate and which disclosed in the previous fiscal year for the first time. I only include firm-year observations, for which I have at least one corporate executive with  $TRANSPARENCY_{DAX} = 0$  or  $TRANSPARENCY_{MDAX} = 0$  and one with  $TRANSPARENCY_{DAX} = 1$  or  $TRANSPARENCY_{MDAX} = 1$ . The variable  $CONNECTDAXMDAX$  equals 1 if the manager has at least one board mandate in a DAX or MDAX company, whereas  $\Delta CONNECTDAXMDAX$  stands for the change in the number of mandates in comparison to the previous year. The promotion variables equal 1 if the manager got promoted in the current fiscal year. The executive positions are, mostly, self-explanatory; *DEP* stands for deputy. Asterisks indicate significance at the 10%(\*), 5%(\*\*), and 1%(\*\*\*) level, respectively.