IMPACT OF OWNERSHIP AND PAY STRUCTURE ON VOLUNTARY REMUNERATION REPORTING: EVIDENCE FROM GERMANY

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Abstract

Based on the global debate on the development of executive pay as well as the lack of transparent information that has prompted the implementation of far-reaching legal reforms, this paper aims to determine the quality of voluntary remuneration reporting of top management in Germany. To investigate the impact of ownership and remuneration structure on voluntary remuneration reporting, an OLS regression analysis is used. To assess the quality of remuneration reporting, we calculate a total score for 160 listed companies on the basis of a scoring model derived from four criteria. The criteria are individualized remuneration disclosure, use of the German Corporate Governance Code model table, information on the say-on-pay vote and on the role of the compensation consultant. This study comes to the result that reporting quality in Germany differs heavily and depends on ownership and remuneration structure. On the one hand, a high share of fixed remuneration shows a significant negative and the existence of family shareholders a simple negative impact on reporting quality. In contrast to this, a high percentage of the free float as well as highly variable compensation influence voluntary remuneration reporting in a positive way. Simultaneously, the company's performance correlates significant negative while company size and leverage ratio show no effect at all. This paper extends upon prior research that has identified determinants of the voluntary individual disclosure of management remuneration in Germany (Andres and Theissen, 2007; Chizema, 2008). The new findings of this paper partly differ from former research and help to derive statements that are more current, comprehensive and go beyond the results of the previous studies. Furthermore, the insights offer implications for firms, theory, and new opportunities regarding future empirical research.

Keywords: Executive Compensation, Reporting Quality, Voluntary Remuneration Disclosure, Ownership Structure, Corporate Governance, Germany

1. INTRODUCTION

Executive pay, its development, and its reporting, which are often collectively perceived to be nontransparent, have been at the center of public and academic debate for quite some time (Schwalbach, 1999). One of the main reasons for this focus may be the rise in management compensation observed worldwide, as this compensation has become increasingly detached from the salary development of average employees. Misguided pay incentives have been identified as one of the causes of the global financial and economic crisis (EUCGF, 2009; Pedell, 2014). In the past, the involvement of companies such as Enron (Peemöller and Hofmann, 2005), and Mannesmann (GFSC, 2005) in scandals involving management compensation has demonstrated significant declines in trust among shareholders and stakeholders (Eulerich et al., 2017).

Such events have prompted various efforts toward heightened legal regulation in Germany as well as at the European level in response to what has been perceived as out-of-proportion and nontransparent pay arrangements for top management (e.g., Hitz and Müller-Bloch, 2015; Behrmann and Sassen, 2017). In the wake of the resultant intensive corporate governance debate, German lawmakers adopted the Executive Board Remuneration Disclosure Act (Gesetz über die Offenlegung der Vorstandsvergütung – VorstOG) in 2005 and the German Act on the Appropriateness of Executive Board Remuneration (Gesetz zur Angemessenheit der Vorstandsvergütung – VorstAG) in 2009, thereby establishing stricter legal requirements for determining management compensation. These acts are applicable to remuneration reporting and disclosure in particular (Winkler and Behrmann, 2016).

German listed companies are characterized by a two-tier board system with supervisory and management board (Velte and Eulerich, 2014). Table 1 summarizes the regulations that govern the determination of and reporting on management board remuneration in Germany. In accordance with the German Stock Corporation Act (AktG), the supervisory board is responsible for determining total management remuneration (Section 87 (1), AktG). With respect to reporting, the German commercial code (HGB) requires that companies report their total management board compensation in the notes to the consolidated financial statements (Section 285 no. 9 a) sentence 1–3, Section 314 (1) no. 6 a) sentence 1–3, HGB). Furthermore, listed companies are obligated to disclose the management board remuneration on an individual basis (Section 285 no. 9 a) sentence 5–8, Section 314 (1) no. 6 a) sentence 5–9, HGB); this means that the total remuneration of each management board member is to be disclosed, including his or her name as well as a detailed representation of the fixed and variable remuneration components.

Table 1. Regulations on management board remuneration in Germany

Approach	*German commercial code (HGB) and German Stock Corporation Act (AktG)*	*German Corporate Governance Code (GCGC)*	*Content*
Determination	Section 87 (1) sentence 1 AktG	clause 4.2.2 (1) sentence 1	The supervisory board shall consider the following in determining the aggregate remuneration of any member of the management board: salary, profit participation, reimbursement of expenses, insurance premiums, commissions, incentive-based compensation promises such as subscription rights and additional benefits of any kind.
	Section 87 (1) sentence 1 AktG	clause 4.2.2 (2) sentence 2 clause 4.2.3 (2) sentence 5	The supervisory board ensures that such aggregate remuneration bears a reasonable relationship to the duties and performance of each member as well as the condition of the company and that it does not exceed standard remuneration without any particular reasons (appropriateness).
	Section 87 (1) sentence 2 AktG	clause 4.2.3 (2) sentence 1	The executive board remuneration has to be oriented towards sustainable corporate performance (sustainability).
	Section 87 (1) sentence 3 1. half-sentence AktG	clause 4.2.3 (2) sentence 3	The calculation basis of variable remuneration components should, therefore, be several years long.
	Section 285 No. 9 a) sentence 1 HGB Section 314 (1) No. 6 a) sentence 1 HGB	clause 4.2.3 (1)	Appropriation of executive board remuneration components.
	Section 120 (4) sentence 1 AktG	-	The shareholders' meeting of a listed company may resolve on the approval of the compensation scheme (say-on-pay vote).
	Section 87 (2) AktG	clause 4.2.3 (2) sentence 4	Reduction of executive board remuneration in case of deterioration of the company's situation.
	Section 87 (1) sentence 3 2. HS AktG	clause 4.2.3 (2) sentence 6	In case of extraordinary developments, the supervisory board shall agree on a possibility of remuneration limitation (Cap).
	-	clause 4.2.2 (3)	Compensation Consultants
Reporting	Section 289a (2) HGB Section 315a (2) HGB	clause 4.2.5 (1)	Statement of the essential features of executive board remuneration within the management report (management compensation reporting).
	Section 285 No. 9 a) sentence 5-8 HGB Section 314 (1) No. 6 a) sentence 5-9 HGB	clause 4.2.4 sentence 1-2	Individualized disclosure of certain executive board remuneration components.
	Section 286 (5) HGB Section 314 (3) HGB	clause 4.2.4 sentence 3	Waiving individualized disclosure of executive board remuneration (Opting Out).
	Section 285 No. 9 a) sentence 1-5 HGB Section 285 No. 9 b) sentence 1-3 HGB Section 314 (1) No. 6 HGB	clause 4.2.5 (1)	Report of executive board remuneration in total within the notes to the financial statements.
	-	clause 4.2.5 (2) clause 4.2.5 (3) sentence 1-2	Appropriation of type and scope as well as representation of executive board remuneration (including model tables).

The same requirements apply to benefit commitments granted to management board members in the event of early or regular termination of their management board activity and to benefit commitments amended during the respective financial year. There is no individual disclosure if the general meeting decides against such disclosure with a three-quarters majority, also known as an "opt-out vote" (Section 286 (5) and Section 314 (3), HGB). Such an exemption from individualized disclosure can be invoked for a maximum of five years. The German Corporate Governance Code (GCGC) consists of several governance-related recommendations. Under a comply-or-explain mechanism (Section 161 (1), AktG) companies have to comply with these recommendations or alternatively have to disclose their non-compliance (Stiglbauer, 2010; Kaspereit et al., 2015). One recommendation is to make use of the codex given model tables for the remuneration report (clause 4.2.5 (3), GCGC).

Transparent and understandable information about executive compensation is important to potential shareholders for investment decisions or to stakeholders to decide to establish business relationships. In addition to mandatory information, voluntary reporting is of particular importance and can help reduce asymmetric information (Hamrouni et al., 2015), that results from agency conflicts (Hassouna et al., 2017). Our study examines the research question of whether and how companies voluntarily report on executive compensation. Additionally, we investigate whether corporate governance factors influence the publicity and quality of reporting. Therefore, we focus on the most important factors ownership and compensation structure. We can assume that companies comply with the entire body of rules governing remuneration reporting that is required by law. In the case of listed companies, this is guaranteed by the fact that they are subject to inspection by an auditor (e.g., Behrmann, 2018; Velte, 2018) and the scrutiny of supervisory authorities (e.g., accounting enforcement). Measuring the quality of remuneration reporting should only consider those elements that are optional or voluntary and which exceed the scope of the legal requirements. Moreover, these elements must be objectively measurable. To assess the quality of reporting, we used a scoring model that considered the following elements as criteria of quality: (1) individualized disclosure of management board remuneration, (2) use of the model tables provided by the German Corporate Governance Code (GCGC), (3) information on the say-on-pay vote (including the results of the vote), and (4) information obtained through a compensation consultant. The aim of this contribution is to determine the quality of reporting on the remuneration of top management in Germany and to analyze the results from an economic perspective. Our empirical study inspects the quality of this disclosure for 160 listed companies in Germany in order to identify factors that determine remuneration reporting.

Our results illustrate that the quality of voluntary remuneration disclosure depends on both the ownership structure and the remuneration structure. Family-owned businesses that perform well and pay their management high fixed salaries tend to display lower-quality remuneration reporting. In contrast, companies with a high percentage of widely held stock (free float) and that are listed on major stock indexes and/or whose remuneration schemes feature a large share of variable components exhibit a positive correlation with reporting quality.

The paper is structured as follows: on the basis of theoretical considerations and empirical studies, section 2 discusses criteria for the quality of remuneration reporting that extend beyond the legal requirements for listed companies. These quality criteria form the foundation of our scoring model. In section 3, we derive our hypotheses. We then present our research design in section 4 and the results of our empirical study in section 5. We conclude with a summary and discussion in section 6.

2. DERIVATION OF QUALITY CRITERIA FOR INCREASING TRANSPARENCY

2.1. Literature review and basic requirements

The majority of previous empirical studies for the German capital market have focused on factors that determine the amount or the structure of management remuneration. Among those factors are those relationships between certain attributes of a company (above all: company size, performance, ownership structure, and other corporate governance features) and the level of management board remuneration (e.g., Fitzroy and Schwalbach, 1990; Schwalbach, 1991; Schwalbach and Graßhoff, 1997; Schmid, 1997; Schwalbach, 1999; Kraft and Niederprüm, 1999; Conyon and Schwalbach, 2000a; Conyon and Schwalbach, 2000b; Elston and Goldberg, 2003; Edwards et al., 2009; Rapp and Wolff, 2010; Schnier, 2011; Fabbri and Marin, 2012; Velte and Eulerich, 2014). With regard to the German capital market, we thus far know very little about the quality of (voluntary) remuneration reporting. Andres and Theissen (2007) and Chizema (2008) examined the relationships between various factors and the disclosure of individual executive pay. Their results show that companies listed on the major German stock indexes are more likely to disclose individual executive pay; this finding is also applicable to companies listed on the New York Stock Exchange (NYSE; Andres and Theissen, 2007). The reasons given for this are the significant amount of public attention that is paid to the major German indexes and the stricter regulations to which listed US companies are subject. Chizema (2008) further demonstrated a positive relationship between the likelihood of individualized disclosure and company size, a high percentage of widely held stock, as well as the existence of state and institutional investors. The latter is explained on the basis of principal-agent theory by the greater influence of institutional investors and their more effective opportunities for control (Elston and Goldberg, 2003; Haid and Yourtoglu, 2006). By contrast, the likelihood of individualized disclosure of management remuneration declines with increasing firm age and size of the supervisory board (Chizema, 2008). In the corporate governance debate, the size of the supervisory board, in particular, is taken as a proxy for the effectiveness of supervision; it is assumed that an increase in the number of members inevitably results in increased difficulty with coordination, which in turns results in less effective supervision (Judge and Zeithaml, 1992; Velte and Eulerich, 2014).

The findings so far show that there has been a tendency toward an improved quality of reporting over time since the implementation of the recent relevant reforms. At the same time, the findings elucidate that shortcomings persist and that the practice of remuneration reporting is fallible and thus can still be improved upon. The data that form the basis of the studies referred to above are often limited to the 30 companies that comprise the German DAX30 index and usually only include one or two attributes of these companies. In the current German literature, there is a lack of a content analysis of remuneration reporting across indexes that considers several attributes. Our study seeks to close this gap by providing a transparent, easily accessible model for the assessment of the quality of disclosure in remuneration reporting by 160 listed companies.

We begin by defining a measure for what is to be achieved in the form of a catalog of different quality criteria with the primary goal of creating a disclosure index for assessing the extent to which voluntary remuneration disclosure provides information that goes beyond the legal requirements (Bötzel, 1993). Since we can assume that companies comply with their legal obligations and, if necessary, correct their reporting in the course of an audit, the only criteria that qualify are those which are based on recommendations (criteria that involve voluntary compliance) or those which companies can choose to avoid. The criteria must be objectively quantifiable and should not be interdependent (Zangemeister, 1976). A reporting criterion should further make a notable contribution to reducing information asymmetries while meeting the standard of constitutional legitimacy and being economically reasonable. In addition, we made sure that the criteria pertain to regulations that would continue to exist in the near future, thus ensuring the instrument's longer-term validity (Bechmann, 1978). Drawing on these considerations, we derived four criteria for quality, all of which fall into the category of voluntary remuneration disclosure:

- Individualized disclosure (of management remuneration/executive pay)
- Use of the GCGC model tables
- Say-on-pay vote
- Compensation consultant

2.2. Individualized Disclosure of Management Remuneration

Since 2005, listed companies are required by law to disclose the individual pay of each of their executives in their management's discussion and analysis ("Lagebericht"; German equivalent to the MD&A in the U.S.) or notes. Prior to the introduction of this compulsory legal requirement, individualized disclosure was initially encouraged and, since 2003, officially recommended by the German Corporate Governance Code (GCGC), resulting in the reasons for non-disclosure being made explicit in the declaration of compliance (comply-or-explain approach). Once the legal provision was adopted, Section 4.2.4. of the GCGC no longer contained any recommendations beyond those required by commercial law (Chizema, 2008).

The objectives of the amendment were to simplify the process of determining compliance with the requirements of adequacy and sustainability as well as to improve the protection of investors (v. Kann, 2005). The major point of criticism in this context is the incontrovertible intrusion of the general rights of privacy of each and every member of the executive board; this has raised doubts concerning the constitutionality of the norm (Menke and Porsch, 2004). A further point of criticism is that the information about executive pay is not only available to shareholders but also to the general public, what could cause envy and curiosity (v. Kann, 2005). The prevailing view rejects doubts regarding the provision's constitutionality on the basis of a public interest in the functioning of the capital market (Chizema, 2008; Fleischer, 2015). The management board and supervisory board act on behalf of the financial interests of others and are accountable to the shareholders in this respect, as they are the ones who provide the capital to pay management (Andres and Theissen, 2007). The most appropriate means of informing all shareholders is through the annual financial statement. This is the preferable alternative to fulfilling the individual information requests of each shareholder, which could prove to be an unnecessary burden. Disclosure extending beyond the circle of shareholders can be justified on grounds of the typically anonymous structure and frequently worldwide spread of shareholding. Nevertheless, the option of opting out remains.

After years, international standards (Göx and Heller, 2008) and EU targets (EC, 2004) were finally met through the introduction of legislation requiring the individualized disclosure of management board remuneration. In the dual-board system of corporate governance, the general meeting delegates the task of internal supervision to the supervisory board, which in turn reports to the general meeting. Disclosure of the individual details of remuneration for each board member provides the necessary information for a fact-based assessment of salary decisions, which consequently leads to a noticeable increase in transparency. As the existence of an opt-out option provides the opportunity to refrain from this type of reporting, we have chosen to focus on individualized disclosure as a key criterion of quality in our study.

2.3. Model table (German Corporate Governance Code)

As of 2013, the German Corporate Governance Code (GCGC) recommends that a uniform scheme be applied for the disclosure: for each individual member of the management board, for the benefits granted (including the fringe benefits and the maximum and minimum achievable compensation for variable compensation components), for the allocation of fixed compensation, and for the breakdown of the short-term and variable compensation for the relevant reference years, including for pension provisions (Peters and Hecker, 2013). According to Section 4.2.5 (3) sentence 2 of the GCGC, this information shall be presented using the two model tables provided in its appendix. Whereas the benefits-granted table lists the contractual compensation granted for the year under review, the benefits-received table presents all payments that the management board actually received. In addition to the figures for the year under review, these tables should also include the figures representing the previous period.

The objective of introducing model tables is to improve intersubjective comparability over time and between companies, both for the supervisory board and for the general public. The juxtaposition of benefits granted and benefits received illuminates how compensation components develop in the long term (Bachmann, 2018). The greater transparency that is achieved by presenting this information in tabular form promotes a better understanding among the addressees, allowing a more appropriate assessment of corporate governance. The introduction of the GCGC model tables also came with new, more comprehensive reporting requirements that partially exceed the code's requirements and recommendations pertaining to the commercial law (Rimmelspacher and Kaspar, 2013). The reform has made a substantial contribution to meeting transparency requirements by ensuring that information is presented in a concise, transparent, and comparable manner, which is why it can undoubtedly be viewed as a quality criterion.

2.4. Say-on-pay vote

The general meeting's right to vote on board remuneration pursuant to Section 120 (4) sentence 1 of the AktG has drawn increased attention from regulators for some time now as a growing number of countries has been introducing a legally codified say-on-pay (SOP) vote (Thomas and Van der Elst, 2015; Behrmann and Sassen, 2015). On the international level, Germany and France are the only two countries in which the SOP vote has been made optional (Behrmann and Sassen 2015). The consequence is that voting on the remuneration system is not obligatory and the outcome of such a vote – even if the vote is taken pursuant to Section 120 (4) sentence 1 of the AktG – has no binding effect. This legal arrangement has given rise to divided opinions on the SOP vote, which has often been referred to as a "toothless tiger" (Ferri and Maber, 2013; Iliev and Vitanova, 2016). Its hesitant introduction and non-legally binding nature are signs that German lawmakers have deep-seated reservations about this instrument (Hupka 2012).

Through the SOP vote and the concomitant heightened pressure on the supervisory board to justify remuneration to the shareholders, an instrument capable of reducing the information asymmetry and conflicts of interest between management and shareholders through increased communication was devised (Bean, 2009). The provision also has a preventive purpose in that the general meeting's right to review the supervisory board's decisions in matters of remuneration encourages the board to set compensation conscientiously. The possibility that the general meeting could vote down the compensation system can be expected to have a directional effect despite such a vote being non-binding, as it indicates to the supervisory board that the shareholders demand an appropriate system of remuneration (Eulerich et al., 2012). Further signaling effects can emanate from (negative) press coverage or a (negative) perception by shareholders or the general public (Fleischer and Bedkowski, 2009). Providing information on an SOP vote and its results in the remuneration report can thus be established as another quality criterion.

2.5. Compensation consultants

In accordance with Section 87 (1) of the AktG, the supervisory board determines management remuneration and is to ensure that the remuneration is appropriate as well as in alignment with the desired sustainable development of the enterprise. Appropriateness should apply in both horizontal and vertical dimensions. The horizontal dimension refers to the appropriateness of management remuneration in relation to the industry, region, and company size. In contrast, the vertical dimension is determined by considering the customary level of remuneration in peer corporations as well as "the remuneration structure in place elsewhere in the corporation." (CEO to worker pay ratio; Section 4.2.2 of the GCGC). Whereas suitable parameters of customary remuneration can be identified relatively easily in the vertical dimension through analysis of internal payroll data, the establishment of such parameters of customary remuneration in the horizontal dimension is limited by the availability of data (Spindler, 2014). Data on customary remuneration by industry, company size, and country may not be immediately available in all cases. Since a purely quantitative measure for comparing the level of remuneration across the board cannot be expected to achieve the desired results, qualitative benchmarking should also be applied. The performance, tasks, and the situation of the company for which the compensation for the comparison purpose is examined should also be taken into consideration (Hohaus and Weber, 2010).

Another issue is the potential liability of the supervisory board. All members of the supervisory board are liable for damages if they set remuneration at inappropriate levels. By increasing the liability risk, German lawmakers satisfied the recommendations issued by the EU Commission (EC 2009) and simultaneously emphasized the supervisory board's accountability for management remuneration (Habersack, 2014). To create an appropriate remuneration system and thus reduce its liability risk, the supervisory board can engage the support of an external expert such as a compensation consultant (Lutter et al., 2014).

External compensation consultants possess legal and business knowledge pertaining to all issues of remuneration; they also have a solid overview of the labor market for executives and access to reliable data for comparisons in terms of vertical and horizontal appropriateness. Compensation consultants thus act in both informatory as well as advisory roles (Fleischer, 2010). The utilization of compensation consultants also lends additional legitimacy to the decisions of the supervisory board in that it signals credibility to shareholders and stakeholders (Wade et al., 1997). Moreover, a compensation consultant helps mitigate the liability risk (insurance function) (Fleischer 2010). In contrast to US corporate law, which requires that the names of compensation consultants be included, and their roles be described in the remuneration report (Donahue, 2008), neither German law nor the German Corporate Governance Code makes any provisions regarding the compensation consultant. Section 4.2.2 (3) of the GCGC merely emphasizes that the consultant must be independent of the management board and that the supervisory board may ask the consultant to affirm this in writing before being commissioned (Bachmann, 2018). Nevertheless, Sustainability Reporting Guidelines published by Global Reporting Initiative (GRI) also emphasizes the need of statements regarding consultants within-guideline G4-52 (GRI 2013).

From the perspective of principal-agent theory, turning to external compensation consultants seems expedient, as they have more information, which consequentially reduces the risk of potential bias. They provide crucial assistance in decision-making concerning the type as well as the amount of management remuneration and thus prevent potential conflict. Their work is gaining significance on a global basis (Conyon et al., 2009): this trend is underscored in Germany through the code for independent consultation consultancy (Kodex unabhängiger Vergütungsberatung) published by the Vereinigung unabhängiger Vergütungsberater (Association of Independent Compensation Consultants; VUVB, 2014).

3. HYPOTHESES

3.1. Management compensation structure and reporting quality

In light of the ongoing debate on the absolute amount of management pay, we can expect that a company's executive bodies will likely anticipate broad disapproval of their remuneration policy in the event of high total compensation (Drefahl and Pelger, 2013). Media coverage can reinforce this effect (Behrmann and Sassen, 2017). For this reason, companies that grant their management above-average compensation tend to abstain from voluntary disclosure. This leads us to the following hypothesis:

H1a: The quality of remuneration reporting decreases as average management remuneration increases.

Based on a similar assumption is the consideration that a high share of (fixed) compensation components that are independent of performance violates the pay-for-performance principle and is, therefore, difficult to justify. From the shareholders' point of view, such a high share of fixed compensation undermines incentives for management motivation and thus threatens joint interests. From this, we derive the following hypothesis:

H1b: The quality of remuneration reporting increases as fixed compensation decreases.

In accordance with the first hypothesis, we can assume that performance-related compensation components link management remuneration more closely to management performance; this increases the likelihood that management remuneration is consistent with the objectives of both shareholders and stakeholders. This applies first and foremost in the case of compensation components containing long-term incentives, particularly if these incentives involve stock options. In this case, a member of the management board receives shares of his or her own company and can, therefore, be expected to pursue a strategy oriented toward the company's sustainable development. Incentive-oriented compensation can be conducive to eliminating potential principal-agent conflicts between owners and management (Jensen and Murphy, 1990; Jensen and Meckling, 1976). Moreover, while short-term, variable pay (e.g., boni) is in line with the pay-for-performance principle, there is the potential of misinterpretation by management. Applying an annual benchmark may be viable, but over time, it could prove detrimental to [longer-term] efforts, as such, a measure inevitably encourages members of the management board to make self-interested decisions to secure their annual bonus in its entirety. Above-average amounts of short-term, variable compensation should therefore not be in the interest of ownership, which is why corporate management is reluctant to disclose such information. In alignment with this argument, we formulate the following three hypotheses:

H1c: The quality of remuneration reporting increases as the proportion of variable compensation increases relative to total compensation.

H1d: The quality of remuneration reporting decreases as short-term, variable compensation increases.

H1e: The quality of remuneration reporting increases as medium-term and long-term variable compensation increases.

3.2. Corporate ownership and reporting quality

The ownership structures of companies can differ significantly from another and also determine their strategic direction. According to the efficient-monitoring hypothesis, a large share of outside ownership serves to monitor managers' actions and reduces the likelihood that managers will withhold information in pursuit of their own self-interest. Information disclosure is likely to be greater in companies in which ownership is dispersed widely (high percentage of the free float; Hossain et al., 1994; Chizema, 2008). This view thus predicts a positive relationship between outside ownership and voluntary remuneration disclosure and leads us to hypothesize the following:

H2a: The quality of remuneration reporting increases as the percentage of free float increases.

The ownership structure - or, more specifically, the ownership concentration - has a prominent role in the corporate governance discussion. The control function of the respective external owner increases with his or her company share so that major shareholders have a stronger impact on company management than smaller ones (Shleifer and Vishny, 1997). A high degree of ownership concentration (blockholder) is accompanied by high corporate control (Velte and Eulerich, 2014). Furthermore, German firms have a tradition of family ownership. An important characteristic of family ownership is the mitigation of agency problems arising from the separation of ownership and management control (Berle and Means, 1932), as described by Jensen and Meckling (1976). Family owners have more investment capital and longer investment horizons, are usually more actively involved in firm management, have a higher monitoring effectiveness, and are faced with fewer instances of information asymmetry (Chen et al., 2008). Empirical research has found a negative relationship between the existence of blockhoder (e.g., Odewale and Kamardin, 2015; Probohudono et al., 2015) or family-controlled firms (e.g., Ho and Wong, 2001; Ho and Tower, 2011; Akhtaruddin et al., 2009; Suttipun and Saelee, 2015; Akrout and Othman, 2016) and the level of voluntary disclosure. This discussion leads to our following hypothesis:

H2b: The existence of a (family) blockholder decreases the quality of remuneration reporting.

4. RESEARCH DESIGN

4.1. Sample selection

The data basis of this study are the financial statements of the companies listed on the German cross-industry index HDAX (DAX30, MDAX, TecDAX) and Small-Cap DAX (SDAX) for the financial year of 2014. The HDAX comprises the 80 companies listed on the DAX and Mid-Cap DAX (MDAX) as well as the 30 companies listed on the TecDAX that belong to the prime standard of the Frankfurt Stock Exchange. The SDAX is composed of the 50 largest listed companies that rank directly below those on the DAX and MDAX. Main criteria for being listed on HDAX and SDAX is market capitalization and order book turnover. The HDAX and SDAX thus comprise a total of 160 companies, eleven of which were excluded from the study because their company headquarters, according to their International Securities Identification Number (ISIN), are not in Germany, and thus including them in a comparison would be an irrational because of differences in international (corporate) law. The choice of the indices in the sample was guided primarily by the fact that most of the criteria for voluntary remuneration reporting affect listed companies, as only they must apply the GCGC (Section 161, AktG). Additionally, the corporations in the largest indices have the most significance to the German economy and society and typical governance issues can here be outlined in a distinctive form (von Werder, 2009). For this reason, both shareholders and stakeholders have a heightened interest in comprehensive disclosure and reporting.

4.2. Dependent variable: Quality score

To assess voluntary remuneration reporting, we calculated a total score (SCORE) on the basis of a scoring model derived from the aforementioned four criteria: (1) individualized disclosure, (2) use of the GCGC model table, (3) information on the say-on-pay vote (including the results of the vote), and (4) information on the role of the compensation consultant. Since we must assume that the criteria will have varying levels of significance for assessing the quality of reporting, we refrained from assigning them equal weight, as this would have compromised the explanatory power of our model. Instead, the four quality criteria were weighed according to a suitable category system (Hoffmeister, 2008). The criterion of individualized disclosure was weighted the most heavily at 45%. The legal requirement to disclose management remuneration reasserts the intention of lawmakers and represents the most substantial amendment in the reform of management remuneration. Next, the use of the model tables is not required by law but is based on a specific recommendation by the GCGC. Opting to not comply with this recommendation thus requires an explanation of this choice in the declaration of compliance ("Comply or Explain"). This criterion was weighted at 30% and therefore given somewhat less significant than the criterion of individualized disclosure, yet at nearly a third of the total score, it still has a substantial influence on the overall index. In regard to the SOP vote on part of the general meeting and the engagement of a compensation consultant, the GCGC makes neither recommendations nor suggestions. The German Stock Corporation Act (AktG) also contains no provisions on the engagement of a consultant; it does, however, refer to the SOP vote in Section 120 (4) sentence 1 of the AktG. Failure to make use of this option thus has no legal consequences at the company level. For this reason, both criteria were weighted to a substantially lesser degree than the aforementioned criteria. Because of its legal anchoring, the SOP vote received a greater weight of 15% with respect to disclosure quality, while engagement of a compensation consultant received a weight of 10%.

Table 2. Weighting of the scoring model's quality criteria

Quality Feature a_i	***Weighting Factor*** g_i ***(in %)***
Individualized disclosure	0,45 (45%)
Use of GCGC model tables	0,30 (30%)
Say-on-pay Vote	0,15 (15%)
Compensation consultant	0,10 (10%)

To calculate our disclosure index, we first determined whether or not each individual company reported on a quality criterion. In this respect, the scoring model applied a binary assessment scheme. The value of 1 was broadly assigned if the criterion under study was reported, and the value of 0 if it was not reported (Bötzel, 1993). Then, the respective criterion was weighted according to the scheme presented above. The weighted figures were subsequently added up to attain a metrically scaled total quality score with a value between 0 and 1 (Bamberg et al., 2012). From this, we formally derived the following Eq. (1):

$$\vartheta(\alpha) = \sum_{i=1}^{n} g_i v_i(a_i) \tag{1}$$

where $g_i > 0$ and it holds that $\sum_{i=1}^{n} g_i = 1$

It further holds that:

$v_i(a_i^-) = 0$
$v_i(a_i^+) = 1$
with
$v(a)$ = total score (SCORE)
$v_i(a_i)$ = specification of the i-th quality criterion
$v_i(a_i^-)$ = the poorest specification of the i-th quality criterion
$v_i(a_i^+)$ = the best possible specification of the i-th quality criterion
a_i= i-th quality criterion
g_i = i-th weighting factor
n = number of quality criteria

4.3. Independent variables: Compensation and ownership structure

Table 3 and Table 4 show the independent variables for compensation (total compensation, fixed compensation, performance-related to total compensation, short-term incentives, and mid-term and long-term incentives) and ownership structure (blockholder, family blockholder, and free float):

Table 3. Independent variables: Compensation structure

Compensation structure			
Average of total remuneration	Logarithmic total remuneration per board member. Initially, remuneration data for the entire management board are collected. Then, total remuneration is divided by number of management board members. Total remuneration includes all granted benefits.	Annual reports	TOTALPAY
Fixed remuneration	Logarithmic fixed remuneration per board member.	Annual reports	FIX
Share of variable remuneration	Variable share of total remuneration.	Annual reports	VARTOTOTAL
Short-term variable remuneration	Logarithmic short-term variable remuneration per management board member. Remuneration is classified as short-term oriented if assessment basis is ≤ one year.	Annual reports	STI
Medium and long-term variable remuneration	Logarithmic medium and long-term remuneration per management board member. Remuneration is classified as medium and long-term oriented if assessment basis is > one year.	Annual reports	MTILTI

Table 4. Independent variables: Ownership structure

Ownership structure			
Blockholder	Blockholders are classified as private or institutional shareholders who own more than 25% of total voting power. Therefore, a dichotomous coded indicator variable is used which assumes the value of 1 if blockholders do exist and assumes the value of 0 if blockholders do not exist.	Hoppenstedt Stock Guide	BLOCK25
Family Businesses	Family businesses are classified as companies in which families own more than 25% of total voting power. Therefore, a dichotomous coded indicator variable is used which assumes the value of 1 if family businesses do exist and assumes the value of 0 if not.	Hoppenstedt Stock Guide	FAMILY25
Free Float	Share of shareholders who hold less than 3% of total shares and who are also non-attributable to a single company. This ratio is arithmetically defined as the difference between 100% and clearly attributable shares (≥ 3%).	Datastream	FREEFLOAT

4.4. Control variables

Table 5 summarizes the control variables. We drew on the common variables used in corporate governance research to represent company size (SIZE), risk (LEVERAGE), and company performance (PERFORMANCE).

Table 5. Control variables

Control variables			
Company size	Size measure. Logarithmic number of employees.	Datastream	SIZE
Debt ratio	Risk measure that relates the debt capital to equity. The debt ratio serves as a risk measure.	Datastream	LEVERAGE
Return on total assets	The return on assets (ROA) represents the interest on the entire capital share. Thus, the efficiency of the entire capital employed, regardless of its funding, is monitored. The return on assets is an important benchmark for entrepreneurial action and operational success.	Datastream	PERFORMANCE
DAX30 indexing	Dichotomous coded indicator variable which assumes the value 1 if the share of the company investigated is included in the index (DAX30) on the balance sheet date; otherwise, it assumes the value 0.	German Stock Exchange	DAX
MDAX indexing	Dichotomous coded indicator variable which assumes the value 1 if the share of the company investigated is included in the index (MDAX) on the balance sheet date; otherwise, it assumes the value 0.	German Stock Exchange	MDAX
TecDAX indexing	Dichotomous coded indicator variable which assumes the value 1 if the share of the company investigated is included in the index (TecDAX) on the balance sheet date; otherwise, it assumes the value 0.	German Stock Exchange	TECDAX

4.5. Methodology and model assumptions

We tested the following relationship (Eq. (2)):

$$\text{SCORE} = \beta_0 + \beta_1\text{TOTALPAY} + \beta_2\text{FIX} + \beta_3\text{STI} + \beta_4\text{MTILTI} + \beta_5\text{VARTOTOTAL} + \beta_6\text{BLOCK25} + \beta_7\text{FAMILY25} + \beta_8\text{FREEFLOAT} + \beta_9\text{LEVERAGE} + \beta_{10}\ \text{PERFORMANCE} + \beta_{11}\ \text{DAX} + \beta_{12}\text{MDAX} + \beta_{13}\text{TECDAX} + e \quad (2)$$

Our initial step was to estimate pooled ordinary least squares (OLS) regression models of the remuneration quality score as a function of management compensation structure, corporate ownership structure, and various control measures.

The OLS regression is based on specific assumptions: no multicollinearity and the residuals should not be correlated with the population (no autocorrelation). We calculated variance inflation factors (VIF) to test for multicollinearity. While a VIF exceeding 10 suggests severe multicollinearity problems, our data included no VIF exceeding 1.86; this suggests that multicollinearity should not affect the results. Generally, autocorrelation arises in time series. This does not apply to our study.

5. RESULTS

5.1. Descriptive statistics

Table 3 reports the descriptive statistics for our reporting quality score (panel A), explanatory variables (panel B), and control variables (panel C). Panel A of Table 3 reveals the mean reporting quality score (SCORE) to be 0.63 with a range between 0 and 1. Furthermore, 50% (7%) of the companies have blockholders (family blockholders), and the mean free float is 0.68. The average proportion of variable compensation to total compensation is 51.0%. In a principal-agent context, this observation is positive as it shows the predominance of performance-based compensation in 2014. The range is also very high, with proportions between 0.0% and 91.0%.

Table 6. Descriptive statistics

Variable	*N*	*Mean*	*Standard Deviation*	*P25*	*P50*	*P75*	*Min.*	*Max.*
Panel A: Remuneration Score								
SCORE	149	0,63	0,30	0,45	0,75	0,75	0,00	1,00
Panel B: Compensation and Ownership Structure								
BLOCK 25	147	0,50	0,50	0,00	1,00	1,00	0,00	1,00
FAMILY 25	147	0,07	0,26	0,00	0,00	0,00	0,00	1,00
FREEFLOAT	145	0,68	0,26	0,48	0,74	0,90	0,14	1,00
TOTALPAY	149	7,24	0,68	6,81	7,23	7,77	5,30	8,93
FIX	142	6,25	0,58	5,90	6,26	6,57	2,59	8,02
VARTOTOTAL	146	0,51	0,17	0,43	0,53	0,63	0,00	0,91
STI	121	5,65	1,32	5,22	5,84	6,32	0,00	8,02
MTILTI	136	6,01	1,12	5,35	6,07	6,79	0,96	8,49
Panel C: Control Variables								
SIZE	142	8,90	2,07	7,77	8,95	10,09	1,39	13,29
LEVERAGE	146	0,86	1,13	0,20	0,57	1,17	-1,91	8,82
PERFORMANCE	149	0,05	0,07	0,02	0,05	0,07	-0,15	0,54
DAX	149	0,20	0,40	0,00	0,00	0,00	0,00	1,00
MDAX	149	0,32	0,47	0,00	0,00	1,00	0,00	1,00
TECDAX	149	0,18	0,39	0,00	0,00	0,00	0,00	1,00

5.2. Regression results

Table 7 illustrates the summarized regression analysis by means of which we sought to verify [or falsify] our research hypotheses. We analyzed our findings with a particular focus on the connections between the quality of remuneration reporting and remuneration structure, ownership structure, and the control variables (measures for size, risk, and performance as well as inclusion in an index).

5.2.1. Remuneration reporting and remuneration structure

We found a relationship between remuneration structure and the quality of voluntary disclosure. Model 2 highlights a significant negative relationship between fixed compensation and the quality of remuneration reporting. An above-average proportion of compensation independent of performance violates the pay-for-performance principle in principal-agent theory and leads to a reduction in or loss of incentives for management motivation. Such a compensation policy cannot be in the interest of ownership, which is why we can expect those required to report information to disclose as little additional information as possible. This reasoning is confirmed by Model 5: it depicts a positive relationship between the proportion of variable compensation and the quality of remuneration reporting. In contrast to the findings of other relevant studies (Andres and Theissen, 2007), we were unable to detect any significant relationship of the quality of remuneration reporting to either the level of total compensation or the structuring of the performance-related components of compensation through our investigation. Hence, we identified the expected relationships for two of the five research hypotheses concerning the structure of remuneration (H1b and H1c).

5.2.2. Ownership structure

Concerning ownership structure, we initially found a positive relationship between free float and the quality of remuneration reporting. By contrast, we identified a negative relationship between the presence of family blockholders and the quality of remuneration reporting. This observed relationship is consistent with previous empirical findings on voluntary corporate reporting. The presence of blockholders, however, has no effect. Because there exists a greater balance in decision-making rights in publicly held companies, these companies are less likely to experience conflicts of interest in matters of remuneration in contrast to family-controlled businesses. Small shareholders are more dependent on information provided by company management to satisfy their information needs and to enable them to make well-founded decisions.

Additionally, in family-owned companies management has more influence because family members are often part of the management and/or supervisory board (Fernandez and Nieto, 2006). We found evidence to this effect that supports our hypotheses H2a as well as H2b.

5.2.3. The control variables

Whereas the control variables of company size and leverage ratio show no effect, performance in terms of total return on investment has a significant negative impact on the quality of remuneration reporting. These observations diverge from the findings of Andres and Theissen (2007) and Chizema (2008) but are consistent with international findings (e.g., Jaafar et al., 2014; Fotana and Macagnan, 2013). As long as a company concludes the financial year on a positive note, we can assume that the majority of the shareholders will tolerate and permit the management's actions. This consequentially leads to a reduced need for information [on part of the shareholders]. Inclusion in an index, by contrast, has a positive effect on the quality of remuneration reporting. The shares of companies listed on major indexes attract greater attention from analysts, institutional investors, and the broader public. Thus, they face greater pressure to comply with German lawmakers' recommendations and suggestions concerning voluntary remuneration reporting. Andres and Theissen (2007) came to the same conclusion in their review of research on individualized disclosure.

Table 7. Regression results for the individual models for the determinants of the quality of remuneration reporting

Independent Variables	***SCORE***					
	Basic Model	***Model 1***	***Model 2***	***Model 3***	***Model 4***	***Model 5***
Cons.	0,432 (0,164)***	0,300 (0,326)***	1,202 (0,327)***	0,701 (0,145)***	0,466 (0,192)**	0,266 (0,161)***
TOTALPAY		0,024 (0,052)				
FIX			-0,146 (0,056)***			
STI				-0,007 (0,015)		
MTILTI					-0,025 (0,027)	
VARTOTOTAL						0,427 (0,148)***
BLOCK25	0,025 (0,060)	0,023 (0,061)	0,018 (0,054)	-0,001 (0,047)	0,042 (0,060)	0,026 (0,056)
FAMILY25	-0,206 (0,101)**	-0,206 (0,101)**	-0,232 (0,096)**	-0,136 (0,090)	-0,293 (0,108)***	-0,228 (0,093)**
FREEFLOAT	0,253 (0,118)**	0,252 (0,118)**	0,212 (0,107)**	0,006 (0,094)	0,256 (0,117)**	0,238 (0,110)**
SIZE	-0,010 (0,015)	-0,013 (0,018)	0,017 (0,015)	0,002 (0,014)	0,003 (0,015)	-0,005 (0,014)
LEVERAGE	0,003 (0,021)	0,001 (0,022)	0,024 (0,020)	0,012 (0,016)	0,005 (0,021)	0,002 (0,020)
PERFORMANCE	-0,764 (0,317)**	-0,798 (0,326)**	-0,752 (0,285)***	-0,463 (0,257)*	-0,597 (0,318)*	-0,987 (0,300)***
DAX	0,324 (0,093)***	0,312 (0,098)***	0,250 (0,086)***	0,161 (0,078)**	0,300 (0,092)***	0,210 (0,092)**
MDAX	0,176 (0,064)***	0,170 (0,066)***	0,125 (0,060)**	0,051 (0,058)	0,187 (0,065)***	0,110 (0,064)*
TECDAX	0,177 (0,071)**	0,173 (0,071)**	0,124 (0,065)*	0,102 (0,057)*	0,205 (0,071)***	0,114 (0,071)
N	139	139	132	114	127	136
R^2	28,03%	28,15%	30,12%	16,69%	29,45%	34,48%
R^2 (adjusted)	32,01%	22,54%	24,34%	8,60%	23,37%	29,24%
F-statistic	5,58***	5,02***	5,21***	2,06**	4,84***	6,58***

Note: this table shows the regression analysis, including the total score of the disclosure quality dependent variable. Within the different models (basic model and variation 1-5), the explanatory variables (derived by hypothesis) are initially covered individually and afterwards collectively. The upper value represents the coefficient. The mean is given within the brackets. R^2 and $R^2_{korr.}$ are quality indicators of the analysis. Statistical significance is given at the 10% - (*), 5% - (**) and 1% - (***) levels.

6. CONCLUSION

The global debate on the development of executive pay – which is increasingly perceived to have reached excessive levels – and the lack of transparent information [to this effect] has prompted the implementation of far-reaching legal reforms. These reforms have also impacted remuneration reporting. To assess the quality of remuneration reporting, we considered elements of voluntary reporting, as it can be assumed that companies strive to meet their legal requirements. In the following, we provide a summary and discussion of our results and close by addressing the limitations of our research as well as directions for future research.

Using our scoring model, we analyzed the financial statements of companies included in the HDAX and SDAX in terms of the following criteria: individual disclosure of management remuneration, their use of the GCGC model tables, their information on the say-on-pay vote, and their information on the influence and role of the compensation consultant. Our goal was to assess the current quality of voluntary remuneration reporting in Germany. We have elucidated that some of the GCGC's recommendations and suggestions are rarely complied with (and sometimes are not complied with at all) and that companies even regularly circumvent legal provisions requiring individualized disclosure by utilizing the opt-out option. There are substantial differences in particular between the various indexes: whereas companies included in the DAX largely display a high level of voluntary remuneration reporting, companies included in the SDAX fulfill our quality criteria to an insufficient degree.

At the center of our empirical investigation was the relationship between voluntary remuneration reporting and the structure of remuneration and ownership. On the basis of our derived research hypotheses, our regression analyses have illustrated that the quality of remuneration reporting is negatively correlated with the presence of family shareholders, achieved performance, and a high proportion of fixed compensation components. By contrast, a high percentage of free float, inclusion in the DAX and MDAX, and a high proportion of variable compensation components are positively correlated with the quality of remuneration reporting. Among the factors that have no significant influence is the total amount of management pay; short-term, medium-term, and long-term compensation components; the presence of blockholders, company size, and leverage ratio.

The present study illustrates that, in terms of voluntary remuneration reporting, the companies are left with room for interpretation; this scope frequently seems expedient, but it occasionally results in behavioral uncertainty. Future efforts [to improve the quality of voluntary reporting] must be discussed against the backdrop of their (decision) usefulness for shareholders and stakeholders and should additionally be evaluated in terms of economic viability. The EU's current plans suggest that the remuneration report will gain greater significance. Compared to the previous regulations and the provisions regarding the content of remuneration reporting in Germany, the revised EU shareholder rights directive involves the following major amendments (EC, 2017; Velte, 2018): individualized disclosure of current and former members of the management board, no opt-out clause that prevents the individualized disclosure of management remuneration, and alignment of total compensation and compensation policy, including the promotion of a long-term performance orientation and information on performance criteria. In this context, the abolition of the opt-out option is favourable and conducive to the efforts to enhance transparency.

Our analysis inevitably has limitations. The first limitation worthy of mention is that our sample consists only of companies included in the major stock indexes. Failure to consider a sufficiently representative cross-section of companies always involves the risk of failing to provide empirical insights into small enterprises while confining the study to large, successful companies and thus possibly becoming subject to the implications of what has been labeled the survivorship bias (Börsch-Supan and Köke, 2002). However, given that the criteria used to study voluntary remuneration reporting largely apply to large listed companies, our choice of approach was well-founded. A second limitation to underline is that our weighting of the criteria in our scoring model is not free of subjectivity. To analyze the robustness of our model, we varied the weights through sensitivity analyses. Even with these variations, the results proved to be largely consistent stable. Experience shows that, in regard to the voluntary elements of reporting, companies learn over time. This suggests that future research in this area should focus on longitudinal analyses. Moreover, recent legal developments at the EU level indicate the introduction of further elements of voluntary remuneration reporting. The EU directive which amends the directive on shareholder rights – approved by the EU Parliament on March 14, 2017 and adopted by the Council – recommends that corporate management performance "should be assessed using both financial and non-financial performance criteria, including, where appropriate, environmental, social and governance factors" (EC, 2017). This (broad) scope could also be addressed and subjected to closer scrutiny in future research.

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