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Sustainable management compensation and ESG performance – the German case

Abstract

This paper takes a closer look at sustainable management compensation and the impact on environmental, social and governance (ESG) performance in the German two tier system. The empirical quantitative study covers a sample selection of German companies listed on the Prime Standard of the Frankfurt Stock Exchange (DAX30, TecDAX, MDAX, SDAX) for the business years 2010-2014 (677 firm-year observations). In order to determine a possible link between non-financial indicators of management compensation and ESG performance, a correlation and regression analysis is carried out. On the basis of multiple regressions, non-financial elements (social or environmental aspects) in the management board compensation positively influence ESG performance, as determined by the Asset Four database of Thomson Reuters. This analysis is the first empirical study focusing on a connection between sustainable management board compensation, taking into consideration non-financial aspects, and ESG performance in the German two tier system. Not only users, but also public policy is affected by the findings indicating that national and European regulations on compensation could greatly influence future CSR performance and market reactions.

Keywords: ESG performance, stakeholder management, sustainable compensation, corporate governance, management board, non-financial performance indicators.
JEL Classification: M40.

Introduction

A number of reform activities have been initiated by the European Commission (EC) to enhance the quality of corporate governance as a consequence of the loss of trust of capital markets in corporate governance after the financial crisis in 2008/09. At the same time, there has been a profound change in the stakeholder management of capital market oriented firms, no longer only focusing on shareholders, but also having to acquire other stakeholders (e.g., customers, employees). To this end, management compensation should focus more on a sustainable development as a key element of "good" corporate governance to avoid short-term management decisions. At present, according to the modified European Shareholder Rights Directive, which is to be finalized this year (EC, 2015), the management compensation of capital market oriented companies must be sustainable. Sustainable compensation should not only concentrate on long-term incentives, but also consider non-financial key performance indicators, e.g. customer or employee satisfaction. From a research perspective, there is a current relevance of possible links between sustainable management compensation and environmental, social and governance (ESG) performance. Several studies examined the impact of management board compensation on ESG performance with a statistical approach (e.g., Mahoney and Thorn, 2006; Classen and Ricci, 2015). We do not know of any existing empirical study which concentrates on the German two tier system and on non-financial elements in management compensation.

This paper closes this research gap by taking a closer look at the connection between sustainable management board compensation and ESG performance in Germany as the main representative of the European two tier system. We chose Germany for this, because, under German law, listed corporations were required to implement a management compensation system with a sustainable development, as from the business year 2010. We include 677 firm-years observations for the business years 2010-2014 and include information on sustainable management board compensation on the basis of their compensation reporting taken from sustainability reports, integrated reports, status reports and annual reports. These sample companies represent the Prime standard of the Frankfurt Stock Exchange (DAX30, TecDAX, MDAX, SDAX). We control for other board and company variables (e.g., management board size, CSR expertise of the supervisory board, firm size). According to multiple regressions, the integration of non-financial elements in the management board compensation has a positive impact on ESG performance. A determination of possible impacts of current regulations (e.g., European regulation of a sustainable management compensation for listed corporations) is an interesting aspect for both users and for public policies.

The paper is structured as follows. To begin with, we present the main theoretical explanatory approaches to the economic relevance of sustainable management compensation and external compensation reporting indicating to what extent this potentially influences ESG performance. Then, a state-of-the-art analysis of empirical studies is an additional way of verifying the hypothesis. The data and methodology of the empirical analysis will

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imply the sample selection, the main variables and the regression model. The research results of the correlation, regression and sensitivity analysis are focused then. A summary and the limitations of the study round off the following analysis.

1. Background and hypothesis development

1.1. Theoretical foundation. The empirical corporate governance research is dominant in one tier systems (board systems) on the US-American capital market. In contrast to the one tier system, as from 1937, German law calls for a two tier system consisting of the management board ("Vorstand") and the supervisory board ("Aufsichtsrat") creating a clear organizational separation between management and supervision for corporations in this European country. The function of the management board is the leadership of the firm under its own responsibility, while it is the task of the supervisory board to appoint, monitor and advise the members of the management board.

By tendency, supervisory boards in two tier systems are more independent compared to one tier systems, but also tend to be less effective in supervising and advising the management board. Moreover, many corporate governance systems (e.g., in the USA) are outsider-based and strongly focusing on monitoring by the shareholders, whereas the German corporate governance system can be regarded as an insider system. Insider systems are characterized by a lower degree of investor protection and shareholder rights while internal corporate governance such as the monitoring function of supervisory boards and its committees (e.g., by implementing a management board compensation system) play a key role in these corporate governance systems.

As one tier systems and the German two tier system are very different from each other, this results in a research gap with regard to gaining new and relevant insights about the impact of sustainable management board compensation on ESG performance, which was not part of any research considerations yet. The impact of sustainable management board compensation on ESG performance is expected to be dissimilar in one tier and two tier systems, because the decision-making process of board members varies. ESG performance, as well as the need for professionalization of the management and supervisory board are two central aspects of modern corporate governance in Germany and are both addressed in this study.

A number of theories substantiate the link between internal corporate governance mechanisms such as incentive-based management compensation and a successful sustainability management with most studies concentrating on the stakeholder theory. This view can be traced back to the coalition theory (Cyert and March, 1963) which aims at satisfying the interests of the different coalition partners with which the company (stakeholders) is tied up through a network of various joint ventures and which, ultimately, determine the sale of products and services (Freeman, 1984). From a long-term perspective, isolated business practices disregarding societal values and requirements are not beneficial. Consequently, a company constitutes a subset of society which means that generating value is, in principle, measured by the fulfilment of specific societal expectations. While primary stakeholders ultimately influence the fate of the company i.e., the production of products and services, the claims of secondary stakeholders are more likely to affect the entrepreneurial activities in an indirect way as the impact of the practices on people, society or the environment (Svendsen et al., 2001). Thus, it is not only imperative that management succeeds in reconciling a multitude of interests, what is more, the corporate goals of stakeholders regarding their (partly) conflicting demands have to be prioritized. For these expectations on the part of stakeholders to be fulfilled constantly, sustainability management and its reporting is required. Sustainability management activities represent an effective tool of stakeholder communication implying a positive connection between stakeholder power, sustainable achievement, as well as sustainability reporting (Roberts, 1992).

Internal and external corporate governance mechanisms are of great significance for achieving sustainability management of adequate quality leading to positive market reactions (e.g., improved financial and ESG performance. Classical principal agent theory (Jensen and Meckling, 1976; Ross, 1973) suggests that agency conflicts (e.g., moral hazard) may be reduced by an incentive-compatible management compensation system meeting the requirements of the shareholders. Therefore, shareholders not only expect a more long-term oriented approach, but also a clear integration of nonfinancial items in management remuneration after the financial crisis in 2008/09. There is much discussion on the European level about stipulating a sustainable compensation regulation for management with non-financial performance indicators (e.g., customer or employee satisfaction). As these indicators are qualitative and difficult to measure in contrast to financial factors (e.g., accounting measures or stock return), several main areas of criticism have arisen. But the modified European Shareholder Rights Directive calls for a sustainable management compensation. After keeping the European Parliament satisfied in 2015,

the European Council now has to decide on the new directive. In Germany, listed corporations must implement a sustainable management remuneration system as from the business year 2010 as a consequence of the financial crisis in 2008/09. German law expressly requires the compensation system to contain long-term elements. According to literature, companies should integrate non-financial aspects in line with the triple bottom line concept (social and environmental aspects as a complement to economic factors) on a voluntary basis (Velte, 2016). Furthermore, all listed corporations in Germany must publish the management board remuneration for each member and the remuneration system as part of the management report. But many companies also mention their sustainable compensation system on a voluntary basis in their CSR report (e.g., following the guidelines of the Global Reporting Initiative).

In addition, the stakeholder agent theory (Hill and Jones, 1992) as the interaction between the classic principal agent theory and the stakeholder theory takes on a key role in this respect. Sustainability information should contribute to a reduction of information asymmetries and transaction costs of agency relationships between stakeholders and companies (Shankmann, 1999). Management sees an increased necessity here, given an undervaluation of the capital markets. Appropriate CSR management ideally results in a lower systematic business risk (Botosan, 1997). Such a strategy would definitely be beneficial as a higher degree of precision in sustainable compensation reporting would positively relate to stakeholder decision making and their abilities to influence the company and ESG performance. The aim is not only to avoid information asymmetries, but also conflicts of interest between stakeholders and agents. Management must consider a bonding strategy in view of the increased interests for information of the external addressees through the implementation of sustainable success-oriented compensation systems.

1.2. Sustainable management board compensation, company performance and ESG performance. As previously stated, sustainable management compensation can be regarded as an essential factor relating to "good" internal corporate governance with a positive influence on ESG performance. Due to the fact that the impact of the integration of non-financial items in the system of management remuneration on ESG performance has up to now not been a key element of German empirical research, this analysis presents common and objective variables found in a former systematic literature review examining the German two tier system. Thus, the corresponding corporate governance factor affecting ESG performance concentrates on sustainable compensation of the management board. After the financial crisis in 2008/09, traditional company performance indicators (e.g., return on assets) which can be determined on the basis of financial accounting data (e.g., balance sheet, statement of income) are complemented by ESG performance measures. A credible rating is required for the comparison of ESG performance among companies. At present there are a number of different ESG indexes, e.g., the Dow Jones Sustainability Index, the FTSE 4 Good Index (which is co-owned by Financial Times (FT) and the London Stock Exchange (SE)) and the Morgan Stanley Capital International (MSCI) ESG Indices. Professional analysts of non-financial data support ESG performance such as Thomson Reuters Asset 4. This database is commonly used in empirical corporate governance and CSR research. This assessment tool is also an issue focused on in this study.

Various approaches can be taken when looking at management compensation in the board professionalism debate. The "pay for performance" hypothesis is backed by a great amount of research especially on the US american capital market. Thus, the development of the financial performance situation of the company goes hand in hand with the development of management remuneration. A common item is the pay-performance-sensitivity (PPS) indicating a money change in executive wealth associated with each money change in shareholder wealth (Jensen and Murphy, 1990). Empirical tests of principal agent models support the "pay for performance" hypothesis (Aggrawal and Samwick, 2003). However, there are also many empirical studies focusing on the inverse relationship (influence of management compensation on company performance) and empirically supporting this strength (e.g., Core and Larcker, 2002).

In addition, empirical research on the link between ESG and financial performance has gained great attention in the last few years. A current review by Friede, Busch and Bassen (2015) combines the findings of 2,200 individual studies concluding that roughly 90% of the studies find a non-negative ESG firm performance relation with the large majority of these studies reporting positive significant results. The predominance of this research can be attributed to the political debate which has been continuing for many years about the influence of a successful stakeholder management by ESG performance indicators on corporate performance.

Last but not least, increasing research activity can be seen with regard to the impact of executive compensation on ESG performance (e.g., Stanwick and Stanwick, 2001; McGuire et al., 2003; Cooms

and Gilley, 2005; Mahoney and Thorne, 2005, 2006; Deckop et al., 2006; Cai et al., 2011; Callan and Thomas, 2011) boosting the hypothesis that long-term compensation has a positive influence on ESG performance. To our best knowledge, Claasen and Ricci (2015) conducted the first empirical study on the impact of CEO compensation structure and ESG performance for the German two tier system. Their analysis of German DAX und MDAX companies reveals that the design of CEO compensation contracts correlates to ESG performance. The authors determine a positive connection between ESG and all variable components of CEO compensation (short-term variable compensation, stock options, equity compensation and long-term cash compensation), whereas they do not see any association between the fixed part of CEO compensation and ESG performance. We go several steps further than the study carried out by Claasen and Ricci (2015). First of all, we concentrate on non-financial elements of management board compensation that has not been subject to research activity so far. Secondly, we use an extended sample (DAX30, TecDAX, MDAX and SDAX) and analyze the full management board and not only the CEO. In this respect, we can make useful contributions to the empirical corporate governance and ESG research. In line with former empirical studies and the theoretical foundation, a sustainable management board compensation with non-financial elements has a positive impact on decision making, can lower stakeholder-agent conflicts and may result in a more sustainable company strategy and performance. To this end, the following hypothesis was conducted:

H_1: Sustainable management board compensation by non-financial indictors (social and environmental aspects) increases ESG performance.

2. Data and methodology

2.1. Sample selection. Companies listed on the Prime Standard of the Frankfurt Stock Exchange for the business years 2010-2014 were taken as our sample. The aim was to analyze the reaction of these companies to the shrinking trust after the financial market crisis in 2008/09 leading to a more sustainable management compensation. As stated above, German law stipulates sustainable management remuneration rules for listed companies as from the business year 2010. Moreover, external compensation reporting together with information on individual member compensation, as well as the compensation system has been regulated in Germany for many years. The companies in the sample are subject to the highest standards of transparency and disclosure on the Stock Exchange in Germany. Researching these corporate governance mechanisms could have a signalling effect for other listed companies in Germany, as these companies are covered most intensely by investors. This means that the analysis of these companies is of great value not only from a researcher's, but also from a practitioner's perspective. Financial institutions have been omitted from the analysis due to their specific regulations in comparison to other sectors and companies. Table 1 provides an overview of the final sample of 677 firm years-observations.

Table 1. Survey sample

	2010	2011	2012	2013	2014
Listed companies	160	160	160	160	160
- Financial institutions and missing company data	-21	-27	-28	-26	-21
Final sample	139	133	132	134	139

2.2. Main variables. Data on corporate governance and CSR were hand collected from sustainability reports, integrated reports, status reports and annual reports.The dependent variable *ESGP* is a proxy for ESG performance. ESG data are obtained from the Thomson Reuters Datastream database under the category ESG – Asset 4 for the business years 2011, 2012 and 2013, 2014 and 2015 to allow for a potential delayed impact of sustainable management board compensation on *ESGP*. The ratings taken from the Asset 4 ESG framework are updated every two weeks. In the analysis, we used Datastream ESG data collected in December 2015. The total ESG score is an aggregated value of corporate performance in several environmental, social and governmental categories e.g., Employment Quality, Health and Safety, Training and Development, Human Rights, Community. Each category includes a set of key performance indicators (KPIs), for example, work-life balance or training hours. The overall ESG score is calculated on the basis of an equal weighting of all relevant data points, z-scoring and comparing them with the data points of all other companies to obtain a relative measure of performance expressed as a percentage ranging from 0 to 100% (a z-score is a relative measure indicating the value in numbers of standard deviation of a given observation from theme and value of all other observations) (Asset 4 ESG data glossary, 2015). In an attempt to capture the impact of sustainable management board compensation on ESG performance, we use the one-year lagged score, i.e., compensation of the current year is compared with the ESG measure of the following year. As already mentioned, compensation is classified as the independent variable. The proxy *COMP* represents the extent of nonfinancial indicators of sustainable management board composition.

We include several control variables commonly used in empirical corporate governance and CSR research. *EXP* is calculated as the percentage of sustainable expert members of the management board, as these members have special education or former experience as regards social and/or environmental aspects. In line with former studies, we expect a positive result. We also include the dummy variables *CSRC* and *COMPC* according to whether the management or supervisory board has implemented a CSR committee and a compensation committee. Once again, we assume that the implementation of a CSR committee and compensation committee will have a positive impact on ESG performance. Empirical corporate governance research also takes into consideration the size of the management board (*SIZE*) as a control variable. *SIZE* is determined in relation to the index-related average. Former members of the management board in the supervisory board are included in the variable *FORM*. Former studies did not provide evidence of a clear connection between these two board characteristics and corporate governance quality so that the expected result is also not clear.

We hypothesize a positive impact of sustainable management board compensation by non-financial indicators on ESG performance. However, as ESG performance and corporate performance are linked, we use three financial variables as a proxy for additional control. The natural logarithm of total assets (FSIZE), the ratio of total debt divided by total assets (LEV) and the return on assets (ROA) are taken into account as in other studies. The control variables were set into relation according to the respective industrial sector. A summary is included in Table 2.

Table 2. Variables of the study

Dependent variable	Explanation
ESGP	Environmental, social and governance performance according to Asset 4
Independent variable	Explanation
COMP	Relative amount of nonfinancial indicators of the management board compensation in comparison to financial items
Control variables	Explanation
EXP	Percentage of sustainable expert members in the management board (as reported)
CSRC	Existence of a CSR committee [dummy variable; 1 = yes; 0 = no] (as reported)
COMPC	Existence of a compensation committee [dummy variable; 1 = yes; 0 = no]
SIZE	Size of the management board (as reported)
FORM	Percentage of former members of the management board in the supervisory board (as reported)
FSIZE	Natural logarithm of total assets
LEV	Ratio of total debt divided by total assets
ROA	Net income before extraordinary items/preferred dividends divided by total assets

2.3. Regression model. The study evaluates whether sustainable management board compensation has an impact on ESG performance (*ESGP*). The assumptions of regression (linearity, homoscedasticity of residue, normal distribution of error term, multicollinearity) in accordance with the approach of Hair et al. (2009) were also tested here. We apply regression statistics in STATA 13. The following regression equation applies:

$$\begin{aligned}\text{ESGP} &= \alpha + \beta_1\text{COMP} + \beta_2\text{EXP} + \beta_3\text{CSRC} + \\ &+ \beta_4\text{COMPC} + \beta_5\text{SIZE} + \beta_6\text{FORM} + \beta_7\text{FSIZE} + \\ &+ \beta_8\text{LEV} + \beta_9\text{ROA} + \varepsilon\end{aligned}$$

3. Research results

3.1. Descriptive statistics. Table 3 provides an overview of the descriptive statistics. The ESG performance score ranges from 0 to 1. If the mean value is larger than 0.7, companies generally achieve good results in terms of ESG. The median value is higher than the mean value indicating that the distribution is skewed to the left. We also measure some extreme values, varying from close to 0 to close to 1. The ESG performanceis rather low our sample (25.1%).

The respective amount of non-financial items as part of the management board compensation is also rather low (14.7%). Also, on average, only a few sustainable expert members of the management board can be classified (20.1%). The majority of the analyzed companies did not implement CSR committees (14.3%), whereas the majority implements compensation committees as part of the supervisory board (59.1%). The formation of these committees is not legally required in Germany. On average, approximately 7 members serve on the management board. There are not as many former members of the management board on the supervisory board (32.1%).

Table 3. Descriptive statistics

Variables	Mean	Standard deviation	P25	Median	P75	Min	Max
ESGP	0.251	0.164	0.201	0.288	0.371	0.02	0.64
COMP	0.147	0.101	0	0.163	0.280	0	0.39
EXP	0.201	0.133	0	0.226	0.293	0	0.311
CSRC	0.143	0.118	0.1	0.250	0.28	0	1.0
COMPC	0.591	0.298	0.35	0.587	0.621	0	1.0
SIZE	7.374	2.397	6.0	7.0	9	3.0	12.0

Table 3 (cont.). Descriptive statistics

Variables	Mean	Standard deviation	P25	Median	P75	Min	Max
FORM	0.321	0.194	0.221	0.399	0.442	0	0.5
FSIZE	0.239	0.237	0.201	0.271	0.384	0.122	0.498
LEV	0.229	0.151	0.075	0.155	0.296	0	0.692
ROA	0.088	0.167	0.019	0.042	0.121	-0.069	1.254

3.2. Correlation results. Table 4 presents the Pearson correlation matrix for the dependent, independent, as well as control variables. All board composition variables correlate positively but non-significantly with *ESGP*. Therefore, we did not find a correlation between the independent variable and *ESGP* to support the hypothesis of my study. In line with prior research, *ESGP* correlates positively with profitability at the 1% significance level.

Table 4. Pearson correlation matrix

Variables	ESGP	COMP	EXP	CSRC	COMPC	SIZE	FORM	FSIZE	LEV	ROA
ESGP	1									
COMP	0.278	1								
EXP	0.023	0.265	1							
CSRC	0.029	0.088	0.221	1						
COMPC	0.256	0.312	0.230	−0.314	1					
SIZE	0.235	0.294	0.199	−0.132	0.387	1				
FORM	0.082	0.242	0.365	−0.241	0.264	0.219 **	1			
FSIZE	0.212**	0.431 **	0.326 *	−0.224	0.271**	0.442 *	0.490 *	1		
LEV	0.260	−0.082	−0.223	0.122	−0.371	−0.153	0.0323	−0.191	1	
ROA	0.254**	0.222	0.314	0.129	−0.212*	0.190	0,410	0.222	0.312	1

Notes: *ESGP* is the dependent variable measuring the ESG performance by the Asset Four database by Thomson Reuters, *COMP* is the independent variable as the relative amount of non-financial indicators of the management board compensation in comparison to financial items, *EXP*: dummy variable equal to 1 if the management board contains members with CSR expertise, *CSRC*: dummy variable equal to 1 if the company has implemented a CSR committee on the management or supervisory board, *COMPC*: dummy variable equal to 1 if the company has implemented a compensation committee on the supervisory board, *SIZE*: total number of members on the management board at the end of the fiscal year, *FORM*: dummy variable equal to 1 if a member of the supervisory board is a former member of the management board, *FSIZE*: firm size measured by natural logarithm of total assets, *LEV*: leverage measured by ratio of book value of total debt and total assets, *ROA*: profitability measured by natural log of Return on Assets, * correlation is significant at the 0.05 level (2-tailed); ** correlation is significant at the 0.01 level (2-tailed).

3.3. Regression results. Table 5 provides the results of the multivariate regression analysis. The coefficients of *COMP* are positive and significant at the 1% level which indicates that the degree of sustainable management board compensation has a positive impact on ESG performance in Germany. Consequently, these results support the hypothesis. Recall that the implementation of nonfinancial elements in management board compensation is voluntary and the mean of the variable is relatively low, the incentives of the companies to modify their compensation system in future should be strengthened.

Interestingly, the existence of sustainability experts on the management board (*EXP*) has no positive significant impact on ESG performance. Furthermore, there are positive significant results for the variable *COMPC* and a negative significance for *LEV*. Thus, the implementation of a compensation committee contributes to the sustainability management practice in a positive way and a leverage situation in a negative way. The coefficients of determination appear to be satisfactory (0.292). The F-statistics show some significance at the 5% level.

Table 5. Regression analysis

Variables	German prime standard (DAX, TecDAX, MDAX, SDAX)		
	Expected sign	Regression coefficient	p-value (2-sided)
COMP	+	0.244	0.002**
EXP	+	0.161	0.120
CSRC	+	0.142	0.121
COMPC	+	0.277	0.002*
SIZE	+/-	+0.134	0.159
FORM	+/-	+0.199	0.164
FSIZE	+	0.177	0.189
LEV	-	-0.241	0.002**
ROA	+	0.126	0.123
R^2 (adj.)	0.292		
F stat.	2.079*		

Notes: ESGP is the dependent variable; COMP is the independent variable COMP is the independent variable as the relative amount of non-financial indicators of the management board compensation in comparison to financial performance items; EXP, CSRC, COMPC, SIZE, FORM, FSIZE, LEV and ROA are the control variables. The 2-tailed significance level is indicated as follows: * = significance on the 0.05 level; ** = significance on the 0.01 level.

3.4. Sensitivity analysis. To determine whether the results of the analysis are robust, we conducted a sensitivity analysis on the measurement of the impact of sustainable management board compensation on ESG performance by modifying *COMP* as a dummy variable that equals 1 if at least one non-financial element of the compensation system exists. The regression results are shown in Table 6. Again, *COMP* has a positive significance on ESG performance.

Table 6. Sensitivity analysis

Variables	Expected sign	Regression coefficient	*p*-value (2-sided)
COMP	+	0.212	0.002**
EXP	+	0.173	0.221
CSRC	+	0.187	0.198
COMPC	+/-	0.212	0.002**
SIZE	+/-	0.218	0.277
FORM	+	0.289	0.002**
FSIZE	+	0.119	0.242
LEV	-	-0.265	0.002**
ROA	+	0.233	0.265
R^2 (adj.)	0.254		
F stat.	2.121**		

Apart from applying other variables, we examined collinearity problems by using the correlation matrix. The correlation coefficient is thought to be problematic if it exceeds 0.8. The correlation coefficients found in this study are below the stated value. A more indicative and accurate technique commonly used is the variance inflation factor (VIF) for each independent variable. If the VIF exceeds 10, collinearity is considered to be a problem. The VIF (not tabulated) for this study and for the model is 3.81. Thus, according to the correlation matrix and VIF of the variables contained in the study, it is unlikely that multicollinearity manipulates the regression results, as the maximum VIF is less than the threshold of 10.

Summary and limitations

This paper constitutes the first empirical study on the impact of sustainable management board compensation with non-financial elements on ESG performance for the German Prime Standard as a main representative of the European two tier system. The study comprises 677 firm-years observations covering the business years 2010-2014 and states that sustainable management board compensation has a positive impact on ESG performance as per the Asset Four database of Thomson Reuters. Surprisingly, the existence of sustainable experts on the management board shows a positive, but insignificant impact on ESG performance. Moreover, the implementation of a compensation committee as part of the supervisory board brings about a considerable increase in ESG performance. These impacts are the robust result of the analysis on the basis of a modified variable for sustainable management compensation.

In the near future increased research activity within Continental Europe can be expected, as the research gap of empirical corporate governance studies concerning the two tier system in Europe is not in line with current regulations regarding sustainable management board compensation. The requirement of multi-period observations and transnational examinations has become apparent.

At this stage, the limitations of the study must be mentioned. As the analysis only covers a small reporting period, it offers limited insight as modified reporting changes on the basis of legislative reforms are only likely to be apparent in the case of long-term studies. In addition, the study is limited to the analysis of the ESG performance of Asset Four. It must be noted that the assessment is not free of subjective influences, which, again, reduces the validity of the results. The comparability of other studies is also affected by the heterogeneity of the samples, because, although the companies all operate on the basis of the board system, corporate governance varies according to the individual countries. Furthermore, not a vast amount of samples was examined due to the time-consuming nature of the data analysis which, in turn, reduces the significance of the research results and indicates considerable potential for improvement in the development of future empirical study designs.

In conclusion, considering the usefulness of future decisions on compensation systems and reporting, recent regulatory reform initiatives must be pointed out. In response to the last financial crisis, the EU has published a range of statements which will have a material impact on compensation practice in the future. What is more, the modified EU shareholder rights directives to be finalized soon will provide a new impetus for the further development of compensation regulation in the European member states.

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