

## Disclosures of ESG Misconducts and Market Valuations: Evidence from DAX Companies

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*Environmental, social and governance (ESG) factors have become an important topic on capital markets amid an increasing interest in responsible investing. Despite this fact, public companies have been involved in a number of ESG misconducts in recent years, which were often against the interests of their stakeholders. In our research, we refer to stakeholder theory in order to show how disclosures of social misconducts against the companies' stakeholders have affected market valuation of listed companies, which we treat as one of the measures of shareholders' wealth. We conduct an event study on 235 ESG misconducts related to DAX companies. The data sample of ESG news was hand collected in a thorough content analysis in the period of 2000–2019. The main findings reveal that investors' reactions were more severe for ESG news released after 2009 than before this date as illustrated by negative and significant cumulative average abnormal returns (CAARs) in different event windows, while before 2009 CAARs were insignificant. We also found out that investors reacted stronger to governance- rather than social or environmental news. Our results provide a guidance for listed companies on how ESG mismanagements might affect their market value, and for investors who intend to incorporate ESG factors in their investment decision processes.*

**Keywords:** *Event Study; ESG Misconducts, DAX; Responsible Investing; Corporate Social Responsibility (CSR).*

### Introduction

Environmental, social and governance (ESG) factors have attracted an increasing interest of investors and regulators on capital markets. This has been assisted by a growing volume of sustainable investments (GSIA, n.d.) and improving incorporation of ESG factors among asset managers (Berry & Junkus, 2013; Jansson & Biel, 2016; Van Duuren *et al.*, 2016; Amel-Zadeh & Serafeim, 2018). In recent years, companies have engaged in corporate social responsibility (CSR) activities, incentivized by their impacts on companies' image (Virvilaite & Daubaraitė, 2011; Lii & Lee, 2012), reputation (Yoon *et al.*, 2006), competitive advantages (Juscus & Snieska, 2008), market value and financials (Preston & O'Bannon, 1997; Waddock & Graves, 1997; Al-Tuwajri *et al.*, 2004; Luo & Bhattacharya, 2006; Daszynska *et al.*, 2016) as well as risk metrics (Jo & Na, 2012).

Even though the concept of CSR is well-rooted in investment policies, management practice and scientific research, some companies have not faced up to social responsibilities towards their stakeholders. This also applies to firms from DAX index, which have revealed several major ESG mismanagements in recent years, including emissions scandals, discrimination cases, labour disputes, frauds, tax evasions and money laundering.

The scientific problem of this article is to analyze how disclosures of ESG misconducts have affected market valuations of DAX companies. The aim of the research is to determine how the mismanagements towards companies' stakeholders (e.g. environment, communities, investors, regulators) affect market capitalization of listed companies,

which we treat as one the measures of shareholder's wealth. In our research, we investigate how investors reacted to disclosures of ESG misconducts released before and after the global financial crisis of 2007–2008. We find it particularly important for adverse ESG news as negative/exclusionary screening was still the most popular sustainable investing strategy in Europe (GSIA, n.d.) as well as in Germany in 2018 (FNG, 2019).

We contribute to the existing literature in the following ways. Firstly, we conduct the research on up-to-date, unique observations, selected in a thorough content analysis. Secondly, our data sample is multidimensional and covers all ESG subcategories (i.e. environmental, social, governance), which is still rare in the existing papers. Thirdly, we focus on Germany as investors in that country have paid more attention to ESG factors recently, reflected in a significant growth in the volume of sustainability-oriented investment funds' assets (FNG, 2019). The market is also subject to legislative initiatives oriented at sustainable investing, e.g. the European Union Action Plan on Sustainable Finance. In addition, most of the empirical studies cover ESG news from US stocks, whereas research devoted to European markets is still scarce, with samples dating to the pre-crisis period (Kruger, 2015; Capelle-Blancard & Petit, 2017). Finally, our study provides empirical insights into stakeholder theory (Freeman, 1984) and efficient market hypothesis (Fama *et al.*, 1969).

The research methods used in the paper include comparative analysis of literature, content analysis and econometric modelling, i.e. event study.

The remaining part of the paper is structured as follows. In the section 'Environmental, Social and Governance Factors in Investing', we discuss current status of responsible

investing. In 'Theoretical Framework and Empirical Research', we survey the existing theoretical and empirical studies on the value creation potential of ESG-oriented management and develop three research hypotheses. Section 'Data Sample and Methodology' describes the research sample along with the methodology, i.e. event study. In 'Results and Discussion', we present the results to finalize the research in the section 'Conclusions'.

### **Environmental, Social and Governance Factors in Investing**

Investing aimed at generating positive or reducing negative social outcomes is not a new concept, but it has gained a significant traction in recent years. This is reflected in the value of sustainable investments, which reached \$30.7 trillion globally in 2018, representing a 34 % increase compared to 2016 (GSIA, n.d.). The trend is particularly visible on the German market, where new inflows to sustainable funds were €10bn in 2018 and sustainable investments accounted for 4.5 % of total investment funds volume in the period (FNG, 2019).

Recent market growth has been coupled with development of different names associated with strategies, which use environmental, social and governance factors in investments, such as socially responsible investment, ethical investment, social investment, responsible investment, sustainability/sustainable investment (Eccles & Viviers, 2011). In our research, we refer to responsible investing defined as 'investment practices that integrate a consideration of ESG issues with the primary purpose of delivering higher-risk-adjusted financial returns' (Eccles & Viviers, 2011, p. 401).

Further integration of ESG factors into asset allocation should be enhanced by the ongoing regulatory discussion and international cooperation on this matter. This includes the 17 Sustainable Development Goals set in the United Nations (UN) 2030 Agenda as the UN calls financial industry to 'disclose and incorporate long-term risk into investment decision making' as well as 'implement sustainable investing strategies, scale up green financial instruments, measure and report on impact' (UN, 2019, p. 6). These postulates seem to be addressed at the European Union (EU) level by the EU Action Plan on Sustainable Finance adopted in March 2018, which supports 1) reorientation of capital flows towards sustainable investment, 2) improved management of financial risks stemming from climate change, environmental degradation and social issues, and 3) enhanced transparency and long-termism in financial and economic activity (European Commission, 2018).

In response to investors' increasing demand and prospective regulatory frameworks, asset managers have more often used ESG criteria in the decision making process. Below, we present a review of the ESG diligence in asset management as its adoption and use may be a trigger for market valuations following disclosures of ESG misconducts, which we empirically study in the following parts of this paper.

The existing survey-based literature reveals that the use of non-financial guidelines in the investment process differs with respect to various aspects. Firstly, incorporation of ESG factors might differ across individual ESG dimensions given

that 60 % of the surveyed asset managers had detailed instructions on the use of governance factors, compared with 43 % both for environmental and social issues (Van Duuren *et al.*, 2016). Relevance and materiality of the news remains an important theme. A study from Amel-Zadeh & Serafeim (2018) shows that institutional investors continue to consider country of operations, industry and firms' strategy as crucial when they incorporate ESG factors into the investment decision process.

Secondly, there is an evidence that institutional and individual investors have different perception of ESG diligence. The latter focus more on environmental and social issues when they refer to socially responsible investing (Berry & Junkus, 2013), while the former are incentivised by beliefs about long-term returns of ESG integration (Jansson & Biel, 2016; Amel-Zadeh & Serafeim, 2018). Some studies suggest that ESG diligence serves institutional investors rather as a method for mitigating risk than a tool for additional value creation (Przychodzen *et al.* 2016; Van Duuren *et al.*, 2016). Moreover, the perception of value creation potential of ESG investing differs across countries, e.g. asset managers in the US are less optimistic about the benefits of socially responsible investing than their European counterparts (Van Duuren *et al.*, 2016).

Finally, investment strategies, which incorporate ESG factors, continue to evolve. Investment professionals consider negative screening strategy (the most popular investment strategy which takes into account non-financial measures) as less beneficial for financial returns than positive screening and active ownership (Amel-Zadeh & Serafeim, 2018), but at the same time, 60 % of fund managers used red flagging in investment, i.e. 'the process of intensively monitoring and/or excluding stocks that are involved with serious environmental, social, or governance controversies or issues' (Van Duuren *et al.*, 2016, p. 529). On a forward looking basis, Amel-Zadeh and Serafeim (2018) found that ESG investment strategies oriented at positive screening and active ownership should gain on importance.

### **Theoretical Framework and Hypotheses**

ESG misconducts in our research represent mismanagements towards various companies' stakeholders, defined as 'the groups or individuals who can affect or are affected by the achievement of organization's mission' (Freeman, 1984). This includes primary stakeholders in particular, who ensure the company's survival through their continuing participation in its business operations (Freeman, 1984, Clarkson, 1995). These stakeholders involve the public group (e.g. shareholders, investors, employees, customers and suppliers) and providers of infrastructures and markets (e.g. entities, which set laws, regulations, collect taxes and impose any other obligations on corporations) and violation of companies' duties towards this group of stakeholders is captured in our research in press releases classified as social and governance misconducts.

Freeman (1984) and Clarkson (1995) assert that corporate system fails if primary stakeholders withdraw their participation in the company's business. It results from a strong interdependence between a corporation and its primary stakeholder groups. While secondary

stakeholders are not crucial for the company's survival, they can also harm its business value. The examples of secondary stakeholders include communities, activist groups, media or general public (Freeman, 1984, Clarkson, 1995). Natural environment could also be considered as an organizational stakeholder, although existing papers present contrasting views in that matter (Starik, 1995; Phillips & Reichart, 2000). In our research we follow the logic of Haigh and Griffiths (2009), who conclude that natural environment is a primary stakeholder (though non-traditional), mainly due to strategic reasons, exhibited by extreme weather events in recent years and their direct impact on companies' operations and financial results. This is one of the reasons why in our research we check also the effects of environmental scandals on companies' market valuation.

Friedman (1970) states that management should focus on maximization of shareholders' wealth, while Freeman (1984) says that the aim is to balance the claims of all the company's stakeholders. Freeman *et al.* (2007) argue that traditional narratives of capitalism fail to properly address business ethics, oversimplify human beings and focus on capturing- rather than creating value. The authors outline principles for stakeholder capitalism, which is 'based on freedom, rights, and the creation by consent of positive obligations' (Freeman *et al.*, 2017, p. 311). Notably, this term has gone beyond scientific discussion recently, e.g. it has become the theme of Davos Manifesto 2020 in response to the social and environmental challenges, which the global economy has faced in recent years.

Value-creation potential of the firm's corporate social performance has been examined in empirical research for several decades, but the results are rather inconclusive. Friede *et al.* (2015) presented the main findings of more than 2000 studies published between 1970s and 2015, revealing that 90 % of the papers found a nonnegative relation between corporate social performance and corporate financial performance, with a large share of positive results.

However, most of the existing studies focus on the long-term value creation potential of ESG-oriented management, while its immediate effects on market valuations have been examined less often. In addition, existing papers are usually based on secondary ESG news. This includes studies, which examine how the inclusion in or exclusion from sustainability-oriented indices affects the market valuation in short-term. Based on the findings of the above studies, investors' reactions to these events differ across sustainability indices, e.g. they were insignificant for the FTSE4Good Index (Curran & Moran, 2007) or Dow Jones Sustainability World Index (Cheung, 2011), and significant for the STOXX Europe Sustainability Index (Daszynska *et al.*, 2014), the Morningstar Socially Responsible Investment Index (Nakai *et al.*, 2013) and the RESPECT Index (Adamska & Dabrowski, 2016). The findings also reveal that investors' perception of the value-adding/reducing impact of sustainability-oriented management has changed over time. This is illustrated by the contradictory conclusions of Daszynska *et al.* (2014) and Adamska and Dabrowski (2016), who examined the same index, but over a different time period. Other studies have checked market reactions to corporate social responsibility (CSR) awards and rankings (Doh *et al.*, 2010; Jacobs *et al.*,

2010; Cordeiro & Tewari, 2015), which we also treat as secondary ESG information.

It should be noted that all these studies are based on secondary ESG evaluations, therefore they reflect investors' reactions to subjective assessment of sustainability aspects provided by selected financial intermediaries. It is thus difficult to determine if the reactions are triggered by the companies' performance itself or by the informative function of the assessments delivered to investors. This problem has been addressed in studies that focus on the impact of primary ESG news on market valuations, examples of which include environmental disasters and mismanagements (Capelle-Blancard & Laguna, 2010; Xu *et al.*, 2012), layoff announcements (Worrell *et al.*, 1991), bribery and illegalities (Davidson & Worrell, 1988; Sampath *et al.*, 2018). However, they all cover individual aspects of ESG misconducts selected in different time periods, geographies and with the use of various research methods, which also means that the comparability of the results is limited.

A comprehensive research on individual ESG dimensions was conducted in papers from Capelle-Blancard and Petit (2017) and Kruger (2015). The former revealed that, on average, market value of companies decreases by 0.1 % upon disclosure of negative ESG news whereas positive ESG news do not significantly increase market valuation. These results support the findings of Kruger (2015), who found that investors react strongly negatively to negative ESG news and weakly negatively to positive events. With respect to individual ESG dimensions, Kruger (2015) concluded that market reactions are particularly notable for information related to communities and environment, while findings of Capelle-Blancard and Petit (2017) suggest that the average impact of negative ESG news is similar for environmental-, social- and corporate governance misconducts. Besides, the authors found that stock market reactions have not changed over time. In both papers, samples are limited to US stocks. In the existing literature, there are few articles focused solely on German market, but they only include governance-related issues, such as frauds (Knauer *et al.*, 2015), and tax evasion (Blaufus *et al.*, 2019).

Based on the literature review, we conclude that we contribute to the existing literature by conducting our research for individual ESG subcategories and using up-to-date observations. We perform our analysis for German market, while most of the above studies were carried out on the US stocks and to our best knowledge this is the first research on the topic devoted to the set of 30 largest listed companies in Germany. This paper also contributes to the literature related to the stakeholder-oriented management and efficient market hypothesis.

In consistency with the studies presented in this and the previous section, we have developed the following research hypotheses:

*H1: The impact of disclosures of ESG misconducts on companies' market valuation is negative.*

*H2: The impact of disclosures of ESG misconducts on companies' market valuations is different for different ESG subcategories.*

### Data Description and Methodology

Sample selection and verification process was performed manually. In the first step, we have created a set of key words (Table 1) that has classified a piece of news to each ESG subcategory, i.e. environmental, social and governance (Flammer, 2013; Deak & Karali, 2014; Davidson & Worrell, 1988). These key words address the needs of various companies' stakeholders, including primary and secondary stakeholders, as discussed in the section 'Theoretical Framework and Hypotheses'.

The research sample was collected using Newspaper Source provided by EBSCO database, which includes full text for hundreds of the US and other international and regional newspapers. The retrieved news come from business-focused, high-volume, English-language international daily newspapers: Wall Street Journal, New York Times, The Times, and The Washington Post. The selection of news from well-known titles assures that the articles may reach both local and international investors and thus become a trigger for market valuations. The above newspapers cover top stories from capital markets worldwide, which we assume proxies the materiality and importance of the events that they describe. As a result, our study includes only major events as minor and local issues are not covered by the titles.

As a result of the above selection procedure, we have obtained a research sample that included 235 negative ESG news from DAX companies. Notably, we have analyzed firms that were included in the index as at end of April 2019. News items in our research sample were released between January 2000 and May 2019. Governance-related news comprise 71 % of the research sample with 167 pieces of news, followed by social news (41 pieces of news corresponding to 17 % of the research sample) and environmental news (27 pieces of news, 11 % of the research sample). In terms of the data sample concentration, news related to five companies account for 59 % of the sample, with the largest number of news items linked to Deutsche Bank (22 %), Daimler (12 %) and Merck (10 %).

In order to test H1, we have subdivided the sample into news released before 2009 and after 2009, based on the assumption that the global financial crisis 2007-2008 has provoked an increased level of scrutiny towards capital market player, which was at that time also supported by an increasing popularity and growing number of signatories of the United Nations-supported Principles for Responsible Investment launched in 2006. The subsamples include 116 and 119 observations, respectively. In order to test H2, we have subdivided the above subsamples into subsequent ESG subcategories. As a result, we got 25 pieces of news released before 2009 from the social subcategory, 89 from the

Table 1

Key Words for ESG Subcategories

Environmental	Social	Governance	Other*
Environmental, contamination, Environmental Protection Agency, European Environment Agency, environmental disaster, ecological disaster, pollution, spill, leak, emission, toxic waste, hazardous waste, radioactive waste	Strike, labour disputes, lay-off, harassment, discrimination, labour standard, child labour, human rights	Bribery, corruption, fraud, embezzlement, laundering, tax evasion, insider, whistleblower, cartel	Allegations, accusations, claims, lawsuit

Note: For key words from the Other category, a piece of news was assigned to an ESG subcategory based on analysis of the content.

We have used several exclusionary criteria in the selection process to ensure that potential abnormal returns result only from the ESG-related misconducts and reflect the immediate investors' reaction to a piece of news. Firstly, we have excluded all news items for which key words appeared with other significant corporate events, e.g. earnings announcements, acquisitions, CEO successions. Secondly, when a piece of the same news was published in more than one of the above newspapers, we have selected only this press release, which was published first. In the next step, we have analyzed all articles' summaries to assure that all pieces of news are unambiguously negative. Thus, we have excluded all news items, where a key word appeared, but the intention of the company was good (e.g. implementation of policies reducing pollution). We also rejected articles, where a key word and a company's name appeared but the actions were 1) independent from the companies' management or 2) related to some broader market trends and rumors (e.g. an article related to ongoing discussion on implementation of anti-fraud regulations). Finally, we have excluded all articles, which included a retrospective description of an event and presented its background, subsequent actions or/and author's opinion and comments.

governance subcategory and 2 news items for environmental misconducts. We do not show results for the latter subsample due to small number of observations. In the same manner, we subdivided the ESG misconducts released after 2009, obtaining 25 environmental-, 16 social- and 78 governance observations (See Tab. 2).

The research methodology is an event study, which represents a systematic examination of the average impact of a certain event on the price of certain type of corporate asset. Event study measures abnormal returns around the event date that were imposed by occurrence of the event. This methodology is grounded in the efficient market hypothesis (Fama *et al.*, 1969), which states that all available information is fully reflected in asset prices. Event studies have been used in a wide range of scientific research in the past, predominantly to examine the impact of financial information on company's valuation, e.g. stock splits and dividend payment (Grinblatt I, 1984), acquisitions and divestitures (Mulherin & Boone, 2000; Andriuskevicius, 2019) as well as earnings announcements (MacKinley, 1997). Event studies have been historically used to investigate the impact of the inclusion in- or exclusion from- various sustainability indices on market valuations (Curran & Moran, 2007; Cheung, 2011;

Daszynska *et al.*, 2014; Adamska & Dabrowski, 2016). Finally, the event study methodology has been used to investigate the effects of social issues on market valuations, such as environmental disasters (Capelle-Blancard & Laguna, 2010), strikes (Becker & Olson, 1986), layoffs (Worrell *et al.*, 1991), or corporate illegalities (Davidson & Worrell, 1988; Sampath *et al.*, 2018). The latter examples underpin our choice of the research methodology (i.e. event study) given the aim of the research and the fact that the social issues that they refer to correspond with some of the ESG misconducts that we include in our research sample

Event date in our research corresponds to the disclosure of a piece of news in a newspaper. In order to test market reactions to ESG misconducts over different time periods, we have set three event windows: +/- 5 days from the event date; +/-10 days from the event date; +/- 30 days from the event date.

We have calculated abnormal daily returns for each event using market model according to the following formula, where:  $R_i$ , return of a company's stock;  $\alpha_i$  and  $\beta_i$  are regression coefficients;  $R_m$ , rate of return on the market portfolio;  $\varepsilon_i$ , error term. Estimation window was set at 90 days, starting from 120 days- and ending 30 days prior to the event (Xu *et al.*, 2012).

$$R_i = \alpha_i + \beta_i R_m + \varepsilon_i$$

Abnormal returns were determined against a market portfolio, represented by MSCI Germany Index, which covers around 85% of the equity universe in Germany. Abnormal returns were calculated according to the following formula.

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt})$$

In order to test significance of the results, we have applied a non-parametric Generalized Rank Test, which accounts for cross-correlation of returns, serial correlation of returns and event-induced volatility (Kolari & Pynnonen, 2011). Non-parametric tests are distribution-free (Kolari & Pynnonen, 2011) and tend to be less sensitive than parametric tests to distributional assumptions. In addition, non-parametric tests are more appropriate for small data samples (Bartholdy *et al.*, 2007), which is a condition applicable for environmental- and social subsamples in our research.

## Results and Discussion

In order to test H1 and H2 research hypotheses, event study was run on 1) ESG news for two different periods, i.e. before 2009 and after 2009 and 2) ESG news from each ESG subcategory separately for these two periods. We present the results for average cumulative abnormal returns (CAARs) in Table 2 along with minimum and maximum cumulative abnormal returns (CARs) in different event windows.

For 5-, 10-, and 30-day event windows, CAARs were not statistically significant for negative ESG news items released before 2009, while after 2009 they were negative and significant. There are several factors that could explain the difference in investors' reactions to ESG misconducts released before 2009 and thereafter. Firstly, despite an increased investors' scrutiny after the financial crisis 2007–2008, companies continue to disclose large-scale scandals against their stakeholders and get penalized for those mismanagements. This has been coupled over recent years with an improving media coverage and faster dissemination of information, which has increased market efficiency (Peress, 2014). Secondly, stronger investors' reactions to ESG misconducts released after 2009 might be attributable to a rising number of fund managers, who have used non-financial criteria in investment decision process, either as a tool for creating value or as a tool for mitigating portfolio risk (Przychodzen *et al.*, 2016; Van Duuren *et al.*, 2016).

Disclosures of ESG misconducts after 2009 triggered negative and significant CAARs in the 5-, 10- and 30-day event window, reducing market valuations by 1.6 %, 2.1 % and 2.9 %, respectively. It is noteworthy that the longer the event window, the stronger the reduction of market valuations, which could suggest that disclosures of further details on the ESG misconduct in subsequent days (e.g. potential financial impacts or at least legal consequences) enable 1) conventional investors to incorporate potential effects of ESG mismanagements into financial forecasts, and 2) responsible investors to evaluate the event according to their investment criteria.

Based on the results described above, we partly confirm our H1 as the impact of disclosures of ESG misconducts on companies' market valuation was negative and statistically significant for ESG misconducts released after 2009 and negative, but statistically insignificant before this date.

Table 2

Results Table

Subsample	No of obs.	CAAR			Min CAR			Max CAR		
		5-day event window	10-day event window	30-day event window	5-day event window	10-day event window	30-day event window	5-day event window	10-day event window	30-day event window
Before 2009	116	0.07%	-1.05%	0.09%	-23.61%	-52.40%	-61.27%	14.34%	27.39%	62.23%
After 2009	119	-1.6%**	-2.1%***	-2.9%***	-37.52%	-34.56%	-33.77%	18.09%	25.67%	40.38%
<b>Before 2009</b>										
Environmental	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Social	25	0.45%	0.27%	1.57%	-13.53%	-23.26%	-13.36%	11.29%	27.39%	34.32%
Governance	89	0.02%	-1.35%	-0.16%	-23.61%	-52.40%	-61.27%	14.34%	23.48%	62.23%
<b>After 2009</b>										
Environmental	25	-1.91%	-1.12%	-0.82%	-37.52%	-34.56%	-31.52%	5.77%	9.33%	40.38%
Social	16	-2.27%	-4.22%*	-0.98%	-10.26%	-19.78%	-22.37%	5.06%	5.26%	17.61%
Governance	78	-1.37%**	1.99%***	3.96%***	-17.31%	-19.40%	-33.77%	18.09%	25.67%	29.81%

Note: \*\*\*, \*\*, \* represent significance at 1 %, 5 % and 10 %, respectively.

ESG misconducts released after 2009 have triggered reductions of market valuation in all ESG subcategories (i.e. environmental, social and governance) as illustrated by negative CAARs in the studied event windows. However, CAARs were statistically significant for all event windows only in case of governance-related mismanagements (i.e. CAAR at -1.37 % for a 5-day event window, -1.99 % for a 10-day event window and -3.96 % for a 30-day event window) and for social mismanagements, though in the latter case only in the 10-day event window (i.e. CAAR at -4.22 %). CAARs were statistically insignificant for environmental misconducts released after 2009 and in all ESG subcategories before 2009.

With this respect, we note that ESG misconducts are usually more ambiguous for investors than disclosures of purely financial information (such as earnings announcements or dividend declarations) and the potential impact of some types of negative non-financial disclosures on companies' value might be more evident for investors than others. E.g. in our data sample, a vast majority of social issues include such topics as lay-offs, strikes and discrimination trials. While lay-offs may have negative social connotations and bring about adverse effects to working environment, they can be evaluated in a positive way by investors who focus on their financial implications. Such evaluation might be even harder for environmental issues as reflected in CAARs that are statistically not significant. In contrast, negative governance news in our sample include issues like bribery, frauds, cartels and fiscal crimes, which are both against social rules and very often have also negative financial impacts, e.g. lead to lawsuits and penalties. In turn, governance news in our sample can be unambiguously classified as value destructive both by investors, who implement responsible investing strategies and by investors, whose decisions are mainly driven by financial criteria.

We also note that more severe investors' reactions after 2009 to governance than to environmental and social misconducts might also reflect some asset management guidelines and policies, which tend to be more detailed for the former ESG subcategory than for the latter (Van Duuren *et al.*, 2016) (See the section 'Environmental, Social and Governance Factors in Investing' for more details).

Consequently, we partly confirm our H2, which states that the impact of disclosures of ESG misconducts on companies' market valuations is different for different ESG subcategories. In line with our findings, ESG mismanagements had on average a significant negative impact on firm's market value for ESG misconducts released after 2009 for issues classified as governance-related, though with some evidence of significant negative impact of social misconducts as well. This contrasts with the findings of Kruger (2015), who found out that negative ESG news triggered negative and significant investors' reactions when a piece of news was related to mismanagements (towards

environment and communities in particular), and Capelle-Blancard and Petit (2017), who concluded that investors' reaction is similar irrespective of the type of news. At the same time, we note that the latter examined all ESG issues (i.e. irrespective of their impact on business), while the former focused on materiality ESG events, which was a similar assumption to our research. We believe that our contradictory findings to existing studies might result from the relevance of a piece of information and its potential impact on a company's financials. This is illustrated by a wide range of the obtained CARs for ESG events, irrespective of the period and the ESG subcategory (Tab. 2).

### Conclusions

The aim of the research is to determine how public disclosures of mismanagements towards different stakeholders of listed companies have affected their market capitalization, which we treat as one of the measures of shareholder's wealth. Our results show that mismanagements against companies' stakeholders have deteriorated market valuations of the companies listed in the DAX index in the analyzed event windows, though investors' reactions were more severe to ESG misconducts released after 2009, as exhibited by negative and significant CAARs over different event windows after this date. The results also suggest that governance-related issues reduce market valuations to a greater extent than environmental and social issues, with the two latter being value neutral in the studied periods. At the same time, our study suggests that materiality of ESG issues remains an important factor, as reflected in large span between the minimum and maximum CARs in the studied event windows.

This study complements the existing empirical literature on the link between corporate social and financial performance. It also underpins the ongoing discussion on the rationales of incorporating ESG factors into decision making process in practice. Finally, it gives additional insights into the competing theories of shareholders' and stakeholders' capitalism.

It is noteworthy that confounding effects remain an issue in every event study research as there are many other factors that impact market valuations except identified events. Generally, the longer the event window, the greater the risk that such factors will occur (McWilliams & Siegel, 1997). We address this issue with exclusion criteria (see 'Data and Methodology section'), but we are also aware that we were not able to control for all possible internal and external factors through all event windows used in this paper. Further research could expand the sample to other stock exchanges, including less developed capital markets, in order to check if there are any fundamental differences in investors' behavior with respect to responsible investing.

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