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Firms' sustainability engagement and sustainability-related controversies

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Abstract

Sustainability issues became ever more important for firms' business strategies. Not living up to public and stakeholders' expectations results in controversies damaging the firm's reputation. Firms integrate sustainability aspects – environmental, social, and governance (ESG) issues – in their business strategies to satisfy stakeholders ranging from customers to investors. Substantial resources are invested to increase their sustainability engagement to avoid sustainability-related controversies. However, the degree to which sustainability engagement is effective is an open issue, as the occurrence of sustainability-related controversies has structural components, which are under the firms' control, but also random components. Using data on firms' sustainability engagement, this paper investigates to what degree firms can actually avoid controversies by engaging in sustainability and to what degree such controversies are caused by factors beyond the firm's control, like random events or the societal environment. Our findings indicate strong sustainability engagement to be a significant factor for avoiding controversies, albeit the magnitude of the effect is very limited. While controversies are not purely random events, they are driven strongly by factors beyond the firm's strategic control, like firm size and country of origin.

KEYWORDS

corporate reputation, environmental policy, ESG performance, stakeholder engagement, stakeholder management, sustainability engagement, sustainability performance

1 | INTRODUCTION

The relevance of firms' sustainability engagement, understood here as firms' engagement in assuring that Environmental, Social, and Governance (ESG) issues are covered in firms operations, increased substantially over the last decades (Bansal, 2005; Dawkins & Lewis, 2003). This trend is driven by all stakeholders of firms: Investors increasingly

pay attention to firms' ESG performance, either for intrinsic motives (Chen et al., 2023; Helm, 2007; Iyer & Kashyap, 2009; Junkus & Berry, 2015; Starr, 2008) or instrumental motives, where strong ESG performance is seen as entailing a wide range of economic advantages (Aupperle et al., 1985; Eccles et al., 2014; Fauser & Utz, 2021; Friede et al., 2015; Peifer & Newman, 2020; Xie et al., 2019). Even higher became the relevance of sustainability issues and ESG engagement as a defining element of how the public views and evaluates firms: For the general public (Raithel & Schwaiger, 2015; Serafeim, 2020), sustainability issues and the firms' efforts in dealing with these issues

Abbreviations: CSR, Corporate Social Responsibility; ESG, Environmental, Social and Governance; EU, European Union; NGO, Non-Governmental Organization; US, United States.

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affect the overall reputation of a firm, which in turn is a resource of nearly universal relevance (Schwaiger et al., 2011). Sustainability issues matter for a range of stakeholder groups, such as activists (Garces-Ayerbe et al., 2012) and customers (Rodgers et al., 2019; Sen & Bhattacharya, 2001), but even potential employees deciding whether to work for a particular firm (Turban & Greening, 1997). While reporting on sustainability was optional for a long time, it became obligatory: Formal and informal communications on sustainability are central elements in firms' communication with stakeholders and have substantial economic impact on the firm (Gjergji et al., 2021; Tarulli et al., 2023).

Thus, choosing the level of sustainability engagement by organizing business processes to integrate sustainability issues became a central strategic business decision: Firms can (re)organize their business processes in line with sustainability considerations, assuring that ESG aspects are encompassingly implemented. This engagement is presumed to preclude sustainability-related problems which in turn result in public controversies involving the firm. Taking the environmental domain as an example, a firm can organize its production processes, but also supply chains, so as to avoid environmental problems, like emissions, or accidents causing environmental damages. Similar, structural measures can be taken to address social and governance issues. Events, both of structural (e.g., organization of supply chains) and random nature (e.g., accidents), can trigger sustainability/ESG-related controversies, defined as a prolonged negative media coverage of a firm centering on an ESG-related issue. We focus on structural organizational measures, as they concern how the firm organizes its processes and is operating within the institutional setting it imposes on itself. The totality of a firm's structural measures in the three domains of sustainability is throughout the paper labeled ESG engagement. The central assumption, of firms, but also of this study, is that, *ceteris paribus*, showing sustainability/ESG engagement reduces the risks of being subject to public controversies. However, even high engagement does not reduce the risk of controversies to zero. For instance, even if a firm organized its production process in a way which assures that environmental aspects are covered to a high degree, there may still be controversies about environmental issues involving this firm. A first example is accidents with environmental impact, which still can occur, even though the firm did take extensive measures to avoid them. A second example is business models per se. Take a producer of petrol-powered cars. Even if the production process is organized in an environmentally friendly way, the product per se, viz., petrol-powered cars, can trigger a prolonged environmental controversy involving the firm.

Thus, for firms it is important to be aware that there are controversies involving issues a firm has substantial control over, say, having in place rule on avoiding social problems like child labor in the supply chain, but also issues, a firm has no control over, say, the industry the firm is active in but also accidents; see Dunbar and Schwalbach (2000) for an early version this distinction. With this background, several research questions arise which were not yet addressed. First, what is the degree to which firms' sustainability/ESG engagement is an effective means to prevent controversies involving the firm? Second, given

that public awareness matters for the occurrence of controversies and this awareness increases, one can ask whether the relevance of firms' engagement for controversies differs over time. We argue that given the high relevance of sustainability, firms increase their engagement to avoid problems which can realistically be avoided by organizing business processes appropriately. This implies, paradoxically, that controversies become more random over time.

This paper is located on the intersection of research on sustainability engagement and reputation. While both themes received a lot of attention already, the link between structural sustainability engagement and controversies received little attention. To address these gaps, the paper proceeds as follows: in the next section, the state of the art on sustainability engagement and sustainability-related controversies is reviewed. Based on the distinction between structural and random causes of controversies, hypotheses are derived (Section 3). Section 4 describes the data gathering process and methodology, Section 5 presents the analyses, and the final section discusses limitations and concludes.

2 | SUSTAINABILITY ENGAGEMENT AND CONTROVERSIES

Screening research on sustainability engagement and controversies reveals gaps: On the one hand, causes and consequences of sustainability engagement are persistent issues in research (see for many, Velte, 2022; Desender & Epure, 2021), dominating is the perspective that links sustainability engagement to economic advantages, see for many Xie et al. (2019) and Zhou et al. (2022). On the other hand, existing research on controversies and corporate reputation covered intensely, how firms deal with acute crises, like environmental accidents (Cho, 2009; Minor & Morgan, 2011), but also issues like greenwashing (Coen et al., 2022) and brown-washing (Huang et al., 2022). The present study is about the complementary question, whether systematical sustainability-related efforts of firms actually avoid controversies that are damaging in reputational and economic terms. Screening existing research on the closely related issues of sustainability engagement and reputation indicates research gaps. Much research covers the degree by which sustainability performance drives financial performance, a link which is from the perspective of the public (Fombrun & Shanley, 1990), academic research (Huang, 2021; Rost & Ehrmann, 2017), but also in the view of firms' management (Hafenbrädl & Waeger, 2017) a major motive for firms' strategic activities in the domain of sustainability.

A central element linking sustainability engagement and economic performance is reputation, which mediates between firms' sustainability-related activities and economic consequences (Bertels & Pelozo, 2008; Fombrun & Shanley, 1990; Lin-Hi & Blumberg, 2018): engagement increases reputation, which entails economic benefits and increases economic performance. While research on corporate reputation has consistently established the positive effects of reputation on economic performance (see for many Herremans et al., 1993; Roberts & Dowling, 2002; Sabate & Puente, 2003; Eberl &

Schwaiger, 2005; Walker, 2010; Almeida & Coelho, 2019), the linkage between structural sustainability engagement and reputation is less established, even though it was already subject of research. The linkage is found to be weaker and more conditional on a range of factors. True, sustainability-related activities are important for reputation (see for many: Walker & Dyck, 2014; Sontaite-Petkeviciene, 2015; Jeffrey et al., 2019; Gazzola et al., 2020; Mahmood & Bashir, 2020), so what a firm does in terms of concrete ESG activities affects its reputation. But firms' engagement does not determine reputation, not even the specific reputation in the clearly circumscribed domains of ESG themes (see for many Perez-Cornejo et al., 2020).

This becomes obvious when situations of systematically lacking engagement (Lin-Hi & Blumberg, 2018) or acute failures are considered (Allen & Caillouet, 1994; Cho, 2009; Vanhamme & Grobbsen, 2009). In particular, instances of the latter situation cannot be deterministically linked to reputation as acute sustainability-related failures do not deterministically impact on reputation. As it is, structural sustainability engagement is presumed to have positive effects in the case of acute crises and is at times seen as an insurance against reputational damages in the case of an acute crisis (Minor & Morgan, 2011). So, firms with high engagement levels do not suffer reputational losses if an acute event of basically random nature occurs. Firms also tend to engage in sustainability to recover from reputational damages after sustainability-related events (Mure et al., 2021). However, even the plausible linkage between a sustainability-related event and reputation could not be established consistently: For instance, Karpoff et al. (2005) found that there is basically no genuine reputational effect if firms violate environmental regulations. True, firms lose market value, but this loss is in its amount equivalent to the penalties imposed for the violation, and there is no reputational damage expressed itself in financial regard.

In terms of whether long-term and structural sustainability engagement actually increases corporate reputation, different studies came up with different results, also regarding different aspects of engagement and their effects on reputation. For some authors, sustainability performance and reputation are so close, that differentiating both became a conceptual problem (e.g., de Quevedo-Puente et al., 2007). At the empirical level, for instance, Almeida and Coelho (2019) investigated the role of engagement of firms for the reputation among employees, and found support for the argument that engagement increases reputation, which also increases the loyalty between employees and the firm. Fernandez Sanchez et al. (2015) found similar results using a larger and more diverse set of firms (Ibex35). In the same manner, Jeffrey et al. (2019) – using membership in the Fortune Most Admired Companies List as a measure of reputation – find a dominating role of economic features but also a significant contribution of engagement for making it on the list. These findings could not be confirmed by other studies, for example, Dell'Atti et al. (2017) analyzed the link between engagement, reputation, and financial performance using a very limited sample of Italian banks and strongly confirmed the reputation–financial performance link. But, studying the contribution of the diverse elements of engagement in more detail, Dell'Atti et al. actually found negative relationships between

indicators of corporate governance, environmental performance, and reputation.

To summarize, it can be stated that, while showing high sustainability engagement is presumed to result in fewer sustainability-related controversies and higher reputation, this is not automatically the case (Barnett & Hoffman, 2008; Bertels & Pelloza, 2008; Brammer & Pavelin, 2006). The strength of the link is open for debate. Ad hoc events, for example, accidents with environmental impact, can trigger controversies that strongly affect reputation (Cho, 2009), and the role of firms' structural sustainability/ESG engagement for avoiding controversies is empirically not well established. Considering the linkage in the light of existing research indicates that firms may avoid controversies by engaging in the three domains of ESG, but may still suffer from controversies beyond their control. This raises the empirical question, to what degree the structural engagement firms chose in the framework of their business strategy, is effective at avoiding controversies, compared with factors that are beyond the firm's control.

3 | THEORETICAL BACKGROUND

This study suggests to differentiate controversies into those due to elements, firms can control, for instance, by choosing an appropriate business strategy for the domain of ESG, and elements, firms cannot control, which encompass accidents but also broad cultural developments. This distinction between structural and random factors was first introduced by Dunbar and Schwalbach (2000), who dealt with corporate reputation in general.

3.1 | Structural causes of sustainability controversies

Firms may get involved in sustainability-related controversies for reasons beyond their control. We denote these factors as structural, as they are not related to a specific firm's (in)activity in the domains of ESG, or singular event. Interestingly, this per se trivial fact rarely features in the studies of controversies, which are mostly concerned with acute cases, like environmental disasters, and often qualitatively oriented (Allen & Caillouet, 1994; Deegan et al., 2002; Muralidharan et al., 2011). However, a firm may be the subject of a controversy because of its business model and it may also be subject of a controversy, because of developments and events in the society in which it operates. Business models of firms are to various degrees subject of more or less permanent controversies. Examples are nuclear energy or oil production, which are regardless of the sustainability engagement of a specific firm in the focus of public attention. A general public controversy about renewable energies may spill over to firms from the automobile and oil industry without specific actions or in-actions of the firms. Moreover, there is evidence, that countries differ in the degree to which sustainability and ESG activities are major issues in the public discourse and how the role and responsibility of firms for

ESG and the overall development in issues like sustainability are seen (Hall & Soskice, 2001; Nonis & Relyea, 2016; Prochazka & Jirasek, 2023). Thus, a firm with a high sustainability/ESG performance may nevertheless become subject to a controversy because of developments in the public discourse in a country. This, too, is a structural factor beyond the control of a specific firm.

3.2 | Sustainability performance and controversies: a loose linkage

Firms engage in the three domains of ESG to avoid sustainability/ESG-related controversies, which are damaging their reputation. These efforts are not deterministically linked with the occurrence of controversies, as several instances illustrate. A first case showing the conditional effect of ESG efforts are situations when a firm encounters an acute crisis which results in a specific controversy involving the firm and the incident (Cho, 2009; Jonkman et al., 2020). In such cases, reputation suffers immediately and recovering from such a crisis often requires major efforts by firms (Hahn & Lülfs, 2014; Minor & Morgan, 2011; Muralidharan et al., 2011). However, showing strong sustainability/ESG performance in a firm's basic operations produces a general legitimacy and high reputation (Fernandez Sanchez et al., 2015; Hörisch & Schaltegger, 2017; Mahon & Wartick, 2003; Suchman, 1995). This "insurance" (Minor & Morgan, 2011) then serves as a buffer against loss of reputation – and economic damages – in the case of an acute crisis (Epure, 2022; Jonkman et al., 2020). Thus, while persistent engagement may not lead to higher reputation, it may help to avoid controversies and loss of reputation in the case of an acute crisis, which may also imply that controversies do not occur.

A second case of a disconnect arises because firms can actively manage public perceptions of their sustainability engagement (Allen & Caillouet, 1994; Tetrault Sirsly & Lvina, 2019; Zavyalova et al., 2012), typically by actively reporting on sustainability efforts (e.g., Perez-Cornejo et al., 2020; Sethi et al., 2016). Such an active reporting on sustainability is a major factor in dealing with stakeholders and shareholders alike (Tarulli et al., 2023; Yu et al., 2018). However, it is often not clear whether the reports and activities match: Greenwashing is a major issue, where the actual ESG engagement does not live up to the impressions firms generate (Chun et al., 2019; Coen et al., 2022). For firms which are successful in greenwashing, the linkage between actual engagement and reputation is loosened and the reputation is higher than justified. Usage of greenwashing by firms and its consequences have already been analyzed extensively (see for many, e.g., Cho et al., 2015 or Wu et al., 2020). Creating a good impression in terms of sustainability performance may to some degree substitute for real engagement as far as controversies are concerned.

The third case is complementary to the second: It is clear that persistent and objectively high sustainability/ESG performance is not deterministically linked with high reputation, either. Reputation, also in terms of specific ESG themes, may be worse than justified by objective performance (so called brown washing, see Falchi et al., 2022 and

Huang et al., 2022). The same is true for sustainability-related controversies: Firms may become subject of a controversy despite a strong sustainability record. One reason is that a core feature of sustainability engagement is that it is not just about abiding to formal rules and laws, for example, environmental law, but going beyond what is legally prescribed. In the political domain, this view found expression in the EU Commission's definition of CSR (European Commission, 2011). In academia, it found expression in the shift from conceptions (and expectations) of CSR as law abiding corporations to firms as exemplary corporate citizens, which are expected to actively do good (Carroll & Brown, 2018; Hess et al., 2002). This notion becomes evident in the dealings of the public and the media with ESG-related activities and failures of firms. What matters for the public's perception of a firm is not (only) the firm's actual behavior and objective ESG performance, but whether the firm's behavior matches the public's expectations (Brammer & Pavelin, 2006), which are moreover continuously evolving (Bertels & Pelozo, 2008) in both, degree and content.

3.3 | Hypotheses

In formulating our basic hypothesis, we follow the instrumental view of sustainability engagement as a means to achieve economic advantages and to avoid public critique, and state the following:

Hypothesis 1. The higher a firm's structural engagement in the domains of environmental, social and governance, the lower the occurrence of controversies concerning any of these issues.

Controversies, which are ultimately media events, need to be triggered. This can happen in basically two ways. First, the traditional media can investigate an issue and trigger a controversy by reporting on an issue from the domain of sustainability. Second, social media – for example, engaged individuals or NGOs – can investigate an issue and launch a controversy. For both, a firm's prominence and visibility matters, a feature which is broadly related to the firm's size. Thus, we formulate:

Hypothesis 2. Larger firms are more likely to be the subject of controversies because of their larger prominence in the public.

From the perspective of firms engaging in sustainability, one can assume that firms learn, from their own efforts, but also from what other firms do, how to organize their business processes to live up to the public's expectations regarding sustainability. Business processes are improved over time, traditionally to improve economic performance but more recently also to increase sustainability-related performance (Eccles et al., 2014). This implies that ESG-related aspects of the business processes (production, but also internal administration, supply and distribution chains, etc.), which are amenable to a structural solution, will be covered. This implies that the

relevance of structural engagement for the occurrence of controversies decreases: Firms show high engagement that prevents known problems which could result in controversies, what remains, are controversies triggered by random events beyond the firm's control.

Hypothesis 3. Over time, the relevance of sustainability engagement for sustainability related controversies decreases, the controversies become more random in nature.

While we do not formulate an explicit hypothesis, we also expect there to be regional differences in terms of controversies, as say, the US and Scandinavia constitute also different regions in terms of state-market relations and economic culture (see Hall & Soskice, 2001).

4 | METHODOLOGY

As we are interested in the relative impact of factors firms can control, viz., structural sustainability engagement, and factors beyond the firms' control like truly random events, on the occurrence of controversies and also given the very limited scope of firms covered in existing research, data is needed which covers longer periods and more cases. This section will discuss the measurement of structural sustainability engagement, controversies and the sampling.

4.1 | Measuring sustainability engagement: ESG performance

In the wake of the integration of non-financial aspects into reporting, commercial providers of economic and financial information commenced to provide non-financial information, notably on ESG performance, but also screen the media and keep track of ESG-related controversies involving firms. What exactly is measured, depends on the provider (Billio et al., 2021) and is subject to measurement problems (see Gyönyöröva & Stachon, 2023; Kotsantonis & Serafeim, 2019). Furthermore, as most providers cater to the needs of investors, relative rankings dominate.

Refinitiv, a commercial provider of financial information covering publicly listed firms worldwide, also provides information on ESG performance and the occurrence of ESG controversies, defined as negative media events relating to themes from the ESG context. Refinitiv's ESG engagement scoring is based on about 400 ESG-related items of information, describing in substantial detail the activities of firms in the domains of ESG issues (Refinitiv, 2019). Some of these items are qualitative, basically indicating the presence or absence of organizational features relating to how firms deal with various specific ESG issues. Other items are quantitative, for example, measures of energy consumption, usage of water, or CO₂ emissions.

The original Refinitiv scoring is a hybrid combination of a firm's ESG engagement and the firm's relative position in the sample of all firms, no absolute indicator of ESG engagement. Scores are available

for the three sub-dimensions, environment, social, and governance, and for the overall ESG engagement. Our research interest requires an absolute indicator allowing comparisons among firms, regions and, in particular, over time. In addition to the relative scores, Refinitiv provides the raw-data for all items. From this list of potential indicators, we focused on the roughly 200 features, which are capturing institutional aspects of ESG engagement. As we are interested in the role of structural ESG engagement, we exclude quantitative features. First, because aspects, like CO₂ emissions or energy consumption, are affected by business cycles. Second, because not all firms consume water in a relevant quantity, emit CO₂ in production processes, or even have production processes. Quantitative features do not apply to all firms. Qualitative features, understood as organizational measures implemented to assure that ESG is taken into consideration when running the firm's daily business, apply to all firms, regardless of their business model and moreover are structural by nature in that they capture the firm's persistent efforts to address ESG issues. For this reason, we used the qualitative items provided by Refinitiv to compute a proxy measure of absolute ESG engagement, by basically counting the structural features in place. This allows comparisons among firms within a year but also over time (see Appendix 1 for the list and details on the computation). This absolute information on ESG engagement was supplemented by the three relative ESG pillar scores, to have some information on firms' efforts in specific themes, as, given the limited technical information provided, it is not possible to reconstruct Refinitiv's pillar scores exactly and thus to construct absolute pillar scores for the three domains. The relative pillar scores are, while subject to the scoring procedure, nevertheless highly correlated with the absolute ESG scores and indicative of domain-specific engagement.

4.2 | ESG controversies

Regarding reputation, there is a wide range of different concepts and measurement approaches (Barnett et al., 2006; Fombrun & Shanley, 1990; Latif & Sajjad, 2018; Walker, 2010), ranging from public perceptions of citizens (Rothenhoefer, 2019), to perceptions of employees (Almeida & Coelho, 2019) to memberships on lists of "admired firms" (Jeffrey et al., 2019). Moreover, reputation is issue-specific (Walker, 2010): A firm may enjoy a high reputation for its services and products, while suffering from a low reputation in the domain of sustainability. Walker's work indicates the same to be the case for stakeholder groups, which is a correlate of the issue-specific reputation: Customers may exclusively care about the quality of a product and evaluate the firm in this regard only, other stakeholders may use entirely different aspects.

This study focuses on the occurrence of ESG controversies involving firms rather than overall reputation. First, overall reputation as a very broad, not to say vague, concept depends on many aspects, also aspects entirely unrelated to sustainability. Second, ESG reputation is an integral part of a firm's overall reputation, with ESG reputation positively contributing to the overall reputation (see for

many: de Quevedo-Puente et al., 2007; Maden et al., 2012; Rothenhoefer, 2019; Quintana-Garcia et al., 2021). ESG reputation is relevant for overall reputation, however, how relevant compared with other factors is open and beyond the scope of this paper. Third, ESG controversies, as defined and operationalized here, are instances of negative publicity that are comparatively easy to identify: firms are in the (social) media for failings in terms of ESG, a fact which lowers both, the ESG and overall reputation of firms (e.g., Jonkman et al., 2020; Nirino et al., 2021). The ease of identification assures that the data has little leeway in terms of how the coders determine the occurrence of specific controversy.

The controversies score was provided by Refinitiv and captures whether a firm was involved in an ESG-related controversy during a fiscal year (Refinitiv, 2019). The very notion of controversy is negative, and Refinitiv's operationalization of controversies sees them as negative events for the firm. The thematic range of controversies monitored ranges from quasi permanent issues like CO₂ emissions arising from the business model or environmental incidents (Environment), to cases of child labor or working conditions (Social), to accounting issues or dealings with shareholders (Governance). The provider counts the public controversies in this list of issues involving firms. Thus, basically, higher scores indicate more controversies, that is, more issues or more controversies in specific aspects of the same issue. For instance, if a firm suffers from three distinct environmental incidents in a given year, each of which results in a public controversy in the media, this will count as three controversies – if a firm suffers from two environmental incidents and an incident involving governance issues, which also trigger one controversy each, this is also counted as three controversies. Ultimately, a higher ESG controversies scores indicates the public's view of the firm to be more critical. The actual scoring is relative to other firms in the database and peer-group based. By construction, it is never zero but has no upper bond.

4.3 | Sampling

The Refinitiv database covers listed firms, where a “listing” does not necessarily imply that the firm is an entity with publicly traded shares but that the firm is active in capital markets in the widest sense. Given the origin of Refinitiv as a provider of real-time financial data, the coverage of the firms substantial, however, the inclusion of ESG-related data is a relatively recent phenomenon, which has implications for the sampling and the availability of data. The ESG-related data – ESG engagement and the occurrence of controversies – is available for different periods for different countries. To avoid artifacts due to sampling and availability issues, we had to select countries and periods in with regard to obtain a consistent data set. In the US, which features the largest number of cases and the longest period covered, the data was available from 2008 on. However, even for the US, the data features lags in reporting and at the time of extracting the data from the database, the share of cases covered rapidly dropped from 2018 on. For this reason, the period covered here is the decade 2008 to 2018. As for individual countries, coverage differs substantially by

country. For instance, for Canada, data availability basically ended in 2013 for reasons unknown. For European countries, few countries feature a significant number of firms covered, thus we chose countries, where sufficient data for the period was available, viz. France and Germany as Western European countries and the Scandinavian countries of Denmark, Sweden, and Norway. The number of firms in the Refinitiv database varies over time, also due to firms coming in and going out of existence, and so does the rate of firms for which ESG-related data is available.

For the US, the largest subsample, the number of firms covered increased over the 10-year observation period from 4,335 in 2008 to 5,179 in 2018, in chunks of about 100 firms per year, yielding an average sample of 5,000 firms per year. For Europe, that is, France, Germany, Denmark, Sweden, and Norway, the number of cases available increases from 1,629 in 2008 to 2,463 in 2018, that is, the increase is proportionally stronger. Evaluating firms in terms of the encompassing list of quantitative and qualitative ESG indicators requires substantial effort. The number of firms for which ESG-related data is available varies, too. For the US, the rate raises from about 7% in 2008, to about 25% in 2014 and 2015, and declines again to about 1% in 2018. As the data was sampled in 2020/21, the patterns in coverage are not a problem of data which has yet to be added to the database. Furthermore, it is not the case that the years 2014 and 2015, which have an outstanding coverage rate of about 25%, feature duplicates. For Europe, the fraction of firms covered in terms of ESG reporting shrinks from about 13% in 2008 to about 1% in 2018, with the last two years being outliers in terms of very low coverage.

The basic descriptives statistics of the sample in terms of the variables used in this study are given in Appendix 2. To test Hypothesis 2, an indicator of firm size is needed – based on the correlations among indicators of firm size, we chose two indicators for size, assets and employees. Both correlate moderately, with .77, and moreover, the two cover different aspects of size, as there are large firms without many employees (say, internet-based firms) and large firms, which many employees (say, firms active in producing physical goods).

5 | ANALYSES

5.1 | Sample selection problems: coverage by ESG “surveillance”?

Before analyzing the determinants of the occurrence of controversies and in particular with regard to the insights to be gained from the data, a first step needs to address whether there are structural factors driving the availability of sustainability coverage, or whether the firms covered constitute a random sample of all firms. In the latter case, the insights may serve as a basis for an inference on the overall firm population. In the former case, such a usage is subject to methodological caveats and a different statistical method.

Table 1 gives the results of running a logistic regression of the availability of ESG information on some basic features of the firms.

TABLE 1 Factors affecting availability of ESG information.

	Model 1	Model 2	Model 3	Model 4
LogEmployee	0.555 (59.007)	0.566 (57.181)	0.607 (57.159)	0.509 (41.369)
LogAssets	0.216 (26.410)	0.218 (25.164)	0.264 (28.464)	0.418 (37.466)
WesternEurope		−0.860 (−20.589)	−0.938 (−21.191)	−0.901 (−19.941)
Scandinavia		−0.471 (−9.345)	−0.552 (−10.378)	−0.720 (−13.123)
Year. Dummies			x	x
Industry. Dummies				x
Constant	−9.677 (−83.350)	−9.619 (−80.669)	−11.114 (−77.460)	−12.932 (−79.513)
Pseudo R ²	0.3323	0.3425	0.4139	0.4475
N	66,954	66,954	66,954	66,413

Notes: Entries are unstandardized regression coefficients as obtained from a logistic regression in STATA with t-statistics in parentheses below. Dependent variable is the availability of an ESG controversy score in the database (coded as 0 = not available, 1 available). Explanatory variables are the logarithms of employees in 1000 and total assets reported in mio. USD. Reference country for the region dummies are the US, year dummies used 2008 as reference. Industry dummies were defined for industries contributing about 1,000 firm-years or more to the data set. Specific coefficients for year and industry dummies are not reported. All coefficients reported are significant at the $p < 0.001$ level.

Overall, the degree to which ESG coverage can be explained by even very basic features like firm size, is substantial, reaching pseudo- R^2 s of about .33, see model 1. Typically, larger firms – measured in terms of assets and employees reported – are significantly more often covered. There are significant country effects, but because of the fact that firms in the US tend to be larger than firms in Western Europe and Scandinavia, the explanatory contribution of including location is limited and increases the pseudo R^2 only by about one percentage point (see model 2). ESG coverage is significantly lower for Scandinavian and West European firms, than for US firms, which is, however, largely due to the size of US firms.

Including the year of reporting (not reported in detail), 2008 was used as base year. Compared with 2008, all other years feature higher coverage rates, apart from 2017 and 2018, where coverage was significantly lower, signaling a temporary lag in coverage. Including the year increases the explanatory power by about 7 percentage points (see model 3). Information on the firm's industry sector is available in form of the detailed North American Industry Classification System Code. Including dummies for the most frequent industries (incidence in 1000 firm-years or more, detailed results are not reported) indicates that industries covered in terms of ESG information significantly more often are Oil&Gas, Semiconductor & Electronic Components and Software Publishers. For some industry types – for example, code 52599 “Other financial vehicles” – no ESG score was available. Overall, the explanatory contribution of the industry type is small, adding only about 3 percentage points to the pseudo R^2 . Thus, the sample available is no random sample and the level of controversies cannot be analyzed using a conventional OLS regression. For this reason, a

Heckman two step sample selection model was used in the following analyses.

5.2 | ESG engagement and ESG controversies

To test the hypotheses, we regressed the ESG controversies score on measures of ESG engagement. First, on the absolute measure of ESG engagement, second, on the relative performance in the three ESG pillars. Table 2 gives the results of regressing the ESG controversies score on ESG performance and “demographic” information of the firms using the Heckman procedure.

Looking at model 1 in Table 2 indicates that absolute ESG engagement is indeed of significant relevance for ESG-related controversies: The higher the structural engagement, the lower the controversies score, indicating that by engaging in ESG, firms can reduce the number of public controversies. This is supportive of Hypothesis 1.

Differentiating by ESG dimensions, model 2 indicates higher engagement in the environmental and governance pillar decrease the occurrence of controversies, higher engagement in the social domain is associated with more controversies. Relevance of ESG engagement, regardless of the level of detail in which it is measured (see models 1 and 2), is very low, accounting at best for less than 4% of the variation in the ESG controversies, indicating a rather limited effect of a firm's efforts on the occurrence of ESG-related controversies.

Inclusion of basic firm demography, like indicators of size and the number of employees, does not increase the explanatory

TABLE 2 Antecedents of ESG controversies.

	Model 1	Model 2	Model 3	Model 4
AbsESGEngagement	−0.053*** (−4.50)		−0.125*** (−9.48)	−0.153*** (−14.88)
EnvironmentalPillarScore		−0.062*** (−3.84)		
SocialPillarScore		0.092*** (5.57)		
GovernancePillarScore		−0.056*** (−4.62)		
LogEmployee			0.019 (0.68)	−0.127*** (−5.98)
LogAssets			0.330*** (11.74)	−0.435*** (−18.08)
WesternEurope				0.614*** (59.67)
Scandinavia				0.582*** (54.71)
R ²	0.037	0.005	0.002	0.464
N	66,954	66,236	66,954	66,954

Notes: Entries are unstandardized regression coefficients, with t-statistics in parentheses below. Results obtained using a Heckman 2-step estimation implemented using the STATA heckman procedure. Selection model not reported (see Table 1 above). Dependent variable is the ESG controversy score for a firm in a given year. For the explanatory variables see notes to table 1 above. Significant effects are marked:

* $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$.

power, which is because of the fact that these factors account for whether there is ESG coverage at all. Including the country of origin increases the explanatory power dramatically to 46.7%, indicating that by the very feature of being located in a particular country, some firms feature more ESG-related controversies than firms in other countries. Specifically, even after controlling for coverage, US firms, the reference category, feature actually lower levels of controversies compared with firms located in Western Europe or Scandinavia, as both region dummies feature positive coefficients.

Overall, there is no support for Hypothesis 2. Given that size and origin are correlated because of the frequency of large US firms, including the country of origin results in a change in the coefficient's sign. After controlling for country of origin, which affects the indicators of size, indicators of large firm size lower the incidence of controversies.

5.3 | Comparative perspective: time

Hypothesis 3 stated that the relevance of structural ESG engagement for the occurrence of controversies should decrease over time. As the level of engagement generally increases, all drivers which are controllable in principle are brought under control and random drivers remain.

Table 3 below gives answers by presenting the results of regressing the level of controversies on the absolute ESG engagement and firm demographics, comparing the relevance over time.

Regarding the test of Hypothesis 3, which predicted a decrease in relevance of ESG engagement, the coefficients obtained for the engagement measure are indeed decreasing over time, from −.327 in 2008 to −.190 in 2018. Thus, there is support for Hypothesis 3. Looking at the coefficients obtained for the region variables, we see further that the differences between the US, Western Europe and Scandinavia persist over time: US firms feature consistently lower levels of ESG-related controversies than firms located in the other regions under consideration and this effect persists also after controlling for firm size, which is typically larger in the US than in other regions.

6 | DISCUSSION AND CONCLUSION

This study has some limitations, which need to be addressed before drawing conclusions and discussing implications for the sustainability strategies of firms. First, while we use an appropriate statistical method to cope with the issue that not all firms in the data base are also covered by ESG reporting, the sample available per se, that is, the Refinitiv data base, is no random sample from the population of all existing firms. Larger firms and also firms from the US, which tend to be larger, are covered in the data base significantly more often than

TABLE 3 Antecedents of ESG controversies by year.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AbsESGEngagement	−0.327 (−5.74)	−0.320 (−6.89)	−0.305 (−6.61)	−0.231 (−4.97)	−0.160 (−3.38)	−0.219 (−4.82)	−0.188 (−5.53)	−0.126 (−3.42)	−0.128 (−2.91)	−0.254 (−3.24)	−0.190 (−1.67)
LogEmployee	−1.501 (−1.64)	−1.785 (−2.19)	−0.675 (−0.79)	−3.037 (−3.61)	−2.868 (−3.25)	−0.885 (−1.07)	−0.486 (−0.80)	−1.703 (−2.36)	−3.393 (−3.62)	−0.292 (−0.14)	−3.846 (−1.27)
LogAssets	−3.896 (−2.96)	−3.274 (−3.71)	−4.812 (−5.73)	−4.316 (−5.02)	−5.174 (−5.81)	−4.466 (−5.81)	−3.072 (−7.26)	−2.668 (−5.50)	−5.154 (−7.59)	−3.368 (−2.54)	−8.874 (−3.48)
WesternEurope	42.840 (16.15)	50.114 (23.30)	51.112 (23.64)	47.717 (22.30)	51.229 (23.46)	48.900 (19.90)	44.689 (16.17)	38.343 (11.60)	47.922 (10.15)	41.430 (5.25)	63.817 (4.33)
Scandinavia	48.999 (15.08)	51.066 (17.74)	58.727 (20.41)	53.956 (18.39)	55.294 (19.22)	57.066 (18.37)	52.190 (17.47)	48.252 (14.29)	60.210 (14.69)	52.087 (7.69)	67.297 (6.08)
Constant	151.344 (4.93)	140.283 (6.83)	152.983 (7.39)	169.090 (8.02)	179.526 (7.79)	147.352 (7.54)	116.227 (13.17)	120.700 (11.28)	183.890 (10.30)	127.007 (2.68)	285.230 (3.11)
R ²	.448	.458	.460	.452	.453	.463	.458	.459	.449	.460	.424
N	5,451	5,501	5,711	5,862	6,050	6,147	6,222	6,328	6,471	6,590	6,621

Notes: Entries are unstandardized regression-coefficients, with t-statistics in parentheses below. Results obtained using a Heckman 2-step estimation implemented using the STATA heckman procedure. Selection model not reported (see Table 1 above). Dependent variable is the ESG controversy score for a firm in a given year. For the explanatory variables see text and Notes to table 1 above. Legend: * $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$.

smaller firms or firms from outside the US. This is a typical feature of providers of sustainability-related information, as this information is mostly provided for investors, which implies that listed firms dominate. Given that Refinitiv collects data on sustainability engagement and controversies only for listed firms, there are problems for the generalizability of the findings. However, there is to the best of our knowledge no database offering a comparable degree of detail and coverage in terms of firms, countries and time. Still, there is substantial variation in size among the firms for which both, economic and ESG data, is available. Thus, the sample used is not homogeneous in terms of firm size. This being the case, the regression allows a robust estimate of the effect of firm size while effects of size on coverage are controlled for.

Second, as the data is not generated by an experiment, issues about the direction of causality are present. To solve this problem, experimental data or an intervention study would be needed, which is beyond the scope of the present paper. Including lagged effects, where the engagement in the previous year accounts for the occurrence of controversies in the current year does not provide a better explanatory power nor does it solve the problem of causality.

In terms of conclusions, this study shares the view of reputation as a highly valuable resource for firms, which is seen as being increasingly dependent on firms' ESG-related activities (Gazzola et al., 2020) and also the successful coping with ESG-related failures (Allen & Caillouet, 1994; Hahn & Lüfß, 2014). Notably controversies, which are defined here as negative media events, are a central element in firms' reputation, a fact which expresses itself also in the long standing academic focus on acute crises and how firms respond to them (e.g., Muralidharan et al., 2011). In terms of business strategy, this view implies that by systematically engaging in sustainability by way of implementing structural organizational measures to safeguard the role of ESG aspects in business operations, firms can actually avoid ESG-related controversies which are highly damaging to their reputation (see e.g., Quintana-Garcia et al., 2021). As contrary to the effect of acute ESG-related incidents and firms' strategies to cope with them, the role of persistent, structural ESG engagement for reputation was not yet researched, it is not known, whether structural ESG engagement is an effective means to avoid controversies. This study addressed this gap. The central hypothesis was that structural ESG engagement reduces the occurrence of controversies. This hypothesis was, on the one hand, confirmed. On the other hand, the empirical findings show just how limited the relevance of structural ESG engagement for controversies actually is. Basically, the first and most central conclusion is that controversies are by and large random events beyond the firms' control and moreover, became more random over time.

With this insights, we contribute to the broader research on firms' strategic ESG engagement and controversies by differentiating reasons and mechanisms underlying ESG controversies, elaborating on earlier work by Dunbar and Schwalbach (2000). In principle, ESG related controversies may originate in isolated events, for example, an accident with environmental consequences. Such acute crises are the central subject to most of the existing research on controversies in the media and reputation (e.g., for many Cho, 2009).

Controversies can also be more persistent in that they arise from the business model of the firm per se, for example, in the case of CO₂ intensive industries, where the firm is constantly in the media because the public – or parts there of – is no longer accepting the type of business.

Last, controversies may also be an expression of a societal climate which is more vigilant regarding ESG issues (Prochazka & Jirasek, 2023). This implies that firms in a country have a structurally higher risk of being subject to an ESG controversy than firms in other countries.

Depending on the factors relevant for the occurrence of controversies, controversies can be seen as being either more of one or the other type. Different types of controversies imply different relevance of firms' strategies regarding ESG engagement. The question is, to which degree firms' strategic efforts in the domain of ESG are an effective means to prevent controversies and controversies-related reputational damages. Regarding the level of controversies, the results indicate that while ESG engagement matters, controversies are still more of a purely random event, as more than half of the variation in the occurrence of controversies remains unexplained and basically random in nature. For business strategies of firms, this implies that controversies are to a substantial degree beyond control. Here, "beyond control" also refers to the fact that firms are of a certain size, active in a certain industry and based in a specific region.

We also argued that, as ESG engagement increases over time (a finding we found confirmed in the data, but did not report explicitly), those causes of ESG-related controversies which can be addressed using organizational means (e.g., design of production processes, logistics etc.) are addressed. This implies, paradoxically, that as potential controversies arising from issues which are controllable by engaging in appropriate organizational ESG measures are prevented, the resulting controversies are even more truly random, non-controllable events.

Sustainability engagement is seen, on the one hand, as being driven by intrinsic motives of actors (e.g., Hafenbrädl & Waeger, 2017), but mostly justified by the business case (see for many Carroll & Shabana, 2010). The positive effects of reputation as mechanism by which sustainability engagement leads to financial benefits is integral to this view. Our results cast doubts on this mechanism in two ways. First, in terms of practical implications for firms, the central result is that controversies become more random. Whether a firm is subject to a controversy is less and less dependent on the firm's actual sustainability engagement. As firms need reliable environments, an ever more random nature of controversies may lower the incentive to engage in sustainability. From the perspective of a society, which is interested in higher sustainability engagement among firms, the trend to launch controversies for basically random reasons is counterproductive.

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CONFLICT OF INTEREST STATEMENT

The author declares no conflict of interests.

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APPENDIX A: MEASUREMENT OF ESG ENGAGEMENT

Refinitiv's relative ESG Score

Refinitiv's scoring is a hybrid combination of a firm's ESG engagement and the firm's relative position in the sample of all firms, no absolute indicator of ESG engagement. The highest performing firm in any year is arbitrarily scored 100, regardless of the absolute level of engagement. If this firm were to increase its ESG performance in absolute terms in the next year, but remains the highest performing firm in the sample, it will also score 100, that is, the increase in absolute ESG engagement is not reflected in the firm's score. Thus, while higher scores indicate higher ESG engagement, this measure is inappropriate for tracking and comparing ESG engagement among firms from different countries and over time, as it does not necessarily reflect changes in absolute ESG performance.

This study's absolute ESG Score

As the research interest of this study is how absolute ESG performance affects ESG-related controversies, such an absolute indicator is required. Moreover, we are interested in the role of structural ESG engagement rather than aspects, like CO₂ emissions, which are affected by business cycles. As Refinitiv also provides the raw data on the 400 indicators, the measure used in the study is the sum of the indicators referring to structural features. This allows to compare firms, but also to track firms over time. If a firm has ten more measures in place, its absolute score will be higher by ten points. If a firm introduces a measure in one year, its absolute ESG Score will increase by one.

Construction of the absolute ESG Score

The Refinitiv database contains qualitative, binary items dealing with institutional aspects of the firm's ESG/CSR engagement. The data was extracted from the Refinitiv database using a Python script combined with the Plugin for Excel, which resulted in data sheets for economic and ESG data for the selected countries. The economic data is numeric

when aspects like assets and employees are concerned and string, where industry codes are concerned. The qualitative items in the ESG data are coded „True“ or „False“, and were counted. The absolute ESG performance is computed as a count of the instances of „True“, that is, the number of institutional ESG aspects a firm has implemented. The list of the items going into the index is as follows:

ResourceReductionPolicy PolicyWaterEfficiency PolicyEnergyEfficiency
 PolicySustainablePackagingPolicyEnvironmentalSupplyChain
 ResourceReductionTargetsTargetsWaterEfficiencyTargetsEnergyEfficiency
 EnvironmentManagementTeamEnvironmentManagementTraining
 EnvironmentalMaterialsSourcingToxicChemicalsReductionRenewableEnergyUse
 GreenBuildingsEnvironmentalSupplyChainManageme
 EnvironmentalSupplyChainMonitoriEnvSupplyChainPartnershipTermina
 LandEnvironmentalImpactReductionPolicyEmissionsTargetsEmissions
 BiodiversityImpactReductionEmissionsTradingClimateChangeCommercialRisksOppo
 NOxandSOxEmissionsReductionVOCorParticulateMatterEmissionsR
 VOCEmissionsReductionParticulateMatterEmissionsReduct
 WasteReductionInitiativeseWasteReductionEnvironmentalRestorationInitiati
 StaffTransportationImpactReductiEnvironmentalExpendituresInvestm
 EnvironmentalInvestmentsInitiatiEnvironmentalPartnershipsEnvironmentalProducts
 EcoDesignProductsNoiseReductionHybridVehicles
 EnvironmentalAssetsUnderMgtEquatorPrinciplesEnvironmentalProjectFinancing
 NuclearLabeledWoodOrganicProductsInitiativesProductImpactMinimization
 TakebackandRecyclingInitiativesProductEnvironmentalResponsibleUGMOProducts
 AgrochemicalProductsAnimalTestingAnimalTestingCosmetics
 AnimalTestingReductionRenewableCleanEnergyProductsWaterTechnologies
 SustainableBuildingProductsRealEstateSustainabilityCertificHealthSafetyPolicy
 PolicyEmployeeHealthSafetyPolicySupplyChainHealthSafety
 TrainingandDevelopmentPolicyPolicySkillsTrainingPolicyCareerDevelopment
 PolicyDiversityandOpportunityTargetsDiversityandOpportunity
 EmployeesHealthSafetyTeamHealthSafetyTrainingSupplyChainHealthSafetyTraining
 SupplyChainHealthSafetyImprovemeEmployeesHealthSafetyOHSAS18001
 ManagementDeparturesStrikesFlexibleWorkingHoursDayCareServices
 HIVAIDSProgramInternalPromotionManagementTrainingSupplierESGtraining
 HumanRightsPolicyPolicyFreedomofAssociationPolicyChildLabor
 PolicyForcedLaborPolicyHumanRightsFundamentalHumanRightsILOUN
 HumanRightsContractorEthicalTradingInitiativeETI
 HumanRightsBreachesContractorPolicyFairCompetition
 PolicyBriberyandCorruptionPolicyBusinessEthicsPolicyCommunityInvolvement
 ImprovementToolsBusinessEthicsWhistleblowerProtection
 OECDGuidelinesforMultinationalEnExtractiveIndustriesTransparency
 EmployeeEngagementVoluntaryWorkCorporateResponsibilityAwards
 ProductSalesatDiscounttoEmergingDiseasesoftheDevelopingWorld
 CrisisManagementSystemsPolicyCustomerHealthSafetyPolicyDataPrivacy
 PolicyResponsibleMarketingPolicyFairTradeProductResponsibilityMonitoring
 QualityMgtSystemsISO9000SixSigmaandQualityMgtSystems
 ProductAccessLowPriceHealthyFoodorProductsEmbryonicStemCellResearch
 RetailingResponsibilityAlcoholGamblingTobaccoArmaments
 PornographyContraceptivesObesityRiskClusterBombsAntiPersonnelLandmines
 ProductQualityControversiesProductRecallBoardFunctionsPolicy
 CorporateGovernanceBoardCommitteNominationBoardCommittee



AuditBoardCommitteeCompensationBoardCommitteeBoardStructurePolicy
 PolicyBoardSizePolicyBoardIndependencePolicyBoardDiversity
 PolicyBoardExperiencePolicyExecutiveCompensationPerfo
 PolicyExecutiveCompensationESGPePolicyExecutiveRetention
 CompensationImprovementToolsInternalAuditDepartmentReportingSuccessionPlan
 ExternalConsultantsAuditCommitteeMgtIndependenceAuditCommitteeExpertise
 CompensationCommitteeMgtIndependNominationCommitteeMgtIndependen
 BoardAttendanceBoardBackgroundandSkillsCEOChairmanSeparation
 CEOBoardMemberChairmanisexCEOBoardIndividualReelection
 ExecutiveCompensationPolicyExecutiveIndividualCompensation
 CEOCompensationLinktoTSRExecutiveCompensationLTOjective
 SustainabilityCompensationIncentShareholdersApprovalStockCompens
 ShareholderRightsPolicyPolicyEqualVotingRightPolicyShareholderEngagement
 DifferentVotingRightShareEqualShareholderRightsVotingCap
 MinimumNumberofSharestoVoteDirectorElectionMajorityRequirem
 ShareholdersVoteonExecutivePayPublicAvailabilityCorporateStatu
 VetoPowerorGoldensharePoisonPillUnlimitedAuthorizedCapitalorBlan
 ClassifiedBoardStructureStaggeredBoardStructureSupermajorityVoteRequirement
 GoldenParachuteLimitedShareholderRightstoCallMe
 EliminationofCumulativeVotingRigPreemptiveRightsCompanyCrossShareholding
 ConfidentialVotingPolicyLimitationofDirectorLiability
 ShareholderApprovalSignificantTrFairPriceProvision
 LimitationsonRemovalofDirectorsAdvanceNoticeforShareholderPropo
 WrittenConsentRequirementsExpandedConstituencyProvisionEarningsRestatement
 ProfitWarningsCSRSustainabilityCommitteeIntegratedStrategyinMDA
 GlobalCompactSignatoryStakeholderEngagementCSRSustainabilityReporting
 GRIReportGuidelinesCSRSustainabilityReportGlobalActCSRSustainabilityExternalAudit

APPENDIX B: DESCRIPTIVE STATISTICS OF THE SAMPLE

Variable	Obs	Mean	SD	Min	Max	1	2	Pairwise correlations			
								3	4	5	6
1. ESGControversiesScore	8,498	53.94	28.95	.18	100						
2. AbsESGEngagement	8,498	72.33	21.44	13	137	−0.19					
3. EnvironmentalPillarScore	7,779	51.86	24.33	0	98.80	−0.15	0.82				
4. SocialPillarScore	7,779	55.44	21.21	0	98.77	−0.12	0.81	0.73			
5. GovernancePillarScore	7,779	52.62	21.95	3.98	98.81	−0.12	0.53	0.43	0.45		
6. LogEmployee	67,305	5.93	2.86	0	14.60	−0.22	0.54	0.44	0.49	0.84	
7. LogAssets	74,651	14.05	3.86	−2.30	24.30	−0.10	0.57	0.53	0.52	0.91	0.77