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The dark side of economic success: ESG crime rate of European countries is driven by the conditions for doing business.

Gabriela Chmelíková, Renata Kučerová, Helena Chládková,
Jindřich Špička

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Research Centre

Faculty of Business and Economics

Mendel University in Brno

Zemědělská 1, 613 00 Brno

Czech Republic

<http://vyzc.pef.mendelu.cz/en>

+420 545 132 605

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Abstract

Gabriela Chmelíková, Renata Kučerová, Helena Chládková, Jindřich Špička: **The dark side of economic success: ESG crime rate of European countries is driven by the conditions for doing business.**

This paper investigates the role of the institutional business environment with favourable conditions for conducting business in the process of the EU transition towards sustainability. We draw on the theory of institutional economics and empirically investigate our overarching research question as to which extent the conditions conducive to do business are linked to increased levels of irresponsible corporate behaviour in the EU.. Pursuing an econometric approach, we test a set of hypotheses using various measures of favourable conditions for conducting business as drivers for corporate social irresponsibility. We build a unique dataset that includes observations of irresponsible corporate behaviour in 16 EU countries over the period 2015 – 2020. Our findings show that institutions conducive to support the ease of doing business lead to an increased ESG (Environmental, Social, and Governance) crime rate measured by the share of firms acting irresponsibly and that the intensity of past ESG incidents is associated with a lower current occurrence of offences against sustainability. Our conclusion could help drive progress toward sustainability by the recommendation to orient policies more toward countries with attractive business environments, as they tend to harbour a concentration of the most harmful firms. Further, it is recommended to harmonise corporate tax rates and other business conditions across EU member states.

Key words

Corporate Social Irresponsibility, Institutional Economics, Attractive Business Environments, Sustainability, ESG

JEL: K42, L51, M14, O17, Q56

Contacts

Gabriela Chmelíková, Department of Regional and Business Economics, Faculty of Regional Development and International Studies, Mendel University in Brno, Zemědělská 1, 61300 Brno, Czech Republic, e-mail: gabriela.chmelikova@mendelu.cz (corresponding author).

Renata Kučerová, Department of Management, Faculty of Business and Economics, Mendel University in Brno, Zemědělská 1, 61300 Brno, Czech Republic, e-mail: renata.kucerova@mendelu.cz.

Helena Chládková, Department of Management, Faculty of Business and Economics, Mendel University in Brno, Zemědělská 1, 61300 Brno, Czech Republic, e-mail: helena.chladkova@mendelu.cz.

Jindřich Špička, Department of Statistics, Faculty of Economics and Management, Czech University of Life Sciences, Prague, Kamýcká 129, 16500 Praha – Suchbátka, Czech Republic, e-mail: spickaj@pef.czu.cz.

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Introduction

To effectively achieve the sustainable development goals adopted by the United Nations in 2015, it is crucial for businesses to align their practices with sustainable and ethical principles. Corporate actions to implement sustainable practices are often referred to as Corporate Social Responsibility (CSR). In contrast, the violation of sustainable and ethical principles, and the failure of businesses to meet societal expectations, is referred to as Corporate Socially Irresponsible (CSI) (Brammer et al., 2021; Herzig and Moon, 2013). Both CSR and CSI have recently received much attention from academics and practitioners. Both concepts have been examined from different perspectives. In the case of CSR, for example, the relationship with the financial performance of companies has been addressed (e.g. Barauskaite and Streimikiene, 2021), corporate governance (Zaman et al., 2022.; Barka and Dardour, 2015; Aquilera et al., 2008; Amore and Bennedsen, 2016), or setting of institutions (e.g. Pinheiro et al., 2021; Baldini et al., 2018; Barkemeyer, 2018; Brammer et al., 2012). CSI is often examined primarily in terms of the antecedents and consequences of irresponsible behaviour (Iborra and Riera, 2023), whereby the quality of the institutional environment is considered by many authors to be a key antecedent of CSI (Matten and Moon, 2008; Surroca et al., 2013). Thus, the institutional environment plays a crucial role in both concepts - in shaping CSR practices (Arranz and Arroyabe, 2023; Ioannou and Serafeim, 2012), as well as in reducing harmful corporate behaviour (Boudier and Bensebaa, 2011). The institutional environment in this sense encompasses the legal, regulatory, and societal frameworks in which businesses operate and thus creates formal and informal norms that regulate business behaviour (North, 1990). While the formal norms are set by governments and industries, the informal norms are shaped by stakeholder expectations. Governments enact laws and regulations, many industries develop their own standards and codes of conduct, and stakeholders such as consumers, employees, investors or communities have their own values and expectations. Formal institutions take the form of pressure from external authorities and typically induce increased costs, lower profitability, and reduced market value for firms (e.g., Berkman et al., 2019). Informal institutions, among other things, also present opportunities for meeting the needs of the company's stakeholders and potentially increasing the market value of the company. Thus, the business institutional environment is an important driver of a nation's ability to create competitive advantage of national economies (Buitrago and Barbosa Camargo, 2021; or Delgado et al., 2012, Blažková and Chmelíková, 2015). The influence of the business institutional environment on national competitiveness is a complex and multifaceted phenomenon that encompasses regulatory frameworks, economic policies, legal systems, and social norms and is a critical factor in driving economic growth. However, it remains under question to what extent the favourable conditions for conducting business also contribute to the sustainable

development goals defined by the Paris Agreement. In other words, we ask within this paper if a business institutional environment that stimulates economic growth and enhances a country's competitive advantage is also sensitive to the needs of other stakeholders?

This paper aims to address this question for European countries and to establish an empirical basis that can guide policymakers in the development of institutional frameworks that support sustainable entrepreneurship. We start with the definition and operationalisation of the terms irresponsible corporate behaviour and attractive business environment. We define corporate social irresponsibility as the failure of businesses to meet societal expectations (Herzig and Moon, 2013). We get inspiration for the operationalisation of proxy for irresponsible corporate behaviour from previous empirical studies, which used ESG (Environmental, Social and Governance) rating to measure level of corporate irresponsibility (inter alia, Becchetti et al., 2023). In this study we deploy a reputational risk indicator from RepRisk database to operationalise the level of irresponsible corporate behaviour in particular EU countries. The advantage of this ESG measure is that it addresses the limitations of self-disclosed information from firms' annual reports, as it is obtained from the media and social networks (Kölbel et al., 2017). We define attractive business environment according to the World Bank (2019) as an environment with high quality institutions but liberal economic conditions that attracts local and international businesses and stimulates entrepreneurship. We primarily describe this environment using indicators from the World Bank's Doing Business database and the Heritage Foundation's Economic Freedom Index database. We hypothesise that institutions conducive to supporting the ease of doing business lead to increased share of firms acting irresponsibly. We base our assumption on regulatory arbitrage theory (Fleischer 2010), the concept of institutional escapism (Wang and Ma, 2018) and the concept of institutional leverage (Jones et al., 2023), as well as on findings from other than European countries (e.g., Boudier and Bensebaa, 2011; Dorfleitner et al., 2022; Hall and Soskice, 2001; Walker et al. 2019). We test our hypotheses using various measures of attractive business environment and link them to the corporate irresponsibility measures on the country-levels. Our research findings indicate that countries with institutions that facilitate favourable conditions for ease of doing business correlate with a higher prevalence of firms engaging in irresponsible ESG behaviour. Moreover, in the context of path dependency theory (Schienstock, 2011), we observe that the intensity of previous ESG incidents is inversely related to the occurrence of current sustainability offences in European countries. Drawing from our conclusions, there is potential to advance progress toward sustainability by directing policy focus towards countries with attractive business environments, as they often serve as hubs for the most detrimental firms.

Our paper explores on the link between the business institutional environment and the transformation process of the EU towards sustainability. We focus our attention on countries with high quality institutions but differences in market attractiveness according to the criteria of ease of doing business. This relationship to CSI has not been explored in any study so far. Thus, we aim to fill the gap in scholarly research identified by Iborra and Riera (2023) in their comprehensive study "CSI: what we know and what we should know". The authors recommend adding other institutional environment variables in the area of environmental antecedents in an effort to better understand the dynamics and uncertainty of the environment in which CSI occurs. Thus, we add a new variable in our research - conditions conducive to ease of doing business. We explore whether a more liberal national business environment, even in countries with high institutional quality, attracts firms that seek to improve their performance not only by reducing the costs of starting and operating a business, but also by reducing the costs associated with not meeting stakeholder expectations in ESG areas.

Existing studies have primarily focused on the institutional environment as a predictor of CSI. In contrast, very few studies examine the opposite perspective (Iborra and Riera, 2023). In our research, we also fill this gap in scholarly research. We examine, under the third hypothesis, whether and how the disclosure of a scandalous CSI incident affects subsequent firms' behavior. Our research develops the theoretical foundation with a new perspective by studying differences and nuances within the high-quality institutional environment and examining these differences from a CSI perspective. Employing an econometric methodology to test hypotheses, our research offers a quantitative and statistically driven examination of the subject matter, underscoring a rigorous and scientific analytical framework that furnishes an objective foundation for drawing conclusions. Beyond merely exploring relationships, our paper extends to providing policy recommendations, thereby rendering it pertinent to the formulation of sustainability policies and strategies at the level of EU member states. The salient feature of our paper lies in its interdisciplinary nature, bridging the realms of business, institutional economics, and sustainability. This interdisciplinary approach yields fresh insights and has potential practical implications for policy formulation and decision-making processes.

In this document, we proceed as follows: in Section 2, we present the theoretical framework of our research and develop our hypotheses. In section 3 we describe the dependent variables, research design and independent variables, data, methods and descriptive statistics. In Section 4, we present the results divided according to the hypotheses tested, develop the discussion, and link to the theory. In Section 5, we formulate conclusions and limitations, theoretical contributions, policy implications, and possible directions for further research.

1. Theoretical foundation and development of hypotheses

1.1. Sustainability in corporate activities and its measurement

The literature identifies two concepts of corporate activities related to sustainability - CSR and CSI. The mainstream works with the concept of CSR as the efforts of companies to meet the economic, legal, ethical and philanthropic needs of a particular society at a given point in time (e.g. Crane and Matten, 2016). In contrast, the theoretical literature distinguishes CSI as a separate concept from CSR (Antonetti and Maklan, 2016; Godfrey et al., 2009) and defines it as the failure of businesses to meet societal expectations (Herzig and Moon, 2013). Brammer et al. (2021) define CSI as an allegation of stakeholder-damaging behaviour that is attributed to organisations following perceived organisational behaviour that deviates from stakeholder expectations and legal rules. CSR is associated with doing 'good deeds', while CSI, on the other hand, reflects the 'bad deeds' of a company (Keig et al. 2015). The two concepts are not symmetrical; a firm may perform well in one area but behave irresponsibly in another (Walker et al., 2019). According to Chava (2014), Goss and Roberts (2011), or Oikonomou and Pavelin (2014), CSI is more indicative of a firm's sustainability performance than CSR because CSI is based on external information as opposed to self-reported CSR.

However, both CSR and CSI are constructs that cannot be measured directly. Therefore, previous empirical studies have used a proxy indicator, the ESG score, to measure a company's level of CSR or CSI (e.g. Becchetti et al., 2023; Cheng and Micale, 2022; Mendiratta et al., 2024, or Gantchev et al., 2022). The term ESG (Environmental, Social and Governance) has come to be used alongside or instead of CSR or its negative counterpart CSI. One of the differences between these two terms is that ESG explicitly includes governance issues, while CSR implicitly includes governance issues in relation to environmental and social aspects (Becchetti et al., 2023). According to Gillan et al. (2021), ESG refers to the way in which companies and investors integrate environmental, social and governance factors into their operational frameworks. In contrast, CSR has historically focused on businesses taking greater social responsibility and acting as responsible corporate actors. As a result, ESG tends to be a broader concept compared to CSR and is beginning to replace CSR. ESG is the next evolutionary phase of the CSR concept, which has the advantage of quantifiable expression in the form of ESG scores (Cheng and Micale, 2022). ESG scores, which measure a company's contribution to its social, environmental and governance commitments, are becoming an important factor influencing the investment decision-making process in capital markets (Gantchev et al., 2022).

However, the use of ESG scores faces several limitations. One major drawback is that these scores rely mainly on self-reported information from companies, leading to a lack of transparency in their content and to potential subjective overestimation or underestimation of opinion responses compared to

reality. (Bautista-Puig et al., 2021; Johan et al., 2013; Jory et al., 2010). Furthermore, different ESG rating providers often yield significantly divergent results due to variations in the scope, measurement and weighting of ESG parameters (Berg et al., 2022). To address the limitations of self-disclosed information from firms' annual reports, some studies propose using reputation measures obtained from the media and social networks (e.g. Kölbel et al., 2017). These measures can differentiate between self-disclosed corporate social responsibility and its negative counterpart, corporate social irresponsibility, which is revealed by third parties (Mendiratta et al., 2024).

Based on the above scientific discussion, we choose a CSI indicator to assess the achievement of the SDGs, measured through ESG scores that use a reputation metric based on media and social media data.

1.2. Institutional environment and its impact on CSR/CSI

Campbell (2007) asked the following questions in his research: why do some companies act socially responsible while others do not? Is socially responsible corporate behaviour purely voluntary and dependent on honest people at the top, or is there something more to it? And under what conditions are companies more likely to behave in a socially responsible way? These questions shifted his attention to the field of institutional analysis and comparative political economy, because one way to answer these questions was to compare differences in corporate behavior across institutional settings and countries. His research has been followed by many other studies focusing on the influence of the institutional environment in explaining corporate social responsibility behaviour. Matten and Moon (2008) described four basic institutional assumptions that shape CSR - a functioning market; the existence of strong government and legal institutions; these institutions not being captive to market actors; and the existence of civil society that institutionalises and expresses societal values and preferences. These preconditions for CSR are supported by the foundations of a strong institutional environment, including strong regulatory bodies and a judicial system. A strong institutional environment supports the refinement of CSR practices as an acceptable social norm (Mombeuil et al., 2019). Companies based on political-economic systems with strong institutions have comparative institutional advantages for CSR success (Gjolberg (2009). Campbell (2007) argued that firms are more likely to act responsibly when there are strong government regulation, NGOs, and other stakeholder groups monitoring their activities. Moreover, the format of the institutional environment, specifically the legal system at the country level, fundamentally influences corporate social responsibility disclosure (CSRD) practices (Miniaoui et al., 2019). Overall, CSR disclosure rates are higher in countries with higher levels of democracy, greater government effectiveness, and better regulatory quality (Toukabri and Al Adawi, 2023). Rahi et al. (2023) examined the relationship between institutional

quality (IQ) and corporate sustainable performance (CSP). Based on results from 796 firms from 21 European countries and 6 matrices of IQ variables, they clearly confirmed that there is a significant and positive relationship between IQ and CSP. IQ at the macro level (national level) forms sustainable activities at the micro level (firm level). The stronger the IQ, the better the CSP (Rahi et al., 2023). Thus, institutional factors have a strong positive influence on the diffusion of CSR practices.

There is also an extensive scholarly debate on the influence of institutional environment on CSI (Boudier and Bensebaa, 2011; Dorfleitner et al., 2022; Keig et al., 2015; Matten and Moon, 2008; Surroca et al., 2013). In a recent study, Iborra and Riera (2023) conducted a complex analysis of the existing scholarship about CSI. According to their findings, the scientific research conducted until now may be divided into two groups - those that investigate the antecedents of CSI and those that investigate the consequences of CSI. Studies focusing on antecedents distinguish three levels: 1. Environmental level antecedents, 2. Individual level antecedents, 3. Firm level antecedents. In the area of environmental level antecedents, the key role of external context - mainly institutional - as a driver of CSI is prevalent. Weak institutions, poor regulation and the degree of competition make CSI more successful. High-quality institutions, on the other hand, create barriers to firm failure in relation to societal expectations. A more corrupt institutional environment is associated with a higher risk of CSI. Managers of firms operating in locations with higher average levels of formal and/or informal corruption environments are more likely to have higher rates of CSI (Keig et al., 2015). High institutional and stakeholder pressure can change a firm's behaviour to adopt ethical standards. If corporate scandals represent a direct threat to organizational legitimacy, firms will behave ethically (Dorfleitner et al., 2022). Country-specific regulations are a key factor influencing CSI according to most conducted studies (Iborra and Riera, 2023). At the same time, however, there are new findings in this discussion that have not been observed in the case of CSR. In the case of CSI, not only do weak institutions lead to CSI in a given country, but they also lead to the internationalization of firms with malpractices to countries with weak institutions (Mombeuil et al., 2019). Factors associated with CSI practices are low public awareness of CSR, limited stakeholder groups, weak institutional environments, and endemic and systemic corruption. Firms that internationalize into such countries can avoid CSI sanctions by taking advantage of lower CSR awareness and the weakness of public institutions. As an example, the authors cite Haiti, a country that scores lowest on governance indicators according to the World Bank's (2022) index.

Most academic studies conducted to date regarding the impact of the institutional environment on CSR and CSI conclude that there is a strong positive relationship between the quality of institutions and CSR. In the case of CSI, studies show a negative relationship between the quality of institutions

and the involvement of firms in CSI. But at the same time a tendency of internationalization of firms with malpractices to countries with weak institutions is observed.

1.3. Quality of institutions and internationalisation

As some other research on the relationship between institutional quality and firm internationalization has shown, however, the internationalization also occurs as a result of firms escaping from countries with too weak or too strong institutions. Different countries are at different levels of institutional reform and institutional quality, and the impact on firm performance differs due to this heterogeneity (Jones et al., 2023). Thus, two tendencies can be observed as a result of the global market - regulatory arbitrage and institutional escapism. Regulatory arbitrage is induced by differences in regulation across regimes. It results from situations where the same economic transaction or exchange receives different regulatory treatment in different regulatory regimes (Fleischer, 2010). Firms then exploit differences in regulation across jurisdictions to minimize their costs or maximize their profits. Regulatory arbitrage can lead to circumvention of national policies (Gloukhovtsev et al., 2018). According to institutional escapism, firms expand globally to escape any institutional risks that are present in their home country (Peng et al, 2008; Wang and Ma, 2018). Firms escape (evade) formal rules, norms set in their institutional environment in order to gain an advantage - to reduce costs or avoid sanctions (Mingo et al., 2018). Jones et al. (2023), Mingo et al. (2018) or Nayyar and Prashantham (2021) show that the reason why firms internationalize to other countries is to escape from weak but also too strong institutional environments. Weak institutions impose risks on firms and lead to internationalization. As reforms are gradually introduced and the quality of the institutional environment improves, escapism decreases and becomes less of a problem. However, from a certain threshold point onwards, the decline in internationalisation stops and starts to increase again due to the effect of leverage (Jones et al., 2023). Because the effect of pro-market reforms on firm performance is double-edged (Banalieva et al., 2018; Bhaumik and Dimova, 2014). Not all pro-market institutions are beneficial for firms and their performance. Thus, the rise in the quality of institutions may also lead to a decline in firm performance in the short term and firms' re-access to internationalization and look for countries with more conducive conditions for doing business (Babecky and Havranek, 2014). Thus, firms' international expansion is more market driven, as opposed to seeking a better institutional environment. Firms look for better conditions to do business, the primary motivation is performance (Deng and Zang, 2018).

1.4. Problems with the quality of institutions

However, in the context of the findings above, two areas of problem need to be highlighted. 1. There is no consensus on the best way to measure institutional quality (Jones et al., 2023). 2. Different forms

of capitalism (Hall and Soskice, 2001) and economic freedom can exist within a high-quality institutional environment. Governments seek to set up institutions and implement reforms that will increase national competitiveness and lead to economic growth. However, pro-market reforms have two dimensions - improved national governance and economic liberalism (Dau, 2012). Improving national governance can reduce the impact of any negative actions taken by economic actors as it helps the market function and strengthens government oversight (World Bank, 1995). Economic liberalism focuses on strengthening the freedom of doing business and creating favorable conditions that stimulate entrepreneurship and make the market more attractive to local and international businesses (World Bank, 2019). Both of these dimensions are components of institutional quality - both good national governance and also economic liberalism.

Interesting from this perspective are the results of a recent study by Dorfleitner et al. (2022), which examined the determinants of CSI at the firm level as well as at the country level. The authors looked at which institutions or determinants at the national level and which firm-specific factors promote patterns of unethical and socially irresponsible corporate behaviour or support the detection of corporate scandals. Among other things, they find that businesses operating in uncertainty-averse societies or firms located in countries with strong legal systems will have fewer scandals. In contrast, businesses in individualistic societies are associated with more scandals. Thus, according to this study, in addition to institutional quality, the nature of the society also influences the CSI behaviour of firms. Walker et al. (2019) reached a similar result. The authors simultaneously examined the concepts of CSR and CSI and their relationship with firm performance in two types of capitalist systems, coordinated market economies (CMEs) and liberal market economies (LMEs). Hall and Soskice (2001) define these systems and divide market economies into two basic types. LMEs, exemplified by countries such as the United States and the United Kingdom, are predominantly influenced by market forces. Whereas CMEs, represented by countries such as Germany and Sweden, are characterized by the interplay of non-market forces within the market structure. The differences between these systems also relate to the dynamics of industrial relations, corporate governance and inter-firm relations. Although both Germany and the United States are classified as countries with high institutional quality, they differ in their approach to coordinating capitalism (Jones et al., 2023). Walker et al. (2019) provide empirical evidence that firms mirror their institutional environment, both in terms of CSR and CSI. However, it also depends on the type of capitalist system in which the firm operates. Firms exhibit significantly lower CSI in CME compared to LME, even though the quality of institutions is high in both types of system. Boudier and Bensebaa (2011) attempted to analyze the reasons for the increase in socially irresponsible behavior in cross-border transfers of hazardous waste. According to the research, these transfers are motivated by both economic and institutional reasons, which are

often interdependent. In a context of increasing globalisation, actors may transfer the costs and risks associated with hazardous waste disposal to countries where the costs of waste treatment are lower and the institutional framework is 'lighter'. The way in which the institutional environment creates pressures and constraints on CSI may not be the same as on CSR. "Good contexts" that promote greater CSR do not always lead to less CSI (He and Chittoor, 2022).

For the above-mentioned reasons, we focus our attention on countries with high quality institutions but differences in market attractiveness according to the ease of doing business criteria. This relationship with CSI has not been explored in any study to date. We are interested in whether an "ease" of doing business is associated with higher CSI - respectively, with higher ESG incident rates and higher ESG incident intensity. In this way, we seek to fill a gap in scholarly research identified by Iborra and Riera (2023) in their comprehensive study "CSI: what we know and what we should know". The authors recommend adding further variables of the institutional environment in the area of environmental antecedents in an effort to better understand the dynamics and uncertainty of the environment in which CSI occurs.

In the context of institutional theory and theoretical concepts of regulatory arbitrage, institutional escapism, leverage theory, and previous studies by Boudier and Benseba (2011), Dorfleitner et al. (2022), Walker et al. (2019), we hypothesize that a "lighter" and more liberal national business environment, even in countries with high institutional quality, attracts firms that try to improve their performance not only by reducing the costs of starting and operating a business, but also because of the costs associated with not meeting stakeholder expectations in ESG areas.

Based on this, we formulate the first two hypotheses:

H1: Countries with an institutional environment conducive to supporting ease of doing business suffer from higher ESG crime rates.

H2: Countries with an institutional environment conducive to supporting easy of doing business suffer from higher intensity of ESG incidents.

1.5. Path Dependency Perspective

Iborra and Riera's (2023) findings have identified another research gap in the study of the relationship between CSI and institutional factors. Existing studies have primarily focused on the institutional environment as a predictor to explain CSI. In contrast, very few studies have examined the opposite relationship, i.e., how damages from CSI affect institutional reforms, rule changes, and firm behavior. Our research also extends this opposing view and focuses on examining changes in firms' behavior as

a result of disclosure and media coverage of ESG scandals such as Volkswagen's emissions scandal around 2015 or Wirecard's accounting fraud in 2020. In doing so, we draw on the concept of Path Dependency (PD) and the theory of institutional change. PD suggests that the development of institutions, organisations or practices may not always be effective, as past events or decisions influence future events or decisions and less effective solutions may become established in certain circumstances. A common assumption is that history matters (Schienstock, 2011). There are variants of PD that explain institutional change in different ways. The weak form of path dependence is based on the assumption that what happened at an earlier point in time will influence possible events and behaviors that occur at a later point in time. Traditional path dependence says that once a path is taken, it creates "increasing return effects" that stabilize and reinforce it. This creates an equilibrium that is stable and highly deterministic, but also temporary. At some point, the path will end and a new set of contingent events will induce a radical and partly unexpected change of orientation (Djelic and Quack, 2007). However, both variants of PD assume a change in future behaviour based on the sum of past events.

The third hypothesis we develop assumes that not only institutions but also actors in the economic system adapt to change and respond to past events. Organizations are forced to react to changes in existing sources of sustainable competitive advantage and systematically search for new ones (D'aveni et al., 2010). Otherwise, the same resources that led to success in a certain period often become the cause of their subsequent downfall (França et al., 2023). Therefore, we assume that if past incidents against ESG principles turn out to have led to a loss of competitiveness in the following period, firms will adapt their behaviour to this experience and change the way they do business in relation to sustainability. To investigate this assumption, we propose the following hypothesis:

H3: The intensity of ESG incidents in the past is related to the lower current level of the ESG crime rate.

2. Methods and Data

2.1. Dependent variables

In this study we deploy a reputational risk indicator from RepRisk database to operationalise the level of CSI. RepRisk is a data science company that provides transparency on the risks associated with doing business in ESG areas, it monitors the business behaviour of public and private companies worldwide through information in existing media and social networks based on human curation and artificial intelligence for monitoring (RepRisk, 2024). This reputational risk indicator (RRI) is delivered at the firm level every month and ranges between 0 and 100. Values higher than 0 indicate the occurrence of an ESG incident by the firm. We take the number of these ESG incidents per country and per year (number

of firms with positive RRI per year and country) and compare it with the population of active firm in respective country. The resulting number represents the share of all firms in the country in question that have committed ESG violations, out of all active firms in the economy. By analogy to criminal law terminology, which uses the term crime rate to refer to the proportion of the number of crimes on population, we can refer to this indicator as the **ESG crime rate (ESGCR)**, and it becomes one of our explained variables for operationalisation of CSI on the national level.

The advantage of the ESG crime rate (*ESGCR*) indicator is that it characterises the extent of unfair practices in the business environment in a given country. It well describes and measures the prevalence of incidents in sustainability in the business environment on the national level. On the other hand, this indicator does not say anything about the intensity of the incidents. It has limited testimonial capability in situations where, e.g. a scandalous case of global dimension occurs in a country. For this reason, we deploy a second dependent variable to operationalise the intensity of irresponsible corporate behaviour on the national level, which is based on the average absolute value of the RRI index in a given country and year. We calculate this indicator as an arithmetical average of the RRI values for all firms in the country that had recorded ESG incidents or had increased reputational risk during the observed period. For the purposes of our empirical analysis, we refer to this indicator as **Intensity of ESG incidents** and abbreviate it as (*ESGIO*).

To test our hypothesis H1, we analyze the ESG Crime Rate (ESGCR) in particular EU countries, which becomes our first dependent variable. To test our hypothesis H2, we analyze the Intensity of ESG incidents (ESGIO) at the national level, which becomes our second dependent variable. To test our last hypothesis H3, we use the delayed values of the ESG Crime Rate (ESGCR) variable in relation to current values of the Intensity of ESG incidents (ESGIO) variable.

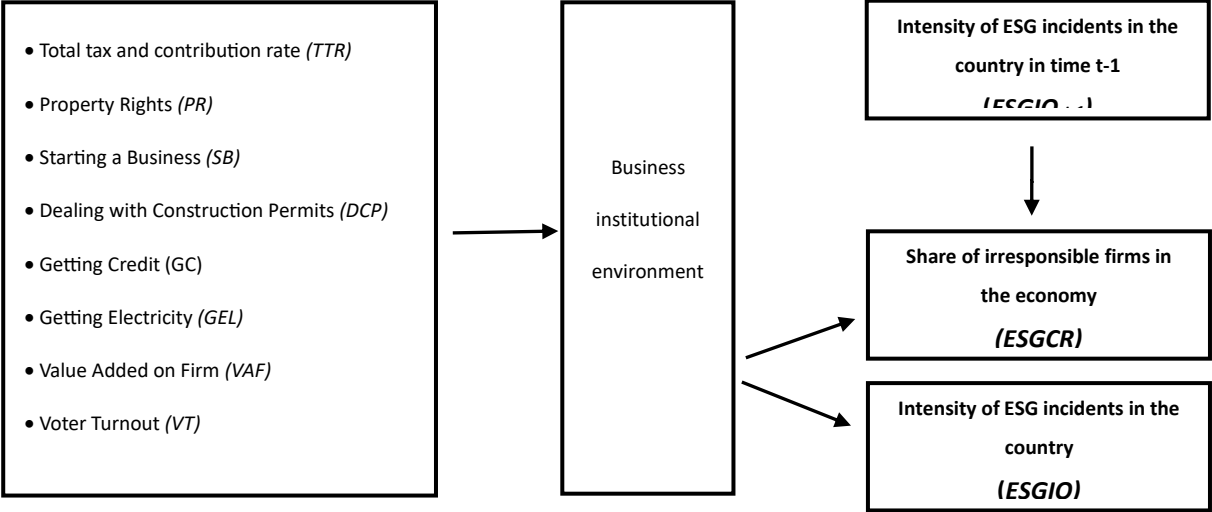
We focus our research on European Union countries for several reasons: 1. Countries achieve a high score for institutional quality according to the World Bank's Governance Indicators database (2022), which tracks the quality of governance, consisting of the traditions and institutions through which power is exercised in a country, including the process by which governments are selected, controlled and replaced, the ability of governments to effectively formulate and implement the right policies, and the respect of citizens and the state to the institutions that manage their economic and social relationships with each other. 2. At the same time, there are differences between countries in terms of economic liberalism. Within the European Union, both LME and CME forms of capitalism can be identified. And also differences between countries according to the Doing Business database (World Bank, 2020). 3. The EU's free market and the related free movement of people, goods, services and capital facilitate the internationalization of firms.

2.2. Research design and operationalization

The core independent variables of interest in our study describe the business institutional environment that is attractive to local and international businesses and stimulates entrepreneurship according to the World Bank (2019) definition. This is a business institutional environment conducive for ease of doing business. To characterize the business environment, we based our study on Nave and Rodrigues (2023) and Jones et al. (2023) and selected variables from the World Bank's Doing Business (DB) database and the Heritage Foundation's Index of Economic Freedom (IEF) database.. Data from both databases are widely regarded as reliable and have been utilized in numerous studies to describe the business institutional environment (Álvarez and Urbano, 2011; Aparicio et al. 2016; Chowdhury et al. 2019; Dwumfour, 2020; Estevão et al, 2020; Jones et al. 2023; Pinheiro-Alves and Zambujal-Oliveira, 2012; Raposo et al. 2014; Samadi and Alipourian, 2021; Sharafeyeva and Shepherd, 2020; Vučković et al.) To characterize the attractive business environment in each country, our empirical model includes variables representing key chapters from the DB database: *total tax and contribution rate (TTR)*, *starting a business (SB)*, *dealing with construction permits (DCP)*, *getting credit (GC)*, and *getting electricity (GEL)*, and a *property rights (PR)* variable from the IEF database. Because of our effort to examine the attractive business environment within countries with high quality institutions in more detail, we do not select the overall EDB or IEF indicator from both databases, but only their sub-variables. Following previous studies (Bauhr and Grimes, 2017; Campbell, 2007; Durand and Milberg, 2020; Jaax and Miroudot, 2021), we include two control variables to describe the institutional environment of a given economy: *Value Added per Firm (VAoF)* and *Voter Turnout (VTEUP)*. VAoF documents the success of proactive policies that foster a pro-business environment, with higher values indicating the presence of high-tier firms. VTEUP, on the other hand, reflects the informal institutional environment through public participation and control.

The research design, which is depicted graphically in Figure 1, provides a comprehensive visual representation of the study's methodological framework.

Fig. 1. Research design: Influence of country-specific drivers of business environment on the level of corporate social irresponsibility in EU countries



Source: The authors’ own construction based on Gaganis et al., 2021

Table 1 summarises our hypotheses and the expected signs of the associations between the dependent and independent variables. The selection of the variables and the assumed directions of the relationships were determined based on previous empirical research and our theoretical foundation for hypothesis generation. The rationale is provided in the text following Table 1.

Table 1 Summary of hypotheses

Variable name	Hypothesis 1 Dependent variable: Share of irresponsible firms in the economy (ESGCR)	Hypothesis 2 Dependent variable: Intensity of ESG incidents in the country (ESGIO)	Hypothesis 3 Dependent variable: Share of irresponsible firms in the economy (ESGCR)
Total Tax and Contribution rate (TTR)	-	-	None
Property Rights (PR)	-	-	None
Starting a Business (SB)	+	+	None
Dealing with Construction Permits (DCP)	+	+	None
Getting Credit (GC)	+	+	None
Getting Electricity (GEL)	+	+	None
Value Added on Firm (VAF)	+	+	None
Voter Turnout (VTEUP)	-	-	None
Intensity of ESG incidents in the past year (ESGIO _{t-1})	None	None	-

The core variables were selected as those related to the ease of firms' entry into the market. This is based on the finding that economic freedom primarily provides lower start-up costs (Santos et al., 2019). The start-up phase of internationalization (Li, 2019) and ease of market entry through fewer formalities, licenses, and property rights protection are important for entrepreneurs' intentions, which

stimulates foreign direct investment (Meyer et al., 2009; Rygh, et al., 2023). Simplified regulations that promote market entry increase firms' productivity (Chowdhury et al., 2019) whereas high regulation limits self-employment entry (Djankov et al., 2002). Sendra-Pons et al. (2022) argue that to determine the ease of starting a new business, the required procedures, complexity and costs should be considered. High-cost regulations make it difficult to start new businesses (Klapper et al., 2006) and can reduce international entrepreneurs' entry and profits (Contractor et al., 2020). Therefore, we select **Starting a Business (SB)** indicators from the EDB database to reflect the initial requirements for new businesses, including the procedures, time, costs, and initial capital needed to start a business; **Dealing with Construction Permits (DCP)** reflects the procedures, time, and costs associated with getting permits for construction projects that are critical to public safety, efficiency, and economic competitiveness (Kumar and Pahwa, 2017; Gudienne et al, 2014); **Getting Credit (GC)** evaluates the availability and regulatory framework for providing credit that is essential for business growth (Levine et al., 2000; Chmelíková and Redlichová, 2020); and **Getting Electricity (GE)** reflects the procedures, time, and costs associated with obtaining connections. The easier the overall market entry, the more attractive the business institutional environment. Therefore, for these variables, we assume a positive relationship with our dependent variables.

Not only economic freedom, but also low taxes allow for more business experimentation (Bjørnskov and Foss, 2013). According to Bobera et al. (2014), tax burdens are the biggest obstruction in the entrepreneurship process. High taxation reduces firms' profitability (Chowdhury et al., 2019), therefore, firms often use internationalization to optimize their taxes (Cuervo-Cazurra et al., 2018). For these reasons, we select **Total Tax and Contribution Rate (TTR)** as another factor, which is a significant predictor of the ease of doing business, affects investment decisions, entrepreneurship, and economic growth (Besley and Persson, 2013). The lower the TTR in a country, the more attractive such a business institutional environment is. Therefore, in the case of TTR, we expect a negative relationship with our dependent variables.

Property Rights (PR) indicates the extent to which a country's legal framework allows individuals to obtain, hold, and use private property and the extent to which these rights are guaranteed by valid laws that are effectively enforced by the government. PR are at the core of explanations of economic performance (Stephen et al., 2005) and represent a major barrier to the realization of potential profits from trade, resulting in higher levels of entrepreneurship (North, 1993). Johnson et al. (2002) find that strong property rights promote profit reinvestment, which is crucial for economic growth, while weak rights prevent it. Vasanicova et al. (2021) highlight that countries with strong PR protection and effective legal systems are more competitive. PR is an indicator included in the ranking of firms in the

Economic Freedom Index databases from both the Fraser Institute and the Heritage Foundation. It is also an indicator that is very often associated with a high-quality institutional environment. Jones et al. (2023) report that firms escape from weak institutional environments to achieve property rights protection. Property rights provide stable contractual relationships, thereby reducing the risks of non-compliance (Shah et al., 2024). The introduction of regulations such as true ownership disclosure can mitigate financial crime (Chaikin, 2018). Robust PR protection promotes social stability (Smith and Chimucheka, 2014). Countries that prioritize property rights in regulation tend to increase social welfare, despite worries that excessive regulation discourages the attractiveness of entrepreneurship (Beales et al., 2017). We choose the PR indicator because, on the one hand, it increases the attractiveness of the business environment, but at the same time there is strong empirical evidence of a negative effect of high PR protection on CSI. We lean with the empirical evidence and expect that the higher the PR protection, the lower is the CSI, despite the higher attractiveness of the business environment. We therefore expect a negative relationship of PR with our dependent variables.

As a proxy for the quality of the business environment, we use the **Value Added on Firm (VAoF)** variable, which reflects the annual gross value added per active firm in a country's economy, with higher values indicating a more favorable environment where firms stand in high positions within global production networks and can generate increased value (Blažek and Holická, 2022). This value capture is influenced by the unequal distribution of intangible assets such as expertise and brand, which, when protected, establish legal monopolies, facilitating product differentiation and value redistribution (Durand and Milberg, 2020; Jaax and Miroudot, 2021). The higher the VAoF, the higher is the presence of firms with a high market share, i.e., the more attractive is the given business institutional environment. Therefore, for VAoF, we expect a positive relationship with our dependent variables.

Voter turnout (VTEUP) reflects citizens' involvement in public affairs serving as a proxy for informal institutional influence, with higher participation potentially leading to greater oversight and regulation, which may mitigate illegal corporate behavior (Bauhr and Grimes, 2017; Campbell, 2007). However, studies examining the relationship between corporate behavior and turnout offer conflicting findings, with some suggesting that corruption may reduce turnout (Giommoni, 2021). Nevertheless, greater transparency and citizen engagement are believed to contribute to a reduction of irresponsible corporate behaviour such as corruption (Bauhr and Grimes, 2017). Overall, higher voter turnout is associated with stronger citizen control, potentially indicating lower levels of irresponsible corporate behavior (Dalhberg and Solevid, 2016). The lower the voter turnout in a country, the lower the public

control by stakeholders and the more attractive is such a business institutional environment. For VTEUP, we therefore expect a negative relationship with our dependent variables.

2.3. Data

In order to investigate our hypotheses, we build a data set by drawing on several sources. Our data on corporate irresponsible behaviour, operationalised by our dependent variables (*ESGCR* and *ESGIO*) come from a comprehensive database on reputational risk RepRisk. We work with a reputational risk indicator (RRI) on a monthly basis for individual firms, which is graded on a scale from 0 to 100. We use data on RRI of all EU firms from this dataset from the years 2015 -2020 with several filters. We excluded countries of which official language is not used by RepRisk to screen informational sources. The following 16 countries out of 27 EU form the research sample: Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Malta, Netherlands, Poland, Portugal, Spain, Sweden. The use of this filter is necessary because our main dependent variable, *ESGCR*, depends on the number of detected cases of delinquent firms in the country under question. If a country's language is not screened by the RepRisk, the detection rate is lower and not comparable to other countries. Furthermore, firms having zero reputational risk indicator are excluded. The number of incidents in our data sample changed during the observing period from 5463 incidents in 2015, 6589 in 2016, 8273 in 2017, 9111 in 2018, 8250 in 2019 to 8254 in 2020 together in the 16 EU countries. Table 2 presents a selection of EU16 countries whose official languages are utilized by RepRisk in screening informational sources, forming the basis of our research sample. For each country, we report the annual rate of our primary dependent variable: the ESG crime rate. This rate indicates the number of firms per 1,000 that have committed offenses against sustainability principles in the specified country and year.

Table 2: Number of firms committing offenses against sustainability principles per thousand firms

ESG Crime Rate (ESGCR) [%o]	2015	2016	2017	2018	2019	2020
Austria	0,64	0,68	0,77	0,81	0,54	0,49
Belgium	0,26	0,34	0,49	0,49	0,46	0,42
Cyprus	1,92	2,60	2,83	2,70	2,37	1,95
Denmark	1,47	1,70	1,54	1,52	1,73	2,40
Finland	1,00	1,68	2,04	2,05	1,92	1,72
France	0,22	0,26	0,31	0,30	0,27	0,26
Germany	0,42	0,48	0,52	0,50	0,46	0,47
Ireland	0,60	0,62	0,66	0,66	0,70	0,66
Italy	0,22	0,26	0,36	0,36	0,53	0,57
Luxembourg	5,95	6,54	4,42	4,34	4,03	3,88
Malta	1,27	1,82	3,42	3,19	4,90	5,40
Netherlands	0,33	0,47	0,71	0,68	0,74	0,58
Poland	0,06	0,06	0,07	0,06	0,05	0,04
Portugal	0,15	0,18	0,16	0,16	0,16	0,18

Spain	0,28	0,29	0,55	0,55	0,37	0,37
Sweden	0,55	0,50	0,47	0,52	0,51	0,58

Our data on the operationalisation of the business institutional environment come from several sources: Eurostat, World Bank's Doing Business database, Heritage Foundation's Index of Economic Freedom database, Voter Turnout Database. All variables, including a description of the measures and sources, are summarised in Table 3.

Table 3: Description of Variables

Variable	Label	Source	Description
Dependent			
<i>ESGCR</i>	ESG Crime rate	RepRisk and Business Demography (Eurostat)	Share of all firms in the country that have committed ESG crimes, out of all active firms in the economy.
<i>ESGIO</i>	Intensity of ESG offence	RepRisk	Average RRI in the country.
Main effects			
<i>VTEUP</i>	Voter Turnout - EU Parliament	Voter Turnout Database (International IDEA)	Percentage of registered voters who voted.
<i>TTR</i>	Total tax and contribution rate	Doing Business	Percentage of profit.
<i>PR</i>	Property Rights	Index of Economic Freedom (Heritage)	Quality of contract and law enforcement
<i>SB</i>	Starting a Business	Doing Business	Time, cost, paid-in minimum capital, number of procedures
<i>DCP</i>	Dealing with Construction Permits	Doing Business	Time, cost, number of procedures
<i>GC</i>	Getting Credit	Doing Business	Access to credit information and law favourable to borrowers
<i>GEL</i>	Getting Electricity	Doing Business	Time, cost, number of procedures to connection
<i>VAoF</i>	Value Added on Firm	Eurostat and Business Demography (Eurostat)	Gross Value Added (GVA)/all active firms in economy
Control			
<i>GDP_C</i>	GDP per capita	Eurostat	Gross domestic product (GDP) per capita in Purchasing Power Standards (PPS)
<i>AIR</i>	Annual Inflation Rate	Eurostat	Harmonised indices of consumer prices – annual average rate of change

2.4. Methods and descriptive statistics

We aim to investigate to what extent the conditions conducive to the ease of doing business are linked to different levels of corporate social irresponsibility. Our empirical strategy to evaluate our hypotheses is based on an estimation of regression models. We work with static panel data (N = 16 /

27, T = 6), as the current value of the dependent variable is related only to the current values of the independent variables and the individual-specific effect, not to its own past values. All variables are log-transformed, and the estimated coefficients can be interpreted as elasticities. Data are processed in SAS Studio software that uses instrumental variable regressions to estimate static and dynamic panel models with endogeneity. Endogeneity in panel data models refers to a situation where one or more of the independent variables in the model are correlated with the error term. This correlation violates one of the key assumptions of classical linear regression models, that of no correlation between the independent variables and the error term. The presence of endogeneity leads to biased and inconsistent estimates, making it difficult to accurately infer causal relationships.

Hausman-Taylor estimation (HT) for static panel models is an appropriate solution for coping the endogeneity in the static panel models, while the more frequently used iterative generalised method of moments (GMM) faces endogeneity in dynamic panel models. The Hausman-Taylor model (Hausman and Taylor, 1981) is a hybrid that combines the consistency of a fixed-effects model with the efficiency and applicability of a random-effects model. Consider the one-way model:

$$y_{it} = \mathbf{X}_{1it}\beta_1 + \mathbf{X}_{2it}\beta_2 + \mathbf{Z}_{1i}\gamma_1 + \mathbf{Z}_{2i}\gamma_2 + v_i + \epsilon_{it}$$

The regressors are subdivided so that the X variables vary within cross sections, whereas Z the variables do not and would otherwise be dropped from a fixed-effects model. The subscript 1 denotes variables that are independent of both error terms (exogenous variables), and the subscript 2 denotes variables that are independent of the observation-level errors ϵ_{it} but correlated with cross-sectional errors v_i (endogenous variables). The intercept term is included as part of \mathbf{Z}_1 in what follows. The Hausman-Taylor estimator (HT) is an instrumental variables regression on data that are weighted similarly to data for random-effects estimation. In both cases, the weights are functions of the estimated variance components. Hausman and Taylor (1981) describe a specification test that compares their model to fixed effects. For a null hypothesis of fixed effects, Hausman's m statistic is calculated by comparing the parameter estimates and variance matrices for both models, identically to how it is calculated for one-way random effects models (Baltagi et al., 2003).

HT estimator addresses the endogeneity of some explanatory variables by using internal instruments. In this study, two instrumental covariates were selected: Gross Domestic Product per capita in PPS (Purchasing Power Standard) and Annual Inflation Rate, which are used as country-level control variables in other thematically similar studies (Delmas et al., 2011; Li and Wu, 2020; Rahi et al., 2023).

We also applied the Amemiya-MaCurdy estimation to verify the model. The Amemiya and MaCurdy (1986) model is similar to the Hausman-Taylor model. Following the development in the section Hausman-Taylor Estimation, estimation is identical up to the final 2SLS instrumental variables regression. For each observation in the i -th cross section, you use the data on the time-varying exogenous regressors for the entire cross-section. Because of the structure of the added instruments, the Amemiya-MaCurdy estimator can be applied only to balanced data. The difference between the Hausman-Taylor and the Amemiya-MaCurdy estimators is that the Amemiya-MaCurdy model makes the added assumption that the regressors (and not just their means) are uncorrelated with the individual effects. By making that assumption, the Amemiya-MaCurdy model can take advantage of a more efficient set of instrumental variables.

The Amemiya-MaCurdy model attempts to gain efficiency over Hausman-Taylor by adding instruments.

This study runs 18 different models to avoid any collinearity issues. This approach follows the recent study (Rahi et al., 2023). The general form of the regression model is as follows:

$$\text{Hypothesis 1: } IESGCR = X_{it} + IGDP_C_{it} + IAIR_{it} + \varepsilon_{it}$$

where $IESGCR$ is log-transformed Crime rate (share of offending firms in all firms) in each EU-16 country, X_{it} represents one of the log-transformed main effects from the Table 2, $IGDP_C_{it}$ expresses log-transformed Gross Domestic Product per capita in Purchasing Power Standard in a specific country and year, $IAIR_{it}$ is a symbol for the log-transformed annual inflation rate in a specific country and year.

$$\text{Hypothesis 2: } IESGIO = X_{it} + IGDP_C_{it} + IAIR_{it} + \varepsilon_{it}$$

where $IESGIO$ is log-transformed Intensity of offence (average RRI in the country) in each EU-16 country, X_{it} represents one of the log-transformed main effects from the Table 2, $IGDP_C_{it}$ expresses log-transformed Gross Domestic Product per capita in Purchasing Power Standard in a specific country and year, $IAIR_{it}$ is a symbol for the log-transformed annual inflation rate in a specific country and year.

$$\text{Hypothesis 3: } IESGCR = IESGIO + IGDP_C_{it} + IAIR_{it} + \varepsilon_{it}$$

$$IESGCR = IESGIO (-1) + IGDP_C_{it} + IAIR_{it} + \varepsilon_{it}$$

where $IESGIO (-1)$ is lagged log-transformed Intensity of offence (average RRI in the country) in each EU-16 country.

Table 4: Descriptive statistics

Variable	Label	N	Mean	StDev	Min	Max
<i>IESGCR</i>	ESG Crime rate	96	-0.448	1.131	-3.134	1.877
<i>IESGIO</i>	Intensity of ESG incidents	96	2.399	0.124	2.053	2.725
<i>IVTEUP</i>	Voter Turnout - EU Parliament	96	3.927	0.317	3.171	4.496
<i>ITTR</i>	Total tax and contribution rate (% of profit)	96	3.687	0.348	2.997	4.267
<i>IPR</i>	Property Rights	96	4.375	0.130	3.912	4.554
<i>ISB</i>	Starting a Business	96	4.483	0.054	4.339	4.551
<i>IDCP</i>	Dealing with Construction Permits	96	4.302	0.097	4.000	4.476
<i>IGC</i>	Getting Credit	96	3.896	0.445	2.303	4.317
<i>IGEL</i>	Getting Electricity	96	4.435	0.086	4.209	4.593
<i>IVAoF</i>	Value Added on Firm	96	5.781	0.659	4.504	6.915
<i>IGDP_C</i>	GDP per capita	96	4.747	0.315	4.234	5.642
<i>IAIR</i>	Annual inflation rate	96	0.773	0.460	-1.204	1.649

Note: All variables were log-transformed

All log-transformed variables including their descriptive statistics are summarized in Table 4. Table 5 gives the overview of ranked Pearson correlation matrix of coefficients, while these coefficients are ranked descending according to their P-values in the third row.

Table 5: Ranked Pearson correlation matrix (n = 96)

<i>IESGCR</i>	<i>ITTR</i>	<i>IGDP_C</i>	<i>IVTEUP</i>	<i>IGC</i>	<i>IVAoF</i>	<i>IPR</i>	<i>IESGIO</i>	<i>IGEL</i>	<i>IAIR</i>	<i>IDCP</i>	<i>ISB</i>
-	0.56261	0.52909	-	0.46399	0.40103	-	0.10125	-	0.01571	0.00102	
0.57145	<.0001	<.0001	0.47247	<.0001	<.0001	<.0001	0.10993	0.3263	0.08178	0.8792	0.9921
<.0001			<.0001				0.2863		0.4283		
<i>IESGIO</i>	<i>ISB</i>	<i>IPR</i>	<i>ITTR</i>	<i>IAIR</i>	<i>IGC</i>	<i>IVAoF</i>	<i>IGEL</i>	<i>IESGCR</i>	<i>IDCP</i>	<i>IGDP_C</i>	<i>IVTEUP</i>
0.34898	0.18326	0.16545	0.15033	0.13745	0.11902	0.11093	-	0.10871	0.04112	0.01617	0.01617
0.0005	0.0739	0.1072	0.1437	0.1817	0.2481	0.2820	0.10993	0.2917	0.6908	0.8758	0.8758
							0.2863				
<i>IVTEUP</i>	<i>IGDP_C</i>	<i>IESGCR</i>	<i>IGC</i>	<i>IVAoF</i>	<i>IDCP</i>	<i>IGEL</i>	<i>IPR</i>	<i>IAIR</i>	<i>ITTR</i>	<i>IESGIO</i>	<i>ISB</i>
0.55191	0.52909	-	0.46052	0.25683	-	0.21060	0.18125	-	0.01617	-	-
<.0001	<.0001	0.47112	<.0001	0.0115	0.21955	0.0394	0.0772	0.08402	0.8758	0.01038	0.01038
		<.0001						0.4157		0.9200	0.9200
<i>ITTR</i>	<i>IESGCR</i>	<i>IGDP_C</i>	<i>IAIR</i>	<i>IVAoF</i>	<i>IGC</i>	<i>IPR</i>	<i>IESGIO</i>	<i>IGEL</i>	<i>IVTEUP</i>	<i>IDCP</i>	<i>ISB</i>
-	-	0.29425	-	0.21244	-	0.16545	-	-	-	-	-
0.57145	0.45607	0.0036	0.27442	0.0377	0.19115	0.1072	0.09979	0.08402	0.05440	0.04253	0.04253
<.0001	<.0001		0.0068				0.3334	0.4157	0.5986	0.6808	0.6808
<i>IPR</i>	<i>IVAoF</i>	<i>IGDP_C</i>	<i>ISB</i>	<i>IDCP</i>	<i>IGEL</i>	<i>IESGCR</i>	<i>IVTEUP</i>	<i>ITTR</i>	<i>IESGIO</i>	<i>IAIR</i>	<i>IGC</i>
0.74193	0.63025	0.52622	0.43009	0.41586	0.40103	0.21060	-	0.18326	0.12960	0.02389	0.02389
<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.0394	0.19115	0.0739	0.2082	0.8173
								0.0621			
<i>ISB</i>	<i>IPR</i>	<i>IESGIO</i>	<i>IGDP_C</i>	<i>IDCP</i>	<i>IVAoF</i>	<i>IGC</i>	<i>IGEL</i>	<i>ITTR</i>	<i>IAIR</i>	<i>IVTEUP</i>	<i>IESGCR</i>
0.52622	0.34898	0.32440	0.32097	0.27243	0.17105	0.07084	-	0.04151	-	0.00102	0.00102
<.0001	0.0005	0.0013	0.0014	0.0072	0.0957	0.4928	0.04253	0.6880	0.01038	0.9921	0.9921
							0.6808		0.9200		
<i>IDCP</i>	<i>IVAoF</i>	<i>IGDP_C</i>	<i>IPR</i>	<i>IAIR</i>	<i>ISB</i>	<i>IGEL</i>	<i>IVTEUP</i>	<i>IESGIO</i>	<i>ITTR</i>	<i>IGC</i>	<i>IESGCR</i>
0.57445	0.47094	0.43009	0.35170	0.32097	0.29277	0.25683	0.10871	-	-	0.01571	0.01571
<.0001	<.0001	<.0001	0.0004	0.0014	0.0038	0.0115	0.2917	0.05440	0.04750	0.8792	0.8792
								0.5986	0.6459		
<i>IGC</i>	<i>IESGCR</i>	<i>IVTEUP</i>	<i>IGDP_C</i>	<i>IGEL</i>	<i>ITTR</i>	<i>ISB</i>	<i>IESGIO</i>	<i>IAIR</i>	<i>IDCP</i>	<i>IPR</i>	<i>IVAoF</i>
-	-	-	0.24813	0.21244	0.17105	0.13745	-	-	0.02389	-	-
0.47247	0.47112	0.39088	0.0148	0.0377	0.0957	0.1817	0.09446	0.04750	0.8173	0.00225	0.00225
<.0001	<.0001	<.0001					0.3600	0.6459		0.9826	0.9826

IGEL	IPR	IVaof	IDCP	IGC	IVTEUP	IGDP_C	IESGIO	IESGCR	ITTR	IAIR	ISB
	0.41586	0.40193	0.29277	0.24813	-	0.17478	0.11093	0.10125	-	0.08668	0.07084
	<.0001	<.0001	0.0038	0.0148	0.21955	0.0885	0.2820	0.3263	0.09979	0.4010	0.4928
					0.0316				0.3334		
IVaof	IGDP_C	IPR	IDCP	IESGCR	IVTEUP	IGEL	ITTR	ISB	IAIR	IESGIO	IGC
	0.83881	0.74193	0.57445	0.46399	0.46052	0.40193	-	0.27243	0.15390	0.11902	-
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.27442	0.0072	0.1344	0.2481	0.00225
							0.0068				0.9826
IGDP_C	IVaof	IPR	IESGCR	IVTEUP	IDCP	ITTR	IGC	ISB	IGEL	IAIR	IESGIO
	0.83881	0.63025	0.56261	0.55191	0.47094	-	-	0.32440	0.17478	0.08643	0.04112
	<.0001	<.0001	<.0001	<.0001	<.0001	0.45607	0.39088	0.0013	0.0885	0.4024	0.6908
						<.0001	<.0001				
IAIR	IDCP	ITTR	IVTEUP	IVaof	IESGIO	IPR	IGC	IGEL	IGDP_C	IESGCR	ISB
	0.35170	0.29425	0.18125	0.15390	0.15033	0.12960	-	0.08668	0.08643	-	0.04151
	0.0004	0.0036	0.0772	0.1344	0.1437	0.2082	0.09446	0.4010	0.4024	0.08178	0.6880
							0.3600			0.4283	

Note: Correlation coefficients are ranked descending. P-values in the third row.

Table 6 provides information about collinearity test in all models using the Variance Inflation Factor. The VIF provides an index that measures how much the variance of an estimated regression coefficient is increased because of collinearity. The VIFs of each model were checked separately and found to be within the normal range. The maximum value, irrespective of models, is counted below 4, whereas the maximum accepted value is 10 (Fox and Monette, 1992). The results do not indicate any serious collinearity issues in the models.

Table 6: Multicollinearity check: maximum VIF in the models

Model	Max VIF	Model	Max VIF
1	1.48234	10	1.48105
2	1.48105	11	1.67282
3	1.67282	12	1.13115
4	1.13115	13	1.46870
5	1.46870	14	1.18732
6	1.18732	15	1.03638
7	1.03638	16	3.45365
8	3.45365	17	1.02983
9	1.48234	18	1.01246

Note: VIF = Variance Inflation Factor

3. Results and Discussion

Tables 7-11 present the results of estimation of the impact of business institutional environment on the extent and depth of ESG crimes among firms. In a nutshell, the results show the direction and strength of the relationship between the measurable quality of business institutional environment and the prevalence and intensity of ESG crimes. To increase the robustness of the results, hypotheses 1 and 2 were tested using two models, the Hausman-Taylor model and the Amemiya-MaCurdy model.

3.1. The role of institutional business environment and ESG Crime rate (H1)

A negative prefix for the estimated coefficients in Table 7 and Table 8 indicates that we find a negative relationship between the independent variable and the ESG crime rate. Specifically, we find significant negative evidence for Voter Turnout- EU Parliament (*VTEUP*) and Total tax contribution (*TTR*). We find statically significant positive influence of variables Property rights (*PR*), Starting a business (*SB*), Dealing with construction permits (*DCP*), Getting Credit (*GC*), Getting Electricity (*GEL*) and Value added on Firm (*VAoF*). In total, we find a significant association between the ESG crime rate and all examined conditions that facilitate the ease of doing business. Our presented results therefore support statement from Hypothesis 1 that institutional environment attractive to business is supportive for ESG criminality in EU.

Table 7: Hypothesis 1: Dependent variable *IESGCR* (n = 96) - Hausman-Taylor estimation

Model	Main effect Xit	Intercept	Xit	GDP_C	AIR	R2
1	<i>IVTEUP</i>	-6.41284	-0.42213* (0.2316)	1.579797 (0.8161)	0.160302 (0.0660)	0.1159
2	<i>ITTR</i>	-1.441399	-1.130192* (0.469944)	1.069225 (0.859136)	0.110291 (0.066104)	0.1559
3	<i>IPR</i>	-10.0263	1.108731* (0.4804)	0.973574 (0.7445)	0.137177* (0.0649)	0.1388
4	<i>ISB</i>	-32.7452	7.342485*** (1.5706)	-0.15493 (0.8411)	0.146621* (0.0590)	0.2287
5	<i>IDCP</i>	-23.6665	5.75203** (2.0913)	-0.34411 (0.9059)	0.139127* (0.0628)	0.1135
6	<i>IGC</i>	-6.27811	0.775464*** (0.1383)	0.570166 (0.7740)	0.132669* (0.0550)	0.3055
7	<i>IGEL</i>	-12.2559	2.017443* (0.9945)	0.585596 (0.9422)	0.104414 (0.0679)	0.1159
8	<i>IVAoF</i>	-5.25763	0.95264* (0.3820)	-0.15872 (0.8776)	0.073187 (0.0696)	0.1324

Notes: *GDP_c* and *AIR* are control variables; standard error in parentheses, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Table 8: Hypothesis 1: Dependent variable *IESGCR* (n = 96) – Amemiya-MaCurdy estimation

Model	Main effect Xit	Intercept	Xit	GDP_C	AIR	R2
1	<i>IVTEUP</i>	-6.820528	-0.425131 (0.231645)	1.668421* (0.811280)	0.158736** (0.065978)	0.1153

2	<i>ITTR</i>	0.524751	-1.190809* (0.469994)	0.702196 (0.830566)	0.109749 (0.066286)	0.1496
3	<i>IPR</i>	-9.808877	1.112475* (0.480540)	0.924098 (0.731489)	0.138575* (0.064920)	0.1380
4	<i>ISB</i>	-32.885012	7.329957*** (1.566155)	-0.113215 (0.777438)	0.144002* (0.058885)	0.2303
5	<i>IDCP</i>	-24.257505	5.488168** (2.071211)	0.020383 (0.868694)	0.133900* (0.062347)	0.1245
6	<i>IGC</i>	-5.245350	0.778450*** (0.138594)	0.350235 (0.742755)	0.132138* (0.055060)	0.3026
7	<i>IGEL</i>	-12.199633	2.018946* (0.994781)	0.572377 (0.807614)	0.104115 (0.067865)	0.1153
8	<i>IVAoF</i>	-5.009241	0.975319* (0.377589)	-0.238409 (0.854413)	0.071636 (0.069419)	0.1308

Notes: *GDP_c* and *AIR* are control variables; standard error in parentheses, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

The proportion of irresponsible firms in the economy (ESGCR) is negatively and significantly associated with total taxation (TTR). According to our results, countries with lower tax rates have a higher proportion of firms that have somehow transgressed ESG principles. Our research is consistent with Ewing (2017) and Gillespie (2004), and provides empirical evidence that low corporate tax levels attract firms that aim to maximize firm value, the achievement of which they prioritize over the interests of other stakeholders. It should be emphasised that this may be due to incidents against principles in all three areas of ESG - environmental, social, or governance. Thus, the question remains to what extent governance-related incidents are recorded in the context of higher tax rates, in particular because of tax avoidance. This has been explored by Abdixhiku et al. (2017) or Mocanu et al. (2021), who provide evidence showing that perceived tax burden has a positive effect on tax avoidance. However, our study does not investigate this issue further and is a appropriate stimulus for future research. Next, a set of 'Easy of Entries' characteristics: -Starting a Business (SB), Dealing with Construction Permits (DCP), Getting Credit (GC) and Getting Electricity (GEL), are examined. We find in all cases strong, positive, and statistically significant evidence that these variables conducive the ease of market entry business are at the same time drivers of increased ESG crime rate. This finding is consistent with expected directions and also in accordance with previous empirical studies such as Anderson (2018), who in case of (SB) showed that reducing the administrative burden and simplifying the process of starting a business increased the risk of illegal activities, or Saenz and Brown, 2018, who found positive relationship between time of dealing with construction permits and various forms of corruption. As for (GEL) variable we found the same results as Mertzanis et al (2020), who claim that in high-income countries, low energy constraints are associated with higher levels of CO2.

Property rights (PR) matter in the ESG crime rate, but not in the expected direction. Indeed, our results show that countries with improved protection of property rights suffer from an increased ESG crime

rate. This finding contrasts with previous studies, e.g. Chaikin (2018), who claim that regulation plays an important role in preventing unethical practices and corporate criminality, or Eldomiaty et al. (2016), whose findings show that clear legal norms and well-functioning juridical system reduce the scope for criminal activity. This observed paradox can be explained in two ways. As argued by Dorfleitner et al. (2022), companies with high-quality institutions and stakeholder pressure are also more likely to detect corporate scandals. Thus, the level of the institutional environment also strongly influences the detection of CSI. The second reason may be related to the findings of Jones et al. (2023) or Dharmapala and Hines (2009), who argue that very good protection of investors' property rights is typical for countries that are characterized as tax havens. In our study, three of the five countries that had the highest ESG crime rate, Cyprus, Luxembourg, and Malta, are also identified as tax havens according to the extended classification of Tenouri et al. (2022). The other two countries with high ESG crime rate were Finland and Denmark, countries with high quality institutions and stakeholder pressure, i.e. countries that are more likely to detect corporate scandals according to Dorfleitner et al. (2022).

The effect of citizen engagement measured by the voter turnout (VTEUP) is positively and significantly associated with the ESG crime rate, which is in line with our expectation and previous empirical findings. Campbell, 2007 claim that stakeholders play the role of watchdogs that guide sustainable companies' conducts, Bauhr and Grimes (2017) found that greater citizen monitoring, engagement, and involvement can contribute to reducing and preventing irresponsible corporate behaviour. The power of social capital and networks, as well as pressure from external stakeholders, counteract CSI (Iborra and Riera, 2023).

Last, a variable (VAF) controlling for the outcome of business environment institutions that aim to attract as many high value-added firms as possible into the economy, was tested. Our results show that countries that have achieved this goal and their firms create higher value added also suffer from increased ESG crime rates. This result is in line with our expectations and points to the fact that economies with a high concentration of high-tier firms within the global production networks (Blažek and Holická, 2022) are prone to the occurrence of irresponsible corporate behaviour.

3.2. The role of institutional business environment and Intensity of ESG incidents (H2)

A positive prefix for the estimated coefficients in Table 9 and Table 10 indicates that we find a positive relationship between the independent variable and the intensity of ESG incidents (*ESGIO*). Specifically, we find significant positive evidence for the variable Starting a business (*SB*). Other institutions of business environment turned out to have a statistically insignificant relationship with the intensity of

ESG incidents. Our presented results therefore do not allow to support our second hypothesis, that EU countries with an institutional environment conducive to support ease of doing business suffer from a higher intensity of ESG incidents.

Based on these findings, it can be concluded that the likelihood of a scandalous case failure to comply with ESG principles is not related to the institutional conditions set that promote the ease of doing business in EU countries.

Table 9: Hypothesis 2: Dependent variable IESGIO (n = 96) - Hausman-Taylor estimation

Model	Main effect Xit	Intercept	Xit	GDP_C	AIR	R2
9	<i>IVTEUP</i>	3.02905	0.044591 (0.1060)	-0.1773 (0.2468)	0.046982 (0.0310)	0.0161
10	<i>ITTR</i>	5.868427	-0.20983 (0.1806)	-0.57578 (0.3973)	0.048125 (0.0328)	0.0567
11	<i>IPR</i>	1.911234	0.209355 (0.2189)	-0.09826 (0.1959)	0.049197 (0.0302)	0.0362
12	<i>ISB</i>	-2.52305	1.6244* (0.7290)	-0.50588 (0.3745)	0.052156 (0.0313)	0.1149
13	<i>IDCP</i>	0.415648	1.247477 (0.7781)	-0.72116 (0.4483)	0.051634 (0.0326)	0.0280
14	<i>IGC</i>	4.263479	-0.04279 (0.0704)	-0.36605 (0.2956)	0.051349 (0.0315)	0.0475
15	<i>IGEL</i>	2.919457	0.35725 (0.3867)	-0.45082 (0.4222)	0.045097 (0.0326)	0.0868
16	<i>IVAoF</i>	4.12136	0.330284 (0.1672)	-0.76975 (0.4086)	0.028661 (0.0336)	0.0784

Notes: *GDP_c* and *AIR* are control variables; standard error in parentheses, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Table 10: Hypothesis 2: Dependent variable IESGIO (n = 96) – Amemiya-MaCurdy estimation

Model	Main effect Xit	Intercept	Xit	GDP_C	AIR	R2
9	<i>IVTEUP</i>	2.950294	0.040037 (0.105150)	-0.156854 (0.240571)	0.046443 (0.030921)	0.0192
10	<i>ITTR</i>	5.052802	-0.162385 (0.156591)	-0.441039 (0.315783)	0.049550 (0.031363)	0.0765
11	<i>IPR</i>	1.872995	0.199046 (0.215908)	-0.080687 (0.186150)	0.049092 (0.030047)	0.0367
12	<i>ISB</i>	-2.428063	1.237254 * (0.617410)	-0.159800 (0.218845)	0.049542 (0.029350)	0.0648
13	<i>IDCP</i>	0.780064	0.764989 (0.624981)	-0.359759 (0.311780)	0.046054 (0.030278)	0.00595
14	<i>IGC</i>	3.039824	-0.016774 (0.064525)	-0.129518 (0.207760)	0.050704 (0.030087)	0.0206
15	<i>IGEL</i>	1.829461	0.248501 (0.349048)	-0.119941 (0.207727)	0.047307 (0.030764)	0.0269
16	<i>IVAoF</i>	3.619179	0.251045 (0.126602)	-0.568692 (0.301435)	0.036191 (0.031189)	0.008984

Notes: *GDP_c* and *AIR* are control variables; standard error in parentheses, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

The results derived from the H2 test hypothesis are in line with some existing research on the antecedents of irresponsible behavior at the firm level (e.g., Giacalone and Knouse, 1990; Pearce and Manz, 2011; Temouri et al., 2022), which asserts that CSI stems primarily from internal factors or individual managerial conduct, rather than external environmental pressures (Iborra and Riera, 2023; Walker et al., 2019). An elevated ESGIO score within a firm and the subsequent occurrence of a significant ESG incident often arise from managerial shortcomings, which are beyond the purview of institutional quality. CSI is the result of a deliberate corporate strategy (Keig et al., 2015), and firms cannot fall victim to institutional incentives for irresponsibility (Child, 1972).

3.3. The role of past intensity of the ESG offence in the prevalence of irresponsible behaviour (H3)

The negative prefix for the estimated coefficients in Table 11 indicates that we find a negative relationship between the independent variable at time (t-1) and the ESG crime rate (*ESGCR*) in time t. Specifically, we find a significant positive relationship. Therefore, the results we present support the statement from Hypothesis 3 that the intensity of ESG incidents in the past is related to a lower current level of ESG crime rate. Therefore, we confirm our original assumption that if past offences against ESG principles are shown to have led to a loss of competitiveness in the subsequent period, firms will adapt their behaviour to this experience and change the way they do business in relation to sustainability in the following period.

Table 11: Hypothesis 3: Dependent variable IESGCR (n = 96)

Model	Main effect Xit	Intercept	Xit	GDP_C	AIR	R2
17a	IESGIO – Hausman-Taylor	-3.4076	0.237562 (0.2337)	0.482604 (0.9837)	0.128446 (0.0681)	0.0822
17b	IESGIO – Amemiya-MaCurdy	-6.775671	0.256671 (0.230394)	1.183420 (0.811397)	0.122687 (0.067039)	0.1036
18	IESGIO (T-1)	1.023943	-0.58417* (0.2397)	-0.03984 (0.9701)	0.151163 (0.0660)	0.1032

Notes: *GDP_c* and *AIR* are control variables; standard error in parentheses, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Model 18: The Amemiya-MaCurdy model is not supported for unbalanced data.

Our findings align with institutional theory, particularly the concept of Path Dependency as outlined by Djelic and Quack (2007). Events and decisions from earlier periods exert influence on subsequent events and behaviours. Additionally, our results are in line with the insights of D'aveni et al. (2010), indicating that organisations must adapt to environmental changes and continuously seek new sources of sustainable competitive advantage. In the event of a major ESG scandal within a country, our research suggests that other firms respond by adjusting to the subsequent period's altered governmental and stakeholder oversight, thereby exhibiting more responsible behaviour. Consequently, ESG transgression rates decline in the following period within the country.

4. Conclusion

Our research provides 3 main findings:

(1) ESG crime rates are higher in those European countries that have favourable conditions for ease of doing business.

Institutional business environment that creates conditions for ease of doing business increases CSI and leads to an increase in the share of sustainability offending firms across all firms in the economy. The ESG crime rate is increased by the conditions for easy market entry (Starting a Business, Dealing with Construction Permits, Getting Credit and Getting Electricity), low Total Tax and Contribution Rate, and high Property Rights. All these variables are driving the CSI. But at the same time, all these variables are also indicators of the quality of the institutional environment. In our research, we therefore provide evidence that even countries with a high institutional quality index can attract CSI firms, especially if institutional quality is associated with a favorable and attractive business environment. Even in institutional environments emphasizing strong markets, mobile assets, low taxation, and strong competition policies, firms may mirror environmental and social concerns (Hall and Soskice, 2001; Walker et al., 2019). At the same time, our results indicate that high rates of ESG crime may be related to a greater ability to detect ESG incidents in some countries, as companies with high moral standards that closely monitor and control corporate behavior are more likely to perceive, denounce, and also detect corporate scandals (Dorfleitner et al., 2022). Our research also confirms the previously observed finding that firms with malpractices that exhibit higher CSI internationalize to tax havens (Bennedsen and Zeume, 2018; Mombeuil et al., 2019; Tenouri et al., 2022).

(2) Neither the favorable conditions for ease of doing business nor the quality of the institutional environment affect the intensity of ESG incidents.

The probability of a major ESG scandal is not related to the institutional conditions that support ease of doing business in EU countries. The high ESGIO score and the associated major ESG incident are probably due to other factors. Therefore, to explore the antecedents of these major scandals, it is not possible to observe only one perspective, but it is also necessary to focus on the firm and individual level and their combinations (Iborra and Riera, 2023).

(3) The intensity of past ESG incidents is associated with lower current rates of ESG crime

Firms adapt their behavior to the deteriorated performance of the previous period. Public control has made firms more cautious. If past ESG scandals turn out to have led to a loss of competitiveness in the subsequent period, firms adapt their behaviour to this experience and change the way they do business towards sustainability. The ESG crime rate in a country decreases in the following period. Institutional pressures influence the behavior of organizations that adapt their strategies to institutional expectations in a process of institutional isomorphism that results in legitimization (Arranz and Arroyabe, 2023).

Theoretical contributions

We contribute to the CSI discussion by operationalizing the measurement of CSI through ESG reputational risk and developing a new indicator, the ESG crime rate (ESGCR). This indicator may be a useful metric for capturing the CSI rate in a country as well as for further researchers. The data for the indicator are based on external sources and are regularly updated. ESGCR is therefore an indicator that is easily comparable across economies.

We also complement the study of institutional quality and its impact on CSI with an additional nuanced set of variables. We find evidence that economic liberalism, namely easy conditions for market entry, low tax burdens and high protection of property rights, leads to CSI growth, even in countries with high institutional quality. This view is more nuanced than the one currently identified in the literature. Our empirical findings contribute to the understanding that the quality of institutions in relation to CSI needs to be examined in more detail, not only from the perspective of reforms leading to improved national governance, but also from the perspective of economic liberalism.

Our research confirms the conclusions of Mingo et al. (2018) and Deng and Zang (2018) that performance is the driving force of internationalization. However, we further extend this finding. Firms, according to our results, do so not only to improve performance by reducing the costs of setting up and operating a business, but also by reducing the costs associated with not meeting stakeholder expectations in ESG areas.

Finally, we also contribute to the body of theoretical and empirical research on CSI antecedents by confirming that the drivers of corporate CSI cannot be attributed to a single perspective, whether we examine external or internal causes. The rationale of firms' choice of particular environments and the economic logic underlying their decisions may be based on different combinations of all these perspectives. Examining CSI causality solely through the overarching lens of institutional theory can lead to the inconsistent and ambiguous results observed in studies in this area.

Implications for policy makers

Nations that have established favourable conditions for ease of doing business within their institutional frameworks pose obstacles to the transition to sustainable development in European countries. To drive progress toward sustainability, it is imperative to orient policies more toward countries with attractive business environments, as they tend to harbour a concentration of the most harmful firms. The implications of our findings for policy makers are unequivocal. Given the substantial international heterogeneity in formal regulatory institutional pressures, firms are inclined to internationalise their operations in jurisdictions where they can pursue behaviour patterns aligned with their objectives at any given moment. Convergence in institutional policies can bolster regulatory institutions' capacity to exert pressure, thereby reducing firms' CSI as consistent signals are conveyed to firms across markets (Brammer et al., 2021). One potential measure entails harmonising corporate tax rates and other business conditions across EU member states.

Growth in the quality of institutions brings with it growth in both dimensions, namely, improved national governance as well as economic liberalism. Improvements in national governance lead to a reduction in CSI, while economic liberalism, according to our results, contributes to CSI. It is therefore desirable for policy makers to find an optimal balance that has a positive effect on economic growth and the growth of a country's competitiveness, but at the same time does not induce excessive anti-sustainability violations. Finding such an optimal balance is a major challenge for policy makers.

We also confirm that the detection of scandalous ESG incidents has an impact on the subsequent behaviour of companies and is correlated with a subsequent decrease in the overall ESG crime rate in a country. Therefore, it is important for policy makers to establish high-quality regulatory oversight and to fundamentally support NGOs and other stakeholders that engage in monitoring corporate activities (Campbell, 2007; Matten and Moon, 2008). In doing so, they can help to support more sustainable business practices not only within EU countries but also across jurisdictions.

Limitations and future research

This study concludes, among other things, that countries with lower tax rates have a higher proportion of firms that have transgressed ESG principles in some way. It should be emphasised that this may be due to offences against all three areas of ESG, i.e., environmental, social and governance. The question therefore remains to what extent governance incidents, particularly due to tax avoidance, and to what extent environmental and social incidents are recorded in the context of higher tax rates. This issue is not examined in this study. Future research focusing on these areas, as well as the issue of other nuanced institutional environment variables, could be a fruitful area of research in the coming years.

A constraint of our study pertains to the examination of effects exclusively within 16 EU countries. The use of the RepRisk database is confined to the selection of information sources available in select official languages of European nations. Consequently, in instances where a country's language is not included in RepRisk's screening process, the detection rate of incidents diminishes and becomes incomparable to other countries, prompting our implementation of this filtering mechanism. The EU16 sample is therefore not exhaustive. Given this limitation, researchers could use a number of different improvements to the dataset. For further research efforts, it would be useful to explore databases that include all official languages of the countries surveyed and to focus on other markets outside the EU. In further research, we also recommend examining the intensity of ESG incidents in more detail. In our study, the relationship between the institutional environment and the intensity of incidents of ESG was not demonstrated. However, there might have been some bias since we worked with the average value for the European country. Therefore, in future research we recommend examining these values in relation to the institutional environment individually for each firm in the country.

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