Essays on Non-Financial Information Disclosure, Performance, and Strategy

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Abstract

This thesis consists of three chapters on sustainability reporting better known as Non-Financial Information (NFI) Disclosure, focusing on the role of imitation as a driver of environmental, social, and governance (ESG) practices, firms' mandatory disclosures of NFI, and firms' optimal distinctiveness in ESG practices.

The first chapter responds to the call in the strategy literature for more research on convergence in sustainability practices and the role that individual firms play in this process by determining which peer characteristics are more influential when firms decide which peers to imitate. In addition to examining industry determinants, this study investigates the country-level factors that may impact a firm's tendency to mimic influential peers' ESG disclosure scores. I theorised that firms are inclined to mimic influential peers within their industry regarding ESG disclosure, especially in uncertain environments. Using a global sample of 9,202 firms over a period of nine years, I find support for the hypotheses. The results demonstrate that firms imitate their peers with superior information or influence when uncertainties about the outcome of a decision are present such as the disclosure of ESG practices in developing regions and when mandatory regulations are present. These results underscore the need for institutional theory to consider the institutional context when investigating the determinants of ESG disclosure.

Chapter 2 examines the effects of mandatory NFI disclosure on firm value. In 2018, Directive 2014/95/EU was introduced in the European Union (EU) and European Economic Area (EEA) countries, requiring large corporations to disclose non-financial information (NFI) related to environmental, social, and governance (ESG) practices. This study employs a fuzzy regression discontinuity design (RDD) to examine the market value implications of ESG disclosure in response to this regulatory change, using the adoption of Directive 2014/95/EU as a quasi-natural shock. The empirical analysis reveals a positive relationship between mandated ESG disclosure and firm valuation for entities complying with the directive. Furthermore, it can be observed that this effect is more pronounced for firms subject to increased public scrutiny. These findings emphasize the potential benefits of increasing transparency regarding corporate ESG practices and highlight the moderating role of stakeholder

pressure in shaping the relationship between mandatory ESG disclosure and financial performance.

The last chapter investigate the impact of distinctiveness in ESG material information on firm value and explore how other sources of legitimacy can influence this relationship. Using ESG materiality scores from the Bloomberg database and listed EU firms' data from 2016 to 2020, the findings suggest that as ESG disclosure becomes an institutionalised practice among European firms due to Directive 2014/95/EU, a positive relationship between the extent of material ESG disclosure and firm value occurs, with the highest and lowest levels of distinctiveness yielding the most pronounced effects. Furthermore, the findings indicate that analyst earnings forecasts play a crucial role in granting an additional source of legitimacy for firms, providing a buffer-effect that allow them to exhibit a certain degree of nonconformity without compromising their overall legitimacy.

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"Todo acto educativo es un acto político"

Paulo Freire

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Introduction

The term “sustainability”, used and applied for the first time to link the increasing demands on unregulated growth in social, ecological, and economic areas, was first coined in the Brundtland Commission in 1987. Still, there is an extensive body of literature devoted to arriving at a common definition of the concept (e.g., Beatley, 1995; Rees, 1990; Viederman, 1993; Wheeler, 1996). Although the debate over the implications and meaning of the concept continues, the Brundtland report's definition is the most widely accepted (Conroy & Berke, 2004). Sustainable development, defined as "development that does not compromise the needs of future generations while meeting their own needs," has become a part of almost every division across a diverse range of industries and sectors (Conroy & Berke, 2004; DesJardins, 2016; United Nations, 1987). In order to achieve sustainable development, firms have incorporated initiatives through their Corporate Social Responsibility (CSR) principles, actions, policies and visible outcomes related to a firm’s social relationship with its stakeholders and shareholders (Ioannou & Serafeim, 2012). Recently, attention has focused on the way that companies are now held accountable for their environmental, social and governance (ESG) practices, as well as their financial performance (Eccles, Krzus, Rogers, & Serafeim, 2012).

The development has been addressed by the public and private sector using different approaches in their activities in an effort to identify long-term solutions to achieve sustainability and foster the sustainability transition (Demirel *et al.*, 2017; Deutz & Gibbs, 2008; Veleva, 2014). The public sector has acted as an intermediary, playing an important role in promoting cluster development, setting policies, firm competitiveness, and research emerging from universities (Wallace, 2003). Governments have been acting as creators of policies and norms and providing educational support, thereby playing a key role in establishing a sustainability culture (Fiorino, 2010). However, it has been argued that governments view social and environmental issues as a less costly solution in political terms (Sheehy, 2015), making companies actively take responsibility for their environmental footprint without setting an over-regulated environment that might undermine the correct implementation of the sustainability goals (King & Lenox, 2001). For example, from ‘The Sustainable Development Goals (SDG) 2030 Agenda’ adopted in 2015, a set of 17 global goals were created. The ‘Global Challenge for Government Transparency’, as they were

called, were established and signed by the United Nations to promote sustainable development. As a result of these intergovernmental agreements, sustainability reporting (combination analysis of financial and non-financial performance) has emerged as a useful tool, both for accountability and for improving social and environmental performance (Kotsantonis, Pinney, & Serafeim, 2016).

Previous research has shown an increase in Non-Financial Reporting (NFR) in firms, boosted by the interest from stakeholders in making firms more responsible for their actions (Chen & Wang, 2011). Firms use reports to inform of changes in their ESG policies, to repair reputational damage or to comply with demands made by stakeholders due to salience issues, such as climate change (Brown & Deegan, 1998; Cho & Patten, 2007). However, disclosure of sustainability initiatives has been mostly voluntary and consistent standards or enforcement through regulation has been absent (Cho, Michelon, Patten, & Roberts, 2015). This has made voluntary reporting less reliable than its counterpart, i.e., financial reporting, due to the lack of rigor applied in its preparation (Eccles et al., 2012). In a voluntary regime, firms can respond to stakeholder pressure with incomplete disclosure reports to appear legitimate but without providing information that will allow precise accountability (Liesen, Hoepner, Patten, & Figge, 2015). These conflicting views, along with the mostly voluntary nature of these disclosures, can explain the seemingly contradictory findings of the effect of ESG disclosure on firm performance outcomes (e.g., Margolis, Elfenbein, & Walsh's (2007) meta-analysis).

The literature has provided useful insights into the possible factors that could explain the sharp increase in ESG-type NFI disclosures and, by extension, a firm's decision to incorporate sustainability into its core operating practice. From the stakeholder point of view, a positive relationship has been posited between stakeholder pressures and the development of environmental strategies (Aragón-Correa, Hurtado-Torres, Sharma, & García-Morales, 2008; Morsing & Schultz, 2006; Saravanamuthu, 2018). Agency theory, or more recently, institutional theory, has been used to explain "corporate governance" and its connection with sustainability and environmental performance (Berrone & Gomez-Mejia, 2009; Russo & Harrison, 2005). Some studies have focused on how high-level hierarchical structures in different corporations resolve their divergences of interest regarding environmental practices (Kock, Santaló, & Diestre, 2012). Other studies have used a more integrative approach, mixing both

theories and finding associations between corporate governance and stakeholder claims when it comes to corporate environmental issues that are indicative of corporate legitimacy (Bansal, 2005; Bansal & Roth, 2000; Buysse & Verbeke, 2003; Kassinis & Vafeas, 2006). Such connections can be observed due to the desire, or even necessity, of firms to gain legitimacy in response to shifts in public policy and stakeholder expectations (De Marchi, 2012; Schaltegger & Hörisch, 2015; Zuckerman, 2016).

Prior studies have drawn on institutional and legitimacy theories to establish what firm-level and country-level drivers influence the disclosure of ESG/CSR practices, usually aiming to determine a relationship between firm value and the level of NFI disclosure (Baldini, Maso, Liberatore, Mazzi, & Terzani, 2018; Ioannou & Serafeim, 2012; Reverte, 2009). On the one hand, there is the impact of the disclosure of ESG/CSR practices on legitimacy, suggesting that institutional pressures and common beliefs help firms to communicate and supervise these initiatives in a socially accepted framework (Ioannou & Serafeim, 2012; Jackson & Apostolakou, 2010). On the other hand, there is the impact of the disclosure of this information on firms' financial performances, suggesting that firms should only engage in such activities if they increase a firm's financial benefits. (Ioannou, 2018; Siegel, 2009). As a result, the disclosure of ESG/CSR practices forces firms to consider how to effectively maintain their legitimacy while attempting to maximise firm value.

However, these studies have explored the determinants of ESG disclosure practices and the impact on financial performance mainly on firms in North America and Europe (e.g., Buallay, 2019; Delisle, Grant, & Mao, 2021; Reverte, 2009), as well as in industrialised countries such as China and India (Y. C. Chen, Hung, & Wang, 2018; Garcia, Mendes-Da-Silva, & Orsato, 2017; Paun, 2018). Mostly, as mentioned above, being voluntary disclosure. There is, therefore, a lack of understanding regarding how NFI reporting is mandated and how operating in different markets matters for these relationships. This thesis, thus, aims to fill this gap in the literature. Using institutional and legitimacy theory, I argue that the characteristics of influential peers affect the decisions of a focal firm about the disclosure of ESG and that this effect differs in countries with ESG/CSR disclosure policies. In addition, the relationship between ESG disclosure and firm value would be positively affected by these regulations, bringing benefits to firms that are subject to disclosure mandates. Lastly, by employing the optimal distinctiveness theory, I hypothesise that firms which

do not conform to ESG materiality scores, these being material ESG issues defined as generating above-average risk exposure to ESG issues, relative to their peer firms (Grewal et al., 2018, p.3078), can use other sources of legitimacy to overcome the liability of distinctiveness in order to maximise their firm value.

Although sustainability reporting has proven to be an effective method for assessing and reporting on sustainability, it is questionable as to whether a firm would consider using it to gain a competitive advantage, or to achieve a superior financial performance as, in the view of some authors, such information can easily be acquired/imitated by competitors (Kotsantonis et al., 2016; McBrayer, 2018). For others, the disclosure of ESG by managers is based on the commitment of the firm and the manager's own level of commitment (e.g., some would simply recycle prior disclosures, others would increase the quantity of information revealed by a firm regarding sustainability practices) (Cohen, Malloy, & Nguyen, 2016; McBrayer, 2018), making it difficult to imitate them, even if adequate resources were available. This debate is of particular importance today, as global warming and overall sustainability initiatives are trending topics under discussion given the urgency posed by our limited resources and fragile environment (DesJardins, 2016). Likewise, if the disclosure of NFI is perceived as being important for society, firms could use reporting to appear socially aware and to engage in acceptable behaviour in terms of stakeholder expectations, which can positively affect firm value (Ioannou & Serafeim, 2019). Hence, it is important to gain a better understanding of the determinants of ESG information disclosure and its effects on firm value. This thesis seeks to answer the following question:

How does ESG disclosure influence firms´ strategies and, consequently, their value?

I examine this question by considering how peer imitation, mandatory disclosure, and ESG material disclosure can affect firm value. Likewise, I focus on the strategies behind ESG disclosure. As mentioned above, most of the previous studies regarding NFI disclosure have analysed the effects caused by the voluntary reporting element and its drivers such as social structures (i.e., labour, and cultural system), social legitimisation (i.e., firm visibility), and firm characteristics influencing the disclosure of ESG (e.g., Baldini, Maso, Liberatore, Mazzi, & Terzani, 2018; Reverte,

2009), as well as whether location and industry-level characteristics affect investor awareness (e.g., Eccles et al., 2012; Garcia, Mendes-Da-Silva, & Orsato, 2017; Kotsantonis, Pinney, & Serafeim, 2016). Although these studies provide useful insights into the drivers of ESG, this field of study has done little to systematically examine the influence of industry peers as a driver for convergence in levels of ESG disclosure. The results obtained by Serafeim and Ioannou (2019) suggest that the presence of market leaders with high levels of ESG disclosure accelerates the convergence of sustainability practices. To address this gap in the literature, in Chapter 1 I focus on interorganisational imitation to understand if firms are conforming to what the industry expects of them by imitating their influential peers, or whether they engage in more heterogeneous behaviour regarding ESG disclosure. If the disclosure of ESG practices is perceived as being an uncertain environment due to the lack of standardisation and guidelines, then a firm will likely imitate its influential peers to attenuate the potential legitimacy challenges. The role of influential peers can then be considered an important driver for ESG disclosure. Moreover, by placing a particular emphasis on the behaviour of firms in different geographic regions, this study sheds new light on the factors that led to their decisions to imitate one another.

The first chapter, "Who Imitates Whom? Peer Influence on Non-Financial Disclosure Practice", empirically investigates the role of influential peers in the disclosure of ESG practices by examining various industry-level and country-level factors that influence ESG disclosure practices through empirical analysis. Using a global sample of 9,202 firms over the period 2010-2018, the findings reveal that firms imitate influential peers with better information in uncertain situations, such as ESG disclosure in developing regions and under mandatory regulations. I observe geographical variation in firms' propensity to mimic peers' ESG disclosure practices, which can be attributed to institutional environment differences. This emphasizes the importance of considering institutional context in studying ESG disclosure determinants. Furthermore, the results indicate a higher degree of imitation in strong regulatory environments. This highlights the need to account for diffusion and isomorphism mechanisms when analysing ESG disclosure dissemination, especially in a robust regulatory context. Lastly, the cross-regional analysis has implications for legitimacy in ESG practices. Firms in developed regions seek legitimacy by emulating larger, more profitable peers, particularly under mandates, while firms in developing

regions display less imitation of influential peers. Market and sustainability leaders are more influential in determining ESG disclosure levels and size. Thus, the findings demonstrate how organizations pursue varying levels of legitimacy based on their characteristics and institutional environments.

Chapter 1 conceptualises and then empirically evaluates the distinct modes through which selective interorganisational imitation affects focal firms' ESG disclosure. I first unpack three characteristics, or traits, that influence focal firms' willingness to disclose ESG information. In addition, I find that the positive effect of influential peers' disclosure on the focal firm's level of disclosure is more pronounced in uncertain environments. The additional results dividing the sample according to firm-size show that, irrespective of a focal firm's ESG disclosure levels or size, market and sustainability leaders exert greater influence in shaping ESG disclosure practices. In summary, Chapter 1 offers significant insights that advance institutional theory by emphasizing the role of institutional context, diffusion, and legitimacy in shaping ESG disclosure practices.

Consistent with these advancements, Chapters 2 and 3 delve deeper into exploring the correlation between corporations' ESG disclosures and their focus on enhancing firm value.

More specifically, Chapter 2 shifts the focus from the role of voluntary disclosure of ESG practices to that of firms' mandatory disclosure. As non-financial reporting (NFR) becomes institutionalized globally, the chapter aims to address the impact of regulatory compliance, such as Directive 2014/95/EU, on firm value in the EU and EEA countries. The chapter also examine the influence of external pressures from the state and the public on this relationship. Chapter 3 investigates the materiality of ESG practices and discusses how it affects firm value and the distinctiveness of a firm. The chapter aims to address whether firms can achieve a strategic position in the market through the disclosure of ESG practices, and how disclosing more material information on ESG practices affects firm value and analyst perceptions, potentially buffering the liabilities connected with distinction.

Recent research has shown an increase in ESG disclosure in firms, boosted by the interest from stakeholders in making firms more responsible for their actions (Chen

& Wang, 2011). More and higher quality (ESG) information, according to the literature, can assist capital markets by increasing liquidity, lowering capital costs, and improving capital allocation (Christensen, Hail, & Leuz, 2021). This insight suggests that mandatory disclosure of ESG can be used to promote company behaviour that benefits both investors and society.

The second chapter, "Does Mandatory Non-Financial Reporting Affect Firm Value? The Consequences of the 2014/95/EU Directive", examines the impact of regulatory compliance, such as Directive 2014/95/EU, on firm value in the EU and EEA countries, and the influence of external pressures on this relationship. This chapter redirects attention from the influence of predominantly voluntary ESG activity disclosure to that of firms' mandatory reporting on ESG activities. As previously discussed, mandatory disclosure can enhance transparency and mitigate information risk and related inefficiencies associated with investments in such activities, including information asymmetries. All issues that the implementation of Directive 2014/95/EU aims to address. Thus, it becomes crucial to comprehend the effects of this regulation for compliant firms.

In this study, it is argued that firms complying with a regulation regarding NFI disclosure, such as Directive 2014/95/EU, can increase their firm value. More specifically, the effects of compliance with this regulation on firms in the EU and EEA countries are explored. Additionally, to enhance the understanding of the effect on compliers, the influence of external groups, such as the state and the public (Liesen et al., 2015), on this relationship is investigated.

To unravel the relationship between mandatory ESG disclosure and firm value, this paper utilises a sample of 17,981 firm-year observations from 4,940 EU firms between 2012 to 2020. The paper finds strong evidence that mandatory ESG disclosure positively affects firm value for compliers. Furthermore, the positive effect of mandatory ESG on firm value is more pronounced for compliant firms facing above-average public pressure, while compliers facing pressure from state owners experienced a decrease in firm value. To address the endogeneity concerns and to establish causality, I use the adoption of the Directive 2014/95/EU as a quasi-natural shock on ESG disclosure quality, which mandates that large corporations begin disclosing NFI. I applied a fuzzy regression discontinuity design (RDD) to isolate and

examine the market value implications of ESG disclosure. This method allows for the examination of the results just above and just below a discontinuous threshold, determined by the Directive's definition of large firms, attributing any variations in the outcome variable to the treatment that causes the discontinuity. The model also assumes that companies above and below the threshold are equal except for the treatment effect, thus providing robust results. The results show that large firms affected by the regulations see an increase in their value compared to similar firms which are unaffected by it. Finally, the paper discusses two possible factors, namely state ownership and belonging to an environmentally sensitive industry (ESI), that affect the observed relationship. I find that the positive relationship between mandatory ESG disclosure and firm value is more pronounced for firms in sensitive industries and decreases for firms with high levels of state ownership.

The third chapter, "Conformity Versus Differentiation: ESG Materiality Reporting and Financial Performance in EU firms.", explores the effects of distinctiveness and the pressures of conformity and differentiation of ESG material disclosure scores on firm value. The chapter aims to shed light on how firms can use alternative sources of legitimacy as "legitimacy buffers" to increase the levels of acceptability and thus distinctiveness at which a firm begins to lose legitimacy. In this chapter, I follow the framework proposed by Haans, Pieters, & He (2016) and implemented by Taeuscher and Rothe (2021) to empirically demonstrate that firms with access to alternative sources of legitimacy, such as higher quality analyst forecasts, can convey some degree of nonconformity, without sacrificing their legitimacy. In this study, distinctiveness is measured as the absolute difference between the focal firm's E, S, and G materiality scores, and its sub-industry average, respectively. Compared to regular ESG practices, material ESG disclosure refers to the efficacy and financial significance of a specific measure as part of a firm's ESG analysis, and thus can more accurately capture the true value of a disclosure for shareholders and other audiences in the capital market. The use of ESG material scores is highly insightful for this study, since this type of score is tailored to firm-specific characteristics, rather than industry-specific characteristics, and takes into account the ESG factors that may affect risks and opportunities in firms in different institutional contexts.

Using ESG materiality scores from the Bloomberg database and listed EU firm data from 2016 to 2020, the findings suggest that as ESG disclosure becomes an institutionalised practice among European firms due to Directive 2014/95/EU, a positive relationship between the extent of material ESG disclosure and firm value occurs, with the highest and lowest levels of distinctiveness yielding the most pronounced effects. This can be attributed to the fact that firms disclosing higher levels of material ESG practices distinguish themselves in the eyes of stakeholders, thereby enjoying the advantages associated with such differentiation. Conversely, firms that disclose low levels of material ESG practices maintain the financial resources they might have otherwise use in sustainable activities. Furthermore, the findings reveal that analyst earnings forecasts serve as an additional source of legitimacy and function as a buffer for firms. It can be observed that for firms with low analyst earnings forecasts, the relationship between distinctiveness and firm value appears to be less pronounced compared to firms with high analyst earnings forecasts. Moreover, the findings suggest that while these firms still benefit from distinctiveness in terms of competitive advantage, the negative impact on legitimacy is not as severe once optimal distinctiveness is achieved, although the benefits may be less significant compared to firms with high analyst earnings forecasts. Additionally, for firms with analyst earnings forecasts, I discovered that as the level of analyst earnings forecasts increases, the U-shaped relationship between distinctiveness and firm value becomes more pronounced. This shift implies that firms can leverage the presence of analyst earnings forecasts as a legitimacy buffer, enabling them to maintain higher levels of distinctiveness without sacrificing value creation. In other words, the presence of analyst earnings forecasts provides firms with the ability to differentiate themselves while still preserving their firm value, a benefit that is not as prominent for firms without analyst earnings forecasts. Thus, an increase in analyst earnings forecasts can convey some degree of nonconformity, without sacrificing their legitimacy.

These three studies answer to the thesis's main research question. Overall, the findings show geographical variation in firms' propensity to mimic peers' ESG disclosure practices, which can be attributed to institutional environment differences. This emphasizes the importance of considering institutional context in studying ESG disclosure determinants. Furthermore, the results indicate a higher degree of imitation in strong regulatory environments. This highlights the need to account for diffusion

and isomorphism mechanisms when analysing ESG disclosure dissemination, especially in a strong regulatory context. Second, due to mandatory regulations, compliant firms also experience an increase in their value creation and this positive effect is more pronounced for compliers facing above-average public pressure, thus showing the importance of legitimacy and stakeholder pressures in the effects of NFI disclosure on firm value. Lastly, as NFI disclosure is becoming more institutionalised, firms can differentiate themselves by increasing their levels and quality of disclosure, such as disclosing material ESG scores, in order to attract different audiences. These audiences will allow businesses to be distinctive while achieving legitimacy. In other words, firms that have a legitimacy buffer, such as analyst earnings forecasts, will be protected from some of the negative effects of distinctiveness, allowing them to disclose higher levels of material ESG.

In the conclusion, the key points from the literature review and the empirical studies presented in the thesis are summarised. I also present the larger implications of my findings, as well as directions for potential future studies on ESG disclosure and firm value. The limitations and further proposals for future work in relation to the studies are addressed in the conclusion of each chapter. Additionally, the chapters in this thesis were written using the plural pronoun ‘we’, since the chapters are to be turned into journal publications with my supervisors as co-authors.

Chapter 1:
Who Imitates Whom? Peer Influence on Non-Financial Disclosure Practice

Who Imitates Whom? Peer Influence on Non-Financial Disclosure Practice

Abstract

This study responds to the call in the strategy literature for more research on convergence in sustainability practices and the role that individual firms play in this process by determining which peer characteristics are more influential when firms decide which peers to imitate. In addition to examining industry determinants, this study investigates the country-level factors that may impact a firm's tendency to mimic influential peers' ESG disclosure scores. We theorised that firms are inclined to mimic influential peers within their industry regarding ESG disclosure, especially in uncertain environments. Using a global sample of 9,202 firms over a period of nine years, we find support for our hypotheses. The results demonstrate that firms imitate their peers with superior information or influence when uncertainties about the outcome of a decision are present such as the disclosure of ESG practices in developing regions and when mandatory regulations are present. These results underscore the need to consider the institutional context when investigating the determinants of ESG disclosure.

Keywords Non-financial information, imitation, institutional theory, country factors, legitimacy, corporate social responsibility, sustainability.

1. Introduction

Sustainability initiatives, as well as their drivers and the benefits they bring to firms, constitute a booming area of research (Aragon-Correa, Marcus, & Vogel, 2019; Ioannou, 2018). Firms worldwide have been rapidly implementing voluntary non-financial information (NFI) disclosure regarding their environmental, social, and governance (ESG) activities. The literature has provided useful insights into possible factors to explain the strong increase in ESG-type NFI disclosures and, by extension, a firm's decision to incorporate sustainability into its core operating practice. The desire, or even necessity, to gain legitimacy in response to shifts in public policy and stakeholder expectations is emerging as the foremost explanation (De Marchi, 2012; Schaltegger & Hörisch, 2015; Zuckerman, 2016).

Prior studies have drawn on institutional and legitimacy theories to establish the determinants of ESG disclosure have focused on explaining country-level (e.g., Ioannou & Serafeim 2012) and firm-level characteristics (e.g., Reverte 2009), as well as the influence of social structures and social legitimisation on ESG disclosure scores (Baldini et al., 2018). Despite the growing attention to the determinants of ESG disclosure, the role of influential peers in shaping the disclosure of ESG practices has remained limited. Rather, previous studies have mostly focused on the social position that firms occupied relative to their peers, as opposed to the influence emanating from those peers on the firm's ESG disclosure. In fact, as far as we are aware, there is only one study in the institutional stream of ESG disclosure literature, Serafeim and Ioannou's (2019), that explores the relationship between imitation and ESG disclosure. This study investigates an industry-level factor, this is the influence of market leaders which are also sustainability leaders, that contribute to the degree of convergence in sustainability practices. However, since the primary objective of their investigation is to examine the convergence of ESG disclosure scores over time, their dataset is restricted to firms that are present in all the years of the study. Consequently, the findings are limited to firms that have already begun reporting on sustainability practices, without considering the impact on later adopters, as well as other industry-level determinants that may affect the adoption of sustainable practices. Therefore, as part of their agenda for future research, they propose a more comprehensive understanding of the circumstances that lead to originally strategic practices become common over time through imitation or other form of diffusion. In line with this,

several scholars have advocated investigating the factors and institutionalization of ESG disclosure practices in firms operating in geographic regions that include developing countries, in contrast to developed or industrialized nations. This is because country-specific characteristics appear to play a crucial role in explaining firms' ESG/CSR activities (Brower & Dacin, 2020; Cai, Pan, & Statman, 2016; Liang & Renneboog, 2017).

In this study, we respond to both of these calls and focus on environmental, social, and corporate governance metrics that jointly comprise ESG reporting (Ioannou, 2018). We examine how interorganisational imitation, an important mechanism in institutional theory, creates upward pressure on firms' NFI disclosures in general and, thus, ESG disclosure specifically. We posit that a focal firm imitates peer firms´ ESG disclosure levels because it helps them to gain legitimacy with stakeholders and minimises costs arising from uncertainty regarding future coercive and normative pressure to increase their level of ESG disclosure. In addition, we propose that firms are more strongly influenced by mimetic pressures emanating from highly influential peers. We refer to peer firms that are either large or have above-average profitability as being highly influential. Because such firms are most visible to stakeholders, they set the tone for industry-wide expectations of ESG disclosure and are, thus, most likely to exert mimetic pressure. Finally, since we have access to data from around the world, we address the knowledge gap mentioned above, paying particular attention to the behaviour of firms in different geographic regions so that our study can shed new light on the factors that lead to firms' decisions to imitate one another as well as how mandatory regulations affect this relationship. The database included 82 countries, with the largest proportions of the data stemming from the United States, with 31% of the observations, Japan with 13%, and China with 11%. Emerging economies such as Brazil, Chile, Thailand, Mexico, and Turkey account for 31% of the observations in our sample.

We theorised that firms are more likely to imitate influential peers in the industry with regard to ESG disclosure, particularly in developing regions and countries with mandatory regulations. Our predictions are based on prior findings in the institutional theory literature. Firms in the same strategic group are especially likely to imitate decisions or behaviours seen in other firms to limit competition, maintain tacit collusion, and to reduce environmental uncertainty (Lieberman & Asaba, 2006; Porter, 1979). According to DiMaggio & Powell (1983), uncertainty

serves as the impetus for imitation. Environmental uncertainty, also known as institutional uncertainty, can make it challenging for managers to anticipate the outcomes of certain actions or behaviours (Lieberman & Asaba, 2006). Given that sustainability is characterized as an uncertain environment (Serafeim & Ioannou, 2019), we postulate and investigate the existence of mimetic isomorphism driven by this uncertainty.

We examine our predictions using a panel dataset covering all firms that report their ESG information in the Bloomberg database for the period 2010-2018. Our panel includes 9,202 firms from nine industries across 82 countries, making it one of the most comprehensive studies of ESG reporting developments to date. Bloomberg ESG data draws on a range of data sources and has been used previously in academic research (Siew, 2015; Xie et al., 2018), as well as by corporate decision makers and investors (Baldini et al., 2018; Eccles, Krzus, Rogers, & Serafeim, 2012). Moreover, our data allow us to analyse different geographical regions to gain a better understanding of how this important contextual factor influences firm behaviour when deciding who to imitate and why.

We make the following empirical contributions to the literature on the relationship between ESG disclosure and firm performance. Our research contributes to the existing literature by broadening the scope of Serafeim & Ioannou's (2019) work through empirical analysis of diverse industry-level and country-level factors that impact ESG disclosure practices. Our findings reveal that firms imitate influential peers with better information in uncertain situations, such as ESG disclosure in developing regions and under mandatory regulations. We observe geographical variation in firms' propensity to mimic peers' ESG disclosure practices, which can be attributed to institutional environment differences. Our findings suggest that in developing regions, the importance of large-size firms is contingent on their attaining high sustainability scores. Our findings align with those of Amini and Bianco (2017), whose research suggests that the potential of CSR to function as a development booster is more significant in less industrialized economies, where the cost of imitation is lesser than that of innovation. These results emphasize the importance of considering institutional context in studying ESG disclosure determinants.

Furthermore, our results indicate a higher degree of imitation in strong regulatory environments. This highlights the need to account for diffusion and

isomorphism mechanisms when analysing ESG disclosure dissemination, especially in a strong regulatory context. Lastly, our cross-regional analysis has implications for legitimacy in ESG practices. Firms in developed regions seek legitimacy by emulating larger, more profitable peers, particularly under mandates, while firms in developing regions display less imitation of influential peers. Irrespective of a focal firm's ESG disclosure levels or size, market and sustainability leaders exert greater influence in shaping ESG disclosure practices. Thus, our findings demonstrate how organizations pursue varying levels of legitimacy based on their characteristics and institutional environments.

The remainder of this paper is organised as follows. Section 2 develops the literature review. Section 3 develops the hypothesis. Section 4 discusses the research design and data. Section 5 discusses the empirical results. Finally, Section 6 presents the discussion and conclusion of the study.

2. Literature Review

Strategic management places immense emphasis on the concept of imitation (Ethiraj and Zhu, 2008), as multiple studies across diverse fields suggest that firms within the same social reference group have a tendency to mimic each other's practices (Serafeim & Ioannou, 2019). Different authors have emphasised the diverse mechanisms by which organisations may influence their peers' behaviour. Lieberman and Asaba (2006) organised into two broad categories the types of imitation performed by firms: information-based, and rivalry-based theories. The information-based theory states that imitators follow those with superior information. The rivalry-based imitation is related to firms that follow others to maintain their competitiveness or to limit competitors from reducing or increasing the intensity of the competition while affecting the firm's profitability (Barreto & Baden-Fuller, 2006; Deephouse, 1999; Ghemawat, 1991; Odagiri, 1992). In both scenarios, imitation is most likely to occur in highly uncertain environments where the imitation of practices reduces search costs and information asymmetry (Anderson & Semadeni, 2010; Fourné & Zschoche, 2018; Lieberman & Asaba, 2006). These studies also include the imitation of corporate social responsibility practices (e.g. Briscoe and Safford, 2008), and lately the convergency of sustainability practices through ESG disclosure (Serafeim & Ioannou, 2019).

Recently, attention has focused on the way that companies are now held accountable for their sustainable activities. As a result, corporate social reporting

(CSR), also referred to in some literature as non-financial reporting (NFR), has increased and produced a higher demand for NFI in an attempt to explain the relationship between institutions, their environment and society in general. Ioannou and Serafeim, (2012), defined it as "any information that companies may report and make public over a period of a year under the CSR spectrum". ESG disclosure can be mandatory (i.e., a legal requirement) for firms, or voluntary where the information that is disclosed may vary significantly from firm to firm (Eccles, Ioannou, & Serafeim, 2014). The information contained in the reports states how companies have managed to improve their social, economic, and environmental performances, providing shareholders and stakeholders with a clearer picture of a firm's corporate position regarding these issues (Daub, 2007; Roca & Searcy, 2012; Chen, Feldmann and Tang, 2015; WBCSD). In this sense, it is unsurprising that institutional theory and legitimacy theory has been one of the most common theories used to explain disclosure performance (Aragon-Correa et al., 2019). According to previous studies based on legitimacy theory, firms use the disclosure of NFI to address social and political pressures (i.e., coercive and normative pressures), and to reduce the exposure of their environmental impacts (e.g., Deegan, 2002; Lindblom, 1994; Patten, 1991).

Institutional theory, or more recently referred to as neo-institutional theory (DiMaggio & Powell, 1983; Hawn & Ioannou, 2016), was born from the perspective of viewing the environment as a social construction where not only the capital and labour are important, but also the acceptance of the society in which they operate – social legitimacy (Hatch and Cunliffe, 2013). Institutional theory suggests that firms change their behaviour in response to social and political pressures through three institutional mechanisms: coercive, normative, and mimetic pressures (DiMaggio & Powell, 1983). Firms can be influenced by *coercive pressures* arising from norms and regulations set by governments, *normative pressures* exerted by stakeholders espousing certain values (e.g., NGOs, communities, and customers), and *mimetic pressures* representing the influence of a reference group of peer firms (Barreto & Baden-Fuller, 2006; Deephouse, 1996). All three types of institutional pressure generally result in homogenisation. Such isomorphism occurs because all firms seek legitimacy by conforming to the same standards set by various institutional pressures (Gupta & Misangyi, 2018; Meyer & Rowan, 1977; Oliver, 1991, 1997).

In the sustainability context, Serafeim & Ioannou (2019) work found that the three pressures are present in the disclosure of NFI with firms' ESG disclosure scores convergence in an industry over time. The authors also found a higher degree of imitation of market leaders in an industry that are also leaders in sustainability, this is, have higher ESG disclosure scores, compared to industries in which this is not the case. Even though these results evidence the presence of isomorphism and imitation of market leaders in both profits and sustainability rankings, more research is needed to determine what other industry-level factors may influence the imitation, and thus institutionalisation, of ESG disclosure practises. On one hand, different studies stress the importance of visibility in the commitment to ESG practices and reporting, emphasising the importance of size (Baldini et al., 2018; Reverte, 2009) and profitability (Liesen et al., 2015; Serafeim & Ioannou, 2019). On the other hand, other studies argue that the relationship between high ranked firms (e.g., leader firms in sustainability) and the level of disclosures scores of their peers varies depending on the competitive and regulatory environment in which the firms are situated (Sharkey & Bromley, 2015). There are many potential benefits to following a sustainability approach. The incentives behind the disclosure of NFI can facilitate firms reaching target group expectations, reduce implicit and explicit costs, and reward good management practices (Bennear & Olmstead, 2008; Jin & Leslie, 2003). However, just as Campbell (2007) argued "socially responsible corporate behaviour may mean different things in different places to different people and at different times" (Campbell, 2007, p. 950). As a result, it is critical to examine the impact of other influential peers, with higher visibility to stakeholders, in the disclosure of ESG by other firms in the industry across diverse national contexts, including those that mandate the disclosure of this type of information.

Some authors agree that more research involving developing countries is needed to fully unveil the relationship between ESG scores and financial performance (Rahdari, 2016; Roman, R.M., Haybor, S., Agle, B.R., 1999). For example, Garcia et al.'s (2017) study explores the practice of sustainability management regarding ESG performance in firms in Brazil, Russia, India, China, and South Africa (the so-called BRICS countries) with findings that suggest that firms in sensitive industries present superior environmental performances, but tend to be less profitable. Amini and Bianco's (2017) findings, suggest that the relationship between CSR and firm performance is positive, but varies across countries with no effects observed in Chile,

the most developed country in their sample. As a result, it is also critical to broaden the research on ESG disclosure to regions that have previously been overlooked.

Lastly, the reporting of NFI varies in each industry and country, with regulated information only being present in the last 10 years (mostly environmental initiatives).Governments rely on this type of reporting, as these are the mechanisms that firms use to communicate their sustainability initiatives to stakeholders (DesJardins, 2016). As a result, complying with industry norms to remain legitimate may now refer to complying with the pressures that governments are placing on firms, forcing them to be accountable for their actions.

3. Hypothesis Development

Prior studies have drawn on institutional and legitimacy theories to establish what firm-level and country-level drivers influence the disclosure of NFI, usually aiming to determine a relationship between firm value and the level of NFI disclosure (Baldini, Maso, Liberatore, Mazzi, & Terzani, 2018; Ioannou & Serafeim, 2012; Reverte, 2009). The main focus of these studies has been on coercive pressure (i.e., firm value and regulations; see Chen, Hung, & Wang, 2018; Grewal, Riedl, & Serafeim, 2018; Ioannou & Serafeim, 2019; Jackson, Bartosch, Avetisyan, Kinderman, & Knudsen, 2020) and normative pressure (i.e., corporate social reporting – CSR, and analyst forecasts and media exposure; see Dhaliwal, Radhakrishnan, Tsang, & Yang, 2012; Reverte, 2009). However, little attention has been devoted to mimetic pressures, that is, peer pressure resulting in interorganisational imitation and isomorphism with respect to NFI reporting.

According to existing research, firms tend to imitate the practices of their peers in the industry, particularly when they perceive them as performance-enhancing (Oliver, 1991), and when faced with organizational uncertainty (DiMaggio and Powell, 1983). Uncertainty can arise when companies do not have a clear understanding of organizational technologies (March and Olsen, 1975), face ambiguous goals, or encounter symbolic uncertainty. As a result, this mimetic behaviour becomes a response to uncertainty and offers companies an advantage in addressing such challenges. In the context of NFI disclosure, sustainability is seen as a controversial, high uncertainty domain that is expensive, and, ultimately, a practice in which the financial benefits are not precisely clear (Hawn, Chatterji, & Mitchell, 2018; Serafeim & Ioannou, 2019). For instance, uncertainty arises due to the absence

of report standardization, which poses challenges for firms in determining what to report, to whom, and the purpose behind doing so (Jackson, Bartosch, Avetisyan, Kinderman, & Knudsen, 2020). The latter would explain how the uncertainty that surrounded sustainability initiatives and NFI disclosure can motivate the imitation of leading firms´ ESG disclosures by their peers as a way of addressing threats to their legitimacy (Cho & Patten, 2007; Hogg, Van Knippenberg, & Rast, 2012).

Recently, the findings by Serafeim and Ioannou's (2019) study imply that the presence of industry leaders who are both market and sustainability leaders results in the convergence of ESG disclosure scores among firms. This suggests that outcome-based imitations and influential groups have a significant impact on sustainability initiatives. Despite these findings, there are no insights into how other peers´ characteristics can affect firms' decisions and form part of the determinants behind ESG disclosure. Different studies regarding NFI disclosure have emphasized the significance of visibility in promoting adherence to ESG practices and reporting, with a particular emphasis on the importance of firm size (Baldini et al., 2018; Reverte, 2009) and profitability (Liesen et al., 2015; Serafeim & Ioannou, 2019). While Serafeim and Ioannou (2019) recognize the importance of the social reference group in enabling firms to assess their sustainability endeavours against those of their rivals, other factors associated with a firm's visibility may exert a more significant influence on its inclination to disclose ESG information than the presence of sustainability leaders. This is because reporting non-financial information can be a costly practice for firms, as it requires the allocation of resources for data collection, measurement, and reporting (for more information, Ioannou, 2018). However, as previous literature suggests, the extent of this cost may vary depending on the size of the firm, the scope of information being reported, and the reporting standards or regulations in place (Christensen et al., 2021). Therefore, despite the potential for imitation of such firms to contribute to the convergence of ESG practices over time, it remains uncertain whether this is the sole industry characteristic that determines peer imitation in this area.

Based on the foregoing arguments, the present research advances the notion that influential peers, distinguished by size, profitability and market and sustainability leadership (following Serafeim & Ioannou, 2019 work), exert considerable influence on a firm's willingness to improve its ESG disclosure practices. Firms seek to effect structural changes by imitating and adopting widely accepted organizational norms

and strategies, which, as argued by Hawn and Ioannou (2016), are advocated by these peers. Here we posit that these firms need to continue emulating the influential peers in the industry to maintain their legitimacy and align themselves with their status and social perceptions (DiMaggio & Powell, 1983; Haunschild & Miner, 1997; Serafeim & Ioannou, 2019). This imitation process is driven by the view of sustainability as being an uncertain environment in which mimetic isomorphism, fuelled by this uncertainty, will trigger imitation and help companies to make strategic decisions efficiently when there are influential peers in the industry to follow (Fourné & Zschoche, 2018).

To examine these issues, we follow the definition of Haunschild and Miner (1997) who define interorganisational imitation "as occurring when one or more organisations' execution of a practice increases the likelihood of that practice being used by others" (Haunschild & Miner, 1997, p.2). Imitation is not considered to be effective, conscious or rational, but simply occurs when the actions of one specific group with certain characteristics influences the actions of their peers (Fourné & Zschoche, 2018; Gupta & Misangyi, 2018; Haunschild & Miner, 1997). In Barreto and Baden-Fuller's (2006) study on mimetic behaviour and legitimacy-based groups and performance, they argue that firms will follow their peers due to the legitimacy pressures present in their decisions, but also because of the tension between the pressure to conform and the pressure to perform. If legitimacy is defined as a general assumption in which the action of a firm is desirable and appropriate within socially constructed systems or norms (Suchman, 1995), then firms in an industry will feel the need to be legitimated by their peers. These peer groups being the legitimacy providers that have the status to influence and assess the level of conformity to specific socially constructed standards (Barreto & Baden-Fuller, 2006). Supporting these arguments are recent studies on the importance of leadership and its effectiveness in the interorganisational imitation of strategic CSR decisions (Gupta & Misangyi, 2018; Ozmel, Reuer, & Wu, 2017), as well as how imitation depends on the level of similarity between firms in an industry (Csaszar & Siggelkow, 2010; Serafeim & Ioannou, 2019). Therefore, we propose the following hypothesis:

H1: Influential peers' ESG disclosure scores positively influence the focal firm's ESG disclosure score.

3.1 The Moderating Role of Geographical Regions and Mandatory Regulations

In recent years, there has been a growing emphasis on the disclosure of non-financial information (NFI) in developing nations, as evidenced by the increased scrutiny of global initiatives such as the United Nations Global Compact and the Sustainable Development Goals. This trend highlights the importance of transparency and accountability in corporate reporting. As a result, several countries have been regulating NFR aiming to encourage firms to improve transparency around sustainability activities. The requirements for firms to disclose NFI vary from country to country but are usually applied to firms that are listed in exchange stock markets (e.g., China and Malaysia[1]), firms that have a level of state ownership (e.g., Finland and Sweden before 2017). In the case of Europe, with the Directive 2014/95/EU, the European Parliament tried to align the needs of transparency for shareholders and stakeholders with useful and accountable information by conscious national strategies (GRI sustainability reporting, 2020). The regulation affects all large-listed firms as well as public interest entities (PIEs) designated by the state's members. Moreover, according to Baruch College's CSR-Sustainability Monitor, European countries are among the best in the world in terms of the scope and quality of information presented in NFI reports (Allman & Won, 2021), with the highest score, followed by East Asia and North America (CSR, 2019).

Previous studies have highlighted the importance of these legal requirements (Serafeim & Ioannou, 2019), as well as cultural values (Baldini et al., 2018), stakeholder expectations (Eccles et al., 2012), and industry norms (Garcia et al., 2017), which can also exert an influence on the disclosure of ESG practices. For example, to Eccles, R.G., Serafeim, G. and Krzus (2011) transparency, and the type of information - i.e., ESG metrics, in the reports are essential to attract investors and that these information vary in different geographical locations and industries. In line with these findings, Baldini, Maso, Liberatore, Mazzi, & Terzani (2018) results show that social structures (i.e., labour, and cultural system) and social legitimization (i.e., firm visibility) influence the disclosure of NFI. Moreover, Garcia, Mendes-Da-Silva, & Orsato (2017) states that disclosures of NFI can be used by firms to mitigate threats in

[1] Countries such as Malaysia in 2007, China, Denmark, and Sweden in 2008 introduced a disclosure mandate as a requirement for companies listed on certain stock exchanges or public companies. In 2018 the Directive 2014/95/EU start mandating large undertakings within European Union to report NFI.

environmental sensitive industries and reduce the legitimacy gap between them and their peers. These considerations collectively underscore the salience of geographic location for firms in the disclosure of NFI. In fact, in their review of corporate finance research on environmental, social, and governance (ESG) and corporate social responsibility (CSR), Gillan, Koch, and Starks (2021) identified market characteristics that previous studies have suggested may be linked to a firm's ESG/CSR attributes. Notably, the authors observe that these characteristics are frequently based on the geographical locations of firms. However, the few studies that have explored the determinants of ESG disclosure practices or its impact on financial performance include mostly samples for North American and European firms (e.g., Buallay, 2019; Delisle, Grant, & Mao, 2021; Reverte, 2009) as well as industrialized countries such as China and India (e.g., Y. C. Chen, Hung, & Wang, 2018; Garcia et al., 2017; Paun, 2018). Thus, the determinants and effect of NFI disclosure by firms in developing countries remain limited.

Based in the above, we hypothesize that NFI practices may vary across geographical regions due to differences in institutional environments. Specifically, we anticipate that firms in developing countries will exhibit a higher degree of isomorphism, resulting in a convergency of NFI disclosure, while firms in developed regions will exhibit less imitation of influential peers, given the lower levels of uncertainty. This difference may be attributed to stronger institutional pressures for NFI disclosure in developed countries due to regulatory initiatives and stakeholder expectations, in contrast to weaker pressures in developing nations due to cultural disparities and insufficient regulatory enforcement (Cai et al., 2016; Wickert, Scherer, & Spence, 2016). Additionally, developing countries' weak legal frameworks, inadequate enforcement mechanisms, and limited technical capacity may impede firms' ability to effectively disclose NFI, hence yield imitation. Following these arguments, we propose our second hypothesis:

H2: The positive effect of influential peer ESG disclosure levels on the focal firm's ESG disclosure level is amplified if the focal firm is headquartered in a developing regions.

As mentioned above, in the past decade, several countries, including EU countries, China, and South Africa, have regulated NFI disclosure in some shape or fashion. The aim of the legislation is to incentivise, usually large, publicly listed firms to improve their transparency in relation to their sustainability activities. Since regulation mandates that firm disclose their NFI, larger firms subject to the regulation may be more aware that the government and the general public are closely examining their CSR practices and policies and, as a result, they may choose to improve their CSR behaviour in order to mitigate potential negative reactions, not only from the government, but also from other stakeholders (Zhang, Wang, & Zhou, 2020). In some cases, firms would simply shorten the distance between themselves and their competitors by imitating these practices in order to gain legitimacy (Hörisch, Kollat, & Brieger, 2017; Zhao, Fisher, Lounsbury, & Miller, 2016; Zuckerman, 2016). The isomorphism present in the industry due to coercive pressures, such as regulation regarding the disclosure of NFI and analysts monitoring the level of compliance of this information, leads firms to become similar to their peers (Brower & Dacin, 2020).

Cai, Pan, and Statman (2016) suggest that the variation in ESG/CSR practices across countries is more closely related to country-level factors than to firm-level characteristics, with economic development, law, and culture being key drivers. Meanwhile, Liang and Renneboog (2017) find that legal origin is the most significant predictor of firms' ESG/CSR adoption and performance, surpassing the aforementioned factors, particularly in countries where the government intervenes in economic activities through regulations. This is due to higher CSR reflecting stronger social preferences for stakeholder claims in these types of countries. Hence, if the frequency of reporting ESG activities is high in a country, due, for example, to new regulations, then institutional theory predicts that more firms in that country will commit to ESG practices and disclosure due to the mimetic pressure present within it (Haunschild & Miner, 1997; Ramus & Montiel, 2005).

At the same time, other coercive pressures, such as the rapid rise of environmental management systems (EMS, e.g., ISO 14001), ESG rankings (McBrayer, 2018; Roca & Searcy, 2012), and other guidelines or standards (e.g., Global Reporting Initiative (GRI) reports, Dow Jones Sustainability Index, social accountability 8000 standards, Bloomberg ESG data, etc.) have provided an additional impetus for firms to improve their ESG reporting. However, most of these regulatory

efforts mandating NFI disclosure are limited to providing general guidelines and do not extend to prescribing standards regarding the information that must be disclosed and how. Therefore, ESG reporting remains a legitimation tool, rather than an accountability mechanism (Cho & Patten, 2013). As a result, firms face the dual challenge of complying with regulations if they are affected by them, as well as monitoring and benchmarking their decisions against competitors subject to the regulations, because those competitors can raise the institutional stakes at any time (Brower & Dacin, 2020; Waddock, 2008). Likewise, as previous literature suggests (Baldini et al., 2018; Ioannou & Serafeim, 2012), how a firm responds to this challenge will be influenced by contextual factors, such as the country in which it is headquartered. Hence, firms will imitate competitors with superior information. That is, they will engage in information-based imitation, particularly in uncertain environments (Lieberman & Asaba, 2006), to remain legitimate to regulators, stakeholders, investors, and their peers, but also because of the coercive pressures to disclose their NFI. Following the preceding arguments, we propose our third hypothesis:

H3: The positive effect of influential peer ESG disclosure levels on the focal firm's ESG disclosure level is amplified if the focal firm is headquartered in a country with ESG disclosure mandates.

4. Methods

4.1 Sample and Data

Given the lack of consensus on a comprehensive definition of a firm's sustainability practices, we employ Bloomberg ESG disclosure scores as a proxy for the market's perception since these scores are the most commonly utilized measures by the investment community (Serafeim & Ioannou, 2019). It is crucial to acknowledge that Bloomberg's ESG disclosure scores, as per their definition, measure the transparency of firms regarding their environmental (E), social (S), and governance (G) practices, rather than evaluating their performance in these areas. Therefore, in this study, we employ this measure as an indicator of the transparency resulting from the reporting of ESG practices, which can encourage desirable behavior and discouraging undesirable ones (Christensen et al., 2021). Lastly, we also use Bloomberg as our source of financial information.

The period covered by the data we collected is from 2010 to 2018, as this was the available data at the onset of our study and includes all firms that had ESG disclosure scores during any of these years. Our sample amounts to a total of 9,202 firms from 82 different countries and 9 main industry sectors. We excluded firms from the financial sector, as these firms are subject to different regulatory and reporting standards and, therefore, would not be comparable to firms from other sectors (Monteiro & Aibar-Guzmán, 2010; Reverte, 2009). We applied the test proposed by Grubbs (1969), also known as the maximum normalised residual test, to identify and omit outlier observations in the data. Additionally, our research restricts the sample to industries with a minimum of four firms and excludes industries with a mean ESG disclosure score of zero. Furthermore, since some financial data, such as ROA and market capitalisation, are relevant to defining status traits in firms belonging to an industry and profitability, we only consider firms that had this information in our data sample. Lastly, we measured all financial information in U.S. dollars. Table 1 provides further details of our sample and industry breakdown.

The database included 82 countries, with the largest proportions of the data stemming from the United States, with 31% of the observations, Japan with 13%, and China with 11%. Emerging economies such as Brazil, Chile, Thailand, Mexico, and Turkey account for 31% of the observations in our sample. Finally, the rest of the countries contribute less than 1% to the total number of observations each.

Table 1 Sample Summary

Panel A: Sample Selection

154,871	The sample selection process begins by evaluating industries with a minimum of four firms, and an ESG disclosure score' mean greater than zero.

n observations dropped	Reason for dropping
10,619	Missing information about firms in the period of study
19,579	Missing ROA data
3,100	Missing market capitalisation data
1,586	Outliner data removed with Grubbs test
119,987	Final sample

Panel B: Firms per Year in the Sample

2010	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*Average*
4,487	*5,020*	5,074	*5,582*	5,813	6,345	6,319	8,486	6,778	***5,989***

Panel C: Number of Industries (BICS 3-digit) in each Sector (BICS 1-digits) of the Study

Sector	*Number of industries*
Consumer Discretionary	*15*
Consumer Staples	*5*
Communication	*7*
Energy	*7*
Health Care	*5*
Industrial	*8*
Material	*5*
Technology	*5*
Utilities	*2*

4.2 Variables

In examining our first three hypotheses, we use Bloomberg's ESG Disclosure Scores (*ESGDiscScore*) as our dependent variable. These have been widely used in previous studies considering the determinants of disclosure or the impact of disclosure on company value (Baldini et al., 2018; Hawn et al., 2018; Ioannou & Serafeim, 2019). This indicator measures the ratings of Bloomberg's analysts on the level of transparency of firms' annual reports, sustainability reports, press releases, and third-party research of board structure (Xie, Nozawa, Yagi, Fujii, & Managi, 2018). The score ranges from 0.1 to 100, with higher values reflecting increased ESG disclosure.

Independent variables. We create three independent variables to measure the traits-based and outcome-based imitation. First, we generate a baseline independent variable for imitation by taking the average scores of industry peers from years t-2 to t-1, excluding the focal firm (Rao, Monin, & Durand, 2003). Second, we follow the standard procedure in the literature to create peer status attributes (Haunschild & Miner, 1997; Serafeim & Ioannou, 2019). We generate interaction terms with our baseline independent variable to measure the impact of influential peers on the focal firm's disclosure score. To measure trait-based imitation, we categorise firms in the top quartile of market capitalisation as *Larger performers*. Firms in the top ROA quartile are categorised as *Higher performers*. Finally, *"Leading performers* were measured as the percentage of large firms in an industry (i.e., top quartile in market capitalisation) that are also sustainability leaders (i.e., top quartile in terms of ESG disclosure performance in their industry), following Serafeim and Ioannou (2019).

Moderators*: Geographical regions:* Our study classifies the sample into developed or developing geographical regions, utilizing Bloomberg's classification system. Specifically, we create a dummy variable that categorize firms headquartered in Europe, Asia Developed, and North America as belonging to developed regions,

while those in Latin America and the Caribbean, the Middle East and Africa, and countries in the Asia Emerging region. are considered as belonging to developing regions.

Disclosure efforts made by countries regarding NFI disclosure following the "Corporate Social Responsibility Disclosure By National Governments and Stock Exchanges" (IRI, 2015) list regarding disclosure efforts by governments around the world. It takes the value of 1 if firms' headquarters are located in a country in which the government, or the stock exchange in those countries, has policies regarding the disclosure of non-financial information, and 0 otherwise. Two countries in the sample (Brazil, and India) as well as Hong Kong implemented mandatory regulations which came into effect in 2012, which does not affect the analysis of our data since this starts from 2012 to 2018 (to allow two years of past data regarding ESG disclosure scores to create the independent variables). In addition, we consider the implementation of Directive 2014/95/EU by EU and EEA countries in 2018.

Control variables. At the firm level, we controlled for *Ndisclosing*, the number of firms in the industry disclosing ESG (Haunschild & Miner, 1997), *Size* (market capitalisation), we also include *ROA* (return on assets), and *Leverage*, as measures of visibility to investors, as the influence of these stakeholders can impact the extent of ESG disclosure (Baldini et al., 2018; Reverte, 2009). We control the international presence of the firms in the sample. We include a dummy variable (*Cross-listed firms),* as previous studies have reported a positive relationship between cross-listing and ESG disclosure for firms, in particular those operating in different geographical regions (Cai et al., 2016).

At the industry level, we use two dummy variables, one for *Environmental sensitivity* identifying firms in industries that are sensitive to environmental issues (at NAICS 3-digit level), and the other for *Disclosure efforts* indicating if there have been recent NFI-related disclosure requirements that are stipulated by governments or stock exchanges, as well as developments in emerging socially responsible indexes. To account for industry competition, we incorporate the Herfindahl-Hirschman Index, *HHI*, since previous studies have attribute the level of competition to governance practices (see Wernicke, 2018). The variable is calculated as the sum of the squares of market shares of all firms within an industry, with market shares expressed as fractions

of all sample firms in that industry. This index is a widely recognized measure of industry concentration (Porter, 1985; Ioannou & Serafeim, 2012; Serafeim & Ioannou, 2019). Lastly, we include country, and year fixed effects following Liang & Renneboog, (2017). Controlling for country fixed effects enables us to rule out alternative explanations based on other country-level factors such as ideologies, cultures, and social norms. In some model specifications (H2) we only include geographical regions, and year fixed.

4.3 Estimation

To analyse the effect of *imitation*, we employ a time-series generalised estimation equation (GEE) model following Gupta & Misangyi (2018). This model, developed by Liang and Zeger (1986) and improved by Cui (2007), is appropriate since our longitudinal panel comprised of multiple observations per company, and accounts for potential autocorrelations in the data and calculates population average results.

We run a quasi-likelihood test to test the best-fit correlation of the GEE models. The results show that an independent correlation resulted in the model with the smallest QIC criteria (Cui, 2007) and thus provided the best fit for the data. We use a Gaussian distribution, identity link function, and clustering of errors at the firm level with an independent correlation to specify the GEE model. All variables are standardised prior to entering them into the regression for ease of interpretation and to account for the inclusion of interaction effects (Gupta & Misangyi, 2018; Haunschild & Miner, 1997). For each industry $_i$ in year t we estimate the following full model, including interactions with moderators for the first three hypotheses:

$$ESG\ Disc_{i,t} = \beta_o + \beta_1\ Influential\ group_{i,t} + \beta_2\ Influential\ group_{i,t} * Developing\ Region_{i,t} + \beta_3\ Influential\ group_{i,t} * Disclosure\ Effort_{i,t} + \beta_4\ Developing\ Region_{i,t} + \beta_5\ Disclosure\ Efforts_{i,t} + \beta_6\ Environmental\ Sensitive_{,t} + \beta_7\ Size_{i,t} + \beta_8\ Cross\text{-}listed\ firms_{i,t} + \beta_9\ Ndisclosing_{i,t} + \beta_{10}\ ROA_{i,t} + \beta_{11}\ HHI_{i,t} + \beta_{12}\ Leverage_{i,t-1} + Fixed\ Effects$$

5. Results

Table 2 presents our sample summary and descriptive statistics for our study period (i.e., 2010-2018). Panel A shows the statistics of firms that disclose ESG information. The mean value of the ESG scores between 2010 to 2018 is 24.4, with the highest value in 2016 of 26. Given that these scores are provided on a scale of 0-100, our

sample firms did not provide significantly high levels of ESG disclosure. Despite the significant decline in the number of firms reporting ESG information in the final year of the study, the ESG scores did not reflect a corresponding decrease and remained comparable to those of the previous year. This suggests that firms sustained their level of disclosure despite the drop in the number of firms reporting on ESG practices. Panel B presents the statistics of industries and the disclosure of ESG information. We can see that industries such as materials, technology, and utilities have the highest ESG scores (above 80), with the latter having the highest average ESG scores of 18.369. Finally, Panel C reports the descriptive statistics for the dependent and independent variables. Our average sample firm has an ESG disclosure score of 24.481, with prior experience of 22,643 ESG scores, and market leaders double their scores. Table 3 shows the correlation matrix for all the variables used in our analysis. We examined the possibility of multicollinearity using variance inflation factors (VIF). As the largest VIF was less than the critical value of 10 (for the results the mean VIF is 1.71), there was little evidence to suggest multicollinearity being a concern for our data (Neter et al., 1990). Results from estimating our GEE models (Hypothesis 1 to 3) are provided in Table 4.

Table 2 Descriptive Statistics

Panel A: Summary Statistics: ESG Disclosure Variable

Y	Mean	Std. Dev.	min	max	N
2010	13.149	14.519	0.826	84.71	2,004
2011	13.663	14.745	0.826	85.12	2,251
2012	15.317	16.233	2.06	81.40	2,279
2013	15.992	16.390	0.826	84.29	2,513
2014	16.535	16.674	0.826	83.05	2,620
2015	14.280	16.507	2.066	83.05	2,856
2016	11.490	16.123	2.066	84.29	2,841
2017	7.934	14.101	0.826	78.51	3,808
2018	6.057	12.580	4.545	71.9	3,043

Panel B: Descriptive Statistics: ESG disclosure Variable by Industry BICS Classification 1-Digits from 2010-2018

Industries	Mean	Std. Dev.	min	max	N
Consumer Discretionary	9.974	14.071	0	57.895	19,989
Consumer Staples	12.195	16.173	0	57.895	8,058
Communication	10.694	14.405	0	58.025	5,700
Energy	10.191	14.779	0	58.091	6,831
Health Care	8.176	11.822	0	57.851	11,161
Industrial	10.654	14.973	0	57.851	17,376
Material	9.197	15.239	0	58.091	18,994
Technology	8.508	13.779	0	57.851	14,169
Utilities	16.531	17.973	0	57.851	3,341

Panel C: Descriptive Statistics 2012-2018 for firms that disclose ESG practices.

Variables	Mean	Std. Dev.	min	max	N
ESG disclosure scores	9.989	14.643	0	58.091	105,619
Larger performers	18.63	29.648	0	141.891	105,619
Higher performers	19.122	30.402	0	139.979	105,619
Leading performers	18.313	29.139	0	139.979	105,619
ROA	1.821	1.49	-9.79	15.679	105,619
Size	19.255	2.474	5.256	27.702	105,619
Leverage	-19.533	2.661	-30.489	1.248	105,619
Cross-listed firms	.574	.494	0	1	105,619
Environmental Sensitive	.539	.498	0	1	105,619
Disclosure Efforts	.94	.238	0	1	105,619
Ndisclosing	19.16	37.744	0	244	105,619
HHI	.113	.106	.02	.998	105,619

Table 3 Correlation Matrix and Variance Inflation Factors (VIF)

Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**	**VIF**
ESG Disclosure Score	1.000												
Ndisclosing	0.541	1.000											1.262
Larger performers	0.402	0.350	1.000										1.623
Higher performers	0.709	0.470	0.268	1.000									1.291
Leading performers	-0.137	-0.056	0.087	-0.088	1.000								1.38
ROA	0.606	0.535	0.372	0.418	-0.268	1.000							1.372
Size	-0.514	-0.423	-0.277	-0.351	0.434	-0.821	1.000						3.906
Leverage	0.232	0.214	0.132	0.152	0.074	0.274	-0.206	1.000					3.679
Cross-listed firms	0.001	-0.020	-0.013	-0.019	0.034	-0.076	0.005	-0.002	1.000				1.142
Environmental Sensitive	0.087	0.033	0.031	0.030	0.047	0.074	-0.039	0.163	0.015	1.000			1.045
Disclosure Efforts	0.500	0.284	0.292	0.281	-0.014	0.340	-0.284	0.170	0.048	0.073	1.000		1.035
HHI	-0.037	-0.055	-0.060	-0.053	0.059	-0.044	0.072	0.033	-0.145	0.037	-0.200	1.000	1.074

Table 4 Regression Models with ESG Disclosure Scores as Dependent Variable

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Leading performers * Disclosure											
Efforts								-	-	0.12	0.12
								-	-	(0.005)	(0.008)
Higher performers * Disclosure											
Efforts								-	-0.06	-	-0.05
								-	(0.108)	-	(0.214)
Larger performers * Disclosure											
Efforts								0.1	-	-	0.08
								(0.007)	-	-	(0.07)
Leading performers * Developing											
Regions							0.16	-	-	-	0.21
							(0.005)	-	-	-	(0.000)
Higher performers * Developing											
Regions						0.03	-	-			0.13
						(0.426)	-	-	-	-	(0.000)
Larger performers * Developing											
Regions					-0.3	-	-	-	-	-	-0.23
					(0.000)	-	-	-	-	-	(0.000)
Leading performers				0.86	-	-	0.9	-	-	0.8	0.7
				(0.000)	-	-	(0.000)	-	-	(0.000)	(0.000)
Higher performers			0.31	-	-	0.3	-	-	0.35	-	0.08
			(0.000)	-	-	(0.000)	-	-	(0.000)	-	(0.006)
Larger performers		0.5	-	-	0.6	-	-	0.4	-	-	0.1
		(0.000)	-	-	(0.000)	-	-	(0.000)	-	-	(0.036)
ROA	-0.03	-0.01	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02
	(0.000)	(0.002)	(0.001)	(0.000)	(0.118)	(0.002)	(0.000)	(0.000)	(0.001)	(0.0010	(0.000)
Size	2.55	2.2	2.3	2.2	2	2	1.9	2.2	2.3	2.2	2.14
	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Leverage	-0.02	-0.03	-0.02	-0.03	-0.03	-0.03	-0.03	-0.02	-0.03	-0.03	-0.03
	(0.017)	(0.002)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.001)	(0.001)
Cross-listed firms	0.04	0.04	0.05	0.05	-0.05	-0.06	-0.05	0.05	0.05	0.05	0.05
	(0,000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Environmental Sensitivity	0.05	0.04	0.05	0.05	0.04	0.04	0.04	0.05	0.05	0.05	0.04
	(0.000)	(0,000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Disclosure Efforts	-0.7	-0.6	-0.61	-0.6	-0.1	-0.1	-0.1	-0.6	-0.6	-0.6	-0.1
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0,000)	(0.000)
Developing Region	-	-	-	-	0.15	0.16	0.14	-	-	-	0.14
	-	-	-	-	(0.000)	(0.000)	(0.000)	-	-	-	(0.000)
Ndisclosing	0.38	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.42
	(0,000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HHI	0.1	0.11	0.11	0.11	0.12	0.12	0.12	0.11	0.11	0.11	0.11
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Country Fixed Effects	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	No
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note. GEE = generalised estimation equations; N = 105,619 observations; Country, industry, and year fixed effects included. For ease of interpretation, these variables were standardised prior to entering them into the regression. In columns (5) to (7), the results use the sample distributed by geographic region according to Bloomberg's classification.

In Table 4, Model 1 includes the control variables. Models 2–4 investigate the impact of peer influence on the focal firm's ESG disclosure scores (H1) using trait and outcome characteristics. Models 5-7 examine the moderating effects of developing regions (H2). Models 8-10 examine the moderating effects of disclosure efforts (H3). Model 11 presents the full model integrating H1-H3 in a unified model.

Models 2, 3, and 4 focus specifically on the role of large, profitable, and market-leading firms, and the results from these models show that peer ESG disclosure levels strongly influence the focal firm's ESG disclosure scores. In other words, mimetic pressure drives ESG disclosures. The coefficients are positive and significant *($p < 0.001$)* for *Larger performers, Higher performers,* and *Leading performers*, thus supporting H1. Our findings indicate that focal firms are most influenced by leaders in the market that are also sustainability leaders supporting Serafeim & Ioannou (2019) results.

Models 5-7 show the results for H2. Model 5 indicates that *Larger performers* negatively affect the disclosure practices of focal firms operating in developing regions. In contrast, Model 6 shows that the results for *Higher performers* are insignificant, whereas in Model 7, the results are positive and significant for *Leading performers* ($p < 0.05$). Our hypothesis is partially validated by these findings, which demonstrate that *Leading performers* continue to have a positive impact on the ESG scores of focal firms, irrespective of their geographic location. Moreover, in Model (11), that is the full model, we can observe that *Higher performers,* and *Leading performers* positively affect the focal firm's ESG scores in developing regions supporting H2.

Results from Models 8-10 demonstrate the moderating role of *Disclosure Efforts*, as outlined in H3. The estimated coefficients are significant solely for *Larger performers* and *Leading performers* ($p < 0.05$). Conversely, for *Higher performers,* the outcomes are insignificant, indicating that firms with high profitability are not being emulated by other companies in the industry in countries with mandatory regulations. Therefore, our hypothesis H3 is partly supported by *Larger performers* and *Leading performers*.

5.1 Robustness Tests

In this section, we conduct an additional analysis to shed light on the heterogeneity in the relationships we have documented. We also perform a battery of robustness tests to ensure that our results are robust to model specifications and measurement issues (detailed results are available in the Appendix).

To leverage the vast scope of our sample, we perform the models for H2 in Table A1 (see the Appendix), distinguishing between geographic regions instead of solely categorizing them as developed or developing. We do this to gain a better understanding of how the imitation of ESG practices affected countries in both developed and developing regions. Following Bloomberg's classification system, the results correspond to firms headquartered in: Model (1): Europe, Model (2): Latin America and the Caribbean, Model (3): Middle East and Africa, Model (4): Asia Developed, Model (5): Asia Emerging, and Model (6): North America. All countries in Model (1), (4), and (6) make disclosures regarding NFI, and so the models were run without the proper interaction.

First, the results show that *Leading performers* influence the ESG scores of focal firms in the rest of the regions, except for Middle East and Africa and countries in the Asia Emerging region. For Latin America and the Caribbean, the results are insignificant. The findings reveal that *Leading performers* have a positive impact on the ESG disclosure scores of focal firms in developing countries. However, their influence on the focal firm's scores is not significant if the countries, in developing regions, already have established disclosure practices not supporting H3.

The findings for *Higher performers* show a positive effect on the focal firm's ESG disclosure scores across all regions, with the exception of the Middle East and Africa, and North America, where the impact is not statistically significant. Nevertheless, our findings indicate a stronger relationship in developing regions, providing support for H2. Regarding hypothesis H3, the findings demonstrate that in developing regions, the aforementioned relationship diminishes, whereas in developed regions, it intensifies.

For *Larger performers*, the results for H1 and H3 show a negative effect on the focal firm's ESG disclosure scores only in Middle East and Africa. However, the outcomes for the other two developing regions exhibit no statistically significant

effects. Conversely, the results demonstrate a positive influence on the focal firm's ESG disclosure scores for Europe and North America.

Additionally, to explore heterogeneity in firms' characteristics, we estimate alternative quantile regressions at the 0.25, 0.50, and 0.75 quantiles. Model 1 of Table A2 (in the Appendix) demonstrates that firms in developed regions within the lowest quantile (0.25) exhibit greater tendency to imitate more influential peers, followed by those in the 0.5 quantile. Conversely, firms in the highest quantile display lower propensity to imitate less influential peers. These findings underscore the importance of imitation for firms with the lowest ESG scores, as well as for those with average scores, within developed countries. For firms in developing regions, In Model 2, our analysis indicates that larger performers are not statistically significant across all three quantiles. Moreover, our results indicate that *Leading performers* are relatively more significant for firms in the lowest quantile, whereas *Higher performers* are more important for those in the highest quantile. Lastly, we observe stronger results for *Higher* and *Leading performers* among firms in the 0.5 quantile.

Lastly, Table A3 presents various models in which we analyse the impact of size in the relationship between ESG disclosure scores and imitation as a categorical variable by dividing our sample into distinct size categories. First, in Model 1, we employ an alternative measure of *Size*, which is recorded as a categorical variable representing small, medium, and large firms within the same GEE model. Our analysis indicates a negative relationship between ESG disclosure and size for small firms, while for medium and large firms, the relationship is positive and strongest for larger firms in line with previous literature (Reverte, 2009). Second, we categorized the sample into small, medium, and large size firms, denoted as Model 2, 3, and 4, respectively. Across all samples, our analysis indicates that *Larger performers* are statistically insignificant. For *Higher performers*, the results are only significant for small firms ($p<0.05$), whereas for *Leading performers*, all results are significantly strong ($p<0.001$), implying that this characteristic is the most influential for firms regardless of their size, particularly among medium firms where the effects are more pronounced. For firms in developing regions, across all models, we observe a negative relationship between *Larger performers*. Medium-sized firms, on the other hand, appear to be more influenced by *Higher performers*, whereas *Leading performers* seem to have a greater impact on larger firms. Regarding *Disclosure Efforts*, our

analysis indicates that smaller firms in countries with mandatory regulations tend to be more influenced by *Larger performers*, whereas the results for larger-size firms are positive but not as pronounced. No significant relationship is observed between *Higher performers*, and disclosure efforts across all samples. In contrast, *Leading performers* exhibit stronger influence on smaller firms as compared to medium-sized firms.

Finally, recognizing the limitations of the research design, it should be noted that the findings in this study. primarily suggest a correlation between the ESG disclosure scores of influential peers and those of the focal firm, rather than providing definitive evidence of causality. Yet, according to the literature, it is more likely for influential peers to influence the behaviour of the focal firm , as opposed to the inverse relationship taking place (Haunschild & Miner, 1997; Serafeim & Ioannou, 2019). Building upon prior research, our study incorporates fixed effects to account for both time-varying and time-invariant factors that could impact the firm and its industry (Liang & Renneboog, 2017; Serafeim & Ioannou, 2019). Additionally, we use a GEE model to accounts for potential autocorrelations in the data. Lastly, we separate our sample into different geographical regions to account for the different levels of sustainability pressure and constraints that firms might face when disclosing ESG practices.

6. Discussion and Conclusion

This study responds to the call in the strategy literature for more research on convergence in sustainability practices and the role that individual firms play in this process (Serafeim & Ioannou, 2019, p.31) by determining which peer characteristics are more influential when firms decide which peers to imitate. In addition to examining industry determinants, this study investigates the country-level factors that may impact a firm's tendency to mimic influential peers' ESG disclosure scores. We theorised that firms are more likely to imitate influential peers in the industry with regard to ESG disclosure, particularly in developing regions and countries with mandatory regulations.

The results presented in this study indicate that the present of influential peers in an industry influence the adoption of similar ESG disclosure scores between 2012 and 2018. The extent of this imitation is more pronounced when industries have a market leader that is also a sustainability leader, supporting Serafeim and Ioannou's (2019) findings. These results maintain when these leaders are in developing regions

or in countries in which mandatory regulations regarding the disclosure of ESG practices are in place. Therefore, our findings underscore the significance of larger and higher sustainability scoring firms within an industry in influencing the adoption of ESG disclosure practices among peer firms.

Furthermore, our results indicate that even in situations of uncertainty, larger firms - i.e., those that are more visible to other firms and stakeholders within the industry - exert less pressure compared to leaders in both the market and sustainability in developing regions. Consequently, our findings suggest that in developing regions, the importance of large-size firms is contingent on their attaining high sustainability scores. Our findings align with those of Amini and Bianco (2017), whose research suggests that the potential of CSR to function as a development booster is more significant in less industrialized economies, where the cost of imitation is lesser than that of innovation.

Our research contributes to the existing literature by broadening the scope of Serafeim & Ioannou's (2019) work through empirical analysis of diverse industry-level and country-level factors that impact ESG disclosure practices. Research on mimetic isomorphism (Barreto & Baden-Fuller, 2006; DiMaggio & Powell, 1983) and interorganisational imitation (Gupta & Misangyi, 2018; Haunschild & Miner, 1997; Ozmel et al., 2017) has pointed to a link between social processes and selective imitation in terms of the likelihood of a practice being used by another organisation. According to DiMaggio & Powell (1983), uncertainty serves as the impetus for imitation. Environmental uncertainty, also known as institutional uncertainty, can make it challenging for managers to anticipate the outcomes of certain actions or behaviours (Lieberman & Asaba, 2006). Given that sustainability is characterized as an uncertain environment (Serafeim & Ioannou, 2019), we postulate and investigate the existence of mimetic isomorphism driven by this uncertainty.

Our results demonstrate that firms imitate their peers with superior information or influence when uncertainties about the outcome of a decision are present such as the disclosure of ESG practices in developing regions and when mandatory regulations are present. Firstly, our findings indicate that there is a geographical variation in the inclination of firms to emulate influential peers about ESG disclosure practices, which may be attributed to the uncertainty that generates the disparities in the institutional environments in which firms operate regarding sustainability initiatives. These results

underscore the need for institutional theory to consider the institutional context when investigating the determinants of ESG disclosure.

Secondly, the results show that strong regulatory environments have a higher degree of imitation among firms. Thus, our findings also contribute to our understanding of institutional theory as it pertains to the disclosure of ESG practices. Specifically, we demonstrate that when investigating the determinants of ESG disclosure practices, it is essential to consider the mechanisms of diffusion and isomorphism in analysing its dissemination, particularly in the context of a strong regulatory environment.

Finally, our additional analysis across geographical regions has important implications for the concept of legitimacy in ESG practices. Our analysis suggests that firms in developed regions tend to pursue legitimacy by emulating larger and highly profitable peers, particularly in the presence of mandates. Conversely, firms in developing regions exhibit a lower degree of imitation of influential peers when there are mandates in place. Moreover, irrespective of a focal firm's ESG disclosure levels or size, market and sustainability leaders exert greater influence in shaping ESG disclosure practices. Therefore, our results illustrate how organizations seek to attain different levels of legitimacy based on their unique characteristics and in response to the diverse institutional environments in which they operate.

Overall, our study provides valuable insights that advance institutional theory by highlighting the importance of institutional context, diffusion, and legitimacy in shaping ESG disclosure practices.

Our study and its contributions must be considered in light of its limitations. Our study considered common traits and outcomes that might influence the focal firm´s decisions, but we have not included more legitimacy-based variables, such as the power of the media, NGOs, or consumers, which may significantly contribute to the conditions for imitation behaviour. As such, our study underscores a promising future avenue for research on the ways that focal firms are influenced by legitimacy-based reference groups in different industries and countries when disclosing ESG information. Moreover, our analysis shows that influential peers are being imitated, but our data does not fully explain what specific sustainability initiatives are being imitated or whether some initiatives are more susceptible to imitation than others. Future research can also investigate the kind of information that firms pursue so that

they can imitate their peers' ESG disclosures. Furthermore, unpacking the ESG pillars into their environment, social, and governance dimensions could yield richer and more nuanced insights into the relationships we have studied. A better understanding of these incentives has important implications for policymakers and managers alike. Recent research has devoted an increasing amount of attention to the materiality of ESG scores (e.g., Grewal, Hauptmann, & Serafeim, 2021; Khan, Serafeim, & Yoon, 2016). Connecting with this stream of literature could provide further insight into the strategic use of NFI disclosure for gaining an inimitable competitive advantage.

Lastly, the importance of social comparison and legitimisation present in this study opens the door to new research on policymaking and the active role that influential peer firms can play in public policies regarding ESG disclosure and sustainability initiatives in general, and their implementation. Our findings highlight the importance of influential peers in different geographical regions. Finally, this study extends the research on interorganisational imitation and the role of uncertainty in the disclosure of ESG information; a relatively unexplored domain for firms in developing countries that requires further examination. As a result, the significance of monitoring influential peers' sustainability efforts lies in managers' and policymakers' ability to envision positive long-term consequences for the industry, nations, the environment, and, ultimately, society as a whole.

Appendix

Table A1 Regression models based on a sample distributed by geographic regions.

Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Leading performers * Disclosure Efforts	-	0.07	-0.7	-	-0.4	-
	-	(0.517)	(0.001)	-	(0.037)	-
Higher performers * Disclosure Efforts	-	-0.19	-0.01	-	-0.12	-
	-	(0.088)	(0.946)	-	(0.029)	-
Larger performers * Disclosure Efforts	-	-0.32	-0.3	-	-0.003	-
	-	(0.086)	(0.223)	-	(0.987)	-
Leading performers	0.76	0.86	1.3	0.56	0.94	0.7
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Higher performers	0.07	0.35	0.2	0.1	0.2	-0.03
	(0.084)	(0.000)	(0.298)	(0.003)	(0.006)	(0.198)
Larger performers	0.08	0.09	-0.7	-0.04	-0.03	0.3
	(0.055)	(0.578)	(0.003)	(0.377)	(0.876)	(0.000)
Leverage	-0.04	-0.01	-0.01	-0.1	-0.2	-0.04
	(0.050)	(0.947)	(0.920)	(0.000)	(0.000)	(0.050)
Size	2.6	2.6	1.1	2.7	1.84	2
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ROA	-0.04	-0.04	-0.002	-0.04	-0.1	-0.06
	(0.000)	(0.303)	(0.929)	(0.000)	(0.000)	(0.000)
Cross-Listing	-0.06	0.15	0.16	0.1	0.05	0.02
	(0.000)	(0.023)	(0.000)	(0.000)	(0.001)	(0.086)
Environmental Sensitivity	0.02	0.102	0.03	0.06	0.004	0.04
	(0.103)	(0,022)	(0.231)	(0.000)	(0.653)	(0.000)
Disclosure Efforts	-	-1.04	0.32	-	0.02	-
	-	(0.000)	(0.012)	-	(0.345)	-
Ndisclosing	0.7	0.64	0.85	0.5	0.53	0.17
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HHI	0.12	0.104	0.2	0.1	0.1	0.1
	(0.000)	(0.204)	(0.000)	(0.000)	(0.000)	(0.436)
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	18,525	2,249	3,456	31,373	23,516	26,168

Note. GEE = generalised estimation equations; Firm, country, industry, and year fixed effects included. For ease of interpretation, these variables were standardised prior to entering them into the regression. In columns (1) to (6), the results only use part of the sample distributed by geographic region. Column (1) results correspond to European firms. In column (2), the results for firms in Latin America & the Caribbean, column (3) firms from the Middle East & Africa, column (4) firms in the Developed Asia pacific region, and column (5) firms in the Emerging Asia pacific region. Column (6) corresponds to the results of firms headquartered in North America. All of the countries in (1), (4). And (6) regions make disclosure efforts regarding NFI.

Table A2 Additional robustness checks with quantile models.

Variables	Model 1 Developed Regions Quantiles (.25, .50, .75)			Model 2 Developing Regions Quantiles (.25, .50, .75)		
Leading performers * Disclosure Efforts	-	-	-	-0.05	-0.01	-0.11
	-	-	-	(0.532)	(0.946)	(0.376)
Higher performers * Disclosure Efforts	-	-	-	-0.11	-0.17	-0.22
	-	-	-	(0.148)	(0.011)	(0.042)
Larger performers * Disclosure Efforts	-	-	-	0.34	0.05	-0.21
	-	-	-	(0.011)	(0.760)	(0.082)
Leading performers	1.24	1.2	0.9	1.31	1.34	1.29
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Higher performers	0.24	0.1	0.05	0.29	0.39	0.39
	(0.000)	(0.000)	(0.026)	(0.000)	(0.000)	(0.000)
Larger performers	0.5	0.41	0.2	0.05	0.25	0.24
	(0.000)	(0.000)	(0.000)	(0.632)	(0.122)	(0.033)
ROA	0	0.01	0.02	0	0	0.
	(0.268)	(0.001)	(0.000)	(0.429)	(0.386)	(0.659)
Size	0	1	2.3	0	-0	-0
	(0.172)	(0.000)	(0.000)	(0.742)	(0.891)	(0.472)
• Small	-	-	-	-	-	-
	-	-	-	-	-	-
• Medium	-	-	-	-	-	-
	-	-	-	-	-	-
• Large	-	-	-	-	-	-
	-	-	-	-	-	-
Cross-Listing	0	0.05	0.1	0	0	0
	(0.230)	(0.000)	(0.000)	(0.310)	(0.801)	(1)
Leverage	0	0.02	0.02	0	0	0
	(0.555)	(0.000)	(0.000)	(0.615)	(0.840)	(0.699)
Environmental Sensitivity	0	0.004	0.1	0	0	0
	(0.761)	(0,014)	(0.000)	(0.508)	(0.233)	(0.750)
Disclosure Efforts	0	-0.02	-0.1	-0	0	0
	(0.945)	(0.000)	(0.000)	(0.429)	(0.183)	(0.462)
Ndisclosing	0.4	0.7	0.72	0.6	1.1	1.5
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HHI	-0	0.07	0.16	0	0	0
	(0.052)	(0.000)	(0.000)	(0.327)	(0.803)	(0.361)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Note. N = 107,719 observations. Model 1 is a quantile regression on the ESG disclosure scores of focal firms in developed regions (at 25%, 50%, 75%); Model 2 is a quantile regression on the ESG disclosure scores of focal firms in developing regions (at 25%, 50%, 75%);

Table A3 Additional robustness checks with size.

Variables	Model 1 Size as categorical variable	Model 2 Small size Sample	Model 3 Medium size Sample	Model Large size Sample 4
Leading performers * Disclosure Efforts	0.1	0.35	0.16	-0.05
	(0.002)	(0.004)	(0.001)	(0.412)
Higher performers * Disclosure Efforts	-0.02	0.02	0.03	-0.03
	(0.537)	(0.717)	(0.528)	(0.633)
Larger performers * Disclosure Efforts	0.1	1.53	0.04	0.28
	(0.001)	(0.000)	(0.423)	(0.000)
Leading performers * Developing Regions	-0.23	0.17	0.13	0.28
	(0.000)	(0.185)	(0.058)	(0.000)
Higher performers * Developing Regions	0.1	0.1	0.16	0.08
	(0.000)	(0.139)	(0.004)	(0.276)
Larger performers * Developing Regions	0.1	-1.5	-0.24	-0.22
	(0.001)	(0.001)	(0.000)	(0.001)
Leading performers	0.64	0.6	0.7	0.59
	(0.000)	(0.000)	(0.000)	(0.000)
Higher performers	0.065	0.2	0.06	-0.014
	(0.004)	(0.004)	(0.267)	(0.824)
Larger performers	-0.1	-1.7	-0.01	-.0.14
	(0.002)	(0.000)	(0.822)	(0.019)
ROA	-0.05	-0.05	-0.16	-0.1
	(0.000)	(0.000)	(0.000)	(0.061)
Size	-	-	-	-
	-	-	-	-
• Small	-0.48	-	-	-
	(0.000)	-	-	-
• Medium	0.5	-	-	-
	(0.000)	-	-	-
• Large	0.8	-	-	-
	(0.000)	-	-	-
Cross-Listing	0.04	0.05	0.03	0.03
	(0.000)	(0.000)	(0.179)	(0.549)
Leverage	-0.3	-0.24	-0.5	-0.43
	(0.000)	(0.000)	(0.000)	(0.000)
Environmental Sensitivity	0.01	0.000	0.07	0.17
	(0.000)	(0.991)	(0.000)	(0.000)
Disclosure Efforts	-0.1	-0.05	-0.18	-0.13
	(0.000)	(0.000)	(0.000)	(0.003)
Developing Regions	0.1	0.06	0.23	0.1
	(0.000)	(0.000)	(0.000)	(0.039)
Ndisclosing	0.44	0.49	0.32	0.28
	(0.000)	(0.000)	(0.000)	(0.000)
HHI	0.12	0.10	0.11	0.13
	(0.000)	(0.000)	(0.000)	(0.003)
Year Fixed Effects	Yes	Yes	Yes	Yes

Note. N = 107,719 observations. Model 1 is a GLM regression treating size as a categorical variable (i.e., small, medium, large firms; Model 2 is the GEE full model only considering small-size firms; Model 3 is the GEE full model only considering medium-size firms; Model 4 is the GEE full model only considering large-size firms.

Chapter 2:
Does mandatory Non-Financial Reporting affect firm value? The consequences of the 2014/95/EU Directive.

Does Mandatory Non-Financial Reporting Affect Firm Value? The Consequences of the 2014/95/EU Directive

Abstract

In 2018, Directive 2014/95/EU was introduced in the European Union (EU) and European Economic Area (EEA) countries, requiring large corporations to disclose non-financial information (NFI) related to environmental, social, and governance (ESG) practices. This study employs a fuzzy regression discontinuity design (RDD) to examine the market value implications of ESG disclosure in response to this regulatory change, using the adoption of Directive 2014/95/EU as a quasi-natural shock. Our empirical analysis reveals a positive relationship between mandated ESG disclosure and firm valuation for entities complying with the directive. We further observe that this effect is more pronounced for firms subject to increased public scrutiny. These findings emphasize the potential benefits of increasing transparency regarding corporate ESG practices and highlight the moderating role of stakeholder pressure in shaping the relationship between mandatory ESG disclosure and financial performance.

Keywords: Sustainability, mandatory non-financial reporting, disclosure, firm performance. stakeholder pressure.

1 Introduction

The interest of stakeholders in holding firms accountable for their actions has led to an increase in Non-Financial[1] Reporting (NFR), also referred to as environmental, social, and governance (ESG) disclosure practices (Chen & Wang, 2011). More and higher quality (ESG) information, according to the literature, can assist capital markets by increasing liquidity, lowering capital costs, and improving capital allocation (Christensen et al., 2021; Spandel, Schiemann, & Hoepner, 2020). In this effort to untangle the corporate social performance (CSP) and corporate financial performance (CFP) relationship, the disclosure of ESG practices can provide researchers with a more objectively available metric of CSP, which can lead to more uniform results. However, most of the disclosure of this type of information is voluntary and lacks the rigorous standards and guidelines of its counterpart (i.e., financial reporting) (Cho & Patten, 2007). This has contributed to a persistent disparity in previous research results.

Recent regulations in certain countries mandating the disclosure of ESG practices has opened the debate on whether these laws and regulations influence organisational practices and firm valuations (Christensen et al., 2021; Ioannou & Serafeim, 2019). Some authors have discussed that mandatory sustainability disclosure has been viewed by some audiences as restricting, inefficient, or harmful to businesses and their ability to be competitive (Aragon-Correa, Marcus, & Vogel, 2019). As a result, the disclosure of ESG practices has been mostly voluntary, and consistent standards or enforcement through regulation have been absent (Cho et al., 2015). This has made voluntary reporting less reliable than its counterpart, i.e., financial reporting, due to the lack of rigour applied in its preparation (Eccles et al., 2012). On one hand, in a voluntary regime for example, firms may respond with incomplete disclosure reports when under pressure from stakeholders to appear legitimate, but without providing the level of information that allows for accurate accountability (Liesen et al., 2015). On the other hand, recent research emphasizes the role of powerful stakeholders in shaping organizational behaviour regarding the disclosure of ESG

[1] The terms "sustainability", "environmental, social and governance" (ESG), "non-financial" or "corporate social responsibility" (CSR) reporting are used interchangeably to describe reporting with different degrees of focus on environmental, social or corporate governance issues. This paper uses the disclosure of ESG/CSR activities to refer to the disclosure of NFI (non-financial information), and uses non-financial reporting (NFR) to refer to the reporting of NFI.

practices and its relationship with firm value. Studies have shown that management practices, such as the CEO's power and commitment to sustainability practices (Li et al., 2018), and executive compensation for sustainability efforts (Flammer et al., 2017), have the potential to reduce information asymmetry between the organization, investors, and stakeholders, leading to higher firm valuation (Yu et al., 2018).

Nonetheless, the absence of regulatory requirements has led to limited transparency and comparability across firms, which calls for more research to determine the relationship between mandatory NFI disclosure and firm value, especially in the context of the increasing number of countries implementing new policies and regulations that require firms to report their non-financial information (NFI). Likewise, the studies mentioned above show that different stakeholders can exert different pressures in the disclosure of ESG practices and consequently, on its relationship with firm value. Thus, more research is needed to have a better understanding of how companies respond to mandatory disclosure when faced with different stakeholder pressures (Christensen et al., 2021; Ioannou & Serafeim, 2019). Lastly, prior studies examining the association between CSR practices, disclosure, and firm value have faced endogeneity problems (Brooks & Oikonomou, 2018) and reverse causality (Nelling & Webb, 2009), leading to inconclusive results (Manchiraju & Rajgopal, 2017), as noted by different scholars.

In a sample of 17,981 firm-year observations of 4,940 EU firms between 2012 to 2020, we implement a fuzzy regression discontinuity design (RDD) to assess the impact of mandatory ESG disclosure on market value. Our approach enables us to analyse the outcomes that occur slightly above and below the Directive's threshold, which defines large firms, attributing any changes in the outcome variable to the treatment that induces the discontinuity. The model also assumes that the firms above and below the threshold are comparable, except for the impact of the treatment, providing us with robust results. The results remain robust when we run several additional tests. First, we examine RDD's fundamental assumption that firms should not be able to manipulate the rating variable and to thus select themselves into treatment and control groups, following the study by Lee and Lemieux (2010). According to our findings, there are no unusual jumps in the frequency distribution of firms around the thresholds. Furthermore, the results are consistent when using different bandwidths and measurements to construct the thresholds, and we find that

the estimates are robust to the choice of winsorization at the 1% and 5% levels. The results show that large firms affected by the regulations, this is compliers, see an increase in their firm value. We further observe that this effect is more pronounced for firms subject to increased public scrutiny. We find that the positive relationship between mandatory ESG disclosure and firm value is more pronounced for firms in environmentally sensitive industries and is weaker for firms with high levels of state ownership.

This study makes several contributions to the literature. Drawing on institutional and stakeholder theories, this study contributes to the literature by examining the impact of mandatory NFI disclosure regulations, such as Directive 2014/95/EU, on firm value creation, challenging the perspective that ESG/CSR regulations negatively affect shareholder value. More specifically, we expand upon the findings of Ioannou & Serafeim (2019) by extending the analysis to diverse settings such as the European Union and EEA countries with similar institutional contexts. Furthermore, this study investigates the influence of influential stakeholders on the link between compliant firms and firm value, addressing research gaps highlighted by Christensen et al. (2021) and Ioannou & Serafeim (2019). By expanding on institutional and stakeholder theory, our findings suggest a positive link between compliance and firm value, thus contributing to the "business case for sustainability."

Lastly, we address methodological concerns by employing a Fuzzy regression discontinuity approach. One of the main methodological benefits of this design is its close relation to a randomised experiment (Lee & Lemieux, 2010), allowing us to establish a potentially causal link between NFR and firm value. With a discontinuity around the regulatory changes regarding NFR (i.e., the Directive 2014/95/EU) that separate untreated from treated firms, we can examine whether changes in firm value can be attributed to NFR, thus contributing to the literature with robust results that mitigate endogeneity concerns. We show that firms required to report their NFI increase their Tobin's Q,

The findings of this study imply that Directive 2014/95/EU has the potential to influence investment decisions and attract specific audiences, all of which can contribute to increased firm value. Thus, this research holds implications for regulators, policymakers, and investors, indicating that the implementation of

mandatory ESG/CSR disclosure regulations, particularly the Directive 2014/95/EU, can enhance transparency and firm value for compliant firms. Nevertheless, the study acknowledges its limitations, including its focus on EU legislation and the necessity for additional research on standardization and disclosure quality.

The remainder of this paper is organised as follows. Section 2 provides the literature review detailing the related previous studies and develops the hypotheses. Section 3 discusses the research design and data. Section 4 discusses the empirical results. Finally, Section 5 concludes the study.

2. Literature Review and Hypotheses Development

2.1 Institutional Background: The Directive 2014/95/EU

One of the primary goals of disclosure regulations is to increase the availability of information and to influence organisational practices which, in the context of sustainability, means improving ESG data for stakeholders and shareholders (Ioannou & Serafeim, 2019).

Non-financial information is defined as being any information that companies may report and make public to shareholders and stakeholders over a one year period and which falls within the CSR spectrum (Brooks & Oikonomou, 2018). The number of firms reporting their sustainability efforts has increased dramatically from 20% to 80% in the last five years due to pressure from stakeholders. In the past decade, EU countries, China and South Africa amongst others[2], have been regulating the disclosure of NFI with the aim of incentivising usually large, listed firms to improve transparency around their sustainability activities. The quality of investor reports has also improved. Investors now have more information to help them make decisions thanks to the numerous tools available for assessing and reporting sustainability that have emerged in recent decades. These are used in addition to various information intermediaries (e.g., Bloomberg ESG, Sustainalytics, Thomson Reuters ESG, FitchConnect ESG,

[2] Countries such as Malaysia in 2007, and China, Denmark, and Sweden in 2008 introduced a disclosure mandate as a requirement for companies listed on certain stock exchanges or for public companies. In 2018 the Directive 2014/95/EU started mandating that large firms within the European Union report on their NFI.

among many others) that rate and rank companies based on their ESG performances (Eccles et al., 2014).

European Union and Sustainability Initiatives

When it comes to Europe, the European Commission has, since 2011, recognised the need for transparency in relation to social and environmental information from member states and for future legislation to improve the process for undertakings' disclosures relating to social and environmental information. Between 2011 and 2014, different resolutions and communications were presented by the European Parliament, acknowledging the importance of businesses disclosing information on sustainability matters, such as the Corporate Social Responsibility directives; 'Corporate Social Responsibility: accountable, transparent and responsible business behaviour and sustainable growth' adopted on 25 October 2011 and 'Corporate Social Responsibility: promoting society's interests and a route to sustainable and inclusive recovery' on 6 February 2013.

"*...Indeed, disclosure of non-financial information is vital for managing change towards a sustainable global economy by combining long-term profitability with social justice and environmental protection. In this context, disclosure of non-financial information helps the measuring, monitoring and managing of undertakings' performance and their impact on society."* (Directive 2014/95/EU, 2014).

The need to legislate NFI led to the creation of a proposal that became the Directive 2014/95/EU which amends the Directive 2013/34/EU regarding annual financial statements, consolidated statements, and related reports of certain types of undertakings. With these amendments, the European Parliament's main objective was to find a certain level of comparability of CSR and diversity policies (Directive 2014/95/EU, 2014) between large businesses and corporate groups. Consequently, businesses could meet the needs of investors and stakeholders while providing accessible information to consumers and society on the impacts of their endeavours. The Directive came into force on 6 December 2014 and was expected to become law for the 28 EU Member States, as well as European Economic Area (EEA) members Iceland and Norway, in December 2016. Companies subject to this legislation were expected to have incorporated the Directive as of 2018 with information relating to the 2017 financial year (CSR Europe & GRI, 2017).

The Directive 2014/95/EU

Following the implementation of the Directive 2014/95/EU, all large, listed firms in the EU are now subject to mandatory reporting on their NFI. The Directive requires that large firms with more than 500 employees and a balance sheet of over EUR 20 million, or those with a net turnover of over EUR 40 million, disclose their NFI, as well as any public interest entities (PIEs) designated by the EU Member State or EEA member. Large firms and PIEs are required to disclose relevant information without the need for an exhaustive report on their performance, position, and the impact of their activities. This information can be reported at the group level and firms can decide which framework or guidelines to use (i.e., EU-based, or a national framework) in a separate or integrated report with their financial information. Small and medium firms are not obliged to disclose their information, meaning that the cost does not outweigh the benefits of disclosure (Official Journal of the European Union, L330/1, 2014).

Lastly, the Directive included the "comply or explain" principle (i.e., if the company decides not to adopt certain policies that are to be detailed in the Non-Financial Statement or any of the diversity policies that are to be detailed in the corporate governance statement, the company must explain why this is the case) (European Parliament, 2016). Firms need to clarify why they are departing from a specific provision, how the decision for the departure was taken and, if the decision is made at short notice, explain when the company plans to comply. They must also state how their decision to depart contributes, in general, to the effective corporate governance of the company.

UN Sustainable Development Goals and the Paris Agreement

The mandatory disclosure of ESG/CSR activities imposed by the European Commission has been a commitment that seeks to contribute to meeting the Sustainable Development Goals, set out in the Global 2030 agenda by the General Assembly of the United Nations in September 2015. With this Directive, goals relating to sustainable consumption and gender equality (goals 12 and 5, respectively) comprise part of the required information which needs to be disclosed by firms promoting their achievements (European Commission, 2017). Moreover, the Directive seeks to contribute through the implementation of the Paris Climate Agreement with transparency on firms´ sustainable decision-making at the centre of the Agreement.

This will lead to a pathway towards low greenhouse gas emissions and climate-resilient development.

In summary, the Directive 2014/95/EU represents a concerted effort by several countries to regulate the disclosure of ESG/CSR activities, mandating a specific group of firms, in this case large, listed firms, to disclose and/or significantly enhance their annual ESG/NFI disclosures. The aim is to enable stakeholders to access a comprehensive, comparable picture of a company's non-financial performance.

2.2 Disclosure Regulations and Firm Value

Previous studies have linked NFI disclosures to increased firm value (Ioannou & Serafeim, 2012; Margolis, Elfanbein, & Walsh, 2007). This link between sustainability initiatives and financial performance is not only important for analysing the behaviour of firms, but also from the perspective of the social and governance-related benefits (Duanmu, Bu, & Pittman, 2018; Eccles et al., 2014). From an economic perspective, the assumption is that a firm should pursue sustainability initiatives if, and only if, the financial returns are greater than the cost to the firm (Devinney, 2009; Siegel, 2009).

Several theoretical frameworks have been utilized to understand the factors affecting the disclosure of non-financial information (NFI) and its connection with firm value. Popular theories include institutional, legitimacy, and stakeholder theories (Baldini et al., 2018; Li, Gong, Zhang, & Koh, 2018; Reverte, 2009). The main assumption shared by all frameworks is that different stakeholders interact with each other and collectively exert pressure on firms, which in turn influences the extent to which firms disclose NFI pertaining to ESG, thus contribute to firm value creation (see Brooks & Oikonomou, 2018).

Institutional theory and stakeholder theory provide complementary perspectives on the relationship between mandatory non-financial information (NFI) disclosure and firm value creation. On one hand, a consensus has emerged that institutional and legitimacy theories provide the most accurate explanation for the empirical variations in NFI disclosure and the factors that explain such stylised facts (Baldini et al., 2018; Ioannou & Serafeim, 2012; Reverte, 2009). Institutional theory posits that organizations seek legitimacy by conforming to the norms, values, and expectations of their institutional environment. Reverte (2009), for example, states that a higher level of visibility promotes the adoption of higher levels of ethical practices

and NFI disclosure, overcoming legitimacy challenges. Other research have pointed out the importance of institutional context (Baldini et al., 2018), and institutional similarity (Liang & Renneboog, 2017) in the disclosure of NFI.

On the other hand, Stakeholder theory emphasizes the importance of addressing the interests and expectations of various stakeholders. Previous studies, considering voluntary NFI disclosure, have shown that by disclosing NFI, firms can meet both institutional and stakeholder expectations, thereby enhancing their legitimacy, improving their reputation, and contributing to firm value creation. Firms that demonstrate superior CSR activities, such as lower cost and equity capital constraints (Beiting et al., 2014), as well as increased institutional investor and analyst coverage (Dhaliwal et al., 2011), are associated with higher NFI disclosure and firm value. Management practices, including the influence of CEOs and their commitment to sustainability practices (Li et al., 2018), as well as executive compensation for sustainability efforts (Flammer et al., 2017), also contribute to the level of sustainability commitment and firm value. These management practices mitigate information asymmetry among the organization, investors, and stakeholders, resulting in enhanced firm valuation (Yu et al., 2018).

The investigation into the influence of mandatory NFI disclosure on firm value has been limited due to the recent introduction of regulatory measures, as explained in the background section.

The introduction of regulations in specific countries that mandate the disclosure of ESG practices has prompted a debate regarding the influence of such laws and regulations on organizational practices and firm valuations (Ioannou & Serafeim, 2019). The research conducted by Ioannou and Serafeim (2019) was the first to assess the impact of mandatory initiatives implemented by countries, such as China, Denmark, Malaysia, and South Africa, to enhance transparency regarding ESG practices, specifically on the quality, quantity, and corporate value of such practices.

New studies have shown that NFI disclosure regulations can help mitigate underinvestment, particularly in debt markets (Allman & Won, 2021), and considerably increase the level of CSR activities undertaken by companies (Fiechter, Hitz, & Lehmann, 2018; Jackson et al., 2020). However, the results of Chen, Hung, and Wang's (2018) study imply a negative association, as firms experienced a decline

in profits following the introduction of mandatory NFI report in China in 2008, lending support to the notion that mandatory regulations can lead to a reduction in firm value.

Aragon-Correa, Marcus, and Vogel (2019) argue that mandatory NFI disclosure has often been viewed as constraining, inefficient, or detrimental to businesses and their competitiveness, which has resulted in most NFI disclosure being voluntary, without standards or regulations. Consequently, voluntary reporting of NFI has often been considered less reliable than financial reporting due to a lack of rigor in its preparation (Eccles et al., 2012). Most of the studies suggest a positive or, at the very least, a non-negative relationship between voluntary CSR activities and firm value, with only a few studies reporting a negative relationship (less than 8% according to Brooks and Oikonomou, 2018). Firms with superior CSR activities, for instance, have lower cost and equity capital constraints (Beiting et al., 2014) and greater institutional investor and analyst coverage (Dhaliwal et al., 2011). Recent research indicates that voluntary NFI disclosure is influenced by management practices, including CEO power and commitment to sustainability practices (Li et al., 2018) and executive compensation for sustainability efforts (Flammer et al., 2017). These management practices decrease information asymmetry between the organization, investors, and stakeholders, resulting in higher firm valuation (Yu et al., 2018). Nonetheless, the absence of regulatory requirements has led to limited transparency and comparability across firms, which calls for more research to determine the relationship between mandatory NFI disclosure and firm value, especially in the context of the increasing number of countries implementing new policies and regulations that require firms to report their non-financial information (NFI).

Also, the studies mentioned above show that different stakeholders can exert different pressures in the disclosure of ESG practices and consequently, on its relationship with firm value. Thus, more research is needed to have a better understanding of how companies respond to mandatory disclosure when faced with different stakeholder pressures (Christensen et al., 2021; Ioannou & Serafeim, 2019).

2.3 Empirical predictions

Recent studies have focused on firms' mandatory ESG/CSR disclosure and its potential economic consequences (e.g., Allman & Won, 2021; Grewal et al., 2018; Ioannou & Serafeim, 2019). For instance, studies conducted by Chen, Hung, and Wang

(2018) have revealed the presence of negative externalities associated with mandatory NFR. Their results suggest that firm profits fell as a result of China's introduction of mandatory CSR disclosure in 2008. Furthermore, the authors' research highlights that firms' disclosure practices in relation to this mandate were primarily driven by political and social factors, rather than economic considerations. These results are consistent with institutional and stakeholder theories which emphasize the role of powerful stakeholders in shaping organizational behaviour.

Other studies, however, have suggested a positive link between mandatory ESG/CSR disclosure and firm value. For example, Ioannou and Serafeim's (2019) analysis, which was one of the first to focus on mandatory ESG reports and their consequences for firm value, determined that mandatory ESG disclosure in China, Denmark, Malaysia, and South Africa had a positive impact on firm value. The authors also found an increase in the quantity and quality of the disclosure. Therefore, these findings indicate that complying with mandatory NFI disclosure can enhance the firm legitimacy and reputation, which leads firm value creation.

Recent studies corroborate these findings by employing the enactment of Directive 2014/95/EU, and argue that firms which had a strong performance and a high level of disclosure prior to the regulations exhibit positive returns, compared to their lagging peers (Grewal et al., 2018). Fiechter et al. (2018) demonstrate that European firms impacted by the regulation increased their CSR spending in response to the introduction of the requirements, with weak CSR performers boosting their CSR activities to the greatest extent. Nevertheless, several other studies utilizing Directive 2014/95/EU as a reference point have suggested negative financial repercussions following the announcement of the directive. Notably, a negative stock market response was observed primarily among firms with subpar levels of disclosure (Grewal et al., 2018), whereas another study found that this group achieved better investment efficiency gains (Allman & Won, 2021).

While the studies reviewed provide initial insights into the consequences of mandatory non-financial reporting (NFR) concerning Directive 2014/95/EU, the findings are confined to research conducted prior to the directive's implementation. Furthermore, few studies have explored the financial effects for firms required to report in the European Union (EU) context, leading to mixed results and inconclusive

evidence regarding the impact of non-financial regulation. As a result, the consequences of such regulation remain limited and inconclusive.

Based on the above, we expand upon the research of Ioannou and Serafeim (2019) by examining the effects of mandatory regulations following to the implementation of the Directive 2014/95/EU. To begin with, research such as that conducted by Baldini et al. (2018) has indicated that institutional factors, such as country level determinants, and legitimacy factors such as visibility, have a favourable influence on ESG disclosure. Considering that the firms impacted by the Directive are large entities operating within the EU and EEA countries, we anticipate a higher level of disclosure. Consequently, we expect that firms complying with the directive will have a positive impact on firm value. This expectation is supported by earlier studies which have established a positive correlation between superior ESG ratings and improved operating performance and Tobin's Q (Gillan et al., 2010; Borghesi et al., 2014; Gao and Zhang, 2015).

On the one hand, larger firms have the resources to change their behaviour regarding sustainability practices with most of them already disclosing NFI information. Compliers, due to their visibility to stakeholders, may be more aware that the government and the public are closely examining their CSR practices and policies and, as a result, they may choose to improve their CSR behaviour in order to mitigate potential negative reactions and legitimacy challenges (Baldini et al., 2018). Likewise, firms with previous experience of reporting might increase their level of disclosure to remain competitive, as the regulation will compel competitors to increase their own level of disclosure (Fiechter et al., 2018). More and higher quality (CSR) information, according to the literature, can assist capital markets by increasing liquidity, lowering capital costs, and improving capital allocation (Christensen et al., 2021).

Finally, despite the potential presence of isomorphism resulting from the mandatory adoption of similar practices in NFI disclosure, previous research has indicated that transparency of NFI, as targeted by the Directive, can mitigate information risk (Lambert et al., 2007) and enhance investor awareness (Cahan et al., 2016). As a result, firms that comply with the directive are expected to be in a more advantageous position to access valuable resources such as qualified employees, product differentiation, moral capital, and loyal customers, ultimately leading to the

preservation or increase in firm value (Manchiraju & Rajgopal, 2017). Thus, the first hypothesis can be stated as follows:

H1: Firms subject to mandatory NFR will see an increase in their market value.

External groups can exert pressure on firms to meet social and stakeholder expectations, leading to a positive impact on the level of ESG/CSR disclosure (Al-Shaer, 2018) and firm value (Flammer, 2013). These groups may apply varying levels of pressure on firms, leading to differences in their ESG/CSR disclosure levels (Liesen et al., 2015), especially for firms in environmentally sensitive industries (Garcia et al., 2017), and firms with higher CEO power (Li et al., 2018). Additionally, these groups can affect firm value by reducing information asymmetry (Brooks & Oikonomou, 2018) and improving communication among the organization, investors, and stakeholders (E. P. yi Yu, Guo, & Luu, 2018). Still, the influence of external groups on mandatory NFR remain unknown.

Based on these findings, it is expected that external groups will exert pressure on firms that are mandated to report, thus impacting their levels of ESG/CSR disclosure and, as a result, firm value.

Following Liesen et al. (2015) this study focuses on two main external groups – the state, and the public. To succeed and survive, businesses require legitimacy in addition to economic efficiency (Scott, 1995). They must also make strategic decisions based on their interactions with institutions (Ioannou, 2018). As a result, it is argued that while developing and implementing strategies to acquire a competitive advantage, firms must consider effects which are broader than the firm industry-level factors, such as government and societal support (DesJardins, 2016; Du & Boateng, 2015). We examine each of these influences in turn and hypothesise how the influences of these different groups exerted on a firm market value, as proposed in Hypothesis 1.

The proxy for pressure from the state is the percentage of shares owned by the government. Shareholders have long been regarded as an important target group for ESG/CSR disclosures (Liesen et al., 2015). When a government partly owns a firm, it ensures that such companies make decisions that are in line with the state's strategic goals, such as sustainability efforts like NFR. The state's coercive capacity to control the behaviour of other social actors, including those at the organisational level, can limit information asymmetry through ESG/CSR disclosure in developing countries

(Alshbili, Elamer, & Beddewela, 2019). The effects of state ownership can be interpreted as follows. According to one viewpoint, state-owned firms are more likely to receive preferential treatment from the government, thereby increasing their value (M. Yu, 2013). The findings of the study by Giannarakis, Zafeiriou, Arabatzis, and Partalidou (2018) show that governmental ownership influences NFR.

The opposing viewpoint has argued that state ownership reduces corporate value because government intervention slows a firm's decision-making processes in an increasingly competitive environment (Du & Boateng, 2015). The property rights perspective in economics (Martin & Parker, 1997; Villalonga, 2000) and stakeholder theory support the assumption of public ownership inefficiency (Friedman, 1970). According to the property rights theory, property rights in the private sector are more clearly defined than in the public sector, and thus the incentive for private owners to seek profits leads to more effective monitoring of management performance (Alchian, 1965; McCormick & Meiners, 1988). According to Ramaswamy's (2001) study, state-owned firms do not perform as well as their private sector counterparts, and this difference in performances can be more noticeable with an increasing level of competitive intensity. When it comes to stakeholder theory, profitability and value maximisation are more important than ESG/CSR disclosure in which, according to previous literature, state-owned firms are likely to have the advantage. Therefore, state-owned firms tend to use valuable resources that can be utilised to maximise value for shareholders in more viable activities than NFR (Alshbili et al., 2019). On the contrary, when firms have high levels of institutional investor ownership, defined as a company or organisation that invests money on behalf of its clients or members (Liesen et al., 2015), it has been found to have a positive effect on firm value (Crespi & Renneboog, 2010; M. Wang, 2014). This is due to the institutional owners' level of expertise, which allows them to reduce agency costs and the information asymmetry between managers and shareholders (Dhaliwal et al., 2011). Grewal et al.'s (2021) study examining the materiality standards developed by the Sustainability Accounting Standards Board (SASB) demonstrates that, when institutional ownership grows, the link between sustainability disclosure and stock price informativeness becomes stronger, potentially affecting firm value. Under mandatory regulations, managers of private firms, in contrast with their counterparts (state-owned firms) (Alshbili et al., 2019), can redirect spending towards CSR to comply with new stricter regulations,

thus maximising the company's value (Manchiraju & Rajgopal, 2017). Lastly, the study conducted by Chen, Hung, and Wang (2018) reveals that the decrease in firm profitability associated with the implementation of mandatory CSR disclosure in China, predominantly affected state-owned enterprises (SOEs), implying that the effectiveness of CSR spending in SOEs is comparatively lower.

Accordingly, it is expected that firms with a higher level of state ownership that are mandated to report on their activities would see a destruction in firm value, compared to their peers. Hence, this leads to the following hypothesis:

H2a: The effect of mandatory NFR on firm value is weaker among firms with a high level of state ownership.

The proxy for pressure from the public is *environmentally sensitive industries* (ESI) as these type of firms are subject to greater scrutiny and may thus invest more in environmental protection to avoid negative publicity and legitimacy challenges (Y. C. Chen et al., 2018).

First, firms operating in ESIs have historically been subject to stricter regulatory environments compared to firms in other industries, particularly in Europe where environmental policies regarding the disclosure of NFI were already in place prior to the implementation of the Directive (e.g., Directive 2003/4/EC). As a result, compliers in ESIs are likely to have been less impacted by the costs associated with complying with the Directive. Additionally, these firms often have greater incentives to adopt sustainable practices and innovate. For instance, the adoption of these policies can lead to cost savings through measures such as energy reduction and water recycling, while also helping to avoid fines associated with non-compliance (Ramus & Montiel, 2005).

Second, certain studies have argue that ESG/CSR disclosure appears to be more about image enhancement than meaningful accountability, and that legitimacy factors, such as affiliation to ESI, appear to explain the differences in the levels of disclosure (Cho et al., 2015). Reverte (2009) for example, reported a higher level of CSR disclosure in Spanish listed firms operating in ESI. Furthermore, scholars have also emphasized the significance of the institutional context and cultural factors in shaping the selection of suitable ESG/CSR priorities and actions (Baldini et al., 2018; Garcia et al., 2017). Institutional theory suggests that organizations seek legitimacy by

conforming to the norms of their institutional environment. Accordingly, firms operating in ESIs would be motivated to enhance their sustainability performance and NFI to safeguard their reputation and maintain legitimacy. This strategic behaviour aims not only to enhance competitiveness but also to address stakeholders' concerns and expectations (Cho et al., 2015; Garcia et al., 2017; Reverte, 2009). In addition, due to their inclination to allocate significant resources to sustainability initiatives and engage in extensive NFI disclosure, firms operating in ESIs receive greater recognition and resource allocation from stakeholders (Lin et al., 2015).

Finally, the level of competition between firms in ESIs may increase the likelihood of environmentally motivated competition, compared to sectors where environmental differentiation is considered to have less economic potential (Flammer, 2015). Consequently, we expect that the impact of mandatory NFR will be more pronounced among compliant firms operating in ESIs. Hence, the disclosure of NFI in these sectors is likely to generate pressure from activist groups (Liesen et al., 2015) and face competition in the product market (Flammer, 2015), thereby resulting in positive effects on firm value. Based on this discussion we propose the following hypothesis:

H2b: The effect of mandatory NFR on firm value is stronger among firms in ESI.

3. Research Design and Data

3.1 Study approach

The main objectives of this paper are to identify the causal effect of mandatory NFI disclosure on firm value using the EU's Directive 2014/95/EU policy, mainly in relation to firm profitability, and its future development potential; as well as the role of stakeholder pressures in enhancing the effectiveness of the policy.

The EU Directive on the disclosure of non-financial and diversity information (Directive 2014/95/EU) was announced in 2014, setting clear requirements for greater transparency and accountability on social and environmental issues for businesses. By 2016, the 28 EU Member States and two additional countries from the wider European Economic Area (EEA), Iceland and Norway, needed to transpose the Directive into their own national legislation. The Directive 2014/95/EU eventually came into force for companies and qualifying partnerships during their financial years beginning on or after 1st January 2017.

2011	2013	2014	2016	2017
The Commission identified the possibility of a requirement for further improvements to be made to the transparency of undertakings' non-financial information	In two different resolutions, the European Parliament acknowledged the importance of businesses divulging information on sustainability.	Announcement of the Directive 2014/95/EU amending the Directive 2013/34/EU. State members must ensure that the Directive's provisions are applicable as of the fiscal year starting on 1st January, 2017, or during the calendar year 2018.	Member States shall bring into force the laws, regulations, and administrative provisions necessary to comply with this Directive by 6 December 2016.	Regulations regarding the Directive 2014/95/EU came into force for companies and qualifying partnerships during their financial years beginning on or after 1st January 2017.

Table 1.—Timeline of important events related to non-financial information reporting and the Directive 2014/95/EU.

To examine the effect of the Directive 2014/95/EU on firm value, this study adopts a Fuzzy Regression Discontinuity Design (RDD) model. First, we use a Fuzzy RDD model since one of the main methodological benefits of this design is its close approximation of a randomised experiment (Lee & Lemieux, 2010), allowing considerably robust findings to point to a causal link between NFR and firm value. Furthermore, when compared to other designs, for instance, an instrumental variables (IV) analysis, the assumptions of a Regression Discontinuity Design (RDD) are more likely to be met. More precisely, in IV analysis, researchers are required to provide evidence for both the *ignorability restriction* and the *exclusion restriction* to satisfy their audience, which involves demonstrating that the instrument is randomly assigned and does not affect the outcome beyond the treatment. In contrast, RDD models are more likely to adhere to these assumptions (Valentim, Ruipérez Núñez, & Dinas, 2021).

Second, unlike a traditional RDD model, which uses a sharp cut-off point to distinguish between treatment and control groups, the Fuzzy RDD model is deemed appropriate since according to our data, non-eligibility for NFI disclosure does not necessarily mean that firms do not disclose NFI, as demonstrated in Figure 1. These are the so-called ´always takers´ according to Valentim et al. (2021). Thus, the treatment status in the sample is considered a Fuzzy treatment assignment variable, which measures the likelihood of each firm receiving the treatment. Third, by accounting for the uncertainty in treatment assignment, the Fuzzy RDD model

determines the causal impact of treatment, i.e., eligibility to disclose NFI, on the outcome variable, Tobin's Q, through a comparison of the mean outcome of firms who received the treatment with that of firms who did not receive the treatment. To avoid double reporting, the study only considers firms based in their country of domicile, and firms not belonging to a group, and/or those which are the controlling company of the current security according to the Bloomberg database.

Lastly, it is important to note that treated firms in this study that comply with Directive 2014/95/EU are the ones who disclose some ESG information (have ESG disclosure scores according to Bloomberg). Firms that do not supply this information, on the other hand, are classified as providing explanations for not reporting (which does not imply that they do not participate in CSR activities).

Figure 1 illustrates the clear discrepancy in terms of NFI disclosure around the large size threshold that determines the treated treatment. This discrepancy, which occurs directly at the cut-off line, allows us to estimate the effects of disclosure using a regression discontinuity design.

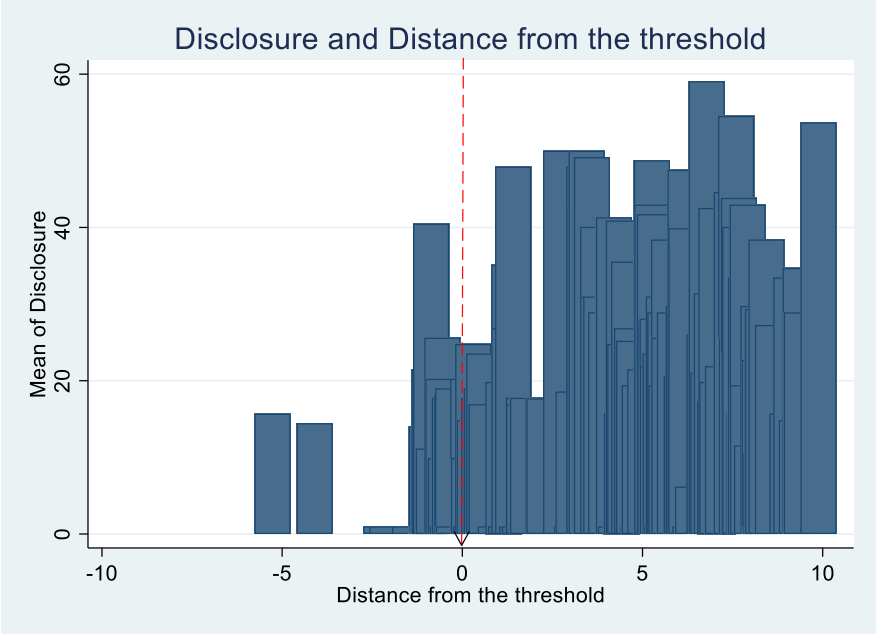


Figure 1. This figure represents the disparity between large firms that are required to disclose and firms that voluntarily disclose their ESG efforts from 2017 to 2020. Firms treated on the right side of the cut-off disclose more NFI than firms that are not required to report this type of information.

3.2 Basic set up of a Regression Discontinuity Design (RDD) and Assumptions

The study uses a Fuzzy regression discontinuity design (RDD) in a 2-stage least square (2SLS) framework to empirically estimate the effect of Directive 2014/95/EU on firm value in EU Member States.

The assumptions for a Regression Discontinuity Design (RDD) model include: Firstly, the treatment assignment variable should be continuous and have a well-defined cut-off point. As previously noted, the Directive outlines specific criteria for mandatory sustainability reporting, requiring large firms with over 500 employees and a balance sheet exceeding EUR 20 million, and/or a net turnover exceeding EUR 40 million, to disclose their sustainability initiatives.

Since there are two conditions that must be met in order for firms to be considered in the regulation as being treated, this paper uses a multivariate RD design or MRDD, following Manchiraju and Rajgopal (2017). One of the conditions is that firms need to have more than 500 employees[3] a balance sheet of over EUR 20 million, or a net turnover of over EUR 40 million. To estimate the treatment effects under MRDD, a new rating variable, *M*, was created following a binding-score regression discontinuity design (Reardon & Robinson, 2012). This study considers the minimum of the two individual rating scores based on net turnover, and balance sheet (where each score is first centred around its cut-off score), of firms with over 500 employees during the financial year. The new cut-off in 0 allows for the creation of a dummy variable to designate firms as untreated or treated. Firms over the new cut-off are considered to be treated and below the cut-off are untreated firms. That is, D {0, 1}, where D= 1 if M≥ *c*, and D= 0 if M< *c*. to then fit the following model:

$$Y = \alpha + \tau D + f(M) + \varepsilon.$$

To demonstrate that the effects on firm value are produced by the mandatory rule on treated firms, this study uses the *rdplot* command in STATA (Nichols, 2007) to generate Figure 2. The resulting equation is as follows:

$$TobinQ = \alpha + \tau TREATED + f(M) + \varepsilon.$$

[3] The condition for Luxembourg, Sweden, Iceland, and Croatia which threshold is above 250 employees was considered and measured accordingly.

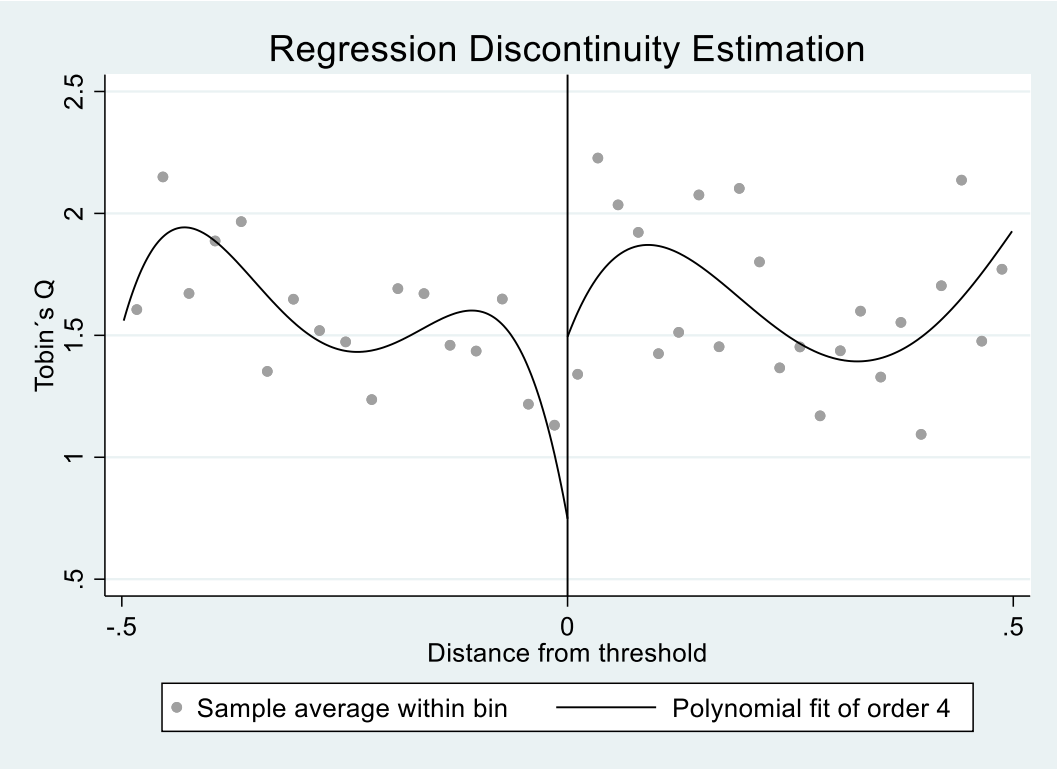


Figure 2. Regression discontinuity estimation using the M binding score rating variable to assign the TREATED group. The figure shows the regression discontinuity (RD) results for a fuzzy design using a non-parametric approach that estimates the change in firm value. Observations to the left (right) of the threshold belong to the untreated group (treatment group).

In Figure 2, the X-axis is the binding score rating variable (M, in this case), with 0 being the cut-off point. On the Y axis is Tobin´s Q around the event date of 2017-2020, using a local linear estimation, evenly-spaced (es) bins, and MSE-optimal bandwidth following the study by Imbens–Kalyanaraman (2012). The lines represent the fitted regression lines for the models, which include up to the fourth-order polynomial term.

Secondly, for an RD design, the only difference between the firms near the cut-off is the treatment condition of firms to the right of zero and the untreated condition for firms to the left. In absence of treatment, firms are assumed to have a homogeneous behaviour (Nguyen, Ahmed, Chevapatrakul, & Onali, 2020). Any discontinuity on the fitted curve, in this case for firm value, can be attributed to the mandatory NFR regulation. Figure 2 shows that there is a clear discontinuity in value measures at the cut-off.

Thirdly, firms should not be able to manipulate their assignment status around the known thresholds, known as the "*no manipulation*" assumption (Nguyen et al.,

2020). This condition is particularly important, since the validity of the RD estimation method lies in the inability of firms to modify or change their treatment status, allowing for a comparison to be made between them.

To validate our RD design and to examine whether firms are manipulating their status around the cut-off, this study follows the methodology proposed by McCrary (2008) to test for the discontinuity of the density of the running variable. Figure 3 shows the plot of the density of the M binding score rating variable. The discontinuity estimate of the density of the running variable is -0.055 and is statistically insignificant (0.9565). Therefore, the null hypothesis, that the density of assignment at the cut-off threshold is continuous, is accepted since it cannot be rejected.

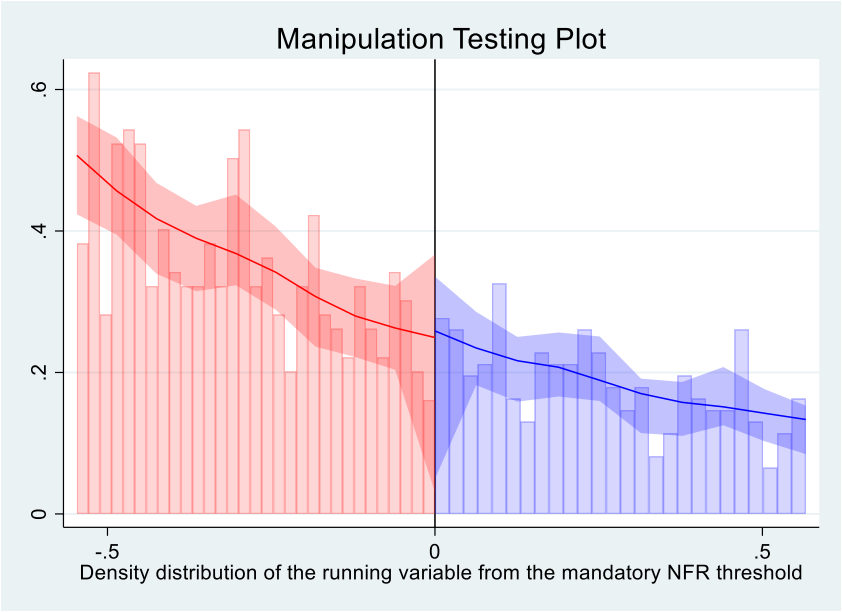


Figure 3. Density distribution of the firm distance from the regulatory threshold (assignment). The figure shows the density of the running variable to test for the discontinuity in the running variable following McCrary (2008).

Lastly, there should be no systematic differences in the characteristics of participants on either side of the cut-off point, except for their treatment status. Table 2 displays the difference between the means of untreated and treated firms. We run these tests to determine if the assumption that all other factors that might affect the dependent variable (Tobin´s Q) evolve smoothly with respect to the running variable, following Manchiraju and Rajgopal (2017). If there are no discontinuities in the cut-offs (i.e., treated and untreated firms) the study avoids biases in the estimated effect of the intervention. The results from the fuzzy RDD sample show that other firm

characteristics that are likely to affect firm value, such as leverage, size, and ROA, are similar between untreated and treated firms that do not show discontinuity at the cut-off.

Table 2: Descriptive Statistics for the RDD Fuzzy Sample

	UNTREATED (1) N=1,318		TREATED (2) N= 2,097		Difference in mean
Variables	Mean	Std. Dev.	Mean	Std. Dev.	(2) – (1)
(1) Tobin´s Q	-0.01	0.01	-0.012	0.003	0.01***
(2) Leverage	-0.03	0.04	-0.003	0.04	-0.024***
(3) ROA	-0.1	0.34	0.1	0.11	-0.17***
(4) State Ownership	-0.04	0.4	-0.01	0.5	-0.03*
(5) Environmentally sensitive industries	0.5	0.5	0.5	0.5	-0.1**
(6) Cross Listing	0.5	0.5	0.7	0.5	-0.2***
(7) Size	-0.4	0.3	0.22	0.4	-0.6***
(8) Mandatory Before	0.7	0.5	0.6	0.5	0.093***

The significance of differences in means are evaluated based on the *t*-test. ***, **, * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

The assumptions for a Fuzzy Regression Discontinuity Design (RDD) model are largely similar to those for a traditional RDD model. Thus, for fuzzy RDD to be effective, two additional assumptions must hold. The first is that crossing the threshold results in a non-zero change in the likelihood of receiving treatment (first stage). It requires that the instrument be as good as randomly assigned and that it has no direct influence on the outcome (i.e., independence) (Imbens, 2010). Strong first-stage results, that is, a greater gap between untreated and treated firms at the cut-off, will result in less biased second-stage estimates (Valentim et al., 2021). Since the data includes non-compliance, the cut-off point is no longer a synonym for treatment status, but rather an instrument for assigning treatment status probabilistically, rather than based on whether firms are above or below it (deterministically). We use an IV which provides a complier average causal effect to limit the causal effect at the cut-off (jump) of only compliers ignoring the always (never) takers (Valentim et al., 2021). The instrument is an indicator variable that shows what firms were supposed to do. That is, the instrument variable in the study is the treatment status established by the Directive 2014/95/EU regarding NFR.

The second is that crossing the threshold can only have an effect on the outcome (i.e., exclusion restriction) (Imbens, 2010). This is a fundamental assumption in IV techniques that is much more likely to hold in fuzzy RDD because other variables

are considered to be continuous around the threshold, as indicated above (i.e., they should not jump) (Bertanha, 2020; Valentim et al., 2021).

To test the validity of the IV, we run different tests, such as (1) overidentification tests: Sargan statistics (9.15, p> 0.250) and Basmann statistics (9.15, p>0.250) (Wijethilake, Munir, & Appuhamy, 2017), and an F-Test (16.91, p> 0.000). (2) Underidentification tests: Anderson canon. corr. LM statistic (5.01, p>0.004), and Kleibergen-Paap rk LM statistic (8.24, p>0.001). (3) Weak identification test statistics of Cragg-Donald Wald F statistic (455), and Kleibergen-Paap rk Wald F statistic (21), together with Stock-Yogo's critical values (Stock and Yogo, 2005). These values are well above the Stock-Yogo's critical values at all levels (19.93 at 10%, 11.59 at 15%, 8.75 at 20%, and 7.25 at 25%; Stock and Yogo, 2005). These findings support the rejection of the null hypothesis of underidentification, as well as the instrumental variables poor instrument validity. This supports the decision to use treatment status (Treated Firms) as the instrumental variable (Larcker and Rusticus, 2010). With these results we can confirm the assumptions and proceed to use the Fuzzy RDD model.

3.3 Data

We collect data from Bloomberg on the ESG reporting and financial information of EU firms from 2012 through to 2020. Bloomberg's database is largely used by analysts and researchers for market, financial, and other corporate data. The ESG scores provided by Bloomberg come from firm-sourced reports that include sustainability initiatives or CSR reports, annual reports, websites, news, and a survey created by Bloomberg that requests information directly from the firms. The transparency of the scores, and the wide coverage of them by this data provider, enables the direct examination of the quality level of information disclosure between firms. Currently Bloomberg include the ESG scores of around 11,500 firms based in 83 countries.

Panel A of Table 3 presents the sample summary statistics and descriptive statistics from 2012 to 2020. The correlation matrix of the main variables is presented in Panel B of Table 2.

TABLE 3

Panel A: Summary Statistics from 2012 to 2020

Variables	Mean	Std. Dev.	min	max	N
(1) Tobin´s Q	.485	.859	-3.502	10.037	21,815
(2) Treated Firms	84.309	375.986	-5.851	8629.645	21,815
(3) Treatment Status	.356	.479	0	1	21,815
(4) NFI Disclosure	8.022	17.097	0	75.094	21,815
(5) Leverage	.59	2.979	0	399.351	21,815
(6) ROA	-3.047	45.481	-4006.332	1905.014	21,815
(7) State Ownership	1.58	9.325	0	100	21,815
(8) Environmentally sensitive industries	.471	.499	0	1	21,815
(9) Cross Listing	.692	.461	0	1	21,815
(10) Mandatory Before	.646	.478	0	1	21,815
(11) Size	18.859	2.632	3.332	28.276	21,815
(12) Country	18.727	9.074	1	30	21,815
(13) Industry	230.468	149.514	1	523	21,815
(14) Y	2016.879	2.432	2012	2020	21,815

Panel B: Descriptive Statistics for the Sample and Correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) Tobin´s Q	1.000													
(2) Treated Firms	-0.062	1.000												
(3) Treatment Status	-0.128	0.169	1.000											
(4) NFI Disclosure	-0.072	0.259	0.200	1.000										
(5) Leverage	0.081	0.007	0.001	0.006	1.000									
(6) ROA	-0.165	0.036	0.143	0.076	-0.335	1.000								
(7) State Ownership	-0.150	-0.054	0.162	0.124	0.010	0.020	1.000							
(8) Environmentally sensitive industries	-0.035	0.058	0.065	0.037	0.007	-0.009	-0.021	1.000						
(9) Cross Listing	-0.104	-0.036	0.184	0.240	-0.011	0.048	0.137	-0.037	1.000					
(10) Mandatory Before	0.221	0.083	-0.028	0.097	0.006	-0.094	0.010	-0.018	-0.100	1.000				
(11) Size	0.143	0.416	0.492	0.585	-0.009	0.167	-0.007	0.066	0.197	0.103	1.000			
(12) Country	0.183	-0.069	-0.177	-0.055	0.003	-0.100	0.037	0.011	-0.010	0.265	-0.157	1.000		
(13) Industry	-0.031	-0.020	-0.035	0.024	-0.002	-0.017	0.064	0.135	0.025	0.000	-0.036	0.041	1.000	
(14) Y	0.101	0.030	-0.276	0.025	0.006	-0.022	-0.373	-0.039	-0.075	0.082	0.079	0.001	-0.041	1.000

The period covered by the data we collected is from 2012 to 2020, as this was the available data at the onset of our study. The full sample used in this study considers non-missing data on number of employees, total assets, total liabilities, revenue, book value of equity, and return on assets (ROA). From a full sample of 8,020 firms, the final sample was reduced to 4,940 firms for the study period due to the restrictions of the data. For the period of 2017 (when the regulation enters into force) to 2020, 2,177 firm-year observations are treated, and 9,078 firm-year observations are classified as untreated. All the data, when applicable, are measured in US dollars. We used the inflation rates between US dollars (USD), Euro (EUR), and all the other currencies from the European Statistics (Eurostat). The inflation Harmonised Indices of Consumer Prices (HICPs) are designed for international comparisons of consumer price inflation and are used by the European Central Bank for the monitoring of inflation in the Economic and Monetary Union (Eurostat, 2022).

Panels A and B of Table 4 contain the distribution of the sample by industry using BICS Equity Hierarchy from Bloomberg and country. In Panel A the results show that Consumer Discretionary and Health Care are the industries in the sample which have more observations. Similarly, Energy and Technology are the industries with a more even distribution of treated and untreated firms. Panel B shows that Sweden and the UK are the countries in the sample with more observations, followed by France and Germany. The countries with a higher percentage of treated firms are Luxembourg and Austria.

TABLE 4

Industry and Country Distribution

Panel A: Industry-wise Distribution

Industry BICS Level 1	UNTREATED	TREATED	%
Consumer Discretionary	64.3%	35.7%	18.4%
Consumer Staples	53.2%	46.8%	8.5%
Communication	71.2%	28.8%	6.6%
Energy	49.2%	50.8%	4.1%
Financial	77%	23%	10%
Health Care	84.3%	15.7%	9.8%
Industries	65.5%	34.5%	17.2%
Material	63.4%	36.6%	7.8%
Technology	72.7%	27.3%	14.8%
Utilities	27.3%	52.3%	2.7%
Total	67.3%	32.7%	100%

Panel B: Sample Constituents by Country

Country	UNTREATED	TREATED	%
Austria	37.9%	62.1%	1.4%
Belgium	48.6%	51.4%	1.9%
Bulgaria	90.4%	9.6%	0.4%
Croatia	67.4%	32.6%	2.4%
Cyprus	78.3%	21.7%	0.6%
Czech Republic	53.3%	46.7%	0.2%
Denmark	58.4%	41.6%	3%
Estonia	50.9%	49.1%	0.4%
Finland	59.0%	41%	3.7%
France	61.4%	38.6%	10.2%
Germany	70.9%	29.1%	9.9%
Greece	60.2%	39.8%	4.1%
Hungary	66.7%	33.3%	0.5%
Iceland	69.7%	30.3%	0.5%
Ireland	58.7%	41.3%	0.8%
Italy	65.0%	35%	6.8%
Latvia	65.4%	34.6%	0.4%
Lithuania	43.5%	56.5%	0.6%
Luxembourg	31.9%	68.1%	0.5%
Malta	78.9%	21.1%	0.3%
Netherlands	48.7%	51.3%	2.1%
Norway	69.0%	31%	3.6%
Poland	69.2%	30.8%	8.5%
Portugal	41.8%	58.2%	0.9%
Romania	69.9%	30.1%	2%
Slovakia	81.3%	18.8%	0.4%
Slovenia	53.1%	46.9%	0.7%
Spain	50%	50%	3.7%
Sweden	76.6%	23.4%	17.2%
United Kingdom	82%	18%	12.3%
Total	67.3%	32.7%	100%

Our full sample consists of 8,020 firm-year observations over the period 2012–2020. In Panel A of this table, we present the industry-wise distribution of the sample.

3.4 Measures and Variables

The construction of these variables is explained in detail in the Appendix.

Dependent Variables

Tobin´s Q. Widely used as a measurement for firm value, this indicator represents the present and future valuation of a firm (Ioannou & Serafeim, 2019; Manchiraju & Rajgopal, 2017; Zhang et al., 2020), previous research has identified this measure as problematic when used to evaluate financial performance with respect to ESG criteria.

The concerns stem from the potential for bias against sustainable firms in the results (see Gregory, 2021). Nevertheless, the application of Tobin's Q remains suitable provided that a non-parametric approach, such as an RDD model, is employed to address this issue (Gregory, 2021). Following Manchiraju and Rajgopal (2017), we use the natural logarithm of Tobin´s Q, calculated as the sum of total assets and market value of equity, less common book equity, divided by total assets.

Explanatory Variables

Treated Firms. Running variable that corresponds to the distance between firm size (new rating variable *M* considering whether the number of employees is over 500 and the minimum of the two individual rating scores based on net turnover, and balance sheet following a binding-score regression discontinuity) and the normalised cut-offs (Reardon & Robinson, 2012).

Instrumental Variable

Treatment status. Dummy taking the value 1 if firms are considered to be large by the Directive 2014/95/EU (more than 500 employees and a net turnover of over 40 million euros or, a balance sheet of over 20 million euros) and 0 otherwise. This variable is also the instrumental variable in the models.

Instrumented Variable

NFI Disclosure. A dummy variable that shows if firms have ESG disclosure scores. The values are "1" if the company is disclosing ESG initiatives and "0" if not (Ioannou & Serafeim, 2019).

Moderating Variables

State Ownership: This variable (i.e., the extent to which the state participates in each business) is measured by the percentage of shares of state-owned assets across the total assets of the firm following the study by Wang, Hong, Kafouros, and Wright (2012) and Wang, Yi, Kafouros, and Yan (2015).

Environmentally Sensitive Industries. Dummy variable which takes the value of 1 if the firm belongs to an environmentally sensitive industry and 0 otherwise. This study considers a 3-digit North American Industry Classification System (NAICS) which includes all industries that are considered to be environmentally sensitive by this

classification, such as mineral extraction, oil and gas, energy, forestry, chemicals, construction materials, and steel (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013; Cho & Patten, 2007; Garcia et al., 2017; Reverte, 2009).

Control Variables. We control for other firm attributes that are likely to affect Tobin´s Q and the stakeholders exposure following previous literature (Ioannou & Serafeim, 2019; Liesen et al., 2015). At the firm level, this study controls for *Size*, which is the average natural logarithm of the market capitalisation of all sample firms in an industry (Serafeim & Ioannou, 2019). To account for firm profitability, we use return on assets (*ROA*), which is a financial ratio that indicates how profitable a company is in relation to its total assets (Fiechter et al., 2018). In addition, we control for *Leverage* (total liabilities over total assets) which has been shown to be a determinant of Tobin's Q (Ioannou & Serafeim, 2019). For the model using the sample from 2017-2020, we employ *Mandatory Before*. This variable is a dummy indicator that shows if firms were based in countries with previous non-financial regulations before the Directive 2014/95/EU. The values are "1" if the company is based a country with previous regulation and "0" otherwise (Ioannou & Serafeim, 2019). Lastly, we include fixed effects at the calendar year, with standard errors clustered at the firm level (Nguyen et al., 2020). The construction of the variables is further detailed in Appendix Table A1.

4. Results

4.1 Simple Regression Discontinuity Design (Simple RDD)

We applied to all models a non-parametric local linear estimation with a triangular kernel and the MSE-optimal bandwidth (first-order polynomial) following Imbens and Kalyanaraman (2012) to create our RDD sample.

We start with a simple Sharp RD Design, as in Equation 1, to assess the impact of the treatment effect on firm value:

1) Tobin´s $Q_{it} = \beta_o + \beta_1$ Treated firms + β_2 Leverage $_{it} + \beta_3$ *ROA* $_{it} + \beta_4$ *Mandatory Before* $_{it} + \beta_5$ Size $_{it} + \beta_6$ *Cross Listing* $_{it}$ + *Fixed Effects*

TABLE 5

Simple Regression Discontinuity Design (Sharp RDD)

	(1)	(2)	(3)	(4)
	Simple RD Design		**GLS Regression**	
Year	2012-2016	2017-2020	2012-2016	2017-2020
Dependent variable	Tobin´s Q		Tobin´s Q	
Treated Firms	0.16 ***	0.26***	-0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
*Treated Firms * Treatment Status*	-	-	0.001***	0.002***
	-	-	(0.000)	(0.000)
Treatment Status	-	-	-0.14***	-0.24***
	-	-	(0.000)	(0.000)
Leverage	-	-	0.05	0.012***
			(0.333)	(0.000)
ROA	-	-	-0.003**	--0.001
			(0.003)	(0.303)
Mandatory Before	-	-	0.37***	-
			(0.000)	-
Size	-	-	0.2***	0.24***
			(0.000)	(0.000)
Observations	7,950	10,020	7,169	10,020
Year FE	YES	YES	YES	YES
Adj. R-squared	-	-	0.06	0.4

* Simple RDD = The results in columns (1) and (2) are obtained using a pooled non-parametric approach with a triangular kernel and **rdrobust** on STATA. All estimations use the optimal bandwidth following Imbens and Kalyanaraman (2012). GLS = generalised least squares; Columns (3) and (4) report the regression discontinuity estimates of change in the measures of firm value as a result of the treatment (being subject to the regulation regarding mandatory NFR). Time fixed effects are included in all regressions and observations are clustered at the firm level. * p < .10; ** p < .05; *** p < .01.

In Table 5, the models confirm that larger firms affected by the Directive see a positive impact on their firm value. Models (2) and (4) show the results after the implementation of the Directive and Models (1) and (3) show the results before its implementation. The estimated coefficients of *Treated* for the total value (Tobin´s Q), before the implementation of the Directive, are positive and significant ($b = 0.16$, $p < .00$; $b = 0.001$, $p < 0.00$), and positive and significant ($b = 0.26$, $p < 0.00$; $b = 0.002$, $p < 0.00$) after the implementation, suggesting that firms increase their value when they are subject to the mandatory regulation of NFR. Nonetheless, the results do not convey the magnitude of the impact of ESG/CSR activity disclosure with this specification, because the model assumes perfect compliance by the treated firms. As a result, the main specification will be converted into an RDD in a 2-stage least square (2SLS) model framework to consider only the compliers.

4.2 Main Specification Fuzzy RDD 2SLS

2) *1st stage: NFI Disclosure $_{i,t}$ = β_o + β_1 Treatment Status + β_2 Leverage $_{i,t}$ + β_3 ROA $_{i,t}$ + β_4 State Ownership $_{i,t}$ + β_5 Environmentally sensitive industries $_{i,t}$ + β_6 Size $_{i,t}$ + Fixed Effects*

3) *2nd stage: Tobin´s Q $_{i,t}$ = β_o + β_1 NFI Disclosure t $_{i,t-1}$ + β_2 Assignment $_{i,t}$ + β_3 Assignment * Treatment Status + β_4 Treatment Status $_{i,t}$ + β_5 State Ownership $_{i,t}$ + β_6 Environmentally sensitive industries $_{i,t}$ + β_7 Leverage $_{i,t}$ + β_6 ROA $_{i,t}$ + β_8 Size $_{i,t}$ + Fixed Effects*

In the first stage, the running variable is predicted using the *treatment status* (firms above the cut off) and a set of controls. In the second stage, the predicted running variable from the first stage *NFI Disclosure $_{i,t}$* on *Tobin´s Q $_{i,t}$* (for industry $_i$, and year $_t$) is run while controlling for the set of variables and a set of fixed effects. As in the previous RDD model, the results are obtained using a pooled non-parametric approach with a triangular kernel (Dong, 2018; Manchiraju & Rajgopal, 2017; Valentim et al., 2021). All estimations use the optimal bandwidth following Imbens and Kalyanaraman (2012).

The Fuzzy RDD 2SLS (Table 6) reveals that the impact of disclosure on firm value is different when compared to the simple RDD specification (Table 5). Specifically, the simple RDD coefficients appear to underestimate the true effect of Directive 2014/95/EU due to the Treated variable's inability to distinguish between firms that comply with the regulation and those that simply explain why they are not reporting, as indicated in Table 5. In Table 5, the results show that treatment status has a positive impact on firm value, but the results in Table 6 demonstrates that only when firms disclose their ESG practices and adhere to the Directive do significant increases in firm value occur.

Table 6

Fuzzy RDD 2SLS

	(1)	(2)	(3)	(4)	(5)	(6)
First stage estimates	*Tobin´s Q ratio, 2012-2020*			*Tobin´s Q ratio, 2017-2020*		
Treated Firms	0.13*	0.87**				
	(0.064)	(0.018)				
Treatment effect estimates						
*Treated Firms**	1.23**	0.19**	0.7***	0.7***	0.73***	0.75***
NFI Disclosure	(0.003)	(0.048)	(0.000)	(0.000)	(0.000)	(0.000)
*Treated Firms**				-0.26**		-0.38**
*NFI Disclosure**	-	-	-	(0.027)	-	(0.045)
State Ownership						
*Treated Firms**						
*NFI Disclosure**					0.1**	0.1**
Environmentally	-	-	-	-	(0.006)	(0.046)
sensitive						
industries						
Leverage	-	-	0.23***	0.24***	0.23***	0.23***
			(0.000)	(0.000)	(0.000)	(0.000)
ROA	-	-	0.17***	0.17***	0.17***	0.2***
			(0.000)	(0.000)	(0.000)	(0.000)
State Ownership	-	-	-0.37***	-0.8	-	0.1*
			(0.000)	(0.582)		(0.059)
Environmentally						
sensitive	-	-	-0.1**	-	-0.1*	-0.1*
industries			(0.016)		(0.069)	(0.059)
Size	-	-	0.3***	0.28***	0.3***	0.3***
			(0.000)	(0.000)	(0.000)	(0.000)
Observations	12,019	6,635	1,157	1,466	2,678	1,739
Year FE	YES	YES	YES	YES	YES	YES
Adj. R-squared	-	-	0.045	0.032	0.47	0.45

* Fuzzy RDD = The results in column (1) and (2) are obtained using a pooled non-parametric approach with a triangular kernel and **rdrobust Fuzzy** option on STATA. All estimations use the optimal bandwidth following Imbens and Kalyanaraman (2012). 2SLS= Two-Stage least squares; Columns (3) to (6) report the results using a subsample non-parametric regression using treatment (complying with the regulation regarding mandatory NFR) as an IV. Time fixed effects are included in all regressions and observations are clustered at the firm level. * p < .10; ** p < .05; *** p < .01.

While previous research suggests that voluntarily adopting ESG-related practices might increase firm value by improving transparency and accountability (e.g., Fatemi et al., 2018; E. P. yi Yu et al., 2018), and by increasing shareholder wealth and utilities (as discussed by Gillan, Koch, & Starks, 2021), the findings of this study suggest that reporting ESG data in a mandatory context may also produce some of these effects, thereby contributing to long-term value. Furthermore, our findings corroborate the research conducted by Ioannou and Serafeim (2019), supporting the notion that the implementation of the Directive contributes to an increase in value for compliant firms.

Lastly, we use two different moderators as proxies for pressure exerted by external groups. These are *State Ownership* as a proxy for pressure from the state and *Environmentally sensitive industries* as a proxy for pressure from the public.

The results for H2a. indicate that the pressure from the state is negative and significant. High levels of *State Ownership* do affect treated firms and their value (b=-0.26, p>0.05). These findings are in line with prior research such as Ramaswamy (2001) whose results show that state-owned firms do not perform as well as their private sector counterparts and this is highly dependent on the intensity of competition.

For H2b, the results for *Environmentally sensitive industry* suggest a positive and significant effect on firm value (b= 0.1, p < 0.05). These results are in line with Garcia, Mendes-Da-Silva, and Orsato (2017) and Reverte (2009), whose findings suggests that firms in ESI have higher levels of voluntary disclosure and visibility than their peers, which can lead to higher returns (see Brooks & Oikonomou, 2018). The findings imply that, in a mandatory setting, NFI disclosure can contribute to long-term value through visibility in firms in environmentally sensitive industries.

For the full model in Table 5, the findings in column (5) indicate a positive and significant relationship between mandatory NFR compliance and firm value, with state ownership and firms in ESI strengthening the relationship. The results are in line with the study by Alshbili, Elamer, and Beddewela (2019), which shows that when preparing their annual reports, state-owned firms increase their disclosure of NFI in sensitive industries that are facing legitimacy issues related to the environment. Likewise, the results support the findings by Ioannou and Serafeim (2019) that suggest a positive relationship between ESG disclosure level and firm value in a mandatory context.

4.3 Further Analysis and Robustness Checks

We perform a battery of robustness tests to ensure that our results are robust to model specifications and measurement issues (see Table A2 in the Appendix). First, we add a second and third order polynomial, seen in columns (2) and (3) of Table A2, Panel A. Second, in Table A2, Panel A, column (4) we added a lagged dependent variable obtained by using the empirical averages of the lagged Tobin's Q ratio in the period before the policy change (2012-2016) following Dechezleprêtre, Einiö, Martin, Nguyen, and Reenen (2016) with similar results to the main findings. Additionally, the

results are also robust when removing sub-industry (column 5), country (column 6) and both fixed effects (column 7). Finally, instead of using Tobin´s Q as the dependent variable we use Market-to-Book ratio (column 8) following Varaiya, Kerin and Weeks (1987) and Eccles et al., (2014). These new models produce similar results to the main models.

Furthermore, we undertake a further analysis to assess whether the discontinuity remains significant when we narrow the sample bandwidth or when we give more weight to firms closer to the asset threshold (Panel B of Table A2). Following Lee and Lemieux (2010), we experiment with different bandwidths and choose the largest possible bandwidth (column 4) that passes the bin and the regression test in our main models to then use a small bandwidth (column 3) to reduce the bias of the treatment effect. In addition, we follow Dong (2018) and run the model using different alternative kernel choices with similar results (columns 5 to 7). Finally, the estimates are robust to the choice of winsorization at 1% and 5%.

5. Discussion and Conclusion

As NFR is becoming institutionalised around the world, scholars have investigated what drives the disclosure of such information (Baldini et al., 2018; Reverte, 2009). Moreover, one of the most debated questions in the literature corresponds to the disclosure of ESG/CSR activities and its effect on firm value (see Gillan et al., 2021).

In this study, we argue that firms that comply with a regulation regarding NFI disclosure, such as the Directive 2014/95/EU, will increase their firm value. More specifically, the study explores the effects on compliance of this regulation for firms in the EU and EEA countries. Additionally, to enhance the understanding of this effect on compliers, we investigated how this relationship is affected by pressure from external groups, such as the state and the public (Liesen et al., 2015). Using the Directive 2014/95/EU as a quasi-natural shock, we demonstrated that as NFR becomes an institutionalised practice among large European firms, compliance with the regulation can make firms appear more legitimate to investors and stakeholders, resulting in higher market values.

The research contributes by expanding and building upon the existing literature on institutional theory and stakeholder theory. Specifically, we expand upon the findings of Ioannou & Serafeim (2019) by extending the analysis to diverse settings

such as the European Union and EEA countries. The results provide evidence that suggest a positive link between compliers and firm value, thus the study contribute to the development and institutionalisation of what has been labelled in previous works the *"business case for sustainability"* (Serafeim & Ioannou, 2019, p.9).

First, drawing on institutional theory and previous research on NFI, this study posits that mandatory regulations on NFI disclosure, such as Directive 2014/95/EU, have an impact on the legitimacy and reputation of compliant firms, potentially resulting in an increase in their firm value. By focusing on the impact of compliance with the Directive 2014/95/EU, particularly in the post-implementation phase, this study offers valuable insights into how enhanced transparency and accountability through the disclosure of NFI can contribute to the generation of firm value. Similarly, the findings suggest that the coercive pressure exerted by regulations on NFI disclosure does not lead to negative externalities.

Additionally, the study offers insights that challenge the perspective of ESG/CSR regulations as detrimental to shareholder value, as it finds evidence suggesting that firms choosing to comply and disclose ESG/CSR information experience more advantages. These findings contradict the notion that regulations would lead to value destruction for firms, as proposed by Manchiraju & Rajgopal, (2017), Milton Friedman, (1970) and supported, in the context of mandatory NFI regulations, by Chen et al. (2018), Grewal et al., (2018).

Second, this study expand the literature that examine the role of powerful stakeholders and CSR practices (e.g., Li et al., 2018; Liesen et al., 2015; Wijethilake & Lama, 2018) by examining the influence of external pressures on firm value within the context of mandatory NFI regulations. The findings reveal variations in firms' value creation based on stakeholder pressure, such as the state and the public, addressing a gap identified in previous literature, as highlighted by Christensen et al. (2021) and Ioannou & Serafeim (2019). The findings of this study imply that Directive 2014/95/EU has the potential to influence investment decisions and attract specific audiences, all of which can contribute to increased firm value.

In contrast to previous studies that primarily analyse the impact of Directive/95/EU before its implementation (i.e., when it was announced in 2014) (e.g., Allman & Won, 2021; Fiechter et al., 2018; Grewal et al., 2018), this study adopts a

different approach by also investigating the post-regulation effects on firm value. By exploring this post-implementation phase, the study sheds light on the potential advantages that compliant firms can gain from disclosing ESG/CSR data. Additionally, this research expands the existing literature on mandatory NFR and the implementation of Directive/98/EU by examining the involvement of external groups in value creation, an aspect that has not been thoroughly explored in previous publications.

Lastly, we address methodological concerns by employing a Fuzzy regression discontinuity approach. One of the main methodological benefits of this design is its close relation to a randomised experiment (Lee & Lemieux, 2010), allowing us to establish a potentially causal link between NFR and firm value. With a discontinuity around the regulatory changes regarding NFR (i.e., the Directive 2014/95/EU) that separate untreated from treated firms, we can examine whether changes in firm value can be attributed to NFR, thus contributing to the literature with robust results that mitigate endogeneity concerns. We show that firms required to report their NFI increase their Tobin's Q,

The findings should be of relevance to regulators and policymakers, in particular those from EU/EEA countries, who have mandated or are considering implementing sustainability reporting. In this paper, we consider the impact of mandatory NFR on firm value in the world's major trading power and third largest economy, as well as in a scenario where countries with slightly different economies are mandated to report and find positive results. These findings imply that regulations regarding ESG/CSR information implemented by governments and regulators can result in, not only transparent and high-quality information, but also financial benefits for compliers. The results show that these benefits are more visible for firms near the cut-off, than for larger firms. Hence, the results also show that the regulation does not constrain growth for firms that are subject to the mandatory aspects of the regulation. As mentioned earlier, the target audience for NFR is not limited to a firm's investor base, as is the case with financial information reporting. Rather, by reporting ESG/CSR information, businesses aim to educate a broader and more diverse group of stakeholders and investors about a variety of environmental, social, and governance (ESG) practices and its scores. As a result, it is critical for policymakers and investors to focus on the quality of disclosures and the transparency of reports in order to

significantly reduce the risks associated with sustainability activities and potential greenwashing (Cho & Patten, 2007).

This study's main limitation is that it analyses a piece of legislation in a specific context, meaning that the findings cannot be easily generalised and applied to other countries or regions. Moreover, as more countries adopt reporting formats and frameworks, such as ISO 26000, UN Global Compact, etc., additional research is needed to gain a fuller understanding of how standardisation can help investors in their decisions and how this may eventually affect firm value (see Jackson et al., 2020). Additionally, given the EU's relatively undeveloped stage of mandatory NFR, stakeholders may be content simply for companies to be participating in the process at this point, and that they may eventually apply more pressure on managers to increase the quality of their reporting (Wernicke, 2018). Lastly, since the regulation only came into effect for the fiscal year beginning 1st January, 2017, we expect that the results may change in the future as firms' attitudes toward transparency and ESG/CSR actions evolve, and thus future research can complement these findings.

The results of this study show that when treated firms are subjected to higher levels of scrutiny by external groups, their value increases, indicating that investors and stakeholders may reward firms that behave in a socially responsible manner. Since the focus of this study is on EU firms and the impact of mandatory NFI regulations on firm value, rather than the volume or quality of disclosures that firms provide, more research is needed to fully understand the repercussions of Directive 2014/95/EU or mandatory NFR requirements. Future research should explore the role of the materiality of ESG/CSR information at the firm and industry levels, and how this may lead to convergence/differentiation in the levels of ESG scores, which may eventually translate into strategic disclosure decisions, and thus increased firm value.

Despite the limitations mentioned above, the findings are consistent with earlier research, which implies that mandated NFR is likely to create value for treated firms, on average, and that external pressure on treated firms affects this positive relationship.

Appendix

Table A1. *Variable Definitions*

Dependent variable	
Tobin´s Q.	Widely used as a measurement for firm value, this indicator represents the present and future valuation. (book value of total assets + market value of equity –common book equity)/ total assets
Explanatory variables	
Treated Firms	Indicator variable that equals "1" if the firm's binding score rating variable M> 0. The variable M is defined considering the number of employees over 500 and the minimum of the two individual rating scores R1, and R2, which are in turn described as (Net Turnover–40)/40, and (Balance sheet – 20)/20, which determines whether or not a firm is affected by the mandatory NFR rule. Net Turnover and Balance sheet correspond to data from fiscal year. When necessary, the data was converted using the European Statistics Institute's inflation rates (Eurostat) between US dollars (USD) and Euros (EUR). The EU 40 million Net Turnover, and EU 20 million Balance Sheet are the two cut-offs specified in the mandatory NFR rule. If a firm has over 500 employees and a Net turnover and/or a balance sheet above these cut-offs, the firm is then required to report on their NFI.
Instrumental Variable	
Treatment status	Dummy taking value of "1" if firms are considered large by the Directive 2014/95/EU and "0" otherwise. Instrumental Variable.
Instrumented Variable	
NFI Disclosure.	A dummy variable that shows if firms are reporting and have ESG disclosure scores according to Bloomberg database. The values are "1" if the company is disclosing ESG initiatives and "0" if not.
Moderating variables	
State Ownership	State ownership is the percentage of shares owned by individuals and institutions by the ownership type based on Bloomberg classification, for this study, this being government ownership. The percentages are based upon publicly reported holdings collected by Bloomberg, not total shares outstanding (Bloomberg database).
Environmentally sensitive industries	Dummy variable which takes the value of 1 if the firm belongs to environmentally sensitive industries according to the North American Industry Classification System (NAICS), and 0 otherwise.
Control variables	
Size	Natural log of the market capitalisation (market capitalisation = Monetary value of all outstanding shares stated in the pricing currency. Capitalisation is a measure of corporate size.)
ROA	Indicator of how profitable a company is relative to its total assets, in percentage. Return on assets gives an idea as to how efficient management is at using its assets to generate earnings. (Trailing 12M Net Income / Average Total Assets) * 100
Leverage	Total liabilities over total assets
Mandatory Before	A dummy variable that shows if firms were based in countries with previous non-financial regulations before the Directive 2014/95/EU. The values are "1" if the company is based a country with previous regulation and "0" otherwise

Table A2 *Robustness checks for Tobin´s Q regressions Fuzzy RDD*

Panel A	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable	*Tobin´s Q ratio, 2017-2020*							*MBV*
Specification	*2017-2020*	*Higher order polynomial controls*		*Lagged dependent variable controls (LDV)*	*SubInd/Country - SubInd*Country fixed effects*			*2017-2020*
Above Large firms' threshold[1]	*3.5.**	*3.7***	*3.1***	*3.1**	*3.2**	*3.1*	*2.9**	*2.5****
Lagged Tobin´s Q ratio				*0.63***				
Polynomial controls	*1st order*	*2nd order*	*3rd order*	*1st order*	*1st order*	*1st order*	*1st order*	*1st order*
Year of LDV				*2012-2016*				
Fixed effects	*Year / SubIndustry / Country*				*Year*			*Year*
Number of firms	*5,507*	*5,507*	*5,507*	*4,490*	*5,078*	*5,078*	*5,078*	*3,800*

This table presents further analysis and robustness checks. The dependent variable is Tobin's Q between 2017 to 2020. In column (1) we present the results using the first polynomial and in columns (2) and (3) we add a second and third order polynomial. In column (4), we show the results with a lagged dependent variable obtained by using the empirical averages of the lagged Tobin's Q ratio in the period before the policy change (2012-2016). In columns (5) and (6) industry and Country fixed effects are removed, respectively. In column (7), both fixed effects are removed. Finally, in column (8) instead of using Tobin´s Q as the dependent variable we use Market-to-Book ratio. Controls include all other firm-level characteristics included in Panel A. *p < 0.1; **p < 0.05; ***p < 0.01. [1]According to the Directive 2014/95/EU.

Panel B	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dependent variable	*Tobin´s Q ratio, 2017-2020*								
Specification	*Alternative bandwidth around the threshold*				*Alternative kernel weight*			*Alternative winsorization parameter*	
Above Large firms' dummy	*2.2****	*0.8***	*1.54****	*1.5****	*2.3****	*3.4***	*1.54****	*1.54****	*1.53****
Sample running variable	*Balanced sheet EUR 20 million*	*Net Turover EUR 40 million*	*-0.2 – 0.2 variable M*	*-1.0 – 1.0 variable M*	*Mserd variable M*	*Mserd variable M*	*Mserd variable M*	*Mserd variable M*	*Mserd variable M*
Kernel weight					*Epa*	*Uniform*	*triangular*		
Winsorization window								*1%*	*5%*
Number of Obs.	*3,366*	*3,492*	*2,010*	*4,100*	*3,800*	*3,800*	*3,800*	*3,800*	*3,800*

Note: *** significant at 1% level, ** 5% level, * 10% level. OLS estimates based on the RD design. The rating variable M is the running variable that is considered to be the minimum of the two individual rating scores based on net turnover, and balance sheet (where each score is first centered around its cut-off score), of firms with over 500 employees during the financial year. Panel A: Column 1 are the results using a first polynomial of the running variable. Columns 2-3 control for second or third order polynomials of running variable. Column 4 adds lagged dependent variable controls. Columns 5-7 add industry (3-digit BICS), a dummy variable for countries, and industry x country fixed effects. Column 9 uses Market to Book Value as the dependent variable. Panel B: Columns 1-4 use samples with different sample bandwidths around the threshold. Columns 5-7 use Epanechnikov, triangular, and uniform kernel weights. Columns 8-9 use samples with different winsorization parameters.

Chapter 3:
Conformity Versus Differentiation: ESG Materiality Reporting and Financial Performance in EU firms

Conformity Versus Differentiation: ESG Materiality Reporting and Financial Performance in EU Firms

Abstract

Expanding the emerging new research on optimal distinctiveness, this study investigates the impact of distinctiveness in ESG material information on firm value and explores how other sources of legitimacy can influence this relationship. Using ESG materiality scores from the Bloomberg database and listed EU firms' data from 2016 to 2020, the findings suggest that as ESG disclosure becomes an institutionalised practice among European firms due to Directive 2014/95/EU, a positive relationship between the extent of material ESG disclosure and firm value occurs, with the highest and lowest levels of distinctiveness yielding the most pronounced effects. Furthermore, the findings indicate that analyst earnings forecasts play a crucial role in granting an additional source of legitimacy for firms, providing a buffer-effect that allow them to exhibit a certain degree of nonconformity without compromising their overall legitimacy.

Keywords: Sustainability, non-financial reporting, disclosure, materiality, optimal distinctiveness, mandatory regulations.

1 Introduction

In strategic management and organisational theory, one of the main tensions that has held the interest of scholars is the balance between these two contradictory tendencies: on the one hand, the need to conform to practices and expectations widely used by other organisations, and on the other hand, the need to differentiate themselves from others to remain competitive (Barlow, Verhaal, & Angus, 2019; Zuckerman, 2016). Different studies have focused on the optimal point at which both tensions are balanced, and firms are as different as legitimately possible, usually concentrating on well-known practices and issues that assist in the integration of institutional theory into strategic management (Brewer, 1991; Chen & Hambrick, 1995; Deephouse, 1999).

However, the latest studies on optimal distinctiveness theory are calling for more consideration to be given to the complexity of the activities required to achieve optimal distinctiveness (Zhao et al., 2016), as well as the context and contingencies in which firms develop those activities (Zhao & Glynn, 2022). Indeed, according to Zhao et al. (2016), recent advances in institutional theory that consider institutional environments as being complex and dynamic (e.g., Rao, Monin, & Durand, 2003) should be taken into consideration when researching optimal distinctiveness. Neglecting to account for these factors can complicate the measurement of differentiation and legitimacy, owing to the distinctive nature of each context and audiences (Taeuscher et al., 2021; Taeuscher & Rothe, 2021). Recent research suggests that what may be perceived as a liability of distinctiveness, such as reduced legitimacy, can vary across different markets (Haans, 2019). While new research on optimal distinctiveness suggests that conformity is just one side of legitimacy, and firms have multiple sources of legitimacy that they can utilize to enhance their optimal distinctiveness (Aldrich & Fiol, 1994; Taeuscher & Rothe, 2021), there is limited understanding regarding how the complexity of practices can impact the relationship between distinctiveness and firm performance across heterogeneous contexts and audiences (e.g., Taeuscher & Rothe, 2021; Zhang et al., 2020).

Therefore, we build on these new studies on literatures on optimal distinctiveness (Taeuscher & Rothe, 2021; Zhao et al., 2016; Zhao & Glynn, 2022) and in the context of corporate social responsibility (CSR) and more specifically, material non-financial information (NFI) disclosure (Barnett & Salomon, 2012; Khan et al., 2016; Spandel et al., 2020) to investigate the impact of distinctiveness in material

NFI on firm value and explore how other sources of legitimacy can influence this relationship.

We positioned the study in the context of mandatory NFI disclosure, specifically focusing on the use of ESG material disclosure for different reasons. One, NFI, which refers to data and disclosures related to a firm's environmental, social, and governance (ESG) practices is important because it provides stakeholders, such as investors, customers, and employees, with valuable insights into a firm's sustainability practices and its impact on society and the environment. Material NFI focuses specifically on information that is relevant and significant for stakeholders in making informed decisions and encourages firms to operate in a responsible and sustainable manner. This type of information is considered better because it provides a more comprehensive understanding of the firm's ESG activities and their impact on stakeholders, allowing for more accurate assessments of the firm's value and risk. By examining material NFI, the study can explore how firms navigate the dual challenges of meeting stakeholder expectations for legitimacy while seeking to establish a unique identity in the market. Moreover, previous studies have established that firms that disclose NFI can achieve positive financial benefits, particularly in firms with high material ESG performances (e.g., Spandel, Schiemann, & Hoepner, 2020). Likewise, firms that disclose NFI attract dedicated institutional investors and analyst coverage, thus leading to improved analyst earnings forecasts (Dhaliwal, Li, Tsang, & Yang, 2011), while for firms in stakeholder-oriented countries this effect tends to be stronger (Dhaliwal, Radhakrishnan, Tsang, & Yang, 2012). Hence, the disclosure of material non-financial information (NFI) represents a multifaceted and intricate practice through which firms can attain both legitimacy and differentiation in the eyes of stakeholders.

Consequently, we focus on this important source of legitimacy to investigate how key audiences can shape the relationship between the distinctiveness of ESG material scores and firm value. To answer this question we use a sample of EU listed firms from 2016 to 2020. Our findings suggest that as ESG disclosure becomes an institutionalised practice among European firms due to Directive 2014/95/EU, a positive relationship between the extent of material ESG disclosure and firm value occurs, with the highest and lowest levels of distinctiveness yielding the most pronounced effects. This can be attributed to the fact that firms disclosing higher levels

of material ESG practices distinguish themselves in the eyes of stakeholders, thereby enjoying the advantages associated with such differentiation. Conversely, firms that disclose low levels of material ESG practices maintain the financial resources they might have otherwise use in sustainable activities. Furthermore, our findings reveal that analyst earnings forecasts serve as an additional source of legitimacy and function as a buffer for firms. We observed that for firms with low analyst earnings forecasts, the relationship between distinctiveness and firm value appears to be less pronounced compared to firms with high analyst earnings forecasts. Moreover, the findings suggest that while these firms still benefit from distinctiveness in terms of competitive advantage, the negative impact on legitimacy is not as severe once optimal distinctiveness is achieved, although the benefits may be less significant compared to firms with analyst earnings forecasts. Additionally, for firms with analyst earnings forecasts, we discovered that as the level of analyst earnings forecasts increases, the U-shaped relationship between distinctiveness and firm value becomes more pronounced. This shift implies that firms can leverage the presence of analyst earnings forecasts as a legitimacy buffer, enabling them to maintain higher levels of distinctiveness without sacrificing value creation. In other words, the presence of analyst earnings forecasts provides firms with the ability to differentiate themselves while still preserving their firm value, a benefit that is not as prominent for firms without analyst earnings forecasts. Thus, an increase in analyst earnings forecasts can convey some degree of nonconformity, without sacrificing their legitimacy.

This study makes valuable contributions to ongoing research streams. This study contributes to the emerging new agenda in the literature on optimal distinctiveness by considering the influence of context and contingencies on the tensions between conformity and differentiation, in line with the suggestions made by Zhao & Glynn (2022). First, the study contributes to optimal distinctiveness theory by shedding light on the relationship between distinctiveness and firm performance in the specific context of mandatory non-financial information (NFI) disclosure. We focus on EU firms where NFI disclosure is mandatory, with the implementation of the Directive 2014/95/EU, and where sustainability significantly impacts business activities and analyst evaluations (Dhaliwal et al., 2012; Tsang et al., 2022). Second, by incorporating ESG material disclosure, the study enhances the understanding of optimal distinctiveness with findings that indicate that firms operating in the same

industry can experience heterogeneous liabilities associated to distinctiveness in their ESG material scores, resulting in disparities in firm value.

Based in the above, the study advances our understanding of the distinctiveness-performance relationship by revealing the influential role of key stakeholders and regulatory context. Our results support Fisher et al.'s (2016) legitimacy-buffering effect proposition and extend Taeuscher and Rothe's (2021) work. The results suggest that conformity is only one type of legitimacy that firms can use to protect against the liabilities of distinctiveness with alternative sources of legitimacy reducing firms' pressure for conformity. In the context of the study, the results indicates that firms with higher analyst earnings forecasts can convey some degree of nonconformity, without sacrificing their legitimacy.

Lastly, the findings also contribute to the literature regarding the relationship between CSR and corporate financial performance (CFP), suggesting a U-shaped relationship between firm value and distinctiveness of material ESG practice disclosure. Building upon the work of Brammer and Millington (2008) and Barnett and Salomon (2012), this study extends the analysis by considering a broader measurement that incorporates environmental, social, and governance (ESG) practices rather than solely focusing on social initiatives. Moreover, it examines how these practices influence analyst earnings forecasts and, consequently, the firm's ability to capitalize on the disclosure of such practices.

Finally, this research also has important managerial implications. Managers would benefit from paying attention, not only to the material ESG activities in the industry, but also to their own risk in relation to their ESG activities which can be material for stakeholders and investors. This can be an effective strategy when dealing with pressures during the institutionalisation of ESG disclosures, such as policies and regulations, as our findings suggest. In this way, other key actors, such as sustainable investors and stakeholders, may see how these sustainable activities are consistent with a firm's strategy and the environment within which it operates. This allows firms to extend their distinctiveness strategies, accessing alternative sources of legitimacy that can, in certain contexts such as the disclosure of material ESG, provide a buffer against the liabilities of distinctiveness.

The remainder of the paper is structured as follows. Section 2 contains the Literature Review. The Hypotheses are in Section 3. The Research Design and Sample Selection are presented in Section 4. The Results are found in Section 5, and the Conclusion and Discussion are presented in Section 6.

2. Literature Review

2.1 Optimal distinctiveness and the New Agenda

Optimal distinctiveness theory integrates arguments from strategic management and institutional theory, providing a useful conceptual focal point for studying the performance effects of distinctiveness. This theory argues that the relationship between distinctiveness and firm performance is mediated by a positive (i.e., less competition) and negative (i.e., less legitimacy) mechanism (Deephouse, 1999). The competing pressures of legitimacy and differentiation refer to the dual challenges faced by organizations in balancing the need to conform to established norms and expectations (legitimacy) while also seeking to distinguish themselves from competitors and establish a unique identity (differentiation).

Indeed, organizations often strive for conformity to certain practices rather than assimilation into a collective whole, as suggested by the concept of optimal distinctiveness. This is because firms face "institutional" audiences, such as regulators, industry associations, and other stakeholders, that impose norms and expectations on them, compelling them to act in a legitimate manner (Zuckerman, 2016). Differentiation, in contrast, is motivated by external factors, specifically the demands of audiences such as stakeholders and the market, rather than internal organizational needs. It involves strategic actions taken by organizations to distinguish themselves from competitors and establish a unique market position. This can be achieved through the development of distinct products, services, or organizational practices that provide a competitive advantage and attract stakeholder interest and support (Zhao et al., 2016). Differentiation enables organizations to carve out a specific market niche, capture a share of the market, and achieve long-term success (Porter, 1985).

However, organizations face the challenge of balancing these two competing pressures. While conforming to established norms and gaining legitimacy is crucial for organizational survival and acceptance, too much conformity may hinder innovation and limit the ability to differentiate (Dean and Brown, 1995). Conversely,

excessive differentiation without adequate attention to legitimacy can result in reputational risks and a loss of stakeholder trust (Zhao et al., 2016). Thus, the competing pressures of legitimacy and distinctiveness exert a significant influence on how firms shape their strategies in order to reconcile these conflicting forces (Deephouse, 1999; Zhao et al., 2016). The "strategic balance perspective," proposed by Deephouse (1999), has provided the clearest guidance on how firms can achieve optimal distinctiveness. According to this perspective, firms should adopt a reasonable amount of novelty that allows them to be "as different as legitimately possible" (Deephouse, 1999: 147).

Early studies, similar to Deephouse, have concentrated on identifying a single, static convergence point where a firm's legitimate distinctiveness is maximised (Deephouse, 1999; Gong, Yu, & Huang, 2019). These studies have frequently covered a broad range of strategy topics regarding optimal distinctiveness, such as resource acquisitions and firm performance (Deephouse, 1999; Gong et al., 2019), corporate governance and tenure (Finkelstein & Hambrick, 1990), firm and stakeholder attention (Ocasio, 1997), reputation (Basdeo et al., 2006), entrepreneurs and technology (Navis & Glynn, 2011), and categorization and product entry (Barlow et al., 2019; Haans, 2019). Nevertheless, most of those studies have been somewhat polarised in their emphasis on either conformity or differentiation, constraining the development of a better understanding of optimal distinctiveness (Zhao et al., 2016). Since organisational environments are multiplex, fragmented, and dynamic, Zhao et al. (2016) warned that such an approach may be ineffective, suggesting a specific framework for analysing optimal distinctiveness. The authors proposed in their review paper that new literature on optimal distinctiveness should focus on three dimensions: *orchestration*, relating to the ability of managers to manage internal paradoxes; *stakeholders' multiplicity*, and the mixed tailored product-market scope to maximise outcomes; and finally, *managing temporality* and the strategies adopted by new entrants. These research dimensions are neither mutually exclusive nor exhaustive and may help to broaden the research on optimal distinctiveness.

From a CSR perspective, Zhang et al. (2020) investigate and empirically prove the effects of conformity versus differentiation using a type of *compensatory orchestration* within a single complex practice, following the work of Zhao et al. (2016). Being one of the first studies of optimal distinctiveness in relation to CSR

activities, to contribute with findings that focus on the complexity of the practice rather than one single attribute. The authors used CSR practices in China to investigate how such orchestration helps firms to achieve, not only optimal distinctiveness, but also recognition from key stakeholders, thus expanding our understanding of optimal distinctiveness. Even though studies like Zhang et al. (2020) have moved from a single to a multi-dimensional focus relationship between conformity and differentiation following the suggestions by Zhao et al. (2016), still there is a need for more integrated strategic management issues. Particularly, focus on salient issues and contingent differences linked with creating and maintaining a strategic balanced position that maximizes firm performance in different market contexts, including those characterised by its complexity and dynamism (Zhao et al., 2016).

New research on optimal distinctiveness suggests that contextualising optimal distinctiveness is not enough and that future research that considers the contingencies that significantly shape optimal distinctiveness is needed in order to advance the theory (Zhao & Glynn, 2022). For example, prior research has shown that different audiences can view the same category differently (Durand & Paolella, 2013); hence, differentiation efforts need to include the perception of stakeholders to fully understand the optimal position of a firm. Fisher et al. (2016) proposed in their study that a firm has different legitimacy thresholds relating to technology ventures in different life cycle stages that grant them legitimacy. For example, legitimacy granted in previous life cycle stages allows a firm to deviate from the established norms required in new life cycles, thus relocating their optimal position. In line with these findings, Taeuscher and Rothe (2021) empirically demonstrate that the pressures to conform can significantly vary between firms, allowing firms to access important resources through a legitimacy-buffering effect.

All of the studies mentioned above highlight the importance of institutional context and audience in achieving optimal distinctiveness. They agree on the difficulty in measuring differentiation and legitimacy due to the fact that each context and audience are unique (Taeuscher, Bouncken, & Pesch, 2021; Taeuscher & Rothe, 2021). According to this new body of research, what is considered to be a liability of distinctiveness (less legitimacy) can vary between markets (Haans, 2019), since conformity only represents one source of legitimacy out of a range that a firm can use to extend its optimal distinctiveness (Aldrich & Fiol, 1994; Taeuscher & Rothe, 2021).

Expanding upon the existing optimal distinctiveness literature, our study states, using the disclosure of material Non-financial Information (NFI), that firms deviating from conformity can leverage alternative sources of legitimacy to overcome the challenges associated with distinctiveness. In the following section, we situate our study within the current body of literature and highlight the gaps that exist in the field.

2.2 Optimal Distinctiveness and Non-financial Information (NFI) disclosure

Corporate Social Responsibility (CSR) and Non-Financial Information (NFI) share a strong relationship. CSR involves voluntary activities by firms to incorporate social, environmental, and ethical factors into their business operations and stakeholder interactions. NFI, on the other hand, pertains to the disclosure of non-financial information such as CSR initiatives, environmental performance, social impact, and governance (ESG) practices that firms may report and make public to shareholders and stakeholders over the course of a year (Brooks & Oikonomou, 2018). Through CSR disclosure, companies demonstrate their dedication to sustainable and responsible business practices, exemplifying their approach to addressing ESG concerns.

Within the domain of NFI disclosure literature, recent discussions on how firms effectively handle the dual challenges of conforming to institutional pressures to attain legitimacy, while concurrently establishing unique practices to differentiate themselves and gain a competitive advantage. These discussions can be categorized into two main streams of thought: the institutional perspective and the strategic perspective (Zhang et al., 2020). On one hand, the institutional theory posits that the attainment of legitimacy can be facilitated through political, economic, and social institutions that encourage corporate engagement with social and environmental performance. Numerous studies acknowledge corporate sustainability as a collection of practices that enhance industry-wide legitimacy by providing companies with a level of assurance when reporting on their sustainability initiatives (Godfrey, 2005; Ioannou and Serafeim, 2012). This assurance generates a sense of low-risk and can be attributed, in part, to the firm's activities and strategies aimed at meeting its own needs and the needs of its stakeholders, while simultaneously safeguarding the interests of future stakeholders (Brundlant, 1987; Dyllick & Hockerts, 2002; IISD, 1992; van Marrewijk, 2003; Roca & Searcy, 2012). On the other hand, the strategic perspective argue that sustainability is not only a set of initiatives, but rather a possible strategy that, if implemented well, can help firms to achieve a strategic balance between

legitimacy (important for stakeholders and shareholders) and competitiveness (important for shareholders and managers) (Serafeim & Ioannou, 2019).

Much of the prior work on NFI disclosure has focused on examining the motivations behind firms' voluntary disclosure of this information, taking into account the opposing pressures of legitimacy and differentiation. However, it is important to note that firms operating within voluntary schemes do not encounter the same pressures to conform or differentiate as those operating under mandatory regulations. For instance, recent regulations such as the Directive 2014/95/EU implemented by countries within the European Union (EU) mandate NFI disclosure for large firms, aiming to enhance information transparency and accountability. Recent studies examining the Directive 2014/95/EU have found that European firms impacted by the regulation increased their CSR spending in response to the introduction of the requirements (Fiechter et al., 2018), with weak CSR performers boosting their CSR activities to the greatest extent (Allman & Won, 2021). These findings suggest that the Directive has an impact on firm behaviour when it comes to ESG disclosure, with firms conforming to the new industry norm. Additionally, firms with a strong disclosure record and performance prior to the implementation of the regulation, exhibit a positive return compared to their lagging peers (Grewal et al., 2018; Jackson et al., 2020). Against these positive findings, Chen, Hung, and Wang's (2018) study, which exploits the 2008 mandatory regulation in China, found that NFR decreases firm profitability subsequent to the mandate. These contradictory findings suggest that there is still a gap in this area, and that more research is needed to understand the real relationship between mandatory NFI disclosure and firm value (Christensen et al., 2021). Moreover, Grewal, Riedl, and Serafeim (2018) found a negative market reaction to firms under mandatory regulation that had lower ESG disclosures, and a less negative reaction for firms that were disclosing the greatest quantity of material ESG-related issues. This finding suggests that markets anticipated that NFI disclosure regulations would have a material impact on the information that firms disclose, imposing indirect costs such as reputational damage on firms that fail to meet market expectations (Fiechter et al., 2018). The findings also highlight the importance of material ESG to investors. According to Rogers and Serafeim (2019), issues that are assessed as immaterial while regulations are not in place can become material when such regulations are implemented, and increased regulation applied to an issue

increases its materiality (Spandel et al., 2020). So, it is expected that after the implementation of mandatory regulations, such as Directive 2014/95/EU, firms would have to change from disclosing common/immaterial sustainability practices to more material/strategic practices that would allow them to maintain their competitive advantage.

In line with these findings, most of previous works regarding the disclosure of NFI fail to distinguish among the type of information that is likely to be financially material for stakeholders. Recently, Serafeim and Ioannou (2019) demonstrate that the practice of disclosing non-financial information can serve as a strategic tool for firms to enhance their financial performance. The findings from the study demonstrate that material sustainability practices can be categorized into common and strategic practices, each arising from distinct industry dynamics. Moreover, these two categories of practices have varying implications for corporate financial performance. Firms that are embracing CSR practices through the convergence of common activities over time, aim to maintain legitimacy in the market. While strategic CSR practices, which hold greater significance for firms, contribute to attaining improved financial performance. Similar to the work of Serafeim and Ioannou (2019), recent studies have started to embrace the notion of materiality as defined by the Sustainability Accounting Standards Board (SASB) in order to examine the connection between the performance and disclosure of ESG practices and firm value. These ESG materiality scores proposed by SASB refers to the efficacy and financial significance of a specific measure as part of a firm‘s ESG analysis.

The new incorporation of material NFI disclosure is important because it allows to distinguish between investments in material versus immaterial sustainability issues to stakeholders. Material NFI can provide valuable insights into the influence of target audiences on the behaviour of the firm. Therefore, the study of optimal distinctiveness in the context of material NFI disclosure can overcome some limitations identified in previous studies (e.g., Zhang et al., 2020). One, materiality serves as a robust metric for differentiation, providing valuable insights into how differentiation through unique activities, taking into account the firm's risks, can impact firms' efforts to achieve optimal distinctiveness. Second, materiality of NFI has been mentioned in asset owners' investment policies, industry reporting frameworks including the SASB and the Global Reporting Initiative (GRI), asset managers' investment strategies, and ESG

rating agencies' frameworks (Khan et al., 2016; Kuh, Shepley, Bala, & Flowers, 2020), thus security analysts can effectively integrate NFI into their valuation models.

3. Hypotheses

3.1 Distinctiveness and Firm Value

Optimal distinctiveness has been the subject of increasing interest at the interface of strategic management and institutional theory (Zhang et al., 2020; Zhao et al., 2016). Optimal distinctiveness is typically conceptualized as the state or condition in which an individual or organization achieves a balance between their desire for differentiation, or uniqueness, and their need for assimilation or conformity to societal norms and expectations, also known as legitimacy (Barlow et al., 2019).

In the context of our study, we anticipate that the extent of distinctiveness in the disclosure of material ESG scores will impact the level of pressure a firm faces to achieve both legitimacy and distinctiveness.

On the one hand, conformity via alignment with the norms prevents legitimacy challenges, since the firm’s behaviour is considered acceptable (Deephouse, 1999; DiMaggio & Powell, 1983). There are different studies that recognise corporate sustainability as a set of practices that foster legitimacy across the industry, as they provide a level of assurance for the companies that decide to report on their sustainability initiatives (Godfrey, 2005; Ioannou & Serafeim, 2012). The sense of low-risk assurance can be partly explained by the activities and strategies performed by the firm that seeks to meet its own needs and the needs of its stakeholders (whether direct or indirect), without compromising on future stakeholder needs (Brundlant, 1987; Dyllick & Hockerts, 2002; IISD, 1992; van Marrewijk, 2003; Roca & Searcy, 2012). According to Zhang et al. (2020), as countries begin to mandate ESG disclosure, firms are pushed to adopt standards and norms when reporting, which increases the levels of conformity and helps financial analysts to better determine a firm’s legitimacy. Therefore, mandated ESG can be a significant factor in analysts' evaluations of the conformity of firms' sustainability practices and subsequent disclosures, along with other strategic and operational issues. Improved information quality reduces asymmetry (Muslu et al., 2019), boosts analyst credibility (Clarkson et al., 2019), and thus improves investors' assessments of a firm's CSR performance (Reimsbach et al., 2018). These findings are also consistent with the incremental

informational value of NFR (see Fiechter et al., 2018) and suggests that firms subject to mandatory regulations will conform to CSR activities in order to remain legitimate in the eyes of investors and other audiences.

On the other hand, differentiation allows for a lower level of competition and a better market position, as well as a greater potential for sustained superior performance, that is, if competitors are not already equally positioned across the entire market space (Haans, 2019). Recent studies have attempted to determine whether sustainability practices can be an integral part of a firm's business and corporate-level differentiation strategy (Serafeim & Ioannou, 2019), and thus should be considered as a type of strategic investment (Duanmu et al., 2018). According to Li et al. (2018), a positive relationship between a good ESG performance and a firm's financial performance lies in the stakeholders´ belief that a firm with a good ESG reputation will also perform well in the market.

New research on ESG disclosure has highlighted that firms can achieve a competitive advantage by disclosing material information (Consolandi, Eccles, & Gabbi, 2020; Khan et al., 2016; Spandel et al., 2020). In the case of financial information, materiality refers to whether information disclosed by a company would be relevant to a sensible investor in their decision making. Therefore, materiality provides relevant standard information, tailored for each firm, thus helping investors to make informed investment decisions (Kuh et al., 2020). Moreover, firms that disclose more material information, according to SASB, exhibit greater price informativeness and this relationship is moderated for firms with higher analyst portfolio complexity, suggesting that analysts are intermediaries of sustainability information (Grewal et al., 2021). Studies like Khan et al., 2016, have shown that low level of material NFI are at a minimum not value-destroying. Their results suggested lack of material NFI disclosure does not necessarily hinder the firm's value. Their results also suggest that firms that invest in material issues significantly outperform firms with poor performances and experience a better capital market reaction (Khan et al., 2016). Thus, the results implied that when firms allocate more resources and effort towards investing in material information, they can effectively differentiate themselves from their competitors, resulting in an increase in their firm value. This differentiation, according to Spandel et al. (2020), arises from the impact that such information has on investors' perceptions of the firm's value, consequently influencing

their behaviour. Finally, most of these studies show that when firms disclose mostly material ESG-related information they perform the best (Consolandi et al., 2020; Khan et al., 2016). This is particularly true when external pressures that can influence the firm's value are present. External factors, such as regulatory requirements, market expectations, or stakeholder demands, can exert significant influence on a firm's perceived value (Grewal et al., 2018; Spandel et al., 2020).

The studies mentioned above have examined the relationship between the materiality of NFI disclosure and firm value with results that show a curvilinear relationship. However, some of these studies have found evidence suggesting the presence of a U-shaped relationship between the disclosure of material NFI and firm value. Barnett and Salomon (2012) support this idea with results showing that key influential stakeholders can transform social responsibility into profit. Firms with low corporate social performances (CSP) will have higher corporate financial performances (CFP) than firms with moderate CSP, but firms with high CSP have the highest CFP. Based on the foregoing information, we argue that the relationship between the distinctiveness of material ESG information and firm value generates a U-shaped curve. Initially, having lower levels of distinctiveness in NFI disclosure does not necessarily hinder the firm's value. This is because such firms conserve financial resources that could have been used for sustainable activities. However, as the firm increases its level of distinctiveness, the benefits begin to decrease as they struggle to maintain the interest of a dedicated audience, such as analysts. Consequently, the costs associated with distinctiveness lead to a negative relationship between distinctiveness and firm value. Lower levels of distinctiveness in NFI disclosure may not assist firms in standing out or establishing a unique reputation among stakeholders. Still, as a firm's level of distinctiveness grows, it attracts a dedicated audience, resulting in a tipping point in firm value. Hence, we hypothesise that:

H1: The relationship between a firm's distinctiveness and its market value is U-shaped.

3.2 The Moderating Role of Analyst Earnings Forecasts

Previous studies have suggested that financial analysts can influence the relationship between NFI disclosure and firm value (Tsang et al., 2022). According to past literature, analysts play an important role due their stronger ability to assess the value

relevance of ESG than general investors (Luo et al., 2015), which most likely will incorporate them into their stock recommendations or earnings forecasts (Christensen et al., 2021; Ioannou & Serafeim, 2015). Second, by making information available to investors, financial analysts reduce information asymmetry and accelerate information dissemination, this also being a determinant of NFI disclosure (Al-Shaer, 2018). Thus, financial analysts can assist investors to better comprehend the financial consequences of ESG disclosure for firms' future cash flows and risk, strengthening the relationship between ESG reporting and firm value. Tsang et al. (2022) empirically confirmed this idea by examining the role of financial analysts in the relationship between voluntary ESG disclosure and firm value with positive results. The authors also found that the positive role of financial analysts varies according to the report's characteristics, such as reporting assurance, choice of assurer, coverage, quantity, and length of the report.

These results provide evidence, not only of the importance of financial analysts in improving the valuation of ESG disclosure, but also how different reports' characteristics can influence financial analysts' decisions.

When it comes to the relationship between distinctiveness and legitimacy, despite institutional theorists long emphasising that distinctiveness may prevent the achievement of legitimacy (DiMaggio & Powell, 1991), some new research on optimal distinctiveness has highlighted the possibility of gaining legitimacy by being different (Taeuscher et al., 2021), and that other sources of legitimacy can moderate the relationship between distinctiveness and competitive benefits (Taeuscher & Rothe, 2021). To Taeuscher et al. (2021), distinctiveness can serve as a source of legitimacy, challenging the notion that distinctiveness inevitably hinders the acquisition of legitimacy. The authors proposed that some distinctive practices, when observed by the right audience, can be a source of legitimisation for firms, and that in the absence of alternative sources of legitimacy, this legitimating effect of distinctiveness intensifies. As a result, legitimacy can not only attract stakeholders, employees, and financial capital (Suchman, 1995; Zimmerman & Zeitz, 2002), but it can also be transferred to other settings with different audiences and stockpiled when achieved in prior life cycle stages. This can serve as a buffer to enable a firm to meet legitimacy requirements for subsequent stages or possible deviations from social norms (Suchman, 1995; Fisher, Kotha, & Lahiri, 2016).

Based in the above discussion, we argue that analyst earnings forecasts will moderate the relationship between distinctiveness and firm value, acting as an alternative source of legitimacy (Taeuscher & Rothe, 2021). This is, analysts earnings forecast, can provide firms with a "legitimacy buffer," as proposed by Fisher et al. (2016), by broadening the range of acceptability by other audiences to the firm's nonconformity to the disclosure of material ESG. As discussed earlier, prior studies have underscored the significance of the relationship between material ESG scores and analysts. This connection plays a crucial role in aiding investors in assessing a firm's risk and value. The disclosure of material ESG information provides valuable insights that enable investors to make informed decisions and evaluate the overall sustainability and performance of a firm. Therefore, it can be inferred that firms with higher levels of distinctiveness are more likely to attract higher levels of analyst earnings forecasts. The distinctiveness of a firm's ESG practices sets them apart from their competitors and enhances their visibility and reputation among analysts. Thus, the analysts' earnings forecasts of firms are expected to moderate the relationship between distinctiveness and firm value. First, by incorporating the insights and evaluations provided by analysts, the relationship between distinctiveness and firm value can be influenced. Through their assessments and forecasts, analysts contribute to shaping stakeholders' perceptions of a firm's unique qualities and potential, ultimately influencing its market value and performance. Financial analysts play an important role in this relationship as the monitors and providers of key information that helps firms to reduce agency costs, monitor manager misconduct, and to attract investor attention while aligning their needs with those of the firm, thereby increasing firm value (Chung & Jo, 1996; Yu, 2008). Second, the financial analysts' ability to scrutinise the behaviour of management makes them effective external monitors (Healy and Palepu, 2001), which increases investor confidence in firm information (Lang et al, 2004, 2012; Rose et al., 2010; Tsang et al., 2022). These studies also suggest that the levels of transparency, accountability, and trust from stakeholders on NFI disclosure ultimately boost firm value (Li et al., 2018; E. P. yi Yu et al., 2018). For example, in countries where corporate social responsibility (CSR) activities are more likely to influence firm financial performance, as shown by Dhaliwal et al. (2012), and where mandatory regulations have a positive effect on firm performance, as demonstrated by Ioannou and Serafeim (2019), the relationship between NFI disclosure and firm value is stronger.

Finally, greater engagement in the disclosure of ESG (Environmental, Social, and Governance) practices has been associated with several positive outcomes in relation to analyst involvement. This includes more favourable investment recommendations from analysts (Ioannou & Serafeim, 2010), higher forecast accuracy by analysts (Dhaliwal et al., 2012), and increased analyst coverage, which helps in integrating CSR (Corporate Social Responsibility) activities for both investors and non-investors (Jo & Harjoto, 2014). These findings suggest that increased disclosure of ESG information enhances the engagement and attention of analysts, leading to improved perceptions, evaluations, and coverage of a firm's CSR practices.

Consequently, with more accurate analyst earnings forecasts, the relationship between distinctiveness and firm value, as proposed in this study following a U-shaped curve, will intensify. This increased accuracy enhances the levels of acceptability and distinctiveness at which the firm starts to lose legitimacy. In simpler terms, firms that possess a legitimacy buffer through analysts' earnings forecasts are shielded from certain adverse effects of distinctiveness, enabling them to disclose higher levels of material ESG. As a result, we propose the following:

H2: Analyst earnings forecasts will amplify the relationship between a firm's distinctiveness and its market value.

4. Research Design and Sample Selection

We collect data from Bloomberg on ESG reporting and financial information, and analyst coverage and forecast data from 2016 through 2020 from the Institutional Brokers Estimation Services (I/B/E/S) database. For the purposes of this paper, Bloomberg has a number of advantages. First, Bloomberg’s Environmental, Social and Governance Database offers both the financial data and the ESG information of global firms. The ESG information provided by Bloomberg Professional Services is collected from firms' annual reports, sustainability reports, press releases, and third-party research, and also covers information on board structure (Li et al., 2018; Xie et al., 2018). The score from the ESG ranking and information disclosure ranges from 0.1, being the lowest level, to 100 for firms with a high level of disclosure. Another advantage is that it provides sustainability data from 11,500 companies in 83 countries and enables the direct examination of the quality level of information disclosure by firms.

It also provides information on material issues. Our data collection is driven by the availability of materiality guidance from the Bloomberg ESG Materiality by Industries Framework. The Framework covers Environmental, Social and Governance (ESG) pillars for a growing list of industries. The sectors currently include Materials, Electric, Utilities, and Consumer Staples, bringing the total company coverage to more than 1,100 companies. The ESG Issues selected for the three pillars are business relevant and financially material. Bloomberg's assessment is informed by standards such as the Sustainability Accounting Standards Board (SASB), Task Force on Climate-related Financial Disclosures (TCFD), and the International Petroleum Industry Environmental Conservation Association (IPIECA). Additionally, a further analysis is conducted to assign issue priority based on the impact to a company's long-term business performance (Bloomberg Terminal, 2022).

The full sample used in the study corresponds to the 214 firms in the Bloomberg ESG Materiality database from Europe. All of the firms in the sample are large firms subject to the Directive 2014/95/EU, which mandates larges entities to disclose their ESG practices. It also considers non-missing data on number of employees, total assets, total liabilities, revenue, total analyst recommendations, market capitalisation, and return on assets (ROA). Due to the restrictions of the data, the final sample was reduced from a full sample of 1,070 firm-year observations to 1,050 firm-year observations (i.e., 211 firms) for the period 2016–2020.

Table 1 Panel A presents the sample summary statistics and descriptive statistics from 2016-2020. Panel B presents the distribution of observations across different countries and BICS Sectors (two-digit) per year. Most of the observations are concentrated in the United Kingdom (56), followed by Germany (26), and are clustered in Material (82) and Consumer Staples (56) sectors. Finally, the correlation matrix of dependent, independent, and control variables appear in Table 2.

Table 1

Panel A: Summary statistics

	Mean	Std. Dev.	min	max	N
Tobin´s Q	0.357	1.727	-11.517	13.542	1,050
Distinctiveness	12.929	8.193	0.455	55.258	1,050
Analyst earnings forecast	4.6	0.25	2.34	6.38	1,050
Size	22.792	1.636	16.701	28.254	1,050
ROA	3.632	7.652	-123.03	41.46	1,050
Financial leverage	-0.543	1.728	-12.607	13.542	1,050
Cross-Listed firms	4.096	2.244	1	11	1,050
Analyst coverage	18.103	8.268	0	39	1,050
Number of employees	9.518	1.493	4.419	14.26	1,050
ESG disclosure scores	36.794	22.884	0	75.094	1,050

Panel B: Sample constituents by country and industry

	BICS industry classification*				
Countries	Consumer Staples	Energy	Materials	Utilities	Total
Austria		2	3	2	7
Belgium	3		3	1	7
Croatia		1			1
Czech Republic				1	1
Denmark	2	1	3		6
Finland	1	1	6	1	9
France	6	2	5	2	15
Germany	4	3	15	4	26
Greece	1	1	1		3
Hungary		1			1
Ireland	2		3		5
Italy	2	2	2	7	13
Netherlands	6	3	5		14
Norway	1	7	3		11
Poland	2	3	3	2	10
Portugal	2	1	1	3	7
Spain	2	2	3	5	12
Sweden	3	1	3		7
United Kingdom	19	10	23	4	56
Total	56	41	82	32	211

Our full sample consists of 211 firm-year observations over the period 2016–2020. In Panel B of this table, we present the distribution of firms across countries and industries. *According to BICS Equity Hierarchy from Bloomberg using the two digits classification.

Table 2: Matrix of Correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Tobin´s Q	1.000									
(2) Distinctiveness	0.023	1.000								
(3) Analyst earnings forecast	0.096	0.199	1.000							
(4) Size	0.153	-0.034	0.140	1.000						
(5) ROA	0.043	-0.017	0.078	0.182	1.000					
(6) Financial leverage	0.355	-0.017	-0.012	0.000	0.007	1.000				
(7) Cross-Listed firms	-0.063	-0.159	-0.195	0.211	-0.053	0.039	1.000			
(8) Analyst coverage	0.024	-0.195	-0.123	0.529	0.020	0.044	0.309	1.000		
(9) Number of employees	-0.025	-0.081	-0.025	0.224	-0.034	0.011	0.150	0.245	1.000	
(10) ESG disclosure scores	-0.026	-0.043	-0.009	0.197	0.008	0.037	0.053	0.178	0.005	1.000

Dependent variables

Tobin´s Q, an indicator which is widely used as a measurement for firm value, represents the present and future valuation of a firm (Ioannou & Serafeim, 2019; Manchiraju & Rajgopal, 2017; Zhang et al., 2020). Following Manchiraju and Rajgopal (2017), we calculated *Tobin´s Q* using the natural logarithm of Tobin´s Q as the sum of total assets and market value of equity, less common book equity, divided by total assets.

Independent Variables

Our independent variable *Distinctiveness* represents the degree to which a given firm's material ESG deviates from the average material ESG in a given year, industry, and sub-industry (BICS two and three digits).

Distinctiveness measurement: For each fiscal year, we calculate the absolute difference between the focal firm's E, S, and G materiality scores and its sub-industry average (based on three-digit BICS codes). Following previous literature (Gong et al., 2019), *Distinctiveness* is calculated as:

$$Distinctiveness\ ijt\ = \sum_{a=1}^{3} ABS(S_{ijt} - s_{jt}),$$

where S_{ijt} is the proportion of ESG material scores by firm *i,* in a sub-industry *j* in year *t,* and s_{jt} is the proportion of ESG material scores by all the firm's peers in a sub-industry *j* in year *t*. The measurement for the average of the ESG material scores takes into consideration only the firm's peers ESG material scores and excludes the focal firm's scores from the results. The absolute value of the three pillars were totalled for each firm following previous literature (Gong et al., 2019). Since the scores for each pillar are independent and are not the proportion of another variable, we assigned equal to each pillar to calculate our *Distinctiveness* measurement following previous literature (Jackson et al., 2020; Zhang et al., 2020). The rationale behind assigning the same weight to each pillar is that the ESG material scores are calculated specifically for a firm, thereby weighting each pillar using the industry average or using other industry measurements (e.g., ESG disclosure scores) will modify the scores for each firm and may affect the final results.

A higher score suggests that the focal firm's ESG material disclosure score significantly deviates from its sector standard disclosure, making its ESG material

disclosure scores unique when compared to others. On the contrary, lower scores indicate greater similarity to commonly adopted practices.

Moderating variable

Analyst Earnings Forecast: We use analyst earnings forecasts from the I/B/E/S database. We calculate *Analyst earnings forecast* as the natural logarithm of the average of all the monthly mean forecasts made in the year (Dhaliwal et al., 2012). We use this variable to test Hypothesis 2, following Taeuscher & Rothe (2021).

Control variables

Control variables: At the firm level, this study controls for *Size* (natural logarithm of market capitalisation) (Eccles et al., 2014), *ROA*, which is the ratio of net income to total assets (Ioannou & Serafeim, 2019), and *Financial leverage*, which is the total liabilities over total assets (Ioannou & Serafeim, 2019). We also included a continuous variable that represents the international presence, *Cross-Listed firms***,** as it has been established as having a positive relationship with firm competitiveness and NFR (Baldini et al., 2018; Reverte, 2009). The variable indicates the number of times that a firm has been listed in more than one foreign market. We also included *Analyst coverage*, which measures the number of analysts that monitor a firm in each year, and which are making recommendations. This was obtained from the I/B/E/S database and the Bloomberg Database (Hawn & Ioannou, 2016; Zhang et al., 2020). We also included a measure of the number of firm employees, *Number of Employees* (Barnett & Salomon, 2012), and *ESG disclosure score*, following Deephouse (1999). Lastly, we include fixed effects at the calendar year. All explanatory variables are lagged to mitigate potential concerns relating to reverse causality following previous studies (Taeuscher & Rothe, 2021; Zhang et al., 2020).

4.1 Empirical Model

Given the characteristics of the database, it appears appropriate to employ a random fixed-effects model, as suggested by Wang et al. (2015), which is particularly suitable for analysing short-term data. Since our sample span four years only, thus the fixed effects model would not be appropriate. To test that the approach is appropriate for the study, a Hausman chi-square test was performed. The results showed (prob χ_2=0.4616) that the errors are not correlated with the regressor, rejecting the inclusion of firm fixed effects in the models. Lastly, the model includes robust standard errors.

Previous research has shown that a superior NFI performance in firms affects analyst coverage and firm value (Dhaliwal et al., 2011, 2012). To test that the model does not have endogeneity problems, a Durbin-Wu Hausman test was run (3.6 p>0.16) which confirms the non-rejection of the null hypothesis. This result confirms that endogeneity is not an issue in the study and that distinctiveness is exogenous in the model. An instrumental variable approach is used as a robustness test to consider other endogeneity problems in our model (see Appendix A).

Our baseline empirical model is given below:

1) $Tobin´s\ Q_{it} = \beta_o + \beta_1\ Distinctiveness_{ij-1} + \beta_2\ Distinctiveness^2_{ij-1} + \beta_3\ Analyst\ earnings\ forecast_{it} + \beta_4\ Analyst\ Coverage_{it} + \beta_5\ Financial\ leverage_{it} + \beta_6\ ROA_{it} + \beta_7\ Size_{it} + \beta_8\ Cross\text{-}Listed_{it} + \beta_9\ Disclosure\ Scores_{it} + \beta_{10}\ Number\ of\ Employees_{it}\ ESG + \mu_{it}$

5. Results

Table 4 presents the empirical results on the full sample. **Model 1** represents the baseline models with control variables and the single term of *Distinctiveness* to see if a linear specification would fit better than a curvilinear relationship. The fact that *Distinctiveness* has a low statistical significance in Model 1 suggests that it does not have a linear effect on *Tobin's Q.* Model 1 also demonstrates that *Analyst earnings forecast* has a positive direct effect on *Tobin's Q*, giving support to the proposed legitimation effect of *Analyst earnings forecast*.

Model 2 tests the first hypothesis which stated that distinctiveness has a U-shaped effect on *Tobin's Q*. The model adds *Distinctiveness*² to test for the predicted curvilinear relationship. A minimum condition for a U-shaped effect would be a negative coefficient for *Distinctiveness* and a positive coefficient for *Distinctiveness*². The results give support to Hypothesis 1 (b = -0.007, $p < 0.003$; b = 0.1, $p < 0.014$) and show that *Distinctiveness* and *Tobin's Q* follow a U-shaped curve, as shown in Figure 1.

The findings regarding Hypothesis 1 demonstrate a positive relationship between the extent of material ESG disclosure and firm value, with the highest and lowest levels of distinctiveness yielding the most pronounced effects. This can be attributed to the fact that firms disclosing higher levels of material ESG practices distinguish themselves in the eyes of stakeholders, thereby enjoying the advantages

associated with such differentiation. Conversely, firms that disclose low levels of material ESG practices maintain the financial resources they might have otherwise use in sustainable activities. Based on the findings, a firm's ability to recognize potential advantages and profit from the disclosure of material ESG practices depends on the influence wielded by stakeholders, supporting Brammer and Millington (2008) and Barnett and Salomon (2012) results.

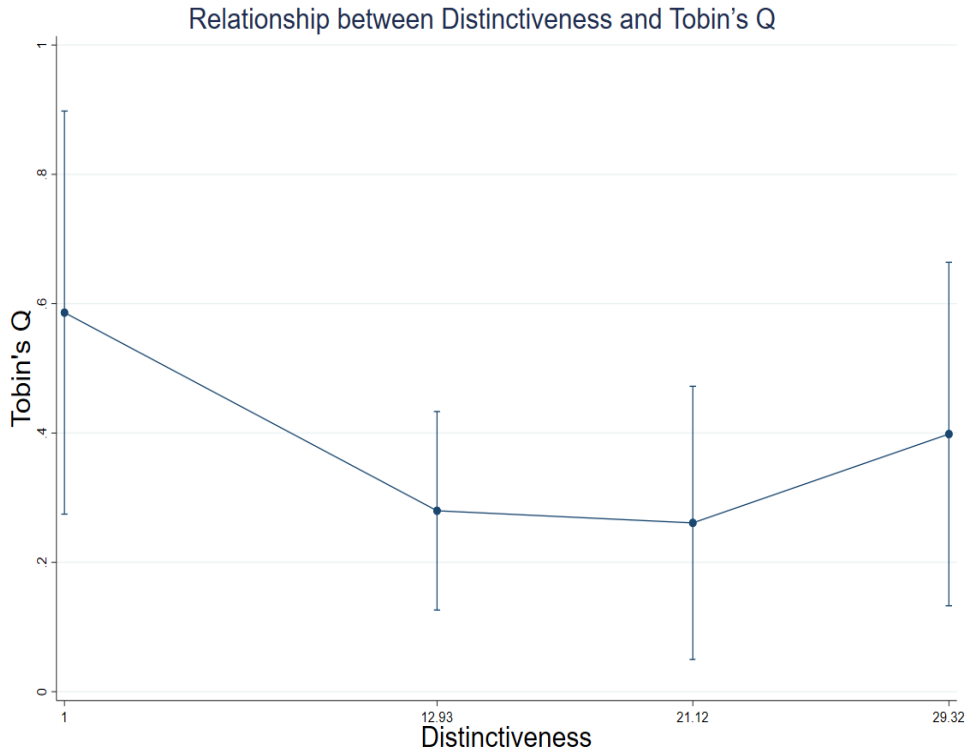


FIGURE 1. Relationship between distinctiveness of material ESG scores and Tobin's Q

Hypotheses 2 stated that *Analyst earnings forecast* moderates the relationship between *Distinctiveness* and *Tobin's Q*, in that a higher share of *Analyst earnings forecast* shifts the turning point to the right, strengthening the relationship and steepening the curve (Hypothesis 2). Following Taeuscher and Rothe (2021), Figure 2 shows the plotted predictions for *Tobin's Q* at different levels of *Distinctiveness* and *Analyst earnings forecast*. In Figure 2, the level of *Distinctiveness* ranges from 0 (i.e., no distinctiveness) to 1 SD above the sample mean (i.e., high distinctiveness). Additionally, *Tobin's Q* is predicted at four levels of *Analyst earnings forecast*, these being: the sample's minimum value (0.00), the sample mean (12.78), 1 SD above the mean (21.1), and 2 SD above the mean (29.3).

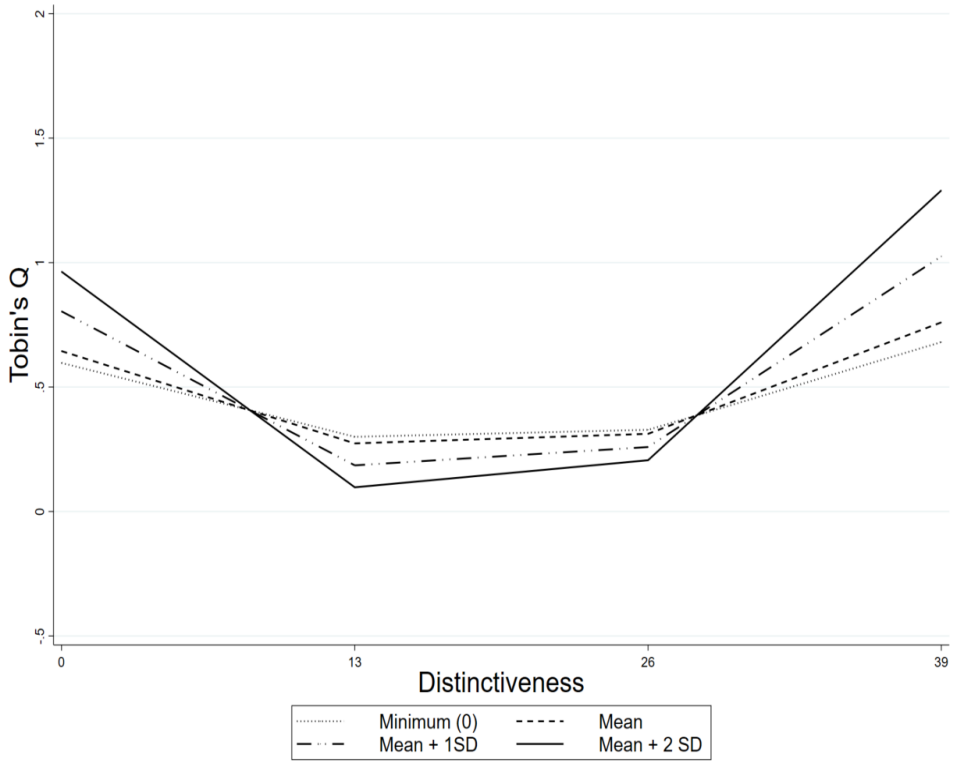


FIGURE 2. Relationship between Distinctiveness and Tobin's Q at different levels of Analyst earnings forecast. Note: The plot represents estimations for *Tobin's Q*, based on the results of Model 3, at different levels of *Distinctiveness* (between 0 and 2 standard deviation (SD) above the mean) and at four levels of *Analyst earnings forecast*. The four curves correspond to the sample's minimum share of *Analyst earnings forecast* (0), mean, 1 SD above the mean ("Mean + 1 SD"), and 2 SD above the mean ("Mean + 2SD").

The plots in Figure 2 show that *Analyst earnings forecast* has a significant impact on the relationship between *Distinctiveness* and *Tobin's Q*. The relationship follows a flattened U-shaped curve in the absence of *Analyst earnings forecast* (Minimum 0). At the mean of *Analyst earnings forecast*, the relationship follows a more pronounced U-shaped curve. At these low levels of *Analyst earnings forecast*, *Distinctiveness* negatively affect *Tobin's Q* — Firms create more value by demonstrating a high level of conformity in ESG material disclosure. At above-average levels of *Analyst earnings forecast*, the curve steepens, and the curve's turning point shifts slightly to the right.

To test Hypothesis 2, a right-shift of the turning point, and to confirm the results suggested in Figure 2, this study follows Haans, Pieters, and He's (2016) method. The authors proposed that, in order to test the moderation in U-shaped relationships, one

must derive the turning point X* of the main equation (1) by setting the first derivative with respect to X to zero (for more information see Haans, Richard F.J., Pieters, & Zi-Lin He, 2016 - Appendix 3).

(2)

$$X^* = \frac{\beta 1 + \beta 3Z}{2 * \beta 2 + 2\beta 4Z}$$

In equation (2), β1 represents the slope for *Distinctiveness*, β2 is the slope for *Distinctiveness²*, β3 is the slope of the interaction between *Distinctiveness* and *Analyst earnings forecast* β4 is the slope of the interaction between *Distinctiveness²* and *Analyst earnings forecast*, and Z is the main term for *Analyst earnings forecast*. The turning point now depends on the moderator (Z). To show how the turning point changes as Z changes, the authors proposed taking the derivative of this equation (2) with respect to Z:

(3)

$$\frac{\delta X^*}{\delta Z} = \frac{\beta 1\beta 4 - \beta 2\beta 3}{2(\beta 2 + 2\beta 4Z)^2}$$

In equation (3), the denominator is now strictly greater than zero, meaning that the direction of the shift in the curve depends on a) the sign of the numerator: if $\beta 1\beta 4 - \beta 2\beta 3$ is positive, the turning point will move to the right as Z increases, and b) the coefficient of the equation is significantly different from zero at meaningful values for Z (Haans et al., 2016).

Equation (3)'s numerator generates a positive value, which suggests a right-shift of the turning point at higher levels of *Analyst earnings forecast*. STATA command *nlcom* is used to test the coefficient of equation (3) following Haans et al.'s (2016) suggestion. The results in Table 3 show the turning point for levels of *Distinctiveness* (from 2.34 to 5.34 at increments of 0.5).

Table 3: Turning point for different levels of Analyst earnings forecast

Analyst earnings forecast	Coef.	P>[Z]
2.34	0.36	0.646
2.84	27.6	0.920
3.34	0.24	0.015**
3.84	0.065	0.063*
4.34	0.03	0.043**
4.84	0.017	0.69*
5.34	0.011	0.83*

Results obtained using the STATA command *nlcom* following equation (3). *p < 0.1; **p < 0.05; ***p < 0.01.

Table 3 shows that when the values of *Analyst earnings forecast* are at the minimum, the results are not significant, suggesting that no significant turning point shift occurs at relatively low levels of *Analyst earnings forecast*. This finding is in line with the plot in Figure 2, which shows that the curve flattens at low levels of *Analyst earnings forecast* and then steepens at higher levels, moving slightly to the right when *Analyst earnings forecast* is 1 SD above the mean ("Mean + 1 SD"), and 2 SD above the mean ("Mean + 2SD") supporting Hypothesis 2.

A positive and statistically significant interaction term between *Distinctiveness²* and *Analyst earnings forecast* ($\beta 4$), according to Haans et al. (2016), will provide support for Hypothesis 2. According to the authors, tests for flattening or steepening depend on the coefficient $\beta 4$, and not on any other coefficient nor any other specific values of Z. A flattening occurs for U-shaped relationships when $\beta 4$ is negative. Conversely, a steepening occurs for inverted U-shaped relationships when $\beta 4$ is negative and for U-shaped relationships when $\beta 4$ is positive. According to the results in Model 3 (b= 0.16, p<0.004), the U-shaped relationship between *Distinctiveness* and *Tobin's Q* steepens at higher levels of *Analyst earnings forecast,* thus supporting Hypothesis 2.

The findings of H1 underscore the significance of stakeholders and their influential role in enabling firms to effectively capitalize on the potential benefits and attain profitability through the disclosure of material ESG practices. In H2, firms characterized by weak levels of distinctiveness, coupled with the absence or low levels of analysts' earnings forecasts, experience lower benefits compared to firms with average or above-average levels of analysts' earnings forecasts. Consequently, the costs associated with differentiation result in a negative relationship between

distinctiveness and firm value. Moreover, increasing differentiation in material ESG disclosure, when combined with the inability to translate it into higher analyst earnings forecasts, leads to further losses. Nevertheless, as firms gather higher levels of analysts' earnings forecasts by increasing their levels of distinctiveness, they enhance their ability to gain and profit from improved stakeholder perceptions, ultimately leading to an inflection point in financial performance.

Table 4. Impact of Distinctiveness on Firm's Market Value

Variables	**Model 1 Baseline**	**Model 2**	**Model 3 Moderator**
Distinctiveness	-0.014	-0.07	-0.08
	(0.692)	(0.003)	(0.019)
Distinctiveness^2	-	0.1	0.11
	-	(0.014)	(0.005)
Distinctiveness * Analysts earning forecast	-	-	-0.1
	-	-	(0.028)
Distinctiveness^2 * Analysts earning forecast	-	-	0.16
	-	-	(0.004)
Analyst earnings forecast	0.03	0.02	-0.04
	(0.028)	(0.008)	(0.265)
Analyst coverage	0.04	-0.03	0.03
	(0.018)	(0.031)	(0.080)
ROA	0.021	0.02	0.02
	(0.013)	(0.41)	(0.011)
Leverage	-0.23	-0.23	-0.23
	(0.000)	(0.000)	(0.000)
Treated	-0.35	-0.36	-0.35
	(0.014)	(0.008)	(0.007)
Size	0.2	0.21	0.2
	(0.001)	(0.001)	(0.000)
ESG disclosure scores	-0.22	-0.21	-0.04
	(0,001)	(0.002)	(0.066)
Cross-listing	-0.07	-0.1	-0.13
	(0.088)	(0.091)	(0.011)
Number of employees	-0.04	-0.03	-0.04
	(0.069)	(0,096)	(0.066)
Constant	0.41	0.4	0.41
	(0.003)	(0.003)	(0.003)
No. of observations	813	813	813
Random effects	Yes	Yes	Yes
R-squared	0.071	0.07	0.1

Note. N = 813 observations. This table presents the random effects estimated coefficients. All explanatory variables are measured at time t-1. For ease of interpretation, these variables were standardised prior to entering them into the regression. *p < 0.1; **p < 0.05; ***p < 0.01.

5.1 Robustness Tests

For the robustness analysis, we performed three different robustness checks to verify the previous results (see Panel A in the Appendix). First, In Model 1 we use a different measurement for *Distinctiveness*. Following Deephouse (1999), *Distinctiveness deviation* is calculated as:

$$Distinctiveness\ deviation\ ijt\ = \sum_{a=1}^{3} ABS(S_{ijt} - s_{jt}) / SD(S_{jt}),$$

The results in Panel A Model (1) show that, with this new measurement, the results remain similar. Second, in Model (2) and Model (3) we construct the distinctiveness measurement using the industry mean and country mean, respectively, of the E, S, and G material pillars to weight each score, instead of using the same weight to construct our main variable as is done in the main results. The results are unchanged when replacing the original conformity measure in the regression in Model (2) with the industry mean. Similarly, the results are unchanged in Model (3) with the country mean, suggesting that the results remain robust when assigning different weights to each pillar. Finally, in Model (4) we use an instrumental variable to address endogeneity concerns following Zhang et al. (2020) and Taeuscher and Rothe (2021). Previous research has shown that superior NFI performance in firms affects *Analysts earnings forecast* and may have an effect on firm value. This relationship can also be reversed with firms improving their NFI performance to achieve an improved *Analysts earnings forecast*, thereby increasing their value. To deal with the endogeneity concerns, a two-stage least squares (2SLS) estimation approach is implemented following Taeuscher and Rothe (2021). We apply the Sustainable Development Goals (SDG) Country Index (*SDG Index*) as the instrumental variable for *Distinctiveness*. This instrumental variable is considered to be exogenous because the ESG material scores of a firm may be influenced by the sustainability ranking of their country of issue, but it will not influence its *Tobin's Q* (Zhang et al., 2020). This variable is an overall score that measures the total progress towards achieving all 17 SDGs each year by a country. A score of 100 indicates that all SDGs have been achieved (Sustainable Development Report, November 2022).

To test that our instrument is valid, this study uses STATA's ivreg2 command (Baum, Schaffer, & Stillman, 2002) which runs several tests to assess the validity of the IV such as (1) overidentification tests: F-Test (37.44, p> 0.008), (2) underidentification tests: Anderson canon. corr. LM statistic (47.08, p>0.0040, and Kleibergen-Paap rk LM statistic (3.8, p>0.05), (3) weak identification test statistics of Cragg-Donald Wald F statistic (37.42), and Kleibergen-Paap rk Wald F statistic (21), together with Stock-Yogo's critical values (Stock and Yogo, 2005). These values are well above the Stock-Yogo's critical values at all levels (19.93 at 10%, 11.59 at 15%,

8.75 at 20%, and 7.25 at 25%; Stock and Yogo, 2005). These findings support the rejection of the null hypothesis of underidentification, as well as the instrumental variables poor instrument validity. This supports our decision to use *SDG Index* as the instrumental variable (Larcker and Rusticus, 2010). The results in Model (4) are more significant than the main results in all the interactions ($p<0.000$). Panel B presents results for the respective first-stage regressions.

6. Discussion and Conclusion

Recent studies have paid an increasing amount of attention to CSR, more specifically to ESG disclosure. On one side, studies have examined its impact on legitimacy, suggesting that institutional pressures and common beliefs help firms to communicate and supervise these initiatives in a socially accepted framework (Ioannou & Serafeim, 2012; Jackson & Apostolakou, 2010). On the other hand, the impact of these reports on firms' financial performances suggests that firms should only engage in such activities if they increase a firm's financial benefits. (Ioannou, 2018; Siegel, 2009). As a result, the disclosure of ESG forces firms to consider how to effectively maintain their legitimacy, while simultaneously attempting to maximise firm value.

This study aims to investigate the impact of distinctiveness in ESG material information on firm value and explore how other sources of legitimacy can influence this relationship. Our findings suggest that as ESG disclosure becomes an institutionalised practice among European firms due to Directive 2014/95/EU, a positive relationship between the extent of material ESG disclosure and firm value occurs, with the highest and lowest levels of distinctiveness yielding the most pronounced effects. This can be attributed to the fact that firms disclosing higher levels of material ESG practices distinguish themselves in the eyes of stakeholders, thereby enjoying the advantages associated with such differentiation. Conversely, firms that disclose low levels of material ESG practices maintain the financial resources they might have otherwise use in sustainable activities. Furthermore, our findings reveal that analyst earnings forecasts serve as an additional source of legitimacy and function as a buffer for firms. We observed that for firms with low analyst earnings forecasts, the relationship between distinctiveness and firm value appears to be less pronounced compared to firms with high analyst earnings forecasts. Moreover, the findings suggest that while these firms still benefit from distinctiveness in terms of competitive advantage, the negative impact on legitimacy is not as severe once optimal

distinctiveness is achieved, although the benefits may be less significant compared to firms with analyst earnings forecasts. Additionally, for firms with analyst earnings forecasts, we discovered that as the level of analyst earnings forecasts increases, the U-shaped relationship between distinctiveness and firm value becomes more pronounced. This shift implies that firms can leverage the presence of analyst earnings forecasts as a legitimacy buffer, enabling them to maintain higher levels of distinctiveness without sacrificing value creation. In other words, the presence of analyst earnings forecasts provides firms with the ability to differentiate themselves while still preserving their firm value, a benefit that is not as prominent for firms without analyst earnings forecasts. Thus, an increase in analyst earnings forecasts can convey some degree of nonconformity, without sacrificing their legitimacy.

This study makes valuable contributions to ongoing research streams. This study contributes to the emerging new agenda in the literature on optimal distinctiveness by considering the influence of context and contingencies on the tensions between conformity and differentiation, in line with the suggestions made by Zhao & Glynn (2022). First, the study contributes to the advancement of knowledge regarding the relationship between distinctiveness and firm performance within the context of mandatory non-financial information (NFI) disclosure, specifically focusing on the use of ESG material disclosure.

For our empirical analysis, we examine the relationship between conformity and differentiation in a particular context, such as EU firms in years where NFI disclosure became mandatory. According to Baruch College's CSR-Sustainability Monitor, European firms score highest in the world in terms of the scope and quality of information presented in NFR (Allman & Won, 2021), followed by East Asia and North America (CSR, 2019). Additionally, the EU and the members of the EEA form the world's most powerful trading bloc and the third largest economy, with common economic, social, and security policies. Therefore, these distinctions allow us to investigate the levels of conformity and differentiation of firms in countries where sustainability is important in firms' activities and can affect analyst evaluations (Dhaliwal et al., 2012; Tsang et al., 2022), thus providing a competitive advantage. Furthermore, it is a scenario in which countries with similar characteristics enact a regulation that applies equally to all large firms in the market, creating an ideal setting for investigating how different external pressures affect firm legitimacy and value.

Additionally, the study utilizes ESG material disclosure as it offers a more comprehensive understanding compared to other forms of ESG reporting. It recognizes the qualitative differences in specific activities, initiatives, and practices, enabling stakeholders to make more informed decisions and evaluate a firm's sustainability efforts (Kuh et al., 2020). Additionally, material disclosure takes into account the industry-specific context and tailors the reporting to address the unique ESG challenges and opportunities encountered by firms within their respective industries. Thus, by incorporating ESG material disclosure, this study enhances the understanding of optimal distinctiveness with findings that indicate that firms operating in the same industry can experience heterogeneous liabilities associated to distinctiveness in their ESG material scores, resulting in disparities in firm value. Moreover, with the use of ESG material disclosure, the study contributes to literature of optimal distinctiveness with a more comprehensive measure of differentiation that enables us to circumvent limitations mentioned in previous works (e.g., Zhang et al., 2020).

Second, the study advances the understanding of the distinctiveness–performance relationship by identifying how key audiences can shape the two countervailing pressures of distinctiveness. Therefore, this study contributes to the broader understanding of optimal distinctiveness by providing results that highlight the influence of contingencies, specifically stakeholders' expectations within a regulated context, on the relationship between distinctiveness and firm value. The study empirically examines and validates the legitimacy-buffering effect proposed by Fisher et al. (2016) and extends the work of Taeuscher and Rothe (2021). By doing so, it contributes to a deeper understanding of how distinctiveness, legitimacy, and firm performance are interconnected in a dynamic industry context. The results show that conformity is only one type of legitimacy that firms can use to protect against the liabilities of distinctiveness with alternative sources of legitimacy reducing firms' pressure for conformity. The results suggests that firms with higher analyst earnings forecasts can convey some degree of nonconformity, without sacrificing their legitimacy.

Therefore, the findings underscore the importance of taking into account stakeholders' expectations and the regulatory context when assessing the influence of distinctiveness on firm value, aligning with the propositions put forth by Zhao and Glynn (2022).

Finally, this study carries implications for the relationship between corporate social responsibility (CSR) and corporate financial performance (CFP). The results indicate a U-shaped relationship between firm value and the distinctiveness of material ESG practice disclosure. Building upon the work of Brammer and Millington (2008) and Barnett and Salomon (2012), this study extends the analysis by considering a broader measurement that incorporates environmental, social, and governance (ESG) practices rather than solely focusing on social initiatives. Moreover, it examines how these practices influence analyst earnings forecasts and, consequently, the firm's ability to capitalize on the disclosure of such practices.

This research also has important managerial implications. We provide evidence that as institutionalised ESG scores have become a weaker driver for firm profitability, as suggested by Brower and Dacin (2020), ESG material scores have become relevant for firm value. Firms with higher levels of distinctiveness on their ESG material scores increased their value creation, compared to firms that conform to the norm. Managers would be wise to begin paying attention, not only to the material ESG activities in the industry, but also to their own risk in relation to ESG activities that can be material for stakeholders and investors. This can be an effective strategy when dealing with pressures during the institutionalisation of ESG disclosure, such as policies and regulations, as our findings suggest. In this way, other key actors, such as sustainable investors and stakeholders, may observe how these sustainable activities are consistent with a firm's strategy and the environment within which it operates. This would allow firms to extend their distinctiveness strategies, providing them with access to alternative sources of legitimacy that can, in certain contexts, such as the disclosure of material ESG, create a buffer against the liabilities of distinctiveness.

One of the limitations of our study is that we examine a sample containing only firms with ESG material scores available in Bloomberg, which provides empirically limited generalisability in terms of the results, since only 220 European firms are available in the database. Hence, the results may not represent the full picture of what is happening in terms of ESG material disclosure scores in the region. Despite testing the robustness of our findings to remove endogeneity concerns, we cannot entirely eliminate the possibility that conformity and differentiation in the disclosure of ESG scores may be driven by other factors. For example, we do not focus on what happens when new firms enter the market, and how this first-mover advantage can affect the

relationship between ESG disclosure efforts and firm performance. Hence, future work could examine the impact of conformity and differentiation whilst taking into consideration the strategic positioning of the entry of new firms. Moreover, our study consists of mostly large firms affected by the Directive 2014/95/EU. Future research could build on these findings and test if the results could be generalised by examining how small-medium size firms, or firms with financial constraints (Rusinova & Wernicke, 2016; Xie et al., 2018), can reconcile the pressure of being legitimate with that of remaining competitive in the market. Finally, although we use a measurement for materiality that takes into consideration the perception of different audiences, future research could examine which audiences consider conformity and differentiation to be more or less important and how these elements could play a more effective role as an alternative source of legitimacy.

Appendix

Panel A. Impact of Distinctiveness on a Firm's Market Value: the Moderating Role of Analyst Coverage

Variables	Model 1 Distinctiveness deviation	Model 2 Industry weight	Model 3 Country weight	Model 4 IV
Distinctiveness	-0.24	-0.1	-0.02	-0.3
	(0.042)	(0.014)	(0.044)	(0.000)
Distinctiveness^2	0.14	0.07	0.03	0.44
	(0.030)	(0.84)	(0.015)	(0.000)
Distinctiveness * Analysts earning forecast	-0.2	-0.03	-0.03	-0.15
	(0.083)	(0.027)	(0.058)	(0.000)
Distinctiveness^2 * Analysts earning forecast	0.1	0.1	1	0.13
	(0.093)	(0.008)	(0.005)	(0.000)
Analyst earnings forecasts	-0.05	-0.02	-0.02	0.02
	(0.244)	(0.038)	(0.058)	(0.043)
Analyst coverage	0.04	0.034	0.04	0.021
	(0.044)	(0.062)	(0.030)	(0.047)
ROA	0.04	0.02	0.02	0.036
	(0.010)	(0.063)	(0.072)	(0.000)
Leverage	-0.28	-0.24	-0.23	-0.27
	(0.000)	(0.000)	(0.000)	(0.000)
Treated	-0.33	-0.35	-0.35	-0.3
	(0.004)	(0.009)	(0.025)	(0.000)
Size	0.12	0.19	0.16	0.17
	(0.058)	(0.000)	(0.009)	(0.000)
ESG disclosure scores	-0.18	-0.24	-0.23	-0.18
	(0.008)	(0.000)	(0.001)	(0.000)
Cross-listing	-0.09	-0.13	-0.1	-0.15
	(0.030)	(0.012)	(0.062)	(0.000)
Number of employees	-0.02	-0.04	-0.04	-0.03
	(0.233)	(0.067)	(0.060)	(0.000)
Constant	0.45	0.41	0.41	0.33
	(0.000)	(0.003)	(0.003)	(0.000)
No. of observations	813	813	813	813
Random effects	Yes	Yes	Yes	Yes
R-squared	0.11	0.074	0.06	-
$Anderson\ canon.corr.^a$	-	-	-	31.04
	-	-	-	(0.000)
$Cragg-Donald\ Wald\ F^b$	-	-	-	20.08
	-	-	-	-
p	-	-	-	0.000

Note. N = 813 observations. This table presents the random effects estimated coefficients. All explanatory variables are measured at time t-1. For ease of interpretation, these variables were standardised prior to entering them into the regression. *p < 0.1; **p < 0.05; ***p < 0.01

a The Anderson canonical correlations statistics, using a Lagrange Multiplier (LM) version, tests for underidentification of the instruments.

b The Cragg–Donald Wald F statistic tests for weak instrument identification.

Panel B: Impact of Distinctiveness on a Firm's Market Value: First Stage Results of the 2SLS Estimation

Variables	(1) Distinctiveness	(2) Distinctiveness^2	(3) Distinctiveness * Analysts earning forecast	(4) Distinctiveness^2 * Analysts earning forecast	(5) Analysts earning forecast
SDG Index	-0.03	-0.02	-0.03	-0.013	-0.05
	(0.000)	(0.038)	(0.000)	(0.000)	(0.000)
Distinctiveness * SDG Index	1	0.8	-0.01		
	(0.000)	(0.000)	(0.015)	-0.004 (0.069)	-0.01 (0.067)
Distinctiveness * Analyst earnings forecasts* SDG Index	-0.018	-0.7	0.9		
	(0.002)	(0.000)	(0.000)	-0.07 (0.000)	-0.001 (0.057)
Distinctiveness^2 * Analyst earnings forecasts* SDG Index	0.015	0.52	0.05		
	(0.002)	(0.000)	(0.131)	1.05 (0.000)	0.013 (0.677)
Analyst earnings forecasts* SDG Index	0.01	0.23	0.013		
	(0.006)	(0.000)	(0.173)	0.018 (0.072)	0.98 (0.000)
Analyst coverage	-0.001	-0.0001	-0.004	-0.003	-0.001
	(0.062)	(0.897)	(0.069)	(0.037)	(0.291)
ROA	-0.001	-0.01	-0.001	-0.001	0.001
	(0.045)	(0.009)	(0.219)	(0.062)	(0.96)
Leverage	-1.5	58	-9.4	3.32	18.5
	(0.077)	(0.06)	(0.058)	(0.052)	(0.005)
Treated	0.002	0.06	0.01	0.003	0.1
	(0.089)	(0.019)	(0.056)	(0.004)	(0.011)
Size	0.002	0.024	0.001	0.001	-0.002
	(0.059)	(0.056)	(0.522)	(0.034)	(0.185)
ESG disclosure scores	0.001	-0.01	0.001	0.002	-0.001
	(0.073)	(0.066)	(0.440)	(0.126)	(0.094)
Cross-listing	0.001	-0.07	0.002	0.002	0.002
	(0.068)	(0.001)	(0.029)	(0.000)	(0.044)
Number of employees	-0.001	0.002	0.001	0.001	0.001
	(0.090)	(0.524)	(0.081)	(0.365)	(0.010)
Constant	-0.02	-0.03	-0.01	-0.01	-0.01
	(0.073)	(0.017)	(0.017)	(0.042)	(0.007)
No. of observations	813	813	813	813	813
Random effects	Yes	Yes	Yes	Yes	Yes

Note. N = 813 observations; This table presents the random effects estimated coefficients. All explanatory variables are measured at time t-1. For ease of interpretation, these variables were standardised prior to entering them into the regression. *p < 0.1; **p < 0.05; ***p < 0.01. Models (1) and (5) correspond to the first stage results for Model (4) in Appendix A.

Conclusion

The purpose of this section is to present the overall conclusions of the investigation and their implications for the body of knowledge in which it is positioned. First, I will give an overview of the thesis. Second, the conclusions in relation to the research question and objectives will be outlined, following which I will then discuss the contributions of the study and the implications for managers and the public. Finally, the limitations of the investigation and opportunities for future research which arise from the study will be highlighted.

Thesis overview

This study aims to explain how the disclosure of ESG (Environmental, Social, Governance) issues affects firms' financial performances and strategies. To this end, previous literature has studied these relationships focusing on developing or industrialised countries and in a context in which the disclosure of this information has been mostly voluntary. As mentioned in the introduction of this thesis, the few studies that have explored the determinants of ESG disclosure practices or its impact on financial performance include only samples from North American and European firms (e.g., Buallay, 2019; Delisle, Grant, & Mao, 2021; Reverte, 2009), as well as industrialised countries such as China and India (e.g., Y. C. Chen, Hung, & Wang, 2018; Garcia et al., 2017; Paun, 2018), without addressing the impact that emerging markets might have in these associations. Moreover, some authors consider voluntary reporting to be less reliable than its counterpart, i.e., financial reporting, due to the lack of rigour applied in its preparation and standards (Cho & Patten, 2013; Eccles et al., 2012), which helps to explain the seemingly contradictory findings on the effect of ESG disclosure on firm performance outcomes (e.g., Margolis, Elfenbein, & Walsh (2007) meta-analysis). Consequently, this research aims to fill this gap in the literature by focusing on the impact of ESG disclosure scores in different contexts and mandatory settings to achieve a better understanding of this important issue and to answer the focal research question in this study, this being:

How does ESG disclosure influence firms´ strategies and, consequently, their value?

Different theories in strategic management have been used to explain how firms use sustainable resources to achieve a competitive advantage. For example, Barreto

and Baden-Fuller (2006) use institutional theory to suggest that legitimacy-based imitation reduces firm profitability, demonstrating the importance of legitimacy pressures on organisational decisions and the tension between the pressure to conform and the pressure to perform in order to gain a Corporate Social Responsibility-based (CSR-based) competitive advantage. Another example is the resource-based theory, which considers resources to be valuable and unique, potentially providing organisations with a competitive advantage. (e.g. Hart, 1995; Hart & Dowell, 2010). Results from Russo and Fouts (1997), one of the first studies to apply the resource-based view of a firm to corporate social responsibility issues, indicate that "it pays to be green" and that this relationship strengthens with industry growth. Michael E. Porter and Kramer's (2011) *shared value* proposed concept is supported by these findings. Firms, through innovative circular-economy-based business models, or by adopting strong corporate environmental ethics or CSR (Demirel & Kesidou, 2019; Hawn & Ioannou, 2016), can push the boundaries of differentiation in order to position themselves in a unique/underexploited position. This then provides them with a competitive advantage (Haans, 2019; Zhao et al., 2016; Zuckerman, 2016) while enabling them to acquire legitimacy in the eyes of the communities in which they operate (Porter & Kramer, 2011). When this happens, all resources are disposed in order to achieve a goal that can ultimately place the firm in a privileged position, compared to its competitors, by outperforming them through legitimisation and cost reduction (Alfred & Adam, 2009; King & Lenox, 2001; Michael E. Porter & Kramer, 2011). Sustainability, therefore, not only guarantees a favoured position for firms with all the benefits already mentioned, but it can also benefit the actors involved (in the production and consumption), expanding the pool of economy and the social value (Michael E. Porter & Kramer, 2011).

Conclusions regarding research questions

This thesis focuses on providing a better understanding of the relationship between sustainability disclosure, this being ESG issues specifically, and financial performance. By employing institutional and legitimacy theory, along with optimal distinctiveness theory, this study, conducted first in a global setting and then studying European firms, aims to contribute to the growing body of literature on Non-Financial Information and ESG disclosure.

While reviewing the literature for the study, I followed the various suggestions for future research and chose to study the determinants and adoption of ESG practices, as well as its implications for firm value.

In Chapter 1, I respond to the call in the strategy literature for more research on convergence in sustainability practices and the role that individual firms play in this process by determining which peer characteristics are more influential when firms decide which peers to imitate. In addition to examining industry determinants, this study investigates the country-level factors that may impact a firm's tendency to mimic influential peers' ESG disclosure scores. I theorised that firms are inclined to mimic influential peers within their industry regarding ESG disclosure, especially in uncertain environments.

Using a panel dataset covering 9,202 firms from nine industries across 82 countries that report ESG in the Bloomberg database for the period 2010-2018, I find support for the hypotheses. The results demonstrate that firms imitate their peers with superior information or influence when uncertainties about the outcome of a decision are present such as the disclosure of ESG practices in developing regions and when mandatory regulations are present. These results underscore the need for institutional theory to consider the institutional context when investigating the determinants of ESG disclosure. Furthermore, the setting allows us to advance the prior work on legitimacy-driven and reference group imitation, demonstrating the importance of legitimacy and influential peers extending to the institutionalisation of ESG disclosure in different institutional contexts.

The subsequent two chapters focus on ESG issues in a particular context, this being EU firms. According to Baruch College's CSR-Sustainability Monitor, European firms are ranked highest in the world in terms of the scope and quality of information presented in NFR (Allman & Won, 2021), followed by East Asia and North America (CSR, 2019). Additionally, the EU and the members of the EEA form the world's most powerful trading bloc and the third largest economy, with common economic, social, and security policies. Therefore, these distinctions allow us to investigate ESG disclosure and its effects on firm performance in countries where sustainability is important for firms' activities and can affect analyst evaluations (Dhaliwal et al., 2012; Tsang et al., 2022). Furthermore, it is a scenario in which

countries with similar characteristics enact a regulation that applies equally to all large firms in the market, creating an ideal setting to investigate how different external pressures affect firm legitimacy and value.

In Chapter 2, I follow the suggestions of previous studies and explore the effects of mandatory NFI disclosure on firm value (Christensen et al., 2021; Ioannou & Serafeim, 2019). First, following Fiechter, Hitz, and Lehmann (2018), I focus on the implications of mandatory NFI disclosure regulations following the implementation of the Directive 2014/95/EU. Second, to address earlier methodological concerns (Manchiraju & Rajgopal, 2017; Margolis et al., 2007), I employ a fuzzy regression discontinuity design (RDD) to identify a potentially causal link between NFI disclosure and firm value.

Thus, Chapter 2 explores the relationship between mandatory ESG disclosure and firm value in European firms after the implementation of the Directive 2014/95/EU, which mandates that large firms disclose their nonfinancial information. I argue that firms which comply with a coercive pressure, such as the Directive 2014/95/EU, will increase their firm value. The study explores the effectiveness of firm NFRs by examining how regulatory compliance impacts firm value. Moreover, to enhance the understanding of the variation in the relationship between NFR and firm value, I investigate how this relationship is affected by pressure from external groups, such as the state and the public (Liesen et al., 2015). Using the adoption of Directive 2014/95/EU as a quasi-natural shock on ESG disclosure quality, this study utilises a sample of 17,981 firm-year observations of 4,940 EU firms between 2012 to 2020 and finds robust evidence that mandatory ESG disclosure positively affects firm value. I demonstrate that, as NFR becomes an institutionalised practice among large European firms, compliance with the regulation can make firms appear legitimate to investors and stakeholders, resulting in a higher market value.

Finally, and in line with the previous chapter, Chapter 3 also focuses on European firms and explores the relationship between distinctiveness and firm value in a mandatory context. In Chapter 3, I follow different literature regarding optimal distinctiveness and CSR reporting to complement and explore previous studies and their recommendations for future research. First, I follow Zhao et al. (2016) and Zhao and Glynn's (2022) suggestion for future research on optimal distinctiveness, and shift

the focus from multiple strategies and a single organisational attribute to complexity in the practice itself, such as NFI disclosure, specifically material NFI disclosure, as well as the contingencies, such as key audiences, that significantly shape optimal distinctiveness. Second, I investigate the distinctiveness-performance relationship to gain a better understanding of how firms formulate their strategies in order to reconcile the opposing pressures of conformity and differentiation (Brower & Dacin, 2020), and to explore how firms can effectively buffer legitimacy in order to alleviate the pressure to conform in other contexts, such as material NFI disclosure (Taeuscher & Rothe, 2021). Finally, the study uses ESG materiality scores as a measurement of NFI disclosure. Since this type of information allows investors to distinguish between investments in material versus immaterial sustainability issues, it can be a more effective measurement for analysing the strategies behind CSR activities (Zhang et al., 2020).

Therefore, the study focus on this important source of legitimacy to investigate how key audiences can shape the relationship between the distinctiveness of ESG material scores and firm value. To answer this question. I use a sample of EU listed firms from 2016 to 2020. The findings suggest that as ESG disclosure becomes an institutionalised practice among European firms due to Directive 2014/95/EU, a positive relationship between the extent of material ESG disclosure and firm value occurs, with the highest and lowest levels of distinctiveness yielding the most pronounced effects. This can be attributed to the fact that firms disclosing higher levels of material ESG practices distinguish themselves in the eyes of stakeholders, thereby enjoying the advantages associated with such differentiation. Conversely, firms that disclose low levels of material ESG practices maintain the financial resources they might have otherwise use in sustainable activities. Furthermore, the findings reveal that analyst earnings forecasts serve as an additional source of legitimacy and function as a buffer for firms. It can be observed that for firms with low analyst earnings forecasts, the relationship between distinctiveness and firm value appears to be less pronounced compared to firms with analyst earnings forecasts. Moreover, the findings suggest that while these firms still benefit from distinctiveness in terms of competitive advantage, the negative impact on legitimacy is not as severe once optimal distinctiveness is achieved, although the benefits may be less significant compared to firms with analyst earnings forecasts. Additionally, for firms with analyst earnings

forecasts, the results show that as the level of analyst earnings forecasts increases, the U-shaped relationship between distinctiveness and firm value becomes more pronounced. This shift implies that firms can leverage the presence of analyst earnings forecasts as a legitimacy buffer, enabling them to maintain higher levels of distinctiveness without sacrificing value creation. In other words, the presence of analyst earnings forecasts provides firms with the ability to differentiate themselves while still preserving their firm value, a benefit that is not as prominent for firms without analyst earnings forecasts.

To conclude, the three chapters serve to explore and answer the research question presented in this study: *How does ESG disclosure influence firms´ strategies and, consequently, their value?*

First, the findings in the three chapters highlight the importance of ESG disclosure practices for firms and stakeholders. Chapter 2 and 3, also indicate that firms that report see a positive impact in their value creation. Second, mandatory regulation regarding the disclosure of NFI positively affects firm value and this relationship is affected by stakeholder pressures. Finally, firms that report material ESG practices can maximise their benefits by accessing alternative sources of legitimacy, such as higher quality analyst forecasts, increasing the levels of acceptability and thus distinctiveness at which a firm begins to lose legitimacy. This again highlights the importance of context and a dedicated audience (i.e., higher level of exposure to stakeholders) in the disclosure of ESG practices and its relationship with firm value.

Contributions to new knowledge

With these three studies, this thesis contributes to the literature on the relationship between ESG disclosure and firm performance, answering recent calls for further study in the context of NFI disclosure, as mentioned above.

Chapter 1 extend Serafeim & Ioannou's (2019) study by examining various industry-level and country-level factors that influence ESG disclosure practices through empirical analysis. The findings reveal that firms imitate influential peers with better information in uncertain situations, such as ESG disclosure in developing regions and under mandatory regulations. I observe geographical variation in firms' propensity to mimic peers' ESG disclosure practices, which can be attributed to

institutional environment differences. The findings suggest that in developing regions, the importance of large-size firms is contingent on their attaining high sustainability scores. These findings align with those of Amini and Bianco (2017), whose research suggests that the potential of CSR to function as a development booster is more significant in less industrialized economies, where the cost of imitation is lesser than that of innovation. Thus, emphasize the importance of considering institutional context in studying ESG disclosure determinants.

Furthermore, the results indicate a higher degree of imitation in strong regulatory environments. This highlights the need to account for diffusion and isomorphism mechanisms when analysing ESG disclosure dissemination, especially in a strong regulatory context. Lastly, the cross-regional analysis has implications for legitimacy in ESG practices. Firms in developed regions seek legitimacy by emulating larger, more profitable peers, particularly under mandates, while firms in developing regions display less imitation of influential peers. Irrespective of a focal firm's ESG disclosure levels or size, market and sustainability leaders exert greater influence in shaping ESG disclosure practices. Thus, the findings demonstrate how organizations pursue varying levels of legitimacy based on their characteristics and institutional environments. In summary, the research offers significant insights that advance institutional theory by emphasizing the role of institutional context, diffusion, and legitimacy in shaping ESG disclosure practices.

In Chapter 2, I make several contributions to the growing CSR and institutional theory literature. First, drawing on institutional theory and previous research on NFI, this study posits that mandatory regulations on NFI disclosure, such as Directive 2014/95/EU, have an impact on the legitimacy and reputation of compliant firms, potentially resulting in an increase in their firm value. By focusing on the impact of compliance with the Directive 2014/95/EU, particularly in the post-implementation phase, this study offers valuable insights into how enhanced transparency and accountability through the disclosure of NFI can contribute to the generation of firm value. Similarly, the findings suggest that the coercive pressure exerted by regulations on NFI disclosure does not lead to negative externalities.

Additionally, the study offers insights that challenge the perspective of ESG/CSR regulations as detrimental to shareholder value, as it finds evidence suggesting that firms choosing to comply and disclose ESG/CSR information

experience more advantages. These findings contradict the notion that regulations would lead to value destruction for firms, as proposed by Manchiraju & Rajgopal, (2017), Milton Friedman, (1970) and supported, in the context of mandatory NFI regulations, by Chen et al. (2018), Grewal et al., (2018). Second, this study expands the literature that examine the role of powerful stakeholders and CSR practices (e.g., Li et al., 2018; Liesen et al., 2015; Wijethilake & Lama, 2018) by examining the influence of external pressures on firm value within the context of mandatory NFI regulations. The findings reveal variations in firms' value creation based on stakeholder pressure, such as the state and the public, addressing a gap identified in previous literature, as highlighted by Christensen et al. (2021) and Ioannou & Serafeim (2019). Hence, the findings of this study imply that Directive 2014/95/EU has the potential to influence investment decisions and attract specific audiences, all of which can contribute to increased firm value. In contrast to previous studies that primarily analyse the impact of Directive/95/EU before its implementation (i.e., when it was announced in 2014) (e.g., Allman & Won, 2021; Fiechter et al., 2018; Grewal et al., 2018), this study adopts a different approach by also investigating the post-regulation effects on firm value. By exploring this post-implementation phase, the study sheds light on the potential advantages that compliant firms can gain from disclosing ESG/CSR data. Additionally, this research expands the existing literature on mandatory NFR and the implementation of Directive/98/EU by examining the involvement of external groups in value creation, an aspect that has not been thoroughly explored in previous publications.

Lastly, the study addresses methodological concerns by employing a Fuzzy regression discontinuity approach. One of the main methodological benefits of this design is its close relation to a randomised experiment (Lee & Lemieux, 2010), allowing us to establish a potentially causal link between NFR and firm value. In conclusion, mandated NFR reporting may reduce information asymmetry, target a diverse audience, provide investors with transparent non-financial information, and generate comparability benefits - all of which are necessary for justifying a mandate.

In Chapter 3, the study makes valuable contributions to ongoing research streams. The study contributes to the emerging new agenda in the literature on optimal distinctiveness by considering the influence of context and contingencies on the tensions between conformity and differentiation, in line with the suggestions made by

Zhao & Glynn (2022). First, the study contributes to the advancement of knowledge regarding the relationship between distinctiveness and firm performance within the context of mandatory non-financial information (NFI) disclosure, specifically focusing on the use of ESG material disclosure. A regulatory context that mandates sustainability practices enables an investigation into the levels of conformity and differentiation among firms operating in countries where sustainability holds significance in their activities and has the potential to impact analyst evaluations (Dhaliwal et al., 2012; Tsang et al., 2022), thus providing a competitive advantage. Furthermore, it is a scenario in which countries with similar characteristics enact a regulation that applies equally to all large firms in the market, creating an ideal setting for investigating how different external pressures affect firm legitimacy and value. The use of ESG material disclosure offers a more comprehensive understanding compared to other forms of ESG reporting since it recognizes the qualitative differences in specific activities, initiatives, and practices, enabling stakeholders to make more informed decisions and evaluate a firm's sustainability efforts (Kuh, Shepley, Bala, & Flowers, 2020). Likewise, material disclosure takes into account the industry-specific context and tailors the reporting to address the unique ESG challenges and opportunities encountered by firms within their respective industries. Thus, by incorporating ESG material disclosure, this study enhances the understanding of optimal distinctiveness with findings that indicate that firms operating in the same industry can experience heterogeneous liabilities associated to distinctiveness in their ESG material scores, resulting in disparities in firm value. Moreover, with the use of ESG material disclosure, the study contributes to literature of optimal distinctiveness with a more comprehensive measure of differentiation that enables us to circumvent limitations mentioned in previous works (e.g., Zhang et al., 2020).

The study also advances the understanding of the distinctiveness–performance relationship by identifying how key audiences can shape the two countervailing pressures of distinctiveness. The study empirically examines and validates the legitimacy-buffering effect proposed by Fisher et al. (2016) and extends the work of Taeuscher and Rothe (2021). By doing so, it contributes to a deeper understanding of how distinctiveness, legitimacy, and firm performance are interconnected in a dynamic industry context. The results show that conformity is only one type of legitimacy that

firms can use to protect against the liabilities of distinctiveness with alternative sources of legitimacy reducing firms' pressure for conformity.

Finally, this study carries implications for the relationship between corporate social responsibility (CSR) and corporate financial performance (CFP). The results indicate a U-shaped relationship between firm value and the distinctiveness of material ESG practice disclosure. Building upon the work of Brammer and Millington (2008) and Barnett and Salomon (2012), this study extends the analysis by considering a broader measurement that incorporates environmental, social, and governance (ESG) practices rather than solely focusing on social initiatives. Moreover, it examines how these practices influence analyst earnings forecasts and, consequently, the firm's ability to capitalize on the disclosure of such practices.

Managerial implications

This research also provides advice for those responsible for designing, implementing, or making decisions in relation to the sustainability strategies in firms.

In Chapter 1, the analysis shows that influential peers are being imitated. The social comparison and processes involved in the reporting of this type of information, which is mostly voluntary, also contributes to the institutionalisation of NFI disclosure. Thus, the importance of social comparison and legitimisation present in this study opens the door to new research on policymaking and the active role that influential peer firms can play in public policies regarding ESG disclosure and sustainability initiatives in general, and their implementation.

The findings in Chapter 2 likewise contribute to a better understanding of NFI disclosure for regulators and policymakers, in particular those from EU/EEA countries who have mandatory regulations regarding NFR or are considering implementing them. These findings imply that regulations regarding ESG/CSR information mandated by governments and regulators can result in financial benefits for compliers. The results show that these benefits are more pronounced for firms nearer the cut-off, than for larger firms. Thus, the results also show that regulation does not constrain growth for firms that are subject to the mandatory aspects of the regulation. Finally, the target audience for NFR is not limited to a firm's investor base, as is the case with financial information reporting. Rather, by reporting ESG/CSR information, businesses aim to educate a broader and more diversified group of stakeholders and

investors on a variety of environmental, social, and governance (ESG) practices and their scores. As a result, it is critical for policymakers and investors to focus on the quality of disclosures and the transparency of reports in order to significantly reduce the risks associated with sustainability activities and potential greenwashing (Cho & Patten, 2007).

In Chapter 3, the findings suggest that Firms with higher levels of distinctiveness in terms of their ESG material scores increased their value creation, compared to firms that conform to the norm. Thus, managers would be wise to begin paying attention, not only to the material ESG activities in the industry, but also to their own risk in relation to ESG activities which can be material for stakeholders and investors. This can be an effective strategy when dealing with pressure during the institutionalisation of ESG disclosure, such as policies and regulations, as the findings suggest.

Limitations and future research

This study, like any other, has limitations that must be acknowledged, as these offer promising avenues for future research.

In Chapter 1, a common issue in imitation analyses is the similarity between firms and imitators. In the study I recognise the limitations of the research design, it should be noted that the findings in this study primarily suggest a correlation between the ESG disclosure scores of influential peers and those of the focal firm, rather than providing definitive evidence of causality. Yet, according to the literature, it is more likely for influential peers to influence the behaviour of the focal firm , as opposed to the inverse relationship taking place (Haunschild & Miner, 1997; Serafeim & Ioannou, 2019). Building upon prior research, the study incorporates fixed effects to account for both time-varying and time-invariant factors that could impact the firm and its industry (Liang & Renneboog, 2017; Serafeim & Ioannou, 2019). Additionally, I use a GEE model to accounts for potential autocorrelations in the data. Lastly, I separate the sample into different geographical regions to account for the different levels of sustainability pressure and constraints that firms might face when disclosing ESG practices. Still, the study and its contributions must be considered in light of its limitations. The study considered common traits and outcomes that might influence the focal firm's decisions, but I have not included other legitimacy-based variables, such as the power of the media, NGOs, or consumers, as well as strategic managerial

decisions which may significantly contribute to the conditions surrounding imitation behaviour (Barreto & Baden-Fuller, 2006; Brower & Dacin, 2020). As such, the study underscores a promising future avenue for research on the channels through which focal firms are influenced by legitimacy-based reference groups in different industries and countries when disclosing ESG information.

In Chapter 2, the study's main limitation is that it analyses legislation in a specific context, so the findings cannot be easily generalised to other countries or regions. Moreover, as more countries adopt reporting formats and frameworks, such as ISO 26000 and the UN Global Compact, additional research is needed to gain a fuller understanding of how standardisation can help investors in their decisions, as well as how this can eventually affect firm values (see Jackson et al., 2020). Additionally, given the EU's relatively undeveloped stage of mandatory NFR, stakeholders may be content simply for companies to be participating in the process at this point. However, it is probable that stakeholders will exert greater pressure on managers in the future to enhance the quality of their reporting, akin to the trends observed in the field of governance information as suggested by Wernicke (2018). Lastly, since the regulation only came into effect for the fiscal year beginning 1st January, 2017, I expect that the results may change in the future as firms' attitudes toward transparency and ESG/CSR actions evolve, and thus future research can complement these findings.

Finally, in Chapter 3, an additional limitation of the study is that I examine the sample containing only firms with ESG material scores available in the Bloomberg database. This data provides empirically limited generalisability results, as only 220 European firms are available in the database. Hence, the results may not represent the full picture of what is happening in terms of ESG material disclosure scores in the region. Despite testing the robustness of the findings to remove endogeneity concerns, I cannot fully eliminate the possibility that conformity and differentiation in the disclosure of ESG scores might be driven by other factors. For example, I do not focus on what happens when new firms enter the market, and how this first-mover advantage can affect the relationship between ESG disclosure efforts and firm performance. Hence, future work could examine the impact of conformity and differentiation, taking into consideration the strategic positioning in relation to the entry of new firms. Moreover, the study consists of mostly large firms affected by the Directive 2014/95/EU. Future research could build on these findings and test if the results could

be generalised by examining how small-medium size firms, or firms with financial constraints (Rusinova & Wernicke, 2016; Xie et al., 2018), can reconcile the pressure of being legitimate with that of remaining competitive in the market. Finally, although I use a measurement for materiality that takes into consideration the perception of different audiences, future research could examine the audiences to which conformity and differentiation are more important and which could play a more effective role as an alternative source of legitimacy.

The findings in this thesis signal the importance of future research on NFI and its effects within the corporate world. As pressure from investors, governments, and society build up, more businesses are integrating NFI reports into their existing mandatory annual financial reports. The evidence presented in this thesis supports previous research and suggests that investors today are not only paying attention to financial information when making their investment decisions. The inclusion of mandatory regulations regarding the disclosure of NFI makes new research essential in order for us to understand how mandatory regulations will affect firms' strategies in the long run. Furthermore, since most of the regulations around the world affect larger firms, it would be interesting to study how small and medium firms that are participating voluntarily in this scheme are impacted by it. More specifically, it will be key to explore different type of benefits or threats the firms face when reporting and how their strategies change in order to remain competitive. Similarly, mandatory regulations can accelerate the standardisation of NFI reporting, and the disclosure of more ESG materiality scores. Thus, there is a need to investigate how the standardisation of this type of information, as well as the disclosure of more financial materiality information, can affect firm value. Finally, it would be interesting to explore how firms with global presence, that are based in countries with existing mandatory reporting schemes, behave in countries with no mandatory regulations. Allman and Won's (2021) findings suggest that U.S. firms with activities taking place in the EU, were able to raise additional debt after the adoption of the Directive. However, these findings were made prior to the complete implementation of the regulations in the EU. Hence, more research is needed to fully understand how regulations can assist investors and stakeholders, increasing transparency through NFI reporting.

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