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SHOULD ESG DISCLOSURE BE MANDATORY? AN OVERVIEW

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Abstract: This review paper aims to outline the nature and key features of environmental, social and governance (ESG) disclosure and identify the real outcomes associated with the transition to mandatory ESG disclosure. In addition, it highlights the challenges surrounding mandatory ESG disclosure and provides beneficial recommendations to improve the compulsory ESG disclosure environment. This review is guided by analysing 63 Web of Science (WoS) and Scopus-indexed articles between 2012 and 2022. Findings show that mandatory ESG disclosure combined with specified ESG reporting standards and an appropriate enforcement and assurance regime can have beneficial informational and real effects. This paper highlights those critical yet beneficial implications for regulators, policymakers and researchers based on the importance of mandatory ESG disclosure involvement in the business environment.

Keywords: Sustainability disclosure, mandatory ESG disclosure, ESG standards.

Introduction

During the past few decades, ESG performance has emerged as a response to local and international regulatory frameworks to mitigate potential risks and address climate change through participation in the Sustainable Development Goals (SDGs). Along with the rising interest in sustainable investment, there has been an upward trend in the demand for ESG disclosure in annual reports and sustainability reporting. The purposes are to improve market transparency, build trust, and communication with all stakeholders (such as institutional investors, analysts, creditors, governments, suppliers, employees, customers, and society), and motivate management to maximise firm value (Dos Santos *et al*., 2022). As a result, firms' activities and practices are now subject to ongoing stakeholder monitoring.

In light of the rising demand for more systematic ESG disclosure, many organisations have developed voluntary reporting standards for ESG activities to enhance and standardise reporting procedures. For instance, the Climate Disclosure Standards Board (CDSB), the Task Force on Climate-Related Financial Disclosure (TCFD), the Global Reporting Initiative (GRI), the International Integrated Reporting Council (IIRC), and the Sustainability Accounting Standards Board (SASB) (Larrinaga & Bebbington, 2021). However, there has been a concern about the inconsistency among these ESG information disclosure frameworks and standards, which can reduce the comparability of ESG reporting data due to the increasing number of frameworks and the lack of communication or coordination among them (Cambourg, 2019).

There are two main types of ESG reporting regulations: "Voluntary" or/and "mandatory". However, most ESG disclosure is voluntary and discretionary (Cho *et al*., 2012; Faccia *et al*., 2021). Therefore, the information provided by firms and ESG rating agencies under a voluntary ESG disclosure regime is frequently insufficient, inaccurate, and not comparable between firms or sectors, hence making it hard for investors to accurately evaluate a firm's ESG performance and materially affect investment decisions (Krueger *et al.,* 2021; El-Hage, 2021).

Consequently, in order to close the gap between the desire for ESG information by interested parties and the availability of such information from firms, various nations have implemented laws mandating that firms must disclose ESG information in their annual reports or through separate reports dedicated to these issues (e.g., sustainability or ESG reports) to promote the comparability, transparency, and corporate accountability of ESG data (Krueger *et al.,* 2021). However, these regulations can be costly and pose reputational or financial risks, especially for firms with limited voluntary ESG disclosure that must comply with additional ESG reporting obligations (De Micco *et al.,* 2020). Thus, the problem lies in understanding the trade-offs and implications associated with shifting from voluntary to mandatory ESG disclosure regulations for firms regarding cost, risk, and compliance burdens. This generates the question: "Does mandatory ESG disclosure yield beneficial real outcomes for firms' behaviour, performance, and stakeholders?"

Furthermore, the implementation of mandatory ESG disclosure regulations faces challenges that hinder ESG reporting quality, including the lack of standardised frameworks, complex and non-material ESG information, and lack of transparency in ratings agencies' methodologies. These challenges lead to increased costs, reduced comparability and reliability of ESG data, and difficulty in integrating ESG information into investments (Saadaoui & Soobaroyen, 2017; Kotsantonis *et al.,* 2019; El-Hage, 2021; Christensen *et al*., 2021; Krueger *et al.,*2021). Addressing this problem can help gain valuable insights into optimising the design and implementation of mandatory disclosure regulations.

It is essential to highlight that prior research has primarily focused on voluntary ESG disclosure, leaving a gap in understanding whether mandatory ESG disclosure yields real outcomes (Christensen *et al.,* 2021). Moreover, the existing literature often lacks a thorough exploration of practical and effective solutions urgently needed to tackle the challenges associated with implementing mandatory ESG disclosure (El-Hage, 2021; Krueger *et al*., 2021). Hence, this raises the need to investigate and evaluate the necessity and implications of mandating ESG disclosure, particularly given the increasing pressure on authorities to enforce stricter regulations on firms' mandatory ESG disclosure in response to stakeholders' expectations.

To fill the research gaps mentioned earlier, we conducted an in-depth examination of the relevant academic literature in accounting, finance, management, and economics, aiming to contribute to the ongoing debate by addressing three key aspects, (i) providing evidence-based insights into whether the transition to mandatory ESG disclosure leads to beneficial real outcomes on firms' behaviour and performance, as well as beneficial informational effects on stakeholders, (ii) identifying potential challenges and barriers to implementing mandatory ESG disclosure requirements, and (iii) proposing proactive solutions to overcome these challenges, allowing stakeholders to make informed decisions and contribute to the ongoing development of ESG regulations and reporting practices. Overall, this study offers a comprehensive evaluation of the implications and practical considerations surrounding mandatory ESG disclosure, thereby significantly contributing to the existing literature and informing future policies and practices in this field.

The remainder of the paper follows: Section 2 sets out the materials and methods. Section 3 describes the nature of ESG disclosure. Section 4 presents the consequences of adopting mandatory ESG disclosure. Section 5 reviews the challenges in adopting mandatory ESG disclosure and proposes solutions. Section 6 presents a summary of our review findings. Finally, Section 7 concludes the study.

Materials and Methods

This study attempts to deal with the developments in mandatory ESG disclosure and its non-economic consequences. For this purpose, a study was conducted on August 21, 2022 for the related archival articles published between 2010 and 2022 using two sets of keywords:

(i) ESG keywords, represented by (ESG, mandatory ESG disclosure, Corporate Social Responsibility [CSR], sustainability reporting, voluntary non-financial disclosure) and (ii) (non) economic consequences keywords represented by (disclosure quality, firm performance, financial performance, firm value, profitability, firm behaviour, earnings management, cost of capital, investment decisions, market reactions, and stakeholders).

To ensure the reliability and validity of the studies included in the review, some well-known academic journals and articles, i.e., Wiley, Springer, Emerald, MDPI, Elsevier, Routledge and Taylor and Francis that are listed in the Social Sciences Citation Index and available on WoS, Scopus, and Google Scholar were referred to. A total of 135 journal articles were located and scanned manually in terms of titles and abstracts. In particular, articles without any emphasis on the link between mandatory ESG disclosure and its non-economic consequences were removed. The final results included 63 relevant journal articles published between 2012 and 2022 (Figure 1).

The authors thoroughly analysed these articles by reading the full text to map the developments in the literature on mandatory ESG disclosure and its economic and non-economic consequences. This in-depth analysis helped us understand the current state of knowledge on this topic and identify any gaps or areas needing further research.

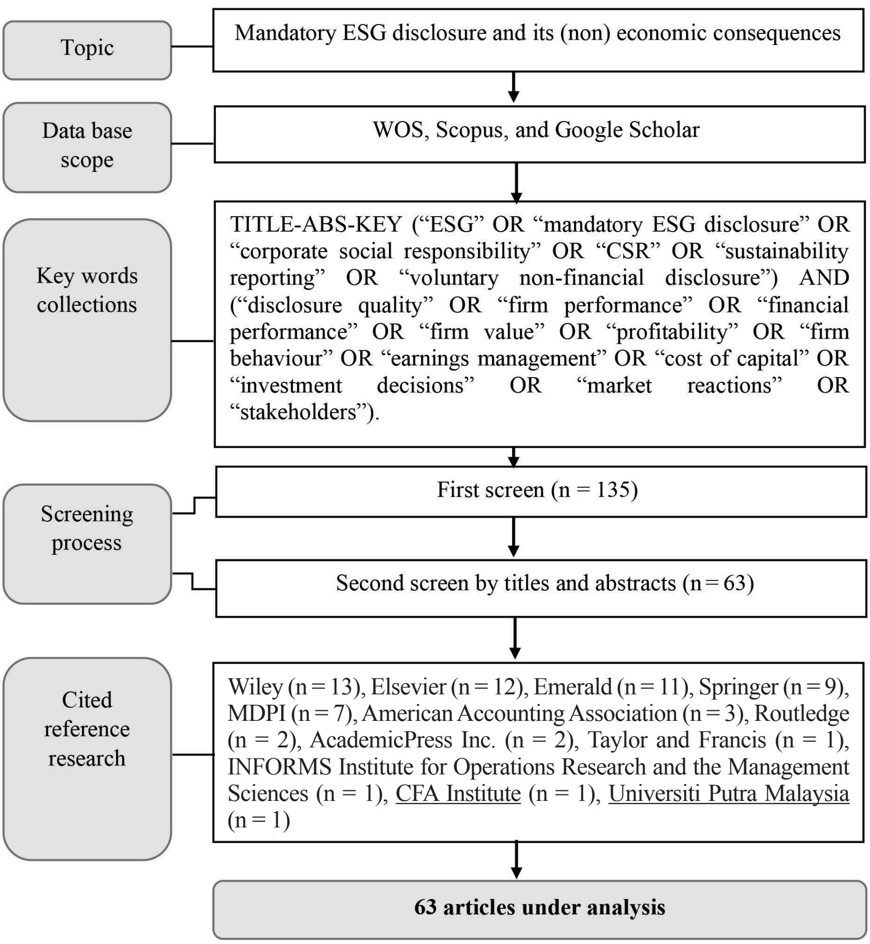

Figure 1: Flow chart of the search procedures

Nature of ESG Disclosure

Recently, the demand for ESG disclosure has increased significantly, mainly due to the growing belief among mainstream investors that all firms should disclose material ESG information. This trend reflects the importance of sustainability and responsible investment in the financial world. As a result, firms are under increasing pressure to provide high-quality, reliable ESG data to investors and other stakeholders. Christensen *et al.* (2021, p.1182) defined ESG reporting as "the measurement, disclosure, and communication of information about ESG and sustainability topics, including a firm's ESG activities, risks, and policies".

Public listed firms in a wide range of sectors are required by ESG reporting standards to disclose comprehensive information about their ESG practices and performance. These disclosures may cover specific aspects. Firstly, the Environmental (E) element includes reducing carbon emissions and pollution, increasing energy efficiency, and ensuring animal welfare. Secondly, the Social (S) element includes guidelines pertaining to worker conditions, talent management, consumer safety, and healthcare. Lastly, the Governance (G) element is concerned with firm administration and control, and it addresses issues like board composition, executive compensation, corporate ethics, and leadership responsibility (Mack, 2021).

ESG disclosure can help investors make ethical and responsible investment decisions by providing information about a firm's sustainability practices and performance. Additionally, considering ESG factors may significantly impact a firm's financial structure (Atan *et al.*, 2016). ESG information is often disclosed to stakeholders through annual or specialised standalone reports (e.g., sustainability or ESG reports) (Krueger *et al.*, 2021). According to Chelli *et al.* (2018), firms may be required to disclose information about their ESG practices and performance through mandatory regulation issued by governments or securities exchanges or through voluntary reporting standards.

One of the key differences between voluntary and mandatory ESG reporting is that it allows firms to customise the style, format, and content of their disclosures because ESG reporting lacks a concrete disclosure framework. In other words, firms can decide which information to report and how they present it following their specific circumstances and priorities (Mack, 2021). Therefore, this can lead to a lack of consistency in the ESG information disclosed by different firms, making it difficult for investors and other stakeholders to compare the ESG performance of different firms.

Moreover, from a managerial opportunistic perspective, voluntary ESG disclosure may leave spaces for fraud and greenwashing as well as motivate entrenched managers to exaggerate or misrepresent their ESG practices to camouflage their unethical practices and to gain stakeholders' support and legitimacy (Ackers, 2015; Zhang *et al.,* 2019; García-Sánchez *et al.,* 2020). That, in turn, can lead to a lack of trust and credibility in the ESG reporting process, which may ultimately be detrimental to a firm's long-term financial performance (Cupertino *et al*., 2022).

As a result of these concerns, mandatory ESG disclosure has become increasingly common and is also being recognised at the institutional level around the world (Cupertino *et al*., 2021) to bridge the gap between the demand for accurate ESG information by investors and the supply of such information by firms. To date, at least 25 countries (e.g., China, the European Union, United Kingdom, United States, South Africa, and India) have implemented mandatory ESG disclosure regulations to force publicly listed firms to properly disclose information about their ESG practices and performance in annual reports or specialised standalone reports to increase corporate accountability, transparency and comparability of ESG information for investors and other stakeholders (Krueger *et al*., 2021).

For instance, in 2014, the European Union (EU) adopted Directive 2014/95/EU, which mandates large listed firms (with more than 500 employees and with either more than EUR 20 million in total assets or more than EUR 40 million in sales) to disclose ESG information in documents such as annual reports, sustainability reports, and integrated reports starting with the 2017 fiscal year, including details about environmental protection, employees, human rights and anti-corruption (Leong *et al*., 2019). It is worth noting that the EU is currently examining this directive to determine any opportunities to improve it, possibly by establishing additional standards or auditing requirements.

Similarly, in India, only the top 100 firms are required to spend an average of 2% of their net profit after tax for the previous three years of operations on ESG practices and to include information about these practices in their annual report to promote SDGs by mandatory reporting as an alternative to voluntary reporting forms (Oware *et al*., 2021). In addition to the EU and India, several other countries have implemented mandatory ESG disclosure regulations. According to a report by Corporate Knight Capital (2014), countries including Belgium, Australia, Denmark, China, France, Finland, Italy, South Africa, and Japan are among those regulatory actors mandated to disclose their sustainability practices (Doug Morrow & Yow, 2014).

In this regard, scholars argued that when ESG disclosure becomes mandatory, it is governed by clear standards that establish what firms must disclose and how they must disclose it. This can help to improve the consistency and comparability of ESG information (Grewal *et al*., 2019; Buijink *et al*., 2019; Cordazzo *et al.*, 2020; Aureli *et al*., 2020).

In other words, shifting to mandatory disclosure can lower the likelihood of unethical behaviour and improve the quality, objectivity and transparency of ESG disclosure, which, in turn, will boost financial performance (Yu *et al.,* 2020). Therefore, there is an urgent necessity for mandatory ESG disclosure. (Li & Jia, 2021).

Consequences of Adopting Mandatory ESG Disclosure

According to economic reporting theories, mandatory disclosure requirements improve disclosure quality, lower information asymmetry between firms and their stakeholders, and affect firms' behaviour and performance (Fu *et al.,* 2012). However, the same theories suggest that establishing mandatory disclosure regulations is costly and may be associated with reputational or financial risks if firms are unable to comply with the requirements of the disclosure regime, especially for firms that make limited voluntary ESG disclosure and are legally obligated to report more ESG information (De Micco *et al.,* 2020; Christensen *et al*., 2021).

Therefore, this raises an interesting question, "Does mandatory ESG disclosure associate with (i) beneficial real outcomes on firms' behaviour and performance and (ii) beneficial informational effects on stakeholders?" In this section, we reviewed a stream of studies that investigated whether adopting mandatory ESG disclosure could affect (i) ESG disclosure quality, (ii) economic performance, (iii) stakeholders' interests, and (iv) firm behaviour toward the real economy.

Mandatory ESG Disclosure and ESG Disclosure Quality

It is common for investors to express concerns about the quality and accessibility of disclosed ESG information, as they may feel that such disclosures are insufficient to incorporate fully into their decision-making processes. Therefore, there is a growing consensus among academics on the need to improve the amount and quality of disclosed ESG information, which can have an impact on a firm's sustainability approach at the managerial and organisational level (Comyns *et al.,* 2013; Contrafatto & Burns, 2013; Unerman & Chapman, 2014; Passetti *et al*., 2018).

In this context, some scholars investigated the ability of mandatory ESG disclosure to affect ESG disclosure quality. They argued that mandatory ESG disclosure could lead to improvements in the quality and content of ESG reports, and ESG firms are more likely to adopt reporting guidelines and seek assurance for their disclosures, which can help to reduce information asymmetry and increase transparency (Ioannou & Serafeim, 2017; Venturelli *et al*., 2017; Wang *et al.,* 2018; Caputo *et al*., 2020).

Moreover, Krueger *et al.* (2021) demonstrated that mandatory ESG disclosure could significantly improve ESG reporting quality for firms with lower levels of ESG performance, suggesting that mandatory disclosure requirements can serve an important key role in reporting quality.

In contrast, the studies of Haji *et al*. (2022), Luque-Vilchez and Larrinaga (2016) and Chauvey *et al.* (2015) suggested that while mandatory ESG disclosure may lead to an increased disclosure quantity, the quality of this disclosure can still be low. This finding is consistent with the idea that some firms may adopt symbolic reporting practices to meet regulatory requirements rather than providing more substantive or meaningful information about their ESG practices (Cho *et al*., 2015; Michelon *et al.,* 2015; La Torre *et al*., 2018; Doni *et al.,* 2019; Maglio *et al*., 2020). This highlights the importance of having robust standards and enforcement mechanisms in place to ensure that firms are providing accurate and comprehensive information about their ESG performance.

Mandatory ESG Disclosure and Economic Performance

The relationship between mandatory ESG disclosure and economic performance has received significant attention from prior studies, essentially testing whether firms "do well by doing good", and their results are mixed. There is evidence from recent studies that mandatory ESG disclosure can improve firm performance by enhancing public reputation, reducing the cost of capital, and improving outcomes for employees (Raimo *et al.,* 2021; Carnini Pulino *et al.,* 2022). According to Bruna *et al.* (2022), ESG performance significantly and positively impacts financial performance when a mandatory ESG disclosure is in place. In addition, Zhang *et al.* (2019) reported that the relationship between financial performance and mandatory ESG disclosure is stronger than voluntary ESG disclosure.

Similarly, several studies examined the long-term impacts of mandatory ESG disclosure on firm value in various institutional settings (Ioannou & Serafeim, 2017; Rossi & Harjoto, 2020; Jadiyappa *et al.,* 2021). Their results indicated that mandatory ESG disclosure is positively associated with firm value, suggesting that compulsory ESG disclosure increases transparency, reduces agency costs, improves reputation, and influences the firm's behaviour towards ESG matters.

Moreover, the research conducted by Krueger *et al.* (2021) suggested that mandatory ESG disclosure lowers the risk of stock price crashes. Mack (2021) also explained, "Although high costs and, derivatively, barriers to entry are inherent to a mandatory ESG disclosure regime, evidence suggests that this type of system may benefit firms financially by reducing the cost of capital".

Conversely, other scholars found that mandatory ESG disclosure has led to a significant negative effect on firm performance due to increasing short-term costs related to the time and resources required to develop new reporting systems, the cost of gathering and organising the necessary ESG information, and the cost of complying with any audit or assurance requirements (Manchiraju & Rajgopal, 2017; Chen *et al*., 2018; Grewal *et al.,* 2019; Jayaraman & Wu, 2019; Ren *et al.,* 2020; Aswani *et al.,* 2021). Similarly, other scholars found that mandatory non-financial disclosure has an insignificant impact on financial performance (Phan *et al.,* 2020; Agostini *et al.,* 2022).

The above conflicting results may be because the impact of mandatory ESG disclosure on firm performance depends on various factors, including the industry or market in which the firm operates, the quality and timeliness of the disclosed information, and the level of stakeholder engagement.

Mandatory ESG Disclosure and Stakeholders' Interests

Mandatory ESG reporting can benefit stakeholders even if the impact on firm performance or value is mixed. From a monitoring perspective, mandatory ESG disclosure forces firms to disclose the available ESG information and exposes the issuing firms to more public attention and scrutiny by all the stakeholders involved, including shareholders (investors) and non-shareholders (analysts, customers, employees, local communities, government agencies, auditing firms and other service providers) (Cohen *et al.,* 2015; Campra *et al.,* 2020). This can balance the interests of firms and stakeholders and improve investment efficiency (Zhao *et al.,* 2018; Liu & Tian, 2021).

According to Amel-Zadeh and Serafeim (2018), professional investors generally focus on ESG information that could potentially impact financial returns on their investments**.** Therefore**,** mandatory ESG disclosure can assist investors in evaluating the potential risks of an investment or identifying firms that align with their preferences (Christensen *et al*., 2021).

Similarly, capital market information intermediaries such as analysts have increasingly incorporated ESG information into their valuation techniques. (Ioannou & Serafeim, 2017). Several studies revealed that mandatory ESG disclosure leads to more accurate earnings per share (EPS) forecasts and fewer errors and variations in analysts' EPS predictions (Dhaliwal *et al.,* 2012; Zhou *et al.,* 2017; Bernardi & Stark, 2018; Krueger *et al.,* 2021).

Regarding other stakeholders, Darendeli *et al.* (2021) found that increased ESG disclosure makes it possible for corporate customers to rank their suppliers based on their ESG performance. Hence, this enables corporate customers to better manage potential risks associated with their supply chain (e.g., reputational, regulatory, and financial risks). Thus, customers may view ESG firms as more trustworthy and credible if they disclose ESG information under a mandatory regime.

Similarly, as stakeholders, employees benefit from mandatory ESG disclosure through improved work safety. For instance, Christensen *et al*. (2017) examined the mandatory inclusion of mine safety in financial reporting and found that disclosing this information led to a 13% reduction in injuries and an 11% reduction in citations for safety violations in the mining industry.

Moreover, Cupertino and Ruggiero (2021) suggested that mandatory ESG disclosure may intensify the competitiveness level for sustainability services purchased by enterprises in order to enhance their non-financial performance and disclosure (e.g., assurance services and consulting on sustainability). This can lead to lower prices and higher quality for these services.

Finally, Ioannou and Serafeim (2017) argued that mandatory ESG disclosure can help ESG firms establish strong relationships with government agencies and local communities by building social capital and earning society's trust.

Mandatory ESG Disclosure and Firm Behavior Toward Real Economy

Mandatory ESG disclosure may change the firm's behaviour toward the real economy by adopting the best ESG practices to create important societal benefits (Ernstberger *et al.,* 2017). Several studies found a significant increase in ESG activities and a decrease in negative externalities produced by firms (Jackson *et al*., 2020; Downar *et al*., 2021; Jouvenot & Krueger, 2021; Fiechter *et al.,* 2022).

Similarly, Li and Jia (2022) suggested that announcements of mandatory ESG disclosure correlate with improved ESG performance for firms that had not disclosed this information yet. This is likely because firms want to avoid negative public perception and backlash from performing worse than their competitors on ESG issues (Christensen *et al*., 2021).

Moreover, Krueger *et al.* (2021) examined the impact of mandatory ESG disclosure on negative firm-level ESG events using an international data set. The results showed that mandatory ESG disclosure has a positive real effect on reducing ESG incidents (e.g., environmental pollution, poor working conditions, or anti-competitive practices). In the same way, in China, several authors observed a decline in firms' carbon emissions and industrial wastewater levels following the implementation of mandatory ESG disclosure (Chen *et al*., 2018; Ren *et al.,* 2020).

Finally, Lin *et al.* (2017) found that after implementing mandatory ESG disclosure, firms are less likely to engage in tax avoidance, particularly in regions with higher institutional quality.

Overall, these findings suggested that although the economic consequences of mandatory ESG disclosure have mixed results, they have beneficial informational and real effects. As Christensen *et al.* (2021) pointed out in their review of the literature on ESG disclosure, it is worth noting that empirical evidence on the real effects of mandatory ESG reporting is still somewhat limited.

Walk to The Implementation of Mandatory ESG Disclosure

If mandatory ESG disclosure regulations are well-designed and enforced, improvements in the quality of ESG reporting are expected. However, ESG disclosure regulations may fail to achieve this goal due to certain challenges in the ESG disclosure environment. Therefore, this section focuses on the challenges of adopting mandatory ESG disclosure and proposes solutions for effective mandatory ESG disclosure.

Firstly, Challenges to Adopting Mandatory ESG Disclosure

Three possible challenges in an ESG disclosure environment (Figure 2).

Variety of ESG Standards and Frameworks

At the moment, there is no single international standard that provides one-size-fits-all reporting structures for ESG disclosure. Consequently, firms keep measuring and reporting on their ESG performance according to different frameworks or standards (GRI, IIRC, SASB, TCFD, etc.) that have multiple objectives and were established at other times by various organisations worldwide.

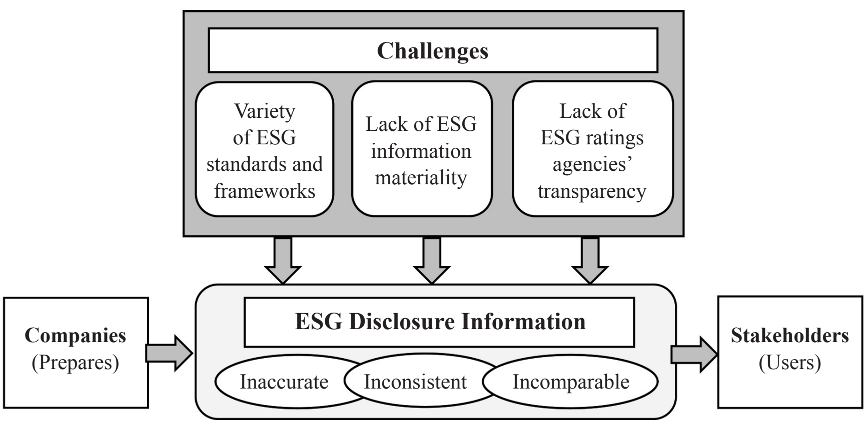

Figure 2: Three possible challenges in the ESG disclosure environment
Source: Authors

Therefore, firms often complain about the complexity and costs of reporting, particularly smaller firms that may not have the resources to devote to ESG reporting, as well as this might result in reducing comparability, reliability and lack of transparency of ESG reporting data (El-Hage, 2021).

Materiality of ESG Information

ESG information differs from financial information in that it is more complex and specialised to certain industries, covers a wider range of topics, and is often unstructured and difficult to quantify (Christensen *et al.,* 2021). Moreover, ESG disclosure addresses an overload of ESG information in sustainability reports generally directed at a wide range of stakeholders (Krueger *et al*., 2021). Therefore, ESG information is not always considered material by investors and can be difficult and costly to obtain and integrate into investment analysis.

The Transparency of ESG Ratings Agencies

ESG rating agencies (e.g., Sustainalytics, MSCI, Bloomberg, Refinitiv) gather data on firms, industries, and markets to analyse ESG disclosure and generate outputs like ESG analysis reports and scores. Therefore, to overcome the complexity and lack of structure of ESG information, many investors have begun to rely on data provided by ESG rating agencies to evaluate ESG performance and make more informed and ethical investment decisions. However, such data is not always reliable or consistent because the methodologies used by ESG rating agencies are not publicly disclosed (details of evaluation items and criteria) and they may vary across rating agencies (Krueger *et al.,* 2021; El-Hage, 2021).

As a result, investors may be confused, and investment decisions may be seriously affected by the lack of transparency surrounding ESG ratings, as well as the fact that access to such information is costly, creating an unequal playing field among investors (Saadaoui & Soobaroyen, 2017). Accordingly, there is a crucial need for greater transparency and accountability in the ESG ratings industry to ensure that the information provided to investors is reliable and accurate (Kotsantonis *et al.,* 2019).

Secondly, Proposed Solutions for Effective Mandatory ESG Disclosure

When implementing mandatory ESG disclosure, sufficient and appropriate structures must be in place to ensure that the information provided is consistent, comparable, and reliable. Therefore, some solutions are identified to improve the processing and output of mandatory ESG disclosure: (i) A clear set of ESG reporting standards and (ii) an effective enforcement and assurance regime for ESG reporting.

A Clear Set of ESG Reporting Standards

To fully realise the benefits of mandatory ESG disclosure, it is necessary to implement a clear set of standards for ESG reporting through communication among framework developers and standard setters.

For instance, in September 2020, the International Sustainability Standards Board (ISSB) was established by the IFRS Foundation to establish international ESG disclosure standards that focus on providing investors and other interested parties with decision-useful information regarding firms' ESG-related risks and opportunities to assist them in making informed decisions (IFRS Foundation, 2021). The IIRC's Better Alignment Project would be deemed necessary.

By providing a clear classification of ESG items as either material or immaterial for their decision-making processes and increasing consistency and comparability in individual disclosure items and indicators across different industries and countries, it is hoped that establishing a clear set of standards for ESG reporting will reduce complexity for investors. Moreover, it will be advantageous for firms as it will offer a clear framework for ESG reporting and help to reduce the burden of complying with numerous reporting standards.

Consequently, the study recommends that the implementation of mandatory ESG reporting involve the establishment of clear guidelines regarding what firms should disclose about their ESG practices, risks, and policies, as well as the identification of relevant ESG topics for specific industries and firms. In addition, it is necessary to determine which metrics are significant and how they should be calculated and specify the information's presentation and location. ESG reporting should also be subject to frameworks and guidelines, including materiality concepts, information usefulness, and reporting forms. Moreover, it is important to involve key users of ESG information (e.g., institutional investors and rating agencies) in developing and improving reporting standards. This could confirm that the information disclosed by firms is relevant to investment decisions and increase the level of transparency in the evaluation criteria used by rating agencies and the standards and frameworks used to measure ESG performance.

Effective Enforcement and Assurance Regime for ESG Reporting

On the one hand, to reduce the risk of fraudulent practices and increase transparency, creating an effective system for enforcing ESG reporting which focuses on the ability to verify the accuracy of the reported ESG information through a third party is seen as useful (Christensen *et al.,* 2021). In the same vein, Utz (2019) suggested that if mandatory ESG disclosure is enforced well, it could help to ensure the accuracy and reliability of the disclosed information, which would raise stakeholder's awareness.

On the other hand, to ensure the effectiveness of mandatory ESG reporting, it is important to have an enforcement mechanism through regulations established by government authorities or national stock exchanges. Therefore, we recommend that the government and stock exchanges impose laws and policies to encourage accurate ESG disclosure by publicly traded firms. These policies could include creating specific ESG performance indicators and indexes tailored to different industries that meet international standards, providing a standardised template for ESG reports that is understandable for various stakeholder groups, and disclosing firms' ESG disclosure performance publicly to promote healthy competition and stakeholder scrutiny.

It is important to note that growing evidence shows that government-issued ESG reporting laws are more efficient than stock exchange-issued regulations at reducing information asymmetry (Ernstberger *et al.,* 2021). Additionally, we recommend that "external assurance" should be provided to the ESG information reported by firms to achieve practices that will be worldwide accepted, lessen greenwashing, and raise the legitimacy of ESG disclosure (Ackers, 2015; Ioannou & Serafeim, 2017). This is identical to what is stated in the IFRS Foundation, which has recognised that "sustainability external assurance" is one of the most important priorities to be considered and should be similar to the assurance framework already in place for financial statements (IFRS Foundation, 2021). Similarly, we recommend that the internal audit enhance the credibility of ESG disclosures. This could be made possible by providing a level of assurance towards identifying the methodology of ESG reporting and the materiality of ESG information.

To sum up, the adoption of mandatory ESG disclosure with specific ESG standards, effective enforcement, and assurance mechanisms can encourage firms to make significant changes to their business manners, including their ESG policies and practices, as well as to boost stakeholders' trust in the accuracy and reliability of the reported ESG information.

Results and Discussion

The research findings highlight several important insights regarding adopting mandatory ESG disclosure, which can be thoroughly discussed in the following lines. Firstly, mandatory ESG disclosure is increasingly common to enhance the quality, objectivity, and transparency of ESG information. This trend responds to the need for standardised and reliable data to support decision-making and mitigate the risk of fraudulent practices.

Secondly, there is a mixed relationship between mandatory ESG disclosure and firm performance or value. While some studies show a positive correlation, others indicate no significant impact or even negative consequences. Further research is needed to understand this connection's underlying mechanisms and contextual factors.

Thirdly, mandatory ESG disclosure brings numerous benefits to stakeholders. Professional investors rely on it to assess investment risks and identify compatible firms. Analysts incorporate ESG information, resulting in more accurate earnings forecasts and decreased errors. Corporate customers can evaluate suppliers based on their ESG performance, effectively managing risks within the supply chain. Mandatory disclosure also contributes to improved work safety, leading to reductions in both injuries and violations. Additionally, ESG firms can cultivate robust relationships with government agencies and local communities, fostering social capital and building trust.

Three key challenges need to be addressed to ensure the effective implementation of mandatory ESG disclosure: (i) The existence of a variety of ESG standards and frameworks creates a lack of comparability and consistency, making it challenging for stakeholders to assess and compare companies' ESG performance; (ii) the issue of ESG information materiality needs to be addressed to ensure that companies disclose relevant and material information; and (iii) the lack of transparency in ESG rating agencies can undermine the credibility and trust in their assessments.

The study proposes that mandatory ESG disclosure can have positive informative and practical impacts when combined with precise reporting requirements, effective enforcement strategies, and an assurance regime. A well-designed regime can enhance the quality and comparability of disclosed information, increase investor confidence, facilitate informed decision-making, and promote positive ESG outcomes. It can also contribute to greater accountability, improved risk management, and more effective stakeholder engagement.

Conclusions

In this review paper, we first discussed the nature of ESG disclosure and the role of worldwide initiatives in offering reporting regulations for ESG activities. Also, some drawbacks of voluntary ESG disclosure and the importance of shifting to mandatory ESG disclosure were highlighted. Furthermore, we reviewed the economic and non-economic consequences of adopting mandatory ESG disclosure. Finally, our review focused on the challenges of implementing mandatory ESG disclosure and provide proposed solutions to enhance the mandatory ESG disclosure environment.

Based on our findings, Mandatory ESG disclosure is gaining popularity to enhance ESG information quality, objectivity, and transparency while reducing fraud. Although it has a mixed impact on firm performance, it ultimately benefits stakeholders. Challenges to effective adoption can be addressed by implementing specific standards, robust enforcement, and assurance measures. This review contributes to the ongoing discussion in the literature about whether ESG disclosure should be made mandatory by demonstrating evidence about the real outcomes of mandatory ESG disclosure and offering recommendations for the effective implementation of mandatory ESG disclosure. Furthermore, this study has implications for regulators and policymakers who have already implemented or are considering implementing mandatory sustainability or integrated reporting requirements.

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Conflict of Interest Statement

The authors declare that they have no conflict of interest.

References

Ackers, B. (2015). Who provides corporate social responsibility (CSR) assurance and what are the implications of the various assurance practices? *Journal of Economic and Financial Sciences*, *8*(1), 125-144.

Agostini, M., Costa, E., & Korca, B. (2022). Non-financial disclosure and corporate financial performance under directive 2014/95/EU: Evidence from Italian listed companies. *Accounting in Europe*, *19*(1), 78-109. https://doi.org/10.1080/17449480.2021.1979610

Amel-Zadeh, A., & Serafeim, G. (2018). Why and how investors use ESG information: Evidence from a global survey. *Financial Analysts Journal*, *74*(3), 87-103. https://doi.org/10.2469/faj.v74.n3.2

Aswani, J., Chidambaran, N. K., & Hasan, I. (2021). Who benefits from mandatory CSR? Evidence from the Indian Companies Act 2013. *Emerging Markets Review*, *46*, 1-15. https://doi.org/10.1016/j.ememar.2020.100753

Atan, R., Razali, F. A., Said, J. A., & Zainun, S. (2016). Environmental, social and governance (ESG) disclosure and its effect on firm's performance: A comparative study. *International Journal of Economics and Management*, *10*(2), 355-375.

Aureli, S., Del Baldo, M., Lombardi, R., & Nappo, F. (2020). Nonfinancial reporting regulation and challenges in sustainability disclosure and corporate governance practices. *Business Strategy and the Environment*, *29*(6), 2392-2403. https://doi.org/10.1002/bse.2509

Bernardi, C., & Stark, A. W. (2018). On the value relevance of information on environmental and social activities and performance–Some evidence from the UK stock market. *Journal of Accounting and Public Policy*, *37*(4), 282-299. https://doi.org/10.1016/j.jaccpubpol.2018.07.001

Bruna, M. G., Loprevite, S., Raucci, D., Ricca, B., & Rupo, D. (2022). Investigating the marginal impact of ESG results on corporate financial performance. *Finance Research Letters*, *47*, 102828. https://doi.org/10.1016/j.frl.2022.102828

Buijink, W. F., Sellhorn, T., & Wagenhofer, A. (2019). Regulation of Corporate Disclosure. *Schmalenbach Business Review*, *71*(2), 131-136. https://doi.org/10.1007/s41464-019-00075-w

Campra, M., Esposito, P., & Lombardi, R. (2020). The engagement of stakeholders in non-financial reporting: New information-pressure, stimuli, inertia, under short-termism in the banking industry. *Corporate Social Responsibility and Environmental Management*, *16*, 94-107. https://doi.org/10.1002/csr.1896

Caputo, F., Leopizzi, R., Pizzi, S., & Milone, V. (2019). The non-financial reporting harmonization in Europe: Evolutionary pathways related to the transposition of the Directive 95/2014/EU within the Italian context. *Sustainability*, *12*(1), 92. https://doi.org/10.3390/su12010092

Carnini Pulino, S., Ciaburri, M., Magnanelli, B. S., & Nasta, L. (2022). Does ESG disclosure influence firm performance? *Sustainability*, *14*(13), 7595. https://doi.org/10.3390/su14137595

Chauvey, J. N., Giordano-Spring, S., Cho, C. H., & Patten, D. M. (2015). The normativity and legitimacy of CSR disclosure: Evidence from France. *Journal of Business Ethics*, *130*(4), 789-803. https://doi.org/10.1007/s10551-014-2114-y

Chelli, M., Durocher, S., & Fortin, A. (2018). Normativity in environmental reporting: A comparison of three regimes. *Journal of*

Business Ethics, *149*(2), 285-311. https://doi.org/10.1007/s10551-016-3128-4

Chen, Y. C., Hung, M., & Wang, Y. (2018). The effect of mandatory CSR disclosure on firm profitability and social externalities: Evidence from China. *Journal of Accounting and Economics*, *65*(1), 169-190. https://doi.org/10.1016/j.jacceco.2017.11.009

Cho, C. H., Freedman, M., & Patten, D. M. (2012). Corporate disclosure of environmental capital expenditures. *Accounting, Auditing & Accountability Journal*, *25*(3), 486-507. https://doi.org/10.1108/09513571211209617

Cho, C. H., Laine, M., Roberts, R. W., & Rodrigue, M. (2015). Organized hypocrisy, organizational façades, and sustainability reporting. *Accounting, Organizations and Society*, *40*, 78-94. https://doi.org/10.1016/j.aos.2014.12.003

Christensen, H. B., Floyd, E., Liu, L. Y., & Maffett, M. (2017). The real effects of mandated information on social responsibility in financial reports: Evidence from mine-safety records. *Journal of Accounting and Economics*, *64*(2-3), 284-304. https://doi.org/10.1016/j.jacceco.2017.08.001

Christensen, H. B., Hail, L., & Leuz, C. (2021). Mandatory CSR and sustainability reporting: Economic analysis and literature review. *Review of Accounting Studies*, *26*(3), 1176-1248. https://doi.org/10.1007/s11142-021-09609-5

Cohen, R., Holder-Webb, L., & Zamora, V. L. (2015). Nonfinancial information preferences of professional investors. *Behavioral Research in Accounting*, *27*(2), 127-153. https://doi.org/10.2308/bria-51185

Comyns, B., Figge, F., Hahn, T., & Barkemeyer, R. (2013). Sustainability reporting: The role of 'search', 'experience' and 'credence' information. *Accounting Forum*, *37*(3), 231-243. https://doi.org/10.1016/j.accfor.2013.04.006

Contrafatto, M., & Burns, J. (2013). Social and environmental accounting, organisational change and management accounting: A processual view. *Management Accounting Research*, *24*(4), 349-365. https://doi.org/10.1016/j.mar.2013.10.004

Cordazzo, M., Bini, L., & Marzo, G. (2020). Does the EU Directive on non-financial information influence the value relevance of ESG disclosure? Italian evidence. *Business Strategy and the Environment*, *29*(8), 3470-3483. https://doi.org/10.1002/bse.2589

Cupertino, S., Vitale, G., & Ruggiero, P. (2021). Performance and (non) mandatory disclosure: The moderating role of the Directive 2014/95/EU. *Journal of Applied Accounting Research*, *23*(1), 163-183. https://doi.org/10.1108/JAAR-04-2021-0115

Darendeli, A., Fiechter, P., Hitz, J. M., & Lehmann, N. (2022). The role of corporate social responsibility (CSR) information in supply-chain contracting: Evidence from the expansion of CSR rating coverage. *Journal of Accounting and Economics*, *74*(2-3), 101525. https://doi.org/10.1016/j.jacceco.2022.101525

De Micco, P., Rinaldi, L., Vitale, G., Cupertino, S., & Maraghini, M. P. (2020). The challenges of sustainability reporting and their management: The case of Estra. *Meditari Accountancy Research*, *29*(3), 430-448. https://doi.org/10.1108/MEDAR-09-2019-0555

Dhaliwal, D. S., Radhakrishnan, S., Tsang, A., & Yang, Y. G. (2012). Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure. *The Accounting Review*, *87*(3), 723-759. https://doi.org/10.2308/accr-10218

Doni, F., Martini, S. B., Corvino, A., & Mazzoni, M. (2019). Voluntary versus mandatory non-financial disclosure: EU Directive 95/2014 and sustainability reporting practices based on empirical evidence from Italy. *Meditari Accountancy Research*, *28*(5), 781-802. https://doi.org/10.1108/MEDAR-12-2018-0423

Dos Santos, P. G., Albuquerque, F., Rodrigues, M. A. B., & Morais, A. I. (2022). The views of stakeholders on mandatory or voluntary use of a simplified standard on non-financial information for SMEs in the European Union. *Sustainability*, *14*(5), 2816. https://doi.org/10.3390/su14052816

Doug Morrow & Yow, M. (2014). *Measuring sustainability disclosure: Ranking the world's stock exchanges* (pp. 45). Canada: Corporate Knights Capital, Aviva, Standard & Poor's Ratings Services, ACCA.

Downar, B., Ernstberger, J., Reichelstein, S., Schwenen, S., & Zaklan, A. (2021). The impact of carbon disclosure mandates on emissions and financial operating performance. *Review of Accounting Studies*, *26*(3), 1137-1175. https://doi.org/10.1007/s11142-021-09611-x

El-Hage, J. (2021). Fixing ESG: Are mandatory ESG disclosures the solution to misleading ESG ratings? *Fordham J. Corp. & Fin. L.*, *26*, 359.

Ernstberger, J., B. Link, M. Stich, & O. Vogler. (2017). The real effects of mandatory quarterly reporting. *The Accounting Review, 92*(5), 33-60. https://doi.org/10.2308/accr-51705

Ernstberger, J., Maniora, J., & Schramm, F. (2021). *How to regulate corporate social responsibility reporting-international evidence on the impact of different regulatory approaches*. Available at SSRN 3850179.

Faccia, A., Manni, F., & Capitanio, F. (2021). Mandatory ESG reporting and XBRL taxonomies combination: ESG ratings and income statement, a sustainable value-added disclosure. *Sustainability*, *13*(16), 8876. https://doi.org/10.3390/su13168876

Fiechter, P., Hitz, J. M., & Lehmann, N. (2022). Real effects of a widespread CSR reporting mandate: Evidence from the European Union's CSR Directive. *Journal of Accounting Research*, *60*(4), 1499-1549. https://doi.org/10.1111/1475-679X.12424

Fu, R., Kraft, A., & Zhang, H. (2012). Financial reporting frequency, information asymmetry, and the cost of equity. *Journal of Accounting and Economics*, *54*(2-3), 132-149. https://doi.org/10.1016/j.jacceco.2012.07.003

García-Sánchez, I. M., Hussain, N., Khan, S. A., & Martínez-Ferrero, J. (2020). Managerial entrenchment, corporate social responsibility, and earnings management. *Corporate Social Responsibility and Environmental Management*, *27*(4), 1818-1833. https://doi.org/10.1002/csr.1928

Grewal, J., Riedl, E. J., & Serafeim, G. (2019). Market reaction to mandatory nonfinancial disclosure. *Management Science*, *65*(7), 3061-3084. https://doi.org/10.1287/mnsc.2018.3099

Haji, A. A., Coram, P., & Troshani, I. (2022). Consequences of CSR reporting regulations worldwide: A review and research agenda. *Accounting, Auditing & Accountability Journal*, *36*(1), 177-208. https://doi.org/10.1108/AAAJ-05-2020-4571

IFRS Foundation. (2021). *Sustainability-related disclosures. Release by the IFRS Foundation*. https://www.ifrs.org/sustainability-hub/.

Ioannou, I., & Serafeim, G. (2017). The consequences of mandatory corporate sustainability reporting. *Harvard Business School Research Working Paper* (11-100).

Jackson, G., Bartosch, J., Avetisyan, E., Kinderman, D., & Knudsen, J. S. (2020). Mandatory non-financial disclosure and its influence on CSR: An international comparison. *Journal of Business Ethics*, *162*(2), 323-342. https://doi.org/10.1007/s10551-019-04200-0

Jadiyappa, N., Iyer, S. R., & Jyothi, P. (2021). Does social responsibility improve firm value? Evidence from mandatory corporate social responsibility regulations in India. *International Review of Finance*, *21*(2), 653-660. https://doi.org/10.1111/irfi.12282

Jayaraman, S., & Wu, J. S. (2019). Is silence golden? Real effects of mandatory disclosure. *The Review of Financial Studies*, *32*(6), 2225-2259. https://doi.org/10.1093/rfs/hhy088

Jouvenot, V., & Krueger, P. (2019). *Mandatory corporate carbon disclosure: Evidence from a natural experiment*. Available at SSRN 3434490.

Kotsantonis, S., & Serafeim, G. (2019). Four things no one will tell you about ESG data. *Journal of Applied Corporate Finance*, *31*(2), 50-58. https://doi.org/10.1111/jacf.12346

Krueger, P., Sanutner, Z., Tang, D. Y., & Zhong, R. (2021). *The effects of mandatory ESG disclosure around the world*. Working Papers N, 754/2021. Available at SSRN 3832745.

La Torre, M., Sabelfeld, S., Blomkvist, M., Tarquinio, L., & Dumay, J. (2018). Harmonising non-financial reporting regulation in Europe: Practical forces and projections for future research. *Meditari Accountancy Research*, *26*(4), 598-621. https://doi.org/10.1108/MEDAR-02-2018-0290

Leong, S., & Hazelton, J. (2019). Under what conditions is mandatory disclosure most likely to cause organisational change? *Accounting, Auditing & Accountability Journal*, *32*(3), 811-835. https://doi.org/10.1108/AAAJ-12-2015-2361

Li, Z., & Jia, J. (2021). Effect of mandatory sustainability disclosure announcements: Cross-country evidence. *Pacific Accounting Review*, *34*(1), 127-155. https://doi.org/10.1108/PAR-09-2020-0141

Lin, K. Z., Cheng, S., & Zhang, F. (2017). Corporate social responsibility, institutional environments, and tax avoidance: Evidence from a subnational comparison in China. *The International Journal of Accounting*, *52*(4), 303-318. https://doi.org/10.1016/j.intacc.2017.11.002

Liu, L., & Tian, G. G. (2021). Mandatory CSR disclosure, monitoring and investment efficiency: Evidence from China. *Accounting & Finance*, *61*(1), 595-644. https://doi.org/10.1111/acfi.12588

Luque-Vilchez, M., & Larrinaga, C. (2016). Reporting models do not translate well: Failing to regulate CSR reporting in Spain. *Social and Environmental Accountability Journal*, *36*(1), 56-75. https://doi.org/10.1080/0969160X.2016.1149301

Mack, N. P. (2021). The COVID-19 pandemic highlighted the need for mandated ESG disclosures: Now what? *U. Miami Bus. L. Rev.*, *30*, 188.

Maglio, R., Rey, A., Agliata, F., & Lombardi, R. (2020). Exploring sustainable governance: Compliance with the Italian related party transactions regulation for the legal protection of minority shareholders. *Corporate Social Responsibility and Environmental Management*, *27*(1), 272-282. https://doi.org/10.1002/csr.1804

Manchiraju, H., & Rajgopal, S. (2017). Does corporate social responsibility (CSR) create shareholder value? Evidence from the Indian companies act 2013. *Journal of Accounting Research*, *55*(5), 1257-1300. https://doi.org/10.1111/1475-679X.12174

Michelon, G., Pilonato, S., & Riccieri, F. (2015). CSR reporting practices and the quality of disclosure: An empirical analysis. *Critical Perspectives on Accounting*, *33*, 59-78. https://doi.org/10.1016/j.cpa.2014.10.003

Oware, K. M., & Iddrisu, A. A. (2021). Moral capital of CSR and firm performance: Does a shift from voluntary to mandatory policy matter in an Indian context? *Society and Business Review*, *17*(1), 3-21. https://doi.org/10.1108/SBR-03-2021-0041

Passetti, E., Cinquini, L., & Tenucci, A. (2018). Implementing internal environmental management and voluntary environmental disclosure: Does organizational change happen. *Accounting, Auditing and Accountability Journal*, *31*, 1145-1173. https://doi.org/10.1108/AAAJ-02-2016-2406

Phan, H. T. P., De Luca, F., & Iaia, L. (2020). The "Walk" towards the UN sustainable development goals: Does mandated "Talk" through nonfinancial disclosure affect companies' financial performance? *Sustainability*, *12*(6), 2324. https://doi.org/10.3390/su12062324

Raimo, N., Caragnano, A., Zito, M., Vitolla, F., & Mariani, M. (2021). Extending the benefits of ESG disclosure: The effect on the cost of debt financing. *Corporate Social Responsibility and Environmental Management*, *28*(4), 1412-1421. https://doi.org/10.1002/csr.2134

Ren, S., Wei, W., Sun, H., Xu, Q., Hu, Y., & Chen, X. (2020). Can mandatory environmental information disclosure achieve a win-win for a firm's environmental and economic performance? *Journal of Cleaner Production*, *250*, 119530. https://doi.org/10.1016/j.jclepro.2019.119530

Rossi, F., & Harjoto, M. A. (2020). Corporate non-financial disclosure, firm value, risk, and agency costs: Evidence from Italian listed companies. *Review of Managerial Science*, *14*(5), 1149-1181. https://doi.org/10.1007/s11846-019-00358-z

Saadaoui, K., & Soobaroyen, T. (2017). An analysis of the methodologies adopted by CSR rating agencies. *Sustainability Accounting, Management and Policy Journal*, *9*(1), 43-62. https://doi.org/10.1108/SAMPJ-06-2016-0031

Unerman, J., & Chapman, C. (2014). Academic contributions to enhancing accounting for sustainable development. *Accounting, Organizations and Society*, *39*(6), 385-394.

Utz, S. (2019). Corporate scandals and the reliability of ESG assessments: Evidence from an international sample. *Review of Managerial Science*, *13*(2), 483-511. https://doi.org/10.1007/s11846-017-0256-x

Venturelli, A., Caputo, F., Cosma, S., Leopizzi, R., & Pizzi, S. (2017). Directive 2014/95/EU: Are Italian companies already compliant? *Sustainability*, *9*(8), 1385. https://doi.org/10.3390/su9081385

Wang, X., Cao, F., & Ye, K. (2018). Mandatory corporate social responsibility (CSR) reporting and financial reporting quality: Evidence from a quasi-natural experiment. *Journal of Business Ethics*, *152*(1), 253-274. https://doi.org/10.1007/s10551-016-3296-2

Yu, E. P., & Yi, L. B. Van, & Chen, C. H. (2020). Greenwashing in environmental, social and governance disclosures. *Research in International Business and Finance*, *52*. https://doi.org/10.1016/j.ribaf.2020.101192

Zhang, Y., Chong, G., & Jia, R. (2019). Fair value, corporate governance, social responsibility disclosure and banks' performance. *Review of Accounting and Finance*, *19*(1), 30-47. https://doi.org/10.1108/RAF-01-2018-0016

Zhao, C., Guo, Y., Yuan, J., Wu, M., Li, D., Zhou, Y., & Kang, J. (2018). ESG and corporate financial performance: Empirical evidence from China's listed power generation companies. *Sustainability*, *10*(8), 2607. https://doi.org/10.3390/su10082607

Zhou, S., Simnett, R., & Green, W. (2017). Does integrated reporting matter to the capital market? *Abacus*, *53*(1), 94-132. https://doi.org/10.1111/abac.12104