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Mixing Accounting Regulation and Corporate Accountability in the Era of Non-Financial Information, Intangibles and Digitalization

TOrnado or SUnshine?

edited by
Rosa Lombardi

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Preliminary Issues to the Non-Financial Information, Intangibles and Digitalization: Premise and Concepts

1. Premise, aims and Research Concepts

This book aims to investigate several perspectives of analysis in the corporate non-financial information, intangibles and digitalization topics collecting primary studies, research views and forthcoming researches by scholars also attending the Workshop To.Su in 2023 in which were presented results of the project "Mixing Accounting Regulation and Corporate Accountability in the Era of Non-Financial Information, Intangibles and Digitalization. Tornado or Sunshine?: it mainly aimed to analyse "the renewed accounting regulation through the European Union Directive 95/2014 on non-financial and diversity information (EU Directive) defining its features, impacts and implications in the European scenario also in the light of the strategic role of intangibles and digitalization processes.".

Thus, this edited book incorporates issues related both to non-financial and sustainability information (in terms of reporting and disclosure) and to intangibles and digitalization assuming perspectives of investigations in the business administration perspective.

In this scenario, corporate disclosure and reporting increased in the recent years incorporating more and more non-financial and sustainability information and results (e.g. environment and social results). However, the voluntary and mandatory disclosure needs to be recognized in relation to non-financial and sustainability information provided by companies also in relation to the corporate accountability and the accounting regulation issues (Lombardi et al., 2022; Masiero et al., 2020).

If on one side, in the voluntary disclosure are recognized, for

example, the reporting of environmental, social, intellectual capital results and the integrated reporting; on the other side, the accounting regulation changed in the recent years introducing additional mandatory reporting and disclosure in the field of intangibles (Guthrie et al., 2020; Matuszak & Różańska, 2021). Particularly, Directive 2014/95/EU (Non-Financial Reporting Directive - NFRD) on non-financial and diversity information requires to public large interests' entities (with more than 500 employees) to report and disclose information about environmental, social and employee matters, respect for human rights, anti-corruption and bribery matters, diversity on company boards towards an increasing of transparency. Additionally, two guidelines on non-financial information by the European Commission were published (they are aligned to the Task Force recommandions on Climate-related Financial Disclosures of the Financial Stability Board (www.fsb-tcfd.org): i) Guidelines on non-financial reporting - the methodology for reporting non-financial information (2017/C 215/01); ii) Guidelines on non-financial reporting: Supplement on reporting climate-related information (2019/C 209/01) (www.eu.europa.eu).

Under the NFRD, the non-financial reportings are developed using standards, guidelines and frameworks such as the Carbon Disclosure Project, Climate Disclosure Standards Board, Global Reporting Initiative, the Sustainability Accounting Standards Board (SASB), the International Integrated Reporting Framework (IIRC), International Organization for Standardization 26000, Gruppo di Studio per il bilancio sociale, the OECD guidelines for multinational enterprises, Sustainable Development Goals and UN Global Compact (Lombardi, 2021).

Several issues identified by academics and international organizations prompted the European Commission to assess and implement an update to the Non-Financial Reporting Directive (NFRD), leading to the issuance of the Corporate Sustainability Reporting Directive (2022/2464). The new Directive introduces various innovations, starting with a gradual expansion of the obligated companies, extending the scope to include foreign companies with business or a permanent establishment in Europe, or small and medium-sized listed enterprises (European Commission, 2022). The concept of double materiality has been reiterated and clarified, imposing on companies the evaluation of mutual impacts related to the relationship between companies and the external environment.

In order to achieve greater standardization and comparability of information, the European Commission has delegated the European Financial Reporting Advisory Group (EFRAG) to develop sustainability reporting standards across three dimensions: environmental, social, and governance. Furthermore, the CSRD mandates the reporting of ESG information alongside financial statements, in the management report, and requires making the information digitally accessible.

The evolution of the business landscape towards an increasingly knowledge-based economy has redefined the nature of intangibles, expanding the range of factors contributing to value creation. The advent of non-financial information is playing a crucial role in enhancing the disclosure of these intangibles, encompassing both traditionally recognized elements such as human, relational, and structural capitals, and innovative ones, including digital platforms, artificial intelligence, big data, and the Internet of Things (IoT) (Chiucchi et al., 2021).

The ongoing changes in corporate disclosure and reporting offer various future perspectives, outlining a landscape in which businesses, practitioners, and academics find themselves grappling with new challenges and opportunities (Lombardi, 2021). For academics, these changes present a novel field for study and analysis, opening avenues for research into the dynamics among mandatory reporting, impacts of digitalization and ESG issues on business processes and systems (Lombardi et al., 2022; Safari & Areeb, 2020). The evolution of the regulatory framework provides an opportunity to deepen the understanding of sustainable reporting practices and their actual influence on corporate decisions and outcomes in terms of sustainability.

Against this backdrop, the studies presented in this volume are divided into two parts. The first part introduces research that has investigated the evolution of corporate disclosure and reporting in the European context, examining the repercussions of regulatory interventions by the European Commission. The second part encompasses studies that address broader themes related to voluntary disclosure, gender equality, digitalization, family businesses, and project management.

2. The main research discussion collected in the topic of non-financial information, intangibles and digitalization

The first part is composed of the following studies. The study by Principale is directed to present institutional factors and voluntary disclosure. The chapter explores the influence of external stakeholder pressures on the voluntary reporting practices of European businesses.

Moving to the context of small and medium-sized enterprises, Bianchi et al. examine the impact of corporate processes on voluntary disclosure. The authors underscore the strategic role that voluntary reporting plays in SMEs in terms of reputation and image.

Beck proposes the accounting for sustainability in the new regulation by the Corporate Sustainability Reporting Directive. The bibliometric analysis conducted highlights the issues that are fueling the recent debate on European regulations regarding corporate reporting.

The study by Cicchini et al. show the comparison of digital sustainability reporting through the EU and US perspectives. From the emerged results, there is evidence of convergence between the European Union and the United States in the digital format for sustainable reporting, despite differences in current regulations.

Conte presents an analysis of the Corporate Disclosure before and after the Non-Financial Reporting Directive (NFRD). In the chapter, the scenario is summarized both before and after the introduction of the Non-Financial Reporting Directive, delineating its key features.

The section concludes with Sevilla Guzmán and Di Ventura proposing a bibliometric analysis on non-financial information in the European Union.
The section concludes with Sevilla Guzmán and Di Ventura proposing a bibliometric analysis on non-financial information in the European Union.

The second part is based on the following studies.

Ammaturo and Rusciani investigate the non-financial information from Italian SMEs, the trade-off between cost and stakeholder engagement. The research aims to investigate the convenience for small and medium-sized enterprises (SMEs) to report on environmental, social, and governance (ESG) factors, especially in light of the new EU Corporate Sustainability Reporting Directive (CSRD). The findings suggest that, unlike larger companies, SMEs may face a negative relationship between the costs and benefits of ESG disclosure.

Galeotti presents a study on ESG reporting in the Utilities section

proposing some preliminary concepts and challenges. The qualitative analysis would suggest that companies in the utilities sector tend to integrate non-financial statements into financial statements and to publish textual information rather than graphics.

The study by D'Andrassi et al. proposes the investigation of non-financial information in the electricity sector defining the credibility of reports between regulation and digitization. Analyzing the sustainability reports of IR adopters in the electricity sector, the authors provide empirical results on the credibility of companies' non-financial disclosures.

Marroni presents a study aiming to define innovation and digitalization in port enterprises. The study aims to analyze the development of sustainability in port enterprises, with a focus on digitalization and sustainable governance. The results indicate that, despite a growing attention to sustainability in ports, research on this topic is still in its early stages, with the need for further exploration in various areas. The sustainability of port enterprises and the incorporation of digitalization in ports emerge as crucial issues for future research.

Procacci shows what is the family businesses between tradition and innovation. The preliminary results highlight the central role of family businesses in the Italian economy, making significant contributions to employment and profitability. However, the author emphasizes the challenge of balancing tradition with the need for innovation to ensure future continuity.

Manzo's research delves into the promotion of gender equality in the public sector. The study is based on a structured literature review on gender budgeting. The author concludes the chapter by proposing possible avenues for future research.

De Rosa presents the analysis of the project management about the European programs in the field and also proposes issues related to the development of Public Administration. The author argues that specific skills are required to seize the diverse opportunities offered by the European Union in support of businesses and local entities.

Di Federico and Evangelista investigate the evolution of non-profit loans in the national context defining the action plan to reduce them in the European scenario. The primary objective of the study is to analyze how regulations, particularly Directive 2021/2167, may influence the efficiency of managing exposures classified as "unlikely to pay."

Rosa Lombardi

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PART I

Institutional factors and voluntary disclosure

Salvatore Principale

1. Introduction

Climate change-related risks have evolved into a global concern for governments and international bodies (Bingler et al., 2022), demanding a coordinated worldwide response. The European Union (EU) stands as a dynamic force against climate change, setting ambitious emission reduction goals for 2030 and 2050. A notable example is the European Green New Deal, fostering a sustainable economy through substantial investments (European Commission, 2019a).

This urgency is mirrored in the EU taxonomy, wherein climate change is among the six pivotal environmental objectives dictating sustainable investments. This classification drives environmentally responsible investments while curbing those with significant ecological footprints. Stakeholders, including investors and financial institutions, require insights into the climate change impacts of companies' strategies for informed investment strategies (Bui et al., 2021).

In 2015, the Financial Stability Board established the "Task Force on Climate-related Financial Disclosures" (TCFD), offering recommendations for comprehensive climate change transparency (TCFD, 2017). The adoption of these recommendations addresses external stakeholder information needs (TCFD, 2017) and aids in integrating climate change concerns into business models (Demaria & Rigot, 2020). Companies reimagining business models must explore value creation within the climate change landscape, focusing on governance, strategy, risk management, metrics, and targets. These dimensions, alongside TCFD recommendations, provide a framework for addressing climate change-related risks (O'Dwyer et al., 2020). This becomes

even more relevant due to the recent developments in the field of frameworks for climate change-related information. In fact, two climate-related guidelines, ESRS 1 by Efrag and S1 by IFRS, have been recently published. Both standards have explicitly been drafted based on TCFD recommendations, considered a robust framework not only for climate-related information. Despite TCFD's international recognition, its full adoption by companies remains uneven. Challenges in applying recommendations and reluctance to disclose sensitive data hinder adoption (TCFD, 2022). European companies lead in aligning their disclosures, partly influenced by the Directive on Non-Financial Reporting (European Commission, 2019b).

Scholars highlight internal motivations and country-level factors influencing corporate reporting (Grauel et al., 2016; Mateo-Márquez et al., 2020). Institutional factors drive voluntary disclosure (Jensen et al., 2012; Martins et al., 2020). This study examines the impact of institutional factors on climate change risk-related disclosure in Europe. The results indicate that, with the exception of long-term orientation, cultural factors do not significantly impact the voluntary disclosure of European firms. Moreover, a positive relationship is observed between climate change-related disclosure and the transparency of the country's climate policies. Results extend the limited TCFD literature (O'Dwyer et al., 2020).

The contribution is structured as follows. The subsequent section addresses the literature review. Sections 3 and 4 delve into the methodology and findings, respectively. The last two sections, on the other hand, focus on discussions and conclusions.

2. Literature review

The past decade has witnessed significant attention from accounting scholars toward climate change and carbon disclosure (Ding et al., 2022; Lombardi et al., 2022). While several studies focus on these aspects, a limited number delve into external determinants impacting companies' disclosure practices (Ben-Amar et al., 2018; de Villiers et al., 2021; Rodriguez Bolivar et al., 2018). Research has highlighted the influence of a company's country of origin on its behaviours and strategies (Jensen et al., 2012), suggesting that country-level institutional factors affect corporate disclosure strategies (Sannino et al., 2020). Understanding cross-border disparities in management decisions is facilitated by institutional theory (Crawford et al., 2010; Mateo-Márquez et al., 2020). Companies from diverse cultural

and institutional backgrounds may adopt distinct strategic approaches to align with their institutional context (Luo et al., 2012a). DiMaggio and Powell's concept of organizations conforming to societal pressures shapes organizations' behavior and adherence to institutional norms (Scott, 2004). Matten and Moon (2008) examined the variations in Corporate Social Responsibility (CSR) between Europe and the US, distinguishing between implicit and explicit CSR. This differentiation was linked to national institutional factors, as outlined by Whitley (Whitley, 1999).

The relationship between culture and Corporate Social Responsibility (CSR) has been frequently explored through Hofstede's six cultural dimensions: Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long-Term Orientation, and Indulgence versus Restraint (Hofstede, 1984; Hofstede et al., 2010). Power Distance reflects how societies handle social inequalities. Low Power Distance societies, characterized by flatter hierarchies, encourage open dialogue between management and employees, potentially fostering greater commitment to environmental initiatives and carbon disclosure. Individualism versus Collectivism captures whether societies prioritize individual or collective interests. Individualistic societies may show less inclination towards voluntary climate disclosure due to their focus on personal interests (Brochet et al., 2019). Masculinity and Femininity assess gender role emphases. Feminine societies, valuing cooperation and nurturing, might exhibit better ESG disclosure and environmental reporting due to their focus on stakeholders and environmental concerns. Uncertainty Avoidance gauges a society's comfort with ambiguity. High Uncertainty Avoidance societies may hesitate to voluntarily disclose environmental information, fearing social exposure, though literature yields mixed evidence on its direct impact. Long-Term Orientation measures a society's future-focused versus traditional values. Organizations and societies with a long-term orientation are more likely to prioritize sustainability, making them more prone to disclosing climate-related information. Indulgence versus Restraint reflects societal permissiveness. Indulgent societies may demand sustainable information disclosure, while restrained ones, adhering to strict norms, may vary in their effect on disclosure quality.

The influence of CSR and sustainable development at the macro-level on private companies' sustainable strategies and performance is highlighted. Companies in ESG-focused countries tend to adopt more sustainable behaviors, particularly regarding climate change, due to community

and societal pressures (Rosati et al., 2019). However, countries with strong CSR commitment may lead managers to cautiously disclose voluntary information to avoid financial consequences. Greenhouse gas emissions (GHG) serve as a key indicator to assess climate impact. At the micro-level, evidence suggests companies addressing GHG emissions also voluntarily disclose more climate-related data (Giannarakis et al., 2018). Companies with strong environmental performance differentiate themselves from those with poor performance. This relationship is expected to extend to the country level, as companies significantly contribute to national GHG emissions. In countries with lower emissions, the community's interest and sensitivity to climate change are higher. In light of the aforementioned, the following research question is formulated:

RQ: Do Institutional Factors influence voluntary disclosure?

3. Methodology

In this study, a logistic regression analysis was employed to investigate the relationship between institutional factors and climate change risk-related disclosure among a sample of 760 European companies. The logistic regression approach is widely adopted in business and accounting research when exploring binary outcomes, making it suitable for this investigation. In our case, the binary outcome is the alignment to TCFD recommendations in 2021.

The choice to investigate European companies stems from Europe's pronounced emphasis on Environmental, Social, and Governance (ESG) factors and its regulatory interventions in this domain. Europe has demonstrated a proactive stance in addressing climate change-related issues through a series of legislative initiatives and policy frameworks. The European Union's stringent targets for reducing carbon emissions, coupled with initiatives like the Green New Deal and the EU Taxonomy, illustrate the region's dedication to sustainable practices (European Commission, 2019a). Banking institutions were excluded from the sample due to the unique nature of their operations and reporting practices. The financial sector operates under distinct regulations, often characterized by different disclosure requirements. Focusing solely on non-financial companies allows us to maintain a homogeneous sample and ensure the comparability of the results. Moreover, banks' disclosure practices and risk profiles can significantly differ from those of other industries, which could potentially introduce confounding effects.

Logistic regression is frequently utilized in business and accounting studies due to its appropriateness for analyzing the impact of categorical or binary independent variables on binary outcomes (Aldás-Manzano et al., 2019). Given that our study aims to understand how distinct institutional factors influence the likelihood of companies adopting climate-related disclosure, the logistic regression approach allows us to assess the significance of these factors in predicting climate change-related disclosure. Table 1 reports the model's variables.

Abb.	**Variables**
Tcfd	Tcfd
Size	Size
ROA	Roa
ROE	Roe
Masc	Masculinity
Indiv	Individualism
Power	Power distance
Uncert	Uncertainty avoidance
Lto	Long-term orientation
Indul	Indulgence versus restraint
SD	Sustainable development
CCPI	Climate Change Performance Index
Emission	Emission

Table 1. Model's variables

4. Results

Table 2 presents the descriptive statistics of the sample. Approximately 27% of the large European firms have voluntarily embraced the TCFD framework to disclose climate-related information. This figure exhibits a growth trend compared to previous years, although it constitutes only a quarter of the sample (TCFD, 2022). Concerning the country-level variables, the sample is characterized by a high degree of individualism and a low power distance. The indicator measuring the level of sustainable development averages at a high value, approximately 80.

Variable	Mean	Std. Dev.	Min	Max

Tcfd	.27	.265	0	1
Size	14.513	2.402	2.125	21.437
ROA	5.076	9.776	-51.82	66.595
ROE	11.552	69.727	-21.55	62.18
Masc	49.961	21.939	5	100
Indiv	69.912	14.463	27	89
Power	46.714	17.391	11	100
Uncert	64.149	23.345	23	100
Lto	57.405	14.904	24	83
Indul	51.03	16.876	13	78
SD	79.892	2.487	74.31	84.72
CCPI	58.126	8.109	40.84	76.28
Emission	.724	.564	0	1.99

Table 2. Descriptive Statistics

Table 3 presents the results of the logit regression analysis concerning the cultural variables. As observed across different models, there is limited evidence of significant relationships between the voluntary adoption of the framework and cultural measures, except for model 5. In this latter model, a positive relationship between the dependent variable and the long-term orientation variable is observed. This finding is not unexpected, given that climate change is characterized by impacts that will be increasingly prominent in the medium to long term. Consequently, businesses are required to adopt a forward-looking perspective to mitigate the risks and seize the opportunities presented by climate change.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Size	0.818***	0.807***	0.812***	0.812***	0.818***	0.811***	0.824***
	(0.0853)	(0.0846)	(0.0848)	(0.0847)	(0.0856)	(0.0848)	(0.0871)
ROA	0.0630**	0.0588*	0.0618**	0.0611**	0.0618**	0.0601**	0.0618**
	(0.0227)	(0.0231)	(0.0231)	(0.0233)	(0.0227)	(0.0230)	(0.0233)
ROE	0.00265	0.00266	0.00262	0.00262	0.00258	0.00261	0.00257
	(0.00295)	(0.00302)	(0.00294)	(0.00295)	(0.00293)	(0.00297)	(0.00303)
Masc	0.00728						0.0109
	(0.00700)						(0.00894)

Indiv		0.00969					0.00814
		(0.0114)					(0.0180)
Power			-0.000702				0.000577
			(0.00897)				(0.0166)
Uncert				-0.00137			0.00950
				(0.00648)			(0.0160)
Lto					0.0052***		0.00757
					(0.00950)		(0.0120)
Indul						0.00568	0.0164
						(0.00975)	(0.0181)
_cons	-16.43***	-16.54***	-15.93***	-15.87***	-15.76***	-16.23***	-18.34***
	(1.600)	(1.673)	(1.593)	(1.588)	(1.567)	(1.592)	(2.455)
N	760	760	760	760	760	760	760

Table 3. Logit Regression

Table 4, on the other hand, displays the results pertaining to environmental sustainability variables. While model 1 does not indicate substantial evidence of a significant relationship between the dependent variable and the sustainable development variable, model 2 reveals a noteworthy positive and significant relationship between the dependent variable and CCPI. As observed in the models presented in Table 3, the Size and Roa variables also positively influence the dependent variable.

	(1)	(2)	(3)
Size	0.818***	0.812***	0.816***
	(0.0856)	(0.0853)	(0.0850)
ROA	0.0642**	0.0613**	0.0622**
	(0.0229)	(0.0232)	(0.0226)
ROE	0.00256	0.00278	0.00258
	(0.00293)	(0.00282)	(0.00296)

SD	-0.0327		
	(0.0641)		
CCPI		0.0351**	
		(0.0184)	
Emission			0.102
			(0.257)
_cons	-13.46**	-18.04***	-16.10***
	(5.140)	(1.919)	(1.548)
N	760	760	760

Table 4. Logit Regression

5. Discussion

In analyzing the results, cultural dimension of "long-term orientation" significantly influences the adoption of the TCFD standard, indicating that countries with a higher inclination towards long-term values are more likely to disclose climate-related information. This finding is consistent with our hypothesis and previous studies that suggest a positive relationship between future-oriented societies and climate-related disclosure (Choi et al., 2021). The significance of this dimension underlines the importance of cultural factors that encourage organizations to focus on long-term sustainability and consider the potential impacts of climate change.

However, our study did not find statistically significant relationships between the other cultural dimensions (power distance, individualism, masculinity, uncertainty avoidance, indulgence vs. restraint) and the adoption of the TCFD standard. This suggests that these specific cultural attributes may not strongly influence companies' decisions to adopt climate-related disclosure practices, at least within the European context studied. This result contrasts with some prior research that had identified connections between certain cultural dimensions and various business behaviors (García-Sánchez et al., 2013; Rotzek et al., 2018). It's worth noting that the lack of significance does not necessarily indicate a lack of impact but rather that other factors might be more dominant in influencing companies' decisions regarding TCFD adoption.

Furthermore, our study established a significant relationship

between a country's higher level of national environmental performance and climate change policy transparency, as measured by CCPI, and the likelihood of companies supporting the TCFD standard. This connection underscores the role of environmental consciousness within a country as a driving force behind companies' efforts to align with climate disclosure standards. The increased interest and sensitivity to climate issues in countries with lower emissions might contribute to a stronger desire for companies to adopt TCFD guidelines to demonstrate their commitment to sustainability and environmental responsibility.

Considering these results, it becomes evident that while cultural dimensions play a role in influencing companies' adoption of the TCFD standard, it is the aspect of "long-term orientation" that exerts the most significant impact. This suggests that efforts to promote climate-related disclosure should consider the cultural propensity of societies to value future-oriented perspectives. Moreover, the correlation between national environmental performance and TCFD adoption highlights the importance of creating a conducive environmental context for companies to embrace climate-related disclosure practices.

6. Conclusion

The chapter has unveiled significant insights into the relationship between cultural dimensions, national environmental performance, and the adoption of the TCFD standard among European companies. Among the diverse cultural dimensions examined, the "long-term orientation" emerges as a singular influential factor driving TCFD adoption, indicating that societies with a future-focused perspective are more likely to embrace climate-related disclosure practices. However, other cultural dimensions did not yield statistically significant correlations with TCFD adoption, highlighting the nuanced and multifaceted nature of cultural influences in this context. Furthermore, research has illuminated a substantial connection between a country's environmental performance, as gauged by greenhouse gas emissions, and the propensity of companies to adopt TCFD guidelines.

Turning to the theoretical implications of fundings, they underscore the paramount role of specific cultural attributes, particularly the "long-term orientation," in shaping corporate reactions to climate-related disclosure standards. The results provide a deeper understanding of how institutional factors can influence corporate behavior. Furthermore, they highlight the strong

connection between the phenomenon of climate change and the forward-looking orientation emphasized by various standards, including TCFD.

From a practical vantage point, results carry crucial implications for corporate entities, policymakers, and regulatory bodies. Notably, our findings can provide invaluable guidance to regulators and standard-setting entities in sculpting policies that foster climate-centric disclosures, especially given the recent publication of the EFRAG and IFRS standards, which align with TCFD recommendations. The emphasis on the "long-term orientation" dimension suggests that strategies aimed at nurturing sustainability-oriented practices should factor in societal time perspectives.

Furthermore, the discerned relationship between CCPI and the adoption of TCFD standards underscores the importance of creating an ecosystem conducive to climate consciousness. Policymakers and stakeholders can leverage this insight to craft interventions that motivate companies to harmonize their disclosure practices with overarching climate objectives. The interplay between national environmental performance and TCFD adoption underscores the pivotal role contextual factors play in shaping corporate responses to global sustainability imperatives.

While this study contributes substantial insights, it's essential to acknowledge inherent limitations. Our research's scope was centered on specific European countries and industries, and cultural dimensions represent just one facet of the intricate web of factors influencing corporate conduct. Future research endeavors could broaden the scope to encompass a wider array of countries and industries, delving deeper into the mechanisms that mediate the connection between cultural dimensions and TCFD adoption. Furthermore, exploring the interplay of additional contextual elements like regulatory frameworks and economic incentives could offer a more comprehensive grasp of the intricate dynamics at play. Finally, future studies could evaluate the evolution assumed by the phenomenon over time by evaluating the impact of the introduction of the new EFRAG and IFRS standards on the climate.

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Voluntary disclosure: the impact in the corporate processes

Maria Teresa Bianchi, Sabrina Ricco, Raffaele de Socio

1. Introduction[1]

What are the organizational impacts for SMEs deriving from the adoption of non-financial reporting models? Answering this research question, after an analysis of the literature, a sample of small and medium-sized enterprises was extracted from the AIDA system to which a questionnaire was submitted. At the moment it is being processed and built a database of the collected data.

The reporting of non-financial information, for the purpose of representing corporate sustainability, increasingly represents a strategic vision for the company with repercussions on the reputation level and for the enhancement of the image and brand of the company itself. Good representation attracts new investors, and talent and increases management efficiency. This a theme that cannot be limited to listed or large companies, but that involves the entire business system in general and that requires in large as in small companies an adaptation of organizational structures and above all a cultural change in directors and corporate management.

SMEs can choose, on an optional basis, to draw up non-financial reporting with the aim of representing the strategic choices for integrating sustainability into business processes and ensuring the governance of sustainable

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value creation over time, over a medium-long time horizon, which consistently includes risks not only financial but also related to ESG variables.

Voluntary disclosure is understood as any financial and non-financial disclosure of information disclosed by management beyond mandatory financial information (Dhaliwal, Li, Tsang, & Yang, 2011; Financial Accounting Standards Board, FASB, 2014). Voluntary disclosures may involve strategic information (product, competition, customers), financial information (earnings forecast, share price), and non-financial information (environmental, social and governance) (Li & Yang, 2016; Meek, Roberts and Gray, 1995; Rezaee, 2016). Some studies believe that voluntary disclosure can improve stock liquidity, reduce the cost of capital, increase intermediary information, and improve earnings quality (Botosan, 1997; Botosan & Plumlee, 2002; Francis, Nanda, & Olsson, 2008; Healy Hutton, & Palepu, 1999; Yang, 2012).

Taking stakeholder theory as a reference (Freeman, 1984; Jensen, 2001; Ng & Rezaee, 2015), there are two aspects that concern the theme of sustainability, namely the dissemination of sustainability and sustainability performance, aspects related to each other and of which all stakeholders represent the beneficiaries. Sustainability, today, therefore means going beyond the purely environmental dimension that characterized the birth of the concept, to overcome it, integrating it, and develop a system approach that considers the environment, economy and society as three aspects so deeply interconnected that they are not taken into consideration individually. The non-financial information to be reported therefore concerns different issues that impact on business management models and organization of business activities, on the policies practiced and on the main risks related to the issues in question deriving from business activity.

The voluntary choice of non-financial reporting triggers an activity of risk mapping and collection of data relating to economic, governance, social and environmental issues, such as to allow the company not only to know the nature of the potential and actual risks deriving from the thematic areas traditionally considered non-financial, but also to prevent potential significant impacts in the short term. This means that sustainability issues can produce effects considered "financially material" impacting the economic and financial results of the company, impacting its competitive position, the value creation process and business continuity. Hence, the awareness at the level of governance, the need to review business models with a view to strategic sustainability

and the adoption of a sustainable development model.

The present work is structured as follows. After the introduction, the context of the research and the methodology used, the analysis of the literature and the first reflections are presented.

2. Research context and methodology

The ongoing research aims to offer an analysis on the organizational impacts and business processes of SMEs that decide to adopt reporting models not only financial but also related to sociability. In order to answer the research question, we opted for the multiple case study (Yin 2005, Paoloni, 2011), submitting a questionnaire to open questions to the attention of the CFOs of a sample of SME companies identified on the basis of specific criteria (Turnover, Total Assets, Number of Employees, Geographical Area, Ateco Code), on the AIDA database and sent by email.

MACROAREA 1: MASTER DATA AND COMPANY HISTORY
1.1. Personal data of the company.
1.2. Data and charge held by the questionnaire compiler
1.3. Brief description of the main stages of the company in terms of development and social responsibility.
MACROAREA 2: IMPLEMENTATION OF SOCIALITY
2.1. What measures and policies of involvement are implemented to implement sociality?
2.2. What social reporting methods or models do you use for voluntary disclosure?
MACROAREA 3: ORGANIZATION AND BUSINESS PROCESSES
3.1. What benefits does the company organization obtain from voluntary disclosure?
3.2. How does voluntary disclosure impact business processes?
3.3. What are the sectors or bodies most involved?
3.4. Is there any plan to adjust the organisational structure? and in what terms?

Tab. 1: Questionnaire submitted to SMEs

Starting from the literature analysis, a search was conducted on Scopus (www.scopus.it) to select the main literature, using individually and in combination the keywords: “Voluntary Disclosure”, “Non-financial reporting”, “Corporate processes”, “Corporate social responsibility”. The research of the main literature was conducted without setting any time limit. The research highlighted the presence of 25 scientific papers 8 scientific articles are selected as the main set of analysis for development.

3. Literature review

In October 2014, European Union Directive no. 95 was approved, amending European Union Directive no. 34 of 2013, with reference to the "Disclosure of non-financial and diversity information by certain companies and large groups". Legislative Decree no. 254 of 30 December 2016 transposes Directive no. 95, introducing the obligation for companies having certain characteristics, of the "Non-Financial Statement" (NFD). The obligation exists, essentially, for entities considered to be of "public interest", companies that issue securities listed on a regulated market in Italy or in the European Union, banks, and insurance companies[2].

This document contains information about social, environmental, personnel, fight against active and passive corruption, respect for human rights, reporting for each of these issues, information about the policies undertaken by the company, the objectives and the results achieved. The European Directive 2022/2464 of December 2022 reforms the discipline on the new Sustainability Report, providing for the obligation to provide, in the "Report on Operations", the information necessary to understand the impact of business activity on sustainability factors and how these factors influence performance, performance and the corporate situation.

The recent legislation on sustainability information renews the previous discipline on non-financial indications. The European intervention was created with the aim of consolidating corporate information on ESG issues at the explicit request of investors and other stakeholders. Not only public-interest entities with more than 500 employees, but also all listed companies, including listed SMEs, and all large companies are required to make sustainability aware[3]. Currently, the Italian companies subject to the DNF are about 200; the European ones, are about 2,000. All other companies, which are not required to draw up this declaration, are those that provide sociability, through a voluntary choice of non-financial reporting.

Sustainability, therefore, must be increasingly understood, for companies, in the light of corporate social responsibility, "Corporate Social Responsibility" (Moon et al., 2007) and the reporting of the latter is

2 These bodies and institutions must exceed at least two size limits at the balance sheet date: more than 500 employees, a balance sheet total of 20 million euros or, alternatively, a total sales and performance revenue of 40 million euros.

3 Same parameters indicated in the previous note; except for the number of employees, greater than 250.

cardinal to return to stakeholders a transparent vision of corporate initiatives for internal social and external social. The provision of non-financial information is essential to manage the transition to a sustainable global economy, combining long-term profitability, social justice and environmental protection (Rusconi, 2021). Non-financial reporting originates from the awareness and need for value creation in an economic-social perspective (Marchi, 2019; Rubino & Veltri, 2021).

On the basis of the new Community legislation, small and medium-sized (unlisted) enterprises are the only ones that can carry out a truly voluntary disclosure. Voluntary disclosure is additional disclosure that goes beyond the requirements of acts, rules and regulations (Ghazali & Weetman, 2006). Managers are given freedom and flexibility to decide what, how, when, and how much information is disseminated in annual reports (Meek et al., 1995; Healy & Palepu, 2001; Sweiti & Attayah, 2013). It is up to the administrators to exercise discretion as to whether or not to disclose information to the public.

Voluntary corporate reporting consists of (Meek et al., 1995; Cotter et al., 2011): i) strategic and prospective information; (ii) financial information; (iii) non-financial information. The act of voluntary communication is one of the methods used by the company to convince stakeholders that it has a good track record (Ali Basah & Albawwat, 2015) and is governed by an effective board (Cheng & Courtney, 2006).

The doctrine has questioned the relationship between voluntary disclosure and corporate control bodies (Madi et al., 2014); voluntary disclosure and environmental impact (Trapero et al., 2023); on the relationship between voluntary communication, together with corporate social responsibility, with financial risk (Yang et al., 2022); on the influence of voluntary disclosure on corporate transparency (García-Sánchez et al., 2016), but did not elaborate on the impact on business processes of SMEs carrying out voluntary disclosure.

Usually, the sector in which the company develops its business, the size and profitability of the company are the key factors that encourage companies to disclose more information about CSR. This allows them to manage their relationships with the most powerful stakeholders (Artiach et al., 2010; Gamerschlag et al., 2011), as companies have more to gain by appearing responsible for disseminating information about corporate social responsibility (Gamper-Rabindran, 2006; Mani & Wheeler, 1999; Perez-Batres et al., 2012), thus avoiding the risk of interest groups acting

against them (Prado-Lorenzo & García-Sanchez, 2010).

The non-financial information that will be increasingly required, also in compliance with the latest European directive, embraces transversal issues, from the business model and strategy of the company to sustainability objectives; from the role of administrative, management and supervisory bodies, to due diligence procedures; from the main current or potential adverse impacts associated with the value chain and risks related to sustainability factors, to performance indicators, also providing indications on intangible factors (often not recognized in the financial statements, but contributing to value creation).

Small and medium-sized enterprises that want to provide voluntary information to stakeholders, as is already the case for larger or listed companies, could invest more efficiently (Clark & Viehs, 2014; Benlemlih & Bitar, 2018), by innovating (Cook et al., 2019), could create greater value for shareholders and shareholders (Nguyen et al., 2020), reduce reputational risk (Uselli, 2007) or increase performance (Mackey et al., 2007). Moreover, for shareholders and investors, any disclosure provided by the company is valid, since it allows them to make an informed and correct investment decision (Alkhatib, 2014).

4. Conclusion

Implementing a management system is therefore crucial and represents the first step to integrating innovation at all levels of an organization, aimed at seizing and creating opportunities for the development of new solutions, new systems, new products and services. In summary, sustainability should be interpreted as the ability to generate value not only for the benefit of shareholders but of all stakeholders.

The management of corporate risks, not only of an economic and financial nature, has therefore increasingly assumed a central role in corporate governance and has materialized both in the legislative field through Legislative Decree No. 254/2016 and subsequent amendments, and in the self-regulatory field through the Corporate Governance Code of Borsa Italiana. In the corporate sphere, the new Code also recommends dialogue - engagement - with stakeholders as a way to pursue sustainable success. Engagement represents the latest step in the transformation of strategies and business models towards the integration of ESG factors, in which the company spontaneously implements new integrated behaviours.

To better manage ESG risks, the Enterprise Risk Management

(ERM) process helps, which, integrated into the company's strategic choices, contributes to improving its performance, favouring an increase in the value of the company. Managing ESG risks requires a structured governance system and appropriate tools for their identification, assessment and mitigation. ESG risks can often also be relevant to the risk on ongoing concern, and business plans should be integrated with sustainability guidance.

The use of non-financial information together with financial indicators integrates a forward-looking corporate and strategic approach, which has the advantage of giving a better prognostic view of the future performance of the company, to safeguard business continuity and the appropriate organizational structure. The originality of this work lies precisely in trying to identify what the impacts are, and categorizing them, in organizational terms for small and medium-sized enterprises that decide to adopt a voluntary reporting model, but there are limits. In fact, first of all, the absence of data led in order to be able to answer the research question, to the setting up of a methodology based on the study of multiple cases to which to submit a questionnaire and which is currently under construction.

From the results of the research, we expect the identification of an evolution that will undoubtedly involve an adjustment of the organizational structures and above all a cultural change in directors and corporate management.

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Accounting for sustainability: the new Corporate Sustainability Reporting Directive

Tommaso Beck

1. Introduction

This study aims to outline the 2022/2464/EU - Corporate Sustainability Reporting Directive's (CSRD) understanding, use and implementation for obligate companies affected by this new adoption. The new CSRD marks a milestone shift in the European context tying non-financial reporting to accounting and inheriting the effort made by the previous "mother directive" 2014/95/EU, also named Non-Financial Reporting Directive (NFRD).

The past two decades have witnessed a growing interest in environmental, social and governance issues and, most importantly, awareness of sustainability issues (Berke & Conroy, 2000). Parallel to this push for progress, in a multicultural society that is increasingly attentive to ethical and environmental issues, there is also a beginning need for companies to use various tools to measure from different accounting perspectives (Cubilla-Montilla et al., 2019). In this context, the main challenge is to apply new accounting criteria in an efficient and effective logic to study the impact of sustainability and evaluate its effects. However, albeit from a process that started some years ago, it is only in recent times that the accounting world has been able to realize how important it is to equate non-financial information with financial ones (Rudd et al., 2008).

In the European context, an early example from the regulator to meet these new accounting needs was Directive 2014/95/EU. The NFRD, although in a still fragmented and often unclear logic, had the merit of issuing new minimum standards for sustainability reporting. The adoption of the previous 2014/95/EU Directive marked a substantial change in the

transition from a voluntary form of non-financial disclosure to a mandatory form of sustainable reporting required for companies (Lombardi et al., 2021). However, this first attempt, in the judgment of the European regulator, was not sufficient and needed to be improved. Numerous consultations, therefore, were arising between the Commission and the European Parliament to improve the quality and quantity of the standards required for sustainability (EU Parliament, 2014).

To date, the new CSRD born out of these efforts has introduced more detailed reporting requirements – also thanks to the support provided by the ESRS standards issued by EFRAG – ensuring that companies involved are required to report on sustainability and ethical issues such as environmental claims, social factors, human rights and governance elements (EU Parliament, 2022). The adoption of the CSRD, with respect to the previews NFRD, will also increase the number of companies involved from the current 11.700 to 49.000 by 2028 according to a proportionate cascading plan of involvement, trying to increase the dissemination of information related to sustainability on schedule (Lin, 2022).

The road map of this study follows what has been said. Paragraph 2 "Literature Review" deals with the main reasons that led to the transition between the two directives (sub-paragraph 2.1.), the salient elements of the new CSRD (sub-paragraph 2.2.) and finally their completion in line with EFRAG's ESRS (sub-paragraph 2.3.). In paragraph 3 is explained the "Methodology" of this work. Then it can be found a brief "Discussion" (paragraph 4) and the "Conclusions" of this study (paragraph 5).

2. Literature Review

2.1. From the NFRD to the CSRD

The previous European Directive 2014/95/EU was one of the most important elements of legislation in the field of sustainability disclosure (Lombardi et al., 2021; Ottenstein et al., 2022; Posadas et al., 2023). However, the choice made almost a decade ago on non-financial reporting was no longer considered sufficient in reference to the growth in importance and relevance of this issue (Panfilo & Krasodomska, 2022). While, in fact, NFRD increased the quality of non-financial reporting for the first time, as well as certainly the credibility of sustainable disclosure, these improvements were still disconnected from an overall logic of interests related to sustainability (Biondi et al., 2020). For all that has just been stated, in fact, this effort has not improved the

comparability of sustainability reports prepared by companies.

Among the highlights analyzed by the European Parliament, which emerged in the NFRD amendment proposals, it is possible to note the fact that "[...] some companies from which users want sustainability information do not report such information, while many of those that do report sustainability information do not report all relevant information for users [...]" (p. 2 - EU Parliament, 2021). This lack of information, however, would not be the sole responsibility of companies because "[...] the current situation is also problematic for companies that have to report. The lack of precision in the current requirements, and the large number of private standards and frameworks in existence, make it difficult for companies to know exactly what information they should report [...]" (p. 3 - EU Parliament, 2021). The situation was also serious because even when, however, information on sustainability was disclosed, there was no security or reliability for it. A brief section on p. 3 of the European Parliament's (2021) amendment proposal also states that "[...] when information is reported, it is often neither sufficiently reliable, nor sufficiently comparable, between companies. The information is often difficult for users to find and is rarely available in a machine-readable digital format [...]".

For all these reasons, the new CSRD aims not only to improve the content of its "mother directive", but at the same time, to provide a set of standards applicable at the EU level to foster comparability and eliminate discretion in sustainability reports as much as possible. This awareness, generally accepted and shared in the European context, was then formalized in a proposal to the European Parliament more in line with the European Green Deal and the United Nations Sustainable Development Goals.

2.2. Characteristic elements of the CSRD

In this scenario, the new CSRD was adopted by the European Parliament on 10/10/2022 (EU Parliament, 2022). The effort made in Europe, in fact, underlines the need to integrate the legislation on non-financial reporting with more stringent requirements on sustainable strategies and with new sustainability reporting obligations (Pizzi et al., 2023). The will, as already stated, is to favor the development of more reliable information by companies. To date, the key contents of Directive 2022/2464/EU would overcome the previous weaknesses of the NFRD in some key points (Deloitte, 2021):

- Description of the business model and strategy;

- Sustainability targets and objectives;
- Relevant indicators for sustainability disclosures;
- Business policies and practices related to sustainability;
- The due diligence process implemented about sustainability matters;
- Main impacts (positive and negative) and risks/opportunities related to sustainability.

However, the identification and implementation of these variables - both of a qualitative and quantitative nature - would be incomplete without an accurate study approach with reference to the concept of impact (Deloitte, 2021). Strictly linked to the last point on the list, in fact, is the topic of double materiality present in the CSRD.

The concept of double materiality, as expressed in the study provided by Deloitte (2021), requires companies to consider both the impact of sustainability on the company's value (financial materiality) and the company's impact on the environment and people (impact materiality). This system has generated an "outside-in" perspective that requires how sustainability factors affect the company's development, performance and corporate position. At the same time, we find an "inside-out" perspective that tries to measure the impact of the company's activities on society and the environment. Among the EU's intentions, Directive 2014/95/EU was directed at rebuilding investor and consumer confidence, with the goal for many companies to strengthen their legitimacy (Dumay et al., 2019). The principle of double materiality, regarding transparent disclosure of the company's impacts, seems to verge in this same direction as a point of continuity between the new and the previous NFRD.

In addition to increasing the quality and quantity of the required sustainability information, the new CSRD introduces another turning point in positioning this information. According to what is directly expressed in the text of the CSRD, in fact, the sustainability report will have to be integrated by companies directly into the management report aggregate to the balance sheet (EU Parliament, 2022). This change, therefore, excludes the possibility of allowing companies to publish the required sustainability information in a separate report. The consequential result of this maneuver is to promote the integration and accessibility of information, and certainly, to increase the Board of Directors' responsibility for them (Baumüller & Grbenic, 2021). This turning point marks an epochal shift in the equalization of importance for non-financial and financial information (Breijer & Orij, 2022).

Linked to the placement, CSRD will also require for all companies affected

by its adoption, a limited assurance on sustainability reporting (Deloitte, 2021). This request will aim to help ensure that the information reported is reliable and accurate, particularly information regarding digital labeling and the indicators included in the management report and according to the Taxonomy Regulation (Deloitte, 2021). At a higher level than limited assurance, there will follow reasonable assurance, which will be a high level of warranty regarding factual inaccuracies in sustainability reports, as well as risk and materiality assessment. The entities affected by CSRD will have the option of allowing independent parties, typically audit companies, to issue the Assurance Report. After release, the Assurance Report will have to be published along with the annual financial statements and the management report.

In addition, the CSRD requires digitally labeling published sustainability information according to a digital taxonomy in XHTML format (Deloitte, 2021). This information will be available through the Single Electronic Reporting Format (ESEF), which is an electronic reporting format designed to facilitate accessibility, analysis and comparability of annual financial reports (Fradeani et al., 2020). This will be overseen by the European Securities and Markets Authority (ESMA) itself, which will develop regulatory technical standards, guidelines and implementation tools (Durović et al., 2021). As a final aspect, the EU envisages the gradual introduction from 2026 of the European Single Access Point (ESAP), i.e., a single point of access to publicly available financial and sustainability-related information regarding EU firms and investment products. The free access, as well as being user-friendly in its centralized and digital nature, will enable people to view and assess financial and sustainability information made public by European companies (including small ones). This adoption will facilitate decision-making for a wide range of investors, increasing the circulation of information and comparability of capital markets financial services within the Union.

2.3. European Sustainability Reporting Standards

As mentioned in the previous two subsections, since 2014 there have been many implementations and improvements in the field of sustainability reporting, placed directly in the texts of both directives. Unlike before the adoption of CSRD, however, today we see the introduction of a new set of standards that are valid at the European level and not directly reported in the text of Directive 2022/2464/EU. In fact, for this set of indicators, the European Parliament relied on the work done by EFRAG and carried out

under the supervision of various bodies[1].

In the European scenario, CSRD will lead to the adoption of ESRS as the future regulatory framework that will define the information that companies will have to provide from 2024 onwards concerning sustainability reporting (EU Parliament, 2022). Before going into the details of the standards, the timetable for adoption, which will increase from about 11,700 companies (affected by the previous NFRD) to 49,000, will be:

- from 1° January 2024 for large public interest enterprises (with more than 500 employees) already subject to the Non-Financial Reporting Directive, with a reporting deadline in 2025;
- from 1° January 2025 for large enterprises not yet subject to the Non-Financial Reporting Directive (with more than 250 employees and/or €40 million in turnover and/or €20 million in total assets), with reporting deadline in 2026;
- from 1° January 2026 for SMEs and other listed companies, with a reporting deadline in 2027; For listed SMEs, an out-out will be also possible during a transitional period, exempting them from the application of the directive until 2028;
- Reporting in 2029, on the 2028 fiscal year, for non-EU companies that generate a net turnover of €150 million in the EU and have at least one subsidiary or branch in the EU.

The architecture developed by EFRAG about ESRS follows two main blocks. The first contains the cross-cutting ESRS 1 "General Requirements" and ESRS 2 "General Disclosures" standards (EFRAG, 2022a). According to what has been stated by EFRAG (2022a), the other block analyzes in detail the topical standards divided by individual ESG thematic areas: Environment, Social and Governance. The correct logic to read these two blocks is with a "top to bottom" perspective, starting from ESRS 1 & 2 and then moving to ESG thematic areas.

With the cross-cutting standards, EFRAG focuses on the core elements required and provides general principles that companies should apply when preparing sustainability disclosures under CSRD. The ESRS 1, which summarizes the general requirements, is divided into ten chapters (EFRAG, 2022b):

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[1] the European Securities Market Authority (ESMA); the European Supervisory Bodies; the Member State Expert Group on Sustainable Finance; the Platform on Sustainable Finance; the EU Council and the EU Parliament.

1. Categories of Standards;
2. Qualitative characteristics of information;
3. Double materiality;
4. Sustainability due diligence;
5. Value chain;
6. Time horizons;
7. Preparation and presentation of sustainability information;
8. Structure of sustainability statements;
9. Linkages with other parts of corporate reporting and connected information;
10. Transitional provisions.

ESRS 2, on the other hand, establishes sustainability disclosure requirements of a cross-cutting nature, including general company characteristics, aggregate business environment, and specific compliance information (EFRAG, 2022c). ESRS 2 also requires information on the strategy, governance, sustainable impacts and materiality assessments of risks and opportunities not only in qualitative but also in qualitative measures (EFRAG, 2022c). Because of the characteristics just expressed, ESRS 1 and 2 allow a more informed reading of the second block on topical standards (EFRAG, 2022a).

As strictly reported by EFRAG (2022a), the second block of topical standards is divided into the three ESG factors that include: five environmental standards ("Climate Change", "Pollution", "Water and Marine Resources", "Biodiversity and Ecosystems" and "Resource Use and Circular Economy"), four social standards ("Own Workforce", "Workers in the Value Chain", "Affected Communities" and "Consumers and End-Users") and one governance standard ("Business Conduct").

The ESRSs, in the composition, just expressed, reflect the rules of EU Regulation 2020/852 on Taxonomy (Deloitte, 2021). The intent of the legislature on Taxonomy is to define a classification system that establishes a list of economic activities considered environmentally sustainable.

3. Methodology

The study was carried out using the bibliometric analysis method. In fact, the bibliometric research method allows to estimate the influence and the impact of the research topic presented in relation to the state of the art of its scientific dissemination. Having adopted this

descriptive research method proved effective for exploring a field of analysis that remains scarcely studied in the literature due to its recent nature. To screen the documents useful for the search, the browser "Web of Science" was used. The following keywords were then set in all research fields:

- Sustainability Reporting;
- Accounting;
- European Union (EU);
- Directive.

Of the 81 outcomes that emerged, the amount was then cut to 72 after refining the search by:

a. Citation topic Meso: including "6.3 Management" & "6.10 Economics";
b. Publication years: from 2014 to 2023.

After sorting the collected data, they were exported in a "BibTex" file and inserted in the "Biblioshiny" program powered by "R-Studio". This step allowed the metadata to be processed in a thematic map (Figure 1) of the domain under investigation, according to two measures: centrality and density. These measures express the role of a topic in organizing the conceptual structure of the domain. Centrality can be read as the relevance of the topic in the entire search domain, while density can be read as a measure of topic development. From the graph it is possible to obtain four quadrants where the different topics can be mapped:

- Higher values of centrality and density define motor themes, which are well-developed and relevant to structuring the conceptual framework of the domain;
- Higher values of centrality and lower values of density define basic themes, which are significant for the domain and cut across its different areas;
- Lower values of centrality and density define peripheral topics, i.e., emerging or declining themes, which are not fully developed or marginally interesting for the domain;
- Lower values of centrality and higher values of density define niche topics, which are strongly developed but still marginal in the framework.

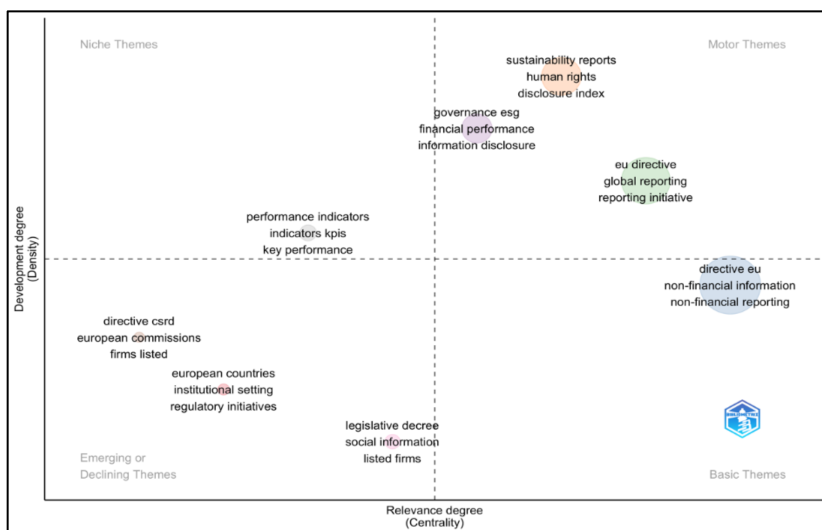

Fig. 1. Thematic Map

The aim of this survey was to highlight the most recurring themes with reference to the accounting world related to sustainability reporting in the European context. Specifically, outputs positioned in the two right quadrants of the graph were considered, i.e., those sections where the centrality and density of the theme gain higher prominence. In particular, these outputs (mainly: Directive EU, non-financial information and non-financial reporting) guided the literature analysis used in this work by complementing the scenario painted by the 2022/2464/EU Directive and the EFRAG standards.

4. Discussion

The elements of novelty brought by the new Directive are several. The CSRD, primarily, introduced mandatory sustainability reporting standards for EU companies in line with the European Green Deal and the EU's 2050 climate neutrality goal (European Commission, 2019). The ESRS, developed and proposed by EFRAG, is also in connection with ESG goals and the EU Taxonomy Regulation. The latter establishes a common classification of economic activities that contribute significantly to environmental goals, using scientific criteria and specific reporting requirements. In this spirit, the information published by this new perspective contains the desire to propose a coherent and comprehensive set of reporting

standards covering all sustainability factors and in line with the dual materiality principle (Delgado-Ceballos et al., 2023). Moreover, according to the CSRD, there will be required limited assurance on sustainability reporting of all companies within its framework, to help to ensure that the information reported is reliable and accurate.

The effort made by the EU, in the non-financial reporting field, ensured that investors and other stakeholders will have access to the documents they need to assess investment information and risks connected to sustainability factors (Lombardi et al., 2022). This adoption, in addition, will certainly help to improve a culture of transparency for companies' impact, especially on people and the environment, as well as certainly a more complete and more reliable framework of information.

5. Conclusions

The relationship between accounting and sustainability has evolved significantly in recent years, leading international organizations to focus increasingly on non-financial reporting in developing new regulations and standards (Tettamanzi et al., 2022). The European effort demonstrates how the ground of sustainability is complex and constantly changing, therefore, it must be monitored constantly and carefully. In this scenario, the laws to be applied are not always easy to understand and act for companies, especially for smaller ones that do not have significant resources. For this reason, it is crucial to constantly survey the current regulatory landscape to take the right measures, not only to deal with new regulations and laws but also to make these efforts effectively successful.

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Comparing digital sustainability reporting through the EU and US perspectives

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1. Introduction, research context and methodology

In recent years, the evolution of sustainability reporting represents an issue that involves an increasing number of companies, even on a voluntary basis, in order to provide a number of information to stakeholders (Pizzi et al., 2022). In this perspective, the international scenario has been characterised by several different regulations, aiming to coordinate and standardise information and provide a uniform path of obligations for companies to comply with.

European Commission has also played a significant role at the international level by regulating sustainability information compulsorily (Jackson et al., 2020; Lombardi, 2021). On the other hand, the necessity to provide the stakeholder with sustainability reporting information should be matched with the need to standardise sustainability information that identifies and qualifies the companies operating in the national and multinational market. From this standpoint, scholars observed that the shift from Directive 2014/95/EU (NFRD) to Directive 2022/2464/EU (CSRD) will have a positive effect on the overall stage of standardization of sustainability reporting in Europe (Baumüller & Sopp, 2022; Lombardi, 2021).

In this regard, the development of new reporting tools will support companies to fill the information gap represented by the lack of comparability and reliability identified by researchers and policymakers and gain economic benefit (Leitner-Hanetseder & Lehner, 2022). This research contributes to the current discussion about this topic as there are few studies analysing the relevance of sustainability reporting practices through digital transformation (Lombardi & Secundo, 2021; Schmitz & Leoni, 2019).

This chapter aims to propose the state of the art in digital reporting after the introduction of the Non-Financial Reporting Directive (NFRD), Corporate Sustainability Reporting Directive (CSRD) and the US regulation in the ESG report. We answered the subsequent research question:

RQ: What is the digital sustainability reporting framework emerging from a comparison among European and US scenarios?

Concerning the decision to compare the EU and US landscape, our approach has been driven, on the one hand, by the opportunity to provide a framework for the current state of digitizing sustainability reporting from an international perspective and, on the other hand, to evaluate the adequacy degree of standardization by giving a view of the state of the art of the digitalisation in those countries. Finally, by discovering new insights into the functions fulfilled by digital technologies (Mancini et al., 2021).

Respect to the research method, it includes surveys and enquiries on the different status of legislation in ESG matters of EU and US countries, following the purpose of describing the current state of digital sustainability reporting in both countries. Findings show that if, on the one hand, the US landscape is still characterised by no effective regulation of non-financial reporting requirements, on the other hand, according to the draft proposal on ESG regulation Nos. 33-11042 (SEC Proposal, 2022, p. 44) realised in March 2022 publicly listed companies have been requested to "electronically tag both narrative and quantitative climate-related disclosures in Inline XBRL. In our Country, the last EU Directive 2022/2464/EU introduced a specific framework, and standardized formats with specific taxonomies (so-called European Sustainability Reporting Standards- ESRS) by providing the "digital tag" of the information disclosed in the corporate sustainability report and its diffusion in XHTML format. Hence, assuming there are no substantial changes to the final version of the SEC Proposal 2022 (see following Section 5) the digital format for sustainable reporting is expected to be quite similar both in the EU and the US countries.

After this introduction Section, the rest of this work is organised as follows. Section 2 provides an overview of the current state of digital reporting, Section 3 describes the European regulatory framework concerning digital reporting. Then, Section 4 offers an in-depth examination of the regulatory landscape in the United States and Section 5 presents a comparative analysis of digital reporting within the contexts of both the European Union and the United States regulatory frameworks. Finally, Section 6 summarises the key findings and presents the

conclusion of this work.

2. Digital Reporting

Government policies regarding reporting standards have recently undergone changes. Non-Financial Reporting Directive (Directive 2014/95/EU, "NFRD"), Corporate Sustainability Reporting Directive (Directive 2022/2464/EU, "CSRD"), and US regulations from the Securities and Exchange Commission (SEC) are an example of the regulations that require companies to disclose non-financial information like safety, health, and sustainability. Non-financial reporting (NFR) is the practice of disclosing various types of information to stakeholders, which includes a wide range of corporate reports, such as sustainability reporting (Eccles and Serafeimm, 2011; Lombardi, 2021). In certain countries, NFR disclosure is compulsorily required in annual financial statements while, in other countries, voluntary supporting standards have been established. Lastly, in other cases, non-financial reporting efforts are limited to socially responsible companies that seek to satisfy stakeholders (Cicchiello et al., 2023; Krueger et al., 2021). Regarding sustainability reporting, Integrated Reporting (IR) is a significant development. IR is essentially a "one document" that integrates the sustainability report or CSR with the annual report. This approach combines financial and non-financial information into a single document, as explained by Eccles and Serafeimm (2011).

In this scenario, digitization is becoming increasingly more relevant, involving firms in multiple ways (Nambisan, 2017). The increased amount of data and expanding use of digital technologies has affected corporate reporting activities (mandatory and voluntary). The information should be clear and comprehensive; reports should improve financial and environmental data quality to enhance comparability and provide transparent reporting to stakeholders (Calderon-Monge and Ribeiro-Soriano, 2023; Gepp et al., 2018; Lombardi and Secundo, 2021). Moreover, as highlighted by Bonsón and Escobar (2006, p. 304), digital reporting systems can modernize accounting and allow for significant savings compared to producing and distributing information in "paper format." As stated by Lodhia and Sharma (2019, p. 311), after analyzing the digital report, it is evident that the role of social media, Big Data, and the Internet of Things in sustainability accounting and reporting is a topic of high interest and has major

implications for firms. Indeed, as it has been widely highlighted in previous studies (Lombardi and Secundo, 2021; Ramassa and Di Fabio, 2016), the advent of the Fourth Industrial Revolution has led to the communication and disclosure of results through digital tools, for instance, social media platforms such as Facebook, Twitter, and other internet-based web technologies. According to ICAEW (2004), digital reporting can be classified into two levels: level 1 involves publishing reports through the Internet to enhance the dissemination of information; level 2 involves using standard formats and storing information to make the reporting more reliable. In level 1, formats such as PDF and Excel are used but do not allow automatic data processing and comparison. Using digital tools such as XBRL (eXtensible Business Reporting Language), as in the second level, improves data transparency, accountability, materiality, comparison, and information security (ICAEW, 2004; Lombardi, 2021; Shan and Troshani, 2015).

XBRL standardizes the structure of financial reports; it has been used for financial reporting since 2009, as required by the U.S. Securities and Exchange Commission (SEC). The Inline-XBRL version embeds XBRL tags into HTML reports and formats the data making them subsequently human-readable; this version has had global growth thanks to the adoption by The European Securities and Markets Authority (ESMA) (Mousa and Ozili, 2023). Digital standards for firm reporting, mainly used for financial reporting, can be a valuable tool for providing complete and rigorous information for non-financial reports. This technology ensures accurate and thorough reporting, making it a crucial asset for modern business.

According to Seele (2016, p. 71), "XBRL-integrated reports" are reports that combine financial and non-financial information into a single document; "digitally unified reporting" (DUR) is based on a standardized repository of real-time data in XBRL format. Using digital tags has several advantages, as it allows managers and external stakeholders, such as investors and regulators, to monitor sustainability performance quickly over time with comparable data. Regulators have been responding to the increasing interest of the market in sustainability and the UN2030 goals by enacting disclosure regulations. Specifically, legislators in the United States and Europe have acted to promote transparency in this area. These measures require a closer examination.

3. European regulation

As early as 2003, European legislation took its first steps towards non-financial reporting with Directive 2003/51/EU, which introduced the analysis of environmental and social aspects. Through the subsequent Directive 2013/34/EU, the European Parliament recognized the importance of non-financial information related to social and environmental aspects. European regulation in corporate sustainability reporting faced its turning point with the introduction of Directive 2014/95/EU (Non-Financial Reporting Directive NFRD), also thanks to the increasing international debate. The NFRD produced NFR mandatory for an audience of approximately 11.700 large firms, so-called "public interest" companies. (European Commission, a; Michalak et al., 2023).

The NFRD, amending Directive 2013/34/EU, represented a turning point for the European Union; the disclosure increased the quantity, quality, and reliability of the information disclosed (Turzo et al., 2022). The scope of the Directive was relatively limited; the application scope referred to listed firms, banks, and insurance companies with more than 500 employees. The Directive contains a minimum of information that must be included: "environmental, social, personnel-related, human rights-related, active and passive anti-corruption information to the extent necessary for understanding the company's performance, results, situation and impact of its activities."

Moreover, firms had to disclose their key performance indicators, business models, or policies (Beerbaum, 2021; Cicchiello et al., 2023). NFRD did not provide a specific framework, format, or standards; the lawmaker allowed flexibility in implementing the reports. Some guidelines and frameworks used are, e.g., Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), the International Integrated Reporting Framework (IIRC), the Task Force on Climate-related Financial Disclosures (TCFD), the United Nations (UN) Guiding Principles Reporting Framework, the UN Global Compact, the OECD guidelines for multinational enterprises and ISO 26000 (Hahnkamper-Vandenbulcke, 2021). In response to the goals set by the United Nations 2030 Agenda and the adoption of the European Green Deal by the European Commission, a public consultation on NFRD was launched, which resulted in numerous criticisms and shortcomings related to the lack of comparability, and reliability of the information disclosed. Indeed, NFDR does not define a clear format, which generates confusion about data findability and comparison (Hahnkamper-

Vandenbulcke, 2021; Venturelli et al., 2022; Zarzycka and Krasodomska, 2022). In addition, the increasing concern of investors and stakeholders about non-financial information also creates warnings about greenwashing and information overload (European Commission, b).

Therefore, a review of the European regulations led to the promulgation of the new Directive 2022/2464/EU (Corporate Sustainability Reporting Directive – CSRD), which took place in January 2023. The range of mandatory enterprises will increase to 50.000; all of the enterprises that will be involved are large and listed enterprises (except microenterprises listed) (European Commission, a). CSRD has proposed, through the European Financial Reporting Advisory Group (EFRAG), common European non-financial reporting standards, so-called European Sustainability Reporting Standards (ESRS), that must be followed by all companies involved in CSRD. Reporting should align with the Sustainable Finance Reporting Regulation (SFDR) and the EU Taxonomy Regulation (Hahnkamper-Vandenbulcke, 2021). One of the main new features concerns the electronic reporting format. Article 29d of the CSRD, in reference to EU Reg. 2019/815, states that sustainability reports must be prepared using Extensible HyperText Markup Language (XHTML) and the mandatory XBRL tag following the European Single Electronic Format (ESEF). The XHTML web page containing the report must include sustainability information and all the information required by Article 8 of Regulation 2020/852, marked using Inline XBRL technology (Inline XBRL) tags. These tags can be easily acquired and processed by any computing device programmed for such tasks, thanks to specific XBRL taxonomies developed by the European Sustainability Reporting Standards (ESRS). As a result of the CSRD, sustainability reports, which used to be more free-form, are going to adopt standardized formats with specific taxonomies that must be followed, thus facilitating mandatory assurance procedures.

	NFRD (Directive 2014/95/EU)	**CSRD (Directive 2022/2464/EU)**
Number of firms involved:	~ 11,700	~ 50,000
Characteristics of the companies	Large public interest entities with more than 500 employees:	Listed companies and large companies, as defined as those that meet two of the following three criteria:

that are required to produce the report:	• Listed firms, • Banks and insurance entities	• over EUR 20 million in total assets, • a net turnover of EUR 40 million, • 250+ employees.
Timeline:	Years closed from 31/12/2017, and after	• Listed firms currently under NFRD are required to report in 2025 for the full year 2024. • Non-listed large firms not currently under NFRD are required to report in 2026 for the full year 2025. • Listed SMEs, small and non-complex lending institutions are required to report in 2027 for the full year 2026.
Scope and information that must be disclosed:	Environmental, social, personnel-related, human rights-related, active, and passive anti-corruption information	NFDR scope, disclosure of intangibles information, information in line with the Sustainable Finance Reporting Regulation (SFDR) and the EU Taxonomy Regulation, application of the double materiality concept, and additional forward-looking information
Where:	A specific section of the Management Report or a specific separate report	A specific section of the Management Report or a specific separate report
Format:	Unspecified	Mandatory digital report following based on ESEF: reports in XHTML format and information with Inline XBRL tagging
Assurance:	Not required	Mandatory limited assurance; assurance will evolve over time gradually toward 'reasonable assurance'

Table 1. **NFRD VS CSRD Source: author's elaboration**

4. US regulation

In recent years, climate change have become a priority at the global level. This is confirmed by the succession of numerous climate-related frameworks that push companies to voluntary disclose climate information, i.e. the Global Reporting Initiative (GRI), the Carbon Disclosure Project (CDP), the Climate Disclosure Standard Board (CDSB), the International Integrated Reporting Framework (IIRF), and The Task Force on Climate-related Financial Disclosures (TCFD). As exposed in

the previous Section 3, the European countries are ahead in this process through the regulation that mandatorily requires to disclosure and reporting of non-financial information.

The Securities and Exchange Commission (SEC) suggested the Proposal of US ESG Regulation "The Enhancement and Standardization of Climate-Related Disclosures for Investors" (Release Nos. 33-11042; 34-94478; File No. S7-10-22) in March 2022 that would provide for mandatory climate-related disclosure in the financial statement of publicly-listed companies (SEC Proposal, 2022). The draft proposal emphasizes the role of identification, assessment, management, and dissemination of climate risks, their impact on businesses, the disclosure of other climate-related information and the inclusion of specific metrics. Specifically, the proposed rule requires to disclose information regarding greenhouse gas emissions (GHG) referring to Scope 1, Scope 2 and Scope 3. Moreover, the content of the proposal is aligned with the TCFD framework and its recommendations on climate-related financial disclosure (TCFD, 2017).

The SEC aims to provide investors with transparent and accurate information, enabling them to comprehend the climate risks associated with their investments. In this way, the SEC's purpose is to standardise the disclosure of sustainable information in line whit other counties, starting from the climate-related issue. Thus, the SEC Proposal (2022) highlight that "The disclosure of this information would provide consistent, comparable, and reliable—and therefore decision-useful—information to investors to enable them to make informed judgments about the impact of climate-related risks on current and potential investments." (SEC Proposal, 2022, p. 7).

Initially, following the release of the SEC Proposal in March 2022, the SEC opened a 60-day public comment period, scheduled to conclude on 20 May 2022 (SEC Proposal, 2022). However, on May 2022 the SEC extended the comment period until 17 June 2022 (SEC extension, 2022), and later on October 2022 it was further extended until 1 November 2022 due to technical issues (SEC re-open comments, 2022). Consequently, the SEC collected the submitted comments and reviewed the feedback to formulate the final rules initially expected to be issued by December 2022 (SEC submitted comment, 2022). Nevertheless, due to the several comments submitted and the intense controversy, especially related to the report of Scope 3 emission, the final rules were initially rescheduled for April 2023. However, due to further delays, the release date for the final rules has been postponed once again and the new expected date is now set for October 2023 (Federal Notice, 2023).

As reported in the draft proposal released in March 2022, publicly-listed companies are required to "electronically tag both narrative and quantitative climate-related disclosures in Inline XBRL" (SEC Proposal, 2022, p.44). In this way, the decision to mandate reporting of climate information in the Inline XBRL format enhances the readability, accessibility, and comparability of this information for investors. Consequently, opting for a machine-readable language like Inline XBRL format significantly improves large-scale data comparison, extraction, and analysis for investors and other stakeholders compared to non-machine-readable language systems like HTML. Therefore, from this perspective, the adoption of the Inline XBRL format could enhance the quality of the report, improving audit control, increasing efficiency, and facilitating comparability, making it more accessible for investors. Additionally, as reported in the SEC proposal (2022), since Inline XBRL technology is expected to be mandated for other types of information as well, its implementation might have a minor impact on costs. Then, the key characteristics of the SEC Proposal (2022) are reported in Table 2.

	Proposal of US ESG Regulation "The Enhancement and Standardization of Climate-Related Disclosures for Investors" (Release Nos. 33-11042; 34-94478; File No. S7-10-22)
Companies involved	Publicly-listed companies, i.e. domestic and foreign registrants: • Large Accelerated Filer; • Accelerated Filer; • Non-Accelerated Filer; • Smaller Reporting companies (SRC); For more details on characteristics: https://www.sec.gov/corpfin/secg-accelerated-filer-and-large-accelerated-filer-definitions
Timeline:	• Large Accelerated Filer: All proposed disclosures and GHG emissions (Scope 1 and Scope 2) for FY2023 filed in 2024 and GHG emissions (Scope 3) for FY2024 filed in 2025; • Accelerated Filer and Non-Accelerated Filer: All proposed disclosures and GHG emissions (Scope 1 and Scope 2) for FY2024 filed in 2025 and GHG emissions (Scope 3) for FY2025 filed in 2026; • SRC: All proposed disclosures and GHG emissions (Scope 1 and Scope 2) for FY2025 were filed in 2026 and GHG emissions (Scope 3) are exempted.
Scope and information that must be disclosed:	Governance, Identification and assessment of climate-related risks; Impact of climate risks on business; GHG emissions and Scope 1, Scope 2 and Scope 3; climate-related metrics and other climate-related information.
Where:	In their registration statements and Exchange Act annual reports (Form 10-K)

Format:	Electronically tag both narrative and quantitative climate-related disclosures in Inline XBRL
Assurance:	Only for large accelerated filers and accelerated filers, initially, independent attestation of Scope 1 and Scope 2 GHG emissions (FY23 and FY24); followed by limited assurance (FY24 and FY25) and finally towards a reasonable assurance (FY26 and FY27).

Table 2. Characteristics of the US Draft Proposal of March 2022. Source: author's elaboration

5. Digital Reporting in the light of the EU and US regulation

Considering the previous overall regulatory landscape in both the US and EU, it is possible to develop a comparative scenario regarding non-financial reporting and disclosure. The primary and noteworthy difference lies in the mandatory disclosure of non-financial information. Europe's scenario is characterized by a system of rules already in place, whit the NFRD (2014) first and subsequentially the CSRD (2022). While the US landscape currently lacks binding regulations for non-financial reporting; instead, in the US there are guidelines for the interpretation of voluntary climate-related issues (SEC Guidance, 2010), and presently is under review the SEC proposal (2022) on climate change disclosure.

Subsequently, a second difference is in the typology of information to be reported obligatorily. In the European context, the CSRD (2022) provides that companies publish their sustainability reporting, covering all three ESG aspects, i.e. Environmental, Social and Governance. On the other side, the draft proposal of the SEC only covers one aspect, the Environmental one, focusing on the disclosure of climate change's impact on businesses and the corporate management of climate risks.

Other significant differences between the EU and the US exist, such as the methodologies of disclosing mandatory information, either as a standalone document or as part of the annual report or registration statements. In addition, these two regulatory systems are aligned in terms of forecast assurance of the information disclosed. In fact, both the EU and the US, start with a provision of limited assurance in order to evolve towards achieving a reasonable level of assurance. However, in the SEC proposal, is foreseen an additional initial stage of assurance, which involves an independent attestation concerning GHG emissions metrics regarding Scope 1 and Scope 2.

The EU and the US regulatory framework for sustainable reporting

are also aligned for the provision of a digital format for the divulgation of that information. Indeed, each regulation mandates the disclosure of the information using an electronic format. This evidence confirmed the exigence for more comparable (in space and in time) and easily available information for the stakeholders, particularly the investors.

In the recent European directive, the CSRD (2022), is specified the use of a "single electronic reporting format" to prepare the management report. This single electronic format is unique for the European countries and it is the European single electronic format (Esef). Thus, the directive provides the divulgation of the report in XHTML format, as a web-page digital tagging the information using the Inline XBRL technologies.

Furthermore, even in the US draft proposal, there is a provision for the utilization of electronic tagging for climate-related information, employing the Inline XBRL format (SEC Proposal, 2022). Electronic tagging applies to both quantitative metrics and narrative information. Nevertheless, for narrative one, its inclusion in electronic tagging remains uncertain due to its exposure to public comments, which could potentially lead to modifications in the final rules.

In light of this consideration, the digital format for sustainable reporting is expected to be quite similar both in the EU and the US, assuming there are no substantial changes to the final version of the SEC Proposal (2022) as summarized in Table 3. The provision of the electronic tag simplifies the process of data comparison and analysis, as both countries opt for the use of the same machine-readable language (Inline XBRL). Nevertheless, the small divergence lies in the typologies of information subject to digital tagging: all sustainable information is tagged in one case, while in the other the tag is limited to climate change-related information. Furthermore, the SEC proposal (2022) underlines that both narrative and quantitative information should be subjected to digital tagging, whereas the CSRD (2022) does not specify this requirement. Moreover, within the European framework, this information follows a standardized electronic format known as Esef, leveraging XHTML technologies.

	CSRD	**SEC Proposal (US)**
Status	Published	Already a proposal. The final version is expected on October 2023
Format	European single electronic format (Esef) using the XHTML	Not specified

Tag	Digital tag in Inline XBRL	Electronic tag in Inline XBRL
Type of information	All sustainable information	Both narrative and quantitative climate-related information

Table 3. CSRD vs SEC Proposal in digital reporting. Source: author's elaboration

6. Conclusions

Our analysis reveals that while the European scenario is characterized by a system of rules already in place (NFRD of 2014 and CSRD of 2022), the U.S. landscape currently lacks binding rules for non-financial reporting. Moreover, while the European regulations cover all ESG aspects, the aforementioned SEC draft proposal focused on climate-related information. Considering the different regulations adopted by the two countries, it arises that obligations regarding ESG disclosures are not homogeneous and therefore addressing substantial issues related to transparency, comparability, and standardization of data will have to be overcome. Some scholars emphasized that in reaching these goals it will be necessary that companies consider sustainability reporting in the right view (Pizzi et al., 2023): as an opportunity instead of a cost. It is understood that in the early adoption, entities may provide limited information on this topic, due to the lack of comprehension of the importance of being compliant with ESG obligations. This will lead to the necessity to carry out further quantitative analysis, to shed light on the key interconnections between the taxonomy adopted by different countries and the quality of sustainability reporting. In addition, qualitative research can put into evidence the key drivers applied by companies and eventually any lack of information with respect to the mandatory measures. At the same time, an important role will be played by the EFRAG to lead, among other topics, to an XBRL-based taxonomy as a generally accepted language to disclose the ESG information in the sustainability reports in an international context. Furthermore, on the one hand, with respect to the last EU Directive, the recent US draft legislation on adopting digital features on ESG issues constitutes the starting point of a new era of disclosure of non-financial information; on the other hand, the existence of a common ground based in the provision of a digital format for the divulgation of that information can contribute to promoting the transition of companies faster toward

homogeneous obligations on sustainability reporting.

Thus, in the forthcoming future, reporting practices will be influenced by the requirements initiated by CSRD in the European context; while in the United States, the effect of a different regulation with respect to our Country will be mitigated by the adoption of digital taxonomy. From this last standpoint, it is reasonable to expect that the next regulations will be affected by the prevalent adoption of these digital tools, which will improve the credibility of sustainability information disclosed by both mandatory and voluntary company reporting (Pizzi et al., 2022).

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Corporate Disclosure before and after the Non-Financial Reporting Directive (NFRD)

Paolo Conte

1. Introduction

The practice of non-financial disclosure plays a crucial role in providing stakeholders a deep understanding of a company's environmental, social and governance (ESG) performance and impacts. It aims to offer stakeholders a comprehensive view of a company's sustainability practices, ethical behaviour, and long-term value creation beyond financial metrics. While financial accounting metrics capture certain aspects of a company's performance, many valuable resources, such as intellectual resources, are not adequately represented (Beattie et al., 2002; Beattie et al., 2004; Mouritsen et al., 2001b; Petty & Guthrie, 2000; Petty et al., 2006). Therefore, non-financial disclosure fills this gap by shedding light on these important factors.

Moreover, several studies have demonstrated that the disclosure of non-financial information is an effective strategy for gaining, maintaining and repairing a company's reputation (Deegan 2002). By being transparent about their non-financial practices, companies can enhance stakeholders' trust and demonstrate their commitment to sustainable and responsible business practices.

The purpose of this contribution is to examine the impact of the Non-Financial Reporting Directive on corporate disclosure practices. It also aims to provide a deeper understanding of the characteristics of social reporting, environmental reporting, intellectual capital reporting, and reports aligned with the Non-Financial Reporting Directive (NFRD) through the proposition of the literature review.

2. Corporate Disclosure before NFRD

Prior to the implementation of the Non-Financial Reporting Directive, non-financial disclosure was predominantly voluntary as highlighted in several studies (Striukova et al., 2008, Dashlsrud, 2008; Okoye, 2009). This meant that companies had varying levels of commitment to reporting on environmental, social, and governance factors. Some companies recognized the significance of ESG reporting and proactively disclosed non-financial information because their primary concern was potential reputation damage and negative investor reactions in the event of non-compliance (He & Li, 2018; Merkl-Davies & Brennan, 2017). Studies have found that companies engage in Corporate Social Responsibility (CSR) activities to influence their reputation positively (Rothenhoefer, 2019).

On the other hand, many small and medium enterprises (SMEs), especially those not listed, provided limited or no non-financial information. Very likely, this lack of reporting was primarily due to the absence of legal requirements. Furthermore, the non-financial reporting landscape was characterized by fragmentation and inconsistency (Turzo et al., 2022). The absence of standardized frameworks, metrics, and reporting guidelines posed significant challenges for stakeholders to compare and assess companies' ESG performance. As a result, there was a wide variation in the quality and scope of non-financial disclosures across different organizations. Before the NFRD, non-financial disclosure encompassed three distinct documents: Social reporting, Environmental reporting, and Intellectual capital reporting (Russo & Lombardi, 2013). Each of these reports focused on different aspects of a company's performance and impacts, further contributing to the fragmented nature of non-financial disclosure practices.

2.1. Social Reporting

Social reporting primarily focuses on an organization's social impacts and performance (Gray, 2002; Gray et al., 1987, Gray et al., 1996). It encompassed the organization's interactions with various stakeholders, including employees, communities, customers, suppliers, and society as a whole. Within social reporting, a range of topics were typically addressed. These include labor practices, human rights, employee well-being, diversity and inclusion, community engagement, philanthropy, and ethical business practices. By reporting these areas, organizations aimed to provide a comprehensive view of their

commitment to social responsibility and their efforts to foster positive social change. It aimed to provide transparency (Yongvanich' et al., 2006) and accountability regarding the organization's social responsibility and its efforts to contribute positively to society (Azzone et al., 1997). It allowed stakeholders to evaluate the organization's alignment with their values.

In summary, social reporting goes beyond financial metrics to shed light on an organization's social impacts and performance, to foster transparency, and accountability, and to give a deeper understanding of the organization's social responsibility and ultimately contribute to the sustainable and ethical practices of the organization.

2.2. Environmental Reporting

Environmental reporting, also known as sustainability or environmental disclosure, focuses on an organization's environmental performance and impacts. It involved reporting on various aspects of the organization's environmental practices, resource consumption, pollution, emissions, and efforts to mitigate and manage environmental risks. By providing transparency on these matters, environmental reporting aimed to allow stakeholders to evaluate the company's environmental responsibility and its commitment to sustainable practices.

Within environmental reporting a wide range of topics were typically addressed. These may include topics such as energy usage, greenhouse gas emissions, water management, waste management, biodiversity, and environmental compliance. Environmental reporting allows companies to demonstrate clear accountability and responsibility for their actions (UNEP, 1994).

Traditionally, companies included information regarding the environmental impact of their operations in their annual reports (Nieminen and Niskanen, 2001). However, in the late 1990s corporations recognized the increasing relevance of environmental information and began to adopt "separate sustainability reports" (Jose, & Lee, 2007, p.311). This shift in reporting practices reflected a growing understanding of the environment as a vital strategic planning area.

In conclusion, environmental reporting serves as a tool for organizations to share information about their environmental performance and impacts. It allows companies to highlight their environmental initiatives, demonstrate accountability and emphasize the importance of the environment in their strategic planning processes.

2.3. Intellectual Capital Reporting

Intellectual capital reporting focuses on an organization's intangible assets and intellectual resources (Chiucchi, 2004). This reporting encompassed various elements including the organization's knowledge, expertise, intellectual property, innovation capabilities, and relationships with stakeholders.

For stakeholders to more fully understand an organization and the effectiveness of its managers, it is therefore essential for the corporate to adequately reflect its intellectual resources, because these knowledge-based resources are used and developed to further the organization's achievements, both in the past and looking to the future (Boedker et al., 2005).

In conclusion, intellectual capital reporting recognized the significance of intangible assets in the knowledge-driven economy. It aimed to measure and report on the organization's intellectual resources, their utilization, and their impact on the organization's performance and value. By providing stakeholders with a comprehensive view of these intangible assets, intellectual capital reporting enhanced transparency and understanding of the organization's strategic capabilities and prospects.

3. Corporate Disclosure after NFRD

Directive 2014/95/EU, also known as the Non-Financial Reporting Directive (NFRD), has had a significant impact on disclosure practices for large companies (exceeding 500 employees) headquartered in Member States from 2017 required to provide a series of social, environmental, and governance statements. The Directive was transposed into Italian law by Legislative Decree 254 of 30 December 2016 (Venturelli et al., 2017, p.1). These companies were required to disclose non-financial information in their management reports. This requirement encompasses a range of areas, including environmental, social, employee, human rights, and anti-corruption matters (Cuomo et al., 2022, p.1).

One of the key objectives of the NFRD is to encourage the use of recognized reporting frameworks, such as the Global Reporting Initiative (GRI) and Sustainability Accounting Standards Board (SASB) or other internationally accepted standards, to guide their non-financial reporting. The use of such standards has lowered the effort required to process the disclosed information, has reduced the risk of misprocessing it, and has limited the adoption of a superficial tick-box approach in the disclosure

process (Cosma et al., 2020). These frameworks provided a structured approach to reporting, ensuring comparability of information.

Disclosure regulations, like the NFRD, aim to protect corporate investors and stakeholders by increasing the information available to them, hence allowing them to undertake better decision-making (Easterbrook & Fischel, 1984). The Directive emphasized the importance of materiality assessment, requiring companies to disclose information on matters that are significant to their business and have a direct impact on stakeholders. This approach enables companies to identify and prioritize environmental, social, and governance topics based on their relevance and potential impacts. Furthermore, the NFRD seeks to enhance transparency by requiring companies to disclose non-financial information in a clear, concise, and understandable manner. The information provided should be relevant, reliable, and comparable over time to enable stakeholders to make informed decisions.

It set the stage for increased disclosure of ESG information and encouraged companies to integrate sustainability considerations into their business strategies. Previous studies have indeed shown that disclosure regulation is positively associated with improvements in the metrics used to assess the performance of the regulated practice (e.g. Bennear & Olmstead, 2008; Christensen et al., 2017; Delmas, Montes-Sancho, & Shimshack, 2010). The NFRD applies only to so-called "public interest entities", approximately 11.700 companies across the European Union, including credit institutions, insurance undertakings, or large companies with a balance sheet total of EUR 20 million, or a net turnover of EUR 40 million and an average number of employees of 500 (EU 2014/95).

According to the NFRD, the non-financial report should include a brief description of the undertaking's business model and a description of the policies pursued by the undertaking in relation to ESG matters. Moreover, it should include non-financial key performance indicators relevant to the particular business, across environmental matters, social matters and treatment of employees, respect for human rights, anti-corruption, and diversity on company boards (in terms of age, gender, educational and professional background).

The NFRD was effective from 2017 to 2022 and has been replaced by the Corporate Sustainability Reporting Directive (CSRD). Directive 2022/2464, also known as Corporate Sustainability Reporting Directive (CSRD) builds upon the NFRD requirements and expands the scope of

mandatory non-financial reporting. It introduces more detailed reporting obligations and standardizes reporting across the EU. Companies subject to the CSRD will have to report according to European Sustainability Reporting Standards (ESRS). Furthermore, the directive extends the reporting requirements to more companies, including large non-listed companies, and listed small and medium-sized enterprises, approximately 50.000 across Europe. Additionally, the CSRD introduces digital reporting requirements and aims to align with global reporting frameworks such as the Sustainability Accounting Standards Board (SASB). On 5 January 2023, the Corporate Sustainability Reporting Directive (CSRD) entered into force and the first CSRD report of companies in the scope of NFRD is due in 2025 for the financial year of 2024. (EU 2022/2464).

4. Conclusion

Recent years have seen a growing interest in corporate social responsibility (CSR) practices and performance, driven by evolving European legislation. The implementation of the Non-Financial Reporting Directive (NFRD) and subsequent Corporate Sustainability Reporting Directive (CSRD) exemplify the effort to enhance corporate transparency. These regulations aim to enable stakeholders to better assess the non-financial performance of both large and small medium-sized enterprises (SMEs) in Europe. Ultimately, their goal is to encourage companies to embrace responsible approaches to their business operations.

A comprehensive examination conducted in this work highlights the fragmented, non-standardized, and dispersed nature of non-financial reporting before the implementation of NFRD and CSRD. This lack of cohesion made it challenging to compare the environmental, social, and governance (ESG) performance of different companies effectively.

Non-financial information was shared with three separate documents. The social report primarily focused on an organization's social impacts and responsibilities, shedding light on its interactions with stakeholders and its commitment to ethical practices. The environmental report focused on the organization's environmental performance and sustainability practices, providing information about resource usage, pollution, and efforts to mitigate environmental risks. Lastly, the intellectual capital report emphasized the organization's intangible assets and intellectual resources, highlighting its knowledge, expertise, intellectual property, and innovation capabilities.

By integrating these three aspects of non-financial reporting, the NFRD and CSRD aim to establish a more comprehensive and standardized framework. This unified approach enables stakeholders to compare the ESG performance of different companies more effectively across Europe. In summary, the NFRD and CSRD play a crucial role in improving corporate transparency and encouraging responsible business practices. By addressing the fragmented nature of non-financial reporting and promoting a standardized framework, these directives enable stakeholders to assess and compare the ESG performance of European companies more accurately.

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An introduction to sustainability reporting and disclosure in the European Union: a primary bibliometric analysis

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1. Introduction

In recent decades, sustainability has become an increasingly important topic, evolving to encompass a range of events and concepts that address environmental and social challenges. The European Union (EU) has played a leading role in promoting sustainable practices, and one of the key tools used to communicate corporate performance in terms of responsibility is sustainability reporting. Sustainability reports are a tool for companies implementing sustainability policies and practices to demonstrate their commitment to society (Hahn & Kühnen 2013).

EU Directive No. 95/2014, which was approved in 2014 and went into effect for the first time in 2018, is one of the key measures in this area. Large enterprises with more than 500 workers listed on a regulated market in any Member State are considered entities subject to this directive (EU, 2013). Parallel to this, major businesses must include information about diversity, human rights, anti-corruption, and environmental, social, and employee-related issues in their management reports (Dumitru et al. 2017; Cordazzo et al. 2020).

As awareness of environmental and social challenges increases, disclosure of information in the European Union plays a crucial role in promoting corporate responsibility and the transition to a more sustainable, even circular economy (Tiscini et al., 2022). Non-financial disclosure of information is a typical practice for all businesses, which promotes more transparency and accountability. Companies utilize disclosure to generate corporate value by legitimizing their actions or holding themselves accountable to their stakeholders (Fuente et al. 2017).

In this way, they seek to make entities aware of their influence and

transparently share their actions and results in terms of sustainability. On the other hand, due to the increasing prevalence of sustainability reporting and disclosure practices, there has been an increase in studies on how these practices affect company value as well as how they differ according to the institutional frameworks of different European nations (Carnevale & Mazzuca, 2013).

This contribution aims to update the information and dissemination of sustainability in the European Union through a qualitative selection method of the main studies on the subject. To do so, first, we developed a structured literature review (SLR) (Lombardi et al., 2021), using Scopus as the main source to find articles, analyzed through "article title, abstract, keywords" containing selected search terms. Secondly, we used the VOSviewer tool, which allows us to visualize and identify connections between scientific articles and to visualize thematic groupings and co-authorships.

In-depth research was done by the literature from 2012 to 2023, specifically focusing on sustainable reporting in the European Union. Our findings indicated four interconnected clusters, emphasizing the importance of non-financial reporting, integrated reporting, legitimacy theory, institutional framework, and sustainable reporting. It highlights the significance of the topic and its relationships within the EU context.

The remainder of the chapter is structured as follows: Section 2 presents the theoretical background, Section 3 presents the research methodology, and Section 4 presents the results. Finally, Section 5 outlines the discussion, conclusions, and future research agenda.

2. Literature review

2.1. Theoretical background

The EU's assertive approach to corporate sustainability and non-financial disclosure has encouraged corporations to adopt sustainable reporting. Initiatives like the Global Reporting Initiative (GRI) have played a significant role in establishing voluntary standards for sustainability reporting, and enhancing transparency and trust among stakeholders. The successful adoption of GRI guidelines by IBEX 35 companies in Spain exemplifies global acceptance of sustainability reporting standards (Ortiz & Marn, 2014).

Within this theoretical framework, we will present the primary findings and trends identified from selected articles obtained through a comprehensive literature review (SLR) to clarify the evolution of

sustainability reporting and disclosure in the European Union.

- The importance of sustainability disclosure: it is highlighted in sustainability reporting and its relation to the sustainable management of companies, as evidenced in the case of the Czech Republic and Slovakia (Petera P., Wagner J., Paksiova R., Krehnacova A., 2019). Factors such as company size and affiliation to a high-profile industry are associated with the amount and structure of disclosure. In addition, sustainability reporting is motivated by stakeholder pressure, competitive advantage (Castilla-Polo & Sanchez-Hernandez, 2020), and strategic legitimacy (Carini et al., 2021). The disclosure of these reports impacts stakeholder decision-making and the perception of companies in society (Xiao and Shailer, 2022), including performance management and corporate social responsibility indexes (Bonilla-Priego et al., 2014).
- The institutionalization of sustainability reporting is a relevant topic in the business context, where its importance is recognized. The article "Are sustainability reports becoming institutionalized? The role of a problems-based field" (Higgins et al., 2018) addresses how companies create strategies in the face of pressure to report.
- The European Directive 2014/95/EU has played a crucial role in enhancing non-financial disclosure within the European Union and stimulated companies to integrate sustainability into their core business operations and strategies. The case of corporate reporting in Poland and Romania (Dumitru M. et al., 2017) offers valuable insights into how regulatory factors and local nuances can impact the quality and scope of sustainability disclosure. Moreover, this underscores the necessity of customizing approaches based on individual national contexts to ensure the efficacy of sustainability disclosure policies across the EU.
- The role of the board of directors in sustainability reporting is crucial to understand how certain characteristics of the board, such as its size, level of activity, and independence, affect the preparation and disclosure of corporate social responsibility reports. For example, the article "The Board of Directors and sustainability reporting" (Rodríguez-Ariza et al., 2014) concludes that large companies with large and diverse boards are more active in the disclosure of sustainable information.
- Evolution of Integrated Reporting: seeks to combine financial and non-financial disclosure in a single document, which brings several benefits, including a crucial role in promoting a more robust Environmental, Social, and Governance (ESG) assessment (Santamaria et al., 2021).

However, it also faces challenges in the field of corporate sustainability, as some companies adopt the International Integrated Reporting Council's (IIRC, 2021). Integrated Reporting Framework tends to comply with it informally or accidentally without fully recognizing its potential to provide valuable information to investors (Pigatto et al., 2023).

The literature review has revealed certain gaps in the research on sustainability disclosure. Firstly, there is a lack of specific studies in certain EU countries, indicating the necessity for targeted research to comprehend their unique practices and challenges. Secondly, it emphasizes the potential for comparative analysis across various industry sectors to identify exemplary practices and areas where sustainability disclosure be enhanced.

Furthermore, the literature review did not explicitly mention any specific models or theories related to sustainability disclosure in the European Union. However, it did highlight several theoretical approaches or conceptual frameworks utilized in the analyzed articles. For instance, institutional theory and legitimacy theory were used to examine the influence of the board of directors on the quality of sustainability reporting (Amran et al., 2014). Additionally, stakeholder theory was employed to analyze how companies address stakeholder demands concerning sustainability disclosure (Dumitru et al., 2017).

Based on the theoretical framework presented, the research question proposed is: RQ: How has sustainability reporting and disclosure evolved within the European Union?

Following the research question, the researchers conducted a rigorous bibliometric analysis to examine the volume of studies and publications on sustainability reporting in the EU over various periods.

2.2. Research method

The structured literature review (SLR) provides an overview of the benefits and concerns surrounding non-financial disclosure. The initial phase of this study involves defining the research protocol and criteria for conducting the SLR, according to Kraus et al. (2020). Additionally, the analytical framework for the analysis is constructed based on the synthesis presented by Secundo et al. (2020). The framework organizes four key components: I) Documents Publication Year; II) Geographic Distribution; III) Journal Citation; and IV) Keywords.

Likewise, this SLR is commonly known as a 'grey analysis' (Kraus et al., 2020), wherein diverse documents are scrutinized to build relatively robust theoretical support. Specifically, we adopted a longitudinal study of

documents from the last 12 years (2012 to 2023), assuming a single query based on the keywords: I) Non-Financial information; II) Disclosure; III) Italy; IV) Companies. Scopus software was used as the main source to find the papers through an analysis based on "Article title, Abstract, and Keywords" containing the selected search terms adopting "OR" or "AND" as connections. With the selection of the area of Business, Management, and Accounting as the field of investigation, the query revealed 86 documents.

Therefore, the next step was to check the connection between these documents and our research objective by analyzing the content of the titles and Abstracts. Additional skimming was performed during this step to eliminate other documents that could have generated false positives (Lombardi et al., 2021). The SRL resulted in the selection of 82 documents, with only 51 related to European Union countries.

Eventually, the SLR analyses current issues in the field of non-financial disclosure, trying, as far as possible, to provide interesting points of reflection. The first step was the development of a bibliometric analysis using the VOS viewer software (Van Eck & Waltman, 2017). Subsequently, a central role attributed to cluster analyses developed through the co-occurrence of keywords was regarding the driving force of the literature review. Indeed, the content of this SLR draws on the main keywords and connections highlighted by the cluster analysis. The following section shows these results.

3. Results

The bibliometric analysis began by exploring the distribution of papers published over time in different countries. The first step was to examine each published article by year. We found an uneven trend of publications. 2012, 2016, and 2023 recorded two published do-documents, respectively; in 2013 to 2015, none; for the remaining years, there was an alternation from 3 published documents in 2017 and 2018 to 14 published papers in 2022. Figure 1 shows this uneven trend in publications.

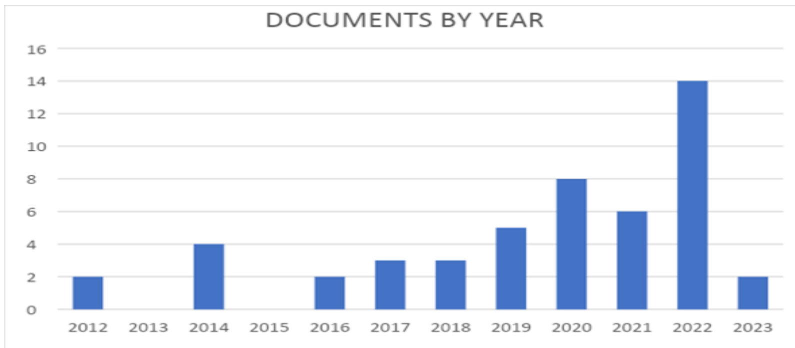

Fig. 1. Publishing trend. Source: our elaboration on Scopus data

The highest number of papers (N13) originated from Italy, closely followed by Australia with 11 papers. Notably, both countries also recorded the highest number of citations per country, with the United States having 561 citations and Australia with 432 citations. Italy secured the third position with 343 citations, while Spain ranked fourth with 166 citations, and New Zealand claimed the fifth spot with 67 citations. The United Kingdom obtained the sixth place with 135 citations (Table 1).

COUNTRY	N° OF PAPERS	N° OF CITATIONS
Italy	13	343
Australia	11	432
Spain	7	166
United Kingdom	5	135
New Zeland	4	67
USA	6	561

Tab. 1. Documents and citations per country. Source: our elaboration

Among these papers, the research article by La Torre, Sabelfeld, Blomkvist, Tarquinio, and Dumay (2018) achieved the highest citation index (CI) value due to its 123 citations. The article by Christensen, Hail, and Leuz (2021)(33 cits) has the highest number of citations per year (CPY). Table 2 provides a complete analysis of the three most cited articles.

AUTHORS	TITLE	CITATIONS	CPY	SOURCE	COUNTRY
La Torre, M., Sabelfeld, S., Blomkvist, M.,Tarquinio, L., Dumay, J.	Harmonising non-financial reporting regulation in Europe:	123	20,5	Meditari accountancy research 26(4), pp. 598-621	Italy, Australia and Sweden

	Practical forces and projections for future research				
Christensen, H.B.,Hail, L., Leuz, C.	Mandatory CSR and sustainability reporting: Economic analysis and literature review	99	33	Review of accounting studies 26(3), pp. 1176-1248	USA
Bonilla-Priego, M.S., Font, X., Pacheco Olivares, M. D. R	Corporate sustainability reporting index and baseline data for the cruise industry	96	9,6	Tourism management 44, pp. 149-160	Spain and United Kingdom

Tab. 2. Documents Top three cited articles. Source: our elaboration

Even if Business, Management, and Accounting is the main source sector, additionally, we found the presence of the following sectors: I) Economics, Econometrics, and Finance; II) Social Sciences; III) Environmental Science; IV) Energy; V) Engineering; VI) Arts and Humanities; VII) Decision Sciences.

After analyzing the citations per source, the most significant results are I. Business Strategy and the Environment (412 cits), II. Corporate Social Responsibility and Environmental Management (243 cits), and III. Meditary Accountancy Research (219 cits). In the final stage of the bibliometric analysis, we developed an occurrence analysis to identify the keywords in the documents examined. We chose three as the minimum number of occurrences. Table 3 displays the keywords as the SLR's objective.

KEYWORDS	OCCURRENCE
Eu Directive	3
European Union	3
Governance Approach	3
Italy	3
Non-Financial information	3
Regulation	3
Sustainability reporting	3
Content Analysis	3

Corporate Social Responsability	3
Directive 2014/95/EU	3
Non-Financial reporting	3
Sustainability report	3
Csr	3
Gri	3
Legitimacy theory	3
Sustainability disclosure	3
Sustainable development	3
Institutional framework	3
Integrated reporting	3
Sustainability	3

Tab. 3. All keywords occurrence. Source: our elaboration

The next step in the analysis was the development of a cluster analysis through the co-occurrence, choosing the full counting method. Cluster analysis allows us to identify the main relationships between our keywords. Figure 2 shows the results.

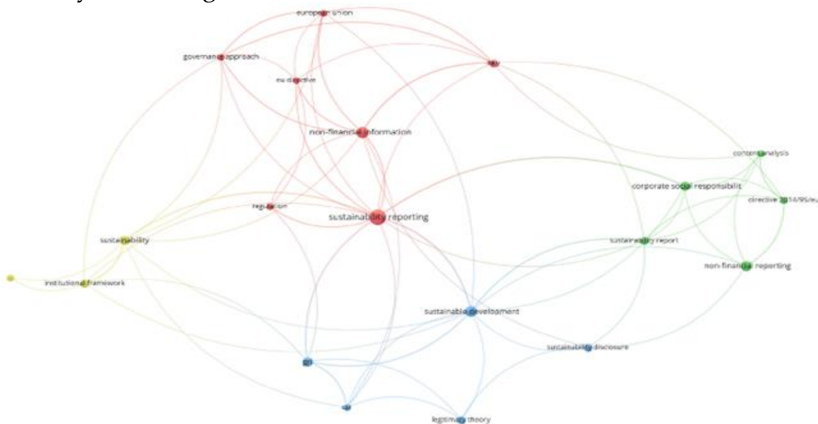

Fig. 2. All keywords occurrence. Source: VOSviewer

We, therefore, found four main clusters. Cluster One identified with the color red; Cluster Two with the color green; Cluster Three with the color blue; and Cluster Four with the color yellow. In particular, the clusters are composed as follows:

I. EU Directive, European Union, Governance approach, Italy, Non-financial information, Regulation, Sustainability reporting.
II. Content analysis, Corporate social responsibility, Directive 2014/95/EU, Non-financial reporting, Sustainability reporting.
III. Csr, Gri, Legitimacy theory, Sustainability disclosure, Sustainable development.
IV. Institutional framework, Integrated reporting, Sustainability.

	KEYWORDS
CLUSTER 1	Eu Directive
	European Union
	Governance Approach
	Italy
	Non-Financial information
	Regulation
	Sustainability reporting
CLUSTER 2	Content Analysis
	Corporate Social Responsability
	Directive 2014/95/EU
	Non-Financial reporting
	Sustainability report
CLUSTER 3	Csr
	Gri
	Legitimacy Theory
	Sustainability disclosure
	Sustainable development
CLUSTER 4	Institutional framework
	Integrated reporting
	Sustainability

Tab. 4. Groups of keywords occurrence. Source: our elaboration

Additionally, we conducted an analysis of bibliographic coupling among authors and four main clusters: Cluster One (red) consists of Brown, Dumitru, Krasodomska, Galeotti, and Lombardi, Cluster Two (green) includes Blomkvist, Dumay, La Torre, and Sabelfeld; cluster Three (blue) is composed of Hossain and Momin; and cluster Four (yellow) represented by Posadas and Tarquinio. Figure 3 displays the results.

Fig. 3. Bibliographic coupling authors. Source: VOSviewer

This article has mapped and organized the literature on non-financial disclosures using bibliometric methodologies. The exponential development in the number of papers produced indicates the topic's importance.

La Torre, Sabelfeld, Blomkvist, Tarquinio, and Dumay (2018); and

Christensen et al. (2021) published the most cited articles, with 123 and 99 citations, respectively. We also find Bonilla-Priego, Font, and Pacheco Olivares (2014) in third place with 96 mentions.

The leading journals in the field by the number of citations are Business Strategy and the Environment (412 cits), Corporate Social Responsibility and Environmental Management (243 cits), and Meditary Accountancy Research (219 cits).The analysis focusing on keyword co-occurrence and biblio-graphic matching revealed a total of 4 clusters, which show that the leading authors in this field are European researchers.

Regarding the analysis of documents and citations per country, Italy emerges as the frontrunner, followed by Australia, Spain, the United Kingdom, New Zealand, and the United States. These findings corroborate the conclusions drawn from the co-occurrence analysis, providing further evidence that European countries are highly active and collaborative in the field. One of the reasons could be related to language, which is considered a real barrier for publications by researchers who are not native English speakers (Gibbs, 1995).

The results and conclusions extracted from the analysis in this paper may be useful to companies, regulators, and researchers interested in sustainability and corporate accountability. The structure and main guidelines also give clues regarding possible future research.

Although new laws have been introduced (2014/95/EU), it is essential to give greater attention to the issues raised by researchers. However, certain variables still necessitate further in-depth study.

The objectives of this article were to identify the different research strands and to analyze the most relevant contributions and authors. Nevertheless, it is important to acknowledge some limitations. About the origin of the data used, we collected them by operating only on one software, Scopus, which contains a valuable collection of important articles. However, the analysis could be carried out more reliably and accurately by including other information from other software such as, for example, Google Scholar.

4. Discussion, primary conclusions, and future research agenda

Theoretical framework and bibliometric analysis have illuminated the evolution and development of sustainability reporting in the European Union. The research and publications related to the disclosure of non-financial information in the region have shown significant growth, reflecting a progressive focus on sustainability driven by EU policies and regulations.

First, the literature review highlighted several key aspects, such as the importance of sustainability disclosure and its relationship with sustainable management of companies, as well as the role of the board of directors in disclosure. Moreover, the impact of the European Directive 2014/95/EU in enhancing non-financial disclosures within the EU and the advancement of integrated reporting. However, research gaps were identified in certain EU countries, suggesting a need for focused research to understand their practices and challenges.

Secondly, the bibliometric analysis has identified Italy and Australia as the leading countries in production documents and citations related to sustainability reporting. These countries have contributed significantly to sustainable reporting research and practices in the region.

Due to this, the most recurrent keywords in the analyzed documents include main concepts such as sustainability disclosure, institutional theory, stakeholder theory, integrated reporting, and European Directive 2014/95/EU, among others. It highlights the importance of these thematic areas and how they have been central to the literature on sustainability disclosure in the EU.

The limitations of this article derive from a small number of articles analyzed using specific keywords, and the focus fields were business, management, and accounting. Therefore, our future research aims to monitor these limitations by proposing the following investigations to scholars:

- What are the unique practices and challenges related to sustainability reporting and disclosure in various EU countries?
- How does sustainability reporting influence stakeholder decision-making and shape public perceptions of companies within society?
- To what extent are companies in the European Union adopting the integrated reporting approach, and how does it contribute to a more comprehensive assessment of Environmental, Social, and Governance (ESG) factors?

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PART II

Non-financial information from Italian SMEs, trade-off between cost and stakeholder engagement

Marco Ammaturo, Francesco Antonio Rusciani

1. Introduction

Disclosure of environmental, social, and governance issues (ESG) has become a key component of corporate reporting in recent years, gaining popularity among academics and practitioners. (Baldini et al., 2018; Ng & Rezaee, 2015). Since Verrecchia (1983), scholars have concentrated their efforts on evaluating the advantages and disadvantages of ESG disclosure, generally attributing them to stakeholder theory (Donaldson & Preston, 1995) or agency theory (Jensen & Meckling, 1979).

Increasingly, sustainability is a critical success factor for companies around the world. Stakeholders are increasingly interested in and attentive to the sustainability of the operations of the companies with which they have relationships. This, valid generally for all companies, was initially true only for large, often listed companies whose ratings are strongly influenced by the non-financial disclosures they can produce. The fundamental idea is that benefits often outweigh costs, which is largely supported by actual evidence: Performance is expected to improve for businesses that freely provide ESG data through company websites, annual reports, and/or CSR reports. (Surroca, Tribó, & Waddock, 2010). However, despite increased interest, the majority of these studies have focused on large corporations, leaving little research on the situation of small and medium-sized enterprises (SMEs) (Baumann-Pauly, Wickert, Spence, & Scherer, 2013).

In December 2022, the EU Directive 2022/2464 (CSRD, Corporate Sustainability Reporting Directive) was published. The document will have to be prepared following the ESRS (European Sustainability Reporting Standards), currently being developed by EFRAG, and, for SMEs, by the

appropriate sustainability reporting principles to be adopted by the European Commission by the reporting requirement for this category of companies as well.

The application of the above principles and, therefore, the preparation of the sustainability report entails costs that small and medium-sized enterprises often do not consider worthwhile. Thus, in the trade-off between costs and sustainability enhancement, there is still a tendency to favor short-term savings. Many companies give evidence of all ESG initiatives on their website or at trade shows and events but do not find it convenient to do so through NFD, as they are not obligated to do so.

The practical importance of closing this gap is clear. SME enterprises make up 90% of businesses globally and 99% of businesses in the EU, respectively (Bakos et al., 2020; Bartolacci et al., 2020); in terms of structural, social, and functional elements, they diverge significantly from major businesses (Russo & Perrini, 2010). SMEs are far from being "small large enterprises" (Tilley, 2000), and they each have unique features, such as easier management (De et al., 2020).

The disclosure of environmental, social, and governance (ESG) factors has grown in importance in corporate reporting. Although small and medium-sized firms (SMEs) make up the majority of businesses in Italy, their efficacy has not received much attention. Indeed, the peculiarities of SMEs may influence the magnitude of the costs and benefits of voluntary ESG disclosure according to agency and stakeholder theory.

As a result, although benefits often surpass costs in large businesses, this is not the case for SMEs, who instead see a negative relationship between benefits and costs.

Unlike large companies, SMEs typically assign monitoring to financial intermediaries due to their considerable reliance on bank financing (Diamond, 1984). Consequently, the restriction on managerial discretion posed by nonfinancial disclosure is either unneeded or ineffective (Bushman & Smith, 2001; Hope & Thomas, 2008).

The objective of the research is to find evidence in the literature of the actual convenience for SMEs to report on corporate ESG performance and to provide evidence of stakeholder engagement and satisfaction.

It is established in the literature that for large companies, non-financial reporting reflects positively on financial performance. The cost incurred in preparing nonfinancial disclosures, both in terms of direct and indirect costs, is largely absorbed by the volume of business of large

companies, including unlisted ones. Since the costs of implementing and integrating an ESG performance monitoring and reporting system are predominantly fixed, the ratio of costs incurred to total revenues is far lower for SMEs than for large companies and groups that can absorb these fixed costs and benefit from them in terms of profitability.

From the analysis of existing literature, there is empirical evidence that direct costs, such as those related to the preparation and dissemination of information (Ng & Rezaee, 2015; Prencipe, 2004), and indirect costs, related to the disclosure of confidential information to the outside world, are largely justified from the perspective of large firms.

Limitations of ESG disclosure, are related to the use of classical financing channels for use by SMEs if companies have the costs but do not reap the benefits. Indirect costs rise as a result of the limited diversification of SMEs, which also reduces the preparer's discretion and increases the risk that private information containing hints of competitive advantage will be revealed (Torugsa et al., 2012). As information asymmetries are reduced, there is a greater likelihood of the release of proprietary information and an increased risk for SMEs of imitation by competitors.

2. Literature and regulatory context

Corporate social responsibility has been widely studied in the academic fields (Carroll, 2008; Crane & Matten, 2007; Dobers, 2009; Mintzberg, 1983; Bianchi, & Nardecchia 2016). Researchers have defined it as "...the voluntary integration of companies" social and ecological concerns into their business operations and in their relations with stakeholders" (Green Book - European Commission, 2001). The definition has been supplemented and expanded over the years giving increasing importance to stakeholder engagement (Carrol & Brown, 2018; Lombardi et al., 2020).

In recent years, CSR has become increasingly important in business economics studies. In particular, the role attributed to CSR in the creation of value for investors and competitive advantage has been re-evaluated to the point of assuming significant importance in the choice and evaluation of investments (Galeotti & Garzella, 2013).

The exact definition of CSR, as outlined above, is still debated in doctrine; however, it can certainly be traced back to stakeholder theory. This theory is framed in the managerial sphere, defining the objectives and criteria that should guide the actions of the good manager (Freeman et al. 2004).

Stakeholder theory identifies as relevant to the company - in addition to the demands of investors, the demands of all those who have an interest in the company's operations, i.e. the stakeholders. CSR can be seen as an evolution of stakeholder theory: in fact, the latter focuses on the relationship between the company and its stakeholders, whose satisfaction is an indication of the company's ability to create value. CSR must be understood as responsibility toward all those stakeholders who are involved in the company's operations and on whom the effects of the company's behavior fall.

It is the ability of the enterprise to create economic progress and well-being for the social context in which it operates. On closer inspection, the company is an economic institution destined to endure in time, for the satisfaction of human needs, and orders and carries out, in continuous coordination, the production, or procurement and consumption of wealth (Zappa, 1956). It is clear how the ability to endure over time passes through the achievement of the company's objective, but also through the improvement of the social conditions of the context from which the company draws economic resources and in which it allocates its production.

CSR, therefore, is to be understood as that set of actions through which companies create value by generating benefits for the community within the scope of their operations (Porter & Kramer, 2006). The two authors identified a more evolved and broader concept: Corporate Shared Value, which can be considered as the set of actions and policies of corporate governance that improve the conditions of the social context in which it operates.

To identify a set of elements suitable for assessing the sustainability of corporate operations, the doctrine has identified three macro-areas to evaluate the impact of corporate strategies in terms of sustainability, with particular reference to investments: attention to the environment, and pollution, respect for the internal and external social context and, finally, the compliance of the governance model with corporate governance best practices. The first aspect refers to the environmental sustainability of the business activity; it considers the impact on the ecosystem in terms of greenhouse gas emissions, pollutants, waste, deforestation, and resource exploitation. The second element concerns the relationship with workers, in particular working conditions, safety and health, including attention to diversity and its valorization.

The last topic concerns corporate governance practices, on which companies easily guarantee maximum transparency, as opposed to the environmental aspect; this aspect refers to the protocols and procedures established to ensure compliance with the law and company

regulations, the composition of the board and the code of ethics.

In opposition to these theories is the shareholders' theory, with its derivations, according to which the actions of management must be instrumental only to the maximization of the shareholders' profit, without considering the demands of the other stakeholders on whom the effects of the company's actions fall.

Evidence from the markets shows that corporate social responsibility is a highly relevant factor in the choices of both consumers, who prefer to buy goods and services produced following ESG criteria, and investors, who reward companies with the best environmental and social performance.

There is evidence from numerous studies (Freide et al, 2015; Wang and Sarkis, 2017) that the best economic and financial performance is achieved by companies that have the highest ESG ratings and can report on their environmental, social and corporate governance efforts in an analytical and detailed manner. A positive correlation has been demonstrated between corporate reporting in individual ESG areas and positive economic-financial performance (in terms of ROE and ROA). This demonstrates that companies that can operate in compliance with ESG criteria and report on their work can create greater value, including for shareholders, than those companies that do not report on their commitment in terms of creating value for stakeholders.

In Italy, more than 90% of companies have less than 10 employees, which cuts a huge number of companies out of the pool of stakeholders and potential beneficiaries of the NFD, due to the insignificant impact of the individual company.

On the other hand, 60% of the workforce is employed in large companies, which make up 5% of all Italian companies. The latter, which are very often listed, report extensively on their non-financial performance and are often the subject of empirical studies and research. However, there remains a category of companies that is certainly included among SMEs, i.e. not large and not listed, whose impact in terms of ESG is significant about the size of the Italian territory: medium-sized and small companies. These entities, which are often organized as a group, are not subject to non-financial reporting obligations. Non-financial reporting, introduced by Directive 2014/95/EU and transposed in Italy by Legislative Decree 254/2016 is only mandatory for large listed companies, banks and insurance companies, both listed and unlisted, with more than 500 employees.

In December 2022, the EU Directive 2022/2464 (CSRD, Corporate

Sustainability Reporting Directive) was published, which must be transposed in each individual EU state within 18 months of publication and includes four key points:

1. Progressive increase from 2024 to 2028 of those affected by the new reporting obligations;
2. The disclosure, to be included in a special section of the annual report, must cover the impact of the company's operations on the three ESG dimensions (Environmental, Social, and Governance) and the impact of these on the company's business and performance;
3. Digitization of information through the use of the European Single Electronic Format (ESEF);
4. Certification by an independent party of the disclosure.

The document will have to be drawn up by the ESRS (European Sustainability Reporting Standards), currently being developed by EFRAG, and, for SMEs, by the special sustainability reporting standards that the European Commission will adopt under the reporting obligation also for this category of companies. It is estimated that in Italy from 2024 at least 6,000 companies will be required to draw up a NFD, in compliance with CSRD, with a positive knock-on effect on the entire supply chain (source: Nomisma).

2.1. Social reporting models

Since the 1990s, the need to measure performance also from a social perspective has emerged, to be able to integrate the business strategy formation process with the social driver (Kaplan and Norton, 1992).

Among the many different international reporting standards are:

- GRI (Global Reporting Initiative) Standards, published by the Global Sustainability Standards Board, which provide detailed information to all stakeholders;
- ESRS (European Sustainability Reporting Standards) developed by EFRAG and usable from 2024, is also aimed at the entire stakeholder community;
- IFRS SDS (Sustainability Disclosure Standards), which are, however, still under development, and are generally adopted for reports addressed to investors;
- SASB (Sustainability Accounting Standards Board) Standards from 2022 are also under the responsibility of the IFRS Foundation, after the merger with the Value Reporting Foundation.

The principles currently most widely used by NFD preparers are those developed by the Global Reporting Initiative (GRI), which are the reference reporting principles for non-financial reporting. GRI standards constitute the reference principles for sustainability reporting as they are universally recognized and adopted by companies that draw up a sustainability report both voluntarily and mandatorily (Busso et al, 2019). In fact, in Italy, all companies that prepared NFD in 2021 referred to the GRI principles (Linciano et al., 2021).

The GRI Standards offer the possibility of two approaches, one more comprehensive and a second more streamlined. Under the first approach, reporting "in accordance with" GRI Standards, the organization reports on all material issues, accounting for their impacts and how it has managed these issues. This approach provides the full picture of material impacts on the economic, environmental and social context. When the organization cannot meet all the requirements of the specific standards or only wants to report some information for specific purposes, it can use the second approach, the "concerning" GRI Standards. In this case, only specific standards are used and information on the approach used is given in the report.

3. Literature analysis and evidence from the literature

The analysis was mainly conducted using the Scopus platform, where the following search was performed: "sme*" AND "esg" OR "nfd" OR "nfi"; limiting the search to the subject areas: "Business, Management and Accounting" and "Economics, Econometrics and Finance". The search returned 21 papers of which only 20 were in English, therefore 20 papers were selected for analysis. The most discussed subject in the literature, both inside SMEs and large corporations, is value creation in connection to ESG performance and corporate sustainability reporting.

These two factors should be considered individually. On the one hand, CSR, or corporate social responsibility and compliance with ESG standards, is becoming a more important aim for all sorts of businesses. All businesses, regardless of size, industry, or geographical location, strive to demonstrate to the outside world their commitment to sustainability. Access to credit and stock exchange listing, the relationship with the external environment and stakeholders, particularly the policy and social context, and value creation are the main subject areas addressed by corporate social responsibility, ESG performance, and their reporting (Dinh et al., 2023). In light of the

new CSRD stated above, the subject is also becoming more prevalent in the literature. Indeed, as proven in the research (Esposito De Falco et al., 2020), a favorable external setting is required to inspire SMEs to function in a socially responsible and accountable way.

Increasing the base of individuals required to submit non-financial reporting might indirectly force subjects not required by statutory laws, such as SMEs, to meet the aforementioned duties. This is due to their stakeholders' desire to interact with organizations that share similar values and can give non-financial information to the market. Numerous evaluations on ESG for SMEs have been undertaken in the literature, particularly about the connection with stakeholders such as lending institutions and lawmakers. Governmental institutions want to drive as many players as possible towards the incorporation of ESG logic into corporate operations (Esposito De Falco et al., 2021).

In recent years, several favorable policies, primarily of a fiscal character, have been enacted in Italy to reward virtuous enterprises in terms of technical progress and innovation. The problem is extremely important because SMEs account for more than 90% of firms in Europe and offer more than 50% of employment (Estensoro et al., 2021). The majority of European SMEs are not publicly traded and rely on bank financing: compared to loans (45%), market instruments such as debt (2%) and shares (10%) are far less commonly viewed as a viable source of financing (European Central Bank Report, 2020). In Europe, SMEs are often not subject to any specific sustainability reporting obligations in comparison to bigger, publicly traded enterprises, despite the new CSRD.

SMEs, on the other hand, are susceptible to indirect external constraints on corporate sustainability reporting (for example, from lending banks or consumers subject to sustainability standards). As a result, sustainability reporting may provide SMEs with a competitive edge in positioning themselves within the supply chain. There have been heated disputes during the CSRD formulation process over whether SMEs should be included in the scope of CSRD and if more transparent sustainability disclosures should be supplied (Dinh et al., 2023).

No papers specifically address SMEs (or unlisted enterprises, which include the majority of SMEs) in our assessments. O'Dochartaigh's (2019) analysis of disclosure tactics is insightful. There aren't many distinctions between the sustainability narratives published by large public companies, value-based SMEs, co-owned businesses, and social enterprises, according

to the author, who compares them.

Furthermore, certain research (Campopiano & De Massis, 2015; Halme et al., 2020; Nekhili et al., 2017) demonstrates the significance of ownership type on sustainability reporting and performance. Different incentives (endogenous, such as domestically customized approaches or culture, and exogenous, like compliance with sustainability rating systems) alter organizations' approaches to sustainability depending on the kind of ownership (Halme et al., 2020). Additionally, other studies do not emphasize disparities but include SMEs (and unlisted enterprises) in their samples (e.g. Haller et al., 2018). The external pressure that SMEs encounter from clients and financial institutions, as well as the significance of sustainability for their positioning within supply chains, are further understudied problems.

4. Conclusion and limitation of the work

The objective of the research is to find evidence in the literature of the actual convenience for SMEs to report on corporate ESG performance and to provide evidence of stakeholder engagement and satisfaction. It is established in the literature that for large companies, non-financial reporting reflects positively on financial performance. The cost incurred in preparing nonfinancial disclosures, both in terms of direct and indirect costs, is largely absorbed by the volume of business of large companies, including unlisted ones. Since the costs of implementing and integrating an ESG performance monitoring and reporting system are predominantly fixed, the ratio of costs incurred to total revenues is far lower for SMEs than for large companies and groups that can absorb these fixed costs and benefit from them in terms of profitability.

From the analysis of existing literature, there is empirical evidence that direct costs, such as those related to the preparation and dissemination of information (Ng & Rezaee, 2015; Prencipe, 2004), and indirect costs, related to the disclosure of confidential information to the outside world, are largely justified from the perspective of large firms.

Limitations of ESG disclosure, are related to the use of classical financing channels for use by SMEs if companies have the costs but do not reap the benefits. The main limitation of the research is the difficulty in finding data about the average annual cost of non-financial reporting produced by an SME. In addition, the great heterogeneity within the category also makes it difficult to extrapolate data from any

database. However, there is still little literature production in this area, and the scientific community's interest in NFD and SMEs can make the topic analyzable from multiple angles.

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ESG Reporting and Utilities Sector. Primary Evidence and Concepts

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1. Introduction and methodological issues

Recently, environmental, social and governance (ESG) issues have become crucial for stakeholders, policymakers, scholars and international organizations (Rhodes, 2010; Sarti et. al., 2018). Events such as the COVID-19 pandemic and climate change have further sensitized different categories of stakeholders on the importance of an economy oriented towards sustainable development principles. In this context, private companies play a crucial role in achieving sustainable development goals.

Due to strong pressure from external stakeholders, companies have started to disclose ESG information, some voluntarily and some compulsorily. In a voluntary way through the adoption of voluntary standards such as GRI or integrated reporting (Brigitte de Graaff et al.2021). In a mandatory way, as in the case of European companies subject to directive 95/2014 (non-financial reporting directive) and then with the subsequent update 2462/2022.

Thus, this research aims to analyze ESG or sustainability reporting in light of recent mandatory and voluntary challenges. The aim of the research is therefore to propose recent evidence on sustainability reporting in the utilities sector as a relevant context.

A qualitative method has been adopted which is particularly useful because "…*Situations in which qualitative research is likely to be the preferred method include 1) which little known about a research problem or opportunity….*" (Hair et al.2003). Thus, the content analysis was conducted (Krippendorff, 2013); this method is widely used by accounting scholars for analyzing reports (Boiral et al., 2019). The sample selection, was chosen to extract from the DNF observatory website (https://www.osservatoriodnf.it/it/home/)

(i.e. the observatory dealing with non-financial statements), the companies belonging to the utilities sector, for the year 2021 (Table 1).

1) AGSM A.I.M. SPA
2) ACQUE VENETE
3) AIMAG
4) ATLANTIA
5) CAP
6) FALK RENEWABLES SPA
7) HERA
8) IREN
9) POSTE ITALIANE
10) SMAT
11) SNAM
12) TEA
13) TERNA
14) UNIVERSITÀ TOR VERGATA
15) VERITAS SPA

Tab. 1 Sample of analysis

For the application of primary content analysis, three structure indicators were identified, which indicate the incidence and frequency of certain factors:

- the first indicator shows the presence of the sustainability report within the annual report;
- the second structure indicator detects how information is represented;
- the third structure indicator notes the length of the reports.

In addition, Nvivo software was used for frequency analysis.

The first results of this research are directed to show when the report is integrated into the financial statements, which sections are most recurrent in financial statements, whether the content is expressed more in text or graphics, and finally, the length of the reports. The limitations of this research might relate to the limited number of companies analyzed, the limited use of verification methods, and the number of indicators that could be expanded.

The chapter is structured starting with an initial introduction to the analyzed topic followed by a literature review, where the issues of ESG Reporting, the role of the Utilities Sector, and ESG reporting in the Utilities Sectors are examined; finally, a last section where conclusions, limitations and future research are drawn.

2. Literature

2.1. The definition of ESG reporting

Through ESG reporting, companies formally communicate to stakeholders what environmental, social, and governance goals they have achieved and how they have managed to achieve them. Companies make available to external stakeholders such information so that they can make the best purchasing decisions as well as their consideration of the company (Rhodes, 2010; Sarti et. al., 2018).

ESG reporting is relevant for companies as well as investors and stakeholders; recently, the topic of sustainability has often been the focus of interest of investment funds, which are driven by investors' desire to invest in infrastructure, that can be considered sustainable, or entities whose ultimate goal is social (Bannard, 2023). Thus, ESG reporting has been mainly supported by the growth of investment sources. ESG reporting guidelines have succeeded in "codifying society's expectations for sustainability disclosure" (Shabana et al., 2017).

Continuing and accelerating climate change has focused global attention on all issues concerning the concept of sustainable enterprise (Yu et. al., 2023). As a result of these climate changes, several countries have started to issue standards concerning ESG reporting, with a special focus on companies that are highly polluting. Following the ESG issues, investors, as well as stakeholders, understand what is the impact of companies' activities on the environment, from the social and governance perspective. The collection and processing of such information is still insufficient and not widespread, which leads to difficulties in decision-making by stakeholders. Some studies suggest how Industry 4.0 technologies could serve to improve ESG reporting processes in real time, while also being able to improve the reliability and efficiency in communicating externally what is happening within the company. ESG reporting standards have become rules for understanding the content and procedures to apply in building sustainability information (Burgemeestre et.al., 2014).

The concept of ESG touches on several areas, each of which has different peculiarities from the others (Luo, Tang 2022). However, the understanding of how ESG data are measured or aggregated within the corporate report is a relevant issue. Studies have shown that there is a fundamental need to estimate the value of each dimension of ESG to obtain a monetary valuation.

Studies also highlight critical issues in summarizing all ESG variables. Some authors, such as Gray et al. (1995), promote that the absence of "systematic reporting by organizations has made traditional positive research more difficult for accounting scholars".

In this scenario, the development of ESG reporting (or sustainability reporting or non-financial reporting) is voluntary or mandatory distinguishing companies' categories. At the mandatory level, corporate reporting derives from the application of the national legislation in the European countries applying the Non-financial Reporting Directive 95/2014 (NFRD) and the Corporate Sustainability Reporting Directive 2462/2022 (CSRD). In Italy, Legislative Decree 254/2016 derives from the NFRD and contains thematic issues to summarize in the sustainability report by public interest companies involved in the legislation.

Through legislative decree no. 254/2016 (in Italy, Directive 2014/95/EU concerning financial reporting was transposed (www. gazzettaufficiale.it), the disclosure obligation regarding non-financial and diversity information regarding public interest entities (or PIEs) was introduced.

"PIEs are recognized in the following companies:

- companies with more than 500 employees;
- companies that exceed one of the following criteria at the end of the fiscal year:
  - total net asset value of 20,000,000 euros
  - total net revenues from sales/services of 40,000,000 euros" (Lombardi, 2021)

Therefore, starting from the 2017 fiscal year, Italian PIEs have been obliged to share a non-financial report, within which information should be reported on: environmental and social impacts, human rights, employment, corruption, and corruption prevention (Balluchi et al., 2020; Lombardi et al., 2021).

2.2. The role of Utilities sectors

The concept of public value does not yet have a universally agreed definition (Bebington; Colon & Guerin-Schneider, 2015). Moore, in 1995, first stated that the concept of public value can be generated by managerial attention to it. Stakeholders, if they are involved with utilities, may have the ability to understand what people's needs and desires are (Haarhoff, 2019), "to cooperate in terms of mutual values (Giacomini et al., 2020; Hörisch et al., 2014) and provide a competitive advantage (Stocker et al., 2020; Sulkowski et al., 2018)".

The role played by utilities in Italy has, over the last few years, become increasingly important, thanks to a growing awareness of the

fundamental social and economic role they play; it is important to emphasize that there is a growing demand for quality and convenience from a public that has become increasingly demanding over the years; the needs of the public have not been the only challenges that utilities have had to face; in fact with an increasing number of EU directives they have had to conform to them; they have also had to face the effects of liberalization and industrial and institutional reorganization of the sector (this from an internal point of view) (Rija, 2017).

2.3. The ESG reporting in the Utilities sectors

Recently, the utility sector has frequently regarded sustainability reporting in scientific debates (Andrews & Slater, 2002; Cormier & Gordon, 2001; Imperiale et al., 2023). Some scholars suggest the relevance of studies focusing on the utilities sector composed of companies with their peculiarities that should be studied using specific theoretical profiles (Mio, 2010; Dragomir, 2012). Other studies have shown how utility companies impact the environment, and local communities, contradicting their institutional purposes (Traxler & Greiling, 2019; Bresnihan, 2016; Giordano, 2012; Nishitani et al., 2021). Utility companies have decided to voluntarily disclose sustainability information to gain legitimacy (Imperiale et al., 2023; Nishitani et al., 2021). It is also interesting to point out that utilities are one of the most virtuous sectors concerning the 2014/95/EU reporting directive (Posadas & Tarquinio, 2021).

3. Primary findings

The results come after a semi-manual analysis of the content of sustainability reports on the sample of companies, part of the profit-ties sector, taken by the DNF observatory, for the year 2021, which led to the results shown in the tables below. I applied a set of simplified indicators to summarize the results of the content analysis, as reported in the following table.

STRUCTURE INDICATOR 1 (IS1)	INCIDENCE/ FREQUENCY
Report integrated into the budget	6
Report not integrated into the balance sheet	9

Tab. 2 – Structure Indicator 1 (IS1)

SURVEY OF MAIN REPORT SECTIONS
Group activities
Importance of stakeholders
System of governance
European taxonomy

Tab. 3. Evidence in the reporting section

The first indicator detects the presence of the sustainability budget within the balance sheet (Table 2). In the application of the first indicator (Table 2), six companies with a report integrated into the balance sheet and nine companies with a report not integrated into the balance sheet were surveyed.

Secondly, the most important sections in the reports were surveyed, which are (Table 3):

- Group activities;
- Importance of stakeholders;
- System of governance;
- European taxonomy.

Following the analysis in this direction, Table 4 summarizes the structure indicators 2 (IS2). The second structure indicator analyses how information is represented.

STRUCTURE INDICATOR 2 (IS2)	INCIDENCE/FREQUENCY
Graph	8
Textual	15

Tab. 4. Structure Indicator 2 (IS2)

The second indicator (IS2) shows that textual information prevails to the detriment of graphic information, as textual information is found in fifteen companies, while eight companies have graphic information.

Finally, the third indicator (IS3) shows the length of the reports, based on the number of pages, as reported in Table 5.

STRUCTURE INDICATOR 3 (IS3)	INCIDENCE/ FREQUENCY
1-50	6
50-100	3
100-200	4
+200	2

Tab. 5. Structure Indicator 3 (IS3)

From this last indicator, most of the reports analyzed are less than 50 pages long; six companies have a length of less than 50 pages, while

three companies have dedicated between 50 and 100 pages to their sustainability report; four companies have between 100 and 200 pages. While only two companies have a report exceeding 200 pages.

Through the use of the software Nvivo, a frequency analysis of the most frequently used words was made by searching for the words having a length at minimum of eight characters deleting not significant words. Additionally, I searched for the top 100 frequent keywords.

Fig, 1. Word cloud. Source: elaboration from Nvivo software

It should be noted that some non-integrated reports may contaminate the results of the analysis. Figure 1 shows the most recurring keywords such as the following:

- Sustainability;
- Financial;
- Employees;
- Investment;
- Sustainable;
- Stakeholders;
- Land;
- Environment.

4. Primary conclusions and limitations

This primary analysis represented in the previous sections focused on detecting some issues and factors of the relevance of sustainability reports in the utilities sectors. Starting from the specific legislation (NFRD, CSRD, D.LGS 254/2016), literature and best practices, some incidence/frequency indicators (IS1, IS2, IS3) were created to detect (I step of the research) the main recurring factors in the realization of sustainability reports.

Currently, in the first step of the research it is noted:

- The increased presence of sustainable reports separated from the annual report;
- Report production mainly in text form;
- The greater presence of reports within 50 pages;
- Popular Keywords: sustainability, employees, investment, stakeholders, land and environment.

This is the first step of the research starting to contribute to literature. The following steps of research that will be directed to complete the analysis. The limitations of the present analysis mainly derive from the limited sample, which for future research could be supplemented by extending the number of companies and sustainability reports and including other sectors. In addition, the analysis could be extended by further research steps, as well as using different verification methods, such as case studies or a survey analysis.

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Non-financial information in the electricity sector: the credibility of reports between regulation and digitization

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1. Introduction

Recent years have seen a substantial increase in corporate social responsibility (CSR) initiatives. This process has also involved companies in the electricity sector, in which the number of companies disclosing information on environmental, social, and governance (ESG) performance and CSR activities has increased significantly (Bakhtina & Goudriaan, 2011).

This movement has led companies to prepare specific reports to disclose information regarding sustainability goals (Jestratijevic et al., 2022), and therefore, various reporting frameworks have been developed to guide companies in selecting relevant information. The most widely used, at present, are those issued by the Global Reporting Initiative (GRI) and the International Integrated Reporting Council (IIRC) (Izzo et al., 2020). However, the increase in the number of reports produced by companies and the amount of information provided has raised questions about the credibility of such disclosure (Mazzotta et al., 2020).

Therefore, it seems essential to conduct studies on the credibility and accuracy of CSR disclosure by companies (Li et al., 2014).

Moreover, such analysis appears to be particularly important for companies belonging to the electricity sector for which the relative strategic relevance is unquestionable, as electricity enables the performance of all other economic activities (Traxler & Greiling, 2018; Sidhoum & Serra, 2017). In addition, it has been found that the electric utility sector is one of the most polluting (Sartori et al., 2017; Miras-Rodríguez, 2015) and, therefore, the related environmental performance has become a highly significant area of

research (Masters, 2013), as there is a high risk associated with the products of the energy sector and the complexity of its processes (Boiral, 2013).

Also relevant in this context are the sustainability regulations to which companies in this sector are exposed as well as the digitization process they are implementing, as an important driver for the pursuit of CSR goals (González, 2010).

The study, therefore, aims to analyze the credibility of non-financial reporting of companies belonging to the electricity sector and to understand the information disclosed about adherence to reporting frameworks and digitization. To determine the level of credibility of the disclosures made, the sustainability disclosures of No. 23 companies belonging to the electricity sector adhering to the Integrated Reporting Framework, one of the most widely used in practice and studied in the literature (Gödker & Mertins, 2018), were analyzed.

The results of the analysis showed that about 74% of the companies in the sample make a specific disclosure about the framework they refer to to make CSR disclosure, but only 48 % value the digitization process in pursuit of these goals.

The study, which is among the first to investigate the credibility of information provided by electricity companies, offers several contributions. From an academic perspective, it provides empirical results on the credibility of companies' non-financial disclosures.

From a practical and managerial perspective, the results of the study enable companies to understand what elements they need to emphasize in non-financial communications to increase relative credibility. At the same time, users of such communications can also verify for companies belonging to different sectors the credibility of non-financial information.

2. Review of the literature

Although society is increasing expectations of companies regarding disclosure related to CSR activities, the growth of studies has been modest in the area of disclosure quality and credibility of company communications (Lock & Seele, 2016). The same phenomenon has been observed for companies in the electricity sector, for which an increase in documents disclosing ESG information has been noted (Bakhtina & Goudriaan, 2011). Companies belonging to the electricity sector face the challenge of meeting the growing demand for energy while improving their impact on the environment and

society (Szczepankiewicz & Mucko, 2016).

The literature has therefore approached the topic from multiple perspectives; initially, performance was also analyzed from an environmental perspective (Sidhoum & Serra, 2017), and a positive link between economic and social performance was individuated (Zhou & Wei, 2016).

Alrazi et al. (2010) analyzing the content of No. 51 sustainability reports published by electricity companies in different countries using GRI standards showed a high quality of the reports but with important gaps in the disclosure of performance indicators.

Instead, some authors have attempted to analyze the context in which the companies operate and identify what elements lead them to make a disclosure and how this is done. Observation of Spanish companies participating in the energy sector has shown CSR behavior is mainly due to institutional pressures (González, 2010). It was found that these companies disclosed CSR information in an increasingly standardized way. These findings were confirmed by a more recent study that found a uniformization of the information provided in reports prepared by companies belonging to the wind energy sector according to GRI standards. This led to a reduction in the differences between the environmental information disclosed by companies belonging to the same sector (Moseñe et al., 2013). The authors also found that the industry tends to disclose very little specific data, confirming findings from previous studies that hypothesized inconsistency in the information disclosed (Adams, 2004).

In other contexts, such as Brazil, institutional pressures have also accelerated the approach of companies to CSR activities and related disclosure. The government has made annual social and environmental reporting mandatory, which companies have incorporated within their sustainability reporting documents following GRI criteria (Camargos et al., 2014). Moreover, the study concluded that Brazilian companies do not use the GRI standard correctly and that sustainability reporting by companies belonging to the electricity and energy sector needs to improve in terms of transparency and quality of reports.

Focusing on GHG emissions reporting, other authors revealed that only 50 percent of the companies belonging to the sample Chinese, Indian, and Japanese in the electricity and energy sectors published information in this area (Bahari et al., 2016). In the same research, it was found that companies provided little information.

Of the same opinion are Sartori et al. (2017), who evaluated the

sustainability performance of 17 Brazilian power companies using the GRI guidelines and found that these companies make systematically incomplete disclosures of the influence of their activities on society.

Talbot and Boiral (2018) carried out a qualitative content analysis of n.105 sustainability reports of companies in the electricity sector using the GRI to explore the impression management strategies they employ to justify or hide evidence of their climate performance. In most of the reports analyzed (93%), data were presented in a confusing way that did not comply with GRI requirements, even though the reports achieved the highest level of application of GRI guidelines. Companies in the sample downplayed or even concealed the impact of negative events that affected them. Moreover, these reports had been audited by external auditors; significant noncompliance with GRI standards was found in 92% of the audited reports. Therefore, the authors concluded that the presentation of data was manipulated to enhance corporate image.

In the same year, Traxler and Greiling (2018) - through an empirical analysis of sustainability reports published by 28 companies belonging to the global electricity sector that use GRI standards - found a predominance of disclosure of economic results at the expense of social and environmental ones in line with Sartori et al. (2017). In addition, the study reveals that IPO is positively associated with the reporting of electric utilities based on GRI guidelines.

In summary, this brief review of the literature showed that most studies focused on analysis using the GRI standard, which, however, has been questioned by numerous authors (Szczepankiewicz & Mucko, 2016), as they allow for an exaggerated presentation of positive results and fail to highlight negative performance, undermining credibility with stakeholders. Indeed, it has been found that there remains a risk that companies use GRI, only to check a conformity box (La Torre et al., 2018).

From the above, it emerges that the literature that has analyzed the sustainability reports of companies belonging to the electricity sector is still in its early stage and has significant limitations (Traxler & Greiling, 2018). The studies are predominantly country-focused, are descriptive, and do not use frameworks that can determine the quality/credibility of reports disclosed by companies and, more importantly, facilitate the comparison of such reports.

Such analyses are particularly relevant for a sector for which it has been indicated that CSR practices are implemented to clean up its image with stakeholders (Miras-Rodríguez, 2015).

3. Research method

To explore the credibility of reports from companies in the electricity sector, consistent with the prevailing literature, a content analysis of a sample of companies was conducted. This method of analysis is the most widely used for examining sustainability information (Moseñe et al., 2013).

3.1. Sample

To achieve the research goals, consistent with the literature (Izzo et al., 2020), firms were selected that can be defined as the "best in class" of sustainability and are included in IIRC's official database as they prepare Integrated Report.

This database groups companies that participate in a network of companies, that have embraced the principles of integrated reporting, which allows them to increase the quality of non-financial reporting (Stuart et al., 2023). The list of IR reporters includes 496 companies operating in different sectors, and starting from the IIRC list the following criteria were used to select the sample of companies for analysis: i) companies operating mainly in the electricity sector; ii) availability of the Sustainability Report 2021 within company websites.

Application of the described criteria resulted in a sample of 23 companies (Table 1). A preliminary observation of the sample shows that the most represented continents are Europe (48%) and Asia (22%).

ZONE	NUMBER	%
Europe	11	48%
Asia	5	22%
Africa	3	13%
South America	2	9%
North America	1	4%
Australasia	1	4%
TOTAL	**23**	**100%**

Tab. 1. Characteristic of the sample

3.2. The Research Framework

The analysis consisted of two steps. First, the integrated report for the year 2021 was downloaded from the companies' websites and we manually collected content data to check the credibility of the reports (Hahn and Leulfs, 2014). Second, we used the collected data to analyze disclosure regarding compliance with sustainability regulations as well as the role played by digitalization in the pursuit of CSR practices.

Data were collected manually through content analysis (Krippendorff, 2004), which is the most commonly used technique to analyze companies' ESG disclosure (Izzo et al., 2020) or sustainability issues (Dello Strologo et al., 2022; Dello Strologo et al., 2023).

To improve the reliability and replicability of the analyses performed, the authors used inter-coder reliability, which ensures the reliability of the classification procedure (Savio et al., 2023).

To analyze the credibility of the sustainability reports of companies belonging to the electricity sector, the authors referred to the framework used by Mazzotta et al. (2020), which identifies the requisites of sustainability reports that allow defining the credibility of the communication made by companies, as detailed in Table 2.

DIMENSION	SUB-DIMENSION	ITEM	MEASURE	RATING
Truth	Assurance	Type of assurance	Accountant, non-accountant	0/1
		Extent of assurance	Entire report, specific section/not specified	0/1
		Level of Assurance	Limited, reasonable	0/1
	Report's features	Standard application level	GRI referenced: in accordance (core), in accordance (comprehensive)	0/2
		Length of the report	Normalized length	0/1
		Location of the report	Annual report/integrated report, autonomous document	0/1
	Accuracy	Methodology	Section on methodology (yes/no)	0/1
		Data measurement	Info on data measurement (yes/no)	0/1
Sincerity	Materiality	Materiality matrix	Existence of a materiality matrix, updating of the materiality matrix, ratifying of the materiality matrix by the Board of Directors	0/1
	Stakeholders' relationship	Stakeholder mapping	Stakeholder description (yes/no)	0/1
		Stakeholder dialogue	Section on stakeholder dialogue (yes/no)	0/1
		Stakeholder engagement	Section on stakeholder engagement (yes/no) 0/1	0/1

DIMENSION	SUB-DIMEN-SION	ITEM	MEASURE	RA-TING
	Sustainabi-lity gover-nance	Sustainabi-lity Commit-tee	yes/no (if yes, autono-mous or inside an exist-ing committee)	0/2
	Sustainable Deve-lopment Goals	Reference to SDGs	yes/no (if yes, autono-mous or inside an exist-ing committee)	0/1
Appropriate-ness and un-derstandabi-lity	Readability		Normalized Gulp index	0/1
	Communi-cation		The use of visual tools	0/1

Tab. 2. The credibility framework as defined by Mazzotta et al. (2020)

Documents retrieved through corporate websites are considered by the prevailing literature to be the main communication tool for CSR (Wheeler & Elkington, 2001) also because they facilitate interaction with stakeholders (Coope, 2004; Unerman & Bennett, 2004).

The first of the variables analyzed is the truth dimension, for which the literature has indicated a positive impact on the credibility of corporate communications (Simnett et al, 2009). The truth dimension has been divided into type, extent, and level of assurance (Lock & Seele, 2016).

The second dimension of credibility, truthfulness, was divided into four sub-dimensions: materiality, stakeholder relations, sustainability governance committee, and Sustainable Development Goals (SDGs).

The last dimension of credibility, composed of appropriateness and understandability, was subdivided into readability and communication (Mazzotta et al., 2020). The sum of the dimensions of the credibility construct returns the credibility index, a semi-objective index that can take a value between 0 and 20.

4. Discussion and conclusion

The significant increase in attention involving the world of sustainability has led companies to prepare reports aimed at disclosing information regarding CSR activities carried out (Jestratijevic et al., 2022). The increase in such communications and information made available to corporate stakeholders has raised doubts about the credibility of such disclosure (Mazzotta et al., 2020), especially in the electricity sector for which environmental issues are particularly emphasized (Sartori et al., 2017; Miras-Rodríguez, 2015; Masters, 2013).

The study aims to analyze the credibility of sustainability communications

made by companies in the electricity sector. In this context, the information disclosed regarding adherence to current sustainability frameworks and digitization assumes relevance.

To achieve the research objective, the authors conducted a content analysis of reports prepared by No. 23 companies using a research framework validated by previous literature (Mazzotta et al., 2020). The use of this framework allowed the definition of a semi-objective credibility index that considers the dimensions of truthfulness, sincerity, and comprehensibility.

The results (Fig. 1) show that the firms in the sample present a tendentially low Credibility Index result, which averages 10. Only two firms, BP and CLP, present an index result above 15.

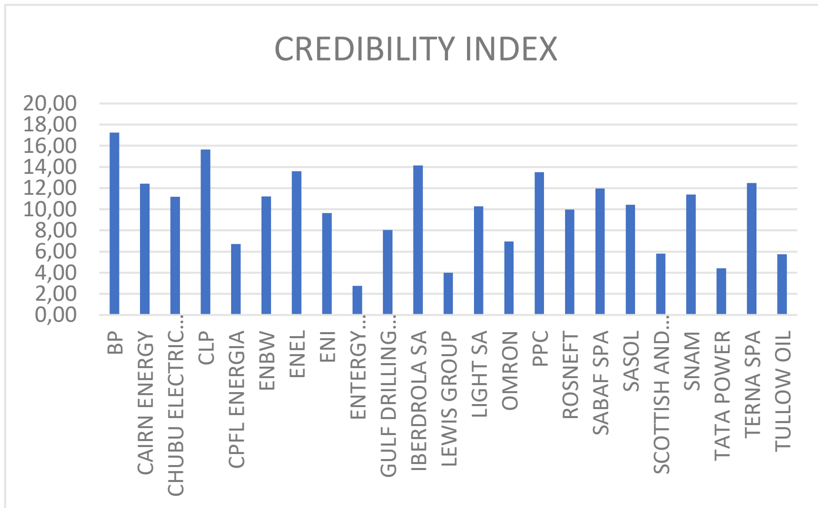

Fig. 1. Credibility Index.

The relationship between the Truth and Sincerity components is highlighted in Image 2, and the results of the analyses conducted show that the statements of companies belonging to the electricity sector tend to be sincere, but not very credible, with most of the companies being the lower-middle Truth range of the credibility matrix. The maximum score for both elements is 8 and only a few companies manage to exceed 4 in the Truth element. This outcome has been deemed inconsistent with the maturity of the industry's businesses in disclosing social issues and with research findings indicating the value of non-financial information (Lock & Seele, 2016). The findings confirm that the companies in the electricity sector have not paid much attention to ensuring the truthfulness of their non-financial communications (Sartori et al., 2017; Bahari et al., 2016; Camargos et al., 2014; Moseñe et al., 2013).

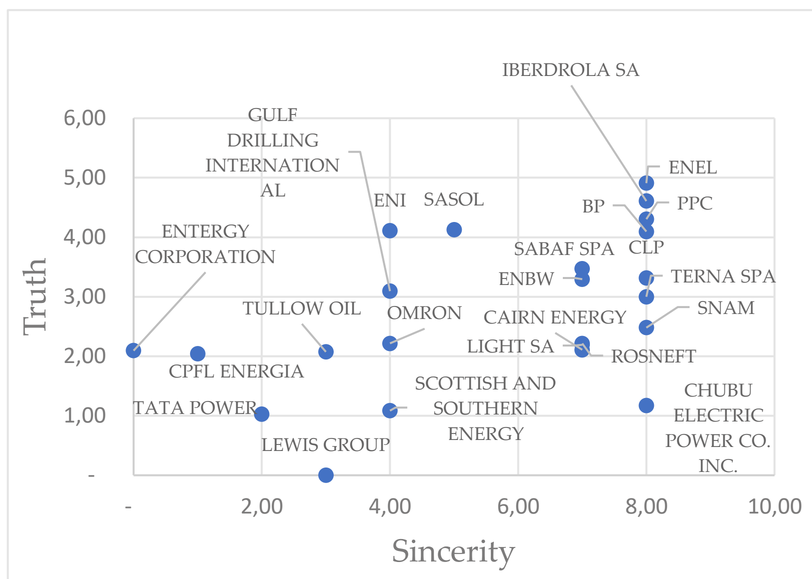

Fig. 2. Detail of truth and sincerity elements.

In light of the above, it emerges that even those companies that use a different reporting standard than GRI demonstrate gaps in the disclosure of activities aimed at pursuing sustainability.

The qualitative analysis of the reports showed that most of the companies in the sample make specific disclosures about the sustainability frameworks they referenced (74%). Among these, in line with what has been indicated in the literature (Traxler & Greiling, 2018; Sartori et al., 2017), the most frequently used framework, including by companies that refer to Integrated Reporting is GRI, cited 16 times. Other standards that are followed by the companies in the sample are the Sustainability Accounting Standards Board (SASB) Oil & Gas and the Task Force on Climate-related Financial Disclosure (TCFD), cited 7 and 5 times, respectively.

Regarding how these companies pursue sustainability goals, analysis of the reports showed in 48 percent of the cases that one of the tools used is digitization. This is the case for BP, which develops digital charging solutions with Mercedes-Benz and BMW and courses for the digital development of its employees (BP, 2021), or for CLP, which indicates in the report that it recognizes the enormous potential of digitization and therefore continues to provide tailor-made energy-saving service solutions with digital elements. In particular, CLP built the first carbon-neutral refrigeration system project in Hong Kong (CLP 2021).

Enel has pointed to digitization as a key factor that can positively influence climate change. With this in mind, Enel stated that digitization continued to be a priority in 2021 (Enel, 2021).

Rosneft has also emphasized digitization in its pursuit of sustainability to the extent that it has established a scientific and educational center focused on digital technology with Moscow State University and created a Digital Platform to be used as a tool to achieve sustainability goals.

Despite the relevance of the results obtained, it is believed that this study is not without its limitations. First, it analyzes reports from only 23 companies. Future studies could expand the sample and analyze it by considering instead of a single year, the time trend of the credibility index.

Despite the limitations, it is believed that the study may have relevant implications at both academic and managerial levels.

The study, as far as the authors are aware, is the first to analyze, through a scoring system that facilitates comparability among the results obtained, the credibility of sustainability reports of companies belonging to the electricity sector, for which sustainability issues play a strategic role.

By adopting a different methodology and updating the results of previous studies that had focused on the application of GRI, the study confirmed that companies operating in the electricity sector should seek to make sustainability communications more credible.

At the managerial level, the results make it possible to highlight which elements of sustainability reports need to be paid more attention to by those in the sector. In addition, the framework used makes it possible to identify for each company which areas need to be implemented to provide stakeholders with more credible reporting. Finally, the qualitative analysis of the reports found that digitization can be used as a valuable tool to pursue sustainability goals, but that still few companies consider and especially make specific disclosures regarding this element.

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Innovation and digitalization in port enterprises

Federica Marroni

1. Introduction[1]

Port infrastructure, and the authorities that are called upon to manage it, constitute a fundamental element that assists the port system. The port system constitutes a central factor in the economic and social development of any country, it contributes to the creation of not only economic and social value but also to the determination of transnational networks useful in strengthening exchanges of all kinds.

Ports contribute to economic development and employment in port cities even if can have negative impacts on the environment (Vega-Muñoz, 2021). In recent years, people have become more aware of the need for environmental protection. Making port activities in harmony with the sustainability of sea resources is an important goal in terms of sustainable development. The port community, including port authorities and locals, prioritizes environmental sustainability due to the negative impacts of transportation and port activities that often go unnoticed in business strategies (Acciaro, 2014). The transport sector is facing growing pressure from various stakeholders, including governments, customers, and environmentalists. Infrastructure stress, congestion, accidents, and pollution (such as air, noise, and debris) are

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contributing to this pressure. This pressure is also being felt in the port sector, where there is a push for internalizing external costs to promote eco-awareness, boost resource efficiency, and ensure fair competition among transport company chains (Acciaro, 2014).

While the 17 Sustainable Development Goals (SDGs) serve as international standards for sustainability, the level of initiative adoption varies by country. Among the reasons that highlight these differences are certainly geographical, political, economic, and regulatory contexts and more. In addition to these internal factors, there is one related to governance.

Research on green ports is still in its infancy despite the increasing orientation towards sustainability in port governance. Many aspects require further investigation (Munim et al., 2020; Davarzani et al., 2016; Bergqvist & Monios, 2018). Seaports are under pressure to balance economic objectives with sustainability due to the significant impact of the maritime sector on the economy, society, trade, and the environment. (Valenza et al., 2023, Lozano et al., 2019).

Seaports have taken up corporate sustainability practices to ensure the protection of the environment and the well-being of their employees. These practices include sustainability reporting, which provides information on pollution, biodiversity protection, energy consumption, waste management, health, and safety. Studies by Valenza et al. (2023) and Ashrafi et al. (2019) highlight the importance of such practices in promoting sustainable development. Drobetz et al. (2014) also emphasized the need for seaports to prioritize sustainability in their operations. Transparency and communication of sustainability report information, and beyond, certainly can be enhanced by the presence of technological innovations within port enterprises or rather the port system. The introduction of technological innovation, in addition to fostering sustainable economic integration and growth of the economic system, can also bring productivity benefits to the ports themselves.

The process of digitization is crucial not only for ports but also for the regions and countries that rely heavily on the port ecosystems. By studying the digitalization level of ports, we can discover the best ways to enhance safety, security, and visibility during the digital transformation. This can help to attract both passengers and freight flows, which can have a positive impact not only on ports but also on the sustainable development of coastal regions. (Paulauskas et al., 2021). Although the support and presence of technological innovation within the port system could improve the performance of operations subordinate to port activity, some authors (Inkinen,

Helminen, & Saarikoski, 2021), point out that it is important to note that the incorporation of digitization in port strategies may not be readily apparent or given due consideration. This gap prompted the Author to analyze the extent to which previous literature has followed this social and organizational evolution and how research in this area has developed.

Using the structured literature review (SLR) (Paoloni & Demartini, 2016) and following the protocol's suggestions, this article aims to address the following research questions: RQ1. How is research in the literature developing the topic of port enterprises and their sustainable development?; RQ2. What are the main foci of analysis in the extant literature?; RQ3. What are the possible future research areas?

Answering these questions, the paper seeks to emphasize the sustainable governance of port enterprises since they have an important responsibility in this context, given that, much of the global threats to environmental damage are thought to stem from economic activity and the way it is conducted. The results of this contribution are directed to academics, practitioners and decision-makers.

The rest of this document is structured in the following manner: Section 2. aims to describe the methodology used to conduct this analysis, and Section 3. discusses the generalization of the results obtained from the structured literature review (SLR). Section 4. deals with the discussion of the results and provides concluding remarks. While Section 5. includes future perspectives. The final section details the theoretical implications and limitations of the study.

2. Research methodology

The methodology used is a structured literature review (SLR), for a rigorous and structured mapping of the critical literature central to and underlying the research we are conducting. (Tranfield et al., 2003), which allows for highlighting the most significant research related to a given topic (Saunders et al., 2009).

To carry out SLR, we used the Scopus platform as a source for searching and obtaining scientific articles. As the analytical framework for conducting an SLR advises, several keywords were identified, which made it possible to identify documents related to the subject matter of this paper.

Keywords used on Scopus were: "port" and "sustainability" or "governance" or "digitization". The authors limited the search to "Paper

title," "Abstract" and "Keywords" to prevent documents not related to the objective of the research from being extracted. This search produced 2,632 document results. Then filters were applied to narrow the subject area into "Business Management and Accounting" and "Economics, Econometrics and Finance," excluding irrelevant areas outside the scope of port business and sustainability, so that 554 articles were obtained. To make the search more concentrated, an additional filter was applied about document type: "Article," "Book," and "Book Chapter," so that 460 documents were obtained.

Finally, the search was limited to scientific articles written in English. Therefore, the results obtained and analyzed are 446. To further improve the analysis, duplicates were removed, resulting in the final analysis of 424 documents. Referring to the analytical framework used to conduct this SLR, the process used to identify eligible research is depicted in Figure 1.

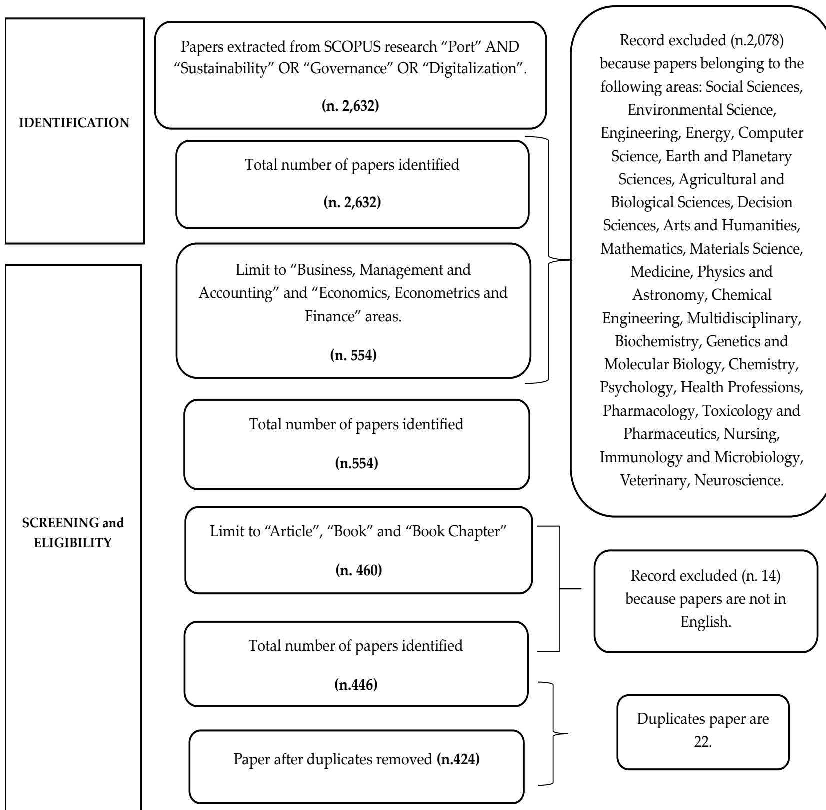

Fig. 1. The procedure for selecting the eligible papers. Source: Author elaboration.

2.1. Definition of the analytical framework

This paper consists of three sections: research focus (A), research method (B), and geographical area (C). The analytical framework is by Paoloni, and Demartini, 2016. Reading the titles, keywords and abstracts of the selected papers enabled the authors to define the analytical framework itself. The different topics identified are:

(1) Environmental impacts: includes all literature that analyses the topic of sustainability in ports and the subsequent analysis of performance using indicators linked directly and indirectly to sustainable actions.

(2) Strategies: includes all literature that analyses the topic of port governance, and the strategies adopted to create greater efficiency of the same. Especially, the organizational model developed by Green Ports is highlighted.

(3) Technological innovation: includes all literature that analyses the topic of digitization in the port environment by highlighting any innovative technological solutions currently present or under development.

(4) Other: includes all residual literature that cannot be placed within the article focuses previously identified.

A. ARTICLE FOCUS

A1. Environmental impacts
A2. Strategies
A3. Technological innovation
A4. Other

Concerning how the research is conducted, the authors identify the following methodologies:

A. RESEARCH METHOD

B1. Literature analysis
B2. Qualitative research
B3. Quantitative research
B4. Research mix
B5. Theoretical analysis
B6. Other

The last section is called "geographical area” (C), which aims to classify documents according to the geographic affiliation of the authors.

C. GEOGRAPHICAL AREA

C1. East Europe	Hungary, Russia, Slovenia, Romania, Lithuania, Croatia, Serbia, Macedonia
C2. Middle East	Israel, Lebanon, United Arab Emirates, Jordan, Saudi Arabia, Iran, Iraq, Oman, Kuwait
C3. South and Central America	Argentine, Dominican Republic, Brazil, Jamaica, Mexico, Chile
C4. North America	USA and Canada
C5. Northern Europe	Austria, Belgium, Denmark, Ireland, France, Germany, Netherlands, Scandinavian countries, Switzerland, Poland, Czech Republic, Slovakia
C6. Southern Europe	Italy, Spain, Portugal, Greece, Turkey
C7. Asia	China, Japan, Korea, Singapore, Sri Lanka, Malaysia, Pakistan, India, Indonesia, Hong Kong, Thailand, Vietnam, Armenia, Nepal, Kazakhstan
C8. Africa	Tanzania, Uganda, Botswana, South Africa, Nigeria, Ethiopia, Zambia, Mauritius
C9. UK	
C10. Oceania	Australia and New Zealand
C11. Mixed	

Source: Paoloni, P. & Demartini, P. (2016).

3. Results

To define which articles are eligible, the authors read the title, abstract, and keywords so that they are relevant to the purpose of the proposed research.

3.1. Article focus

Following the reading of each abstract, title, and keywords, of the selected papers in the literature, several topics discussed by the authors were identified. The focus most discussed by the researchers was A2, with 150 of 424 papers (35%), followed by A4, with 138 of 424 papers (33%), followed by A1, with 106 of 424 papers (25%), and finally A3 with 30 papers (7%). Figure 2 shows the results obtained.

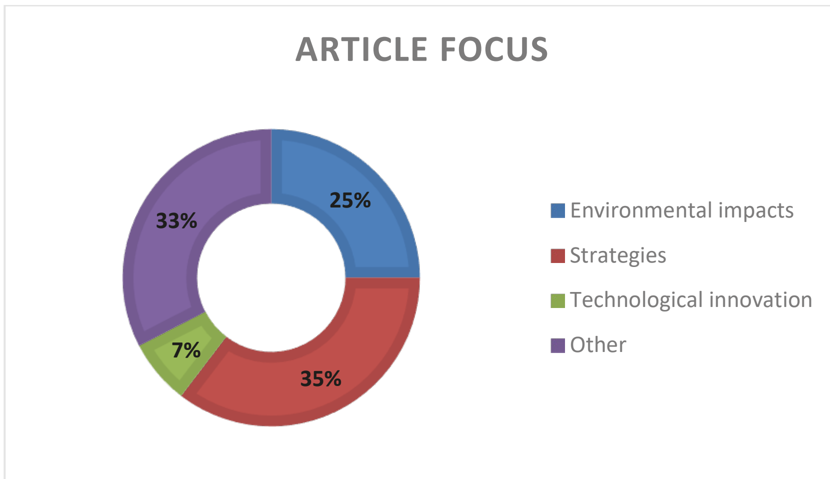

Fig. 2. Article focus of eligible papers.

3.2. Research method

The most used research methodology, from the analysis of the results, appears to have been B2 (qualitative research), with 194 of 424 papers (46%), followed by B5 (theoretical analysis), with 98 of 424 papers (23%), followed by B4 (research mix), with 92 of 424 papers (22%), then followed by B1 (Literature analysis), with 17 of 424 papers (4%), B3 (quantitative research) with 16 papers (4%), and finally B6 (Other) with 7 papers (1%). Figure 3 presents all the results obtained.

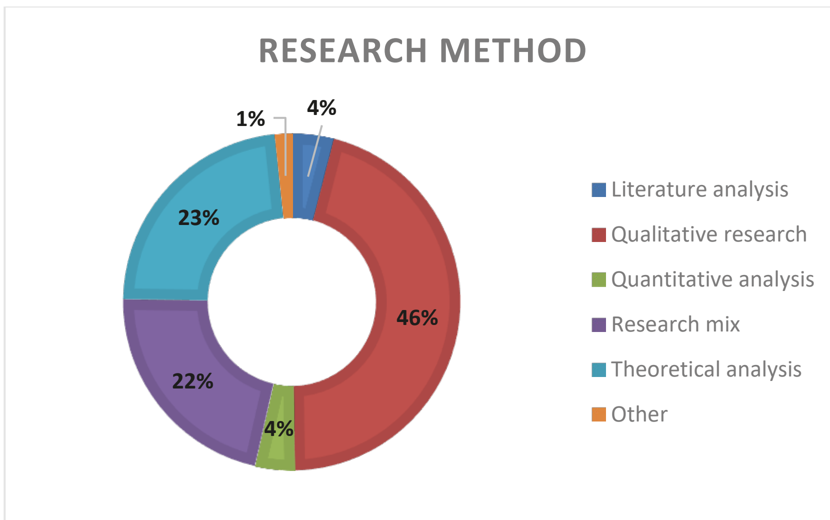

Fig. 3. Research method of eligible papers.

3.3. Geographical area of authors' affiliations

Analyzing the results obtained from the SLR, it is possible to show that most of the authors come from different geographical areas (26%), with 111 of 424 documents, followed by research conducted in Northern Europe (18%), with 75 of 424 documents, Asia (15%), with 62 of 424 documents, and Southern Europe (13%), with 57 of 424 documents. All the results obtained are shown in Figure 4.

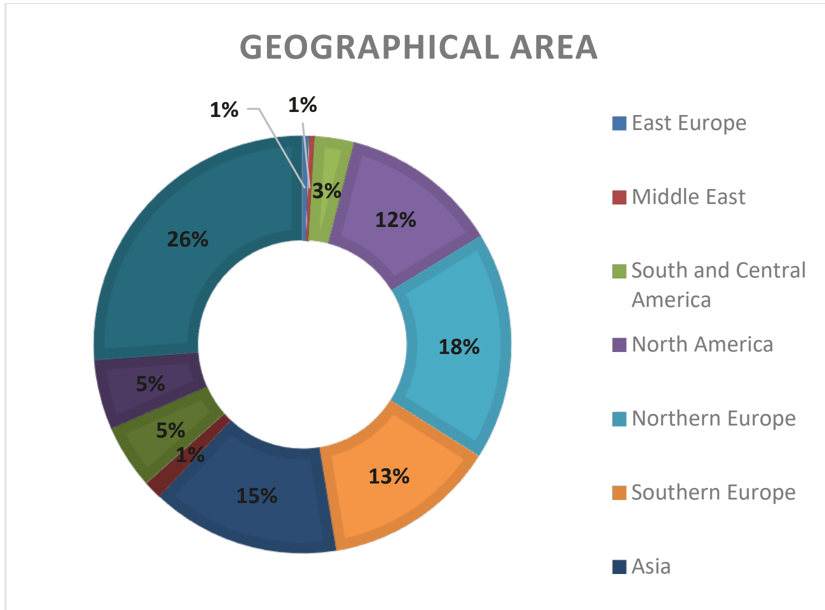

Fig. 4. Representation of the geographical area of authors.

4. Discussion and conclusions

The purpose of this section is to explore the most relevant topics of each identified focus. To answer RQ1 (How is research in the literature developing the topic of port enterprises and their sustainable development?), the following contributions are presented.

Regarding article focus A1 (Environmental Impacts), the contributions included in this section highlight what environmental impacts ports cause and propose possible indicators for monitoring them. Although ports promote economic and employment development, on the other hand, they harm the port city environment; in fact, several sources of pollution arise from port operations, such as wastewater,

solid waste, noise, and air pollution (Teerawattana et al, 2019). For this reason, the sustainability of port activities is becoming increasingly important (Zheng et al., 2020; Dong et al., 2019).

One of the most relevant papers related to this section is that of Lirn et al, 2013, in which the authors analyze the ecological performance of a port by identifying the performance indicators of the three major ports in Asia.

Specifically, a questionnaire was administered to 100 academics involved in maritime studies, who were asked to rate the importance of 17 indices on a five-point Likert scale, which included management of air pollution, noise, solid waste, liquid waste, and finally conservation of marine biology. Results of the research conducted show that "air pollution management" was the most important dimension that influenced the ecological performance of these ports, followed by liquid pollution management, solids, and then noise pollution and biodiversity conservation.

This sustainability approach aims to preserve natural resources and biodiversity. The increasing amount of waste generated is a problem due to the inefficient use of resources and the harmful effects it produces. (Vega-Muñoz et al, 2021), for this reason, it is becoming increasingly important to establish a set of comprehensive green performance indices for a port (Lirn et al, 2013). Papers related to Article A3 (Technological Innovation) were also examined, which include all those dealing with the topic of technology and digitization within port enterprises. Among the documents analyzed, this topic is the least addressed by the scientific community.

But although scientific production concerning this issue is lacking, one of the noteworthy contributions is Assunta Di Vaio and Luisa Varriale, "*Digitalization in the sea-land supply chain: experiences from Italy in rethinking the port operations within inter-organizational relationships*, 2019". The authors investigate how digital business process management platforms can be used to redesign operational processes in inter-organizational relationship systems between public and private actors in seaports. Specifically, through the case study methodology, they consider the ports of Livorno and Levante as the first to adopt the use of digital platforms in their process. It is important to note that utilizing IT can result in alterations to conventional procedures. This includes the lack of face-to-face interaction among those involved in port operations, the automation of all port-related tasks, and the implementation of a universally accepted language code.

Finally, under article focus A2 (Strategies), fall all those contributions that analyze how a port is structured from a governance perspective. Despite the great relevance of corporate governance in business studies, and despite the increasing importance that the topic of sustainability has in every sphere, the link between sustainability strategies and the achievement of corporate goals is still unclear. In this area, particularly relevant is the contribution of Schrobback P. and Meath C., 2020. That contribution presents a survey of the degree of corporate sustainability strategy adoption within ports, especially in Australia and New Zealand. The analysis conducted through interviews, highlighted, in the relevant contexts, that the port industry has begun to implement to develop sustainable corporate governance strategies, for example, through the high use of general good governance practices, environmental practices, safety practices, and sustainability performance indicators.

Regarding RQ2 (What are the main points of analysis in the existing literature?), the analyses obtained from the structured literature review, following the model of Paoloni and Demartini, 2016, show that the most discussed topic was A2 (Strategies), with 35% of the documents analyzed. Indeed, the research obtained shows that the scientific community has paid more attention to the study of organizational models and port development strategies, this is partly because over the last thirty years, port governance issues have become central to the agendas of many governments (Brooks et al., 2012).

One of the most relevant research papers in A2 (Strategies) is the work of Munim et al., 2020, in which the authors discuss which model of port governance is most appropriate for the management of green ports. The study takes up the four governance models, proposed by the World Bank, based on port functions, ordered by increasing levels of privatization: service port, instrument port, ownership port, and private port. Following the proposed interviews with top executives of three Indian Ocean ports (Bangladesh, Sri Lanka, & and Tanzania), and the data collected, it emerges that increasing the level of privatization in port governance would lead to positive results in terms of building green ports, hence green ports management positively influences port performance (Lun, 2011). Therefore, private participation in port operations is perceived as a positive aspect for developing countries, and this, in addition to being an effective management tool for companies to achieve superior performance (Montabon et al., 2007), is also a

source of competitive advantage (Lun,2011). Consequently, regarding port governance, the focus is on "green ports".

"Green ports can be defined as those ports engaging in the proactive development, implementation, and monitoring of practices aiming at reducing the environmental impacts of the port at local, regional, and global levels beyond regulatory compliance" (Acciaro, 2015, p.5). They engage in innovation and research to balance environmental challenges with economic performance (Acciaro, 2015), and identify best practices that contribute to better firm performance (Lun, 2011).

Thus, it seems appropriate to focus studies on the competitiveness and efficiency of ports by promoting initiatives based on green port management. In conclusion, the trend of going green is spreading among seaports worldwide, and environmental management is playing a crucial role in port operations. Apart from enhancing customer satisfaction and corporate image, environmental management offers cost savings and environmental protection (Teerawattana et al., 2019). Among other issues, "green ports are concerned, with resource preservation, air/water/soil pollution reduction and control, limitation on the impacts on the fauna and flora, as well as climate change mitigation and adaptation (Acciaro, 2015, p.5)".

5. Future perspectives

Concerning RQ3 (What are the possible areas of future research?), one possible area for future research, could be related to digitization and smart technologies within the port system, first, because the results of the analysis conducted show that the number of contributions related to the topic is lacking and, second, because we are in the era of digitization, where the role of information technology plays a key role in improving competitiveness, safety, and sustainability (Pipitsoulis 2009). Although the maritime sector is an example of a traditional industry where the integration of new digital applications into daily processes and practices has started slowly (Inkinen et al., 2021), each port develops and promotes digitization based on its own internal needs (Inkinen et al., 2021). The use of technology in port enterprises includes disseminating data on weather and environmental conditions for efficient maritime traffic and port operations. (Inkinen et al., 2021).

The port industry must adopt innovative technology to manage logistics

and supply chains in a competitive environment (De Martino et al., 2013). To summarize, innovation has the potential to address several environmental challenges that ports face (Yap & Lam, 2013). In fact, by shaping the pace and methods of economic sector development, innovation can help maintain competitiveness (Acciaro et al, 2014).

6. Theoretical implications and limitations of the research

The contribution of this SLR makes it possible to identify what areas of research are related to port enterprises and the research methods used. Referring to theoretical implications, this contribution suggests enlarging studies on these issues, as well as suggesting possible areas for future research. A limitation of this research is the use of the manual approach, which, although cheaper and more flexible, may involve the use of personal judgment which could influence the results. The use of only one database (SCOPUS) for article analysis and consultation implies a further limitation of this work. For these reasons, it is desirable to use other databases (e.g., WoS or Google Scholar) in the future and replicate the SLR protocol from this study. Finally, just reading titles, keywords, and abstracts can be considered a hindrance to both the insight of primary information and the understanding of what research methodology is being applied.

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Family businesses: between tradition and innovation

Veronica Procacci

1. Introduction

For a significant duration, family businesses were perceived as a temporary mode of conducting business, where the separation of ownership, family involvement, and the pursuit of size growth were the primary means to ensure continuity and competitiveness (Boldizzoni, 1985).

However, today, family businesses have evolved to become a cornerstone of advanced economic systems (Sentuti, 2012). According to data from Aidaf, within the Italian economy, family businesses with a turnover exceeding 20 million euros constitute 65% of the total number of enterprises. These companies employ 2.4 million workers, generating a combined turnover surpassing 730 billion euros. When considering enterprises with a turnover of less than 20 million euros, the percentage rises significantly to 85%. Moreover, information from the AUB Observatory corroborates the pivotal role of family-owned businesses in various aspects. These companies have demonstrated robust employment growth (+20.1% in the past six years) and have outpaced other company types in terms of growth (+47.2% over the past decade compared to 37.8% for non-family companies). They have also achieved higher profitability, with a return on investment (ROI) of 9.1% in 2016, surpassing the 7.9% ROI recorded by other forms of companies. Additionally, family businesses maintain a lower debt ratio.

Given their substantial contributions to the economy, family businesses must cultivate a forward-looking mindset. This approach lays a solid foundation for passing on their legacy to future generations. In this context, the capacity to innovate emerges as a pivotal tool for

securing the business's future, especially in the long term, and ensuring its enduring continuity.

However, family businesses often carry a significant heritage of traditions and deep-rooted values. While these can serve as reservoirs of unique resources and skills upon which to build the company's future, they can also constrain the range of possibilities that the company can envision for its future.

The objective of this discussion is to underscore the dynamics that are pertinent for instilling innovation directed toward a distant future within the distinct context of family businesses. We have identified these dynamics in the processes of internationalization, digitalization, and sustainable development.

Family businesses are compelled to internationalize their operations and invest in technology and sustainability for several reasons. The intensifying process of globalization (Claver, Rienda, & Quer, 2007; Parker, 1998) is a significant driver. This involves heightened global competition, technological advancements, and new growth prospects. It allows for the efficient utilization of economies of scale, access to lower labor costs, diversification of business activities, decreased commodity prices, as well as access to skilled talent and expertise in foreign industrial clusters (Dicken, 2011).

The contribution proposed below is a preliminary research of a work in progress. The ultimate goal of the work will therefore be to map, through a structured literature review, the main scientific areas of research relevant to the topics of internationalization, sustainability, and digitization in the context of family businesses.

In light of this, this study provides an overview of the main research perspectives and aims to answer the following research questions (RQs) through the implementation of the future study.

RQ1: How is research in the literature addressing the issue of implementing internationalization, digitalization, and sustainability strategies in family businesses?

RQ2: What is the evidence emerging from Italian family SMEs?

To answer RQ1, the authors will adopt a Structured Literature Review (SLR), taking into consideration all the studies emerging in the SCOPUS database searching for "family firms" and "internationalization" and "sustainability" and "digitization. To answer RQ2, a qualitative methodology will be used, based on the direct observation of two Italian firms, which represent the pilot cases of a future broader and deeper research.

2. Family business

The realm of family businesses encompasses both small and large enterprises and holds a prominent position in the global economic landscape. According to data from the Family Firm Institute in 2017, family-owned businesses constitute a significant majority, making up approximately two-thirds of all businesses worldwide. They contribute significantly to the global economy, generating between 70-90% of the annual global GDP, and play a pivotal role in job creation, accounting for 50-80% of jobs in most countries worldwide.

Family-owned businesses are a crucial element in both national and European economies. These enterprises vary greatly in size, ranging from small-scale operations to large corporations employing thousands of individuals. Despite their diversity, what unites them all is the strong connection they maintain with their founding families (Aureli et al., 2019).

Defining a family business precisely can be challenging due to the vast body of literature on the subject. However, a typical family business is generally described as an organization controlled and typically managed by multiple family members, often spanning multiple generations (Shanker and Astrachan, 1996; Lansberg, 1999; Anderson and Reeb, 2003).

Since the early 1980s, the field of research dedicated to family businesses has grown substantially, evolving through various stages. Initial studies primarily focused on highlighting differences in the behaviors and performance of family businesses compared to non-family ones, a necessary step to establish that family firms are unique entities worthy of study (e.g., Sharma, 2004). As the field matured and gained recognition, researchers began applying mainstream theories to demonstrate how and why family businesses not only differ from non-family ones but also vary among themselves (e.g., Chua et al., 2012).

The defining characteristic of family businesses is the close interplay between family and business. The family's objective is to provide for its members and ensure their well-being, emphasizing fairness. Conversely, the business's purpose is to generate wealth through the production of goods and services, guaranteeing equitable returns for the venture's owners (Aureli et al., 2019).

The interplay between family and business gives rise to various configurations (Tagiuri and Davis, 1990). In the 1970s, Harvard Business School scholars Rento Tagiuri and Jhon Davis introduced the

Three Circles model of the family business system. This model simplifies the three interconnected and overlapping elements that characterize family businesses: family, management, and ownership.

The literature has extensively explored the strengths and weaknesses of family businesses. Among their strengths, scholars note their adaptability, which enhances flexibility, their ability to maintain efficient management through merit-based role assignments rather than purely kinship ties, and their strong inclination to attract resources and talented individuals who seek security and protection in family-run enterprises (Del Giudice et Maggioni, 2011).

Simultaneously, the literature has also highlighted several weaknesses in Italian family businesses, including challenges related to inadequate self-financing, limited capital-raising possibilities, the occasional convergence of family conflicts and business dynamics, and difficulties adapting to changes such as succession planning or the inclusion of non-family managers (Del Giudice et Maggioni, 2011).

Beyond these strengths and weaknesses, practical experiences with Italian family businesses indicate that they now face new and significant challenges. In their pursuit of innovation and continuity with tradition, family businesses must confront various factors, such as increasing globalization, which embeds them in interconnected networks and global competition and requires them to adopt internationalization strategies. Furthermore, they must navigate changing relationships with customers and suppliers, the emergence of enterprise 4.0, and digital transformation. These elements necessitate a thorough reconsideration of company structures and the introduction of innovative skills, often brought in by newer generations.

In today's environment of uncertainty and rapid change, family businesses face critical challenges in various domains. They must demonstrate their ability to innovate while remaining anchored to their traditional values and business models. Factors like digitalization and the implementation of sustainable and internationalization-focused strategies have become vital for the survival and competitiveness of family businesses in a world where the landscape of business has been transformed by innovations in new technologies.

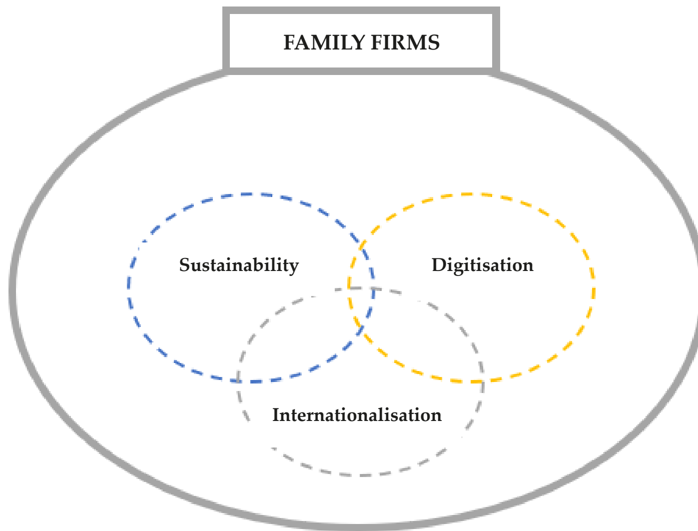

Fig. 1. Representation analysis perspective

2.1. Internationalisation in family businesses

The body of literature on internationalization is extensive and spans various academic disciplines, resulting in multiple definitions of internationalization.

Internationalization can be examined from the perspective of scale or depth, distinguishing between two primary approaches: (i) exporting, which involves a firm directly or indirectly engaging in foreign markets, often through intermediaries, and (ii) foreign direct investment or foreign market entry, including activities like mergers and acquisitions (M&A), greenfield investments (establishing new operations from scratch), and brownfield investments (revamping or acquiring existing operations) (Surdu & Mellahi, 2016).

Internationalization is arguably one of the most complex strategies that a company can pursue, and it is becoming increasingly necessary due to the growing globalization of markets.

Numerous theoretical and empirical studies have documented internationalization strategies in various countries, but limited attention has been devoted to examining this phenomenon in the context of family businesses, particularly small and medium-sized family enterprises (Davis & Harveston, 2000; Gallo & Harveston, 2000).

In general, family businesses appear to be less inclined to pursue

growth, and this tendency is even more pronounced when it comes to international markets. Commonly cited reasons for this reluctance include a lack of capital to support both family and business expansion, resistance to change in business leadership, divergent family goals, values, and needs, and conflicts among potential sibling successors (Ward, 1998).

Consequently, the scarcity of resources and the complexity and uncertainty associated with expanding overseas create conflicting dynamics. Many theories of international business emphasize the significance of possessing diverse types of resources to achieve success in the internationalization process. The eclectic theory (Dunning, 1988) and the resource-based view (Hitt, Hoskisson, & Kim, 1997; Peng, 2001), for instance, stresses the importance of strategic capabilities and resources in internationalization. They argue that to compete effectively in a foreign market, a company must possess strategic resources and, notably, deep knowledge that provides a competitive edge over local firms.

More recently, scholars in the field of family business have also shown a growing interest in internationalization (Arregle, Duran, Hitt, & van Essen, 2017; Kontinen & Ojala, 2010a; Pukall & Calabrò, 2014). This increased attention is driven by the recognition that internationalization presents family firms with unique opportunities and challenges (Eberhard & Craig, 2013; Zahra, 2003).

Expanding into new markets and attracting new customers can offer advantages, including leveraging the family brand internationally and potential synergies with other businesses operating abroad. However, internationalization can also expose family businesses to competitive risks, uncertainties stemming from diverse cultural and institutional contexts, and specific issues related to the family's desire to preserve its 'socio-emotional wealth' (Gomez-Mejia, Makri, & Kintana, 2010).

Additionally, the qualifications of later generations, as well as the owner's background, such as education, language proficiency, and international experience, play a role in influencing the decision to internationalize (Brush, 1992).

Maintaining regular communication, fostering long-lasting relationships, and building strong social capital among family members can facilitate the exchange of experiences and knowledge. This also reinforces a clear understanding of the company's mission and fosters trust, contributing to an organizational culture that promotes autonomy, flexibility, and risk-taking. Such a culture, in turn, supports strategic actions with long-term benefits, such as internationalization (Arregle, Hitt, Sirmon, & Very, 2007).

2.2. Sustainability in family firms

Research suggests that sustainable development can catalyze success and profitable innovation in companies (Broccardo et al., 2019). Companies that embrace sustainability practices have a competitive edge over those that do not (Adomako et al., 2019). More specifically, internal sustainability practices, such as pollution prevention and green supply chain management, help companies mitigate environmental costs and risks, ultimately contributing to wealth creation.

On the other hand, external sustainability practices, such as green product development, enable companies to meet the expectations of external stakeholders. This, in turn, enhances the legitimacy and reputation of the company (Hart and Milstein, 2003).

Companies adopt responsible practices not only to establish social legitimacy but also to adapt to the evolving business environment, which can either support or limit their ongoing growth (Goll & Rasheed, 2004).

The rising trend of sustainability practices has underscored the importance of defining how family firms should integrate these practices. Family firms are influenced by a range of intrinsic factors, and given the vast diversity within the family business landscape, their approach to sustainability varies considerably (Caputo et al., 2017).

The core premise of studies focusing on family firms is that they operate differently from non-family firms due to the owners' objective of shaping and pursuing the firm's vision. Family ownership alters the firm's objectives (Basco, 2017), thereby influencing strategic decisions, including those related to environmental practices (Doluca, Wagner, & Block, 2018; Sharma & Sharma, 2011).

An examination of the literature regarding succession processes within family businesses reveals another theme: as the company transitions to the second or third generation, there is an increased emphasis on investing in social and environmental initiatives. Mullen (2018) explains that this phenomenon occurs because as the business passes from one generation to the next, the importance of maintaining and strengthening the company's relationship with the next generation becomes more pronounced. Consequently, the company invests more in social and environmental initiatives to bolster its reputation in the eyes of the succeeding generation.

2.3. Digitisation in family firms

In the era of digital advancements, companies are confronted with new uncertainties. To gain a competitive edge, businesses actively promote digital transformation (Ferreira et al., 2019). Digital transformation represents a fundamental process of change driven by digital technologies. Its primary objective is to generate value for stakeholders by strategically leveraging essential resources and capabilities (Gong et al., 2021).

In the initial phase, companies optimize their day-to-day operations, such as production, sales, and management, by incorporating digital technology. However, the ultimate goal of digital business transformation is to achieve the digitization of all business functions, ultimately resulting in the creation and capture of greater value (Song et al., 2021).

Interestingly, despite the prevalence of family businesses worldwide, there is limited research on their role in the digital economy. Like any other businesses, family firms have a vested interest in entrepreneurship and innovation to sustain their operations. At first glance, the values inherent to family businesses might appear incompatible with those of digital entrepreneurship.

Early research on family businesses even suggested a negative relationship between family-owned enterprises, entrepreneurship, and innovation (Sciascia et Bettinelli, 2015). Some argue that family firms, driven by their higher need for legitimacy and sensitivity to investments in uncertain projects, are more inclined to provide symbolic cues regarding digital transformation while making relatively fewer substantive digital investments, as evident in their annual reports.

However, another perspective from research supports the opposite viewpoint. For instance, Gudmundson et al. (2003) discovered a positive correlation between family ownership and the ability to introduce new products and services. Additionally, the inherent human, social, and marketing resources within family businesses contribute to their greater innovativeness (Llach & Nordqvist, 2010).

In summary, the characteristics of entrepreneurs, who play a pivotal role as decision-makers and drivers of digital business transformation in family firms, significantly influence the transformation process. In the digital age, various factors such as education, international work experience, social networks, and political connections play a critical role in identifying leading entrepreneurs. Those with better education, practical international experience, and robust social resources

are more likely to actively promote digital transformation in family businesses. Conversely, entrepreneurs with foreign education and older age appear to impede digital transformation, while founder identity and gender do not exert a significant effect (Ting et al., 2023).

Precisely, it is digital transformation that can serve as a winning strategy for family businesses undergoing generational transitions. When digital transformation is meticulously planned, it leads to a comprehensive evolution of the family business. This evolution goes beyond mere changes in management and entails a genuine technological innovation in the business setup.

3. Methodology

The SLR method, already used by Paoloni and Demartini (2016), will be used to analyze the literature on the topic of family businesses. This type of literature classification is widely used by business scholars.

In essence, what distinguishes an SLR from a conventional literature review is that a specific methodology is followed that selects and evaluates contributions and analyses and synthesizes data to obtain results with greater transparency, completeness, and reproducibility of the analysis (Tranfield et al., 2003; Denyer and Tranfield, 2009).

SLR is used by researchers to map and assess existing intellectual territory and identify future research needs (Dixon-Woods, 2011, p. 331).

This approach is used as the aim of the following work is to provide an overview of the vast and varied literature on the topic to uncover underresearched topics and methods, thus fostering the development of new areas of knowledge and research approaches (Massaro et al., 2016).

To answer RQ2, the authors focused on the direct observation of a sample of Italian companies, which represent the pilot cases of a future broader and deeper research. The research uses a qualitative methodology that is particularly suitable when the analysis examines in depth the events of the operational reality, trying to explain 'how' and 'why' a given phenomenon occurs and to explain the causal links between the variables involved in the course of its manifestation (Yin, 2009).

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Gender Budgeting: a Structured Literature Review

Martina Manzo

1. Introduction

Gender inequality can exacerbate poverty and vulnerability, often impacting women and girls more severely (Jones et al., 2010; Castellanos-Serrano, 2020; Morshed and Lim, 2023). On the other hand, promoting gender equality can help reduce poverty, drive economic growth, and uplift marginalized groups (Bettio and Rosselli, 2018; Morshed and Lim, 2023).

Governments use various tools to factor in gender considerations when allocating resources, such as monitoring gender-focused expenditures. These measures include setting up gender-centric criteria for discretionary spending and decisions related to contracting out (Steccolini, 2019; Guerra and Romano, 2020).

Applying a Gender Impact Analysis helps evaluate the effects of social and economic policies through a gender-focused viewpoint (Bettio and Rosselli, 2018). This method amplifies the understanding among stakeholders of the gender-based consequences within fiscal plans and strategies (Sharp, 2003). This analytical structure aids decision-makers in grasping the financial decision's implications and also aids in developing solutions for gender and other challenges like disability, ethnicity, and age (Campbell and Gillespie, 2017).

Defined by the Council of Europe (2009), Gender Budgeting (GB) involves scrutinizing budgets with a gender perspective and adjusting financial movements to endorse gender parity. GB uses fiscal strategies and public financial management to champion gender equality and support women's progress (Adejumo, 2021). First introduced in Australia three decades ago, it is globally recognized and deserves attention since budgets

mirror the government's primary priorities and values (Sharp and Broomhill, 2002; Sawe et al., 2020; Stotsky, 2020). Therefore, gender budgets do not create separate financial plans for genders but rather analyze a government's budget based on its impact on various genders (Naciti et al., 2023; Paoloni et al., 2023). This methodology merges gender-oriented analysis into budgetary processes, including various methods and practices covering everything from budget formulation and approval to implementation and reporting (Rubin and Bartle, 2005; OECD, 2016). During the budget formulation and approval phase, adopting a gender perspective might involve analyzing gender-based budget baselines, assessing gender-specific needs, or scrutinizing cost distribution (Steccolini, 2019; Guerra and Romano, 2020; Polzer et al., 2023). It necessitates evaluating gender-specific requirements through surveys attuned to gender considerations or gathering insights from focus groups. Finally, the ex-post approach to gender budgeting encompasses monitoring, evaluating, and analyzing actions' outcomes, identifying deviations from intended objectives, and setting new goals for subsequent budget cycles (Rubin, 2009; Mattei et al., 2022). This methodology is also known as gender auditing (Rubin and Bartle, 2005; Mattei et al., 2022).

The present work examines literature about GB. To comprehend how the literature on this topic has developed and how it could be further deepened, the present paper proposes a Structure Literature Review (SLR). Thus, the present research aims at *analyzing how literature is facing the topic of GB (RQ1); identifying the main foci of analysis in the extant literature (RQ2); and hypothesizing future strands of studies (RQ3).*

The research uses the SLR methodology (Paoloni and Demartini, 2016), categorizing studies on GB according to four parameters: Article focus, Research area, Geographic area, and Research methodology. The next paragraph describes the methodology used. The analysis answering RQ1 is exposed in the third paragraph, whereas answers to RQ2 and RQ3 are illustrated in the fourth paragraph.

2. Methodology

The authors conducted a comprehensive review of the literature on GB using a Systematic Literature Review (SLR) approach, a methodology that is increasingly gaining traction in business research (Serenko, 2021; Paoloni and Demartini, 2016; Rocco et al., 2023; Dal Mas et al., 2023). This method necessitates a stringent protocol to ensure its validity (Petticrew and

Roberts, 2008) and reliability (Yin, 2009), along with a detailed account of the procedure followed. The subsequent paragraphs provide an in-depth exploration of the steps the authors undertook in this process.

2.1. The sample selection

To address the Research Questions (RQs), the authors utilized data from the SCOPUS database, recognized as one of the most extensive databases in the field (Del Vecchio et al., 2022; Paoloni and Manzo, 2022). Seeking a comprehensive understanding of the subject from various angles, the authors opted to use "gender budget*" as the sole search term, narrowing the search scope to "Title, Abstract, Keywords." This approach was intended to minimize the inclusion of irrelevant documents in the search results (Paoloni et al., 2020b), resulting in the initial search string being TITLE-ABS-KEY ("gender budget*"). The search was conducted on July 14, 2023, yielding 155 studies. Subsequently, the authors applied additional filters to refine the sample. In terms of document types, the inclusion criteria were limited to articles, books, book chapters, and conference proceedings (Paoloni et al., 2020b). This specification, however, did not impact the sample as there were no documents of other types present. To address potential language barriers (Mauro et al., 2017), only papers written in English and Italian were selected, narrowing the sample down to 149 documents. Moreover, to ensure a consistent level of analysis, only documents with available abstracts were retained, resulting in a final sample of 132 documents. The sample selection process is depicted in Figure 1 (Paoloni and Manzo, 2022; Paoloni et al., 2020a).

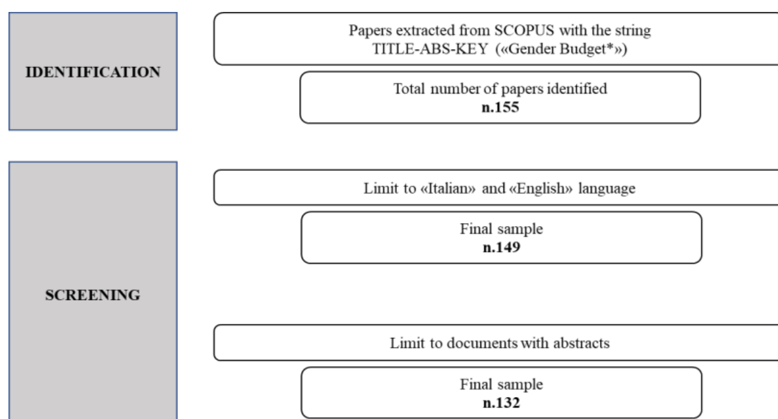

Fig. 1. The sample selection process. Source: Authors

2.2. The analysis framework elaboration

As previously mentioned, SLR requires the application of a valid framework. The present study uses the one Paoloni and Demartini (2016) introduced and classifies the papers according to four lenses: Article Focus (A), Research Area (B), Geographical Location (C), and Research Method (D). Based on the sample extracted, the authors elaborated a framework appropriately declined according to this research's needs. It is represented in the figure 2.

A. Topic	B. Research area	C. Geographical area	D. Research methods
1 Central government	1 Business and Economics	1 South and Central America	1 Literature review
2 Local government	2 Social sciences	2 North America	2 Qualitative
3 RPO	3 Medicine and Biology	3 North Europe	3 Quantitative
4 Mixed local and central level	4 Engineering	4 South Europe	4 Mix
5 Other		5 UK	
		6 Asia	
		7 Africa	
		8 Oceania	
		9 Mix	

Fig. 2. Analytical framework. Source: Authors

<u>Article focus</u>

The main topics faced in the extant economic literature concerning GDM are split into five categories according to the application scope of the GDM policies analyzed.

- A1. GB in central government. This class involves studies focused on GB policies applied at a national level of government, hence considering practical case studies referring to one or more countries that implemented this process to reduce a gender perspective in the budget process.
- A2. GB in local government. The second cluster gathers all the studies facing GB at a regional or municipal level of government.
- A3. GB in Research Performing Organizations (RPO). This rank counts the studies analyzing the GB applications, procedures, and effects in the specific sector of RPOs, namely institutions, entities, or organizations that are primarily engaged in conducting research activities encompassing a wide

range of fields such as science, technology, social sciences, humanities, and more. RPOs play a crucial role in advancing knowledge, driving innovation, and contributing to the overall progress of society, hence, the authors considered it relevant to highlight this specific field of application.

- A4. GB in both local and central government. The literature in this class focuses on some procedures to implement GB without considering any concrete application or comparing different contexts and levels of government.
- A5. Other. This residual class includes studies that the author does not attribute to the abovementioned categories as dealing with topics that are not treated enough to constitute an independent category or not strictly relevant to the research topic and, therefore, difficult to contextualize. However, it is possible to identify some sub-categories.

Research area

The present Structured Literature Review (SLR) encompasses the entire spectrum of available literature on the subject. The authors intentionally chose not to set any restrictions regarding the academic discipline, ensuring that the framework captures insights from every field that has explored this topic.

Geographical Area

This variable indicates the geographical area of the institutions with which the authors are affiliated (Paoloni and Demartini, 2016). Research Methods

This classification can show how specific research methods change based on different years, countries, and research topics. D4 involves research that applies both qualitative and quantitative methodologies.

3. Findings

3.1. Article focus

The analysis considers all the works that have investigated Gender Budgeting. As the sample selection emerged, the first research was published in 2002. Sharp and Broomhill (2002) face the very first GB implementation in Australia, identifying three main goals in this process: (1) integrate gender issues into government policies; (2) promote greater accountability for governments' commitment to gender equality; and (3) change budgets and policies (Sharp and Broomhill, 2002). If this research focuses on GB implementation in a country, hence belongs to A1, the other three documents published in 2002 are involved in A5. Among them, Budlender (2002) discusses what gender budgets entail and why non-governmental

organizations (NGOs) might be interested in engaging in them (Budlender, 2002). Figure 3 shows the evolution of the article foci over the years, whereas Figure 4 summarizes the relevance of the article's focus on the sample.

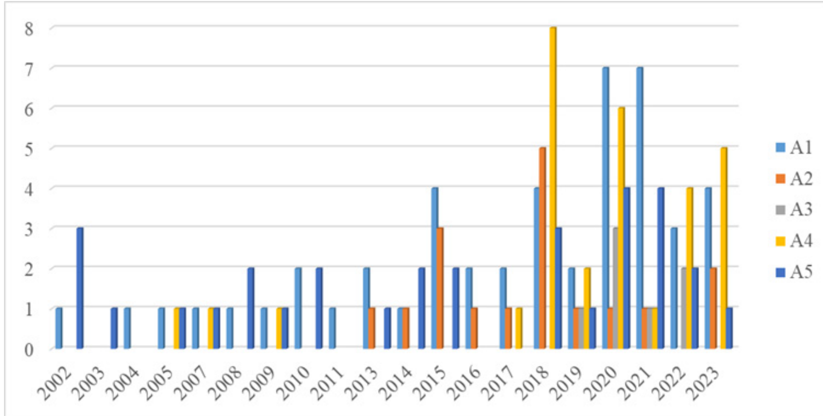

Fig. 3. Article Focus distribution over the years. Source: Authors

It's interesting to notice that, as opposed to studies focused on the GB's implementation in central governments, which have been developed since 2002, the GB's implementation in local government represents a more recent research topic; indeed, only in 2013 scholars begin to face that. In addition, the GB as a gender equality tool in RPOs has been deepened for the last five years.

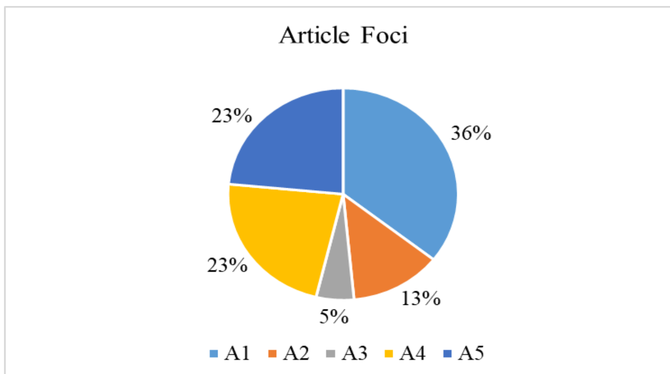

Fig. 4. Article foci. Source: Authors

The most prominent category of papers focuses on Gender Budgeting (GB) practices in central governments (A1), comprising 36% of the examined sample. Next, research on GB across varied government levels without pinpointing a specific context (A4 and A5) makes up 23% of the sample. Studies emphasizing GB's role in local governments (A2) account for 13% of the sample. A mere 5% of the research pertains to GB in RPOs (A3).

However, despite its low representation, the authors found this latter category intriguing enough to stand independently. This is because GB in RPOs is a burgeoning research topic, witnessing a growing number of publications annually, showcasing theoretical and practical appeal. Furthermore, beyond just local and regional applications, RPOs present a significant arena where GB practices are becoming increasingly prevalent.

3.2. Research Area

The authors did not set any boundaries concerning Research Areas; Figure 5 shows in which of them the extracted studies are mainly placed.

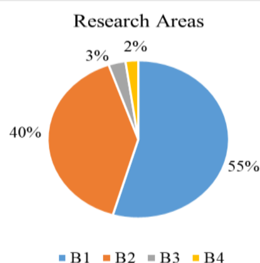

Fig. 5. Research Areas Source: Authors

As was predictable, the largest category is Business, Management, and Accounting (B1), representing 55% of the total sample. After that, studies belonging to Social Sciences (A2) count 40% of the total. After that, almost equally studies belonging to Medicine or Biology (A3) and Engineer (A4) respectively represent 3% and 2%.

3.3. Geographic Area

Figure 6 shows the distribution of studies focused on different geographical areas.

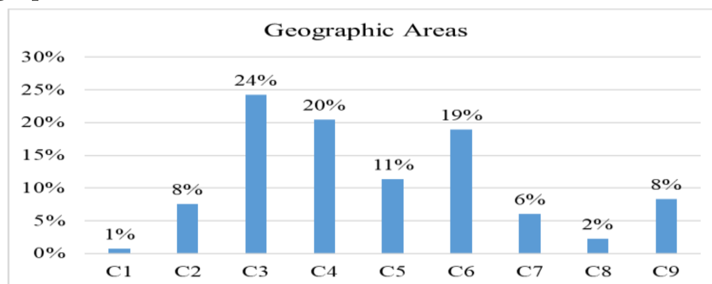

Fig. 6. Geographical Areas. Source: Authors

As shown in Figure 5, the most significant number of studies was authored by scholars affiliated with institutions of North Europe (C3), covering 24% of the total. This result is not surprising considering that, according to the European Gender Index, the northern European countries (Sweden, Denmark, the Netherlands, and Finland) boast a higher level of gender equality. In addition, Gender budgeting (GB) in Austria is often referred to as one of the "successful" cases of GB implementation in Europe (Klatzer et al., 2018).

After that, the South Europe (C4) counts 20% of the sample. The countries that have mainly deepened this topic are Italy, Spain, and Turkey.

Almost equally, studies from Asia (C6) represent 19%. They are mainly focused on some cases of application in local governments in China, India, where GB is also used in tribes of women of some districts, or South Korea (Nidadavolu & Sanyasi Naidu, 2020; Shuang, 2021; Jung, 2022).

Then, the UK (C5) published 11% of the studies, whereas North America (C2) represented 8%, just like the cluster gathering studies referable to more geographical areas (C9).

Africa published 6% of the total works. In particular, South Africa has ratified several international instruments that impose an obligation on the country to allocate sufficient budgetary resources to realize women's rights and was the first to imbibe the tenets of gender budgets in its fiscal administration, followed by other African economies like Uganda, Tanzania, the Gambia, Botswana, and Nigeria (Adejumo, 2021; Budoo-Scholtz, 2022)

Studies from Oceania (C8), where the very first GB was implemented, only represent 2% of the sample, followed by South and Central America (C1), which counts 1%, with only 1 study from Mexico (Fragoso, 2022).

3.4. Research Method

Figure 7 shows the distribution of the different research methods in the sample.

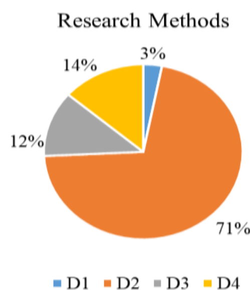

Fig. 7. Research methods. Source: Authors

The most used methodology is qualitative research (D2), belonging to 71% of the studies. After that, research using mixed methodologies (D4) is applied in 14% almost equally to studies using quantitative method (D3) that count 12% of the sample. The literature review (D1) represents the less used methodology, being used just in 3% of studies.

4. Discussion

4.1. The main foci of analysis in the extant literature

The authors aim to identify the recurring themes explored within the current review of literature.

A1. In many countries, gender considerations often fall by the wayside when laws, especially financial ones, are crafted and executed. While numerous nations draft budgets without overtly factoring in gender, it results in an illusion of gender neutrality (Stanimirović and Klun, 2021). If these budget decisions inadvertently impact genders unevenly, then true gender neutrality is absent. Overlooking these variances can cause "gender blindness" (Elson, 1999; Pulejo, 2012). Governments globally have developed Gender Budgets (GB) as dedicated reports to showcase their commitment to gender equality, women's rights, and empowerment (Morshed and Lim, 2023). Although the literature suggests the applicability of GB across different government tiers, most studies center around its goals, techniques, and challenges within the national administration framework.

Incorporating GB into standard budgetary procedures allows central governments to grasp better how their policies, actions, and financial dynamics might affect men and women differently (Sharp and Broomhill, 2002; O'Hagan and Klatzer, 2018). Nevertheless, GB implementation encounters various challenges that need addressing. Primarily, the availability of relevant data is essential, and a lack thereof can hinder advancements. Furthermore, gender issues frequently do not feature prominently in political priorities, emphasizing the need for incentives to gain genuine commitment from leaders. These incentives are paramount to ensure that leaders do not just adopt GB in name but integrate its philosophy throughout policymaking. For GB to truly impact change, it should strategically align with overarching government agendas while maintaining its core mission of championing transformative gender equality. This requires seeing gender as an additional policy factor and a critical political goal. Hence, GB is

positioned as a pivotal tool aiming to bridge the economic inequalities women face, underlining its inherent feminist transformative intent (O'Hagan, 2017). By leveraging fiscal strategies, countries, regardless of their development stage, can work towards eradicating gender disparities across sectors like education, health, and economic empowerment (Stotsky, 2020). Cagliesi and Hawkes (2021) also point out that incentive-driven initiatives, such as subsidies, are more adept at boosting female workforce participation than punitive actions like reducing benefits.

A2. There has been a noticeable uptick in research examining the local applications of Gender Budgeting (GB) worldwide. Initial endeavors in nations like Australia, South Africa, and the Philippines originated at the subnational tiers (Pacoy, 2012; Adejumo, 2021; Budoo-Scholtz, 2022). In Europe, Berlin pioneered the integration of gender budgeting in 2001, targeting certain city districts and budgetary allocations within its City Parliament (O'Hagan and Klatzer, 2018). In India, a country with layered federalism, political decentralization has been a driving force, shaping economic activities, including GB. This Indian approach unfolds in four stages: creating pioneering knowledge networks, forming institutional frameworks, amplifying the capabilities of the state, and strengthening both national and subnational accountability measures (Chakraborty et al., 2020). Klatzer et al. (2018) shed light on GB at the federal level, exploring its primary elements of execution and the roles of different participants, highlighting civil society's pivotal role during the inception and subsequent strategic phases. These research pieces underscore that, regardless of the governmental level, the intentions behind GB remain consistent. Reflecting on Australia's trailblazing journey with GB, three intertwined goals emerge: (i) amplifying the understanding of gender's influence on budget decisions and policies, (ii) ensuring governments uphold their pledges to gender equality, and (iii) instigating policy and budgetary amendments to uplift women's socioeconomic standing and further the cause of gender equality (Sharp and Broomhill, 2002).

A3. In today's highly competitive global environment, academic institutions are evolving to function more like streamlined organizations. Within these structures, early career scholars often face the brunt of vulnerabilities due to their position in the academic pecking order (Steinþórsdóttir et al., 2019; Lucchese et al., 2022). The European Institute for Gender Equality (EIGE) Indicator delves into several factors,

including employment and education, showcasing their interrelation, especially in the academic realm (Paoloni et al., 2023). Despite varying underlying reasons across countries, the issue of gender inequality in academia remains a pervasive concern globally (Ricci et al., 2022; Piva and Rovelli, 2022). The European Research Area significantly emphasizes gender equality in research and innovation, aligning with the European Commission's Gender Equality Strategy spanning 2020-2025 (European Commission, 2020). However, noticeable gender imbalances persist in European research entities, both in vertical hierarchies (with the "glass ceiling" hindering women's rise to top roles) and horizontal domains (across research topics, academic disciplines, and fields of education) (European Commission, 2019a). Against this backdrop, Gender Budgeting (GB) emerges as an influential mechanism for universities, allowing them to prioritize and address women's concerns and aspirations, thereby signifying their dedication to fostering gender equality (Bilyk et al., 2021; Lucchese et al., 2022).

A4. This segment addresses research that investigates GB's methodologies, hurdles, and goals across varied governmental layers. As identified by Klatzer et al. (2018), there are four key strategies for gender-focused budgeting: a) an all-encompassing method that weaves gender considerations throughout the entire budget process; b) outcome-driven budgeting that underscores gender-specific objectives within budgetary programs; c) the infusion of a gender viewpoint in mid-term fiscal strategies; d) well-being centered gender budgeting. Several papers also spotlight the barriers to seamlessly integrating GB. Firstly, irrespective of the governmental tier, GB can be understood in two interrelated dimensions. One sees it as a technical instrument or a compilation of methods to aid in budget distribution and decision-making, termed 'practice' (Rubin, 2009; Majumder and Shah, 2017). The other approach views it as rooted in principles centered around gender responsiveness, which seeks to elevate gender-related issues, instigate transformations, and foster gender parity. This approach, labeled 'logics', calls for a paradigm shift toward foundational gender-focused values and an overarching cultural metamorphosis. This cultural foundation fosters the adaptation of innovative systems and provides a rationale for any shortcomings. GB pioneers fresh norms, ideals, and convictions that get assimilated into daily practices, leading to cultural rejuvenation. As a result, efficacious GB draws from and

nourishes a prevailing culture, sparking cultural evolution in a reinforcing cycle (Steccolini, 2019). Thirdly, enlightening the public about GB's repercussions is essential as it can influence political direction.

Furthermore, the active participation of all stakeholders is indispensable to amplify the reach and clarity of gender-attuned policies. GB is crucial in heightening awareness amongst specialists and the broader populace. For this to be realized, the ramifications of GB on policy-making and political determinations must be elucidated and made accessible to everyone (Steccolini, 2019).

A5. This anthology amasses research that scrutinizes GB from a broad perspective, emphasizing its theoretical implications on societal transformation and personal achievement. This is paramount for ensuring women enjoy rights on par with men (Shuang, 2021). Feminist research within this compilation delves into how GB counters various discriminatory practices, ranging from acts of violence (Sumbas and Koyuncu, 2019) to challenges juggling familial duties (Pacoy, 2012; Mauerer, 2018; Veitch, 2022). Mauerer (2018) guides those shaping family policies and others keen on understanding the intricate relationship between striking a work-life harmony and the integration of gender budgeting. An emerging area of interest is the nexus between women and the consequences of climate change. As elucidated by Panda et al. (2014), the repercussions of climate change bear more heavily on women due to the prevailing gender gaps in accessing resources, the limited avenues available for adapting to environmental shifts, and the societal roles they traditionally assume.

4.2. Future research areas

Analyzing the trend and focus of the highlighted studies, there appears to be a burgeoning interest in gender budgeting's experimental applications within Research Performing Organizations (RPOs), especially within academic domains. Italy's universities stand out as primary subjects, suggesting a growing emphasis on this approach in educational arenas. The main aim of gender budgeting in such institutions is to pinpoint areas where gender disparities may hinder women's access to resources, career advancements, and active participation. This can cover facets like research fund distribution, academic staff advancement opportunities, and the provision of student support services for both genders. However, it is essential to understand that gender budgeting in these institutions

transcends mere fiscal considerations. It also strives to cultivate an institutional culture that champions gender equality, from adopting more inclusive hiring and progression practices to organizing gender-awareness training and deploying dedicated resources to address specific gendered challenges in academia.

Gender budgeting in academic institutions symbolizes a concerted effort to sculpt an egalitarian academic atmosphere, ensuring that opportunities and results are devoid of gender biases. Through fiscal and policy analysis, these institutions can implement tangible measures to champion gender equality, paving the way for enduring transformation within the scholarly realm.

Furthermore, venturing into lesser-researched spheres, such as NGOs, could offer fresh insights. Implementing gender budgeting in nonprofits can catalyze gender equality, especially when these organizations grapple with gender-specific issues. With these entities spanning various sectors, from social welfare and global development to healthcare and education, embedding gender budgeting means scrutinizing the fiscal allocation supporting their initiatives. This not only bolsters the effectiveness of their projects but also ensures judicious resource use, ultimately nurturing gender equity essential for communal and broader societal well-being.

5. Conclusions

This paper brings several unique contributions to the academic realm. To begin with, it adds depth to the existing Gender Diversity literature by offering an analytical review of the research trajectory on this subject since its inception. Furthermore, the study delves into gender discussions revolving around the empowerment and recognition of women in society, with an emphasis on both central and local government settings. Crucially, by categorizing research centered on Gender Diversity, this article provides scholars with a more lucid understanding of this theme's potential, implementations, and pivotal drivers.

On one end of the spectrum, this research encapsulates historical trends, pinpointing focal areas of past studies, preferred methodologies, geographical concentrations of the research, and the primary sectors engaging with Gender Budgeting (GB). The evidence suggests a predominant focus on GB's implementation at the national government tier. Notably, the Business, Management, and Accounting sectors seem most

engrossed in the discourse. Geographically, Northern Europe is a hotspot for such studies, with qualitative research methods reigning supreme. Conversely, this study also illuminates gaps in the literature, setting the stage for prospective inquiries. The authors underscored the need to pinpoint specific research themes and subtopics awaiting exploration. There is a palpable demand for a deeper dive into GB within Research Performing Organizations (RPOs) and a clarion call for novel studies scrutinizing the intricacies of the gender divide in Non-Profit Organizations (NPOs).

However, this research has its limitations. Its primary constraint stems from the sampling phase; the insights are confined to data sourced from the SCOPUS database. However, it is debatable if employing a different database would markedly alter the results. Additionally, there is room for refining the coding process. Despite meticulous efforts to maintain uniformity throughout, potential oversight and coding discrepancies must be considered. Lastly, including an 'other' category in some classifications might have obscured intriguing insights.

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Europlanning and Project Management: introductory profile and lines of development for Public Administration

Serena De Rosa

1. Introduction to Project Management[1]

This study aims to provide an overview of project management procedures and their utility in helping institutions achieve their objectives effectively. Particular emphasis is placed on the necessity for local authorities to establish a capable structure for executing and planning activities, enabling them to respond systematically to their own needs.

The paper will be structured as follows: In the first section, we will analyze the definitions of a project and project management, along with their inherent characteristics. In the second section, the project management processes will be briefly discussed. In the concluding third section, we will address the state of local authorities in terms of project management practices, which will be illustrated.

1.1. Project and Project Management

The pandemic period experienced between 2020 and 2023 has generated a climate of great economic uncertainty but also of great innovation. Innovation is now considered a crucial component of activity, rather than merely a final goal of the process. The urgency for organizations to embrace a "project" approach as a means of addressing economic, social, environmental,

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and technological challenges in novel ways has been heightened by this scenario. Every economic, political, and social organization will soon need to leverage project management knowledge, skills, and competencies, supported by an organizational structure capable of effective management. Defining a project and its constituent activities is of utmost importance before delving into various project management techniques.

Russell D. Archibald, the founder of Project Management, defines a project as "A complex endeavor involving interrelated tasks performed by various organizations, with well-defined objectives, schedules, and budgets" (Russell, 1994: 10.). A more articulate definition is provided by the Italian Institute of Project Management, which defines a project as: "a complex, single undertaking of a fixed duration, aimed at achieving a predetermined objective through a continuous process of planning, execution, and control of differentiated resources and with interdependent cost-time and quality constraints" (Mastrofini, 2022: 9.). In both definitions, the main characteristic that emerges is the "complexity" inherent in a project. Specifically, complexity is understood as "the characteristic of a system whose overall behavior cannot be determined by the sum of the variables, due to the excessively high number of these, the study of which requires a simplified model" (Zingarelli 1999).

The greater complexity involved in project initiation entails the development within a complex organization of a smaller structure made up of people, resources, and time. Therefore, we can define a project as an enterprise within a larger enterprise that requires a high degree of management capacity. What has been said, draws attention to the many similarities with the definition of a company as "a complex economic institution destined to endure that, for the satisfaction of human needs, orders and carries out in continuous coordination, the production, or the procurement and consumption of wealth" (Paoloni and Paoloni, 2009: 21.), and the definition of Business Administration as a discipline that studies "the behavior of the company and therefore studies the processes of decision, execution, control, feedback and the information system as the tool that connects them, based on the model of bounded rationality" (Paoloni and Paoloni, 2009: 17.). From the analysis of the two definitions, it emerges that project management and business management assume a large deployment of resources (human and monetary), in addition, they are interdependent and aim to achieve a goal. The definition of a project released by the Italian Institute of Project Managers (IPM) sheds light on two other fundamental characteristics: uniqueness and temporariness. A project is unique because the context in which it originates, the economic and financial

situation, the human resources involved, and the market conditions will always be different for each project undertaken. Uniqueness lies both in the generated outputs (deliverables) and the documentation produced. A project is temporary, i.e. it will have a well-defined start and end date in time. The complex nature of projects gave rise to the need to standardize their management. The "Ente Italiano di Normazione" has sanctioned and issued the standard UNI ISO 21502:2021 'Project, Programme and Portfolio Management - Guide to Project Management'.

The standard provides guidelines for project management for all organizations that want to use it. The need to innovate, the necessity to be increasingly sustainable and the growing European opportunities have made the development of capacity by organizations to work on projects, therefore, the construction and training of a professional figure who could manage the company's programs became inevitable. The Project Manager was born, in charge of achieving set objectives through the use of knowledge, skills, and competencies in project management processes.

The Italian Institute of Project Managers defines knowledge as 'the result of assimilating information through learning', skills as 'the ability to apply knowledge to complete tasks and solve problems', and competencies as 'the proven ability to use knowledge, skills and professional abilities in work or study situations' (Mastrofini, 2022: 10.). The Italian Standardisation Body in to support this figure has issued the UNI 11648:2016 standard 'Non-regulated professional activities - Project manager - Definition of knowledge, skill and competence requirements'. With a clearer understanding of what a project is and who is responsible for it, the next section discusses the project management processes that are essential for the success of each project.

2. Project Management Processes

The Project Management Body of Knowledge (PMBOK) defines project management as *"the application of knowledge, skills, methods, techniques, and tools to project management activities to meet requirements"* (Project Management Institute. A guide to the Project Management Body of Knowledge, 2017: 25.). Through the techniques acquired, the project manager develops and coordinates project management processes. A process *"is a set of interrelated activities aimed at achieving a given set of products, results or services"* (Mastrofini, 2022: 26.).

The Project Management Institute (PMI) identifies 49 processes divided into five groups: initiation, planning, execution, control, and closure.

Processes	Activities	Phases
START	*Definition and approval of the project fiche.* *Definition of roles and responsibilities of the resources involved*	2
PLANNING	*Definition of the project scope, identification of the requirements, definition of the WBS (work breakdown structure), clarification of the activities to be carried out, definition of the OBS, identification of the responsibility matrix, definition of the timeframe, definition of the costs, development of the budget, management of internal and external communications, etc.*	25
EXECUTION	*Developing and training the project team, managing the needs and meeting the expectations of stakeholders, identifying risks and developing an appropriate response to them, selecting suppliers, disseminating information*	8
CONTROL	*Monitoring of progress and compliance with the baseline, analysis of deviations, re-estimation, control of costs, subject, supplies and communication*	12
CLOSING	*administrative closure, contract closure*	2
TOTAL		**49**

Tab. 1. Project Management Processes. Source: personal processing of information provided by the Project Management Institute (www.pmi.org)

To have a better understanding of the complexity of a project, it is good to analyse the individual processes by providing a general overview of them.

2.1. Start-up

The initiation of a project arises when there is a market opportunity that is better managed through a project activity. The decision to initiate a project activity presupposes the organization's involvement of a project sponsor. The project sponsor is *"a person or group that provides resources and support to the project [...] to enable its success"*(Mastrofini, 2022: 39.). He/she is the person who has the greatest interest in the project as he/she is financially, operationally and legally responsible for its success or failure. The project sponsor appoints the project manager employing a formal assignment document by which he or she transfers the powers of responsibility and all useful information to start the planning phase.

Once the project manager has been appointed, we proceed with the

feasibility study centered on a comparison of similar projects and '*revenue models*', an assessment of the project's contribution to the organization's reality and the correct allocation of resources (Mangiarotti and Tronconi, 2010: 23.). Central to the feasibility study is the Business Case. The Business Case *"should demonstrate correspondence to the organization's strategy, financial and commercial feasibility, and the practicality of implementation within an acceptable level of risk"*(UNI ISO 21502, 2021: 9.).

It is the relationship between expected benefits and project costs. Once a 'feasible' project is defined, a formal project meeting called a Kick-Off Meeting (KOM) to which all people involved in the project are invited.

The objective of the meeting is to make the draft of the project charter, in which the most important aspects of the project are defined analytically and concisely. The project charter should contain (Mastrofini, 2022: 28.):

- A presentation by the Project Manager and Sponsor
- Project Objectives
- Project deliverables
- Project constraints and criticalities
- The division of roles and responsibilities of the actors participating in the project as well as the metrics used to measure individual performance
- The project activities that will lead to its success
- Timeframes to be respected
- WBS (Work Breakdown Structure) outline

Once the project fiche has been approved, the planning phase begins.

2.2. Planning

The planning process constitutes "the set of processes used to develop the Project Plan in which the activities and values of the variables (time, cost, quality) are defined (Mastrofini, 2022: 30.). The output of the planning phase is the Project Plan in which the activities are scheduled, and it is also designated the reference baseline that might be followed throughout the project execution. The planning activity fulfills the functions of communication, as information is transferred to all the actors directly involved in the realization of the project, and its control, as it allows the project manager to intercept any deviations and implement corrective and integration measures. The final goal of the planning activity is to answer the following questions:

Activities	Description
WHAT	*Defining the scope* *Definition of WBS - Work Breakdown Structure*
HOW	*Defining a chronological order of activities*
WHO	*Define project organisation and responsibilities*
WHEN	*Defining the timing of activities* *Defining a timeline*
WITH	*Estimating resources* *Estimating costs* *Defining the budget*

Tab. 2. The outputs of the planning activity Source: personal processing of information provided by the Project Management Institute (www.pmi.org)

It must be clear that the project plan, although realistic, is an estimate and cannot be considered as the result of an exact and certain evaluation. Before proceeding with the analysis of the execution process, it is good to take a closer look at the individual sub-phases that characterize the planning macro-process, trying to understand what the resulting individual outputs are.

2.2.1. The Project Scope and the WBS

The project scope is defined as 'the purpose' of the project (Project Scope), which means delimiting the activities to be performed and the expected results (deliverables). The Anglo-Saxon term deliverable is widely used among project managers. It refers both to the product/service as the result of a specific activity (testing of a prototype) and to the technical documentation to be drawn up. The main tool used to define the project scope is the Work Breakdown Structure (WBS). The Work Breakdown Structure appears as a chart with a tree structure in which the work activities to be performed are indicated in hierarchical order. Creating a WBS makes it possible to check the consistency between the set objectives and the output produced by individual activities, but it also allows timely action to be taken in the event of deviations and it enables greater control over activities (Rajani Shobha Reddy 2012: 685).

2.2.2. Project timing

The definition of project timetables aims at placing activities in a circumscribed time frame. Time management is carried out using:

1. The construction of a logical project with the identification of activities to be carried out according to a chronological sequence (Puglisi et al.,

2015: 2.). There are three lattice analysis techniques:

- Pert: Program Evaluation and Review Technique - a system that assumes control of project activity *"using a representation that takes into account the interdependence between all activities necessary for* project *completion*" (Project Management Institute. A guide to the Project Management Body of Knowledge, 2017: 37.).
- Pert - Cost system, used to reduce work in time terms by massively deploying available resources.
- Critical Path Method for identifying all those mutually dependent activities that connect *"the initial node (start activity) to the final node (end activity) and whose sum of durations is maximum. A delay in one of these activities implies a delay of the entire* project" (Lawrence Bennett 1977: 47.)

2. Estimating the duration of activities. Estimating activity duration can be very complicated because of the many variables involved. The most commonly used estimation techniques are:

- estimates by analogy, the results of which are given by a comparison of similar activities carried out previously
- parametric estimates based on historical data to be multiplied by the amount of resources needed.

3. Scheduling the activities by determining a time frame in which the activity must be placed, definition of the time baseline, calculation of the slippage margins of each activity, and elaboration of the Gantt chart. It is fundamental to the calculation of time slippages and elaboration of the Gantt Chart. *When we speak of time slippage of activities, it can be total (FLOAT) and indicate the maximum slippage of the start date without affecting the end date, or, partial (SLACK) which indicates the maximum duration of slippage of the start date of an activity without affecting the start of the next activity* (Agnetis Et Al., 2006: 14.).

The Gantt diagram (Chronoprogramme) is a graphical representation of the duration of activities. Within the diagram, project schedules (activities) are represented with precise start and end dates (Puglisi et al., 2015: 3).

- Time control mainly concerns the monitoring of SAL - State of progress.

2.2.3. Estimation of resources

When we talk about project resources we refer to the people involved in the realization of a project, the goods needed and the services useful for the project. The resources involved can be represented utilizing the project organization chart "Organisation Breakdown Structure (OBS)" which allows us to define the "responsibility matrix" (Boaz,

Shtub 2001: pp.1263-1280.). The responsibility matrix or RACI matrix indicates the responsibility that each actor holds in carrying out that specific activity. The acronym RACI stands for Responsible, Accountable, Consulted, Informed (Daubier and Daubier, 2022: 104).

2.2.4 Cost Estimation

The definition of project costs is done through a meticulous breakdown of the activities and resources involved within the project to be able to constitute the Project Budget. Cost estimation is the last activity in the planning process, and once it is done, the execution process begins.

2.3. Execution

The execution process encompasses all those activities involved in managing and directing resources so that the project is completed to the required quality (UNI ISO 21502, 02021: 19).

The main activities of this process are:

- team development and training
- the dissemination of information to various stakeholders.

The development and training of the project team include the following activities: (Cresswell-Yeager 2020: pp 155-165.)

1. Forming: in this phase, the team members get to know each other, talk, and start to get a feel for each other.
2. Storming: the team compares their ideas
3. Norming: team spirit is born, personal ambitions are put aside to make room for project goals, and the ideas of others are properly respected.
4. Performing: work becomes more structured and achieved goals are perceived as group goals
5. Adjourning: the team is finalizing the last project activities, but with an eye on future projects.

The dissemination of data and the progress of the project is done through the 'project report' in which emphasis is placed on what has been completed, what resources are still available, what costs have been incurred, what activities are in progress, and what will be completed later. Sequential to the execution process is the control process.

2.4. Control

"The 'Control' process includes monitoring, measuring and verifying project performance against plans in order to identify deviations at an early stage and to

implement appropriate corrective measures where necessary and possible" (Mastrofini, 2022: p.34.)

The analysis of project progress is of fundamental importance for the success of the project, this is expressed in percentage terms (0/100 or 25/100). This percentage is subject to a specific evaluation through the Earned Value Analysis (EVA) system useful for analyzing project results. If the control process is successful, we proceed to the last project management process: closure.

2.5. Closure

The Project Manager together with the Project Sponsor convenes an "end-of-project meeting" to produce the "final report" which indicates the results achieved, the work performed, the activities done, and all the obtained outcomes. This documentation will be archived with the other projects and will form a historical database useful for future project teams.

Many SMEs have perceived project management as one of the main business development tools that can produce numerous benefits and an increase in competitive advantage in the target market. This was not the same for local authorities, which nowadays are further away than private companies.

3. Project Management in Local Authorities

In recent years, EU member states have received substantial funding for investments to help to exit the crisis generated by Covid-19 and implement technological advancement. Italian local authorities were the recipients in 2022 of 40 billion in investments derived from the PNRR (ANCI) to be spent and accounted for. The very strict rules that characterize European funds have led many municipalities to refuse them, missing an unprecedented opportunity. Two major difficulties have been stated by the Italian Public Administration: lack of qualified staff. Research carried out by 'Forum Pa' entitled "Public Employment 2021" stated that Italy is at the bottom of the list in terms of investment in training of public employees with an expenditure of EUR 163.7 million in 2019, a drop of -67% compared to 2009. The number of civil servants in the PA with a university degree has grown, but most of them are law graduates while economics graduates are only 17%. Among them, only 5 percent have been trained in digital issues and 2.3 percent in project management. In addition to the inability to seize the opportunities proposed by Europe, there is also a high rate of failure in terms of projects

for those entities trying to measure themselves against the opportunity of European funds. The causes of this failure include:

- Inability to define deliverables – what is to be achieved in terms of service or product? Public administration today is in enormous difficulty in defining the product/service of a project and in defining the degree of its quality.
- Inability to apply cost control techniques. The public administration is unprepared to carry out true cost control both because of the lack of skills of its employees and because, in the case of public procurement, specific control techniques have never been requested.
- Poor adherence to deadlines with project schedules approved but never updated.
- Inability to produce all supporting documentation for the project and subsequent reporting. The public administration cannot manage huge amounts of documents related to individual projects.
- Low skills of the collaborators producing as final output and low levels of project quality driven by the need to contain costs.

4. Conclusions

Project management is a highly complex activity that requires the training of specialized staff both in private companies and in public organizations. It is crucial to create appropriate structures within local authorities for all those offices that want to make a change in terms of innovation. Having a structured office brings positive results in terms of time, cost, and quality. In conclusion, it can be said that the opportunities given by the European Union to support companies and local authorities are manifold. Taking advantage of these opportunities increasingly depends on project management knowledge and on the ability and effectiveness to know how to manage project development. In this scenario, it is fundamentally a reversal of the trend: local authorities have to consider the importance of the application of project management capable of focusing attention on projects that are useful for the development of the individual territory.

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Unlikey-To-Pay evolution

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1. Introduction[1]

The results of the following analysis represent a preliminary contribution to a broader research project aimed at analyzing the impacts of recent regulatory measures designed to make more efficient the Non-Performing Loans (NPLs) secondary market, with a focus on the final impact on exposures classified as unlikely to pay.

NPLs, or impaired loans, refer to exposures to debtors who, due to the deterioration of their economic and financial situations, are unable to meet all or part of their contractual obligations. To delve deeper into this, NPLs are loans that meet any of the following criteria: exposures related to debtors in a state of insolvency or in substantially comparable situations, defined as "bad loans"; exposures for which the bank believes debtors are unlikely to meet their full contractual obligations without actions such as enforcing guarantees, defined as "unlikely to pay" (excluding those categorized as bad loans) and exposures that are overdue and/or past due by more than 90 days and above a predefined amount (other than those classified as bad loans or unlikely to pay), defined as overdue and/or past due exposures.

The broader research project aims to critically analyze whether and to what extent recent regulatory measures, with particular reference to Directive 2021/2167, will contribute to making the NPL market more efficient. It seeks to determine whether the desired improvement can be reflected not only in better NPL management but also, more importantly, in their reduction

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[1] The opinions expressed are solely attributable to the author and do not in any way engage the responsibility of the affiliated institution

through the valuation of unlikely-to-pay exposures, enabling them to return to a performing state. This represents an evolution towards a proactive, rather than exclusively reactive, NPL market.

Such an evolution would be measured through an overall more sustainable and effective credit management process capable of intervening in the early stages of exposure deterioration. This would involve timely identification and adequate support for debtors classified as unlikely to pay, whose repayment difficulties are considered reversible. The goal is to prevent them from becoming distressed debtors and instead enable them to return to a performing status. This category of debtors includes firms that, thanks to timely financial support or restructuring plans, could emerge from their state of difficulty and return to a performing state.

Given this context, the research question is as follows: "Will recent regulatory measures contribute to making unlikely-to-pay management more efficient, and to what extent?" To answer this research question, we will need to await the transposition of the aforementioned Directive by Italy and the other member states, which must take place by December 29, 2023. Additionally, we will need to wait for the supervisory rules. Only then will it be possible to analyze the impact of the new rules on the NPL market in general, with a particular focus on unlikely-to-pay expo-sure.

In light of the above, this contribution will be organized to lay the groundwork for a broader research project. It will include a preliminary survey of NPL evolution and the main regulatory measures adopted, with a specific focus on the contents and objectives of Directive 2021/2167.

2. NPL evolution in Italy

The emergence of high stock on NPLs can be traced back to the exceptional economic recession resulting from the combined impacts of two significant crises: the global financial crisis of 2007–2008 and the European sovereign debt crisis of 2014. The deep contraction of the real economy that followed these crises led to the deterioration of the financial health of both companies and households who were no longer capable of meet their debt obligations to banks, which subsequently resulted in a substantial increase in the NPL stock.

Structural factors within European economies, such as the prominent role of credit intermediaries rather than financial markets, public finance conditions, and judicial efficiency, have contributed to notable

disparities in NPL generation and accumulation among various EU Member States ("Management and Evaluation of Non-Performing Loans" by Matteo Catugno).

Specifically, while the global financial crisis, linked to the collapse of US subprime mortgages and related structured finance products, impacted Italian banks less severely than other European banks due to their limited exposure to crisis affected US intermediaries, the subsequent European sovereign debt crisis triggered a downward spiral for the Italian economy. This led to a 10-percentagepoint decline in GDP from 2008 to 2013, resulting in a significant increase in new NPLs and their presence on Italian banks' balance sheets. This has made the Italian NPL market one of the most significant in Europe for an extended period.

In greater detail, out of the 1,000 billion NPL recorded in 2016 at the European level, 35% were attributed to Italy; in 2020, this figure had decreased to 550 billion, with Italian banks NPL accounting for 19% of the total. A higher level of NPL stock and a slower reduction of them in Italy compared to other European countries is the result of various factors: (i) the aforementioned severe Italian economic recession, (ii) imprudent credit allocation choices, and (iii) inefficiencies in the Italian judicial system, leading to prolonged credit-recovery procedures that far exceed those in other European countries.

The inefficiency of the Italian judicial system was undoubtedly the most significant factor contributing to the increase in the volume of NPL in Italy. According to data from a recent study conducted by the European Commission for the Efficiency of Justice, Italy still ranks last in terms of the average duration of civil or commercial proceedings, with an average of 527 days compared to the European average of 248 days (Efficiency and quality of justice in Europe published by Council of Europe, 2022). Estimates suggest that, under equal conditions, reducing the time for recovery from 5 to 2 years would cut the incidence of non-performance on bank balance sheets by approximately half ("European regulations on calendar provisioning and on the classification of customers by banks" by I. Visco, 2021). In this regard, the literature indicates that judicial efficiency is associated with a reduction in both the stock of NPLs and the flow of non-performing credit (G. Rodano). In fact, borrowers might have stronger incentives to default in the presence of less efficient courts (Schiantarelli, 2020), leading to an increase in the flow of new NPLs.

Nevertheless, as a result of several regulatory and prudential measures,

Italian banks, albeit more slowly, have significantly reduced their NPL stocks, reaching levels similar to those of other European countries.

By the end of 2020, Italy NPL ratio stood at 2% in contrast to the 1.5% recorded for other European banks. To provide some context, in 2016, Italy NPL ratio was over 16%, a stark contrast to the 5% requirement set by the ECB. At the beginning of 2015, this difference was nearly 7 percentage points ("Management of non-performing exposures: legal and regulatory frameworks, and operational approaches", by P. Angelini, 2021).

The positive results achieved have placed Italian banks in a better position to weather the economic crisis triggered by the pandemic, as well as to address the combined effects of the Ukraine conflict, compared to their circumstances just a few years earlier. during this period, indeed, the NPL ratio has remained historically low, as reported in the 2022 Financial Stability Report published by the Bank of Italy.

Nevertheless, while the banking system has displayed increased resilience and better support for the real economy than in the past, the focus on NPLs must remain a priority in the near future. This is due to the potential cascading effects associated with the pandemic crisis, the ongoing Russian-Ukrainian conflict, and ultimately, the impact of the sharp rise in interest rates on credit risk. This consideration takes into account the Bank of Italy's projections published in the Financial Stability Report of April 2023: *"Our projections for the loan default rate, consistent with the macroeconomic scenario published by the Bank of Italy in its January Economic Bulletin, point to a significant increase in 2023 for both households and firms, mostly driven by a higher cost of credit. However, this indicator is projected to remain below the level seen in previous times of crisis"*.

3. The Action Plan to reduce NPL in Europe

The issue of NPLs has had an impact and posed challenges for all of Europe, necessitating the implementation of a comprehensive and holistic strategy. This is crucial due to the potential adverse effects of high NPL levels on banking system stability and the credit function that banks play in supporting businesses and the broader real economy. Existing literature (A. Plekhanov and M. Balgova, 2016) demonstrates that high NPL stocks are a significant predictor of bank failures (Lu and Whidbee, 2013), and even in cases where banks avoid failure, NPLs can negatively affect their willingness to extend loans (Cucinelli, 2015).

Addressing the problem of high NPL stocks and preventing their future accumulation is vital to maintain financial stability, promote competition in the banking sector, and encourage the provision of financing. The ultimate goal is to stimulate job creation and economic growth within the European Union.

To achieve this objective, the European Council approved an "Action Plan to Address the Issue of NPLs in Europe" (Action Plan) on July 11, 2017. The Action Plan outlined a combination of policy measures designed to reduce existing NPL and prevent its recurrence in the future. It adopted a comprehensive and global approach, focusing on four main areas: i) Banking supervision and regulation, ii) Reform of regulations related to restructuring, insolvency, and debt recovery, iii) Development of secondary markets for impaired assets, and iv) Promotion of the restructuring of the banking system. In this preliminary analysis, we will delve into the development of secondary markets for impaired assets, one of the key points included in the Action Plan.

4. Development of secondary markets

The substantial derisking activities, involving the reduction of NPLs stocks and related inflows, implemented by the banking system in recent years to meet regulatory requirements, have contributed to the gradual development of the secondary market for NPLs; this market was virtually non-existent. An analysis conducted by the Bank of Italy has shown that, partly thanks to the development of the secondary market, recovery rates achieved by banks on the positions they sold have increased, despite the significant volume of NPLs placed on the market ("Bad loan recovery rates in 2021", by A. L. Fischetto, I. Guida, A. Rendina and G. Santin, 2022). The difference between recovery rates on the positions sold and those managed internally has decreased from 22 percentage points in the period 2011-2015 to 16 percentage points in the period 2016-2021 ("The Evolution of the Credit Market and Supervisory Priorities" by G. Siani, Il Sole 24ore - UTP&NPL Summit 2023).

However, at the European level, due to the absence of a suitable and coherent regulatory and standardized supervisory framework, credit purchasers and credit servicers have not been able to fully leverage the advantages of the internal market. Divergent national rules have created obstacles, certainly slowing the development of the internal market,

resulting in increased compliance costs for cross-border purchases of NPLs. This has reduced competition in the internal market and, consequently, hindered the growth and efficiency of the NPLs secondary market.

In response to these challenges, the European Parliament has issued Directive (EU) 2021/2167 on credit servicers and credit purchasers (referred to as the "Secondary Market Directive"). The directive aims to create an appropriate environment for the development of the secondary market for NPLs, supporting credit institutions in dealing with NPLs to reduce the risk of future accumulation. Member States are required to transpose the Directive into national law by December 2023. This Directive represents the first attempt by the European legislator to simplify and harmonize the NPL issue at a uniform level by introducing standardized rules.

These differences between regulatory requirements have certainly slowed the development of the internal market, generating an increase in the compliance costs needed to make cross-border purchases of NPLs, reducing competition in the internal market, and consequently slowing down the growth and efficiency of the secondary market.

To meet these needs, the European Parliament issued Directive (EU) 2021/2167 on credit servicers and credit purchasers (also known as "Secondary Market Directive") with the aim to create the appropriate environment for the development of the secondary market of NPLs, supporting credit institutions in dealing with NPLs to reduce the risk of future accumulation; member States are required to transpose the Directive by December 2023. This is the first attempt by the European legislator to simplify and harmonize the NPL issue at a uniform level by introducing standardized rules.

The Directive aims to enhance the efficiency and transparency of secondary markets to make them the most effective means of reducing NPL stocks. To achieve this, the removal of national entry barriers is crucial, especially concerning the transfer of NPLs from banks to other entities. Therefore, it is essential to simplify and harmonize the access requirements for credit purchasers and credit servicers while ensuring the protection of debtors' rights.

Within this framework, the European legislator provides a comprehensive set of rules and intervenes on terminology to clearly and unambiguously define the stakeholders involved. For the purposes of the regulations, loans are considered non-performing if they have interest or capital payments that are more than 90 days overdue and/or if the bank

considers it unlikely that the debtor will fully meet their credit obligations. Consequently, the directive exclusively applies to NPLs originating from banks, excluding the management of commercial loans, those arising from supply contracts, utilities, etc. Additionally, trust management operations executed by banks and trust management of credits claimed from large companies are outside the scope of this directive. In all these cases, the transfer of the license and trust management of these credits may continue under the current authorization system.

The Directive defines and regulates the activities of the following entities: (a) "credit servicers" who act on behalf of a credit purchaser regarding creditor's rights under a non-performing credit agreement, or the non-performing credit agreement itself, issued by a credit institution established in the Union in accordance with applicable Union and national law and (b) "credit purchasers" who acquire creditor's rights under a non-performing credit agreement, or the non-performing credit agreement itself, issued by a credit institution established in the Union in accordance with applicable Union and national law.

Title II of the Directive introduces a uniform regulatory framework applicable to credit servicers. It includes a rigorous authorization procedure that requires, among other things, professionalism and good repute on the part of company representatives and qualified participants. It also mandates appropriate governance arrangements and internal control mechanisms, particularly aimed at ensuring compliance with rules related to the protection and fair and diligent treatment of debtors. Additionally, the Directive calls for the establishment and management of a national list or register of all authorized credit servicers within each Member State to ensure transparency.

Title III of the Directive is dedicated to credit purchasers. It defines a new process for credit acquisition and outlines a specific disclosure regime that banks and credit purchasers must adhere to. Regarding credit acquisition, no authorization regime is required, but an information regime is implemented. This regime involves the credit institution providing necessary information to protect the potential purchaser, enabling them to assess the value of the credit agreement and the probability of recovering its value. The purchaser also has reporting responsibilities to Supervisory Authorities for statistical and market monitoring purposes.

Within this framework, designed to promote uniform transparency in the sector, the European legislator places special emphasis on debtor

protection. Credit servicers and credit purchasers are required to act professionally and in good faith when dealing with debtors. They must provide accurate and non-misleading information, respect and safeguard debtors' personal information and confidentiality, and ensure open and harassment-free communication, free from coercion or undue influence.

5. The national regulatory framework

On June 15, 2023, the Council of Ministers approved the European Delegation Law for 2022-2023. This act is the means by which Italy is preparing to incorporate a series of Community directives into national law. These directives include Directive (EU) 2021/2167 concerning NPLs, which Member States are required to adapt to by December 29, 2023. Currently, there is a draft law under discussion aimed at facilitating the recovery of non-performing debts and expediting the return of debtors who have defaulted.

In the process of transposing this directive into national law, the Government is tasked with making any necessary amendments and additions to the existing legislation to ensure the adequacy, effectiveness, and efficiency of the national legislative framework.

6. Conclusion

The continuous reduction of the current stocks of NPLs and the prevention of any future excessive accumulation continue to be a priority in order to preserve financial stability and to supporting economic growth in the European Union. The changes in the context, as well as the regulatory and prudential measures taken over the past decade, have contributed significantly to the achievement of significant reduction of NPLs, forcing banks to adopt organizational structures, procedures and information systems to ensure more active and efficient handling of NPLs.

However, if in a first step the reduction in NPL stocks occurred substantially through massive disposals of NPLs, the question arises whether such reductions could also occur, and above all, through the return *in bonis* of exposure considered as unlikely to pay. In this respect, recent literature shows that the share of UTP firms returning to the performing state has never been negligible during the crises period, and even in the most acute phases ("Return of the NPLs to the bright side: which unlikely to pay firms

are more likely to pay?" by M. Affinito, G. Meucci, 2021).

In order to achieve the target of returning to the performing state of UTP debtors, timely intervention in a preemptive phase of the deterioration process is crucial, through proper identification of those exposures relating to undertakings experiencing temporary difficulties which, if adequately supported by restructuring plans or financial support, they could exit the state of difficulty and return to being performing loans, going to reduce the volumes of NPLs and consequently making the entire process of credit management more efficient and sustainable.

However, knowledge to properly handling unlikely to pay to date is maintained internally by the banks as the absence of a specialized market. The significant activity of derisking put in place by banks in past years has generated, in fact, a progressive development of the credit servicer through the debt recovery, suitable for NPLs such as NPLs other than UTP; the latter require financial solutions closer to those of investment banking and private equity.

In the following analysis, we will assess whether and how the measures contained in Directive 2021/2167, once transposed at the national level, can directly or indirectly facilitate the development of a suitable market to manage UTP (Unfair Trading Practices) and to what extent such development could impact the return to a performing state for these positions, resulting in a consequent reduction in NLPs. In the light of the above, we look forward to the future effects explained by the new regulatory framework, whose possible benefits in terms of efficiency, sustainability and greater transparency of the NPL market will in fact be observable from 2024, when each Member State has transposed the Directive. Therefore, it is planned to continue the analysis by identifying some sectoral evidence.

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