



**Developments and dynamics of Non-Financial Reporting in
the banking sector: the impact on the Italian context**

Journal:	<i>EuroMed Journal of Business</i>
Manuscript ID	EMJB-01-2025-0033.R2
Manuscript Type:	Case Study
Keywords:	Non-Financial Reporting, Global Reporting Initiative, Sustainability Accounting Standards Board, European Financial Reporting Advisory Group, Content Analysis, Italian Banking Sector

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Abstract

Purpose

This study explores advancements in Non-Financial Reporting (NFR) within the Italian banking sector over the past five years, assessing the influence of regulatory frameworks such as the European Taxonomy and Sustainable Development Goals (SDGs). The research aims to understand how sustainability, governance, and the integration of financial and non-financial data have evolved in response to regulatory and stakeholder pressures.

Design/methodology/approach

A multi-method approach is employed, combining bibliometric analysis of NFR literature (2018–2023) with content analysis of NFR from Italian banks. Automated content analysis using Leximancer software identifies key themes, including risk management, sustainability, and corporate governance. This multi-method strategy allows for a comprehensive examination of trends and regulatory impacts on NFR practices.

Findings

The findings indicate significant progress in NFR, driven by evolving regulatory requirements and growing stakeholder expectations. The integration of Environmental, Social, and Governance (ESG) criteria has expanded, enhancing transparency in sustainability practices. Governance structures are increasingly central to managing non-financial risks, and external audits play a crucial role in reinforcing the credibility of NFR reports. The study also highlights the persistent challenge of standardizing reporting frameworks to ensure comparability across institutions.

Originality

This research provides a focused analysis of NFR developments within the Italian banking sector, offering insights into their implications for corporate governance and sustainability reporting. By identifying key trends and challenges, the study underscores the pivotal role of NFR in advancing sustainable development in banking. The findings contribute to the ongoing discourse on improving NFR practices and aligning them with global sustainability objectives.

Keywords: Non-Financial Reporting, Global Reporting Initiative, Sustainability Accounting Standards Board, European Financial Reporting Advisory Group, Content Analysis, Italian Banking Sector

1. Introduction

Nonfinancial reporting (NFR) is increasingly prevalent across various countries and industries, reflecting a growing interest among companies in addressing environmental, social, and governance (ESG) aspects as part of their transparency and stakeholder engagement approaches (Dumay *et al.*, 2019; Galletta *et al.*, 2022; Manes-Rossi *et al.*, 2020; de Villiers and Alexander, 2014). The prominence of NFR has increased in response to the growing societal and regulatory demands for enhanced transparency and accountability in corporate environmental and social performance (Crous *et al.*, 2021). Legislative mandates for non-financial disclosures exist globally, including Australia (Corporations Act 2001 and the National Greenhouse and Energy Reporting Act 2007), China (Security Regulatory Commission for listed companies and the Shanghai and Shenzhen Stock Exchanges markets), South Africa (King Code of Governance Principles for South Africa), North America (Securities and Exchange Commission requires in Canada in US companies), Europe

(European Directive 95/2014/EU), and several Latin American countries (Colombia, Argentina, Chile, and Brazil) associated with the adoption of the Sustainable Development Goals (SDGs). Recent efforts by several institutions, such as the International Integrated Reporting Council (IIRC), Value Reporting Foundation (VRF), Sustainability Accounting Standards Board (SASB), and the European Financial Reporting Advisory Group (EFRAG), have sought to standardise NFR practices. Furthermore, the new European Directive on Taxonomy seeks to identify accounting standards that can be adopted to objectively measure sustainability efforts. In Italy, legislative decree no. 254 of 30 December 2016 mandates that public-interest entities publish non-financial statements. The obligation to publish a declaration (individual or consolidated) of a non-financial nature, known as the 'Dnf', applies to relevant public interest entities (Eipr). This includes Italian companies issuing securities listed on an Italian or European regulated market, banks, insurance companies, and reinsurance companies that, on average during the financial year, employ over 500 employees and meet at least one of the following criteria: a total balance sheet of 20,000,000 euros or total net revenue from sales and services of 40,000,000 euros. The National Commission for Society and the Stock Exchange (CONSOB) oversees compliance with these requirements. Implementing the NFR in the Italian banking sector has shown notable progress, driven by regulatory requirements and the need for enhanced transparency in sustainability practices. Recent studies indicate that Italian banks have increasingly integrated NFR into their reporting frameworks, emphasising ESG factors to meet stakeholder demands and regulatory compliance (Schröder, 2022). The quality of these reports is influenced by various determinants, including bank size, governance structure, and complexity of their operations (Khan *et al.*, 2021). Moreover, CONSOB's supervision ensures that non-financial disclosures align with established standards, thereby enhancing the reliability and comparability of the information provided (Biondi and Bracci, 2018). This regulatory oversight is crucial, as it helps mitigate risks related to greenwashing and ensures that banks' sustainability efforts are both credible and substantive (Mies, 2024). The significance of NFR lies in its potential to influence long-term financial results and support a comprehensive risk analysis (Flower, 2015; Secinaro *et al.*, 2020). Evidence suggests that robust NFR practices can mitigate systemic risk and foster sustainability practices within companies (Cuomo *et al.*, 2022). The increasing regulatory and societal demand for transparency in the banking sector has pushed institutions to improve their non-financial disclosures, particularly in areas such as risk management (Adelopo, 2017). Such disclosures can help stakeholders identify early signs of financial distress, which was a crucial factor in past financial crises. Furthermore, the current literature highlights the **critical themes** and frameworks necessary for effective NFR, emphasising the integration of financial and non-financial information to reflect a company's true value over time (Diouf *et al.*, 2017; Rosati *et al.*, 2019; De Villiers *et al.*, 2020; Vitolla *et al.*, 2019). Despite growing research interest in NFR, there is a need to explore its application and evolution within specific sectors and national contexts. This study aims to fill this gap by investigating the advancements and dynamics of the NFR within the Italian banking sector over the past five years. By analysing non-financial reports from Italian banks, this study shows the sector's shift towards more comprehensive and transparent reporting driven by evolving regulatory standards and stakeholder demands. This study investigates the impact of these changes on sustainability risk management and corporate governance, providing insights for academics and practitioners interested in integrating financial and non-financial aspects into their business reporting activities. Additionally, this study addresses the critical issues raised by previous studies and proposes further investigation into financial and non-financial information, intellectual capital value, and the prevention of greenwashing through external audits (Turzo *et al.*, 2022; Brescia & Campra, 2023). In doing so, it contributes to the understanding of the role of NFR in promoting sustainable development and accountability in the banking sector, offering valuable insights for future research and practice. Therefore, the analysis aimed to answer the following two main research questions:

RQ1: What is the analysis and time evolution of NFR in the Italian banking system?

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3 RQ2: Which NFR themes and approaches have been adopted in the Italian banking sector, and
4 which issues need to be explored in more detail?
5

6 The study will proceed as follows. In the next section we analyse the literature related to NFR. Section
7 3 provides an overview of the methodological approach utilised in the research, detailing the steps
8 undertaken to collect and analyse the data. The results section integrates the literature on NFR
9 approaches in the banking sector and, more specifically, on the evolution of these reporting practices
10 in the Italian context. The final section highlights critical areas for future research and offers insights
11 for both academics and practitioners.
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14 15 2. Literature Review

16
17 This section analyses the significant themes and criteria that, according to the literature,
18 impact NFR practices. Turzo et al. (2022) highlighted eight clusters of implications in NFR.

19 The literature review was developed not to investigate the causal impact of single variables
20 on NFR outcomes but rather to map the academic landscape and highlight the main theoretical and
21 conceptual streams that guide non-financial reporting practices. The main objective was to identify
22 the dominant frameworks and constructs that help to explain the evolution, structure, and
23 implementation of NFR, particularly within the banking sector.
24

25 The theoretical foundations underpinning NFR practices are essential to understand the
26 rationale behind the adoption and evolution of reporting standards in the banking sector. Legitimacy
27 theory posits that organisations disclose non-financial information as a means to align with societal
28 expectations and maintain their social licence to operate (Hahn and Lülfs, 2014). In the context of
29 banks, which are under continuous scrutiny by regulators and the public, this disclosure serves to
30 enhance trust and reduce reputational risk. The institutional theory further supports this view by
31 explaining how regulatory pressures, norms, and mimetic behaviours shape the adoption of
32 sustainability-oriented practices, such as those codified in NFR frameworks (Luo et al., 2017).
33 Stakeholder Theory also plays a vital role by framing NFR as a tool to meet the information needs of
34 diverse stakeholders, including investors, regulators, employees, and civil society (Nicolò et al.,
35 2023; Zyznarska-Dworczak, 2018). These theories directly relate to the objective of this study, which
36 aims to assess how NFR practices in the Italian banking sector have evolved in response to regulatory,
37 institutional, and stakeholder pressures.
38

39 In this context, the research questions (RQ1 and RQ2) aim to investigate how these theoretical
40 perspectives manifest in empirical practice, specifically within the Italian banking system. The focus
41 is not on testing the effect of single variables but rather on tracing the evolution of reporting content,
42 stakeholder engagement mechanisms, and governance frameworks through a longitudinal lens. This
43 approach provides a richer, more context-sensitive understanding of how NFR has developed in
44 response to institutional, stakeholder, and regulatory dynamics.
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47
48 In this context, the research questions, particularly RQ2, which explores themes and
49 approaches in NFR, are analysed through the lens of these theoretical perspectives, which researchers
50 adopt to interpret and explain the observed practices. The aim is not to claim that these theories guide
51 NFR practices but to use them as conceptual tools for understanding how banks' reporting evolves in
52 response to regulatory, institutional, and stakeholder dynamics.
53

54 NFR supports governance by fostering greater gender diversity on boards, creating internal
55 committees to maintain the quality and truthfulness of the information represented, and driving the
56 institutional adoption of the Sustainable Development Goals (SDGs) (Nicolò et al., 2023; Shahab et
57 al., 2020; Uyar et al., 2020). This framework enhances corporate governance by promoting
58 inclusivity, verifying data quality, and aligning with global sustainability objectives (Hahn and Lülfs,
59 2014; Mahoney et al., 2013; Manes-Rossi and Nicolò, 2022; Michelon et al., 2019). NFR affects
60

insurance activities by creating various benefits, including insurance of real corporate value and reduced risk and costs, owing to a greater representation of reality (Boiral *et al.*, 2019; Boiral and Heras-Saizarbitoria, 2020). Studies show that forward-looking risk disclosures, as part of NFR, positively impact firm performance by offering clearer insights into future risks (Adelopo, 2017; Crous *et al.*, 2021; Mies, 2024). This is particularly relevant in the banking sector, where effective risk management is essential for maintaining stability and trust. Furthermore, adopting NFR practices significantly reduces managers' reporting efforts by simplifying the entire process and eliminating redundancy in collecting and using financial and non-financial data (Luo *et al.*, 2017; Marano *et al.*, 2017). The growing body of literature on sustainable banking reflects the increasing recognition of the role banks play in advancing sustainability goals, particularly in terms of governance and product offerings (Aracil *et al.*, 2021). The report should highlight the bank's efforts to address environmental challenges as required by the Global Reporting Initiative (GRI) standards, including data on greenhouse gas emissions, energy consumption, and the use of resources. Thus, banks can enhance their positive image within the community and gain legitimacy for sustainability initiatives (Braam *et al.*, 2016; Radu *et al.*, 2020). Brescia and Campra (2023) confirmed the themes and variables identified and integrated by Turzo *et al.* (2022). NFR should contain significant variables, such as sustainability approaches to investment practices (Adams and Mueller, 2022), external audits to ensure the authenticity of the reported information (Zaman *et al.*, 2021), and the truthfulness of the elements reported following GRI criteria, with special attention placed on the impact of green investments (Birindelli and Palea, 2023; Brescia, Esposito, *et al.*, 2023).

In light of this, the present study aims to fill a double gap: (i) conceptually, by mapping the evolution of key NFR themes and frameworks in the academic literature, and (ii) empirically, by examining how these elements have been integrated into the actual reporting practices of Italian banks over the last five years. This dual aim directly supports the study's research questions and contributes to a more nuanced understanding of NFR's development within a highly regulated sector.

3. Method

This study adopts a multi-method research design structured into two main parts to ensure a comprehensive analysis of NFR within the Italian banking sector. This study adopts a single research design characterised by a multi-method approach structured into two main parts to ensure a comprehensive analysis of NFR within the Italian banking sector.

First, a bibliometric analysis was conducted to identify, map, and categorise academic contributions related to NFR from 2018 to 2023, with a specific focus on the banking sector. This step helped frame the theoretical landscape and identify gaps in the literature. Second, a content analysis was performed on the actual NFR documents of 30 Italian banks over a three-year period (2020 - 2022), to empirically validate and extend the insights gathered from the literature. The integration of these two phases allows for a longitudinal, sector-specific understanding of how NFR practices are evolving both theoretically and practically. The bibliometric phase utilises VosViewer for mapping key themes, while the content analysis employs Leximancer software to extract and visualise core concepts from real-world disclosures.

3.1 Bibliometric analysis method

The analysis was based on the evidence provided by Brescia and Campra (2023) and Turzo *et al.* (2022) using the same keywords dedicated to Non-Financial Disclosure to identify related studies, which the authors for the banking sector then customised. This customisation differentiates our study from previous works and allows for a more targeted examination of NFR practices within a critical sector, such as the banking system. The selection of keywords was developed based on the main

themes that emerged from the literature and aligned with the study's aim to explore NFR in the banking sector. While we started with a foundation from Brescia and Campra, 2023 and Turzo *et al.*, 2022 we extended and refined the keywords to ensure broader coverage and alignment with sector-specific terminology. These included references to ESG, SDGs, GHG, and other sustainability-related disclosure frameworks. The final list was shaped by iterative testing and validation to capture a wide range of relevant academic articles. We selected the Scopus database as our source because of its extensive peer-reviewed coverage and its compatibility with bibliometric software tools. Focusing specifically on the banking sector, this study provides insights into how banks align with NFR requirements to integrate Environmental, Social, and Governance (ESG) factors into their evaluation and reporting frameworks. This sector-specific approach highlights the unique regulatory impacts, stakeholder demands, and governance structures that influence the NFR. We used the following keyword research strings:

'Global Reporting Initiative' OR 'GRI' OR 'social report' OR 'environment* report*' OR 'sustainab* report*' OR 'CSR report*' OR 'responsib* report*' OR 'non-financ* report*' OR 'TBL report*' OR 'triple* report*' OR 'integr* report*' OR 'corporate citizenship report*' OR 'ESG report*' OR 'SDG* report*' OR 'sustainable development goal* report*' OR 'GHG report*' OR 'greenhouse gas report*' OR 'carbon report*' AND 'Bank*'.*

The period under analysis spans from 2018 to 2023. Italian law on NFR became mandatory in 2016 with the issuance of Legislative Decree 254/2016 on 31 December 2016, which adopted Directive 2014/95/EU. This marked the beginning of formal NFR obligations for public-interest entities in Italy, including banks. While 2017 saw the first adoptions and studies on NFR in Italy, the full implementation and widespread effects of the law, particularly with regard to integrating the Paris Pact and expanding it to include broader environmental indicators, only started to materialise in 2018 (Rosa *et al.*, 2022). As a result, our study focuses on the period starting in 2018 as it represents the point at which significant legislative integration and tangible changes in reporting practices began to take effect in the Italian banking sector. By focusing on this period, we can capture the most relevant developments and effects in response to these regulatory shifts.

This study adopted a scientific workflow to develop the method using the following five steps (Zupic and Čater, 2015):

- (i) study design
- (ii) data collection
- (iii) data analysis
- (iv) data evaluation
- (v) interpretation

The main themes were identified thanks to the representation of the co-occurrence representation of the themes through VosViewer (Secinaro *et al.*, 2022; Van Eck and Waltman, 2020).

Following Zupic and Čater (2015), we applied a structured bibliometric workflow involving study design, data collection, analysis, and interpretation. The bibliometric visualisations were developed using VosViewer, which enables the construction and visualisation of bibliometric maps based on co-occurrence of keywords, providing insights into thematic clustering and trend development over time (Van Eck and Waltman, 2020).

3.2 Content analysis and case studies

The content analyses NFR created and published by 30 banks in Italy in the three years from 2020 to 2022 (with the last publication in 2023) under the supervision of CONSOB. The banks included in the analysis were selected based on the following criteria: (i) classification as public

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3 interest entities under Legislative Decree 254/2016, which mandates the publication of non-financial
4 reports (in Italy DNF); (ii) availability of three consecutive years of reports (2020 - 2022); and (iii)
5 supervision by CONSOB (the Italian financial markets authority). These criteria ensure the inclusion
6 of a homogeneous group of financial institutions compliant with national and EU non-financial
7 disclosure obligations. The final sample comprises 30 banks that met all these conditions.
8

9 The reference context was homogeneous to avoid generating differentiation linked to different
10 countries (Yu, 2020). As detailed by Massaro et al. (2018), content analysis utilised Leximancer
11 software. As described by Brescia et al. (2023), Leximancer conducts automated content analysis by
12 recognising key concepts and references linked to a central theme within the text. This approach
13 ensures the identification of inferences within a text using a valid and replicable methodology
14 (Krippendorff, 2018). Leximancer further facilitates visual content representation and positioning of
15 concepts on a map according to their relative significance. To ensure replicability, the content analysis
16 was conducted independently by three researchers using a systematic process. The reports were pre-
17 processed to ensure format uniformity, after which Leximancer was used to extract key themes and
18 concepts. Each researcher independently reviewed the automated outputs, and results were cross-
19 validated through a triangulation process to resolve discrepancies. This collaborative approach
20 reduced subjectivity and ensured the consistency and reliability of the findings. All steps, including
21 software configuration and inclusion parameters, were documented to support future replication of
22 the study. The connections between concept circles on the map signify the most frequent co-
23 occurrences, with potential additional connections (Hristov *et al.*, 2021).
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27

28 4. Results

29
30 The analysis adopts a multi-methodological approach, the first to integrate the existing
31 literature on NFR in the banking sector through a bibliometric analysis of the sources of the last five
32 years and the second through a content analysis over three years, allowing a multi-year perspective
33 (Lewis, 2007) in the Italian context.
34

35 4.1 Bibliometric analysis of literature

36
37 In the initial analysis, 531 results were selected. The sample size was reduced to 360 from
38 2018 to 2023 (Table 1). Only 287 articles were selected, 277 of which were in English. Eliminating
39 duplicates reduced the sample size to 274 documents, with an annual growth of 30.17%. The average
40 document age was three years, and each document received an average of 13.29 citations. Regarding
41 content, 356 keywords (keywords plus) were identified as the most frequent within the articles under
42 analysis. The analysis included the contributions of 739 authors. Collaboration played a significant
43 role, with an average of 3.03 co-authors per document, and 30.66% of the studies involved
44 international co-authorships. All documents considered for analysis were articles.
45
46

47 [TABLE 1]

48
49 Interest in this topic has increased in recent years (Figure 1). This increase in academic
50 production highlights the growing relevance of NFR in the banking sector, especially after the
51 introduction of Legislative Decree No. 254 of 30 December 2016 in Italy, which made it mandatory
52 for relevant public-interest entities, including banks, to publish individual or consolidated non-
53 financial declarations. This legal obligation, monitored by CONSOB, along with voluntary adoption
54 by other institutions, has contributed to a significant rise in research and institutional interest. Figure
55 1 illustrates this trend, visually confirming the sharp increase in scientific production as a proxy for
56 the broader institutional and academic engagement with sustainability and ESG disclosure practices
57 in the financial sector. The slight decrease in the period between 2020 and 2021 likely reflects the
58 broader impact of the COVID-19 pandemic on academic productivity and institutional focus, as
59 researchers and institutions initially shifted attention to crisis management and operational adaptation.
60 However, the strong growth observed in 2022 and 2023 suggests a renewed and intensified interest

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3 in sustainability reporting, driven by regulatory evolution, including the European Green Deal, the
4 new Corporate Sustainability Reporting Directive (CSRD), and the implementation timeline of the
5 updated 2021 GRI Standards. This rebound underlines the resilience of academic engagement with
6 NFR and its increasing alignment with SDGs.
7

8 [INSERT FIGURE 1]

9 [INSERT FIGURE 2]

10
11
12 Co-occurrence analysis identified six main groups of keywords (Figure 2).

13 The first group (highlighted in red) refers to the THEORIES associated with nonfinancial
14 information for the banking sector. The main ones adopted by the current literature to explain the
15 adoption of NFR documents are classic ones, including legitimacy theory (Maama, 2021; Sarea and
16 Salami, 2021), institutional theory (Hermann, 2019; Korca *et al.*, 2021) accompanied by gender
17 diversity and themes specific to Corporate Social Responsibility (García-Meca *et al.*, 2018; Hassan
18 *et al.*, 2023; Orazalin, 2019). The greater the gender diversity within the boards, the greater the
19 independence of the information reported in non-financial reports and, therefore, the truthfulness of
20 the data (Beretta *et al.*, 2023). These studies often use GRI standards and content analysis to assess
21 adoption (Ali *et al.*, 2019; Costa *et al.*, 2019; Rosati *et al.*, 2018). Based on the GRI, studies underline
22 the need to standardise these standards and approaches to define materiality, which leads to the
23 identification of comparable elements between banks and valuable benchmarks. Studies have also
24 demonstrated that the adoption of GRI standards is associated with internal approaches to manage,
25 process, and communicate information. This depends on employees' perceptions; for example,
26 graduates have a greater need for in-depth information and are more satisfied with sharing results
27 than non-graduate readers. The main countries these studies focused on were Asian countries,
28 including China and Bangladesh (Dey, 2020; Ding *et al.*, 2022; Dong *et al.*, 2023; Islam *et al.*, 2021).
29 The adoption of NFR in China increases the propensity to pay taxes, although higher tax brackets
30 applied to banks lead to increased costs of associated services. In China, legislation pushes companies
31 to create reports that consider sustainable investments; however, if shareholders are in government,
32 the quality of reporting is negatively affected (Beretta *et al.*, 2023). Banks in Bangladesh, with larger
33 board sizes and higher proportions of female and independent directors, mostly adopt GRI standards.
34

35 The second macro-area (highlighted in yellow) focuses on DISCLOSURE PRACTICES IN
36 THE BANKING SECTOR. This group highlights how banks produce sustainability and integrated
37 reports to improve transparency and enhance risk management (Quick and Inwinkl, 2020; Yurtsever
38 and Firat, 2021). The content relates to how ESG factors are disclosed and their implications on
39 operational decisions. Unlike pure investment analysis, this group reflects internal processes (e.g.,
40 energy efficiency, climate change strategies, and social initiatives) and their subsequent disclosure
41 through structured reports. These disclosures contribute to shaping a public image of responsibility,
42 influencing customer relationships and compliance (Di Nallo *et al.*, 2023; Hassan *et al.*, 2023).
43

44 The third group (blue) focuses on SUSTAINABLE DEVELOPMENT AND ESG
45 REPORTING. While it appears partially overlapping with the fourth group, its distinguishing feature
46 lies in the integration of ESG factors into broad sustainability strategies and performance disclosures
47 (Moneva *et al.*, 2023). Central themes include ESG compliance, sustainable finance, climate risks,
48 and transparent banking operations. The group connects broader SDG commitments with specific
49 ESG metrics, revealing an emerging alignment between global goals and the internal policies of
50 banks.
51

52 The fourth group (purple) centres on GOVERNANCE APPROACHES TO
53 SUSTAINABILITY. Unlike the third group, which emphasises ESG content, this cluster highlights
54 the mechanisms through which governance bodies operationalise sustainability (Aguado-Correa *et al.*,
55 2023; Ramos *et al.*, 2022). This includes sustainability committees, stakeholder engagement
56 procedures (e.g., materiality assessments), board-level sustainability oversight, and reward systems
57 linked to sustainability KPIs. This group confirms how the governance infrastructure directly shapes
58 sustainability performance and disclosure credibility (Ding *et al.*, 2022; Formisano *et al.*, 2018).
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3 The fifth group (green) refers to the connection between corporate social responsibility and
4 FINANCIAL PERFORMANCE (Chang *et al.*, 2023; Crous *et al.*, 2021; Gutiérrez-Ponce and
5 Wibowo, 2023; Sapiri and Putra, 2023; Zahid *et al.*, 2020). Key Performance Indicators (KPIs) based
6 on financial and non-financial themes and machine learning can support governance and stakeholders
7 in their choices. The green Financing portfolio affects the Return on Assets (ROA), Return on Equity
8 (ROE), Net Interest Margin (NIM), and Operating Expenses to Operating Income (BOPO), as well
9 as the CO₂ emissions of companies that purchase green bonds, thus reducing emissions. Furthermore,
10 Legal, Philanthropic, and Ethical dimensions positively affect financial performance. Within this
11 group, it is possible to identify themes such as profitability (Bidari and Djajadikerta, 2020; Hermawan
12 and Gunardi, 2019; Munjal and Sharma, 2019; Supriyadi *et al.*, 2019) and focus on commercial banks
13 (Akhter *et al.*, 2023; Halid *et al.*, 2021; Kolsi *et al.*, 2023) and Islamic banks (Mahmuda and
14 Muktadir-Al-Mukit, 2023; Probohudono *et al.*, 2022), by examining the effects related to the
15 variables linked to corporate social responsibility. Commercial banks play a catalytic role in the
16 adoption of reports linked to environmental sustainability by the companies they finance and interact
17 with. At the same time, Islamic banks are oriented towards ethical investments with a greater financial
18 return, in which the risk is shared as long as NFR provides sufficient information between the parties.

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20
21 The last group (highlighted in light blue) focuses on issues related to the adoption of
22 REGULATIONS IN the EUROPEAN UNION and the associated performance criteria and ESG
23 indicators (Gazzola *et al.*, 2020; Gutiérrez-López and Abad-González, 2020; Komarnicka and
24 Komarnicki, 2022; Santos and Rodrigues, 2021; Schröder, 2022b). Adopting standards based on ESG
25 factors remains inconsistent and requires adaptation and harmonisation with sector specificity, which
26 the European Community still needs to develop (Kumari and Naresh, 2023).

27
28 To complement previous analyses, a trend topics analysis was performed using the
29 Bibliometrix R package, which allows the visualisation of the average year of occurrence for each
30 keyword and its frequency. While the previous figure (Figure 2) identifies clusters of thematically
31 connected terms, Figure 3 provides a diachronic perspective that reveals when certain themes became
32 more prevalent within the literature. The keywords plotted in the trend topics chart are not arbitrarily
33 selected but derived directly from the author keywords and keywords plus metadata fields of the
34 articles retrieved from the Scopus database. Their placement along the timeline corresponds to the
35 average publication year of the documents in which they appear. This methodological integration
36 allows for a better understanding of the evolution of academic interest on specific topics over the
37 years and directly supports the identification of emerging and declining areas of research. By
38 analysing the trend topics (Figure 3), it is possible to identify significant elements that allow us to
39 grasp the direction of international debate. From 2018 to 2021, the relationship between NFR and
40 stakeholders will be prioritized among these themes. According to scholars, bank stakeholders play
41 a central role in the information provided through NFR (Herold *et al.*, 2020). The Global Reporting
42 Initiative supports an approach based on the stakeholder theory of involving various subjects in
43 defining the material topics to be represented in a document (Macini *et al.*, 2022). However, this
44 approach is merely linked to standards and requires continuity to date. Between 2020 and 2022, it
45 will be possible to conduct systematic analyses of the meaning of corporate social responsibility in
46 banks associated with the environmental aspects of sustainability and climate change, identifying the
47 critical issues that have emerged in representing these themes (Breeze and Vallejo, 2020; Maama and
48 Gani, 2022; Santos and Rodrigues, 2021; Yang *et al.*, 2021). The research trends that have begun in
49 recent years and are still engaging in the academic community refer to sustainability, which is mainly
50 linked to investments and financing. These include banks' difficulty reporting and measuring ESG
51 aspects associated with sustainable finance and changes in the approach that should lead to green
52 investments to stimulate pollution reduction (Dong *et al.*, 2021). These include banks' difficulty
53 reporting and measuring ESG aspects associated with sustainable finance (Komarnicka and
54 Komarnicki, 2022). The analysis of investments also concerns how banks report the different types
55 of activities linked to investments in specific sectors (e.g. alcohol, tobacco, weapons) and the social
56 sustainability approaches promoted (Bonifácio Neto and Branco, 2019). Simultaneously, the latest
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3 analyses explore the impact of new reporting standards associated with investments in NFR
4 (environmental and social) performance (Kolsi *et al.*, 2023). An emerging topic in the literature
5 concerns the relationship between governance activities and performance capabilities, including
6 financial and non-financial results (es. SDGs) and analysis of the activities carried out (Chagas *et al.*,
7 2022; Gutiérrez-Ponce and Wibowo, 2023).
8
9

10 [INSERT FIGURE 3]

11 Table 2 highlights the themes and approaches adopted in the literature, confirming and
12 integrating the elements of NFR within the banking sector. The left-hand column highlights core
13 themes identified in prior studies (e.g., (Brescia and Campra, 2023; Turzo *et al.*, 2022)) while the
14 right-hand column indicates whether these themes also emerged from the bibliometric analysis
15 carried out in this study. The aim is to visually map the alignment (or gaps) between existing academic
16 research and the current state of scholarly production on NFR, providing a reference framework to
17 understand which areas are well-established and which deserve further empirical or theoretical
18 attention. For instance, strong alignment is observed in themes such as the adoption of the IIRC's six-
19 capital framework, the role of KPIs and machine learning, and gender board diversity. In contrast,
20 other relevant themes, such as the valuation of intellectual capital, the implementation of internal
21 committees, and the impact of external audits, are underrepresented in the recent academic output.
22 This comparison provides a useful guide for researchers and practitioners, highlighting both validated
23 trends and avenues for future research, particularly in areas where practice is evolving faster than
24 scholarly exploration.
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30 [TABLE 2]

31 32 33 4.2 Results of content analysis: Italian banking context

34 The analysis of 30 banking groups that have published NFR in Italy over the past three years
35 aims to identify key themes and variables and any variation in these elements over time, which
36 influence the content and overall value of the reports.
37

38 In 2020, content analysis identified four themes (Table 3). Each theme was associated with a
39 co-occurrence that defined the relationship between among themes and described the main variables
40 developed during the year (Figure 4).
41
42

43 [TABLE 3]

44 [INSERT FIGURE 4]

45 Risk is associated with work, sustainability, control, matter, society, system, process,
46 evaluation, level, safety, model, and risk management. Risk is typically managed through internal
47 audits, regulatory compliance, anti-money laundering, risk management, and internal supervisory
48 models. Procedures link these models and systems and define delegation of responsibility,
49 information systems, staff incentives, and remuneration systems. The report describes the function of
50 the risk management system, evaluates the Risk Appetite Framework (RAF), and supports
51 management in defining business models, strategic plans, risk appetite, tolerance thresholds, risk
52 limits, risk governance policies, and the reference processes necessary to define and implement them.
53

54 The service theme is related to customers, development, products, social initiatives, and the
55 environment. Banks describe their sustainability initiatives, including efforts to promote electric
56 mobility, reduce plastic use in business operations, and support environmentally sustainable projects,
57 such as financing the installation of photovoltaic panels. In several cases, reference is made to
58 activities implemented and services offered, analysing the social, environmental, and economic
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3 impacts without quantifying the impact itself but rather concentrating on the quantity of services
4 provided.

5 These activities are associated with financial assets, values, credit, economics, and accounts.
6 This Report describes the impact of COVID-19 on the adjustment of the value of loans based on the
7 perspectives defined by the European Central Bank. The Report considers and focuses significantly
8 on the distribution of dividends among shareholders based on the adopted balance sheet criteria and
9 highlights the main adjustments linked to sales and amortisation. Other stakeholders were excluded.

10 The GRIs do not correlate with the other terms. This highlights how banks adopt the core
11 option, which describes the minimum elements selected by the organisation without specifically
12 describing the connection and derivation with the materiality matrix. The adopted GRI standards were
13 based on the 2016 version.

14 Five main topics can be identified in banks' 2021 NFR practices (Table 4 and Figure 5).

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19 [TABLE 4]

20 [INSERT FIGURE 5]

21
22 The risk theme is associated with management, sustainability, services, matter, development,
23 control, work, products, safety, systems, employees, initiatives, objectives, training, principles,
24 businesses, and information. Compared to the previous year, some distinctive and characteristic
25 elements of an evolutionary path have been added. Risk management models introduce some social
26 aspects, including personnel management; gender equality; dialogue with social stakeholders;
27 internal communication oriented towards a balance between private, family, and work life; employee
28 support activities; and dedicated welfare plans. In many cases, diversity and inclusion have been
29 introduced into policies that impact the moral code. Training programmes are also implemented to
30 improve workplace safety and the well-being of external collaborators and management, focusing on
31 promoting employee diversity. These efforts are aligned with the SDGs associated with these areas.

32 These activities are associated with assets, finances, customers, value, credit, and economics
33 and have been developed as in the previous year.

34 Company themes were developed independently. In NFR, the support for social and
35 environmental change banks provide to companies is introduced and enhanced. The two most-valued
36 themes concern support in changing corporate governance for greater female representation and
37 support in systems that quantify the environmental footprint.

38 As in the previous year, GRIs are described with the adoption of core and greater attention to
39 the topics reported, including the dematerialisation of processes probably driven by the impact of the
40 pandemic. The theme linked to the council (Board of Directors) describes the greater awareness and
41 involvement of decision-makers in evaluating the material issues identified and describing the
42 processes of dialogue and transparency towards their stakeholders (Beretta *et al.*, 2023).

43 For 2023, it was possible to identify four main themes in a report published in 2022 (Table 5
44 and Figure 6).

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49 [TABLE 5]

50 [INSERT FIGURE 6]

51
52 The topic related to Management is linked to risks, sustainability, services, materials, work,
53 products, control, initiatives, safety, training, employees, and social and environmental factors. For
54 the first time, bank management activities were conditioned by ESG criteria, which enter ethical
55 codes, providing attention to the preservation of the natural environment, the fight against climate
56 change, the promotion of health and work-life balance, the well-being of the entire community, and
57 the protection of the system of social relationships. When managing customer relations, more
58 attention is paid to the orientation of investments based on sustainability measurements. Furthermore,
59 the issue of materiality is managed by evaluating both current and potential positive and negative
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3 impacts, highlighting the process change in the evaluation of the context and relationships with all
4 stakeholders in the dialogue. This result is evidence of the 2021 GRIs introduced in 2023, the year of
5 publication of the 2022 information. In the dialogue and analysis of the potential impacts, greater
6 attention was paid to salary issues, potential internal conflicts, and potential risks at work. The
7 potential social and environmental impacts considered also invoke issues such as the conservation of
8 underlying ecosystems of the entire economic and social settings in which the bank operates (e.g. in
9 terms of quality of the atmosphere, soil, and bodies of water and in terms of availability of material
10 resources, energy, and water, and health and well-being of local communities).

11
12 The theme of the activities is associated with customers, courses, financial value, projects, and
13 companies. The attention and valorisation of intangible elements emerged for the first time. The
14 remuneration activities of even small investors are valued based on experimental ESG criteria and
15 metrics. Through pilot projects, customers become more involved in evaluating results and
16 reorganising information processes, including the consideration of these aspects.

17
18 The adoption of measuring sustainable investments through European taxonomy emerged in
19 the redefinition of business models. NFR has become a tool for disclosing compliance by
20 reclassifying financial statement elements based on sustainable investments.

21
22 The Council (Board of Directors) is not only responsible for the processes of collection,
23 aggregation, validation, and sending of data and information but also plays a new role in due diligence
24 processes aimed at mitigating the risks generated by banks to customers (Beretta *et al.*, 2023).
25 According to reporting practices, for the first time, the Board of Directors is involved in analysing
26 processes that consider the value chain and mitigation activities relating to suppliers and creating
27 internal sustainability committees to monitor activities that might lead to environmental and social
28 impacts.

29
30 The Board is also required to designate the audit body, or another external entity authorised
31 to certify the mandatory information presented in the disclosure, which includes the new ESG-
32 oriented processes and, where adopted, the new GRIs.

33
34 These findings show an incremental and structured progression in the adoption and
35 internalisation of NFR principles within the Italian banking sector over the three-year period.
36 Specifically, they confirm that ESG-related criteria have become increasingly embedded in both
37 management practices and governance structures. The growing inclusion of materiality assessments,
38 due diligence, and sustainability-oriented metrics indicates a shift from formal compliance towards
39 strategic integration, supporting the conclusions drawn in this study regarding the centrality of
40 governance, stakeholder engagement, and standardisation challenges in NFR practices.

41 42 43 **5. DISCUSSION**

44
45 NFR has evolved, which can be noticed both in the literature and its implementation in Italian
46 banking. A bibliometric analysis of the literature confirms the relevance of certain **key themes** (Table
47 6). In the banking sector, NFR focuses primarily on adopting the SDGs. However, further analysis is
48 required to explore how institutional theory shapes the adoption of these goals. Some studies have
49 examined the development of reports using the IIRC six-capital framework. There is a need to further
50 investigate the relationship between the different types of capital represented and the quality of these
51 reports in the banking sector (Khan *et al.*, 2021). Additionally, the role of intellectual capital and the
52 integration of financial and non-financial values requires a more in-depth examination in this context.
53 Both the general literature and research specific to the banking sector emphasise the importance of
54 decision-making processes that support management in making proactive choices. This is achieved
55 by utilising Key Performance Indicators (KPIs) and machine learning technologies to guide future
56 decisions. Moreover, this study aimed to offer guidance for assessing the decisions undertaken during
57 the implementation of NFR, considering the factors and changes linked to its adoption. However, the
58 literature lacks an analysis of risk-management models and the reduction in insurance costs related
59 to these activities.
60

Gender within the NFR is addressed in the composition of bank boards and the effect this aspect has on the content and quality of representation of the group (Beretta *et al.*, 2023). This topic is associated with a new trend in studies that consider the gender aspect of the legal, philanthropic, ethical, and financial issues addressed by the banking sector. The banking sector also supports studies on standards for reporting green investments in line with the European taxonomy. The analysis of the banking sector literature expands upon topics covered in general NFR in Italy (Turzo *et al.*, 2022; Brescia & Campra, 2023), focusing on materiality frameworks, comparability standards, and common benchmarks. This sector-specific focus highlights how banking literature has made more progress in addressing some structural issues compared to the general NFR literature. However, more attention should be paid to these topics in the NFR literature. In the banking sector, academic research has not sufficiently addressed relevant issues such as the creation of financial and non-financial value, valuation of intellectual capital, application of legitimacy theory to the topic, the role of internal committees in ensuring the quality of reported information, and adoption of mandatory regulations to reduce greenwashing (Beretta *et al.* 2023, Khan *et al.* 2021). Furthermore, based on the conducted analysis, among the emerging themes or those that find continuity in the literature are governance approaches, the analysis of financial activities oriented towards sustainable development, investments analysis, and banking sector impacts.

These emerging themes are directly supported by the **multi-year content analysis** of Italian NFR practices, which confirms a progressive alignment with international reporting standards and increasing stakeholder engagement. The bibliometric and content analyses thus converge in identifying governance, ESG orientation, and materiality as key elements shaping the evolution of NFR in the banking sector.

Several recurring **themes** are identified in the **multi-year analysis** of the Italian banking sector, including banks and funds that utilise non-financial reports verified by CONSOB. This analysis highlights the evolution of these reports over time, together with the impact of **these themes** and the changes in reporting approaches within the Italian banking system (Table 6). The first year of the NFR analysis applies some approaches **and variables** that emerged from the literature (NFR 2021). Initially, the content analysis verified the application of indicators and elements associated with the SDGs, which are represented through the IIRC's six capitals and GRI frameworks. The first year of the analysis highlights the value generated for shareholders with little consideration given to the benefits to other stakeholders, although some elements of value creation are represented through the application of the 2016 GRI standards. The second year of NFR implementation emphasised including elements that reflect a partial shift towards social legitimacy by engaging various stakeholders in different categories and supporting decision-making processes by integrating non-financial capital. This study presents the first analysis representing intangible elements such as social aspects that consider personnel management, gender equality, stakeholder dialogue, gender diversification on boards, gas emissions, and energy consumption.

We also highlight the impact of technologies due to the COVID-19 pandemic and lockdown on the NFR approach, information collection practices, and materiality analysis. The internal communication approach promotes a balance between personal, family, and work lives, along with employee support initiatives and welfare programs. This approach allows for a more effective assessment and representation of employee satisfaction. The third year of NFR for the banking sector reveals an evolution in the system, characterised by adoption of new principles driven by European taxonomy and the updated 2021 GRI standards. For the first time, this approach considers integrated elements that address risk reduction and the management of internal relationships, evaluating both financial and environmental aspects holistically and socially consciously. Social aspects such as gender equality, employee well-being, and external relations have become significant elements for understanding the institutional evolution of organisations. These new approaches also led to the development of due diligence processes in Italy based on ESG results reviewed by the board, with effective stakeholder involvement recognised as a priority in the reporting process. The change in the

materiality approach is evident in the increased attention paid to meaningful stakeholder involvement in production processes through collecting relevant evidence and identifying key priorities.

It is important to note that while our analysis highlights the first formal disclosure of the Board of Directors' involvement in evaluating sustainability practices such as value chain impacts and due diligence, this does not imply that these activities were entirely absent in earlier years. Rather, our findings are based on documented evidence within the published NFR documents, and the observed changes reflect the timing of public disclosure rather than the initial occurrence of such practices.

Organisational change also reflects the adoption of standards to assess the impact of loans and energy consumption and map the direct and indirect effects along the company's value chain. However, specific indicators must be developed for this sector to measure its actual social impact. Investments in green funds have been reported and represented simultaneously under several circumstances.

An analysis of the gap between academic research and the actual implementation of NFR in Italy revealed several areas that require further investigation or practical application. Although the six-capital representation framework has been mentioned, there is a need for a deeper analysis of the relationship between the quality of NFR and the content presented. Furthermore, the role of intellectual capital, a key element in the Italian banks' NFR, has not been adequately explored in the literature. Greater attention should also be paid to internal control and reporting processes designed to prevent greenwashing. NFR documents must demonstrate the impact of external audits on validating the information reported. Although the literature emphasises comparative standards, they are not unified within the banking sector, except for the CAPEX and OPEX indicators defined by the European taxonomy based on sustainable environmental investments. Moreover, despite sustainability-oriented approaches, there are no clear requirements or in-depth analyses of the development of technologies adopted to facilitate NFR practices.

Thus, the convergence between literature findings and empirical evidence presented through the content analysis reinforces the validity of the study's claims, offering a structured and evidence-based view of how NFR practices in banking are evolving in response to regulatory, strategic, and stakeholder-driven imperatives.

[TABLE 6]

6. Conclusion

This study comprehensively investigates NFR, which is driven by regulatory frameworks and stakeholder expectations, and underscores its growing importance in the Italian banking sector. Focusing on core elements, such as sustainability, governance, and regulatory compliance, this study offers valuable insights into how Italian banks integrate NFR into their reporting frameworks.

Theoretical, managerial and societal implications

Theoretically, this study enriches the existing literature on NFR by highlighting research gaps, particularly in areas such as the integration of financial and non-financial data, intellectual capital assessment, and greenwashing prevention through external auditing activities (Brescia and Campra, 2023; Khan *et al.*, 2021; Turzo *et al.*, 2022). These results underscore the need for further exploration of the relationship between NFR quality and the content represented, along with the emerging role of governance and its influence on NFR (Beretta *et al.*, 2023).

In addition, this study makes a significant theoretical contribution by reinforcing the role of stakeholder theory in understanding the evolution of non-financial reporting practices. The increasing disclosure of stakeholder-related themes - such as materiality, due diligence, board-level ESG oversight, and sustainability-linked investments - reflects a shift towards a model of governance that actively incorporates stakeholder expectations and feedback. Our **multi-year** findings suggest that

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3 banks are progressively moving from compliance-oriented reporting to engagement-driven
4 disclosure, a transformation that aligns with legitimacy theory by responding to societal pressures for
5 greater transparency and accountability. The patterns identified through content analysis demonstrate
6 how regulatory developments and normative frameworks, such as the EU Taxonomy and the updated
7 GRI Standards, are institutionalising NFR practices, confirming the influence of institutional theory
8 in shaping organisational behaviour. By grounding empirical evidence in these theoretical
9 frameworks, the study contributes to a deeper understanding of the mechanisms through which banks
10 respond to external pressures, enhance legitimacy, and strategically engage stakeholders through non-
11 financial disclosures.
12

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14 From a practical perspective, this study provides insights into how banks align their reporting
15 practices with European taxonomy and the SDGs. It also emphasises the importance of addressing
16 inconsistencies in ESG factors and the need for banks to adopt standardised indicators across sectors
17 (Khan *et al.*, 2021). Moreover, emerging technologies such as machine learning are crucial in
18 enhancing decision-making processes and improving NFR accuracy (Secinaro *et al.*, 2020). Managers
19 must ensure that internal reporting processes are sufficiently robust to prevent greenwashing and that
20 external audits play a significant role in legitimising NFR data (Schröder, 2022).
21

22 Furthermore, in the Italian context, the findings of this study highlight actionable insights for
23 regulatory authorities, managers, and policy-makers in the banking sector. Italian banks operate under
24 the supervision of CONSOB and within a European framework that increasingly demands transparent
25 and standardised sustainability disclosures. Our analysis suggests that banks should invest in
26 dedicated sustainability governance bodies - such as ESG committees or task forces - better to manage
27 the growing complexity of non-financial disclosure obligations. Moreover, banks should implement
28 sector-specific KPIs that reflect Italian regulatory expectations while aligning with the European
29 taxonomy. Practically, the study encourages institutions to engage more actively with stakeholders
30 through formalised consultations and materiality assessments that go beyond compliance and become
31 a strategic lever for value creation (Gutiérrez-López and Abad-González, 2020). These practical
32 implications are particularly relevant for medium-sized Italian banks, which may lack structured NFR
33 processes and risk lagging behind larger institutions in adapting to evolving sustainability standards.
34 The adoption of these practices can not only enhance reputational capital and stakeholder trust but
35 also serve as a driver for more sustainable investment and risk management strategies across the
36 Italian financial system (Moneva *et al.*, 2023).
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40 *Limitations and future research avenues*

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42 Although this study provides valuable insights into the adoption and evolution of the NFR in
43 the Italian banking sector, it has some limitations. In particular, the analysis considers the Italian
44 banking sector, which may affect the generalisability of the findings to other countries and industries.
45 Future research could expand the scope to include comparative studies across different countries and
46 sectors to capture wider trends in NFR implementation. Moreover, future studies could delve into
47 integrating advanced technologies, such as artificial intelligence, to improve NFR quality and
48 accuracy, an underexplored area. Finally, while this study touches on stakeholder engagement and
49 the role of external audits in legitimising NFR content, future research could investigate the
50 effectiveness of these practices in reducing greenwashing and enhancing transparency.
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Table 1. Main information

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	2018:2023
Sources (Journals, Books, etc)	156
Documents	274
Annual Growth Rate %	30,17
Document Average Age	3
Average citations per doc	13,29
References	1
DOCUMENT CONTENTS	
Keywords Plus (ID)	356
Author's Keywords (DE)	862
AUTHORS	
Authors	739
Authors of single-authored docs	28
AUTHORS COLLABORATION	
Single-authored docs	30
Co-Authors per Doc	3,03
International co-authorships %	30,66
DOCUMENT TYPES	
article	274

Source: Authors' elaboration

Table 2. Integration of literature on NFR based on bibliometric analysis

NFR Variables (Terzo et al., 2022; Brescia & Campra, 2023).	Bibliometric analysis
SDGs	x
Financial and non-financial and value	
IIRC six capital	x
Intellectual capital and value	
IIRC Framework affects high quality of corporate information	
Forecasting	x KPI and new technologies (such as machine learning)
Social legitimacy	
Support Decision-making process	x and reduces risk or grant loans
Gender diversification of the board	x
Internal committees and quality of information	
Institutional push for SDG adoption	
Managerial approach to report non-financial activities	
Adoption of mandatory rules to legitimise activities and reduce risks of greenwashing	
Reduce insurance costs and risks	
Decoupling information and access to unique data	
Environment and GRI adoption	x

Gas emissions, energy consumption, and use of materials	
Presentation of investment	
External audit to guarantee information	
Disclosure and measurement of green investment	x based on taxonomy
	Common standard (es. GRI) for materiality
	Common standard (es. GRI) for comparability
	Common standard (es. GRI) to detect benchmark
	Standard approach of communication and employee satisfaction based on graduates' approach.
	Taxonomy and circular economy
	Green Bond Portfolio
	Legal, Philanthropic, and Ethical dimensions effects on financial results
	ESG harmonization indexes in Europe

Source: Authors' elaboration

Table 3. Main Variables regarding NFR in 2020 published in 2021 in Italian banking context

Theme	Hits
Risk	21624
Services	14224
Activities	12392
GRI	1554

Table 4. Main Variables regarding NFR in 2021 published in 2022 in Italian banking context

Theme	Hits
Risk	28181
Activities	19105
Companies	2736
GRI	1485
Councils	1458

Table 5. Main Variables regarding NFR in 2022 published in 2023 in Italian banking context

Theme	Hits
Management	26893
Activities	24690
Business	2979
Councils	1634

Table 6. Correlation table between literature analysis and practical cases

NFR Variables (Terzo et al., 2022; Brescia & Campra, 2023).	Bibliometric analysis	Italian Bank NFR 2021 on y. 2019 Italian Banks	Italian Bank NFR 2022 on y. 2021 Italian Banks	Italian Bank NFR 2023 on y. 2022 Italian Banks
SDGs	x	X	X	X
Financial and non-financial and value		X Only financial value	X	X

		for shareholders (value of loans and distribution of dividends)		
IIRC six capital	x	X	X	X
Intellectual capital and value				
IIRC Framework affects the quality of corporate information				
Forecasting	X KPI and new technologies (such as machine learning)			
Social legitimacy			X (partial)	X
Support Decision-making process	X and reduces risk or grant loans	X	X (adding view of social aspects such as personnel management, gender equality, and dialogue with stakeholders)	x
Gender diversification of the board	x		X	X
Internal committees and quality of information				X
Institutional push to adopt SDGs				X (management of the bank affected by ESG)
Managerial approach to report non-financial activities				X
Adoption of mandatory rules to legitimise activities and reduce risks of greenwashing				
Reduce insurance costs and risks	X and reduces risk or grant loans			
Decoupling information and access to unique data			X (focus on the impact of digitalization of the system)	X (supporting system for due diligence)
Environment and GRI adoption	x			X

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gas emissions, energy consumption, and use of materials		X (focusing on electric mobility, use of clean energy, elimination of plastic materials)	X	X (based on GRI standards social and environmental aspects as use of energies)
Presentation of investment		X	X	X (based on ESG criteria and metrics)
External audit to guarantee information				X (based on mandatory information and considering SDGs).
Disclosure and measurement of green investment	X based on taxonomy			X (reclassifying financial statement elements based on sustainable investments)
	Common standard (es. GRI) for materiality		X (involving stakeholders in the decision-making process)	X (considering positive and negative impacts involving stakeholders in the dialogue)
	Common standard (es. GRI) for comparability	X GRI 2016	X GRI 2016	X GRI 2021
	Common standard (es. GRI) to detect benchmark			
	Standard approach of communication and employee's satisfaction based on graduates' approach.		X (internal communication oriented towards a balance between private, family and work life, employee support activities, and welfare plans)	X
	Taxonomy and circular economy			
	Green Bond Portfolio			X
	Legal, Philanthropic, and Ethical dimensions affect financial results		X Moral code and introduction of diversity as	X Ethical code (attention to the natural

			value (associated with training on corporate employee diversity) + Corporate governance and gender equity	environment, climate change, health, work, well-being of the entire community, protection of social relationships)
	ESG harmonization indexes in Europe			X (only based on loans and energy intensity index) and due diligence approach and value chain mitigation activities relating to suppliers

Source: Authors' elaboration

EuroMed Journal of Business

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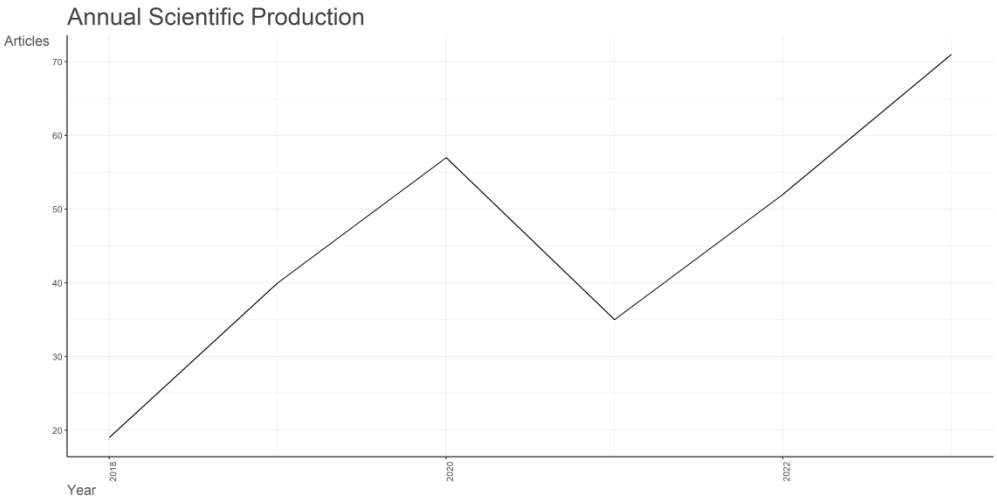


Figure 1. Annual Scientific Production. Own production
904x452mm (118 x 118 DPI)

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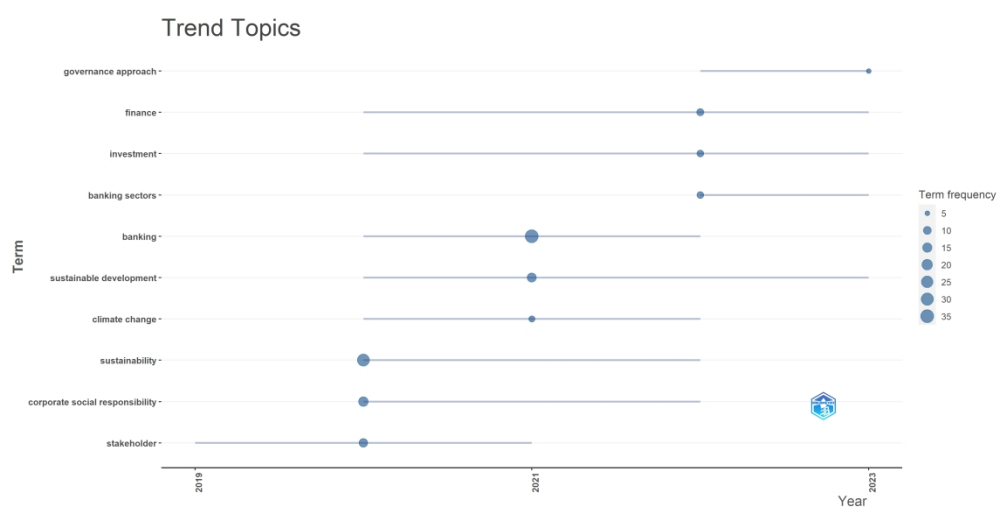


Figure 3. Trend Topics. Own Production

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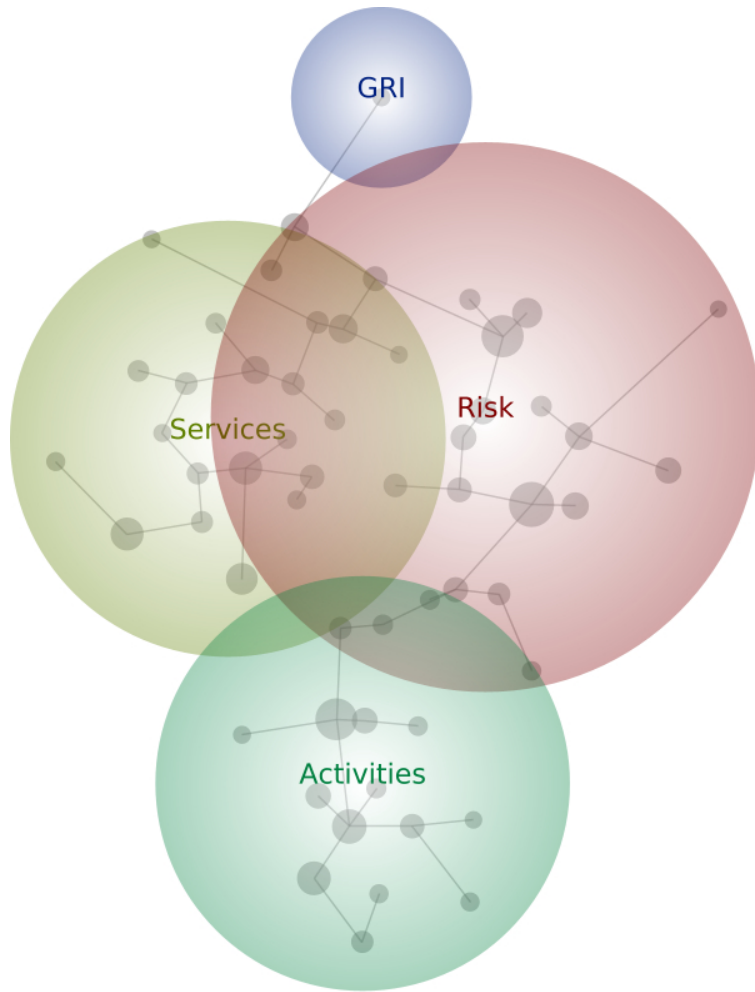


Figure 4. Key variables NFR 2020. Own Production

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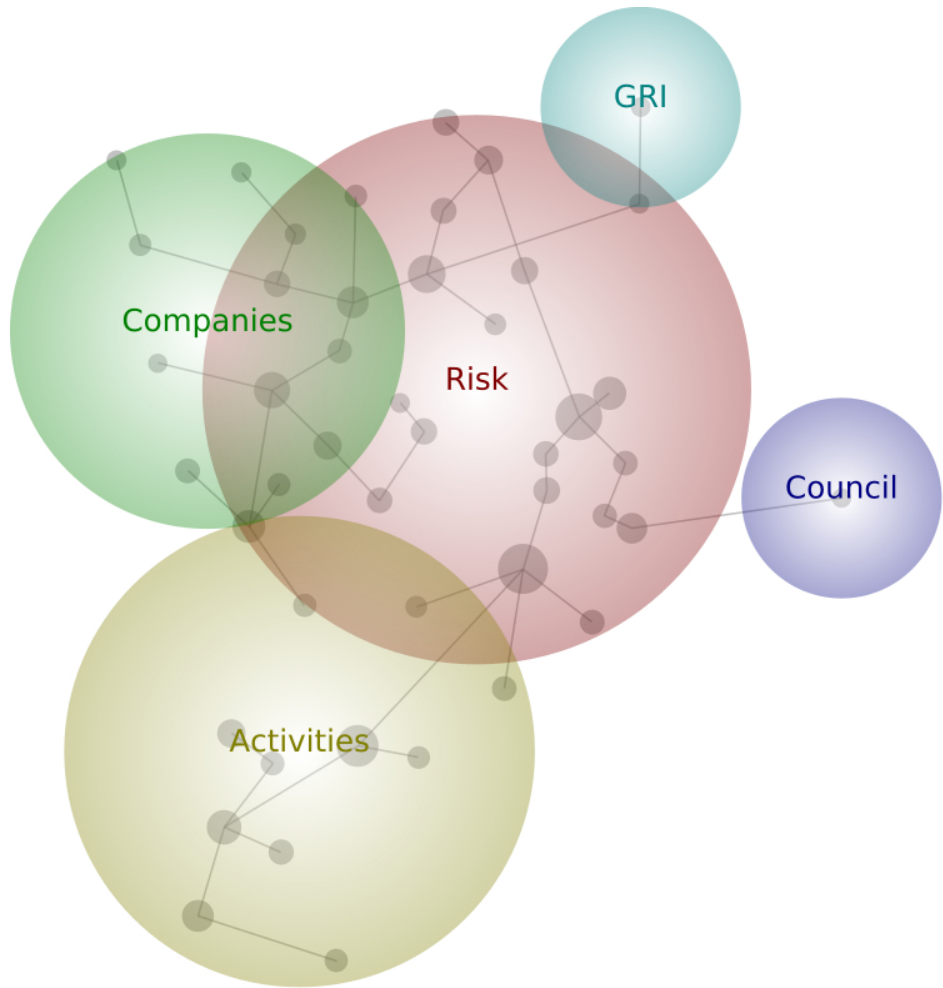


Figure 5. Key variables NFR 2021. Own production

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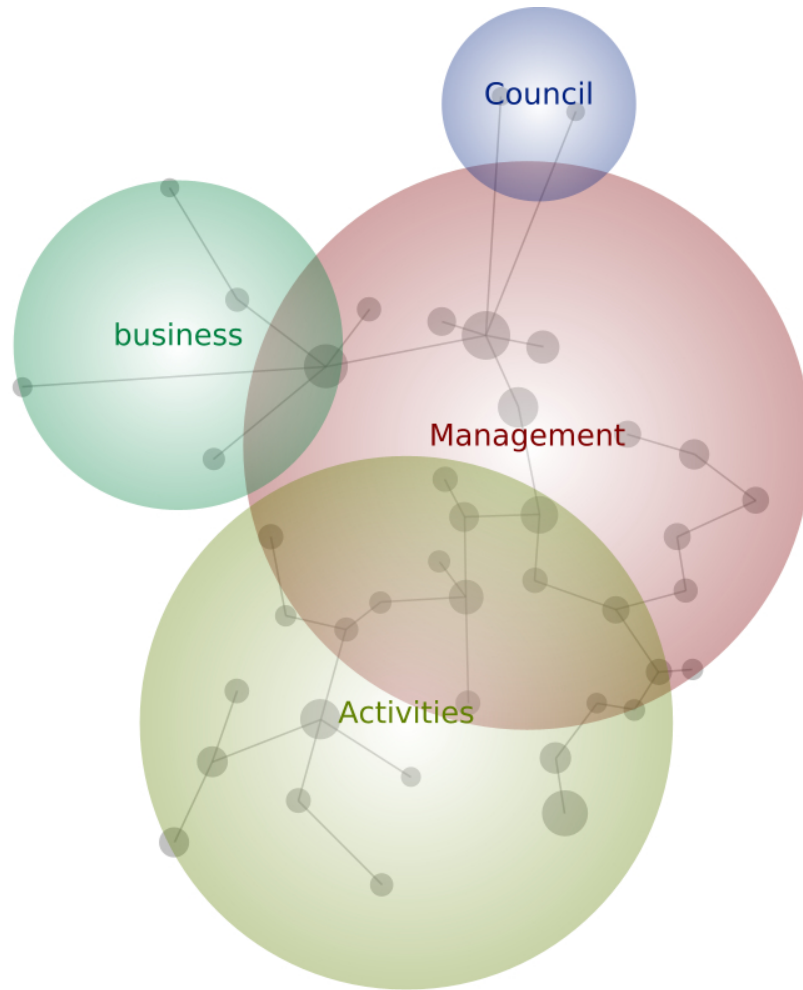


Figure 6. Key variables NFR 2022. Own production

534x534mm (38 x 38 DPI)

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Developments and dynamics of Non-Financial Reporting in the banking sector: the impact on the Italian context

Reviewer: 2

Recommendation: Minor Revision

1. Originality: Does the paper contain new and significant information adequate to justify publication? Clarity of Aim and Objectives?: The paper has adequate information to justify publication.

Anyway, the aim of the new version needs to be clarified. In particular, there is a main concern in the end of the literature section that authors must clarify.

See the part "Relationship to literature".

We thank the Reviewer for the thoughtful observation concerning the clarity of the study's aim and objectives in the revised version of the manuscript. We acknowledge that the final part of the *Literature Review* section required further refinement to articulate the purpose of the study clearly and to ensure a coherent link between the theoretical background and the stated research questions.

To improve conceptual transparency and strengthen the connection between the theoretical framing and the methodological direction of the study, we have added a dedicated paragraph after the *Literature Review* section:

"In light of this, the present study aims to fill a double gap: (i) conceptually, by mapping the evolution of key NFR themes and frameworks in the academic literature, and (ii) empirically, by examining how these elements have been integrated into the actual reporting practices of Italian banks over the last five years. This dual aim directly supports the study's research questions and contributes to a more nuanced understanding of NFR's development within a highly regulated sector."

It explicitly delineates the dual nature of the study's aim (conceptual exploration and empirical application), thus better aligning the literature analysis with the subsequent

	methodological and results sections.
<p>2. Relationship to Literature: Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored? Correlation between Literature Review and Results? Correlation between Aim/Objectives/Hypotheses and Results?: Authors revised literature. However, I still have some concerns. The clarification in the text "The literature review was developed not to investigate the causal impact of single variables on NFR outcomes" is not necessary. It is a response to reviewers. As concerns the review of theoretical foundations, authors could evaluate to move the review in the introduction. The main concern is the following. Authors said that "In this context, the research questions (RQ1 and RQ2) aim to investigate how these theoretical perspectives manifest in empirical practice". It is partly true if you look at both the RQs. Furthermore, the authors are not precise because they said that the above mentioned perspectives should guide the non financial reporting practices. It is a methodological and epistemological mistake. The theoretical perspectives are adopted by researchers to study and explain phenomena. Otherwise, authors should revise the narration of the paper. Authors must clarify.</p>	<p>We thank the Reviewer for the insightful comments regarding the positioning and formulation of the theoretical framework and its connection to the research questions and empirical findings.</p> <p>By the suggestion, we have removed the sentence: <i>"The literature review was developed not to investigate the causal impact of single variables on NFR outcomes..."</i>.</p> <p>We also appreciate the Reviewer's epistemological observation concerning the role of theoretical perspectives in the study. To address this, we have revised the relevant passage to clarify that theoretical frameworks are not intended to guide non-financial reporting, but rather to serve as analytical lenses through which researchers interpret and explain such practices. The revised sentence, now included in the manuscript, reads as follows: <i>"In this context, the research questions, particularly RQ2, which explores themes and approaches in NFR, are analysed through the lens of these theoretical perspectives, which researchers adopt to interpret and explain the observed practices. The aim is not to claim that these theories guide NFR practices but to use them as conceptual tools for understanding how banks' reporting evolves in response to regulatory, institutional, and stakeholder dynamics."</i></p> <p>Concerning the Reviewer's suggestion to relocate the theoretical discussion to the <i>Introduction</i>, we have opted to retain the theoretical foundations within the dedicated <i>Literature Review</i> section for the following reasons:</p> <ul style="list-style-type: none"> • This choice is consistent with established conventions in mixed-

<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35</p>	<p>method research, where a separate literature review is used to articulate the conceptual basis of the study before introducing methods and results.</p> <ul style="list-style-type: none"> • This section provides a structured synthesis of theoretical models and frameworks relevant to non-financial reporting, particularly within the banking sector. That is why it merits treatment as a distinct analytical component rather than an introductory background. • This structure facilitates a more precise alignment between the conceptual elements identified in the literature and the empirical evidence presented in the <i>Results</i> and <i>Discussion</i> sections. <p>We hope these clarifications and revisions address the Reviewer's concerns and contribute to the methodological rigour and readability of the manuscript.</p>
<p>36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60</p> <p>3. Methodology: Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: Authors added useful information in the methodology sections. I do not like the expression "multi method research design". The research design of a paper is one. Instead, the paper is characterized by a multi-method approach.</p>	<p>We appreciate the Reviewer's close attention to methodological terminology and for raising the issue regarding the appropriate phrasing of our research approach.</p> <p>As noted, the expression "<i>multi-method research design</i>" used in the original version may be misleading, as it could suggest multiple research designs rather than a unified design employing multiple methods. We have revised the wording to reflect a more accurate and methodologically sound formulation to address this. The revised sentence, now included at the beginning of the <i>Method</i> section, is:</p> <p><i>"This study adopts a single research design characterised by a multi-method approach structured into two main parts to ensure a comprehensive analysis of NFR within the Italian banking sector."</i></p>

	<p>This modification clarifies the distinction between the overarching unity of the research design and the diversity of methodological tools employed.</p>
<p>5. Implications for research, practice and/or society: Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: Implications were improved by authors. I suggest that authors would dampen the use of "longitudinal study" expression. The analysis is only about three years.</p> <p>I do not agree with using the label variable for NFT.</p> <p>It appears to me that those are themes.</p>	<p>We thank the Reviewer for the constructive observations regarding the terminology used to describe our study's temporal scope and analytical elements.</p> <p>Concerning the expression "<i>longitudinal study</i>", we recognise that applying this term to a three-year timeframe may suggest a broader temporal depth than is methodologically appropriate. Therefore, we have replaced the term with more appropriate expressions, such as "<i>multi-year analysis</i>", to ensure a more accurate representation of the time horizon and avoid any potential overstatement of the study's scope.</p> <p>For example, the revised phrasing now reads: "<i>allowing a multi-year perspective (Lewis, 2007) in the Italian context.</i>"</p> <p>Additionally, regarding using the term "<i>variable</i>" to refer to the elements emerging from the content analysis of non-financial reports, we have considered the Reviewer's comment.</p> <p>Although our original intent was to refer to recurrent dimensions present in the reports, we acknowledge that the term "<i>variables</i>" might inadvertently imply a quantitative modelling framework. We have therefore adopted the more suitable term "<i>themes</i>" to describe these recurring content elements, particularly in the outputs generated through Leximancer analysis.</p>

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