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The Adoption of the Corporate Sustainability Reporting Directive by the EU Banking Sector: An Empirical Investigation

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Abstract

Citizens' growing sensitivity to sustainability issues requests EU authorities to issue increasingly stringent regulations for companies to delimit the concept of sustainable development. The CSRD is the latest development of an exhaustive framework concerning the provision of a wide range of issues. Although the CSRD refers to specific standards to show companies' compliance level with the ESG, it does not ensure they consider sustainability as a strategic lever capable of generating competitive value and transforming business models. For this reason, accountability scholars are promoting a more complex tool named integrated reporting, finalized to integrate financial with non-financial information. This study aims to evaluate the consistence of sustainability disclosure among the largest twenty EU banks with the integrated reporting guiding principles and indirectly the qualitative level of voluntary disclosure. The interest in the banking sector is linked to their strong direct sustainability impact, but also to the leading role towards the multitude of companies borrowing money, inducing them to follow sustainability principles. The findings of the study show that the consistence of non-financial disclosure with <IR> principles are quite high, although wide differences among banks exist, as well as among the issues considered. Particularly, the wider gaps concern the outlook and the formal and methodological quality. Many implications emerge from this research stimulating policy makers to propose tools encouraging banks to improve the linkages among financial and non-financial disclosure.

Keywords: sustainability reporting; integrated reporting; ESG; european banking sector; corporate sustainability reporting directive (CSRD)

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Academic Editor: Hannu Schadewitz

Received: 31 July 2026
Revised: 16 September 2026
Accepted: 18 September 2026
Published: 22 September 2026

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1. Introduction

Over the past three decades, citizens' growing sensitivity to socio-environmental issues and the consequences of questionable behavior by certain companies—which have had a significant impact on the external environment—have led European Union authorities (henceforth EU) to issue increasingly stringent regulations not only to delimit the concept of sustainable development but also to promote a new cultural model among European citizens. The spread of these trends is transforming the sustainability approach from a mere regulatory compliance requirement to a true strategic lever capable of generating competitive value and reshaping business models [1,2].

This process affects almost all economic sectors, including the services sector. Although one might assume that the environmental impact of service companies is less significant

than that of traditional manufacturing sectors, the reality is far more heterogeneous for at least three reasons, as clearly exemplified by companies in the banking sector.

First, sustainability in the broad sense is concerned not only with environmental protection tout court—the environment—but also with social aspects related to the impact that companies' actions on their external context, understood as employees, customers, suppliers, and the community in the broad sense: the social dimension. Precisely for this reason, it is also considered appropriate for companies to communicate externally the methods of managing economic activity according to criteria of fairness and transparency in the interests of all stakeholders and not just shareholders: the governance.

The acronym Environmental, Social, and Governance (henceforth ESG) is currently the one that, more than any other, best synthesizes the broad concept of sustainable development as defined in the well-known Brundtland Report of 1987. Specifically, in the service sector considered in this study, banks are a group of companies that, in addition to absorbing significant volumes of employees, directly and indirectly manage immense financial flows. As a result, these companies are expected to ensure that their operations are conducted in accordance with the principles of correctness, legality, and transparency.

Second, service companies can also have very high energy consumption even though they do not produce tangible output. From this point of view, the widespread use of information technology makes banking companies very impactful, as they rely on hundreds of thousands of electronic devices that continuously process data.

Third, service companies can also, in turn, act as drivers of sustainable development criteria. While it seems clear that large manufacturing companies require their upstream or downstream partners to comply with certain standards and values to claim full commitment to sustainable development, it is also true that this process can apply to service companies that play a leading role in the economy. It is no coincidence that banks are increasingly requiring, as part of evaluating borrower ratings, evidence that borrowers also pursue ESG criteria [3,4], thus reducing information asymmetry between lenders and applicants for financial resources [5].

With Directive 2022/2464/EU, which took effect in 2025, the EU issued a very extensive regulatory framework, the Corporate Sustainability Reporting Directive (henceforth CSRD), which determined, for the companies concerned, the need to review processes, set measurable objectives and integrate sustainable development factors into the management model [6,7]. The CSRD supplements and replaces the previous Non-Financial Reporting Directive (henceforth NFRD) 2014/95, which aimed to provide stakeholders of large companies with additional insights beyond traditional financial information, related to a wide range of non-financial issues such as the environment, social matters, employee relations, human rights, and anti-corruption efforts. The purpose of the new measures is to enhance the content, transparency, and comparability of sustainability disclosures as well as to introduce mandatory independent assurance to ensure the reliability of reported information [8,9].

From 1 January 2026, companies that, at the close of the financial statements, meet at least two of the following three criteria—total balance sheet exceeding €20 million, revenues exceeding €40,000,000, and employees over 250 units—will be required to comply with CSRD. Despite some delays (stop-the-clock), the European authorities intend to gradually extend the CSRD to other smaller economic entities as well.

The European Commission then entrusted the European Financial Reporting Advisory Group (EFRAG), a private association established in 2001 that deals with international accounting standards, with drafting new ESG-inspired sustainability reporting standards—the 12 European Sustainability Reporting Standards (ESRS)—for the benefit of the companies concerned. That is, the ESRS sets out the mandatory principles and guidelines

established by the EU to standardize sustainability reporting. To demonstrate compliance with the ESRS, companies prepare specific reports, variously called, focused on communicating non-financial information that supplements or complements the information presented in the traditional financial statement and in the management commentary.

Considering these premises, this study aims to evaluate to what extent the largest 20 EU banks not only comply with the EU regulatory principles of non-financial disclosure but also demonstrate how their value creation occurs. It is not just a question of enriching external information for the benefit of stakeholders with additional data of various nature and purposes, but of making sure that this disclosure becomes a relational tool that strengthens the legitimacy of the company and the ties with its stakeholders, with consequences on the company's own performance [10,11].

Currently, a knowledge gap regarding the effectiveness of banks' sustainability disclosure exists [12,13], also due to potentially differing national regulations [14,15]. Even less information is available on ESG and sustainability aspects in a broader sense [16,17]. The importance of banks with millions of clients (both small savers and borrowing companies) and their pivotal role in the financial system make them particularly subject to scrutiny by public institutions and other stakeholders.

To contribute to filling these gaps, this study conducts a qualitative evaluation of reports of the aforementioned banks related to the CSRD directive, evaluating their content with reference to the criteria of the integrated reporting (henceforth <IR>) proposed by The Value Reporting Foundation (formerly the International Integrated Reporting Council—IIRC). As is well known, the <IR> aspires to integrate traditional financial and economic data with ESG information into a single, cohesive report, simplifying companies' reporting efforts and related costs, and making it easier for all stakeholders to understand these issues. For this reason, following an approach already adopted in the accountability literature [18–21], this study adopts the <IR> guidelines as a tool for assessing the quality of the banks' reports. Even within the limits of a qualitative survey, this methodology allows to go beyond the formal consideration of certain parameters indicated by the legal rules to evaluate the effort of the analyzed companies in considering the theme of sustainability in a broad sense as a tool for management and creation of the value of their business.

The focus on major European banks is certainly a good way to develop best practices that smaller banks can follow. Furthermore, banks can affect the EU's sustainable transition through credit allocation, investment decisions, and borrower assessment, thereby indirectly influencing the behavior of the companies they finance [22].

After this introduction, Section 2 recalls the salient features underlying the spread of non-financial disclosure, while Section 3 reports some fundamental aspects of disclosure in credit institutions. Section 4 focuses on the qualitative evaluation of banks' reports, while Section 5 presents the results of the analysis. A concluding section dedicated to implications and limitations follows.

2. The Non-Financial Disclosure

2.1. The Corporate Sustainability Reporting Directive

The NFRD represented the first attempt to transform environmental and social communication from a largely voluntary practice into a mandatory component of corporate reporting. The Directive required large public-interest entities, including banks and insurance companies, to disclose information regarding environment, social issues, employee relations, human rights, and anti-corruption initiatives. The Directive recognized that an appropriate understanding of a company's development, performance, and position requires information that goes beyond what is contained in the financial statements. At the same time, at least until now, the Directive has left companies with broad discretion in

choosing reporting frameworks, the indicators to be reported, and the organization of the information to be provided [8,23].

The flexibility of the NFRD has allowed companies to adapt reporting to their specific features, but it has also limited the comparability, completeness, and reliability of disclosure. Differences in how the Directive has been implemented across countries, the variety of available frameworks, and the limited standardization of metrics produced a heterogeneous reporting landscape, in which formally compliant reports may differ substantially in content and verifiability. The literature has shown that a larger volume of information does not necessarily imply higher-quality reporting and that the absence of common criteria can encourage greenwashing practices [8,24,25]. These limitations encouraged the transition from the relatively open approach of non-financial information to a more structured form of sustainability reporting.

EU Directive 2022/2464 (Corporate Sustainability Reporting Directive, CSRD) marks a shift in this approach. The CSRD has expanded the scope, sustainability disclosure, and reporting requirements of the previous 2014/95 Directive. The purpose of these measures is to improve the content, transparency, and comparability of sustainability information and to introduce mandatory independent assurance to ensure the reliability of reported information [26,27]. The scope and timeline originally established by the CSRD were subsequently modified. EU Directive 2025/794 postponed the application of the reporting requirements by two years, and the EU Directive 2026/470 subsequently narrowed the general scope of the rules to companies and groups with more than 1000 employees on average and annual net turnover above €450 million and removed listed SMEs from the mandatory scope.

To make the CSRD requirements operational, the European Commission adopted the first set of 12 standards (Delegated Regulation 2023/2772), previously referred to as the ESRS. The ESRS (Table 1) requires companies to disclose both qualitative and quantitative information across a broad range of sustainability topics, including strategy, governance, materiality assessments, and performance metrics. Their architecture combines narrative disclosures on policies, actions, and governance responsibilities with targets, metrics, and information on the progress achieved.

Table 1. The ESRS.

Category	Standard	Main Topics
Cross-cutting standards	1—General requirements	Qualitative characteristics of information; double materiality; due diligence; value chain; time horizons; preparation and presentation of sustainability information.
Cross-cutting standards	2—General disclosures	Basis for preparation; governance; strategy; management of impacts, risks, and opportunities; metrics and targets.
Environmental standards	E1—Climate change	Climate change adaptation; climate change mitigation; energy.
Environmental standards	E2—Pollution	Pollution of air; pollution of water; pollution of soil; pollution of living organisms and food resources; substances of concern; substances of very high concern; microplastics.
Environmental standards	E3—Water and marine resources	Water and marine resources; water consumption; water withdrawals; water discharges; discharges to the oceans; extraction and use of marine resources.

Table 1. *Cont.*

Category	Standard	Main Topics
Environmental standards	E4—Biodiversity and ecosystems	Direct impact drivers of biodiversity loss; impacts on the state of species; impacts on the extent and condition of ecosystems; impacts and dependencies on ecosystem services.
Environmental standards	E5—Resource use and circular economy	Resource inflows including resource use; resource outflows related to products and services; waste.
Social standards	S1—Own workforce	Working conditions; equal treatment and opportunities for all; other work-related rights.
Social standards	S2—Workers in the value chain	Working conditions; equal treatment and opportunities for all; other work-related rights for workers in the value chain.
Social standards	S3—Affected communities	Communities' economic, social and cultural rights; communities' civil and political rights; rights of indigenous peoples.
Social standards	S4—Consumers and end-users	Information-related impacts for consumers and end-users; personal safety; social inclusion.
Governance standard	G1—Business conduct	Corporate culture; protection of whistle-blowers; animal welfare; political engagement and lobbying activities; management of relationships with suppliers including payment practices; corruption and bribery.

Source: Commission Delegated Regulation (EU) 2023/2772.

However, more detailed and standardized disclosure requirements do not necessarily ensure substantive integration of information and a better understanding for readers. Reporting may remain fragmented and primarily compliance-oriented when companies fail to explain the connections between strategic objectives, economic and financial performance, and sustainability impacts [9,14].

2.2. The Integrated Reporting

Integrated reporting (<IR>) was developed in response to a problem that the expansion of disclosure requirements had only partially addressed: fragmentation. Social, environmental, sustainability, and intellectual capital reports made dimensions neglected by financial statements more visible, but often through isolated documents based on different logics. The proliferation of reports may increase both the costs of preparation and of reading them, without showing how the various dimensions jointly contribute to how a company operates. According to the scholars who developed this framework, the <IR> seeks to overcome the aforementioned limitations and to represent, in a concise but interrelated way, the company's ability to create value in the short, medium, and long term [28,29].

An important step in the institutionalization of <IR> was the establishment, in 2010, of The International Integrated Reporting Council (henceforth IIRC), a coalition of regulators, investors, companies, and accounting professionals. The International <IR> Framework, first issued in 2013 and revised in 2021, set out the purpose, guiding principles, and content elements of an integrated report. In 2021, the IIRC also merged with the Sustainability Accounting Standards Board to create The Value Reporting Foundation (VRF), which was subsequently consolidated into the International Financial Reporting Standards Foundation (IFRSF) as part of the establishment of the International Sustainability Standards Board. The framework continues to be maintained by the IFRSF, but its role remains distinct from that of the International Sustainability Standards Board: it does not prescribe a detailed

set of metrics but provides a framework for illustrating the connections between strategy, resources, risks, and performance [30].

Some of the main features of <IR> lie in the connectivity between financial and sustainability information and in its ability to explain how value is created over time [31]. <IR> is founded on integrated thinking, which is defined as the active consideration of the relationships between an organization's operating and functional units and the capitals it uses or affects. This approach supports decision-making and actions concerning value creation over the short, medium, and long term. When integrated thinking is embedded in organizational processes, the connections among strategy, governance, resource allocation, risks, and performance can be reflected more coherently in corporate reporting. However, without such internal integration, reports may present a sum of separate pieces of information rather than showing how financial, strategic, and sustainability dimensions are connected.

The last International <IR> Framework of 2021 identifies six types of capital: financial, manufactured, intellectual, human, social, relational, and natural capital. These capitals represent the main resources and relationships that a company uses and affects through its business model. They are not intended as rigid categories, nor do they require that all forms of value be expressed in financial terms; rather, they help explain how inputs are transformed into outputs and outcomes, and how organizational activities may increase, preserve or erode different forms of capital over time.

Additionally, the International <IR> Framework translates the logic of integrated thinking into two complementary sets of reporting criteria: guiding principles and content elements. The guiding principles are strategic focus and future orientation, information connectivity, stakeholder relationships, materiality, conciseness, reliability and completeness, consistency, and comparability. The content elements cover eight issues: organizational overview and external environment, governance, business model, risks and opportunities, strategic objectives, performance, outlook, and basis of preparation and presentation. Since the mentioned Framework does not prescribe a fixed sequence for these elements, its emphasis is less on formal standardization than on the connectivity of information and the coherence of value-creation disclosure.

The literature attributes several potential benefits to <IR>, including more connected disclosure, a stronger link between strategy, governance, and performance, better internal coordination, and a more structured dialogue with providers of financial capital and other stakeholders [29,30]. These outcomes, however, are not automatic. Empirical and critical studies have shown that integrated reports may still be affected by impression management, limited readability, selective disclosure, and an excessive emphasis on value for providers of financial capital.

Melloni et al. [32], for instance, show that some reports are less concise, less complete, and more optimistic when performance is weaker, while Flower [33] and Thomson [34] question whether the International <IR> Framework provides sufficient accountability for impacts on society and the environment. Recently, the results of an investigation by Raimo et al. [18] of 166 EU companies that published an <IR> in 2023 reveal a relatively low average level of compliance with the ESRS.

However, it must be remembered that, regardless of the guidelines, the <IR> framework reflects a path of study and research that is not yet concluded or defined and is subject to further improvements. Therefore, <IR> principles and guidelines currently represent an upper, ideal qualitative orientation of corporate disclosure.

3. The ESG Disclosure Within Banks

In the banking sector, ESG disclosure is particularly relevant because financial intermediaries influence the sustainable transition primarily through credit allocation, investment decisions, and borrower assessment. Banks' ability to direct financial flows gives reporting a function that extends beyond the representation of internal performance: it makes visible the criteria through which ESG factors are incorporated into selection, monitoring, and risk-pricing processes, thereby indirectly influencing the behavior of financed companies [22,35,36]. Disclosure quality becomes part of bank accountability and makes it possible to assess the consistency between stated commitments, the business model, and the actual allocation of resources [14,37].

The corporate scandals of the early 2000s and the 2008 financial crisis demonstrated just how easily a gap can arise between formal adherence to rules/codes of conduct and actual internal management practices. High-quality ESG disclosure can reduce information asymmetries and support the earlier identification of bank vulnerabilities [38]. The literature also associates an ESG orientation with greater stability during periods of financial turmoil and stronger resilience to external shocks [39,40].

Prior studies have linked ESG-related practices and disclosures to banks' financial performance, cost efficiency, and risk profiles [41,42]. However, these relationships are not uniform and may vary according to institutional conditions and bank-specific characteristics [43,44].

Additionally, bank ESG disclosure should not be treated as a direct indicator of sustainable behavior. This issue is particularly relevant in this sector, where sustainability claims may increase the visibility of ESG commitments without necessarily showing whether such commitments are embedded in lending, investment, and risk-management processes. Some studies argue that, although ESG standards are widely used to assess non-financial disclosure, they may be insufficient to capture banks' actual green behavior and the consistency of their long-term sustainability strategy [14,36].

Conversely, banks may provide a high level of ESG disclosure while reflecting the guiding principles of <IR> only to a limited extent. The disclosure often retains the structure of traditional sustainability reports and provides a limited explanation of how strategic objectives, risks, economic and financial performance, and sustainability outcomes are connected [16,37]. This leaves room for greenwashing concerns, especially when disclosure strengthens reputation without a corresponding integration of sustainability principles [45,46]. Hence, bank reporting should be assessed, in addition to the amount of ESG information disclosed, also in terms of its connectivity, accessibility, and ability to make the value creation process clear over time.

4. Method

To assess the consistency of the reports promoted by the twenty selected banks (Table 2) with the <IR> framework, we evaluated adherence to the ESRS and the guiding principles and content elements of <IR>. For this reason, results must be interpreted as a measure of banks' disclosure according to the <IR> perspective, and not as a direct measure of banks' actual ESG performance or sustainability quality.

The alignment between ESRS and <IR> was evaluated using a specific checklist that assigns scores to a set of topics. This qualitative methodology for appraising the non-financial and voluntary disclosure of companies has been widely validated in the literature across different industrial sectors, e.g., [19–21,37]. Usually, each study adopts its own specific checklist, as well as weights for each considered topic.

Table 2. Total scoring.

	ABN AMRO	Banque Postale	BBVA	BNP	BPCE	CAIXA	Commerzbank	Credit Agricole	Credit Mutuel	Deutsche Bank	Dzbank	Ing	Intesa S. P.	Kbc	Landesbank	Nordea	Rabobank	Santander	Societe Gene.	Unicredit
A1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
A2	2	1	2	2	2	2	1	2	1	1	2	1	1	1	1	2	2	2	1	2
A3	2	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2
A4	2	2	2	2	2	2	2	1	2	2	2	2	1	1	2	2	2	2	2	2
A5	2	2	1	2	1	2	1	1	1	2	1	2	2	2	1	2	2	1	2	2
A6	2	2	2	3	2	3	3	2	3	3	2	2	1	2	2	3	3	3	2	3
TOTAL A	**12**	**11**	**10**	**13**	**11**	**13**	**11**	**9**	**11**	**12**	**11**	**11**	**9**	**10**	**9**	**13**	**13**	**12**	**11**	**13**
B1	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2
B2	2	1	2	2	2	2	1	1	1	1	1	1	1	2	1	1	2	2	2	2
B3	1	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	1
B4	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
TOTAL B	**7**	**7**	**7**	**7**	**8**	**8**	**7**	**7**	**7**	**7**	**7**	**7**	**5**	**8**	**7**	**7**	**8**	**8**	**8**	**7**
C1	2	2	1	2	2	2	1	0	1	1	1	1	2	1	1	2	1	1	2	1
C2	2	2	2	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2
C3	1	2	2	2	2	2	1	0	1	1	1	2	2	1	1	1	2	2	2	2
C4	2	2	2	2	1	1	1	1	1	1	1	2	2	2	1	2	2	2	2	2
C5	1	2	2	2	2	1	1	1	1	1	2	1	2	1	2	2	2	2	2	2
TOTAL C	**8**	**10**	**9**	**10**	**9**	**8**	**5**	**3**	**5**	**5**	**7**	**8**	**10**	**7**	**7**	**9**	**9**	**9**	**10**	**9**
D1	2	2	2	3	2	2	2	2	3	3	2	2	2	2	3	2	3	2	2	3
D2	2	3	2	3	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2
D3	2	2	2	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2
TOTAL D	**6**	**7**	**6**	**8**	**5**	**6**	**5**	**6**	**7**	**7**	**6**	**6**	**6**	**6**	**7**	**6**	**8**	**6**	**6**	**7**
E1	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2	2	2	2	2
E2	2	2	2	2	2	2	1	1	1	2	2	2	2	1	1	2	2	2	2	2
E3	2	2	2	2	2	2	1	1	1	1	1	2	1	1	2	2	2	2	2	2
E4	3	2	2	3	3	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2
TOTAL E	**9**	**8**	**8**	**9**	**9**	**8**	**6**	**4**	**6**	**7**	**6**	**8**	**7**	**6**	**7**	**8**	**8**	**8**	**8**	**8**
F1	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	1	2
F2	2	1	2	2	2	2	1	1	1	1	2	1	2	2	2	2	2	2	2	2
F3	1	1	2	2	1	1	1	1	1	2	1	1	1	1	1	1	1	2	2	2
F4	2	2	2	2	2	1	1	1	1	2	2	2	1	1	2	2	2	2	1	2
F5	2	2	2	2	2	1	1	2	2	2	1	2	1	2	2	2	2	2	1	1
F6	2	1	2	1	1	2	0	1	0	0	1	2	1	2	1	2	2	2	1	1
F7	3	3	3	3	3	3	3	2	3	3	2	2	3	2	2	3	2	3	3	3
TOTAL F	**14**	**12**	**15**	**14**	**13**	**12**	**9**	**10**	**10**	**12**	**11**	**11**	**11**	**12**	**12**	**14**	**13**	**15**	**11**	**13**
G1	2	2	2	2	2	1	1	1	1	1	1	2	2	1	1	2	2	1	1	1
G2	2	1	2	2	1	1	1	1	1	1	1	1	2	1	1	2	2	1	1	1
G3	2	1	2	2	1	1	1	1	1	1	2	1	2	1	1	1	2	1	1	1
G4	2	1	2	2	1	2	2	2	2	2	2	1	1	2	1	1	2	1	1	1

Table 2. *Cont.*

	ABN AMRO	Banque Postale	BBVA	BNP	BPCE	CAIXA	Commerzbank	Credit Agricole	Credit Mutuel	Deutsche Bank	Dzbank	Ing	Intesa S. P.	Kbc	Landesbank	Nordea	Rabobank	Santander	Societe Gene.	Unicredit
TOTAL G	**8**	**5**	**8**	**8**	**5**	**5**	**5**	**5**	**5**	**5**	**6**	**5**	**7**	**5**	**4**	**6**	**8**	**4**	**4**	**4**
H1	3	3	3	2	2	2	2	2	3	3	2	2	2	3	2	3	3	3	2	2
H2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2
H3	2	2	2	1	2	1	1	1	2	1	1	1	2	2	2	2	2	2	2	2
TOTAL H	**7**	**7**	**7**	**5**	**7**	**5**	**5**	**5**	**7**	**6**	**5**	**5**	**6**	**7**	**6**	**7**	**8**	**7**	**6**	**6**
I1	1	1	1	3	1	2	0	1	0	0	0	1	3	2	0	0	0	0	3	0
I2	2	2	2	2	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2
I3	2	2	2	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2
I4	1	1	1	2	1	1	2	2	2	2	1	1	2	2	2	2	2	1	2	2
I5	3	2	2	3	2	2	1	1	1	1	2	2	1	2	1	2	2	2	2	2
I6	2	2	2	2	1	1	0	1	1	1	2	2	2	2	1	1	2	1	2	2
I7	2	2	2	1	2	2	2	1	2	2	1	2	2	2	2	2	2	2	2	1
I8	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
I9	2	1	1	2	1	1	0	0	0	2	1	1	0	1	0	0	1	0	2	1
TOTAL I	**17**	**15**	**15**	**18**	**14**	**14**	**10**	**10**	**11**	**13**	**13**	**15**	**16**	**17**	**12**	**13**	**15**	**12**	**19**	**14**
TOTAL	**88**	**82**	**85**	**92**	**81**	**79**	**63**	**59**	**69**	**74**	**72**	**76**	**77**	**78**	**71**	**83**	**90**	**81**	**83**	**81**

Source: author's elaboration.

This study basically assumes the checklist by Appolloni et al. [14], which is very recent and pertains to the banking sector. This checklist is divided into nine sections (A–I) (Figure 1). These sections mirror the eight content elements of <IR>, with the addition of a dedicated section on (double) materiality, as required by ESRS 1, which requires companies to disclose how they impact the surrounding environment and how the environment, in turn, impacts the company itself. Materiality is also a guiding principle of <IR>.

Each section is, in turn, divided into sub-sections which reflect the guiding principles and other key items highlighted by the IFRSF. Sub-section exhibits a score determined with a minimum value of 0 in the event of missing information for the single content item analyzed, 1 if only a mention is present, and 2 when detailed pieces of information are available. In some cases, it was deemed appropriate to also assign a value of 3 when the topic allows for very detailed explanations useful for stakeholders. The sum of the scores of the sub-sections determine the maximum score for each A–I section.

Each section grouping homogeneous items exhibits an incidence on the total score that is fundamentally useful for proposing spatial and temporal comparisons. This is, the relative incidence does not aspire to be a categorical structure of analyzing a company report. That is because, although the quality of the reports improves when the number of items analyzed increases, obviously also the weight of the relevant section increases.

To improve the consistency of content elements proposed by IFRSF, unlike the Appolloni et al.'s checklist [14], the maximum total score of the present checklist was posed from 50 to 100. Doubling the maximum score allowed the study to provide a more detailed analysis of some items in the reports or to add new ones. For example, the name given to the published report was also evaluated, indicating the interested bank's ambition to go beyond the formalism envisaged by the CSRD. The presence of additional specific certifications was also considered, reflecting the company's managerial effort

to pursue sustainable development and the possibility of having not only limited but reasonable assurance.

Section	sub	Content	Object	Score
A		**Organizational overview and external environment**		
	A1	Main activities	Products, services and markets	0 – 2
	A2	Competitive positioning	Competitive landscape	0 – 2
	A3	Mission and values	Corporate culture and ethics	0 – 2
	A4	Organisational structure	Ownership structure	0 – 2
	A5	Value creation drivers	ESG and business factors	0 – 2
	A6	Quantitative information	Key indicators	0 – 3
TOTAL				**13**
B		**Governance**		
	B1	Skills and diversity	Governance bodies	0 – 2
	B2	Strategic monitoring	Strategy oversight	0 – 2
	B3	Remuneration	Incentive policies	0 – 2
	B4	Governance structure	Roles and responsibilities	0 – 2
TOTAL				**8**
C		**Business model**		
	C1	Business model inputs	Resources used	0 – 2
	C2	Products and services	Main outputs	0 – 2
	C3	Competitive advantage	Differentiation	0 – 2
	C4	Innovation	Development and improvements	0 – 2
	C5	Internal/external results	Stakeholder impacts	0 – 2
TOTAL				**10**
D		**Risks and opportunities**		
	D1	From internal sources	Operational risks	0 – 3
	D2	From external sources	ESG and market context	0 – 3
	D3	Mitigation actions	Risk minimisation	0 – 2
TOTAL				**8**
E		**Strategic objectives**		
	E1	Strategic objectives	Corporate targets	0 – 2
	E2	Strategies	Strategic actions	0 – 2
	E3	Strategic measures	Implementation	0 – 2
	E4	Stakeholder engagement	Engagement	0 – 3
TOTAL				**9**

Section	sub	Content	Object	Score
F		**Performance**		
	F1	Results vs objectives	Performance	0 – 2
	F2	Time linkage / Time horizon	Past-present-future	0 – 2
	F3	Benchmark	Industry comparison	0 – 2
	F4	Stakeholder responses	Satisfaction of stakeholder interests	0 – 2
	F5	External factors	Regulations and context	0 – 2
	F6	Impact on capitals	Six capitals	0 – 3
	F7	Financial and non-financial KPIs	ESG indicators	0 – 3
TOTAL				**16**
G		**Outlook**		
	G1	Future changes	Context evolution	0 – 2
	G2	Implications	Effects on the business	0 – 2
	G3	Response capacity	Adaptive strategies	0 – 2
	G4	Resource assessment	Capital adequacy	0 – 2
TOTAL				**8**
H		**Double materiality**		
	H1	Materiality	Impact assessment process	0 – 3
	H2	Reporting boundaries	Scope of analysis	0 – 3
	H3	Evaluation methods	Metrics used	0 – 2
TOTAL				**8**
I		**Preparation and presentation**		
	I1	Conciseness	Report length	0 – 3
	I2	Assurance	External assurance / External audit	0 – 2
	I3	Comparability	Historical series	0 – 2
	I4	Readability	Charts and language	0 – 2
	I5	ESG certifications	External ratings	0 – 3
	I6	Link to SDGs	2030 Agenda	0 – 2
	I7	Methodology	Methodological note	0 – 2
	I8	Accessibility	Website link	0 – 2
	I9	Report title / Report name	NFD, IR, other	0 – 2
TOTAL				**20**
TOTAL				***100***

Figure 1. The adopted checklist. Source: author's elaboration from [14].

As previously noted, the division of the checklist into sections is not intended to be a rigid framework for assessing the quality of voluntary disclosures, but rather a way to more easily understand from which perspective the banks' reports are more or less consistent with the <IR> framework. It is evident, in fact, that as the degree of detail of the issues considered (sub-sections) increases, the relative weight of the individual section on the total overall value tends to grow. To date, however, the IFSRF has not proposed any scale of importance for content elements, nor a detailed list of possible subsections. Having more detail about the issues considered, this approach aims to achieve a quicker identification of points of adherence or deviation with the principles of <IR>, while also allowing for possible spatial and temporal comparisons.

The scoring framework uses only integer values. For most indicators, a score of 0 indicates the absence of relevant information, 1 indicates a general or limited mention, and 2 indicates a detailed disclosure supported by specific qualitative or quantitative information. For indicators that allow a maximum score of 3, the highest value indicates a particularly comprehensive disclosure that combines several observable elements, such as quantitative evidence, targets, time comparisons, methodological explanations, or explicit connections to strategy, risks, performance, and stakeholder impacts. The use of a three-point maximum for these indicators reflects their greater potential degree of articulation, rather than a mechanical assumption of greater importance.

The scores should be interpreted as criterion-referenced, ordered assessments rather than as exact, equally spaced measurements of a latent continuous construct. The total score is therefore a synthetic descriptive index that facilitates comparison across reports. Small differences in total scores should be interpreted with caution and considered alongside the dimension-level profiles.

Operationally, after downloading the reports on compliance with the CSRD (year 2025 in English language) for each bank from their respective websites published among April and July 2026, each of the four authors of this study examined them, identifying the aspect corresponding to the content of each sub-section of the checklist. Each researcher

first assigned the indicator scores individually using the common evaluation framework. The assessments were subsequently compared indicator by indicator. When the initial scores differed, the coders returned to the relevant sections of the report, discussed the available evidence and agreed on a final score (see Section 5). Accordingly, the final score assigned to an indicator was accepted by all four coders and does not represent either a single researcher's assessment or the mechanical average of different evaluations. Typical of qualitative investigations, the attribution of individual scores involves a degree of discretion on the part of evaluators. All statistical analyses were performed using R version 4.6.1.

We considered the twenty largest EU banking groups in terms of assets, as shown in the S&P Global report of April 2025, computed according to International Financial Reporting Standard criteria (see Appendix A). Due to their nature and/or organizational characteristics, Banque Postale, BPCE, Crédit Mutuel, Dzbank, Landesbank, and Rabobank are not listed on the stock exchange.

These banks are subject to the CSRD regulation and to the assurance (limited or reasonable) of the data presented by specific external entities. For this reason, reports preparation is usually assigned to external consultants. We also have to underline that sometimes information on ESG issues is not available on specific reports on the bank's website but must be extrapolated from the traditional annual (financial) report or tracked down across multiple documents which make it difficult to understand the true amount of information disclosed. Some studies consider the ease or difficulty of accessing information is a way to encourage or discourage stakeholders from consulting a report (accessibility). A premise of <IR> requests a unique, synthetic and easily accessible report.

5. Results and Discussion

Table 3 reports the partial and overall scoring of the twenty banks considered. As can be seen, BNP achieves the best result with a score of 92 out of 100, followed by Rabobank with 90 points. At the other end of the spectrum are Commerzbank and Credit Agricole, with scores of 63 and 59, respectively. The minimum observed value is 59. The mean sample score is 78.15/100, with a standard deviation of 8.57 points. The distribution therefore shows a concentration in the medium-high range, but also a non-negligible distance between the more mature and the less advanced operators. Hence, the analysis of the reports highlights an overall medium-high level of reporting quality, but also significant differences across institutions and across information dimensions.

Table 2 also suggests that the sample is not polarized between a small number of leaders and a large group of laggards; rather, many banks are positioned close to the average. However, the distance between the upper and lower ends of the distribution remains significant. This result makes a dimension-level analysis useful: two banks with similar overall scores may in fact achieve them through different combinations of strengths and weaknesses. The ranking should therefore be interpreted as a starting point, rather than as the final outcome of the analysis.

Since the sections of the assessment grid do not have the same maximum score, the dimensional analysis for each section was conducted using normalized scores. Normalization enables direct comparison of sections with different theoretical weights, preventing areas with higher maximum scores from disproportionately influencing the graphical interpretation of the profiles. For each bank b and each section s, the normalized score was calculated as follows:

$$N_{bs} = (P_{bs}/Pmax_s) \times 100$$

where P_{bs} indicates the raw score obtained by the bank in the section considered, while $Pmax_s$ represents the theoretical maximum score for that same section. All dimension-level

scores are therefore reported on a common 0–100 scale, which can be interpreted as the percentage of the theoretical maximum attainable.

Table 3. Theoretical maximum scores for the different report sections.

Section	Content	Max Score
A	Organizational overview and external environment	13
B	Governance	8
C	Business model	10
D	Risks and opportunities	8
E	Strategic objectives	9
F	Performance	16
G	Outlook	8
H	Double materiality	8
I	Preparation and presentation	20

Source: author's elaboration.

The theoretical maximum values used for normalization are reported in Table 3.

The overall score was not further normalized, since the sum of the sections is already expressed on a 0–100 scale. For the substance–form map (Section 5.2); however, two synthetic measures were constructed. The informational substance of the report was approximated by the score obtained in Sections A–H, divided by the theoretical maximum of 80 points:

$$S_b = [(A_b + B_b + C_b + D_b + E_b + F_b + G_b + H_b)/80] \times 100$$

Formal-methodological quality was instead measured through Section I, divided by the theoretical maximum of 20 points:

$$Q_b = (I_b/20) \times 100$$

This distinction makes it possible to assess whether reporting maturity depends primarily on the richness of substantive content, the quality of the document's formal construction, or a balanced combination of the two components.

To assess the sensitivity of the results to the weighting structure, two alternative aggregations were considered. First, each of the nine-dimensional scores (sub-sections) was divided by its theoretical maximum, and the resulting normalized dimensions were assigned equal weights:

$$EQD_b = \frac{100}{9} \sum_{j=1}^{9} \frac{S_{bj}}{M_j},$$

where S_{bj} is the score obtained by bank b in dimension j, and M_j is the theoretical maximum score for that dimension. Second, for the substance–form classification, the substance component was recalculated by assigning equal weight to each of the eight substantive dimensions:

$$EQS_b = \frac{100}{8} \sum_{j=A}^{H} \frac{S_{bj}}{M_j}.$$

The formal-methodological component was not recalculated because it consists solely of Section I and is already normalized by its theoretical maximum. Robustness was assessed

by comparing the original and alternative rankings and by examining whether banks remained in the same quadrants of the substance–form map.

The banks are ordered by their total score, while the cells report normalized values as percentages of the theoretical maximum for each section. The heatmap, therefore, makes it possible to observe not only which banks obtain the highest scores, but also in which areas each institution appears relatively stronger or weaker.

Each cell represents the bank's normalized score for the considered size. Values are expressed as a percentage of the theoretical maximum of the section. The representation allows us to identify balanced profiles and unbalanced profiles, which would be less evident when looking at the total score alone. Source: own processing on the evaluation grid.

The heatmap shows that banks at the top of the ranking generally achieve high scores across several dimensions, indicating a greater degree of integration in the reporting process. BNP, Rabobank, ABN AMRO, and BBVA indeed show high values in many sections, although with specific differences: BNP reaches maximum levels in several substantive areas, while Rabobank appears particularly balanced and also achieves full scores in Outlook and Materiality.

At the same time, Figure 2 shows that some intermediate institutions are not simply "average" across all dimensions but rather display more articulated combinations. Intesa S.P., for example, shows a relatively strong profile in Business model and Future outlook, but is weaker in Company profile and Governance. Société Générale stands out for very high formal quality but shows lower intensity in the forward-looking dimension. These cases confirm that reporting quality is multidimensional and that the total score alone may conceal relevant configurations.

In addition to the overall ranking, the analysis enables the identification of several reporting profiles. Profiling was conducted on an exploratory basis, using normalized scores across the nine sections of the grid. The profiles should not be understood as rigid categories but rather as recurring configurations useful for interpreting qualitative differences among the reports.

As a robustness check, the total index was recalculated using an equal-dimension aggregation scheme. Each of the nine section scores was divided by its theoretical maximum, and each normalized dimension was assigned to a weight of one-ninth. The Spearman rank correlation between the original ranking and the equal-dimension ranking is 0.984 ($p < 0.001$). BNP and Rabobank exchange the first two positions, but the composition of the group of leading banks and the identification of the lowest-ranked banks remain substantially unchanged.

A second specification first normalizes each indicator by its individual maximum, assigns equal weight to indicators within each dimension and then assigns equal weight to the nine dimensions. Its rank correlation with the original score is 0.991 ($p < 0.001$). The results are therefore robust to reasonable alternative weighting schemes.

A first profile may be defined as mature and balanced reporting. This group includes BNP, Rabobank, ABN AMRO, and BBVA, with an average score of 88.8/100. These banks show high levels across almost all sections and, above all, good integration among the descriptions of the context, strategy, performance, and outlook. The distinctive feature of this group is its ability not to limit itself to institutional reporting but to structure the sustainability narrative around strategic and forward-looking elements.

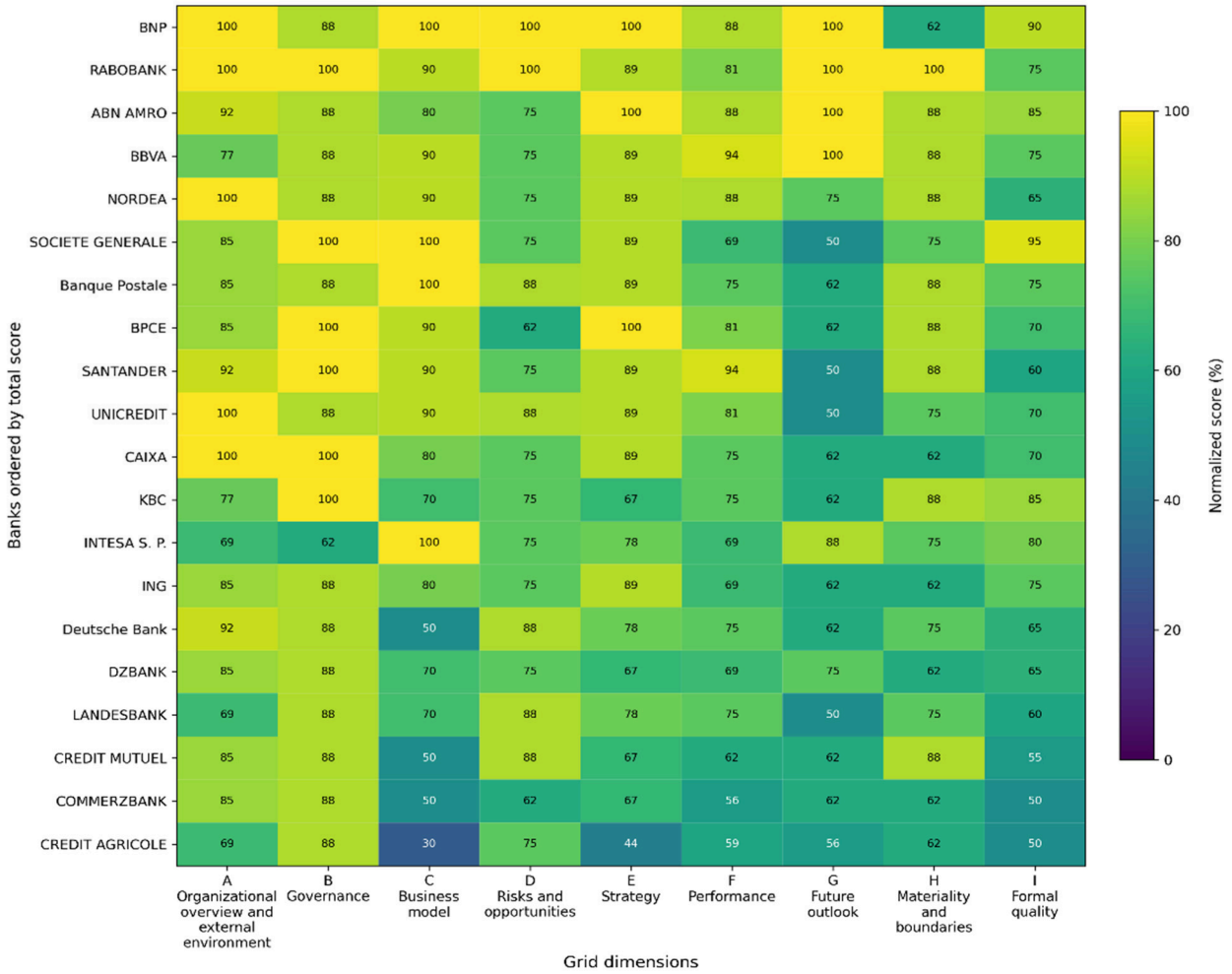


Figure 2. Heatmap of normalized scores by banks and dimensions. Source: author's elaboration.

A second profile may be defined as solid but less forward-looking reporting. It includes Banque Postale, BPCE, Caixa, ING, Nordea, Santander, Société Générale, and UniCredit, with an average score of 80.8/100. These reports are generally robust in terms of company profile, governance, business model, and strategy, but receive lower scores in Section G. The main area for improvement, therefore, concerns the ability to connect sustainability information to future scenarios, expected changes, business implications, and response strategies.

A third profile is represented by an atypical or selectively specialized case, namely Intesa. The overall score of 77/100 places the bank in the intermediate range, but its internal structure is distinctive. The report achieves high scores in business model, outlook, and methodological quality, but is weaker in company profile and governance. This case is interesting because it shows how an average score may result not from uniformly intermediate quality, but from a combination of very strong areas and weaker ones.

A fourth profile may be defined as less mature or less <IR>. It includes Commerzbank, Crédit Agricole, Crédit Mutuel, Deutsche Bank, DZ Bank, KBC, and Landesbank, with an average score of 69.3/100. The inclusion of KBC in this group does not depend on a particularly low overall score, but rather on the qualitative configuration of the report, which is characterized by good results in governance, materiality, and formal quality, but by relatively weaker values in business model, strategy, and performance. Overall, this profile points to fewer <IR> principles, with some information components adequately covered but not always coherently connected to value creation, performance, and the outlook.

The section-by-section analysis (Table 4) shows that the best represented areas in the disclosure are governance and organizational overview, and external environment. Section B, relating to governance, records an average equal to 90.0% of the maximum score, while Section A, relating to organizational overview and external environment, reaches an average of 86.5%. Section E, dedicated to strategic objectives, also shows a high level, equal to 82.2% of the maximum.

Table 4. Ordered normalized mean.

Section	Content	Normalized Mean
B	Governance	90.0%
A	Organizational overview and external environment	86.5%
E	Strategic objectives	82.2%
D	Risks and opportunities	79.4%
C	Business model	78.5%
H	Double Materiality	77.5%
F	Performance	76.1%
I	Preparation and presentation	70.8%
G	Outlook	69.7%

Source: author's elaboration.

This finding is relevant because it indicates greater maturity among banks in representing institutional structures, governance responsibilities, and strategic directions, while more critical issues emerge in the sections requiring more analytical, comparative, or forward-looking disclosure. Sections G and I record the lowest average values. Section G, relating to the report's ability to discuss future changes, their implications for the business, response capacity, and the adequacy of resources, reaches only 69.7% of the maximum score. Section I, which covers aspects such as conciseness, assurance, comparability, readability, ESG certifications, connection to the SDGs, methodology, accessibility, and report naming, accounts for 70.8%.

This evidence, confirming the findings of previous investigations [15,17], suggests that banks are more effective in communicating already institutionalized elements of reporting—governance, structure, objectives, and strategies—while they are less consistent in their ability to produce concise, comparable, forward-looking reports that are fully integrated from a methodological perspective.

5.1. Strongest Indicators and Areas of Weakness

The analysis of individual indicators enables more precise identification of the strengths and weaknesses of reporting. Among the strongest indicators are the description of core activities, which reaches 100% of the maximum average score; report accessibility; the description of the governance structure; attention to the skills and diversity of governance bodies; assurance; the presentation of results against objectives; and the presence of strategic objectives.

These results indicate that many banks have now steadily incorporated the descriptive and institutional elements of sustainability into their reports. In other words, reporting appears generally robust with respect to the organization's identity, governance structure, document availability, and the communication of objectives and results.

By contrast, some indicators that require a greater capacity for synthesis, integration, and comparison appear more problematic (Table 5). The weakest indicator is conciseness, with an average value equal to 31.7% of the maximum. This is followed by the impact on six capitals, at 41.7%, and the name of the report as an <IR>, at 42.5%. The use of sector benchmarks, the discussion of future implications, and the representation of response capacity also have relatively low average values, at 65.0%.

Table 5. Average (normalized) scores of the most problematic indicators.

Section	Content	Normalized Mean
I1	Conciseness	31.7%
F6	Impact on capitals	41.7%
I9	Report title/Report name	42.5%
I5	ESG certifications	60.0%
F3	Benchmark	65.0%
G2	Future implications	65.0%
G3	Response capacity	65.0%
C1	Business model inputs	67.5%

Source: author's elaboration.

These results make it possible to better characterize the nature of the observed weaknesses. They do not primarily concern the absence of disclosure, but rather the difficulty of making disclosure effectively integrated, comparable, and forward-looking. The low assessment of conciseness suggests that many reports tend to be extensive and information-rich, but not necessarily selective.

The relative weakness of the "impact on capitals" indicator also points to a limited ability to connect sustainability information with the effects generated on the different forms of capital relevant to the organization. Similarly, the scores for benchmarks and the forward-looking perspective indicate that reporting often prioritizes internal description over external comparison and assessment of future development trajectories.

5.2. Information Substance and Formal-Methodological Quality

A second interpretative lens disaggregates reporting quality into two components: on the one hand, informational substance, represented by Sections A–H; on the other hand, formal-methodological quality (basis of presentation, etc.), represented by Section I. Figure 3 positions each bank within a two-dimensional map. The dashed lines indicate the sample averages and divide the space into four interpretative quadrants: high substance and high form; strong content but improvable form; high form but relative substance; and lower maturity across both dimensions. More specifically, the horizontal axis measures the information substance of the report, calculated on the AH sections and normalized to the theoretical maximum of 80 points. The vertical axis measures the formal-methodological quality, calculated on section I and normalized to the theoretical maximum of 20 points. The dashed lines indicate the sample means.

Figure 3 enables further refinement of the interpretation of the results. Some banks combine high informational substance with high formal quality, positioning themselves in the quadrant of more mature reporting. This is particularly the case for BNP, ABN AMRO, and BBVA. Other banks show high informational substance but relatively lower formal-methodological quality: Rabobank, Nordea, and Santander display strong substantive content but could improve conciseness, methodological structure, or the report's formal construction.

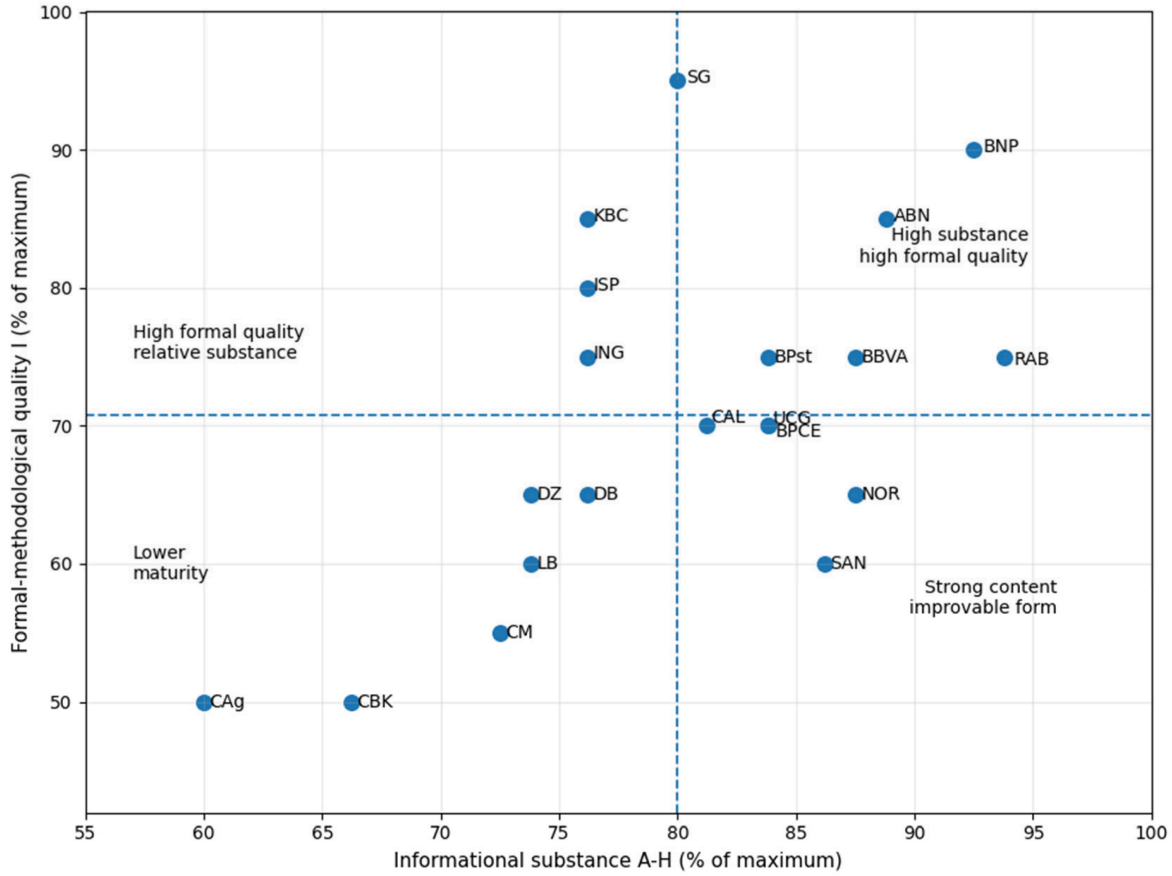


Figure 3. Substance–form map of reporting. Source: author's elaboration.

By contrast, Société Générale, KBC, Intesa S.P., and ING appear relatively stronger in the formal dimension than in the substantive component. The map, therefore, confirms that reporting maturity is not a one-dimensional phenomenon: a report may be rich in content but less effective in form, or formally well-structured but less integrated in terms of information. We also observe that no specific differences emerge among the six banks (Banque Postale, BPCE, Crédit Mutuel, Dzbank, Landesbank, and Rabobank) that are not listed on the stock exchange.

The robustness of the substance–form classification was also assessed under an equal-dimension specification. Specifically, the substance score was recalculated by normalizing each of Sections A–H by its theoretical maximum and assigning an equal weight to each of the eight dimensions. The formal-methodological score remained unchanged because Section I was already normalized by its theoretical maximum. Under this alternative specification, 19 of the 20 banks remain in the same quadrant. The only change concerns Société Générale, which moves from the quadrant characterized by relatively stronger formal-methodological quality to the high-substance/high-form quadrant. This change is attributable to the bank's position very close to the sample-average dividing line: its original substance score is 80.00, compared with a sample mean of 80.06, whereas its equal-dimension substance score is 80.28, compared with a corresponding sample mean of 80.05. The change is therefore marginal and does not alter the substantive interpretation of the results. Overall, the distinction among the four reporting configurations remains highly stable under equal dimensional weights.

5.3. Discussion

Overall, the results of this study exhibit a high degree of consistency between the largest UE banking groups and the <IR> guidelines, more so than for smaller banks [14,21].

The most consolidated areas concern governance, company profile, and strategy. The main areas for improvement, instead, concern conciseness, impact on capitals, benchmarks, the forward-looking perspective, and the connection between performance and the transformation of the business model. Findings also show that sustainability reporting adherence among the examined banks, assessed against the <IR> principles, does not depend solely on the quantity of information available but rather on the ability to integrate such information into a coherent narrative of value creation.

This evidence allows three considerations to be formulated. First, European banking reporting now appears to be widely institutionalized: most banks can describe their activities, governance, strategic objectives, and main results. Second, disclosure maturity is not uniform: some dimensions, particularly forward-looking and comparative ones, remain less developed. Third, the formal quality of the report does not necessarily coincide with the substantive quality of the information and even less with the quantity of information presented. A report may be methodologically well structured, accessible, and readable, and supported by large volumes of detailed information, yet still not be fully effective at connecting sustainability, capital, performance, and future strategy.

Therefore, the analysis suggests that the main qualitative leap required in banks' reporting does not concern only the expansion of ESG information but rather its greater integration. In particular, the most mature reports, according to the perspective investigated, are those that explicitly connect the organization's profile, business model, risks and opportunities, strategy, achieved results, and future outlook. By contrast, less mature reports tend to present these elements as separate blocks of information, thereby reducing the document's ability to represent the value-creation process in a unified manner. These results appear to be consistent with those of previous studies (15, 17, 37), which highlight disparities in bank maturity, with the majority demonstrating more advanced and transparent governance and environmental practices, while social indicators remain inconsistently reported.

The observed differences across reporting dimensions may be interpreted in light of the varying degrees of institutionalization and complexity that characterize the underlying disclosure practices. Governance, organizational structure, and strategic objectives are among the most extensively reported dimensions. These areas are already embedded in established corporate-reporting practices and, particularly in the banking sector, are supported by a highly developed regulatory and supervisory framework. Banks can therefore rely on consolidated processes, responsibilities, and information systems when preparing these disclosures.

By contrast, future orientation, impact on capitals, and external comparison require a more advanced degree of integration. Forward-looking disclosure requires banks not only to describe existing policies but also to identify relevant future changes, evaluate their consequences for the business and explain the adequacy of their strategic responses and resources. These assessments are intrinsically more uncertain, may involve commercially sensitive information and are less easily supported by standardized indicators. This may help explain why the reports are generally more complete in describing current governance arrangements and achieved results than in connecting sustainability issues with future scenarios and value creation over time.

The substance–form analysis also indicates that reporting maturity is not necessarily a linear process. Some banks combine substantial information with strong methodological and presentational quality, while others appear more advanced in only one of these two components. One possible explanation is that formal reporting infrastructures (including assurance, accessibility, methodological notes, and standardized presentation) can develop independently of the organizational capacity to integrate sustainability informa-

tion into business models, risk management, strategy, and performance. Conversely, a report may contain substantial information while remaining less concise, comparable, or methodologically structured.

These interpretations should be considered exploratory. The cross-sectional design and the limited number of banks preclude the study from identifying the causal determinants of reporting quality. Bank size, national institutional conditions, reporting experience, internal data systems, and governance arrangements may contribute to the observed heterogeneity, but evaluating their individual effects would require a larger sample, longitudinal information, and an explicitly explanatory research design.

In light of the above statements, it can be assumed that shaping the ESRS in line with the guidelines of the <IR> Framework, which are specifically aimed at avoiding the risks outlined above, could help close these gaps, making non-financial disclosure more effective in pursuing its primary objective of ensuring sustainable development in a broad sense.

6. Conclusions

This study aimed to evaluate the qualitative quality of reports submitted by the twenty largest EU banks in compliance with the Corporate Sustainability Reporting Directive, which aims to address all companies along the sustainable development pathway. The aim is to understand to what extent these companies limit themselves to proposing disclosures primarily aimed at respecting regulatory principles related to sustainable development, or to considering this reporting as a strategic tool to transparently demonstrate how their value creation occurs, in order to improve relationships with stakeholders and related commitments. For banks, reference to the <IR> guidelines is an effective way to indirectly assess the quality of non-financial disclosure [14,21,37].

The findings of the study highlight an overall medium-high level of reporting quality, but also significant differences between institutions and across information dimensions. At least four bank profiles can be identified. A first profile includes the four banks that can propose reporting defined as mature and balanced. A second profile, the largest, contains banks that present robust but less prospective reporting and are oriented towards information connectivity. Conversely, a third profile includes only one bank that, unlike the others, presents a report that appears qualitatively weaker in the company profile description and governance sections. A fourth profile includes the remaining seven banks that, overall, have both lower average quality values and less <IR>, in which various information components do not appear adequately consistently linked to value creation, performance, and prospects.

At the content level, overall, the major critical issues emerge in sections that require more analytical, comparative, or prospective disclosure. Particularly, Section G on the report's ability to discuss future outlooks reaches only 69.7% of the maximum. Section I, Formal and Methodological Quality, which covers multiple heterogeneous aspects such as synthesis, assurance, comparability, readability, ESG certifications, connection to the SDGs, methodology, accessibility, and report naming, scores 70.8%. This evidence suggests that banks are more effective in communicating already institutionalized elements of reporting—governance, structure, objectives, and strategies—while being less homogeneous in their ability to produce synthetic, comparable, future-oriented, and fully methodologically integrated reports.

Obviously, the results of this evaluation only provide a snapshot of what is a process of constant improvement in reporting, which clearly demonstrates the desire of all the banks examined to overcome mere compliance with the rules, trying to propose a disclosure more suitable to represent the company's potential, and its effective pursuit of sustainable development criteria.

6.1. Implications

The scientific accounting literature agrees that quality disclosure is the best way to minimize greenwashing, which undermines regulatory efforts to reduce the impact of economic activities. However, it would be a losing battle from the start to think that we could force companies to become sustainable if they did not also see potential economic benefits. These benefits have been assumed to manifest as an overall improvement in customer retention and the commissioning of suppliers and other stakeholders [4,12], as well as an improvement in legitimacy with citizens in general and public authorities [14,17]. If this dynamic developed autonomously, central authorities could act only as regulators of sustainability processes.

With specific reference to banks, a first step is to simplify their efforts concerning the impact of sustainability processes. Large banks often collect multiple sustainability certifications in the broad sense, keeping them side by side until they overlap, resulting in unnecessary duplication of effort and costs, while smaller local banks usually have fewer financial resources and internal skills to dedicate to sustainability reporting.

As explained above, this is one of the founding reasons that is pushing more and more scholars to consider a single, universal model of non-financial disclosure, even better if it is grafted and coordinated with economic performance. The purpose is also to show to what extent costs directed toward sustainability in a broad sense are actually investments, as well as how revenues are a consequence of prior investments in this direction.

From this perspective, banks play the dual role of entities obliged to pursue the principles of sustainability, but in parallel a fundamental driving force for other companies as customers to be also incentivized to pursue similar paths. For this reason, policymakers could, from a supply-side perspective, propose rules that enhance the role of financial institutions. The latter, in turn, should formalize credit access procedures with reference to new sustainability criteria, which, thanks to the transparency and fairness components connected to sustainability reporting or ESG, are now an active tool for evaluating borrowers' ratings. The presence of ESG certifications and sustainability, in general, increases borrowers' information and management transparency and reduces information asymmetries. This is a benefit for the lender bank [24,39].

6.2. Limitations and Future Research

The results discussed above must be interpreted in light of some obvious methodological limitations. The most relevant concern is the evaluation of the report. Although all reports were independently examined by four researchers and disagreements were resolved through an indicator-level consensus procedure, the assessment necessarily retains a qualitative component. Moreover, the preliminary coding sheets were not preserved as separate definitive datasets, preventing a retrospective calculation of inter-coder reliability based on genuinely independent ratings. Future applications of the framework should retain the complete pre-consensus coding matrices and report an ordinal multi-coder reliability statistic. Small differences in total scores should therefore be interpreted cautiously and in conjunction with the dimension-level profiles. Anyway, this concern can be partially addressed without altering the empirical analysis, as the manuscript already documents a four-author individual coding and consensus procedure. The study should not claim that consensus is statistically equivalent to inter-coder reliability. If the independent ratings exist, a reliability analysis should be added. If they do not, the most defensible solution is to explain why a retrospective coefficient would be invalid, acknowledge the limitation and avoid interpreting small score differences as substantive.

A second limitation concerns the sample of twenty banks, which does not support strong statistical generalizations; all the more so since the process is still in progress. Third,

some items in the grid, particularly those related to the report's title or brevity, capture formal aspects that may impact the overall score without directly reflecting the substantive depth of disclosure. A further clear limitation is the subjective assessment of the completeness and effectiveness of the information presented in the reports by the banks.

Despite these limitations, the analysis allows us to identify significant differences in reporting models and highlight distinct profiles among the observed banks. From this perspective, the applied checklist is a useful tool not only for ranking institutions based on an overall score, but, above all, for understanding which reporting aspects are most consolidated and which require further development. Future contributions adopting a similar methodology could further refine the checklist's effectiveness and incorporate any additional upgrades to the integrated report's content, especially in light of increasingly stringent regulations that will affect a growing number of companies.

Author Contributions: Conceptualization, A.T., G.S. and S.M.; methodology, G.S.; validation, A.T., G.S., S.M. and N.F.; formal analysis, G.S. and N.F.; investigation, A.T., G.S., S.M. and N.F.; resources, G.S. and N.F.; data curation, G.S. and N.F.; writing—original draft preparation, A.T., G.S. and S.M.; writing—review and editing, A.T., G.S. and S.M.; visualization, G.S. and N.F.; supervision, A.T.; project administration, A.T., G.S., and S.M. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data supporting the findings of this study are available from the authors upon request.

Conflicts of Interest: Author Nicola Fiore were employed by the company Deloitte. The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Appendix A

Table A1. The Selected Banks.

Name	Assets (€ Billion)	Employees	Country	Report Name	Pages	Url
ABN AMRO	411	~23,000	NL	Annual Report	434	https://downloads.ctfassets.net/1u811bvgvthc/688tP3vcLbHAgEsUavbdMR/22bd74bf45996df3f6e76b0893ecc950/ABN_AMRO_Bank_-_Annual_Report_2025.pdf (accessed on 10 July 2026)
Banque Postale	767	~45,000	FR	Sustainability Report	213	https://www.labanquepostale.com/content/dam/lbp/documents/institutionnel/rse/2025/the-sustainability-report.pdf (accessed on 10 July 2026)
BBVA	799	~130,000	ES	Annual Report	735	https://shareholdersandinvestors.bbva.com/wp-content/uploads/2026/03/Annual-Report-BBVA-2025_ENG.pdf (accessed on 10 July 2026)

Table A1. *Cont.*

Name	Assets (€ Billion)	Employees	Country	Report Name	Pages	Url
BNP	2810	~183,000	FR	Integrated Report	41	https://cdn-group.bnpparibas.com/uploads/file/BNP_Paribas_Integrated_Report_2025.pdf (accessed on 10 July 2026)
BPCE	1647	~140,000	FR	Sustainability Report	416	https://www.groupebpce.com/app/uploads/2026/05/bpce-urd--2025.pdf (accessed on 10 July 2026)
Caixa	653	~30,000	ES	Sustainability Report	162	https://www.criteriacaixa.com/wp-content/uploads/2026/06/Criteria_EINF_2025_ENG-2.pdf (accessed on 10 July 2026)
Commerzbank	574	~38,000	DE	Annual Report	432	https://companiesmarketcap.com/annual-reports/22125.ar.en.2025.pdf (accessed on 10 July 2026)
Credit Agricole	2693	~145,000	FR	Integrated Report	78	https://rapport-integre.credit-agricole.com/wp-content/uploads/2026/05/Integrated-Report-25-26_Credit-Agricole-S.A._EN_May-2026.pdf (accessed on 10 July 2026)
Crédit Mutuel	1252	~75,000	FR	Annual Report	380	
Deutsche Bank	1436	~83,000	DE	Annual Report	756	https://www.db.com/news/detail/20260312-deutsche-bank-publishes-2025-annual-report-and-confirms-outlook-for-2026 (accessed on 10 July 2026)
Dzbank	693	~35,000	DE	Sustainability Report	161	https://www.dzbank.com/content/dzbank/en/home/we-are-dz-bank/corporate-responsibility.html (accessed on 10 July 2026)
ING	1056	~57,000	NL	Annual Report	412	https://ing.com/investors/financial-performance/annual-reports/2025 (accessed on 10 July 2026)
Intesa S.P.	966	~65,000	IT	SDGs Report	172	https://group.intesasanpaolo.com/content/dam/portalgroup/repository-documenti/sostenibilt%C3%A0/sdgs-report/SDGs_Report_2025.pdf (accessed on 10 July 2026)
KBC	386	~27,000	BE	Sustainability Report	209	https://www.kbc.com/content/dam/kbccom/doc/investor-relations/Results/jvs-2025/csr-sr-2025.pdf (accessed on 10 July 2026)
Landesbank	369	~18,000	DE	Annual Report	347	https://www.sustainabilityreports.com/bayernlb/2025/annual-report-de (accessed on 10 July 2026)

Table A1. *Cont.*

Name	Assets (€ Billion)	Employees	Country	Report Name	Pages	Url
Nordea	645	~32,000	SE	Annual Report	101	https://www.nordea.com/en/investors/group-annual-reports (accessed on 10 July 2026)
Rabobank	651	~35,000	NL	ESG Investor	65	https://media.rabobank.com/asset/0ba01923-4559-4a4f-8e66-b501473837dc/ESG-Investor-Presentation-18-November-2025.pdf (accessed on 10 July 2026)
Santander	1901	~185,000	ES	Annual Report	910	https://www.santander.com/en/shareholders-and-investors/financial-and-economic-information/annual-report (accessed on 10 July 2026)
Société Generale	1601	~140,000	FR	Integrated Report	69	https://www.societegenerale.com/en/societe-generale-group/strategy/integrated-report D.25-0088—12 March 2025 (accessed on 10 July 2026)
Unicredit	811	~83,000	IT	Annual Report	1044	https://www.unicreditgroup.eu/content/dam/unicreditgroup-eu/documents/en/investors/financial-reports/2025/4q25/2025-Annual-Reports-and-Accounts.pdf (accessed on 10 July 2026)

Source: authors' elaboration.

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