

# Examination of the Sustainability Disclosure Practices at Banks Operating in Hungary\*

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*The EU's directive on corporate sustainability reporting, which entered into force in 2022, brought changes to corporate disclosure practices. This study presents the potential effects of the new regulation on banks' disclosures. In the course of the research, the disclosure practices of obliged banks operating in Hungary were examined using content analysis. The results indicate that, as a consequence of the regulation, overall disclosure intensity decreased; however, this decline is driven more by formal than substantive changes. Reports place greater emphasis on descriptive content, while numerical and graphical disclosures have receded into the background. It can also be established that the sustainability reports of the examined banks have become more similar both in content and in form, confirming the unifying objective of the regulation.*

**Journal of Economic Literature (JEL) codes:** G21, K32, M48, Q56

**Keywords:** bank, sustainability, CSRD, NFRD, content analysis

## 1. Introduction

Today's global challenges – including climate change, the energy crisis, natural disasters, and armed conflicts – may entail significant social and economic costs, potentially amounting to billions of dollars. At the same time, the concept of sustainable development is not new: the Brundtland Report (“Our Common Future”) already called for environmentally sustainable growth in 1987, interpreting the satisfaction of present needs without compromising the opportunities of future generations. Accordingly, meeting current needs presupposes consideration of environmental constraints; neglecting these constraints may lead to an unsustainable development path in the long term (*Brundtland 1987; Papp et al. 2022*).

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Sustainability considerations are increasingly integrated into corporate decision-making, including in the banking sector. This process is reinforced by EU policy initiatives: on 8 March 2018, the European Commission launched the Sustainable Finance Action Plan, emphasising the intermediary role of the financial sector in the green transition. Subsequently, on 11 December 2019, the European Union presented the European Green Deal, which aims to achieve climate neutrality by 2050 by supporting the green transition, reducing carbon emissions, promoting the use of renewable energy and encouraging the circular economy (Kirschenmann 2022). One of the pillars of the above regulatory framework is the regulation of sustainability disclosures. The first directive in this area, the Non-Financial Reporting Directive<sup>1</sup> (NFRD, 2014/95/EU), made the disclosure of sustainability-related information mandatory for certain large companies from 2017 onwards. In 2022, this framework was replaced by the Corporate Sustainability Reporting Directive<sup>2</sup> (CSRD, 2022/2464/EU), which not only expanded the scope of obliged entities, but also introduced stricter formal and substantive requirements for corporate sustainability reporting.

The focus of this research is the sustainability disclosure practices of banks operating in Hungary that fall under the personal scope of the CSRD. The study seeks to answer how the disclosure practices of the examined banks have changed as a consequence of the new regulation. In the empirical analysis, banks' sustainability disclosures were examined using content analysis for the year preceding and the year following the introduction of the CSRD. The study investigates how disclosure intensity has been impacted by the new regulation. The term 'disclosure intensity' is defined as the quantity of information disclosed, as well as a complex indicator that also takes into account the form of disclosure (text, data, graphs, etc.) (Dumitru *et al.* 2017; Lippai-Makra 2025).

## 2. Theoretical background

In this section, the extant literature and regulatory framework are taken as the basis upon which the corporate behaviour relating to the aforementioned topic, together with the relevant theories on reporting and the regulatory background, are presented.

### 2.1. Corporate behaviour

According to Friedman's (1970) classical position, the primary objective of corporate social responsibility is profit maximisation. This approach is still widely supported in the literature, although the role of non-financial considerations in corporate decision-making remains debated (Hill 2020). In early theoretical frameworks,

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<sup>1</sup> <https://eur-lex.europa.eu/eli/dir/2014/95/oj/eng>

<sup>2</sup> <http://data.europa.eu/eli/dir/2022/2464/oj>

investment decisions were primarily determined by the optimisation of return and risk, in line with the assumptions of rational actors in neoclassical economic thinking (Sherwood – Pollard 2018). However, empirical findings have shown that neither aggregated market processes nor individual investment decisions can be fully explained by the assumption of perfect rationality. This led to the emergence of behavioural finance, which interprets investor decisions by considering bounded rationality, limitations in information-processing capacity and unconscious cognitive biases (Barberis – Thaler 2003). According to this perspective, investment decisions are influenced not only by financial indicators, but also by the interpretation of available information and the complexity of the decision environment. Among investors interested in non-financial information, a distinction can be made between those who primarily use such factors to assess corporate risk profiles and those who incorporate value-based considerations into their decisions (Lippai-Makra – Kovács 2021). At the same time, the literature does not provide clear evidence as to whether a value-based approach necessarily leads to superior financial performance, even though some authors emphasise the potential long-term competitive advantages associated with sustainability considerations (Esty – Lubin 2020).

The economic interpretation of sustainability is not new. Sophe (2004) addressed sustainable corporate finance early on in the context of environmental economics and business ethics, while corporate social responsibility disclosure was long considered primarily a Western phenomenon (Barakat et al. 2015). Following the Covid-19 crisis, increasing emphasis was placed on establishing more sustainable growth paths during economic recovery (Esty – Cort 2020). The transition to a low-carbon economy requires substantial investment in industry, transportation, energy and infrastructure sectors, in which the capital allocation mechanisms of the financial system play a crucial role (Warshauer – Krosinsky 2020; Holczinger – Sárvári 2025; Papp et al. 2022). Accordingly, a sustainable economic environment cannot be interpreted without a sustainable financial system (Stamelos 2022). Central banks increasingly recognise that climate change and the associated physical and transition risks may negatively affect price stability and financial stability, particularly if these risks are not adequately reflected in the pricing of financial assets (Baranyai – Banai 2022; Kandrács et al. 2021; Papp et al. 2022).

## **2.2. Reporting theories**

Corporate reporting practices are generally summarised in the literature by four main theories: stakeholder theory, agency theory, signalling theory and legitimacy theory (An et al. 2011; Omran – Ramdhony 2015; Ortas et al. 2015). According to stakeholder theory, the firm is a coalition of stakeholder groups; therefore, reporting must satisfy the diverse information needs of these groups. Long-term survival depends on the alignment of stakeholder interests (Lakatos 2013; Freeman 2010;

*Mahajan et al. 2023*). The agency problem arises from the differing interests of owners and managers, which may reduce firm value through agency costs (*Jensen – Meckling 1976*). Signalling theory emphasises the reduction of information asymmetry: firms provide costly and therefore credible signals to demonstrate their quality to investors (*Connelly et al. 2011; An et al. 2011*). According to legitimacy theory, organisations strive for social acceptance by aligning with societal norms and communicating their compliance (e.g. through social and environmental reporting), particularly in environmentally sensitive industries (*An et al. 2011; Deegan 2014*).

In the past, companies were already required to disclose certain non-financial information, including information relating to sustainability. In this study, non-financial disclosure refers to disclosures beyond the four fundamental financial statements (statement of financial position, income statement, cash flow statement and statement of changes in equity). Sustainability disclosure refers to disclosures covering environmental, social and governance (ESG) issues. Based on the work of *Lippai-Makra et al. (2024)*, the sustainability reporting process can be summarised as follows:

1. Identification of motivation – The company recognises the need for sustainability reporting, which may be driven by voluntary or mandatory regulations.
2. Development of reporting strategy – The company determines which topics and risks it intends to report on (e.g. environmental, social, governance factors).
3. Selection of methodology – The reporting format and applied sustainability standards are chosen (e.g. GRI,<sup>3</sup> SASB,<sup>4</sup> CDP,<sup>5</sup> TCFD<sup>6</sup>).
4. Preparation and publication of the report – The report is compiled and published for stakeholders.
5. Evaluation of feedback – Stakeholders assess the report, providing feedback that may improve future disclosure practices.

In this research, we focus on steps 2, 3 and 4 in the above process in relation to the sustainability disclosures of obliged banks operating in Hungary. Specifically, the study examines which topics are reported, how they are reported, according to which standards, and where the reports are accessible to stakeholders. Motivational factors and stakeholder feedback (steps 1 and 5) are not within the scope of this study.

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<sup>3</sup> Global Reporting Initiative.

<sup>4</sup> Sustainability Accounting Standards Board.

<sup>5</sup> Carbon Disclosure Project.

<sup>6</sup> Task Force on Climate-related Financial Disclosures.

## **2.3. Regulatory background**

### *2.3.1. Sustainable finance action plan*

The EU Sustainable Finance Action Plan was launched in 2018 with the objective of supporting the transition to a carbon-neutral economy while strengthening sustainable growth and financial stability. It aims to create a more transparent and greener financial system. The Action Plan is built on three pillars.

The first pillar is the Taxonomy Regulation (EU 2020/852), which defines when an economic activity can be considered environmentally sustainable. It enhances transparency, reduces the risk of greenwashing, establishes technical screening criteria and social safeguards, and also has implications for the banking sector (*Kandrács et al. 2021; Kirschenmann 2022*). The second pillar is the mandatory disclosure framework. Corporate environmental and social impacts are regulated by the CSRD (EU 2022/2464), while business and financial risks arising from sustainability exposures are regulated by the Sustainable Finance Disclosure Regulation (SFDR, EU 2019/2088). The third pillar consists of investment tools (benchmarks, standards, labels), supported by the Regulation on EU Climate Benchmarks (EU 2019/2089), aligned with the objectives of the Paris Agreement. The focus of this research is the CSRD, adopted in 2022, which requires more detailed ESG disclosures, strengthens transparency and applies the principle of double materiality; the study examines its impact on the sustainability reports of Hungarian banks.

### *2.3.2. CSRD (Corporate Sustainability Reporting Directive)<sup>7</sup>*

Before discussing the CSRD, it is imperative to refer to Directive 2014/95/EU<sup>8</sup> of the European Parliament and of the Council (NFRD), which introduced mandatory non-financial reporting for certain large undertakings. This directive represented one of the most significant regulatory developments in sustainability reporting (*Posadas et al. 2023*). The objective was to enhance the transparency and accountability of large companies in relation to sustainability and corporate social responsibility aspects by requiring information on environmental impacts, social and employee matters, anti-corruption measures and governance issues (*Manes-Rossi et al. 2018*). According to *Pizzi et al. (2022)*, although the regulation primarily aimed at harmonisation and transparency, it also indirectly contributed to Sustainable Development Goal 12 (responsible consumption and production). However, the NFRD was criticised, as the non-financial disclosures provided by companies were often not comparable, reliable or relevant (*Faqih – Kramer 2024*).

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<sup>7</sup> Based on the legislation in force on the date of submission of the study (30 June 2025). This study does not address the possible effects of the provisions of the Omnibus bill currently under discussion.

<sup>8</sup> <https://eur-lex.europa.eu/eli/dir/2014/95/oj/eng>

The CSRD replaced the NFRD and fundamentally transformed the European sustainability reporting framework by gradually expanding the scope of obliged entities and harmonising reporting formats to improve comparability (*Baumüller – Grbenic 2021; Faqih – Kramer 2024*).

In the first wave, public-interest large undertakings exceeding at least two of the following three criteria at the balance sheet date of the preceding financial year were required to prepare their first sustainability report for the 2024 financial year: total assets of at least EUR 25 million, net turnover exceeding EUR 50 million and an average number of employees of at least 500 during the financial year. As these companies were already subject to non-financial reporting under the NFRD, they had already accumulated several years of experience in sustainability reporting.

The regulation also standardises the content and format of sustainability reports to ensure comparability. On 31 July 2023, the European Commission adopted the European Sustainability Reporting Standards (ESRS), which govern corporate sustainability reporting. The standards aim to balance the reporting burden on companies with the objectives of the European Green Deal. They cover environmental, social and governance topics, including climate change and human rights.<sup>9</sup>

Furthermore, the directive requires mandatory assurance of sustainability reports. Auditors must provide an assurance opinion on whether the report complies with sustainability reporting requirements. In this context, the IAASB<sup>10</sup> issued ISSA 5000, a new international standard for sustainability assurance engagements, intended to provide a unified framework for verifying ESG data and enhancing reliability and transparency<sup>11</sup>.

### 2.3.3. Hungarian legal background

In Hungary, the CSRD was implemented through amendments to the Hungarian Accounting Act and Act LXXV of 2007 on the Hungarian Chamber of Auditors, Audit Activities and Public Oversight of Auditors. The new provisions entered into force on 1 January 2024. To determine the personal scope of the regulation, it is necessary to define public-interest entities, as specified in Act LXXV of 2007 and further clarified by sector-specific legislation, including certain exemptions. In general, public-interest entities in Hungary include undertakings, whose transferable securities are admitted to trading on a regulated market of any Member State, as well as credit institutions and insurance undertakings. However, pursuant to Act CCXXXVII of 2013

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<sup>9</sup> [https://finance.ec.europa.eu/news/commission-adopts-european-sustainability-reporting-standards-2023-07-31\\_en](https://finance.ec.europa.eu/news/commission-adopts-european-sustainability-reporting-standards-2023-07-31_en)

<sup>10</sup> International Auditing and Assurance Standards Board

<sup>11</sup> <https://www.iaasb.org/focus-areas/understanding-international-standard-sustainability-assurance-5000>

on Credit Institutions and Financial Enterprises, the Magyar Nemzeti Bank (MNB, the central bank of Hungary), MFB Hungarian Development Bank Private Limited Company and Hungarian Export-Import Bank Plc. are not public-interest entities.

### **3. Previous literature**

Sustainability reporting has undergone significant development over the past decade, particularly as a result of European Union regulatory initiatives (NFRD, CSRD). Research primarily focuses on the effects of regulation, the role of institutional factors, differences between mandatory and voluntary reporting, and comparative analyses of European and international corporate sustainability reporting practices. The level and quality of sustainability reporting are significantly influenced by the institutional environment and legal framework (*Barakat et al. 2015*). The increasing harmonisation of disclosures is often explained by the three forms of institutional isomorphism—coercive, normative and mimetic (*Pizzi et al. 2023; Posadas et al. 2023; Stefanescu 2022; Tóth – Lippai-Makra 2024*). Examining German corporate practices, *Zülch et al. (2021)* concluded that sustainability reporting in Germany already partially aligns with CSRD requirements due to the country's strict corporate governance and sustainability standards. Comparing US and European sustainability reporting practices, *Soyombo et al. (2024)* found that industry standards and market pressure dominate in the United States, while in Europe mandatory regulation ensures more structured, comparable reporting.

Studies examining Hungarian sustainability reporting indicate that large companies are approaching compliance with European requirements, while small and medium-sized enterprises (SMEs) still face challenges. *Lippai-Makra et al. (2024)* analysed the sustainability reports of Hungarian large companies and found that subsidiaries belonging to corporate groups are closer to future regulatory requirements. Environmental factors were the most frequently reported topics, whereas anti-corruption activities were reported least frequently. Examining sustainability attitudes among Hungarian SMEs, *Surman and Böcskei (2023)* found that although companies perceive increasing pressure to implement sustainability measures, they primarily focus on economic sustainability. Analysing the integration of Sustainable Development Goals (SDGs), *Pizzi et al. (2022)* found that Hungary ranks 15th among European countries in terms of non-financial reporting related to SDG goals, and only 28.57% of companies integrate such information into their reports.

The importance of regulating sustainability disclosure is further highlighted by the active role of the MNB. Following the 2008 financial crisis, central bank mandates focused primarily on maintaining price stability and financial stability. Over time, as knowledge about the environmental impacts of climate change expanded and

sustainability challenges intensified, it became evident that the financial system is also exposed to significant risks. As a result, since 2021, the Act on the Magyar Nemzeti Bank has provided the MNB with a “green mandate” (Deák – Sárvári 2023). The MNB is among the few institutions in Europe with a statutory mandate to support environmental sustainability, while maintaining price stability as its primary objective (Holczinger – Sárvári 2025; Kandrács et al. 2021). Gyura et al. (2023) confirm the MNB’s active role in promoting sustainability and its efforts to integrate sustainability considerations into the financial system. The findings presented by Várgedő (2022) indicate that climate-related risks relevant to banks are quantifiable and vary across institutions, reinforcing the justification for risk-based, standardised sustainability disclosure required by the CSRD. On 2 August 2022, the MNB issued Recommendation No. 10/2022 (VIII.2.) on climate-related and environmental risks and the integration of environmental sustainability considerations into the activities of credit institutions.<sup>12</sup> This recommendation outlines the MNB’s expectations regarding banks’ sustainability reports and presents related best practices. Its objective is to assist credit institutions in identifying, managing and disclosing climate-related and environmental risks, and in integrating environmental sustainability considerations into business activities. Through this, the MNB aims to enhance legal certainty and promote consistent application of relevant legislation.

## 4. Empirical research

Based on the above, the following research questions are formulated:

- *RQ1: How does the entry into force of the CSRD affect the sustainability disclosure intensity of obliged banks operating in Hungary?*
- *RQ2: How does the entry into force of the CSRD affect the sustainability disclosure practices of obliged banks operating in Hungary in terms of the form of disclosure?*
- *RQ3: Does the sustainability disclosure practice of obliged banks operating in Hungary become more similar as a result of the entry into force of the CSRD?*

### 4.1. Data

In our analysis, we examine banks operating in Hungary that were required to publish sustainability disclosures in the first wave of application. According to Section 177(97) of the Hungarian Accounting Act, public-interest banks are obliged to prepare a sustainability report if, in the two consecutive financial years preceding the business year, at the balance sheet date, at least two of the following thresholds

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<sup>12</sup> <https://www.mnb.hu/letoltes/10-2022-zold-ajanlas.pdf>

were met: average number of employees exceeds 250, net sales revenue exceeds HUF 20 billion, total assets exceed HUF 10 billion, and additionally, the average number of employees in the given financial year exceeds 500.<sup>13</sup> To compile the list of banks operating in Hungary required to publish sustainability disclosures for the 2024 financial year, we used the institutional registry<sup>14</sup> and macroprudential data from the MNB.<sup>15</sup> In the first step, 28 banks were identified in the registry. Branches, credit guarantee institutions and one specialised savings institution were excluded. Subsequently, pursuant to Act CCXXXVII of 2013 on Credit Institutions and Financial Enterprises,<sup>16</sup> MFB Hungarian Development Bank Plc. and Hungarian Export-Import Bank Plc. were excluded from the analysis, as the law explicitly excludes them from the category of public-interest credit institutions. After completing the above steps, 14 public-interest banks were identified in Hungary. These 14 banks were then screened based on size criteria. Data on total assets, net sales revenue and number of employees for 2022 and 2023 were downloaded from the Crefoport database.<sup>17</sup>

Based on the statutory size criteria, it was established that seven banks operating in Hungary were required to publish a sustainability report for the 2024 financial year (*Table 1*).

1.	CIB Bank Zrt.
2.	ERSTE BANK HUNGARY Zrt.
3.	Kereskedelmi és Hitelbank Zrt.
4.	MBH Bank Nyrt.
5.	OTP Bank Nyrt.
6.	Raiffeisen Bank Zrt.
7.	UniCredit Bank Hungary Zrt.

## 4.2 Research methodology

In this study, we apply content analysis to examine changes in the sustainability disclosure practices of banks operating in Hungary which are obliged to report under the CSRD. Content analysis is a frequently used method for collecting and analysing narratives derived from various documents and is widely applied in the analysis

<sup>13</sup> <https://net.jogtar.hu/jogszabaly?docid=a0000100.tv>

<sup>14</sup> <https://intezmenykereso.mnb.hu/>

<sup>15</sup> <https://statisztika.mnb.hu/publikacios-temak/felugyeleti-statisztikak/penz--es-hitelpiaci-szervezetek/hitelintezeti-aktualis-publikaciok>

<sup>16</sup> <https://net.jogtar.hu/jogszabaly?docid=a1300237.tv>. Downloaded: 2 June 2025.

<sup>17</sup> <https://www.crefoport.hu/>

of sustainability reports (*Dissanayake 2020*). We follow the process outlined by *Krippendorff (2004)*, according to which content analysis consists of several steps. First, the units of analysis must be defined, which may include words, sentences or themes. Subsequently, categories are created to organise and classify the data. The next step is coding, during which text segments are assigned identifying codes to facilitate analysis. The reliability of the analysis must then be examined to ensure consistency of the results. Finally, data interpretation is carried out, which may involve statistical or qualitative methods.

In our case, the phenomenon under examination is the sustainability disclosure practice of banks, specifically the impact of the entry into force of the CSRD and the mandatory application of the ESRS. Therefore, sustainability reports published for the 2023 and 2024 financial years were analysed. In the case of sustainability reporting, unlike financial reporting, group-level consolidated reports exempt subsidiaries from preparing individual reports. Consequently, certain entities operating in Hungary do not publish individual sustainability reports. In line with international practice (*Remlein – Romić 2025*), and in order to ensure comparability, we examined the group-level consolidated reports in all cases.

#### 4.2.1. Coding procedure

For coding, we applied the item list used by *Dumitru et al. (2017)*, based on *Lippai-Makra (2025)*. This ensures that the results of the present study are comparable with previous findings, thereby allowing a comparison of the impact of the NFRD and the CSRD on bank sustainability disclosures. The coding process is described below:

The list developed by *Dumitru et al. (2017)* consists of 20 non-financial disclosure items divided into four categories (*Table 2*). These items were identified in the sustainability reports during coding. The scoring system reflecting the type of disclosure is as follows: 0 points – no disclosure regarding the given item; 1 point – the item is presented in textual form; 2 points – the item is supported by a key performance indicator or other numerical data; 3 points (2+1) – the item includes both textual description and numerical data. Accordingly, the maximum achievable score per report is 60 (20 × 3), with higher scores indicating higher disclosure intensity.

<b>Table 2</b>
<b>Non-financial items for the empirical analysis</b>
<b>I. Business model, policies, risks related to CSR issues</b>
1. Business model – brief description
2. Policies related to environmental, social and employee matters, respect for human rights, anti-corruption and bribery matters
3. Principal risks related to environmental, social and employee matters, respect for human rights, anti-corruption and bribery matters
4. Non-financial KPIs
<b>II. Environmental matters</b>
1. Impacts on the environment
2. Impacts on health and safety
3. Use of renewable energy
4. Use of non-renewable energy
5. Greenhouse gas emissions
6. Water withdrawal
7. Air pollution
<b>III. Social and employee-related matters</b>
1. Actions taken to ensure gender equality
2. Implementation of the fundamental conventions of the International Labour Organization (ILO)
3. Working conditions
4. Respect for employees' right to information and consultation
5. Respect for trade union rights
6. Health and safety at work
7. Dialogue with local communities
8. Actions taken to ensure the protection and development of local communities
<b>IV. Ethical matters</b>
1. Tools to prevent human rights violations, combat corruption and bribery
<i>Source: Dumitru et al. (2017: p. 304)</i>

#### 4.2.2. Construction of disclosure indices

To construct the disclosure indices, we applied the methodology used by *Dumitru et al. (2017)*. Following their approach, four indices were calculated for each examined company and for both financial years, based on the items assigned to each category and the maximum achievable score per category.

The indices were constructed as follows:

$$I_1 = \left(\frac{P_1}{12}\right) * 100 \quad (1)$$

$$I_2 = \left(\frac{P_2}{21}\right) * 100 \quad (2)$$

$$I_3 = \left(\frac{P_3}{24}\right) * 100 \quad (3)$$

$$I_4 = \left(\frac{P_4}{3}\right) * 100 \quad (4)$$

where  $P$  denotes the total score assigned to the items within the given category.

To evaluate overall sustainability disclosure intensity, we also calculated the following combined index:

$$I_{combined} = \frac{(I_1 + I_2 + I_3 + I_4)}{4}. \quad (5)$$

To measure disclosure intensity, we also applied an alternative scoring system based on *Lippai-Makra (2025)*. The aim was to examine how the results are affected by alternative weighting.

Following *Li et al. (2008)*, the scoring was modified to include graphical representations in addition to textual and numerical disclosures (including charts and explanatory figures, but excluding illustrative photographs and decorative images). Accordingly, the scoring was modified as follows: 0 points – no disclosure regarding the given item; 1 point – the item is presented in textual form; 1 point – the item is supported by a key performance indicator or other numerical data; 1 point – the item includes graphical representation. With this alternative scoring method, the maximum score per item remains 3 points, and the maximum score per report remains 60 points. Achieving the maximum score indicates that the reporting entity disclosed textual, numerical and graphical information for all 20 examined items.

Based on the combined index, disclosure intensity was categorised as follows:

- 0 – no non-financial disclosure,
- 1–30% – low disclosure level,
- 31–70% – medium disclosure level,
- 71–100% – high disclosure level.

As a result of the coding, category-level and overall sustainability disclosure indices were calculated for each of the seven examined banks for both the 2023 and 2024 financial years.

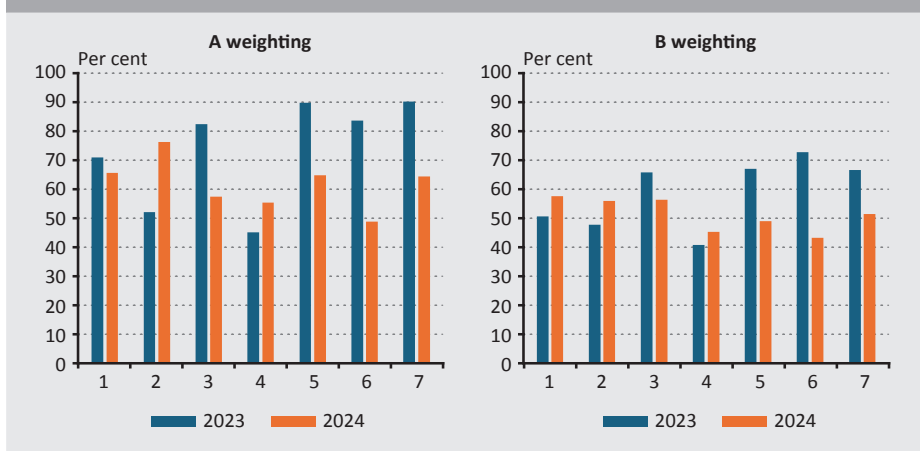
## 5. Results

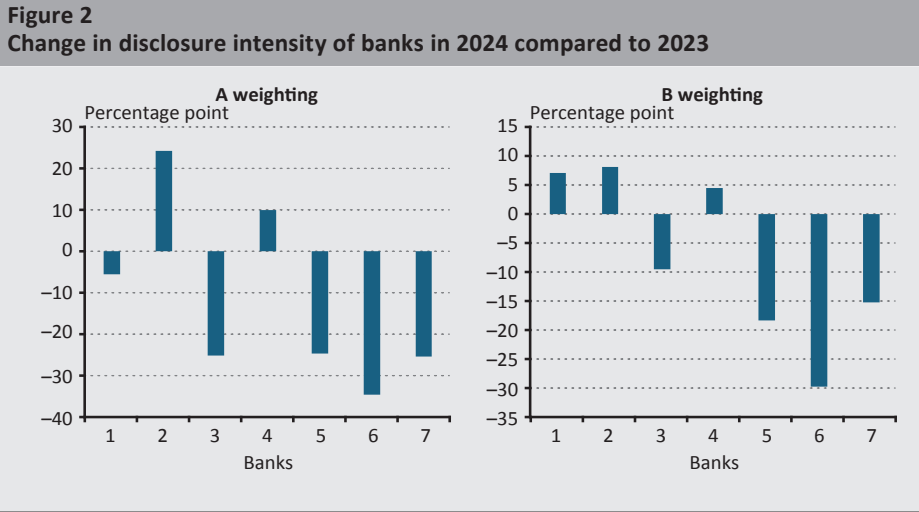
We present the comparison of disclosure intensities (*Figure 1 and Table 3 in the Appendix*) below. As described above, two weighting methods were used to determine disclosure intensity, which are referred to as follows:

- A weighting according to *Dumitru et al. (2017)*,
- B weighting according to *Li et al. (2008)*.

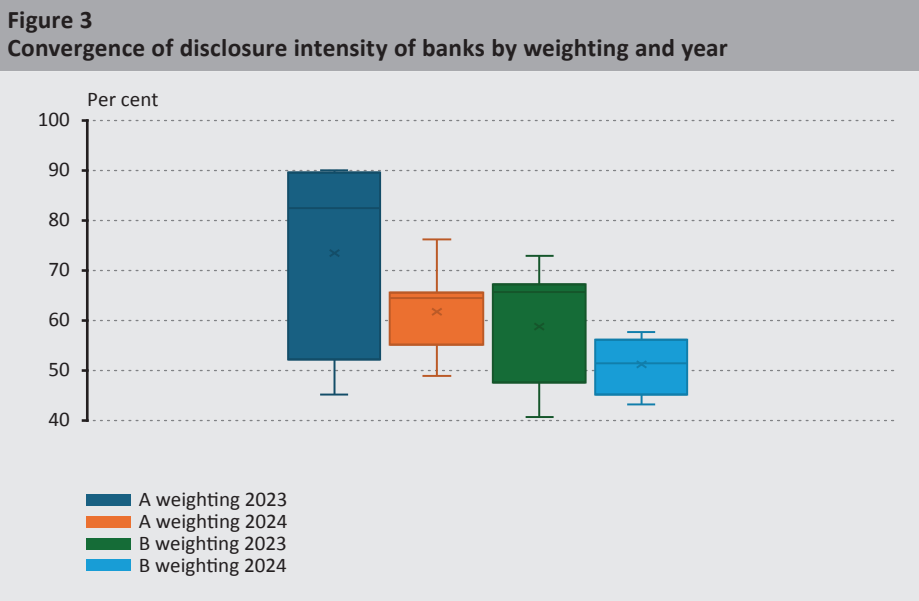
In 2023, i.e. the last year of application of the NFRD, five banks reached a high disclosure intensity level according to the A weighting method, whereas in 2024 only one bank achieved this level. Following the entry into force of the CSRD, disclosure intensity decreased for five banks and increased for two banks. For all banks classified in the high-intensity category in 2023, the level decreased to medium in 2024. Among those showing an increase, only one bank moved into the high-intensity category. According to the B weighting method, disclosure intensity increased for three banks and decreased for four. In 2023, six banks exhibited medium disclosure intensity, while in 2024 all seven banks fell into the medium category (*Figure 2*). Based on the summary of results, it can be concluded that disclosure intensity, as measured by the examined items, shows an overall decline following introduction of the CSRD. However, the magnitude of change between the two years varies across banks (*Figure 2*). In other words, the impact of the CSRD is not uniform across institutions.

**Figure 1**  
Disclosure intensity of banks in 2023 and 2024 according to the two weighting methods





Further examination of the results indicates that although the regulation reduced disclosure intensity based on the examined parameters, it also had positive effects (Figure 3 and Table 4 in the Appendix). Following the entry into force of the CSRD, the dispersion of disclosure intensity decreased (both the standard deviation and the interquartile range decreased in percentage points). In other words, sustainability disclosure practices became more similar across companies, meaning that standardisation achieved its intended effect. Reports prepared in accordance with the CSRD are more homogeneous than those prepared under the previous framework. These findings support the presence of normative isomorphism.



Based on the decline in disclosure intensity, it cannot be unequivocally concluded that the CSRD reduced the overall amount of information disclosed to stakeholders. Rather, the form and thematic focus of disclosures changed compared to those prepared under the NFRD. If disclosure had been examined using a different item list – for example, based on thematic ESRS standards or the mandatory disclosure elements required therein (policies, actions, metrics, targets) – it is possible that an increase in disclosure intensity could have been detected. Therefore, the conclusion regarding decreased disclosure intensity must be qualified by noting that the decline is observable specifically with respect to NFRD-oriented disclosure items among obliged Hungarian banks. The results also indicate that different weighting methods influence outcomes. Consequently, applying multiple weighting approaches strengthens the robustness of conclusions if the results point in the same direction.

### **5.1. Additional findings**

Qualitative content analysis allows observations beyond quantifiable results. Based on the analysis, the 2024 reports contain more explanatory narrative content and are structured more systematically, largely due to ESRS requirements. This trend enhances comparability across reports. It can also be observed that the 2024 reports contain fewer numerical data points. While this research does not provide a definitive explanation, this phenomenon may be related to the stricter audit methodology applied to the entire sustainability report. Further interview-based research is recommended to examine this assumption. Regarding the format of reports, in 2023 two banks published standalone sustainability reports, whereas in 2024 all banks, in accordance with the regulation, published sustainability disclosures as part of the management report within the annual report. In May 2025, when downloading reports, we found that one bank also published a short summary highlighting sustainability performance alongside the annual report.

In terms of accessibility, sustainability and annual reports were easily available on the official websites of all examined banks. In most cases, the websites also explicitly highlighted the introduction of CSRD-compliant disclosure practices. With regard to applied sustainability reporting standards, a marked shift can be observed. While in 2023 all seven examined banks reported in accordance with GRI<sup>18</sup> standards, in 2024 all seven reported in accordance with the mandatory ESRS standards. Although this shift was expected, it is noteworthy that none of the banks published a complete GRI index table at the end of the report, and only one bank presented entity-specific disclosures using explicitly referenced GRI indicators.

Regarding assurance, in 2023 one bank did not subject its sustainability report to audit. By 2024, however, all seven banks' sustainability reports included auditor assurance opinions, and all were audited by Big Four audit firms. One interesting

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<sup>18</sup> Global Reporting Initiative.

observation is that while in 2023 only four banks declared that their climate targets had been validated by professional organisations (e.g. SBTi, PCAF), in 2024 six banks did so. This change is not necessarily directly attributable to regulation; it is likely driven by investor expectations. Interview-based research would be useful to explore this further.

## 6. Summary and outlook

In summary, based on the analysis, the research questions can be answered as follows:

*RQ1: How does the entry into force of the CSRD affect the sustainability disclosure intensity of obliged banks operating in Hungary?*

The impact of the CSRD's entry into force can be clearly identified in the sustainability disclosure practices of obliged banks operating in Hungary. Disclosure intensity has changed and, overall, has decreased. However, this decrease in intensity does not imply that stakeholders have access to less information overall. The results indicate that the form of disclosure has changed, shifting in favour of narrative, i.e. textually descriptive sections, at the expense of numerical and graphical information. These changes can be explained by the narrative-centred requirements of the ESRS, which on the one hand prescribe fewer numerical data points than the previously most widely used standards, and on the other hand grant exemptions from the disclosure of several numerical data points during the first three years of application of the standard.

*RQ2: How does the entry into force of the CSRD affect the sustainability disclosure practices of obliged banks operating in Hungary in terms of the form of disclosure?*

With regard to the form of disclosures, it can be established that the emphasis has shifted toward narrative disclosures compared to numerical data reporting. This result can partly be attributed to the above-mentioned characteristics of the ESRS and presumably also to changes in audit methodology. Previously, during the audit of sustainability reports, not all numerical data were examined for substantiation, meaning that companies could, for example, disclose estimated data. Thus, the tightening of audit requirements may also have reduced the amount of numerical data that can be presented. However, this aspect was not examined in this study.

*RQ3: Does the sustainability disclosure practice of obliged banks operating in Hungary become more similar as a result of the entry into force of the CSRD?*

The reports have become more similar both in form and in content. Thus, from this perspective, the regulation already achieved its objective in its first year

of application. The answer to the above research question supports normative isomorphism, meaning that as a result of regulation, disclosure practices converge.

### **6.1. Central bank policy implications**

Based on the research conducted, several recommendations can be formulated that allow for utilisation of the results by the central bank. At the outset of the research, we encountered several definitional and regulatory interpretation difficulties, the clarification and understanding of which may assist banks operating in Hungary in complying with legal requirements. Therefore, we propose that the following issues be presented in an accessible manner on the MNB's website and in publications addressed to banks.

One such issue concerns the determination of public-interest entity status. Given that clarifying this question requires the joint interpretation of several legal acts (*Lippai-Makra 2025*), it would be advisable to publish a summary of these interpretations. In our view, in agreement with the reasoning of *Lippai-Makra (2025)*, MFB Hungarian Development Bank Private Limited Company and Hungarian Export-Import Bank Plc. do not qualify as public-interest entities. Therefore, we recommend reviewing the information displayed in the institutional search tool available on the MNB's website<sup>19</sup> and indicating the status of banks excluded from the category of public-interest entities under the Credit Institutions Act<sup>20</sup> in accordance with the law.

Another issue concerns the clarification of the concept of net sales revenue in the case of banks. Most European Union and national regulations related to sustainability disclosure link disclosure obligations to revenue thresholds to some degree. According to Section 95/D (6) of the Hungarian Accounting Act, in the case of credit institutions, annual net sales revenue corresponds to the income defined in Article 43(2)(c) of Council Directive 86/635/EEC. It would be worthwhile to elaborate on this definition on the MNB's website and in publications addressed to banks, as well as to consult with various company information service providers to ensure that the appropriate amounts are reflected in their databases.

The results of this research support the immediate, direct impact of regulation on disclosure practices, which may serve as an argument for the introduction of regulation at the level of binding legislation rather than recommendations. However, the current European Union and domestic regulatory and standard environment is continuously evolving, posing challenges for obliged entities. Therefore, only those elements that are durable and contain long-term requirements should be elevated to the level of legislation. It may be more appropriate to focus on updating

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<sup>19</sup> <https://intezmenykereso.mnb.hu/Details/Index?Lid=276&EntityType=Institute&expandAccordions=IntezmenyAlapadatok>

<sup>20</sup> <https://njt.hu/jogszabaly/2013-237-00-00>

green recommendations. Furthermore, the fact that all examined obliged entities complied with the new legal requirements also supports prioritising the updating of green recommendations rather than expanding them from a legal compliance perspective. Introduction of the CSRD and mandatory application of the ESRS have shifted disclosure practices toward extensive narrative reporting. Processing these textual sections is difficult and time-consuming for stakeholders. Therefore, it may be recommended to publish a clear, concise and informative summary of sustainability reports, possibly tailored to the information needs of specific stakeholder groups (e.g. investors, creditors, employees, business partners, etc.). We identified a best practice in this regard at one Hungarian bank. The credibility of such short summaries is supported by the audited sustainability report.

It may also be advisable to incorporate the criteria of double materiality assessment defined in the ESRS, as well as the definitions of impacts, risks and opportunities, into the recommendations. Current recommendations focus primarily on climate change (adaptation and mitigation); however, with the emergence of thematic ESRS standards and the increasingly broad application of the Taxonomy Regulation, other environmental topics (e.g. water management, biodiversity, etc.), as well as social and governance aspects, are gaining prominence. These could be illustrated with practical examples in green recommendations, for instance through the best practices observed in the 2024 sustainability reports. It may also be worth reconsidering the currently recommended minimum ten-year time horizon and aligning it with the time horizons defined in the European Union's Sustainable Finance Action Plan and the ESRS. Furthermore, it would be advisable to examine the consistency between the CSRD/ESRS framework, Act CVIII of 2023 and the MNB's green recommendations.

## 6.2. Research limitations

The limitations of the present research primarily stem from the applied methodology. Qualitative content analysis requires significant research resources, which limits the number of reports that can be analysed within a given period. In the coming years, an increase in the number of obliged entities is expected, which may make it difficult to examine the entire population. Another methodological limitation arises from the selected item list. As mentioned earlier, the item list developed by *Dumitru et al. (2017)* is NFRD-focused; the use of a different item list may yield different results. Furthermore, the applied weighting method may also influence the results. Another methodological limitation is that steps 1 and 5 of the sustainability disclosure process cannot be examined solely through the analysis of reports. Finally, since several entities make use of the exemption allowing them not to prepare individual sustainability reports due to group-level consolidated reporting, the results may not fully reflect Hungarian specificities.

### 6.3. Future research directions

The above research limitations may be addressed through the following future research directions. The high demand for research resources could be mitigated by the use of artificial intelligence-based text analysis solutions capable of learning contextual interpretation, thereby overcoming criticisms raised against traditional, non-AI-based text analysis software. One such AI-based solution is Briink,<sup>21</sup> which is specifically designed for the analysis of sustainability disclosures.

In order to gain a comprehensive understanding of the entire disclosure process, this research could be complemented by in-depth interviews, which would allow the assessment of motivational factors related to step 1 and stakeholder feedback associated with step 5. Interviews could also reveal the extent to which obliged banks relied on the MNB's green recommendations when developing their disclosure strategies. Moreover, in-depth interviews provide insight into how sustainability considerations are integrated into corporate processes. The flexible, open-ended format of interviews facilitates a deeper understanding of individual perspectives, decision-making processes and challenges that a structured questionnaire might not fully capture. Additionally, the interview setting can foster an atmosphere of trust, encouraging honest and detailed responses regarding banks' sustainability efforts and their actual impacts (Gyulavári et al. 2017).

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<sup>21</sup> <https://www.briink.com/>

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## Appendix

Table 3								
Disclosure intensity of banks by year and weighting								
A weighting								
		1	2	3	4	5	6	7
2023	l <sub>1</sub>	42%	67%	100%	50%	100%	100%	100%
	l <sub>2</sub>	76%	71%	76%	48%	71%	81%	86%
	l <sub>3</sub>	67%	38%	54%	50%	88%	54%	75%
	l <sub>4</sub>	100%	33%	100%	33%	100%	100%	100%
	I <sub>combined</sub>	<b>71%</b>	<b>52%</b>	<b>83%</b>	<b>45%</b>	<b>90%</b>	<b>84%</b>	<b>90%</b>
	disclosure level	high	medium	high	medium	high	high	high
2024	l <sub>1</sub>	67%	83%	67%	67%	100%	67%	100%
	l <sub>2</sub>	100%	76%	71%	67%	43%	67%	67%
	l <sub>3</sub>	63%	46%	58%	54%	83%	29%	58%
	l <sub>4</sub>	33%	100%	33%	33%	33%	33%	33%
	I <sub>combined</sub>	<b>66%</b>	<b>76%</b>	<b>57%</b>	<b>55%</b>	<b>65%</b>	<b>49%</b>	<b>65%</b>
	disclosure level	medium	high	medium	medium	medium	medium	medium
B weighting								
		1	2	3	4	5	6	7
2023	l <sub>1</sub>	33%	67%	83%	50%	83%	100%	33%
	l <sub>2</sub>	52%	57%	71%	38%	52%	71%	17%
	l <sub>3</sub>	50%	33%	42%	42%	67%	54%	42%
	l <sub>4</sub>	67%	33%	67%	33%	67%	67%	8%
	I <sub>combined</sub>	<b>51%</b>	<b>48%</b>	<b>66%</b>	<b>41%</b>	<b>67%</b>	<b>73%</b>	<b>67%</b>
	disclosure level	medium	medium	medium	medium	medium	high	medium
2024	l <sub>1</sub>	58%	67%	75%	58%	67%	58%	75%
	l <sub>2</sub>	81%	52%	67%	48%	33%	52%	48%
	l <sub>3</sub>	58%	38%	50%	42%	63%	29%	50%
	l <sub>4</sub>	33%	67%	33%	33%	33%	33%	33%
	I <sub>combined</sub>	<b>58%</b>	<b>56%</b>	<b>56%</b>	<b>45%</b>	<b>49%</b>	<b>43%</b>	<b>51%</b>
	disclosure level	medium	medium	medium	medium	medium	medium	medium

<b>Table 4</b>				
<b>Convergence of disclosure intensity of banks</b>				
	<b>A weighting 2023</b>	<b>A weighting 2024</b>	<b>B weighting 2023</b>	<b>B weighting 2024</b>
Mean	74%	62%	59%	51%
Lower quartile	52%	55%	48%	45%
Median	83%	65%	66%	51%
Upper quartile	90%	66%	67%	56%
Interquartile range	38pp	10pp	20pp	11pp
Standard deviation	17pp	8pp	11pp	5pp
Minimum	45%	49%	41%	43%
Maximum	90%	76%	73%	58%

*Note: pp: percentage points*