

Corporate Sustainability Reporting in Central and Eastern European Companies

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Chapter 17

Assessment of the Readiness for the Corporate Sustainability Reporting Directive (CSRD)

Synthesis of Research Results in the CEE Region

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Introduction

The concluding chapter of this monograph aims to synthesise the key findings from the research conducted across 13 Central and Eastern European (CEE) countries, focusing on the current state of non-financial and corporate sustainability reporting and improvements achieved in a five-year period. As sustainability reporting becomes increasingly important for companies operating in or connected to the European Union (EU), this chapter provides an overarching view of how CEE companies adapt to evolving regulations and expectations. The results we came to in this part of the monograph are, alongside each chapter's results, the foundation for the final discussion, in which we provide practical recommendations for how companies in the CEE region can improve their sustainability reporting practices and, consequently, align their sustainability reports with the CSRD requirements.

The primary goal of this chapter is to highlight the commonalities and differences in sustainability reporting practices across the CEE region, drawing on the detailed analyses presented in the previous chapters and conducting additional statistical testing. It also seeks to evaluate the overall readiness of these countries' companies for the upcoming CSRD, which imposes more stringent requirements on sustainability reporting to make them more transparent and comparable across the years and among the companies. The primary goal will be reached by testing the hypothesis, which reflects the specific objectives of the chapter as follows:

- To assess whether the disclosures in the CEE companies' non-financial and sustainability reports for 2022 are of higher quality and more comprehensive compared to the disclosures in 2017.
- To assess whether the regulation plays one of the key roles in sustainability reporting practices and thus additionally motivates businesses to contribute more to make positive changes regarding the environmental, social, and governance (ESG) paradigm.

- To determine the weakest areas of non-financial disclosures that need special attention regarding additional efforts to secure transparent and relevant sustainability reporting, which will replace non-financial reporting.

Through both descriptive and inferential statistical analysis, this chapter offers insights into the progress made by CEE companies since the initial implementation of the NFRD and discusses the challenges and barriers that remain. The findings presented here aim to inform policymakers, companies, and stakeholders about the current sustainability reporting landscape in the CEE region, establishing a foundation for future improvements and increased alignment with the CSRD. Besides our empirical research, this chapter also summarises the sustainability reporting developments in CEE countries from our sample.

Comparative Literature Review on Sustainability Reporting in CEE

Besides scholars, international organisations have also been following and studying the state and development of sustainability reporting. Considering KPMG's (2020, 2022) surveys, a significant regional disparity in sustainability reporting, particularly between Eastern and Western Europe, can be highlighted. In the study that considers reports and web-only content published between 1 July 2019 and 30 June 2020,¹ although sustainability reporting in Eastern Europe grew by nine percentage points between 2017 and 2020, reaching a rate of 74%, this was still below the global average of 77%. Countries like Slovakia, Czechia, and Romania lagged, with reporting rates lower than the global average. On the contrary, Hungary reached a rate of 83%, while Poland was in the global average.² The growth in Eastern Europe was primarily attributed to integrating the NFRD into national laws, which stimulated companies in these regions to improve their reporting practices. In the same period, Western European companies grew by three percentage points, reaching a rate of 85%. Observing the overall results for Europe, the sustainability reporting rate in 2020 remained the same as in 2017, at the 2020 global average of 77% (KPMG, 2020).

In comparison, the 2022 KPMG report shows continued progress but also highlights persistent challenges. The sustainability reporting rate in Eastern Europe has increased to 82%, likely driven by regulation and other stakeholders' requirements, exceeding the 2022 global rate of 79%. While regulatory pressures, such as the upcoming CSRD, are expected to drive further improvements, the report notes that Eastern European companies still face significant challenges in aligning with global reporting practices. Notably, the 2022 report emphasises the decrease of the sustainability reporting rate in observed Eastern European companies from 74% in 2020 to 72% in 2022. Growth in Western European companies has slowed during the same period, but it remains positive at two percentage points (KPMG, 2022).

Despite current advancements, a gap still exists between Eastern and Western Europe, highlighting the need for ongoing efforts to improve the

quality and consistency of sustainability reporting in the CEE region. This comparison emphasises the significance of our study, which aims to evaluate the progress made by companies in the CEE region. We will compare the first mandatory non-financial reports with the most recent reports available at the time of our study while companies prepare for the stricter requirements of the CSRD. Furthermore, we have conducted a literature review to analyse the states of each country to gain a deeper insight into their sustainability reporting practices before we analyse the results of our study.

Research on non-financial and sustainability reporting in Bulgaria reveals a complex landscape marked by significant challenges and varying levels of compliance among companies. Stojanović et al. (2021) conducted a comparative study on corporate social responsibility across Bulgaria, Russia, and Serbia. Their findings indicate that while Bulgarian companies increasingly recognise the importance of corporate social responsibility, they lag behind their counterparts in Russia and Serbia when it comes to implementing comprehensive corporate social responsibility practices. Additionally, research on the quality of sustainability reporting among companies listed on the SOFIX index of the Bulgarian Stock Exchange shows that while large enterprises generally comply with the NFRD, the quality of the information they disclose remains insufficient (Nikolov, 2023). Similarly, Serafimova (2017) found that while there has been significant progress in corporate social responsibility disclosure practices among the largest Bulgarian companies since 2008, they still lag behind international practices. Most corporate social responsibility reports are descriptive and lack a forward-looking perspective, focusing more on current affairs than future strategies for improving corporate social responsibility (Serafimova, 2017). When observing voluntary non-financial information, Bulgarian-listed companies do not show sufficient interest in such disclosures (Veysel, 2022). Overall, based on the studies analysed, reporting practices in Bulgaria are primarily driven by regulatory requirements rather than internal motivation, resulting in reports that often meet only the minimum legal requirements, disclose insufficient non-financial information, mainly qualitative rather than quantitative, rarely reference their financial statements, do not refer to a framework or guidelines used, and lack transparency and accountability (Manolov, 2021; Nikolov, 2023; Veysel, 2022; Petrova, 2024).

Non-financial and sustainability reporting in Bosnia and Herzegovina is characterised by significant challenges, though existing studies have been mainly focused on the financial sector, namely banks. Rogošić (2014) found that corporate social responsibility reporting in the banking sector of Bosnia and Herzegovina is significantly underdeveloped. In 2013, only one out of 18 banks issued a corporate social responsibility report. This limited engagement in corporate social responsibility reporting is attributed to both a lack of external regulatory pressure and insufficient internal motivation among the banks. Levkov and Palamidovska-Sterjadovska (2019) supported these findings in their examination of the period from 2015 to 2017, highlighting that banks in Bosnia and Herzegovina had the lowest average corporate social responsibility

reporting score compared to other countries in the Western Balkans. The study found that 62.5% of banks in Bosnia and Herzegovina did not disclose any information about their corporate social responsibility activities. Among those who reported, community involvement was the most frequently mentioned corporate social responsibility initiative (Levkov and Palamidovska-Sterjadovska, 2019). Additionally, research indicates that foreign banks provide significantly more information regarding their corporate social responsibility activities than large local banks (Kulašin, Huseinspahić, and Goran, 2018). This is particularly evident in areas such as environmental protection and human resource management (Levkov and Palamidovska-Sterjadovska, 2019). Corporate reporting in Bosnia and Herzegovina traditionally focuses on financial aspects, with non-financial risk reporting remaining voluntary and inconsistently implemented (Grbavac, Klepić, and Papac, 2015). While companies listed on the Federation of Bosnia and Herzegovina Stock Exchange – SASE comply with financial risk disclosure as required by IFRS and local regulations, the quality and comprehensiveness of non-financial risk reporting vary significantly, mainly due to the absence of more rigid legal requirements (Grbavac, Klepić, and Papac, 2015). Finally, research highlights the key role of professional accountants in creating comprehensive financial and non-financial reports that enable better corporate governance and ESG communication, emphasising the need for further education and integration of ESG competencies within the accounting profession (Živko, Grbavac, and Barbarić, 2024).

The non-financial and sustainability reporting in the Czech Republic reveals a mixed but progressively improving scenario driven by both regulatory requirements and voluntary corporate initiatives. While there has been a growing trend in the publication of non-financial information by companies traded on the Czech capital market between 2013 and 2018, significant disparities remain in the quantity and quality of these reports, particularly between large companies and SMEs (Sedláček and Popelková, 2020). Notably, only 43% of the 100 largest companies in the Czech Republic in 2018 disclosed non-financial indicators, such as environmental impacts, human rights, and anti-corruption measures (Sedláček, 2020). Other studies also revealed that large Czech companies generally comply with their legal obligations to include non-financial information in their annual reports (MacGregor Pelikánova, 2019) and confirmed a positive correlation between the size of a company/regulatory obligation to report and the quality of its reporting (Sedláček, 2020; Nosková, Procházková, and Machová, 2023). To enhance environmental performance and, thus, economic performance, Petera, Wagner, and Pakšiová (2021) found that environmental management control systems (EMCS) significantly improve it and are positively driven by the existence of an environmental strategy. These studies indicate that while non-financial and sustainability reporting in the Czech Republic is improving, particularly among larger companies, the comprehensiveness and quality of disclosures vary widely, indicating a lack of uniformity in corporate social responsibility reporting practices, leaving room for additional improvement.

In Croatia, non-financial reporting is increasingly important across various sectors, highlighting sustainability practices within companies and among emerging business leaders. Although these leaders still face challenges, they remain committed to more transparent reporting. Additionally, public awareness drives them in that direction. In a comparative analysis of Croatian and German companies, Meeh-Bunse, Rep, and Schomaker (2019) highlighted that, although both countries began non-financial reporting before the NFRD, the improvements observed after the Directive implementation were modest. They recommend adopting integrated reporting to facilitate and enhance disclosure quality. Rep, Sever Mališ, and Dumančić (2022) noted that board size, ownership structure, and audit type positively influence transparency among Croatian firms listed on the Zagreb Stock Exchange. Omazić, Hlebar, and Uroić (2024) revealed that Croatian companies exhibit significant gaps in climate change reporting, with only about 28% addressing climate impacts and less than 10% including senior management involvement in climate strategies, underscoring the need for robust legislative updates. In the banking sector, Fijałkowska et al. (2023) found that Croatian banks efficiently utilise their resources for economic development, though their social and environmental performance lags behind EU standards. In tourism, Galant, Slivar, and Kontosic Pamic (2024) observed that few companies align their reports with the UN Sustainable Development Goals (SDGs), focusing more on social than environmental goals, signalling potential growth areas for sustainability engagement in tourism. In an educational context, recent findings suggest that awareness of ESG principles and non-financial reporting among Croatian economics and business students varies by study level, highlighting a gap that could be addressed through enhanced curricular focus on sustainability (Rep, Dumančić, and Piršić, 2023). These studies collectively emphasise the importance of non-financial reporting in Croatia, reflecting the rising global trend of integrating sustainability into corporate accountability and educational frameworks.

Hungary's non-financial and sustainability reporting approach dates back to the late 1990s and is still evolving, with different levels of the reports' scope and development (Karcagi-Kováts, 2012). Recent studies reveal that the NFRD moderately impacted the overall quality of non-financial reporting and compliance with national and EU regulations among Hungarian-listed public interest entities (PIEs), underscoring the challenges and inconsistencies in sustainability reporting practices across the country (Lippai-Makra, Kovács, and Kiss, 2022; Lippai-Makra, 2022; Hegedűs, Kardos, and Győri, 2023; Lámfalusi et al., 2024). Notably, Lippai-Makra, Kovács, and Kiss (2022) highlighted that while environmental disclosures are the most frequently reported category, other aspects like ethical matters remained underreported, mainly due to pre-existing Hungarian accounting regulations that mandated environmental disclosures even before the NFRD came into force (Lippai-Makra, 2022). Lámfalusi et al. (2024) further investigated food processing companies in Hungary and revealed significant differences in sustainability reporting

practices. They highlighted the most common disclosure of information and data related to “mitigation of climate change, sustainable use of water and marine resources, and transition to a circular economy”. In addition, foreign-owned companies showed a greater commitment to sustainability compared to Hungarian-owned counterparts (Lámfalusi et al., 2024).

Non-financial and sustainability reporting in Latvia has experienced gradual development, driven mainly by increasing awareness of corporate social responsibility principles and the need for sustainable business practices. Vasylychuk, Slyusarenko, and Kotane (2020) highlighted that Latvia’s sustainability initiatives have focused on the integration of corporate social responsibility into business practices, with notable efforts such as the 2010 Memorandum on corporate social responsibility principles and the establishment of a Sustainability Index by the Institute of Corporate Sustainability and Responsibility. Despite these efforts, only about 40% of companies (from 59 in total) had developed corporate social responsibility strategies by 2017 (Dimante and Alksne, 2017), with sustainability activities primarily addressing employee work conditions, job satisfaction, and customer relations. Research by Licite and Smertjeva (2017) found that banks in Latvia led corporate social responsibility efforts, focusing on environmental protection and public welfare. Still, overall sustainability reporting remains voluntary except for PIEs, as per the NFRD. A 2023 report from the State Audit Office of Latvia revealed that progress towards achieving the UN SDGs is limited, with a need for stronger national efforts to address sustainability challenges and thus achieving more SGD sub-goals. In recent years, Latvia’s efforts in sustainability reporting have been further promoted by national organisations like CSR Latvia, which follows global standards such as the GRI and ISO 26000 to encourage businesses to adopt corporate social responsibility practices. However, challenges persist, including the need for a unified national reporting framework and better management of sustainability practices throughout supply chains (Medne and Ņikadimovs, 2022).

Non-financial and sustainability reporting in Lithuania has progressed, but significant challenges remain. Early research (Juščius and Griauslytė, 2014) highlighted a fragmented approach to corporate social responsibility reporting, while Leitoniene, Sapkauskiene, and Dagiliene (2015) pointed out that Lithuania’s accounting systems have been slow to adapt to growing corporate social responsibility demands alongside institutional and organisational problems that hinder the development of corporate social reporting in Lithuania. Although studies have shown increasing recognition of corporate social responsibility reporting since 2010 (Leitoniene, Sapkauskiene, and Dagiliene, 2015), social and environmental information disclosures remain less comprehensive compared to multinational companies (Rudžionienė, Pučėtaitė, and Vaičiulytė, 2016). According to research by Rudžionienė, Pučėtaitė, and Vaičiulytė (2016), before the NFRD regulation, environmental information dominated in Lithuanian corporate reports, with social issues receiving less attention. Research on Baltic companies shows that voluntary disclosures often lead to

more comprehensive non-financial reporting (Dagilienė and Nedzinskienė, 2018), and self-motivation could explain such reporting results. Additionally, the findings of Szadziewska et al. (2020) highlight the variability in the scope of non-financial indicators across different companies and countries, including Lithuania. Factors such as company size, industry, and foreign investments significantly influence the quality of such reporting in Lithuania (Leitoniene, Sapkauskienė, and Dagiliene, 2015). Despite the progress made in non-financial reporting in its early stages, Lithuania's disclosure practices are still evolving and need internal commitment to align with international practices.

Sustainability reporting in North Macedonia has been influenced by the Corporate Governance Code, which requires specific ESG disclosures. However, it does not provide specific requirements comparable to EU regulations. The ESG Reporting Guidelines issued by the Macedonian Stock Exchange complement the Code by offering non-binding recommendations on topics such as workforce compensation, human rights, and greenhouse gas emissions. Despite these guidelines, the absence of mandatory regulations in specific areas, like anti-corruption policies, limits the consistency and comprehensiveness of these disclosures (Levkov and Palamidovska-Sterjadovska, 2019; Ristovski, 2022). Research indicates that larger companies tend to have more thorough sustainability reporting practices, while profitability has a positive but lesser influence on reporting quality (Trpeska et al., 2021; Tocev, Dionisijev, and Minovski, 2022). Although some companies address social issues and environmental policies, comprehensive data in these areas often remains lacking, with many disclosures being more declarative than detailed (Ristovski, 2022). Overall, North Macedonian companies perform better in disclosing social matters (Tocev, Dionisijev, and Minovski, 2022) than other ESG areas. Nonetheless, significant gaps persist in reporting on business ethics and social and employee-related issues (Ristovski, 2022).

Sustainability and corporate social responsibility reporting in Montenegro are still in their early stages, characterised by limited disclosure practices among banks and other institutions. Studies indicate that Montenegrin banks frequently lag behind their counterparts in other Western Balkan countries in corporate social responsibility reporting. Their disclosures typically focus only on general information regarding community involvement and their products and customers (Levkov and Palamidovska-Sterjadovska, 2019). Research shows that foreign-owned banks in Montenegro tend to provide more extensive information on corporate social responsibility than local institutions. This trend aligns with regional patterns where larger institutions and foreign investments enhance the quality of reporting (Levkov and Palamidovska-Sterjadovska, 2019). Furthermore, online corporate social responsibility reporting is more common among banks with higher assets and profits, as larger financial institutions are usually better equipped with developed sustainability strategies (Rogošić, 2014).

Sustainability reporting in Poland has undergone significant evolution over the past decade, particularly following the implementation of the NFRD,

which requires PIEs to disclose non-financial information. Initially, many Polish companies were not adequately prepared to meet these new requirements, leading to widespread “information chaos” in their disclosures (Wójcik-Jurkiewicz, 2017; Wójcik-Jurkiewicz and Sadowska, 2018). While the adoption of reporting standards such as the GRI and the Polish Standard of Non-Financial Information (SIN) has improved report quality, compliance remains inconsistent (Wójcik-Jurkiewicz and Sadowska, 2018). Research indicates that disclosures about diversity and equal opportunities have increased statistically since the NFRD introduction (Papa et al., 2023). However, many companies still prioritise KPI-related and soft disclosures that make unverifiable claims about their activities (Papa et al., 2023). Furthermore, Polish companies have been slow to integrate non-financial information comprehensively, with small and medium-sized enterprises often lagging behind larger firms in adopting best practices (Orzeł and Wolniak, 2021). Despite these challenges, there is a noticeable trend towards improved sustainability practices, with potential for further development in the standardisation of sustainability reporting. Recent advancements, such as the introduction of the IMNR index, designed to assess impression management in narrative reporting, offer new tools to analyse the evolving landscape of corporate sustainability reporting in Poland (Czajkowska, 2023).

In the early stages, Romania was ahead of Poland in non-financial reporting due to existing regulatory requirements. Dumitru et al. (2017) found that Romania had a higher overall disclosure score than Poland before adopting the NFRD. However, despite this initial advantage, Romania’s non-financial reporting continues to face significant challenges. Research by Tiron-Tudor et al. (2019) showed a gradual increase in the level of non-financial disclosures following the implementation of the NFRD, particularly among companies in environmentally sensitive industries, such as oil and gas, which demonstrated higher levels of disclosure. Nevertheless, Tiron-Tudor et al. (2020) pointed out that the comparability of these disclosures remains an issue due to the lack of a recognised national reporting framework. Furthermore, Belenesi et al. (2021) indicated that while there was a steady increase in the non-financial disclosure index from 2017 to 2019, discrepancies persisted among different industries, reflecting varying degrees of progress in sustainability practices. Overall, the findings suggest a slow but steady improvement in sustainability reporting among Romanian companies, with opportunities for further progress to enhance the quality and comparability of disclosed information.

In Serbia, non-financial and corporate social responsibility reporting remains limited, mainly due to the lack of regulatory requirements and low stakeholder pressure. Stanisavljević (2017) observed that most companies focus on social responsibility through voluntary activities, particularly in environmental protection, education, and social inclusion, often relying on web disclosures rather than formal corporate social responsibility reports. Knežević and Mijoković (2017) argued that Serbia’s corporate social responsibility reporting

will continue to lag without standardised policies, underscoring the need for regulatory intervention to drive progress. After the changes in regulation, Mijoković, Knežević, and Mizdraković (2020) found that larger Serbian companies audited by Big Four firms show higher corporate social responsibility reporting standards, aligning with recent efforts under the Serbian Law on Accounting (in force as of 2020) to match EU norms. In addition, Dmitrović, Latinović, and Benković (2023) highlighted an emerging interest in integrating environmental information into business decisions, though comprehensive non-financial disclosures remain underdeveloped. Finally, Marković, Janković Perić, and Rabasović (2024) noted that larger and younger companies report more social responsibility information, while concentrated ownership often correlates with lower transparency.

In Slovenia, similar to other countries, although non-financial reporting has evolved, it remains inconsistent, with numerous studies identifying areas for improvement. Early research by Fink Babič and Biloslavo (2012), which analysed sustainability reporting across 71 large companies, revealed that only 25% integrated sustainability disclosures within annual reports, and only 16% issued standalone environmental reports. Later on, Djokić (2015) found that Slovenian public companies exhibited low corporate social responsibility reporting levels, with only two companies adhering to international standards like GRI. Furthermore, research by Ermenc et al. (2017) confirmed a positive link between corporate sustainability and financial performance but noted limitations due to voluntary reporting practices. Hauptman, Denac, and Lutar Skerbinjek (2016) highlighted the increasing importance of environmental accounting, suggesting that integrating environmental accounting into academic curricula could foster greater awareness and more responsible reporting practices among future professionals. Primec and Belak (2022) recently identified inconsistencies in Slovenian companies' diversity and anti-corruption disclosures, highlighting the need for improvements in corporate social responsibility practices. Additionally, Fink Babič, Biloslavo, and Kodri (2023) pointed out ongoing weaknesses in the quality of environmental reporting. Despite these challenges, Slovenian companies have a growing commitment to adopting sustainable practices, indicating promising potential for more comprehensive and standardised sustainability reporting in the near future.

In Slovakia, corporate social responsibility reporting has gradually developed but remains fragmented. Research by Pakšiová (2016) on the 50 largest companies in Slovakia revealed that 28 of them included corporate social responsibility information in their annual reports, while only 14 published separate corporate social responsibility reports. In the food sector, Pakšiová and Lovciová (2019) noted that although companies adhered to GRI guidelines, significant inconsistencies were found in their social and environmental reporting. Comparative studies have indicated that Slovakia's corporate social responsibility framework lags behind neighbouring countries. Hąbek, Sujová, and Čierna (2018) discovered that Poland's corporate social responsibility

development is advancing more rapidly than Slovakia's, with only 18 corporate social responsibility reports published in Slovakia compared to 34 in Poland. This underscores the need for enhanced education and more precise reporting guidelines. Furthermore, a recent study by Zeytinoglu and Tumpach (2023) found that Slovakian banks disclosed sustainability information at lower levels than their Turkish counterparts. All of that highlights the necessity for stronger, mandatory corporate social responsibility frameworks to improve transparency in Slovakia, which could be reached by introducing the CSRD.

Amid complex socioeconomic challenges in Ukraine, non-financial and sustainability reporting reflects a growing willingness to corporate social responsibility. Makarenko and Makarenko (2022) highlight the need for adopting European directives like the NFRD and CSRD to improve transparency and accountability among Ukrainian companies. This regulatory alignment and standards from organisations like the ISSB and GRI set important benchmarks for reporting practices. Polovyk (2023) emphasises that non-financial reporting enhances corporate reputations, stakeholder engagement, and sustainable development, although challenges like the lack of unified standards and mandatory audits persist. Zamlynskyi et al. (2023) note a link between sustainability reporting and the value of Ukraine's agribusiness. However, small- and medium-sized enterprises show low engagement due to limited motivation. Umantsiv (2023) points out that enterprises focus more on humanitarian aid and community support, particularly during the ongoing conflict. Additionally, Polovyk and Korol (2024) identify gaps in ESG disclosures within the industrial sector, suggesting a need for greater focus on these components to enhance transparency and accountability. While regulatory pressures and corporate responsibility demands drive progress in Ukraine's non-financial reporting, standardisation, and comprehensive reporting challenges remain significant.

After analysing the non-financial and corporate sustainability reporting practices among CEE companies, we can conclude that such reporting across CEE reveals various characteristics and challenges among the analysed countries. Dečman et al. (2021) highlighted that transposing the NFRD into national legislation offered EU member states flexibility, leading to varying levels of rigour in non-financial reporting regulations. All the analysed EU member states demonstrate moderate engagement in non-financial reporting, primarily driven by EU regulations such as the NFRD and a recent push from stakeholders to enhance transparency and sustainability practices. Non-EU member states, on the other hand, although not obligatory, also transposed some rules regarding non-financial reporting into national legislation. However, the quality and comprehensiveness of the reports in both groups of countries vary among companies. Lehenchuk et al. (2024) emphasise the importance of corporate governance mechanisms, such as board tenure and size, in positively influencing sustainability performance. They highlight governance as a critical factor in aligning corporate practices with sustainability goals.

The conducted literature review indicates that Hungary and Poland show relatively higher compliance rates and more structured adoption of global standards like the GRI. However, they also experience inconsistencies in their reporting. Latvia, Lithuania, and Bulgaria make progress due to corporate sustainability reporting initiatives and voluntary standards but continue to struggle with fragmented or inconsistent reporting practices arising from gaps in regulatory frameworks. Similarly, Croatian and Slovenian companies place great importance on sustainability practices. Still, Croatian companies struggle with climate change reporting, while Slovenian companies also show weaknesses in diversity and anti-corruption disclosures. However, inconsistencies are present in other countries, too. Slovakia is gradually advancing but remains behind regional leaders due to inconsistent reporting practices. Non-EU member states like North Macedonia, Serbia, and Montenegro show early or limited adoption of non-financial and sustainability reporting, often interfered with by weak regulation and insufficient stakeholder pressure. Due to its non-EU status, Bosnia and Herzegovina faces unique challenges in aligning with corporate sustainability reporting practices, resulting in significant non-financial disclosure and transparency gaps. Although aligning with European directives, Ukraine faces barriers, including a lack of unified standards, inconsistent audits, and socioeconomic disruptions deepened by conflict. Nevertheless, additional efforts to align its regulatory framework with EU standards and commitment to integrating international frameworks like the GRI could indicate promising progress.

Overall, these findings illustrate that while regulatory pressures have fostered gradual improvements across the CEE region, substantial disparities persist both among and within countries. This highlights the need for continuous standardisation, education, and stakeholder engagement to enhance the quality and impact of sustainability reporting. It is also important to note that this literature review was not based on a single, unified study across all countries, which complicates the ability to precisely assess each country's non-financial reporting state and make accurate comparisons. Consequently, we have conducted a comprehensive and unified study to address this gap, with findings outlined in the subsequent sections of this chapter.

After analysing prior research and recognising that studies from different CEE countries are not entirely comparable, the following hypothesis is proposed to guide the analysis of non-financial reporting among CEE companies:

- H1** The disclosures in the CEE companies' non-financial and sustainability reports for 2022 are of significantly higher quality and more comprehensive than those in 2017.

By testing this hypothesis, we can also relate the potential improvement in non-financial and sustainability reporting to regulatory requirements from the NFRD and anticipate the same for the CSRD.

Comprehensive Empirical Analysis Methodology

This study synthesises the results of a comprehensive empirical analysis of non-financial and sustainability reporting practices across 13 CEE countries. The analysis assessed the state of corporate sustainability reporting in these countries, focusing on companies' compliance with the NFRD, disclosures' quality and comprehensiveness, and their readiness for the upcoming CSRD. The countries included in the study are Bulgaria, Croatia, Czechia, Hungary, Latvia, Lithuania, North Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia, and Slovenia.

Sample Selection

The empirical research focused on PIEs exceeding an average of 500 employees, as mandated by the NFRD, as well as voluntary reporters. Each country selected a sample of companies based on the following criteria:

- Mandatory and highest revenue reporters
- Best practice reporters.

Mandatory and highest revenue reporters are large PIEs with securities quoted on a national or some other EU stock exchange. The selection was based on total revenue for the year 2017. Each country selected the 20 largest companies that met the criteria. Since not all the CEE countries are EU members, selected companies did not necessarily need to be mandatory reporters, as for certain countries, the NFRD has not been in force. If some company did not publish any kind of non-financial report, another company was selected in the sample until 20 companies were reached. Reports for the same companies for 2022 were analysed, too.

Best practice reporters stand for an additional 20 companies that were selected randomly. Researchers were allowed to choose to analyse voluntary reporting companies or those they consider best practices for their country. Some of those companies are not yet required to report under the NFRD but may soon be subject to mandatory reporting under the CSRD or will remain voluntary reporters.

For consistency, if a company's 2022 report was not yet available or the company reports biannually, the 2021 report was used. The reports were found through the official national reports' registry or the companies' official websites. In total, 80 reports (40 from 2017 and 40 from 2022) were analysed per country, except for Slovakia, where the sample size was adjusted to 20 companies and 40 reports in total, and Montenegro, which missed one company due to the availability of reports. In addition, Bosnia and Herzegovina and Ukraine struggled to collect and analyse the reports as they are not in the EU, and such reporting is not mandatory, so these two countries were excluded from the sample.

During the first stage of the research, we revealed that not all the mandatory reporters publish a non-financial statement under the management report, which is often part of the annual report, but publish separate sustainability or some other kind of report. If another type of report besides a non-financial statement (e.g., a sustainability report or corporate social responsibility report) was available, it was also analysed if some data were missing in the non-financial statement, or a more representative report was selected for analysis.

In total, the non-financial and sustainability reports of 499 companies were analysed, creating a substantial sample of 998 reports.

Research Process and Data Collection

The research was conducted using the content analysis method, which involves systematically coding and categorising the content of non-financial reports to assess their comprehensiveness and quality. The process was standardised across all countries to ensure comparability of results. From each report, the following data were extracted:

- **Descriptive data:** Information was collected on company size, number of employees, non-financial reporting obligation, type of report analysed, reporting framework used, and the stock exchange listing status.
- **Non-financial disclosure data:** The analysis focused on two groups of criteria as defined by the NFRD:
- **General Disclosure Criteria:** (1) environmental matters, (2) social and employee matters, (3) respect for human rights, and (4) anti-corruption and bribery matters.
- **Specific Disclosure Criteria:** (1) description of the business model, (2) policies implemented concerning general criteria, (3) outcomes of these policies, (4) principal risks and risk management, and (5) non-financial key performance indicators (KPIs).

We tended to avoid the weighted indices to maintain consistency across the large group of researchers involved. The required and analysed information was coded as disclosed (1) or not disclosed (0). Additionally, the level of specificity, transparency, and originality (indicators of disclosure quality) of the disclosures was assessed, with evaluations categorised as general (0), semi-specific (1), and specific (2) for the whole group of General Disclosure Criteria and Specific Disclosure Criteria (each criterion separately).

Statistical Analysis

The statistical analysis of the data was designed to evaluate the differences and trends in non-financial and sustainability reporting across selected CEE

countries over the study period, focusing on comparing the quality and comprehensiveness of disclosures between 2017 and 2022. The analysis employed the following:

- **Descriptive Statistics:** Mean, median, and standard deviation values, among others, were calculated to summarise central tendencies and variability in non-financial disclosures for the years 2017 and 2022. This initial analysis helped identify general patterns, improvements, or lack thereof, in the comprehensiveness and quality of non-financial reporting practices among both mandatory and voluntary reporters (MNFR and VNFR). Descriptive statistics served as a preliminary step, providing a broad overview of the changes in reporting practices over time.
- **Wilcoxon Signed-Rank Test:** To assess the progress in non-financial and sustainability reporting among CEE companies between 2017 and 2022, we formulated and tested the hypothesis (H1). This hypothesis examines whether there has been a statistically significant improvement in the quality and comprehensiveness of non-financial disclosures over the five-year period, specifically in 2022 compared to 2017. The comprehensiveness of disclosures refers to whether or not key non-financial matters were disclosed. At the same time, quality is measured by the level of specificity in the disclosures, ranging from general (coded as 0) through semi-specific (1) to specific (2). The Wilcoxon Signed-Rank Test, a non-parametric test suitable for paired data, was used to compare companies' disclosures between 2017 and 2022. Each company's data from 2017 was paired with its data from 2022, allowing for an evaluation of whether there has been a significant positive change in the comprehensiveness and quality of disclosures.

The combined use of descriptive and inferential statistical methods allowed a thorough examination of the evolution of non-financial reporting practices in CEE countries. This multi-dimensional approach provides valuable evidence of companies' progress and challenges in this dynamically changing region.

Comprehensive Research Results

After conducting our research by applying the content analysis method, the following descriptive analysis summarises the general state of non-financial reporting practices among companies in CEE. The data refer to the reports from 2017 and 2022. The study distinguishes mandatory non-financial reporting (MNFR) companies from those that voluntarily engage in non-financial reporting (VNFR). The analysis focuses on several key characteristics (descriptive data from the shared research table), including summary data per country, company size, number of employees, non-financial reporting obligation, non-financial statement publishing, type of report analysed, reporting frameworks used, industry sectors, and stock exchange listing status. These data (presented in Table 17.1) provide insights into the trends and frames in non-financial

Table 17.1 Characteristics of CEE Companies Included in the Non-Financial and Sustainability Reporting Analysis (2017 and 2022)

Analysed Characteristics of Sampled Companies		MNFR Companies & VNFR Companies		MNFR Companies		VNFR Companies	
		2017	2022	2017	2022	2017	2022
Country	BG	40	40	20	18	20	22
	CZ	40	40	40	40	0	0
	HR	40	40	20	20	20	20
	HU	40	40	20	18	20	22
	LT	40	40	20	20	20	20
	LV	40	40	27	32	13	8
	MK	40	40	28	31	12	9
	MN	39	39	20	18	19	21
	PL	40	40	27	29	13	11
	RO	40	40	24	26	16	14
	RS	40	40	0	32	40	8
	SI	40	40	29	34	11	6
	SK	20	20	20	20	0	0
	Total	499	499	295	338	204	161
Size	Micro	2%	2%	2	1	7	11
	Small	7%	5%	1	2	33	21
	Medium-sized	9%	11%	6	12	41	43
	Large	82%	82%	286	323	123	86
	Total	100%	100%	295	338	204	161
Number of employees	≤10	8%	7%	7	6	34	30
	11–50	11%	11%	7	8	49	48
	51–250	9%	10%	10	14	36	36
	>250	71%	72%	271	310	85	47
	Total	100%	100%	295	338	204	161

(Continued)

Table 17.1 (Continued)

Analysed Characteristics of Sampled Companies		MNFR Companies & VNFR Companies		MNFR Companies		VNFR Companies	
		2017	2022	2017	2022	2017	2022
Non-financial reporting	Mandatory	59%	68%	295	338	0	0
	Voluntary	41%	32%	0	0	204	161
	Total	100%	100%	295	338	204	161
Non-financial statement published	Yes	63%	71%	210	258	102	94
	No	37%	29%	85	80	102	67
	Total	100%	100%	295	338	204	161
Report analysed	Activity report	7%	8%	6	7	29	31
	Annual report	18%	14%	64	57	28	14
	Management report	7%	8%	20	20	17	18
	Corporate (social) Responsibility report	4%	4%	9	12	11	9
	Integrated report	5%	5%	23	22	3	3
	Non-financial statement/report	18%	17%	86	77	6	9
	Sustainability report	11%	16%	26	51	27	30
	Other	29%	28%	61	92	82	46
	Total	100%	100%	295	338	203	160

Framework or standards used	GRI	26,9%	36,9%	81	141	53	43
	UN global compact	5,8%	7,0%	8	21	21	14
	GRI + UN global compact	0,4%	0,4%	1	1	1	1
	National framework	31,1%	30,1%	90	84	65	66
	EMAS	0,4%	0,6%	2	2	0	1
	Other	21,2%	15,2%	76	62	30	14
	Not disclosed	14,2%	9,8%	37	27	34	22
	Total	100%	100%	295	338	204	161
Industry	Manufacturing	43%	43%	127	147	89	68
	Trade	15%	14%	41	50	33	22
	Services	23%	23%	65	71	48	44
	Financial sector	11%	11%	31	37	22	16
	Other	9%	9%	31	33	12	11
	Total	100%	100%	295	338	204	161
Stock exchange	Listed	42%	42%	142	144	69	65
	Not listed	58%	58%	153	194	135	96
	Total	100%	100%	295	338	204	161

reporting practices across the CEE region, highlighting differences between mandatory and voluntary reporters.

The data reveals a balanced distribution of companies across the observed countries, with 499 companies analysed in 2017 and 499 in 2022. Notably, the Czech Republic (CZ) maintained a consistent sample of 40 companies, all of which were MNFR. On the other hand, Serbia (RS) shifted from VNFR in 2017 to a significant increase in MNFR by 2022, reflecting a transition in the non-financial reporting regulation. This trend underscores the expanding scope of MNFR across the CEE region, with an increase in MNFR companies from 295 in 2017 to 338 in 2022, while VNFR companies decreased from 204 to 161 in the same period (the same companies were analysed for both years).

Most companies in the sample are large, comprising 82% in both 2017 and 2022. This high percentage of large companies, particularly among MNFR companies (97% in 2017 and 96% in 2022), indicates that mandatory reporting requirements predominantly apply to large entities, who are PIEs exceeding the average number of 500 employees during the reporting year. Interestingly, the VNFR group recorded a slight decline in the share of large companies (from 60% in 2017 to 53% in 2022). It directly impacted the share increase of VNFR micro- and medium-sized enterprises in 2022.

A similar pattern is observed regarding the number of employees, with the majority of companies employing more than 250 people (those are primarily large companies, while only five companies in both years observed together are medium-sized). Again, a noteworthy distinction is that 42% of VNFR companies in 2017 had more than 250 employees, which dropped to 29% in 2022. On the other hand, a predominant proportion of VNFR companies with fewer than 250 employees (primarily micro-, small-, and medium-sized enterprises) indicate that these entities make up a considerable share of the total number of voluntary reporters. Compared to the data regarding company size, it is even more highlighted that smaller entities make up a significant and even predominant share of VNFRs.

In 2017, 59% of analysed companies were engaged in MNFR, while the remaining 41% reported voluntarily (VNFR). By 2022, the situation had changed, with 68% of companies falling under the mandatory reporting category, reflecting almost a 15% increase. Notably, 21% of those companies that were voluntary reporters in 2017 transitioned to mandatory reporting by 2022. This shift indicates the growth of these companies and their subsequent need to comply with MNFR regulations.

Regarding the publication of non-financial statements, the rate increased from 63% in 2017 to 71% in 2022, reflecting a growing trend towards compliance with the NFRD (although they fulfil their obligation also by publishing a report under the other title, for example, a sustainability report). Among MNFR companies, the publication rate rose from 71% in 2017 to 76% in 2022, while among VNFR companies, although it slightly decreased in absolute numbers (from 102 to 94), their share increased from 50% in 2017 to 58% in 2022. This is a consequence of the increase in MNFR companies and the

decrease in VNFR entities. This suggests that the regulatory framework positively impacts the publication of non-financial reports, and a similar trend is expected to be observed with the implementation of the CSRD.

The data show that annual reports and non-financial statements, published within the annual report or separately, dominate among the types of reports analysed. On the other hand, the most significant increase in relative and absolute numbers refers to sustainability reports, particularly among MNFR companies, rising from 26 reports in 2017 to 51 in 2022. Conversely, the proportion of companies relying on the most dominant types of reports (annual and non-financial) has decreased the most. Such relations highlight the switch from non-financial reporting to a more comprehensive sustainability reporting format. This aligns with the evolving demands for transparency, accountability, and relevance in non-financial reporting. It is also worth mentioning that, besides the reports mentioned above, we revealed that enterprises use a broad spectrum of report titles, reaching even 30 different ones.

When looking at the reporting frameworks used, the Global Reporting Initiative (GRI) standards prevail, particularly among MNFR companies, where their usage increased from 81 reports in 2017 to 141 in 2022, or by 74%. A positive trend is also revealed among MNFR when applying the UN Global Compact's reporting framework. This reflects a broader adoption of internationally recognised standards in non-financial reporting, particularly as companies seek to align with global best practices. Meanwhile, reliance on national and other frameworks slightly decreased, particularly among MNFR companies, suggesting a shift towards more standardised and globally recognised reporting methods. Moreover, the percentage of those who do not disclose the standards or framework used in their reports has decreased among analysed companies (from 14% to less than 10%) and over the years (31%). This trend is present in both groups of companies, with a slightly better situation among the VNFR entities.

Finally, the industry breakdown and the stock exchange status remain consistent between 2017 and 2022. Manufacturing companies represent the largest share of both MNFR and VNFR companies. On the other hand, most companies analysed are not listed nationally or in the EU capital market. However, a significant share of MNFR entities have become listed in these five years.

This comprehensive analysis of our sample descriptive data highlights significant trends in non-financial reporting across the CEE region, with a clear shift towards mandatory reporting and increased adoption of global standards. The data underscores the growing importance of sustainability reporting practices, particularly as companies grow and become subject to more stringent reporting requirements.

To assess the quality and comprehensiveness of non-financial disclosures among CEE companies, two groups of variables were selected, each based on the requirements outlined in the NFRD. The first group (*General Disclosure Criteria*) comprises disclosures related to environmental matters, social and employee-related issues, respect for human rights, and anti-corruption and

bribery issues. The second group (*Specific Disclosure Criteria*) focuses on the business model, description of policies related to the above matters, the outcomes of those policies, the principal risks associated with these matters, and non-financial KPIs.

These variables were measured on a nominal scale, specifically whether the information was disclosed (coded as 1) or not disclosed (coded as 0). Additionally, a variable reflecting the quality of the disclosed information referred to as “*the level of disclosure*”, was employed for each group. This variable is measured on an ordinal scale, where the informativeness of the non-financial disclosures is evaluated as either specific – high-level quality (coded as 2), semi-specific – semi-level quality (1), or general – low-level quality (0). Specific disclosures provide detailed, company-specific information, while general disclosures offer broader information that could apply to most companies and do not contribute to the reader’s understanding of the company’s status.

Table 17.2 comprehensively compares non-financial disclosure practices between 2017 and 2022 among MNFR and VNFR companies in CEE countries (presented as a percentage of companies that disclosed the information and a percentage of companies being on one of the three levels of disclosure quality). This table distinguishes between general and specific disclosure criteria based on the NFRD requirements. The table examines the extent (comprehensiveness) and quality of disclosures across different categories, comparing the performance of MNFR and VNFR companies in both years. The data is presented for three groups: all companies combined (MNFR and VNFR), MNFR companies separately, and VNFR companies separately. Additionally, the table shows the percentage change in disclosure rates between 2017 and 2022 (having 2017 as a base year), providing insights into the progression of non-financial reporting over the five years.

The descriptive analysis of the data highlights several key trends and shifts in non-financial reporting practices among the sampled companies from CEE. Comparing MNFR companies and VNFR companies between 2017 and 2022 reveals significant changes in the comprehensiveness and quality of disclosures. The most representative data from Table 17.2 are presented in the following graphs to have a better overview. Contrary to the percentages in Table 17.2, graphs show the number of companies that disclosed certain information or the quality level of disclosures, which should be observed from the total sample of 499 companies analysed for each year. However, the results below the graphs are explained in percentages.

In the set of disclosures by general disclosure criteria, environmental information and social and employee-related issues are the most frequently disclosed areas in both 2017 and 2022 when observing MNFR and VNFR companies together, with 82% and 80% of companies reporting on these issues in 2017, respectively, and 93% and 90% in 2022. When examining companies separately, VNFR companies, while slightly lagging in 2017 in disclosing social and employee-related issues (75%), also made notable progress, reaching 84% by 2022. On the other hand, the most significant increases, however, have been

Table 17.2 Comparison of Non-Financial Disclosure Practices between 2017 and 2022 among MNFR and VNFR Companies in CEE Countries

Disclosed Non-financial Areas		MNFR Companies and VNFR Companies			MNFR Companies			VNFR Companies		
		2017 (n = 499) (%)	2022 (n = 499) (%)	Δ2022/2017 (n = 499) (%)	2017 (n = 325) (%)	2022 (n = 325) (%)	Δ2022/2017 (n = 325) (%)	2017 (n = 174) (%)	2022 (n = 174) (%)	Δ2022/2017 (n = 174) (%)
General disclosure criteria	Environmental information	82	93	13	83	94	14	81	91	12
	Social and employee-related issues	80	90	12	82	93	12	75	84	12
	Respect for human rights	58	73	27	60	77	28	52	66	25
	Anti-corruption and bribery issues	53	66	26	55	71	29	47	56	20
Level of disclosure quality	Low-level	30	16	-46	26	11	-56	37	25	-31
	Semi-level	33	35	5	36	36	1	29	33	16
	High-level	37	48	32	38	52	38	34	41	20

(Continued)

Table 17.2 (Continued)

Disclosed Non-financial Areas		MNFR Companies and VNFR Companies			MNFR Companies			VNFR Companies		
		2017	2022	$\Delta 2022/2017$	2017	2022	$\Delta 2022/2017$	2017	2022	$\Delta 2022/2017$
		(n = 499) (%)	(n = 499) (%)	(n = 499) (%)	(n = 325) (%)	(n = 325) (%)	(n = 325) (%)	(n = 174) (%)	(n = 174) (%)	(n = 174) (%)
Specific disclosure criteria	Business model	74	80	8	79	87	10	64	67	5
	Description of policies	74	87	17	73	89	22	76	83	8
	The outcome of the policies	60	72	21	64	78	22	52	61	18
	Principal risks	55	68	23	61	75	23	45	55	23
	Non-financial KPIs	49	64	30	52	69	32	44	55	26
Level of disclosure	Low-level	30	19	-35	22	10	-56	44	37	-16
	Semi-level	36	32	-11	39	36	-8	30	25	-17
	High-level	35	49	41	39	55	39	26	38	47

observed in the areas of respect for human rights and anti-corruption and bribery issues. There was an overall increase of 27% and 26% in disclosures in 2022 compared to 2017, respectively, observing both samples together. MNFR companies led this trend in the area of respect for human rights with a 28% increase, while VNFR companies, despite trailing behind MNFR, also recorded a notable 25% increase. Similarly, MNFR companies lead again in the area of anti-corruption and bribery issues with an increase of 29%, but the 20% increase in VNFR companies is not insignificant, either. All these indicate a positive impact of regulatory frameworks on the quality and comprehensiveness of non-financial reporting among MNFR companies. While VNFR companies still trail behind MNFR companies, the positive trend suggests that voluntary reporters increasingly recognise the importance of these disclosures. A growing awareness and prioritisation of general disclosure criteria issues has been noted across all companies. Conversely, the areas still underrepresented in 2022 are respect for human rights and anti-corruption and bribery issues. Companies should, therefore, focus on accelerating further improvement in that aspect of their reports.

When analysing the quality of the set of disclosures by general disclosure criteria for MNFR and VNFR companies, a key observation is a decrease in the low-quality disclosures from 30% of companies in 2017 to 16% in 2022, accompanied by an increase in the high-quality disclosures from 37% to 48% of companies presenting company-specific disclosures. This shift indicates an overall improvement in the depth and relevance of the information provided, which is a positive trend towards more meaningful reporting. Moreover, it is confirmed by both samples. For MNFR companies, the proportion of those that published low-quality disclosures dropped significantly in 2022 compared to 2017, with a decrease of 56%, while at the same time, high-quality disclosures increased by 38%. This substantial enhancement in the quality of MNFR companies' reporting, likely primarily driven by the regulatory environment, is a significant achievement. On the other hand, VNFR companies also improved their general disclosure criteria quality, with low-quality disclosures decreasing from 37% to 25% (a decrease of 31%) and high-quality disclosures increasing from 34% to 41% (an increase of 20%). This suggests that even voluntary reporters are moving towards more detailed and company-specific reporting, although at a slower pace compared to MNFR companies.

In the set of disclosures by specific disclosure criteria, the most disclosed areas are the business model and the description of policies, with 74% of MNFR and VNFR companies providing these disclosures in 2017 and 80% and 87% in 2022, respectively. The high levels of disclosure in these areas, especially among MNFR companies, are encouraging, although it would be beneficial to explore the nature and depth of the policies described further. The most significant increase, observing MNFR and VNFR companies together, has been recorded in non-financial KPI disclosures, with an overall increase of 30% in 2022 compared to 2017. MNFR companies lead again with an increase of 32%, but the 26% increase of VNFR companies is also worth mentioning.

Since the business model and description of policies were at a high level in 2017, the increase in disclosures shows the lowest rate. However, those areas remain the most disclosed. On the other hand, disclosures on the outcome of the policies do not follow the disclosure trend of the policies themselves. However, observing all the disclosure matters, both groups of companies have shown positive improvements and should keep going.

Similar to the quality of the set of disclosures by general disclosure criteria, the quality of the set of disclosures by specific disclosure criteria has improved across all five analysed areas, observing MNFR and VNFR companies together. High-quality disclosures have increased from 35% of companies in 2017 to 49% in 2022. This trend is consistent across both MNFR and VNFR companies, with VNFR companies exhibiting a more pronounced improvement in 2022 vs. 2017 compared to MNFR. MNFR companies have particularly excelled in decreasing low-quality disclosures, dropping by 56% from 22% of low-quality disclosing companies to only 10% of such companies. Finally, both groups of companies decreased in disclosures of semi-quality, which high-quality disclosures have also replaced. These significant improvements underscore the effectiveness of mandatory reporting requirements in driving better non-financial and sustainability reporting practices. They also show awareness of VNFR companies in improving their voluntarily published reports that obviously positively affect their business, particularly from investors' and other stakeholders' perspectives.

Following the data analysis presented in Table 17.2 and Figures 17.1–17.4, the descriptive statistics for 2017 and 2022, presented in Table 17.3, further

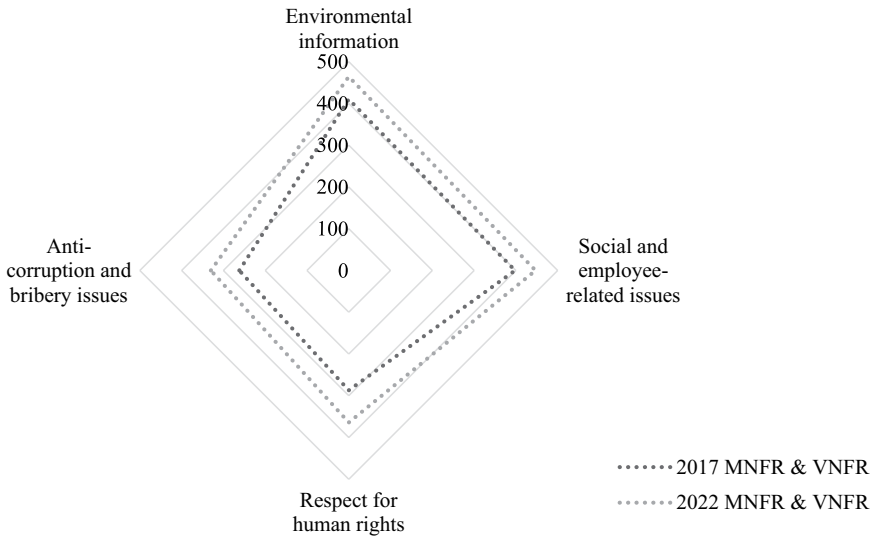


Figure 17.1 Comparison of General Disclosure Criteria for MNFR and VNFR Companies (2017 vs. 2022).

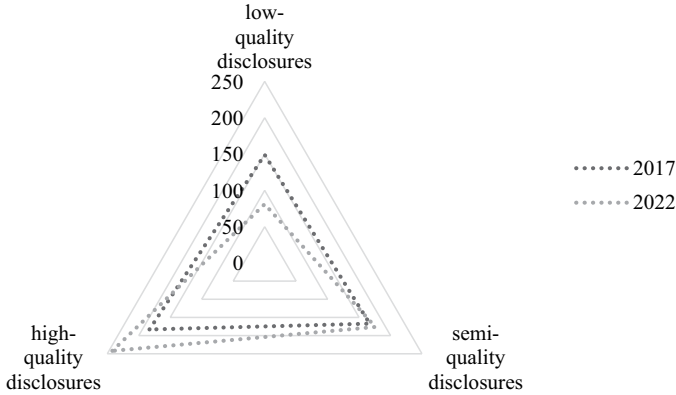


Figure 17.2 Quality of General Disclosure Criteria in MNFR and VNFR Companies (2017 vs. 2022).

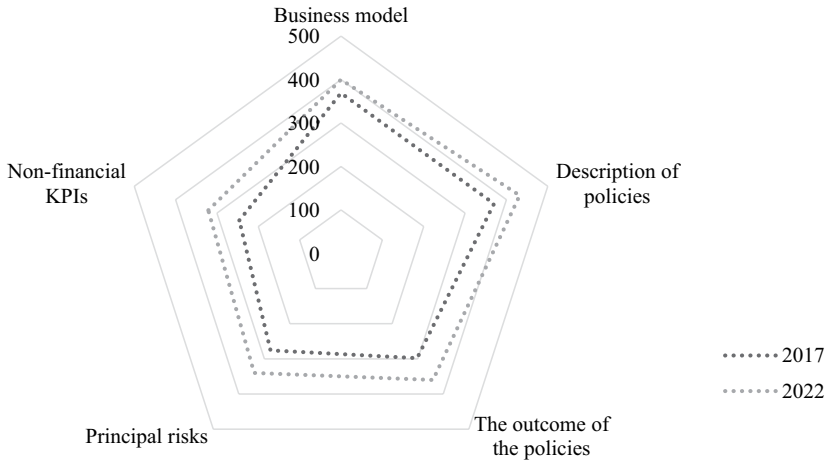


Figure 17.3 Comparison of Specific Disclosure Criteria for MNFR and VNFR Companies (2017 vs. 2022).

confirm the trends observed in the non-financial reporting of CEE companies. The mean values across different categories of disclosures indicate a general improvement in the comprehensiveness and quality of non-financial reports over the five years. The most significant progress has been observed in disclosing non-financial KPIs. The mean values increased from 0.493 in 2017 to 0.643 in 2022, meaning that 64.3% of analysed reports contained that information in 2022 compared to 49.3% in 2017. The median value confirms that, as for 2017, it was 0, meaning that more than 50% of reports did not contain those KPIs, while in 2022, it is 1 since the percentage of disclosures exceeded 50% of reports.

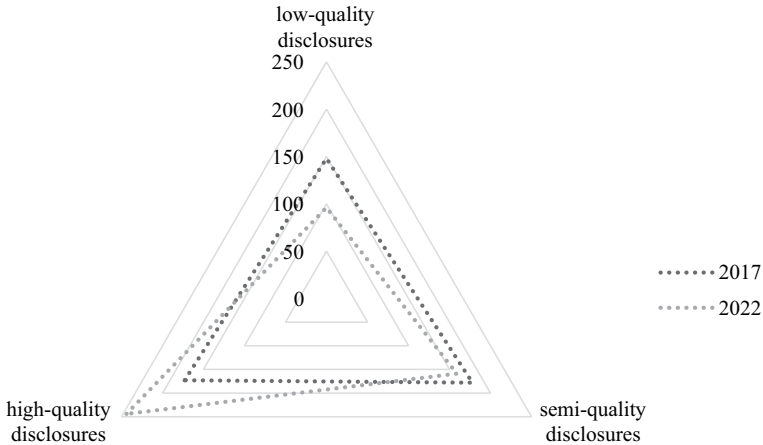


Figure 17.4 Quality of Specific Disclosure Criteria in MNFR and VNFR Companies (2017 vs. 2022).

Another key observation from the data is the variation in the extent to which companies disclose entity-specific (rather than general) information. The mean value for specific disclosures rose from 1,050 in 2017 to 1,297 in 2022, showing a positive trend where most reports were rated high-quality in 2022 (mode = 2) compared to semi-quality in 2017 (mode = 1). Although a positive trend is noticeable across all analysed criteria, relative variance implies that moderate to high variability between the analysed reports is present. The areas with a relative variance exceeding 30% highlight significant disparities in disclosure practices among companies. This suggests that while some companies excel in reporting practices, others lag.

On the other hand, it is notable that standard deviations and, thus, the relative variances of all areas decreased in 2022 compared to 2017. This reduction in relative variance indicates that companies are becoming more consistent in their reporting practices over time. However, the relative variance for most areas remains high, underlining the need to continue improving consistency across all segments.

The sum values, which reflect the total number of companies reporting on each issue, show a substantial increase across almost all categories. These increases are encouraging and reflect the growing emphasis on these critical issues across the CEE region.

Overall, the improving results align with the upward trend in these areas noted earlier. However, the significant variance in certain areas points to the need for more targeted efforts to standardise and improve reporting practices, ensuring that all companies, regardless of country, size, or sector, are held to the same high standards.

After analysing and presenting the results descriptively, we move beyond descriptive statistics and employ inferential statistical methods to test the

Table 17.3 Descriptive Statistics of Non-Financial Disclosures in CEE Companies for 2017 and 2022

Descriptive Statistics Measure	Year	General Disclosure Criteria					Specific Disclosure Criteria					
		Environmental	Social and Employee	Respect for Human Rights	Anti-corruption and Bribery	Disclosure Quality	Business Model	Policies to the Matters	Outcome of the Policies	Principal Risks Related to the Matters	Non-financial KPIs	Disclosure Quality
Mean	2017	0,822	0,798	0,575	0,525	1,068	0,739	0,741	0,597	0,553	0,493	1,050
	2022	0,930	0,896	0,729	0,661	1,323	0,802	0,866	0,721	0,681	0,643	1,297
Standard error	2017	0,017	0,018	0,022	0,022	0,036	0,020	0,020	0,022	0,022	0,022	0,036
	2022	0,011	0,014	0,020	0,021	0,033	0,018	0,015	0,020	0,021	0,021	0,035
Median	2017	1	1	1	1	1	1	1	1	1	0	1
	2022	1	1	1	1	1	1	1	1	1	1	1
Mode	2017	1	1	1	1	2	1	1	1	1	0	1
	2022	1	1	1	1	2	1	1	1	1	1	2
Standard deviation	2017	0,383	0,402	0,495	0,500	0,814	0,439	0,438	0,491	0,498	0,500	0,801
	2022	0,256	0,306	0,445	0,474	0,738	0,399	0,341	0,449	0,466	0,480	0,771
Sample variance	2017	0,147	0,162	0,245	0,250	0,662	0,193	0,192	0,241	0,248	0,250	0,642
	2022	0,065	0,094	0,198	0,224	0,544	0,159	0,116	0,201	0,218	0,230	0,595
Relative variance	2017	18%	20%	43%	48%	62%	26%	26%	40%	45%	51%	61%
	2022	7%	10%	27%	34%	41%	20%	13%	28%	32%	36%	46%
Minimum	2017	0	0	0	0	0	0	0	0	0	0	0
	2022	0	0	0	0	0	0	0	0	0	0	0
Maximum	2017	1	1	1	1	2	1	1	1	1	1	2
	2022	1	1	1	1	2	1	1	1	1	1	2
Sum	2017	410	398	287	262	533	369	370	298	276	246	524
	2022	464	447	364	330	660	400	432	360	340	321	647

hypothesis developed. The hypothesis is designed to evaluate the development and quality of non-financial and sustainability reporting practices among companies in CEE from 2017 to 2022. Given the variations in regulatory environments, voluntary reporting practices, and the differing statuses of CEE countries as EU members or non-members, it is crucial to use appropriate statistical tests to determine whether the observed differences in reporting practices are statistically significant.

The sample of 499 CEE companies described above and their 998 published non-financial statements/sustainability reports were analysed. Since the Shapiro-Wilk test results indicated that all variables' p-values are less than 0,05, suggesting that the data for all variables deviate from a normal distribution, it was appropriate to use non-parametric tests. Namely, the Wilcoxon Signed-Rank test was employed. The results of the analysis are presented below. The statistical analysis was conducted using JASP statistical software.

To assess the progress in non-financial and sustainability reporting among companies in Central and Eastern Europe (CEE) between 2017 and 2022, the hypothesis (H1) examines whether there has been a statistically significant improvement in the quality and comprehensiveness of disclosures. Specifically, this hypothesis tests whether the non-financial and sustainability reports of CEE companies in 2022 are significantly more comprehensive and of higher quality than those from 2017.

The comprehensiveness of disclosures refers to whether key non-financial matters and additional non-financial information were disclosed or not disclosed. Quality, on the other hand, is measured by the level of specificity in the disclosures, ranging from general (coded as 0) to semi-specific (1) to specific (2). The goal is to determine if there has been an overall enhancement in both the extent and depth of information provided by companies over the five-year period.

The non-parametric Wilcoxon Signed-Rank Test is employed to test this hypothesis, comparing the non-financial disclosures of CEE companies between 2017 and 2022. This test is particularly suitable for paired data, where each category's data from 2017 is paired with that from 2022 for the same companies. The hypothesis was tested under the following framework:

Null Hypothesis (H0)

There is no significant difference, or the difference is not positive, in the quality and comprehensiveness of non-financial reporting disclosures in 2022 compared to 2017.

Alternative Hypothesis (H1)

There is a significant positive difference in the quality and comprehensiveness of non-financial reporting disclosures in 2022 compared to 2017.

The subsequent sections present the results of the Wilcoxon Signed-Rank Test for each category of disclosure (Table 17.4), aiming to determine whether the

Table 17.4 The Wilcoxon Signed-Rank Test Results for Testing H1 on CEE Companies Non-Financial Reporting Disclosures (2022 vs. 2017)

	<i>Category</i>	<i>p-value*</i>
General disclosure criteria	Environmental information	0,001
	Social and employee-related issues	0,001
	Respect for human rights	0,001
	Anti-corruption and bribery issues	0,001
Entity-specific disclosure level by general disclosure criteria		0,001
Specific disclosure criteria	Business model	0,001
	Description of policies	0,001
	Outcomes of the policies	0,001
	Principal risks	0,001
	Non-financial KPIs	0,001
Entity-specific disclosure level by specific disclosure criteria		0,001
Overall disclosure criteria – comprehensiveness		0,001
Overall entity-specific disclosure level – quality		0,001

* Significant at a 1% significance level.

hypothesis is supported by the data collected from companies across the CEE region. The outcomes of this analysis provide valuable insights into the evolution of non-financial reporting practices within this diverse and dynamically changing region.

The Wilcoxon Signed-Rank Test results, presented in Table 17.4, reveal that both categories (general and specific) of non-financial reporting disclosures are statistically significant when comparing 2022 to 2017. The p-values for all categories fall below the 1% significance level, confirming that there is a significant improvement in both the comprehensiveness (as measured by the general and specific disclosure criteria) and the quality of disclosures (entity-specific disclosure level) in CEE companies' non-financial and sustainability reports over the five-year period. This indicates that companies have enhanced their reporting practices, providing more detailed, transparent, and specific non-financial information by 2022, thus supporting the hypothesis. The improvement is observed across all categories, including environmental matters, social and employee-related matters, respect for human rights, anti-corruption and bribery issues, business model, description, and outcomes of implemented policies related to general disclosure criteria categories, principal risks, and non-financial KPIs. Additionally, an improvement in disclosure quality was observed across both observed sets of categories. This demonstrates that regulatory and voluntary efforts across CEE countries have positively impacted the overall quality and comprehensiveness of non-financial reporting.

A Critical Perspective on the Future of Sustainability Reporting in Europe

The analysis revealed that the first years after the introduction of the NFRD have been characterised by a progressive increase in the overall quality of the

information yearly disclosed by the undertakings included in our sample. This evidence is consistent with previous studies conducted in other institutional settings and outside the CEE countries from the sample, such as Italy, Spain, and Germany (García-Sánchez, Sierra-García, and García-Benau, 2022; Nicolò et al., 2022; Ottenstein et al., 2022). Therefore, the NFRD's contribution has been relevant from a quantitative point of view. In this regard, it is important to note that the rule favoured the development of isomorphic behaviours by companies, confirming the enabling role covered by regulation on accounting practices (Maroun and van Zijl, 2014).

However, as evidenced by the preliminary insights published by the European Commission in 2022, the fiscal year 2024 will represent a turning point for more than 49.000 European companies. After the first wave of reports prepared on a mandatory basis to comply with the national laws, European companies will accelerate their sustainability transition to comply with the CSRD, which will require a more significant effort by preparers (La Torre et al., 2020; Venturelli et al., 2020). Although there are similarities and overlaps between the NFRD and the CSRD, many companies will rethink their traditional reporting practices to face the new challenges identified by the rule (BDO, 2022). In fact, contrary to the NFRD, the CSRD will require adherence to more strict rules, such as the mandatory adoption of the European Sustainability Reporting Standards (ESRS), external assurance, and disclosure digitisation. Therefore, in future studies, the analysis conducted should necessarily be revised to consider the effects related to the transposition of the new law by CEE countries.

Regarding the mandatory adoption of the ESRS, the standardisation of sustainability reporting practices represents a significant opportunity for CEE companies (Pizzi, Venturelli, and Caputo, 2024b). Considering the relevance covered by ESG dynamics within financial markets, the global alignment of the information disclosed by European companies will positively contribute to the development of more transparent financial markets. In this regard, CEE companies interested in achieving legitimacy at the international level could benefit from this intervention because of the opportunity to disclose more comparable and reliable information (Lippai-Makra, Kovács, and Kiss, 2022; Zarzycka and Krasodomska, 2021). At the same time, the CSRD will also contribute to the development of more transparent value chains. Despite the overall lack of attention paid by practitioners and academics to these implications, large companies will integrate their sustainability reports with external information collected from suppliers. Therefore, enhancing ESG indicators will contribute to the development of new market relationships between CEE companies and non-CEE partners (PWC, 2024).

The reinforcement of the external assurance mechanism will represent the natural consequence of the development of more sophisticated sustainability reporting practices. This evidence is directly related to one of the main lessons learned from the NFRD regarding the concept of "reporting quality" (Venturelli et al., 2019). In detail, as evidenced by The Alliance for Corporate Transparency (2020), the first wave of mandatory sustainability reporting

practices in Europe was characterised by a high degree of heterogeneity related to the opportunity to adopt alternative accountability approaches. Therefore, the existence of an external assessment made by independent auditors did not represent an effective way to certify the reliability of the information disclosed. In addition, a significant number of companies opted for a “limited” approach based on ISAE 3000, which represents a methodological approach characterised by many conceptual issues. In this regard, the recent development made by the IAASB to introduce the International Standard on Sustainability Assurance (ISSA) 5000 will actively contribute to enhancing the robustness and reliability of the external assessments made by auditors (Hay et al., 2024).

Another significant implication related to CSRD is represented by the new challenges related to digitisation (Cicchini, Carello, and Cotana, 2024; Petruzzelli and Lippolis, 2022). After a long reflection made by policymakers, ESG information will be digitalised in XBRL, a global standard which will enhance the temporal and spatial comparability of the information disclosed (Aluchna, 2024). However, effective digitalisation will not be possible without companies adopting more sophisticated information systems. As evidenced in previous studies, the last few years have been interesting because of an increasing adoption of accountability tools based on data collection practices based on manual coding and Excel files. In this regard, considering the need to disclose reliable and timely information, companies should start to invest in emerging technologies, such as modern sustainable enterprise resources planning (S-ERP) tools (Pizzi et al., 2024a). In the meantime, it is necessary to promote the adoption of a cultural change based on data governance principles. Therefore, preparers should start to explicitly identify accountability mechanisms characterised by the formal assignment of responsibilities to managers, directors, and owners.

In summary, advancing towards a more transparent approach to ESG reporting will involve addressing various challenges, particularly the need to raise awareness among managers and preparers about the importance of ESG information in the contemporary economy (Ligorio, Palazzo, and Marchetti, 2024; Principale, 2023). The European setting provides a unique institutional context as a pioneer within this evolving landscape. In the coming years, new ESG reporting regulations will likely be adopted by countries classified as “late adopters”. This expectation is partly supported by recent data from the IFRS Foundation regarding the adoption of the IFRS Sustainability Standards (IFRS-S). In this context, accounting scholars are poised to play a critical role in advancing both scientific and practical discourse on the future of corporate reporting (Venturelli, 2025).

On the one hand, the evidence-based approach employed by accounting researchers will be instrumental in gathering insights into the main constraints and opportunities associated with European companies’ mandatory adoption of standardised reporting frameworks. Notably, many academics have anticipated key reflections echoed by the European Commission concerning the need to revise the NFRD (Panfilo, Pizzi, and Krasodomska, 2024). Thus, the long-term perspectives offered by accounting scholars will be valuable to

policymakers seeking informed feedback on accounting regulations. On the other hand, academic contribution is also vital for preparers and standard setters. The shift from a flexible to a standardised approach, marked by the mandatory adoption of the ESRS, will necessitate significant adaptations in information systems to meet new requirements. This transition will be partly facilitated by recent guidance from the GRI and IFRS-S on interoperability aimed at supporting preparers in their reporting practices. However, challenges remain in ensuring full integration between financial and sustainability information (EFRAG, 2023). Here, academics can contribute meaningfully by developing technical reports that identify potential trade-offs between and within accounting data, advancing the goal of cohesive and comprehensive corporate reporting.

Finally, it is essential to acknowledge that the actual impacts of the new rule remain uncertain. However, we are confident that the coming years will witness the continuous emergence of new research directions, contributing to the establishment of a distinct research area focused specifically on the European context. Additionally, as ESG information becomes progressively integrated into financial reporting practices, a new subfield in accounting research is likely to develop. In light of these changes, academics should consider re-evaluating traditional theoretical frameworks used to examine sustainability reporting practices to address the evolving challenges posed by the widespread adoption of sustainability reporting among European companies.

Discussion and Conclusion

The data and analyses reveal critical trends in non-financial reporting across CEE countries. The notable improvements in high-level quality disclosures and the reduction in low-level quality disclosures suggest that mandatory and voluntary reporting companies increasingly prioritise the quality of their sustainability reports. This development implies that regulatory frameworks, like the NFRD, have positively influenced reporting practices and that many voluntary reporters are also motivated by a broader awareness of sustainability's significance. The anticipated implementation of the CSRD is expected to accelerate these trends further, driving greater transparency and standardisation in regional corporate sustainability reporting.

The first years following the introduction of the NFRD saw a gradual increase in the overall quality of disclosed non-financial information, a trend also observed in other European countries. This highlights the NFRD's role in fostering standardised reporting behaviours among companies. However, as the CSRD comes into force, it will require even stricter adherence to disclosure standards, including the ESRS, external assurance requirements, and digitisation of reports. This transition will demand substantial adaptation, offering CEE companies an opportunity to align more closely with global best practices, improving transparency, legitimacy, and market relationships (Lippai-Makra, Kovács, and Kiss, 2022; Zarzycka and Krasodomska, 2021).

The CSRD's emphasis on external assurance and digitalisation presents significant challenges but also a pathway for more robust and comparable reporting. Companies must invest in sophisticated information systems and adopt a culture of strong data governance to meet these requirements. Enhanced external assurance mechanisms will improve the reliability of disclosures, addressing previous inconsistencies highlighted under the NFRD framework. Furthermore, digitisation efforts through standards like XBRL will ensure better comparability and timeliness of ESG information, enabling a more cohesive integration of non-financial and financial data (Pizzi, Mastroleo, Venturelli, and Caputo, 2024a).

While regulatory pressures have driven significant progress in non-financial reporting practices across CEE, substantial disparities persist within and between countries, underscoring the need for continued standardisation, education, and stakeholder engagement. The gradual progress highlights that regulatory frameworks alone are insufficient; companies must also exhibit a genuine commitment to corporate social responsibility and sustainable business practices. This is particularly relevant as companies prepare for the more demanding requirements of the CSRD, which will necessitate significant changes in traditional reporting practices, fostering a new era of transparent and standardised sustainability reporting in the region.

In conclusion, while the evolution of non-financial reporting practices across CEE has been marked by incremental progress, the upcoming changes under the CSRD represent a pivotal opportunity for companies to further enhance their transparency, accountability, and sustainability efforts. The research findings underscore the importance of regulatory frameworks in shaping corporate behaviour, but they also highlight the ongoing challenges of achieving consistent, high-quality reporting across diverse national contexts. Future studies should continue to evaluate the impact of these evolving standards, contributing to a comprehensive understanding of sustainability reporting's role in fostering responsible business practices throughout Europe.

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Notes

- 1 The sample refers to each observed country's top 100 companies by revenue.
- 2 From our sample of CEE countries, only five mentioned countries were observed in the KPMG's 2020 study.

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