



Implementation of Sustainability Reporting Standards: Readiness of Joint Stock Companies from Serbia vs. North Macedonia

Jelena Desmko Rihter¹ , Emilija Gjorgjioska² , and Margarita Janeska² 

¹ Faculty of Technical Sciences, University of Novi Sad, Novi Sad, Serbia
jciric@uns.ac.rs

² Faculty of Economics, Prilep, University St. Kliment Ohridski -Bitola, Bitola,
North Macedonia

Abstract. The commitment of companies to Environmental, Social, and Governance (ESG) issues has never been more relevant or emphasized in the global socio-economic environment. The aim of the paper is to make a comparative analysis of ESG reporting in the Republic of Serbia (RS) and Republic of North Macedonia (RNM), starting with the legal and regulatory framework and afterwards with practical implementation of the ESG reporting by joint stock companies listed on Serbian (index BELEX15) and Macedonian (index MBI10) stock exchanges, respectively. The study uses a mixed-methods design that integrates both qualitative and quantitative techniques. The qualitative part consists of gathering and analyzing legal and regulatory acts, and reports published by analyzed joint stock companies. The quantitative analysis includes evaluating and scoring indicators according to ESG segments of the reports. The results show the level of maturity of Serbian and Macedonian companies of implementing ESG standards in their operation by statistical and visual presentation of the findings by using Microsoft Excel. Companies listed in MBI10 demonstrate a good ESG maturity level, whereas companies listed in the BELEX15 show moderate ESG maturity level. Considering the research results, the paper provides recommendations for improving ESG reporting practices in Serbia and North Macedonia.

Keywords: ESG · sustainability reporting · corporate governance · joint-stock companies · regulatory compliance

1 Introduction

Integrating ESG issues into investment decisions is more common nowadays. According to IFC (2021) the strategic commitment of a company to ESG issues and performances has been recognized by investors and financial markets. ESG ratings and data have become a crucial foundation for responsible investing, empowering the investors with upgraded and broadened data, including environmental, social and corporate governance data, that is unavailable in financial statements of the companies. ESG reporting should overcome the information asymmetry between different market participants, such as

investors and other stakeholders. The E aspects of ESG reflect the environmental issues including waste, use of (renewable) resources, GHG emissions, environmental policies etc. The S aspect of ESG includes social dimension of companies' operation especially labor relations, occupational safety and health management system, diversity and inclusion, while G aspect emphasizes internal system of practices, law compliance and external stakeholders' relations (Henisz, Koller, & Nuttall, 2019). Sustainability or ESG reporting should provide to investors and other stakeholders the information how value has been created in the company, how employees and all the people in supply chains have been treated, how inclusivity and equality have been promoted, how companies identify non-financial risks, how different risks have been managed, etc.

When analyzing the factors that affect the level of ESG disclosure (Helfaya, et al., 2023) came to the conclusion that sustainability reporting guidelines and national policies adjusted to cultural dimensions positively influence ESG practices and help mitigate country-specific weaknesses. Krambia-Kapardis et al. (2023) in their research emphasize that the regulation of ESG disclosure by governmental decree would be more productive than self-regulation by professional bodies or the Stock Exchange. Regarding the economic, historical, geopolitical similarities and relations between the countries, also and their status of candidates for EU membership, but taking into consideration the differences between countries in the way that ESG reporting is regulated, the analysis provides a conclusion about the ESG maturity of companies listed in the national stock indexes.

1.1 Compliance to the ESG Regulative Framework in the Republic of Serbia (RS)

According to the latest Serbian Law on Accounting (2019) all domestic companies classified as large legal entities (more than 500 employees) are required to publish non-financial reports as part of their annual reports. These reports contain information about sustainability and ESG issues, but there are no standardized form and obligatory content regarding these issues. Although sustainability reporting is obligatory only for large companies, and absence of universally accepted standards, guidelines, and instructions (Jovanović, 2025), awareness of other companies in terms of advantages of implementing ESG issues in the strategic orientation, and long-term benefits of commitment to the sustainability, through the prism of a company, consumers, social community, environment, protection of workforce rights, etc., has been slightly increased. But, the most expressed obstacles which slow the transition process towards long term sustainable business, especially for SMEs, are: lack of finance, and complexity of ESG reporting that requires employees with the ESG expertise. Companies from Serbia that export to the EU or participate in the supply chain of some EU companies, or some EU investors and banks invest in Serbian companies, are indirectly forced to disclose implementation of ESG factors in their business through the ESG reporting, by applying some of the international reporting standards (Global Reporting Initiative - GRI, IFRS ISSB) and some of directives and regulatory frameworks especially required in the EU, such as CSRD - Corporate Sustainability Reporting Directive, EU Taxonomy for Sustainable Activities, but also VSME - Voluntary Standard for non-listed SMEs set by EFRAG (The European Financial Reporting Advisory Group with the support of the European

Commission). That pressure of the EU market might be considered a stimulating factor for Serbian companies to embed ESG issues in the company's strategy and organizational culture.

1.2 Compliance to the ESG Regulative Framework in the Republic of North Macedonia (RNM)

The ESG reporting legal framework in the Republic of North Macedonia (RNM) is in its initial stage of development. The pioneer step toward increasing ESG awareness was taken when the requirement for listed joint-stock companies in RNM to include a corporate governance statement in their annual reports was incorporated into national law through the 2020 amendments to the Law on Trade Companies. In 2021, Macedonian Stock Exchange (MSE) introduced the Corporate Governance Code (CGC) as a soft-law instrument to strengthen governance standards and enhance stakeholder confidence in the securities market (MSE and SEC, 2021). The commitment for promoting sustainable investment and improving ESG oriented business aligned with best international practices, results with adoption of ESG reporting guideline, by MSE. The ESG disclosure in RNM is not mandatory for companies listed on the MSE, and is still based on the company's willingness to fill in and publish ESG reports no matter as a part of annual report, sustainability report or integrated report (Gjorgjioska et al., 2025). The voluntariness in the process of publishing information is in contrast with the EU regulation where ESG disclosure is required for some types of companies (see more CSRD art. 5). The Draft version of the new Law on accounting proposed mandatory disclosure of nonfinancial reports for companies with more than 500 employees.

2 Research Methodology

The main aim of the research is measuring the ESG maturity of Serbian and North Macedonian joint-stock companies, listed in the national stock indexes (BELEX15–9 listed companies and MBI 10–10 listed companies), which comprise the most liquid and market-leading companies in Serbia and North Macedonia, making them relevant carriers of ESG practices. One of the limitations of this research is that the analysis is focused only on the largest listed companies which may differ from other companies. Therefore, the results should be interpreted as indicative of leading companies, and not for all businesses. Furthermore, it should be noted that each of the two analyzed national stock indexes includes only one company from the construction sector. The selection of ESG indicators analyzed in this study was primarily based on the indicators included in the ESG Reporting Guide adopted by the Macedonian Stock Exchange (MSE). To ensure comparability, the research used general indicators applicable in a broader international context, aligned with internationally recognized ESG frameworks, including the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and relevant recommendations of the European Union. Given that ESG frameworks encompass a large number of indicators across the environmental, social, and governance dimensions, and considering the space limitations for presenting the results, this study focuses on a selected set of indicators that are common to the GRI

Standards, the ESRS, and the Macedonian Guide to ESG Reporting. Consequently, the exclusion of other potentially relevant ESG indicators may be considered a limitation of the research. Differences in the regulatory framework, particularly the existence of an ESG guide in North Macedonia and its absence in Serbia, may also have influenced the results.

The data used in this research were obtained from secondary sources - annual reports, financial reports, corporate governance questionnaires, publicly available on the web sites of analyzed companies, BSE and MSE.

For assessment of the ESG maturity of analyzed companies were measured 15 indicators, namely 5 for each of the ESG aspects. Namely, 1–5 indicators related to E (environment), 6–10 indicators related to S (social issues) and indicators 11–15 related to G (governance). The labels and their meaning are:

1. Formalized environmental management system (EMS)
2. Formalized waste management program or policies (selection, recycling etc.)
3. Greenhouse gas emissions (CO₂ or other GHG emissions, values or intensity)
4. Energy consumption by type of source (renewable or non-renewable)
5. Water resources management (water consumption, reduction of use etc.)
6. Workforce structure (gender, education, age etc.)
7. Provided trainings (internal or external, number of trainings per employee)
8. Benefit programs for employees
9. Occupational safety and health management system
10. Number of workplace injuries
11. Structure of management and supervisory board/board of directors
12. Gender representation in managing bodies
13. Code of ethics, anti-corruption and conflict of interests' policies
14. Risk management system, including protection of personal data
15. Annual, ESG or sustainability reports (published on the web page of the companies).

The fulfillment of the prerequisites of each indicator was assessed on a scale of 0 to 2 points (where 0 means no publicly published information regarding the indicator, 1 means that there is some general, qualitative information about the indicator and 2 means that there is published quantitative and detailed information about the indicator). The maximum number of points for each group of indicators may be 10 points, while the total ESG index is 30. The final score of fulfillments of the ESG index is calculated as a ratio between the total number of points awarded and the total number of possible points, expressed in percentage.

$$\text{ESG Index} = \text{Points awarded} / \text{Maximum possible points} \times 100$$

Depending on the value of ESG index, analyzed companies may be classified in 5 groups of ESG maturity:

- 0–20% in “very poor” ESG maturity group,
- 21–40% in “poor” ESG maturity,
- 41–60% in “moderate” ESG maturity,
- 61–80% in the “good” ESG maturity and
- 81–100% in “very good” ESG maturity group.

In addition to the horizontal analysis of ESG maturity reached by companies, the authors applied a vertical analysis by each ESG indicator and also by each of the ESG aspects in BELEX15 and MBI10 indexes. Vertical analysis enables determination of the implementation of each ESG indicator individually and into the frame of E, S or G aspects. Vertical analysis presents an important analytical approach that gives very important signals about the weaknesses and strengths of ESG reporting on a national level that are not directly visible through individual analysis of the company's results.

3 Results and Discussion

In order to present the level of ESG maturity of the largest listed companies in both countries, the following graphs present the average ESG levels, level of E, S and G aspects of ESG, and more specified by analyzing each of the analyzed 15 indicators. An average ESG level of MBI10 companies is significantly higher (72%) compared with ESG maturity level index of BELEX15 companies in Serbia (44%). On average MBI10 companies show good ESG maturity, and Serbian BELEX15 companies are situated in the group with an average ESG maturity (Fig. 2).

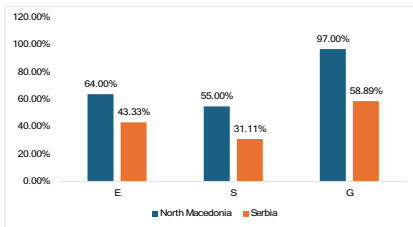


Fig. 1. An average level of maturity of ESG aspects in North Macedonia (MBI10) and Serbia (BELEX15)

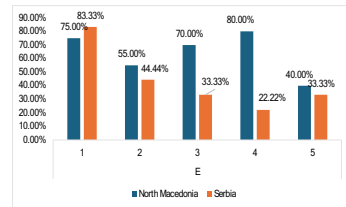


Fig. 2. An average level of maturity of E indicators in North Macedonia (MBI10) and Serbia (BELEX15)

Figure 1 presents the comparison maturity of each of the groups of indicators structured in E, S or G segments in both countries. In all segments MBI10 companies have shown better achievements. The most obvious difference in favor of MBI10 companies is evident in the G segment (with differences of 38,11%) where an average maturity indicator level of MBI10 companies is equal to 97%, compared to BELEX15 companies' value of 58,89%. It is interesting that MBI10 and BELEX15 companies show the same trends of maturity level, with highest level of maturity in G segment, and lowest maturity level at S segment. The highest level of maturity by MBI10 companies is shown in G segment with 97% and by BELEX15 companies with 58,89%. The lowest maturity segment S is presented with 55% and 31,11% by MBI10 and BELEX15 companies, respectively.

The lowest level of maturity in the E segment by MBI10 companies is shown in indicator 5 (water resources management), while by BELEX15 by indicator 4 (Energy consumption by type of source). The best results are gained in indicator 4 by MBI10

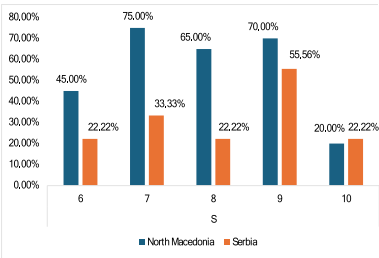


Fig. 3. An average level of maturity of S indicators in North Macedonia (MBI10) and Serbia (BELEX15)

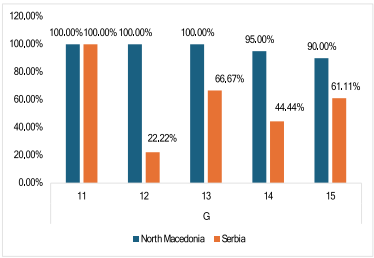


Fig. 4. An average level of maturity of G indicators in North Macedonia (MBI10) and Serbia (BELEX15)

companies, that is indicator 1 (Formalized environmental management system) in BELEX15.

Figure 3 shows that within the S dimension, MBI10 records its lowest value for Indicator 10, while BELEX15 shows the lowest values for Indicators 6, 8, and 10 (see Sect. 2.1). The highest value in MBI10 is observed for Indicator 7, whereas in BELEX15 the highest value is recorded for Indicator 8. In Fig. 4, the G dimension BELEX15 exhibits its lowest score for Indicator 12 and its highest for Indicator 11. Conversely, MBI10 shows uniformly high scores across all indicators, suggesting a more balanced application of corporate governance practices and the highest level of compliance with the assessed indicators (Table 1).

Table 1. Comparison of the average maturity level of indicators in E, S and G dimensions of ESG aspects of MBI10 and BELEX15

	E		S		G		ESG	
	E index	E Maturity level	S index	S Maturity level	G index	G Maturity level	ESG index	ESG Maturity level
North Macedonia	64%	Good	55%	Moderate	97%	Very good	72%	Good
Serbia	43,33%	Moderate	31,11%	poor	58,89%	Moderate	44,44%	Moderate

The comparison between MBI10 and BELEX15 companies shows significant differences in ESG maturity of analyzed companies. The average ESG maturity index in RNM shows 72%, which is 27,56% higher than the average ESG maturity index in RS (44,44%). Classified in groups, MBI companies have shown “good” ESG maturity, while BELEX15 companies have shown “moderate” ESG maturity. The most obvious differences are shown in the G dimension when MBI10 companies show average maturity of 97%, while BELEX15 companies show 58,89%. E and S dimensions also record a higher level of formalized procedures and transparency of Macedonian companies. The trend of stronger performance in the G dimension among MBI10 companies has been

in line with the comparative analysis. Historically, the G dimension has received greater attention from investors than the S and E dimensions, which have gained increased focus only in recent years (Matos, 2020).

In terms of the E dimension, MBI10 companies show stable and relatively high values (55–80%) with the best results accomplished for indicator 4 (80%). BELEX15 companies have gained a respective level of ESG maturity for the index E1 (83,33%), while all other indicators are considerably lower (22,22%–44,44%).

S dimensions of MBI10 companies record relatively high scores, with greatest achievements of indicator 7 (75%) and record low levels of S maturity of indicator 10 (20%) and average S maturity index of 55%. BELEX15 companies show lower scores starting from 22,22% for some indicators till 55,56% for indicator 9.

MBI10 companies show exceptionally high values for all indicators for the G indicators (90%–100%), indicating a high level of formalization, transparency and developed corporate governance mechanisms. G indicators at BELEX 15 vary significantly (22.22%–66.67%), with the lowest value for indicator 12 (22.22%), and highest value for indicator 11 of 100%. This indicates an uneven alignment of the principles of good corporate governance. The G indicators of ESG reporting in MBI10 companies represent the strongest side of ESG reporting in the RNM with significant contribution to increasing the overall ESG index. This may be a consequence of adoption of the CGC of MSE and due to the obligations for greater transparency of some joint stock companies stipulated by Law on trade companies. In this manner research in North Macedonia shows that thanks to the CGC and the stipulated obligation in Code of commercial companies, the level of the transparency of companies that are obliged to comply with CGC is on average 71%, which may be categorized in “good level” transparency (Gjorgjioska, et al., 2025).

4 Conclusion

Although a relatively high level of ESG maturity has been observed in North Macedonia, especially in the governance dimension, further strengthening of environmental and social aspects is required through the development of more specific policies, measurable objectives and regular reporting. The results for the Republic of Serbia indicate a lower level of implementation in all dimensions, especially in the social dimension. In this regard, the introduction of a more structured approach to ESG reporting, aligned with international standards such as GRI or EU regulations, as well as strengthening the transparency and availability of non-financial information is recommended. The results indicate that the development of a formalized ESG reporting framework can be a significant step for Serbia in improving corporate transparency and alignment with international standards.

In addition, for both countries, increasing institutional support, education of management and integration of ESG principles into corporate strategies are recommended, in order to achieve a higher level of sustainability and long-term competitiveness. Publishing well-organized structured nonfinancial reports, with illustration, tables, graphs and charts, that visually presents the data, dynamics, and targets, goals and objectives for further development of the companies will affect positive on the ESG maturity of companies in any sector of the both countries. If countries are more committed to achieving a

higher level of ESG maturity in the real economy sector, they may introduce a legal obligation to apply ESG reporting standards. It is expected that such measures will directly influence all companies, including those in the construction sector, encouraging them to improve their ESG performance. Once Serbia and North Macedonia adopt the provisions of the CSRD and incorporate them into their national legislation, future research can examine their impact on the level of companies ESG maturity, including the building sector.

References

- CSRD - Corporate Sustainability Reporting Directive (2026). https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en. Accessed 20 Jan 2026
- Dănilă, A., Horga, M.G., Oprișan, O., Stamule, T.: Good practices on ESG reporting in the context of the European Green deal. *Amfiteatru Econ.* **24**(61), 847–860 (2022)
- EU Taxonomy for Sustainable Activities (2026). https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en. Accessed 14 Feb 2026
- Global Reporting Initiative – GRI (2026). <https://www.globalreporting.org/>. Accessed 14 Feb 2026
- Gjorgjioska, E., Gligorovski, V., Obednikovska, S.: Corporate social responsibility as business strategy for Macedonian companies. In: International Scientific Conference – EMAN 2024: Conference Proceedings (326). ISSN ISBN 1409–6781, vol. 8, pp. 241–250 (2025a)
- Gjorgjioska, E., Janeska, M., Spaseska, T., Boshkoska, M., Gligorovski, V.: Corporate transparency and disclosure: metrics of Macedonian joint stock companies. *Bus. Manage.* **35**(4), 5–23 (2025b). <https://doi.org/10.58861/tae.bm.2025.4.01>
- Helfaya, A., Morris, R., Aboud, A.: Investigating the factors that determine the ESG disclosure practices in Europe. *Sustainability.* **15**(6), 5508 (2023). <https://doi.org/10.3390/su15065508>
- Henisz, W., Koller, T., Nuttall, R.: Five ways that ESG creates value. *McKinsey Q.* **4**, 1–12 (2019)
- International Finance Corporation: IFC ESG Guidebook (2021)
- Jovanović, D.: Challenges and obstacles of ESG reporting in the republic of Serbia. In: 19th International Symposium on Corporate Management: Sustainable Development and Taxation-Chance or Barriers to the Development of Small Economics Finrar Doo Banja Luka, pp. 97–113 (2025)
- Krambia-Kapardis, M., Savva, C.S., Stylianou, I.: Socio-economic factors affecting ESG reporting call for globally agreed standards. *Sustainability.* **15**(20), 14927 (2023). <https://doi.org/10.3390/su152014927>
- Macedonian Stock Exchange (MSE) and Securities and Exchange Commission (SEC) (2021). Corporate Governance Code of the Macedonian Stock Exchange
- Matos, P.: ESG and Responsible Institutional Investing Around the World: A Critical Review. CFA Institute Research Foundation (2020)
- Redqueen, S.: ESG Disclosure Guide for Listed Companies on Macedonian Stock Exchange. ESG Reporting Guide (2022). <https://mse.mk>.
- Serbian Law on Accounting (2026). <https://www.paragraf.rs/propisi/law-on-accounting-republic-of-serbia.html>
- The International Sustainability Standards Board (2026). <https://www.ifrs.org/groups/international-sustainability-standards-board/>
- VSME Voluntary Standard for non-listed SMEs (2024). <https://www.efrag.org/sites/default/files/sites/webpublishing/SiteAssets/VSME%20Standard.pdf>

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits any noncommercial use, sharing, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if you modified the licensed material. You do not have permission under this license to share adapted material derived from this chapter or parts of it.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

