

The future of banking or the concept of sustainability in the banking sector

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Hungarian commercial banks have been required to publish their sustainability report since 2017. The research topic focuses on the analysis of ESG disclosure at international commercial banks in Hungary based on the data of the annual reports published from 2019 to 2021. This study reports on empirical research using the method of detailed reading and manual coding after reviewing the literature. The concept of sustainability is introduced, focusing on the banking sector and the quality level of disclosures, the changes, and the progress from 2019 to 2021 as the result of the research is discussed. The European Green Deal Investment Plan and the Just Transition Mechanism was announced in January 2020. The effect of the European Green Deal and the opportunity of green investments within the framework to the ESG disclosure quality level are also discussed in the paper.

Keywords: ESG performance, sustainability, sustainable finance, sustainability-related disclosure, bank

JEL Codes: G21, G32, O16

1. Introduction

Sustainability has become the key word of the banking sector nowadays. Given that Hungarian commercial banks have been required to publish their ESG report since 2017, the concept of sustainability in banking sector has received a lot of coverage recently. Since 2020, more emphasis has been placed on bringing ESG disclosures to the public. The appearance of the “green viewpoint” is quite different in the different economic areas, but a significant transformation can be seen in the case of financial institutions (Baranyi et al., 2022).

The primary goal of sustainability reports is to present quality information for both internal and external stakeholders, to help their investors, customers, shareholders etc. make substantial decisions. Based on the examination, the ESG factors had a positive impact on profit as well, therefore it can be considered as an aspect which the banks, the investors and the regulators should also address (Tóth et al., 2021). Considering the result of the research by Lupu et al. (2022), the financial stability of European banks listed on stock exchanges are influenced by their ESG scores (Lupu et al., 2022).

The topic of this study is the analysis of ESG disclosure at international commercial banks in Hungary, based on the data of the annual reports published from 2019 to 2021. We apply content analysis methodology on international commercial banks in Hungary subject to mandatory reporting under the European Union (EU) Directives and the Hungarian Accounting Act (HAA).

The research methodology is structured in three main subsections. The first relates to the data collection and sample process, the second corresponds to the ESG

score computation based on content analysis, and a third section refers to the empirical approach, how the ESG reporting quality measured by a combined index was determined by the authors.

One of the authors worked at an international bank for more than 20 years. She aimed to examine the sustainability efforts of the banks and the development of the ESG disclosures. In what direction has the quality of ESG disclosures changed in the banking sector since 2019? What impact has the Green Deal Investment Plan and the Just Transition Mechanism had on ESG disclosures in the banking sector? Our hypothesis is that the quality of the international commercial banks' ESG disclosure in Hungary improved from 2019 to 2021.

2. Literature review

The United Nations (UN) World Commission on Environment and Development, i.e. the Brundtland Commission, was the first to deal directly with the issue of sustainability, to draw attention as early as 1987 to the need to protect the environment and to generate solutions, to achieve economic growth both socially keeps environmental sustainability in mind (Gyulai, 2013). By the concept of environment we mean the place where we live, and development is the totality of all the processes by which we try to improve our situation and make our environment more livable (Clark–Harley, 2020). On the one hand, the United Nations Educational, Scientific and Cultural Organization (UNESCO) determined 4 main areas of sustainability: society, environment, culture, and economy, on the other hand, the Sustainability report of Budapest Stock Exchange (BSE) described it from the acronym ESG, Environmental, Social, and Governance. According to Table 1, we interpret the main areas of sustainability primarily from the point of view of a business manager, which is not far from the concepts accepted internationally and, in our country, Hungary as well.

Table 1. Definition of sustainability

Environmental	Social	Governance
Climate change	Employees	Management board composition
Air pollution	Communities	Working culture
Dearth of sources	Diversity	Legal compliance
Energy consumption	Integrity	Information sharing
Waste management	Health (care)	Business operations

Source: own construction based on BSE (2021)

Before the ESG intentions were launched, the financial reports were the basis for economic decisions of the internal and external actors of a company. The quality of the financial statements was very important even then (Tóth–Széles, 2018). The primary goals of companies were mainly driven by business interests until the 1980s.

Maximization of return on assets and equity and responsibility for economic, social and governance efforts were put into a framework by Carroll in 1999. Carroll's pyramid imposes a four-part definition of corporate social responsibility (CSR) which is to be socially responsible, a business must meet economic, legal, ethical, and philanthropic expectations given by society at a given point in time. Organizational innovation as a mediator and corporate image as a moderator were incorporated in the modified conceptual model of Carroll's pyramid later.

The study of Lu et al. (2020) examined Carroll's pyramid model in small and medium-sized enterprises (SMEs) as an effective business strategy for organizational performance enhancement in industry of developing countries which are in the initial phase of Industry 4.0 advance. They conducted a study among small and medium-sized enterprises (SMEs) operating in the Pakistani manufacturing sector in 2020, based on a total of 888 valid responses, using a process modelling approach, and concluded that the dimensions of the modified Carroll's CSR pyramid have a reinforcing and positive effect on the industrial on the organizational performance of small and medium-sized enterprises, if they define these dimensions in their innovation strategy (Lu et al., 2020).

Based on the research conducted in 2020, Clark and Harley have identified six capacities necessary to support such interventions in guiding development pathways toward sustainability. These are capacities to (a) measure sustainable development, (b) promote equity, (c) adapt to shocks and surprises, (d) transform the system into more sustainable development pathways, (e) link knowledge with action, and (f) devise governance arrangements that allow people to work together in exercising the other capacities (Clark–Harley, 2020).

Whose responsibility is it to consider competitiveness and sustainability within the company? Whose responsibility is the responsibility attributed to the company? According to Friedman (1970), because of the fact that the manager is an employee of the owner, they must follow the owner's values, so their responsibility can only extend to the maximization of shareholders' possessions. We agree with Friedman, but we would not define return on asset and equity as the only goal of the shareholders. Sustainable efforts are included in the policy of the companies by more and more managers, these goals are displayed in the annual non-financial reports of both the public-interest entities (inclusive banks considering NFRD Directive 2014/95/EU) and SMEs.

In 2018, Hoffmann et al. examined the ESG reports of 522 German companies published in 2014, 2015 and 2016. They concluded that the quality of ESG information improved when the company presented it in a separately published non-financial report, compared only in the audited report. According to them, a stricter selection and linking of financial and non-financial information is needed. Based on research, the description of the policies about monitoring of the relevant cases and about risk management was defined as one of the additional development areas (Hoffmann et al., 2018).

The research conducted by Cosma et al. (2020) is the basis for exploring the relationships between the European financial sector and sustainable development. The non-financial disclosure analysis of 262 European banks pointed out that the country of origin, the legal system and the adoption of the integrated report have a significant

impact on the banks' ESG disclosure, while the business model and the stock exchange listing do not seem to represent the realization of the banks' Sustainable Development Goals (SDGs) (Cosma et al., 2020).

Based on the analysis of 37 large corporate non-financial reports highlighted an additional problem however certain activities of companies can affect sustainable development in both positive and negative directions, the reports show only the positive aspects (Zsóka–Vajkai, 2018). The Alliance for Corporate Transparency examined thousand companies in 2019, and they shed light on significant differences of ESG disclosures in the non-financial reports according to what subtopics and how detailed form are provided the main topics. Analysis by The Alliance for Corporate Transparency also highlights that 36.2% of all companies report climate-related objectives, and only 36.4% set specific targets. Only 20.5% of the companies in the financial sector published specific goals related to climate change according to this analysis, which means the lowest ratio is in this sector (Boros et al., 2022).

Based on the content analysis of non-financial reports, ESG risks are not integrated into the risk management process, and there is no dedicated department within organigram of the banks. Since there are variable integrated standards, and their content is not clearly defined, the information in the reports is multivarious and heterogeneous according to a Hungarian study published in 2020. The biggest problem is the lack of determining of the framework, according to the authors of the study (Tamásné Vőneki–Lamanda, 2020).

Akomea-Frimpong et al. reviewed existing studies on green finance in the context of the banking sector, using the content analysis approach to critically analyze and summarize forty-six relevant studies. According to the results, green securities, green investments, climate financing, carbon dioxide financing, green insurance, green credit, and green infrastructure bonds are a part of key green finance products of banks (Akomea-Frimpong et al., 2022).

However, the investors may not be able to identify a clear link between the green bond issued by a financial institution and a specific green investment project at the time of issue, according to another study (Fatica et al., 2021). Hungarian authors note that banks do not set the ESG aspects in their lending policy (Tamásné Vőneki–Lamanda, 2020).

Rannou et al. (2021) show that power firms have used the green bond market as a complement to the carbon futures market used for their short-term hedging or speculative activities. Instead, they have employed the green bond market as a substitute for the carbon futures market used for their long-term hedging activities since 2018, and their results shed light on a pivotal change in the behavior of European power firms that progressively abandon the carbon market to issue more green bonds in order to finance their transition to clean energy production systems.

Another study, Chang et al. (2022), explores the asymmetric green finance-environmental quality nexus in the top 10 countries that support green finance. Green bonds and ecological footprint are used as proxies for green finance and environmental quality, respectively. Past studies employed panel data approaches, yielding typical results regarding the relationship between green finance and the environment, even though many countries did not establish such a correlation on their

own. Green financing improves environmental quality in 8 out of 10 selected economies according Chang et al. (2022).

3. Data collection and sample

3.1. Specifying of the data

Based on the Non-Financial Reporting Directive (NFRD), EU Directive 2014/95/EU (on amendments to EU Directive 2013/34/EU), we defined the banks to be investigated. The analysis is focused on the international commercial banks in Hungary. A requirement for public-interest entities (with more than 500 employees) based on the above regulations that they have to share specific information about their operations, and how they manage social and environmental challenges in order to make it easier for investors, consumers, political decision-makers and assist other stakeholders in evaluating the non-financial performance of these companies. The Hungarian Accounting Act (HAA) C. of 2000 regulates the disclosure of non-financial reports to be published by local entities based on the above-mentioned EU Directives. The HAA requires firms to disclose environmental information.

In the study, we focused on the subsidiaries of international banks specifically, excluding companies with only Hungarian owners. Based on the 2020 audited reports, we examined the banks with more than 500 employees. Hence, of the 34 banks considered at first, only 6 were left in the final sample used for the ESG score analysis. First, banks with less than 500 employees were excluded, because our aim to observe the ESG scores subject to NFRD, second, the Hungarian-owned banks were excluded, and, finally, banks operating as Hungarian Branches were excluded. We are focusing the Hungarian foreign-owned commercial banks, but we would not exclude OTP Bank from the sample because of its cross-border services and considerable role both in Hungary and the CEE Region.

After applying the selection criteria, the remaining banks are listed in Tables 2 and 3. Based on the above, Table 2 shows the remaining banks by name, by number of employees, and by total assets. Table 3 shows bank groups related to the examined Hungarian subsidiaries by name.

Table 2. The examined banks

Name of the bank in Hungary	Number of employees	Total Assets (billion HUF)
CIB Bank Zrt.	2,133	2,415.67
Erste Bank Zrt.	2,984	4,178.20
Kereskedelmi és Hitelbank Zrt.	3,118	5,248.42
Raiffeisen Bank Zrt.	2,374	3,825.23
UniCredit Bank Hungary Zrt.	1,689	4,580.54
OTP Bank Nyrt.	10,189	11,492.95

Source: own construction based on the audited reports of the banks (2020)

Table 3. The examined bank groups

Name of the bank in Hungary	Name of the bank group in the EU
CIB Bank Zrt.	Intesa Sanpaolo Group
Erste Bank Zrt.	Erste Group
Kereskedelmi és Hitelbank Zrt.	KBC Group
Raiffeisen Bank Zrt.	Raiffeisen Group
UniCredit Bank Hungary Zrt.	UniCredit Group
OTP Bank Nyrt. (OTP Core)	OTP Group

Source: own construction based on the audited reports of the banks (2020)

We focus on the time frame of 2019–2021. After identifying the banks, several screens were applied in selecting the final sample. First, we checked for the availability of the banks' reports in English or in Hungarian on their websites. To this respect, all types of reports were considered, from sustainability, CSR and TCFD reports to annual financial and non-financial reports published on their websites. Second, if individual data were not available, the group reports were used instead.

ESG Score computation based on content analysis was a big challenge because of the manual coding. Research of ESG disclosure shows similarity to research into brain capital' disclosures. Brain capital is a subset of non-financial information (Stolowy–Paugam, 2018). On one hand, an advantage of this method is the final interpretation of explicit content by the researcher, whereas on the other hand, it is time-consuming due to the large number of written documents, as is shown in Table 4.

Table 4. Processed disclosures

Year	Number of pages of ESG disclosure (Group level)	Number of pages of ESG disclosure (Hungarian institution)	Total number of pages of ESG disclosure
2021	1,234	230	1,464
2020	976	214	1,190
2019	712	84	796
Total	2,922	528	3,450

Source: own construction based on the ESG reports of the banks (2019–2021)

Many authors argue for the detailed reading and manual coding and against software coding in case of content analysis (Beattie–Thomson, 2007; Elshandidy et al., 2018). First, however, it is objective and fast to use software solutions, but it is better to interpret company-specific terms and ambivalent words (Dumay–Cai, 2014; Guthrie, 2014; Kovács et al., 2021) in case of manual coding. Second, we have no software to provide the same accuracy as the detailed reading and manual coding.

Nevertheless, we investigate the documents by detailed reading instead of using software solutions.

3.2. ESG Score computation

First, we defined two indices based on the assigned score and the maximum number of points per category, as follows $I1=(P1/2) \times 100$, $I2=(P2/3) \times 100$, where P is the number of points assigned to the entities in the respective categories. The maximum score was 1 per item in I1 and I2 indices. After the received records, we decided to define another new index. The maximum score was four per item in I3 indices as follows $I3=(P3/16) \times 100$.

So a maximum score is 21 per report in this alternative scoring method, which meant that the entity provided narrative, qualitative and graphic information on all 9 items from the list.

Following Li et al. (2008), the scoring is calculated as follows: 0 no presentation, 1 narrative presentation and/or presentation using KPIs and/or other numerical/quantitative data and/or graphic illustration.

Index 1, which takes the value of 1 if the banks' ESG disclosure's audit was conducted by one of the so-called Big Four companies (Manes-Rossi et al., 2018), and 1 if the bank has ESG report on group level, takes the value of 2 if both of these conditions are right, and 0 otherwise. Several ESG reporting requirements, including frameworks, national and international regulations, and voluntary standards were published in recent years. Two of the most important ESG standards are the Global Reporting Initiative (GRI) Standards, and the Sustainable Accounting Standard Board (SASB) Standards. We would like to highlight the importance of Task Force on Climate-related Financial Disclosures (TCFD) framework, related on the environmental risks, which is another aspect to consider during the decision-making processes. That is the reason why Index 2 measures the disclosure of these standards and TCFD framework. Index 2, which takes the value of 1 if the bank published GRI standard, and 1 if the bank published SASB standard, and 1 if the bank published risks based on TCFD framework, takes the value of 2 if two of these conditions considering the standards are right, and takes the value of 3 if three of these conditions considering the standards are right and 0 otherwise.

Index 3 takes the maximum value of 16 if the bank published all of the 4 chosen sustainability rating by authors (MSCI, CDP, Sustainalytics, FTSE) and all of the rating are in the top category.

The detailed scoring defined generally as follows: the first item takes the value of 1 if the bank provides the information about its listing by the rating organization but without published rating, or the rating is in the fourth quartile; it takes the value of 2 if the published rating is in the third quartile; it takes the values of 3 if the published rating is in the second quartile; and it takes the values of 4 if the published rating is in the first quartile.

To evaluate the overall ESG disclosure quality, we calculated the following combined index, $I_{combined} = (I1 + I2 + I3)/3$, which is the ESG reporting quality (Q) in our research.

3.3. Empirical approach

We applied four levels of reporting quality based on Avram et al. (2018) and Agostini et al. (2022): 0 is no disclosure, 1–30% is low-quality disclosure, 31–70% is medium-quality disclosure, and 71–100 is high-quality disclosure. Our results are shown in Tables 5 and 6.

Table 5. ESG reporting quality of the examined banks based on our specified indices

2021	Bank 1	Bank 2	Bank 3	Bank 4	Bank 5	Bank 6	Average	Deviation
Index 1	100.00	100.00	100.00	50.00	100.00	100.00	91.67	20.41
Index 2	100.00	100.00	66.67	100.00	66.67	66.67	83.33	18.26
Index 3	50.00	62.50	62.50	87.50	18.75	37.50	55.21	22.51
Combined index	83.33	87.50	76.39	79.17	61.81	68.05	76.74	9.04
ESG reporting quality	High	High	High	High	Medium	Medium	High	

2020	Bank 1	Bank 2	Bank 3	Bank 4	Bank 5	Bank 6	Average	Deviation
Index 1	100.00	100.00	100.00	50.00	100.00	100.00	91.67	20.41
Index 2	100.00	66.67	66.67	100.00	33.33	66.67	72.22	25.09
Index 3	50.00	62.50	62.50	87.50	0.00	37.50	50.00	29.58
Combined index	83.33	76.39	76.39	79.17	44.44	68.06	71.3	14.07
ESG reporting quality	High	High	High	High	Medium	Medium	High	

2019	Bank 1	Bank 2	Bank 3	Bank 4	Bank 5	Bank 6	Average	Deviation
Index 1	100.00	100.00	100.00	50.00	100.00	100.00	91.67	20.41
Index 2	100.00	33.33	33.33	66.67	33.33	66.67	55.56	27.22
Index 3	31.25	6.25	25.00	62.50	0.00	31.25	26.04	22.16
Combined index	77.08	46.53	52.78	59.72	44.44	65.97	57.75	12.43
ESG reporting quality	High	Medium	Medium	Medium	Medium	Medium	Medium	

Source: own construction

Table 6. ESG reporting quality based on our combined index on bank group level

Year	Intesa San Paolo Group	UniCredit Group	Raiffeisen Group	KBC Group	Erste Group	OTP Group
2019	High	Medium	Medium	Medium	Medium	Medium
2020	High	High	High	High	Medium	Medium
2021	High	High	High	High	Medium	High

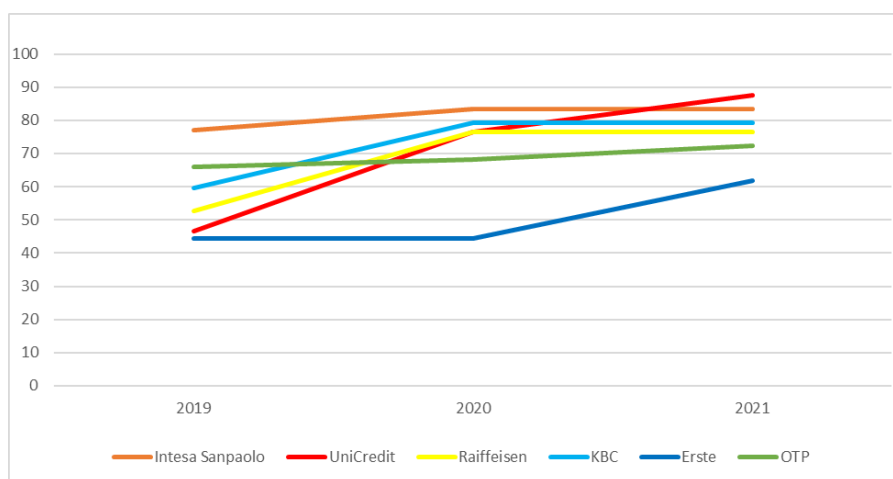
Source: own construction based on the ESG reports of the banks between 2016 and 2021

4. Results and discussion

Our hypothesis that the quality of the international commercial banks' ESG disclosure in Hungary improved from 2019 to 2021 was right based on our findings.

In 2020 was a supereminent point when the ESG disclosure average quality of the examined banks increased significantly, cf. Figure 1.

Figure 1. Quality of the ESG disclosure of international commercial banks in Hungary (2019-2021)



Source: own construction based on the ESG reports of the banks (2019-2021)

The European Green Deal Investment Plan and the Just Transition Mechanism were presented in January 2020. Climate change and pollution are a great threat to the world and to the EU as well. Overcoming these challenges will transform the EU into a modern, resource-efficient, and competitive economy, ensuring no net emissions of greenhouse gases by 2050, economic growth decoupled from resource use and no person, and no place left behind with the help of the European Green Deal framework. Our point of view is that the effect of the European Green Deal and the opportunity of green investments in amount of EUR 1.8 trillion within the framework contributed a visible increase in the average quality in 2020. The results can be interpreted as evidence for business efforts to achieve the ESG efforts. Entities

provide considerably more environmental information in the reports than earlier. 3 banks out of 6 increased ESG information quality, from medium to high-level from 2019 to 2020. Only two of the 6 have medium-level quality, four of the 6 are on high-level quality in 2020, and only one out of 6 has medium-level quality and five of the 6 are on high-level quality in 2021. Our hypothesis was right, there is an increase in the quality of ESG information in case of the examined banks from 2019 to 2021.

While roughly 80% of the examined banks published their ESG rating or ESG ratings given by rating organizations in 2020 (Siklósi, 2023), in 2021 all the groups we monitored already published at least one ESG rating given by an ESG organization.

Based on the results of the research by Korca et al. (2021), non-financial disclosure significantly increased in quantity after the regulation. However, the improvement in quality is fairly low, with the exception of themes relevant to the company under investigation. Looking at it through the lens of institutional theory, it emerges that an interplay of institutional mechanisms co-existed within the bank, during two periods of reporting for different topics of disclosure. Based on our research we can confirm that non-financial disclosure of the examined bank increased in quantity after regulation, so we agree with Korca et al. in this aspect, but we can strengthen the quality shows improving trend from 2019 till 2021 contrary to the above statement.

Nevertheless, there are more and more efforts to simplify the used standards in the non-financial reports, analysis and comparability remain difficult. The comparability of the international commercial banks' ESG disclosure in Hungary is not simple either after the first regulation or in 2021. As a retail client (as a consumer of a bank) we have to read and evaluate more than 1,400 pages to decide between 6 banks in 2021, which is a big challenge and not a simple task. But our combined index could help users to simplify the comparability process. Some of the conclusions found in the literature were confirmed and supplemented in some places based on our research, but during our work more and more questions arose in our minds. Our goal is to continue the research and explore further correlations based on the ESG reports of the examined financial institutions.

Like all empirical research, our study has several limitations which have to be considered while interpreting its results. First of all, the study is based on a limited sample, which was a consequence of concentrating on international banks subject to EU Directives in Hungary. This was also related to the fact that the sample selection did not take into account the companies, which have Hungarian Branches and the banks, which have mostly Hungarian owners. However, we covered the entire international banking community in Hungary subject to the EU Directives, nevertheless, domestic banks with mostly Hungarian owners and non-bank community should be considered as subjects of further research since they may become prominent participants in promoting sustainable practices by monitoring non-financial impacts. Second, subjectivity is an issue in any approach that involves textual or content analysis as a research method. This is also the case when dealing with data collection by hand, which is prone to biases. Further studies might focus on expanding the number of the banks within the EU.

Keeping in mind both economic and social development, only that which is sustainable in the long term can be competitive and vice versa. The concepts of sustainability and the concept of competitiveness have in common essentially that they cannot be based on quantitative growth but only on qualitative development and structural change (Matolcsy, 2020).

The quote by David Brower is timeless. “We don't inherit the earth from our ancestors, we borrow it from our children.” We are confident that managers of companies including Board members of banks, in agreement with their owners will continue to keep their sustainability aspirations in mind, despite the challenges of the current economic environment, in line with the ESG regulations, and through the trend towards harmonization, with the aim to understand better and to compare easily for the stakeholders their non-financial reports (Siklósi, 2023).

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