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ESG RISK MANAGEMENT IN THE CORPORATE LENDING PROCESS IN POLAND

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Purpose: The fundamental objective of the study is to characterise the features that accompany ESG risk management processes in Polish companies financing green investments with a bank credit.

Design approach: The study focuses on the observation of changes occurring in the concept and processes of ESG risk management following the so-called Paris Agreement of 2015. The EU regulations standardising the ESG risk management process in companies and banks have been analysed, indicating the differences resulting from them. The inclusion of ESG risks both in creditors and credit recipients is achieved through various channels, determining the extent, and expected outcomes of green investments. Without a doubt, the issue has been receiving considerable research attention in many papers since the energy crisis caused by Russia's aggression against Ukraine. However, in light of EU regulatory changes and the increased interest of business entities in green financing, uncertainties, and research problems are on the rise in this area. An evident limitation of the conducted research is the lack of empirical data completing the knowledge on the effects of ESG strategies both domestically and in EU member states. Therefore, the paper draws on questionnaire surveys conducted by the authors, as well as on the findings of various reports published on the subject.

Findings: The research shows that EU regulations increase the security of financing green investments in both companies and banks. The concept of sustainable development and ESG risk management associated with it have been severely curtailed through their introduction. Nevertheless, there is a fairly substantial area of uncertainty associated with the process of financing green investments. The study analyses its determinants indicating that internal ESG risk management procedures of companies and banks do not eliminate the external risks of financing corporate green investments.

Originality/value: The conducted research undoubtedly broadens the knowledge about the role and significance of ESG risk in the green investment financing process. The analysis of studies relating to ESG risk, taking into consideration EU documents, contributed to exposing unexplained, debatable, and unsolvable issues. The questionnaire survey as well as the secondary data obtained made it possible to verify the number of common opinions and statements, along with the main hypothesis of the paper.

Keywords: bank lending, credit risk management, ESG financing, ESG risk, ESG strategy, ESG disclosure, EU taxonomy, non-financial reporting, greenwashing, financially sustainable credit.

Category of the paper: viewpoint.

1. Introduction

ESG risk, which constitutes the research subject of this paper, is increasingly widely considered and analysed in numerous studies, papers, and strategies of business entities. In the ESG (Environmental, Social, Governance) concept, which is currently replacing the CSR (Corporate Social Responsibility) strategy in companies, ESG risk is a broadly defined notion. It is identified by indicating the negative consequences caused by all the factors, both environmental (E), social (S), and governance (G), which severely affect the financial standing and hinder the activities of business entities (more broadly business entities and organisations). In such circumstances, it is extremely difficult to make it tangible and thus to measure and monitor it. The extensive measures in the European Union regulating corporate sustainability, including ESG risk, identify the risks and procedures needed to manage these risks in an almost enumerative manner. Non-financial and financial companies undertaking operations in Poland have been obliged, like those in other EU member states, to strictly comply with EU sustainability standards and modify their business strategies. The relatively brief period of intensification of the introduced changes, and the extended period of standard-setting obligations along with the energy crisis of recent years make Polish companies notice a range of benefits resulting from green financing of their investments. They accept the administration of sustainable development viewing it as increased security against the tangible negative effects of ESG. The study focuses on the observation of changes in the concept and processes of ESG risk management taking place after the so-called Paris Agreement of 2015. An in-depth analysis of ESG risk management strategies and procedures was conducted drawing on the SFDR, the EU taxonomy and the CSRD emphasising the resulting standard-setting differences concerning companies and banks. The identification of ESG risk in the process of green financing is carried out in line with EU standards, but separately in each of the analysed business entities conditioning not only the process of its management but also the effectiveness of green investment. Given that the ESG risk inclusion in both banks and credit recipients takes place through different channels, the research hypothesis was aimed at demonstrating that credit risk management associated with green investment financing is a complex undertaking requiring the co-responsibility of banks as well as companies to comply with EU regulatory standards at great risk to their reputation and financial performance. The paper draws on the questionnaire surveys published in various ESG reports, assessing corporate expectations

towards sustainability strategies, green financing of corporate investments, and ESG risk management. The section focused on financing green investment in banks includes the results of the authors' research conducted in the Polish banking sector. The research was conducted in Q1 2023. The research sample involved the 10 largest commercial banks in Poland, including PKO BP S.A., Bank Pekao S.A., Santander Bank Polska S.A., ING Bank Śląski S.A., mBank S.A., BNP Paribas S.A., Bank Millennium S.A., Alior Bank S.A., Citi Handlowy S.A., and Velo Bank S.A. A total of 101 representatives of commercial banks in Poland participated in the research, of which 46.06% held managerial positions, and 53.94% represented risk management departments. 82.12% of the respondents had at least 10 years of experience working in a bank. However, the paper is of a **cognitive** nature due to the divergence of formulated views on ESG risk, as well as the lack of empirical data completing the knowledge on the results of ESG strategies within the country and in EU member states. The conducted theoretical research, complemented by the analysis of EU documents associated with the ESG concept, as well as the questionnaire research used, certainly adds to the knowledge about the role and significance of ESG risk in the process of green investment financing.

2. Materials and Methods

2.1. ESG risk in Polish companies

The concept of ESG risk is multidimensional, difficult to identify, and heterogeneous (Marcinkowska, 2022, p. 37). It is undoubtedly related to the idea of sustainable development, whose concept has been discussed and modified for many years now (Alberti, 1996, pp. 381-424; Bocian, 2009, pp. 75-81; Borys, 2011, pp. 75-81; Forrester, Górka, pp. 15-21; Kistowska, 2009, pp. 20-30). By revealing its core characteristics, ESG risk can be defined in a relatively straightforward manner by recognising that it is influenced by environmental, social, and governance factors, which can significantly impact the financial standing and hinder the operations of companies (more broadly, business entities and organisations). Unquestionably, the concept of ESG risk is extensive in such an approach, for it relates to all areas of sustainable development (Environmental, Social, Governance - ESG), which is synonymous with the diversity of the occurrence of the factors of its materialisation and entity, industry, geographical, time or spatial diversification. Indeed, the observed climate change, concomitant degradation of the environment, and related catastrophic phenomena resulting in social conflicts are distributed unevenly and stimulate different environmentally sustainable economic solutions. The research conducted indicates that there are serious environmental differences in the perception of the significance of ESG in further economic development. In the highly developed countries of the global economy, the motives for pursuing ESG are becoming stronger.

In less economically and socially developed countries, there is still not enough information and arguments for the implementation of ESG standards as tools for effective business management (Raport koszty). Environmental risks including the physical impact of global warming on the economic development of countries in the global economy are also the reason for the varying approaches to ESG risk. ESG risk is clearly higher in certain geographical areas and lower in others. Business entities that need to build their resilience to ESG risk across various time horizons, through a comprehensive and future-oriented approach, as well as early and proactive actions under constant scrutiny and supervision, diversify their business and investment decisions. In this way, they undoubtedly reduce ESG-related transition risks and technological risks arising from green investment financing. Therefore, various legal acts, strategy documents, and policy materials give ESG risks a spectacular nature that usually corresponds to the manners in which business entities engage in the green economic deal. In this approach, it is made more specific by attributing features to particular institutions and business entities. ESG risk analysed in the study was aimed at the area of interaction between companies and banking institutions financing green investments. There is a growing belief in the business world that companies that fail to adjust to ESG may suffer from negative consequences affecting their operations and financial standing. As a result, they are increasingly relying on ESG for their corporate governance, including green investments that favour sustainability. However, the company's internal governance system, i.e., corporate governance, in the new environmental and climate conditions requires modification of procedures, standards, and control mechanisms for effective ESG risk management. Regulatory standards applicable in the European Union require the integration of ESG risk into business strategy and processes, internal governance, and risk management (Raport koszty, p. 80 et seq.). However, in lending institutions and companies, this is a heterogeneous process driven by existing European and Polish legal principles and international sustainability reporting standards and frameworks. The acceleration of the process came with the Paris Agreement of 2015. The agreement obliged all countries to present long-term scenarios for the reduction of greenhouse gas emissions by 2020. In 2018, for the first time in the European Union, the Sustainable Finance Action Plan emerged addressing the energy transition referred to as the Fit for 55 package (Action Plan). The Action Plan is part of a broader sustainable finance agenda, drawing on new and revised legal regulations requiring companies and financial institutions to be more transparent about their sustainability impacts and how they manage ESG risk, which is significant as its adoption by EU member states has greatly accelerated the emergence of new EU regulations relating to sustainability. The regulations include in particular:

- the CSRD and its complementary ESRS,
- the EU taxonomy establishing a common classification system for the identification of environmentally sustainable business activity,
- the SFDR aimed at financial market participants and advisers, which seeks to increase transparency and sustainability aspects in the financial sector.

Regulations and directives setting the general regulatory framework are usually complemented by delegated acts that specify how the aspects discussed therein are to be implemented in practice (cf. Figure 1). To varying degrees and extent, they apply to companies pursuing a sustainability strategy, including those undertaking green investments, and to financial institutions. By implementing the ESG strategy, companies commit themselves to respecting the EU taxonomy and the CSRD, whereas financial institutions, on the other hand, the SFDR and the EU taxonomy. However, the regulations indicated do not exhaust the complexity of the procedures needed for their implementation. This is because, in the process of financing green investments, there is a need for a far-reaching collaboration between companies and financial institutions, especially when implementation projects require green financing. Moreover, it should be noted that ESG strategy, in line with the indicated regulations, requires reporting. ESG reporting is a public disclosure of data relating to the operations of a given entity in three areas: environment, social issues, and corporate governance. Its objective is to make it possible to assess and compare entities in non-financial terms. The standard reporting method is to present indicators containing quantitative or qualitative data for each of the three categories. However, many reporting standards require them own elaboration to be standardised for entities implementing ESG. The process is seen as extremely complicated and thus conducive to increasing greenwashing. It is also difficult to consider EU regulation of ESG strategies as final. Firstly, because new ones are constantly being created, and secondly, because the implementation of EU regulations is frequently spread out. The largest Polish companies must disclose non-financial information from 2016 onwards, under the EU NFRD (Non-financial Reporting Directive) of 2014 (2014/95/EU). However, for it to be implemented in Poland, the Accounting Act (Journal of Laws of 2017, item 61) had to be amended. The introduction of mandatory non-financial data reporting has had an important impact on the development of ESG reporting in Poland and has contributed to an increase in the amount of ESG information released by companies. Nevertheless, the reporting process of companies implementing ESG is continuously being improved. On 28 November 2022, the Council of the European Union approved the Corporate Sustainability Reporting Directive, whose primary purpose was to strengthen and complement the NFRD. The ensuing reporting obligation was extended to include more companies, is broader in scope, and the entry into force of the directive was spread over four stages (figure 2).

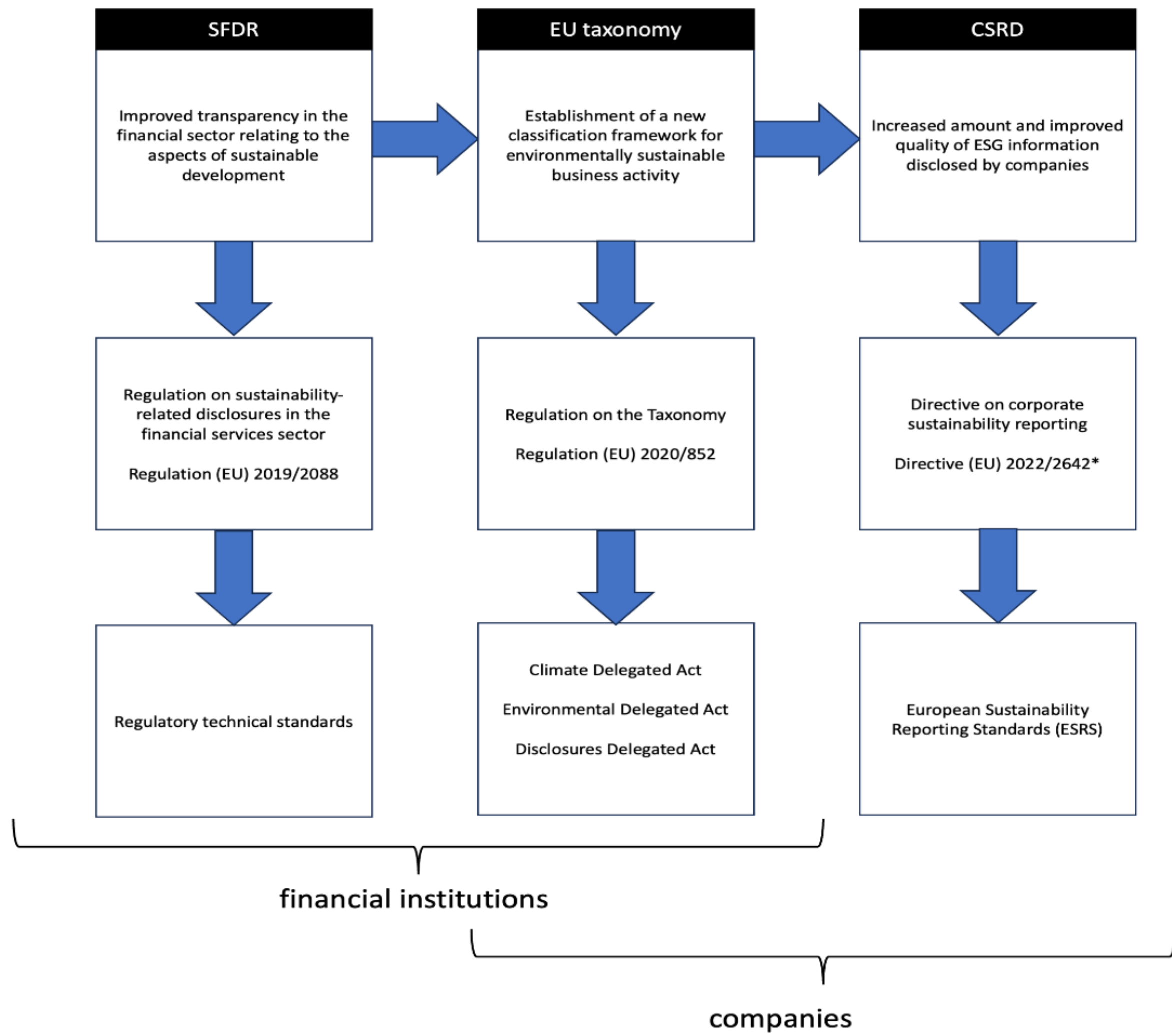

Figure 1. EU regulations on the implementation of ESG.

Source: own elaboration.

STAGE 1 in 2025 (i.e., in reports for 2024)	the new regulations will apply to companies already subject to the non-financial reporting directive
STAGE 2 in 2026 (i.e., in reports for 2025)	the new regulations will apply to all large companies, i.e., those which exceed two of the three criteria: balance sheet total over EUR 20 million, net revenue over EUR 40 million, average annual number of employees over 250
STAGE 3 in 2027 (i.e., in reports for 2026)	the new regulations will apply to small and medium-sized listed companies, i.e., those which exceed two of the three criteria: balance sheet total over EUR 4 million, net revenue over EUR 8 million, average annual number of employees over 50
STAGE 4 in 2029 (i.e., in reports for 2028)	the new regulations will also apply to companies from third countries provided that they generate more than EUR 150 million in net revenue from sales and have at least one subsidiary here

Figure 2. Steps in the implementation of mandatory reporting.

Source: own elaboration.

According to new ESG regulations, the reporting system will be standardised, which will be based on the EU reporting standards of the European Financial Reporting Advisory Group (EFRAG) (Nowa rada…). The first set of guidelines called European Sustainability Reporting Standards (ESRS) was presented at the end of 2022. Simultaneously, the second set of standards is being developed. The EFRAG is expected to publish it by the end of 2023. The scope of regulation will apply to industry standards and listed small and medium-sized companies. Along with them, the requirement for certification conducted by an independent auditor of reports containing non-financial information will appear. Therefore, the latest regulations on ESG reporting will change the process of preparing and publishing reports on non-financial information. However, this is not the only and major problem of Polish companies implementing ESG strategies. The review of published ESG reports exemplifies, above all, the continued strong need for the education of business as well as other sustainability stakeholders. This is because a substantial proportion of them are not prepared to act on implemented ESG changes. Few Polish companies are familiar with ESG issues, and only one in five has developed a sustainability strategy, with the highest percentage in trading companies (25%) and large companies (24%). Of these, about 20% have developed the strategy themselves (47%), while the rest have been supported by the services provided by law firms, consulting firms, and even universities. One in three Polish companies that have implemented ESG principles decided to do so due to perceived opportunities for growth, better perception by customers, and out of concern for their image. Financial institutions awarding grants and EU funds (33%) have also proved to be a significant factor in activating companies about ESG. On the other hand, in Polish practice, ESG was seldom asked about by creditors (Raport koszty…, p. 8). Therefore, Polish companies recognising the potential of implementing ESG strategies, fail to prepare EU procedures for ESG risk management. They recognise instead the cumulative ESG risk factors in the global economy, which usually include:

- the impact of extreme weather phenomena on manufacturing and service activities,
- disruptions to energy supply and price increases for raw materials and supplies,
- disruption of supply chain,
- high legal liability,
- limited capacity to finance green investments.

Climate risk is the risk that is relatively best diagnosed in companies nowadays. It is much more difficult to identify ESG risk resulting from tensions and expected geopolitical changes. These undoubtedly include business decisions changing supply lines, or price disruptions in energy, raw materials and consumables markets. There is also a conviction that there are no significant barriers to financing green investments of companies. Indeed, the volume of this financing is steadily increasing. Moreover, any financial instrument can prove to be sustainable provided that there is a proper clause in the contract specifying how the funds are supposed to be used or the dependence of the financial terms on the achievement of particular non-financial objectives. Companies can therefore use green loans and bonds. They can also draw on

substantial fund resources accumulated in mutual investment institutions. Financing green investments is also facilitated by the intentionally generated SLL formula (Sustainability Linked Loan), as it can also be applied to companies encumbered by a "carbon footprint" (due to, for instance, inherited production processes) or declaring and implementing so-called "best efforts policy", which is taken into consideration by financial institutions when providing support (WorldwideSpending...). The individualisation of companies' approach towards ESG risk is therefore significant, which is why they are diversifying their business strategies and ESG risk management. EU regulations requiring compliance with a large number of rules and standards are a serious problem that undermines the sustainability motives of companies. Breaches of these can result in fines or damages, which have a direct impact on corporate liquidity. Various consulting and legal entities are frequently involved in the process, facilitating the development of ESG risk management processes. The reason for this is that plenty of companies find it difficult both to properly develop an ESG strategy and modify corporate governance. Solutions that emerge in this area change the negative approach of companies towards sustainability but increase financial costs and may breach the confidentiality of a range of business data. Moreover, for companies, ESG risk mitigated through the implementation and compliance with certain procedures does not guarantee ESG success. The reason for this is that interactions with company stakeholders cannot be reduced to information and reporting obligations. These only reduce in the short term the number of external risks in implementing an ESG strategy. Meanwhile, it is estimated that expenditure on ESG business services will increase to USD 158 billion in 2025, with a fivefold compound annual rate of return of 32.3% (Raport…, p. 7 et seq.). Such a "trump card" overrides any risk in large transnational corporations at least. A new momentum is therefore emerging in the global economy for the development of green companies that "must not fail".

2.2. ESG risk in the corporate lending process

In Polish companies, bank credit is the main source of corporate financing. Therefore, it is to be expected that it is this financial instrument that constitutes the main source of green investment in companies. However, the research conducted to date shows that when companies undertake green investments, they expect external support from public entities which, by implementing ESG regulations, ought not only to help companies learn about them but also to finance them. This issue in Poland is typically addressed by the largest corporations, including mostly listed companies and/or companies operating on an international scale with large investment projects. Therefore, their demand for green financing can be met with capital of diverse origins. Investment financing for these companies has always been easier than for smaller companies and bank credit has been a supportive source of financing investment. Most companies are also not able to precisely estimate the cost of their green investments. Companies are afraid of uncertainty and costs that are difficult to calculate at present (Raport…, p. 9). Therefore, while recognising the benefits of an ESG strategy, they remain passive towards

green investments. Thus, it is difficult to determine how high the demand for credit financing of green corporate investments will be and what its share of the ESG financing pool will be, including both other forms of private financing and public financing. Nevertheless, the experience of the companies surveyed remains invaluable. ESG risk, including risk arising from financing green investments, is extremely difficult to quantify. Therefore, extensive questionnaire-based research and established forums for the exchange of ideas and experiences are necessary and valuable. If the expectation of companies that in the near future the actual acquisition of funds may depend on carbon footprint reporting (Raport…) is met, financing green investments with a lower carbon footprint will become problematic. The concern about sufficient resources to finance corporate green investment projects, increasing capital costs and thus high investment risk is becoming a real issue. The process is already accompanied by increasing requirements of financial institutions towards credit recipients resulting from EU regulations. An important document for banks operating in Poland is the Regulation of (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector called the SFDR (i.e., Sustainable Finance Disclosure Regulation) that has been in force on the territory of the European Union since 10 March 2021 (Regulation EU 2019/2088…). Another document aimed at banking institutions is the Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment ("Taxonomy Regulation") (Regulation EU 2020/852…). It includes a uniform classification system for green activity for all investors, companies, and financial institutions allowing them to determine their impact on the environment. What is more, banks in their ESG risk management process must take into consideration the issues legally regulated in the so-called Banking Package adopted in 2019 (Journal of Laws…). The implementation of these directives was planned for December 2020, meanwhile, the European Commission amended it already in October 2021, which took into consideration the demand for banks to continually analyse and manage ESG risk (Banking package…) Thus, ESG risk management became an integral part of operations of lending institutions forcing the need to implement risks related to climate change and promotion of sustainable finance in strategic decisions on bank risk management. From the perspective of the bank client, including especially the corporate client, it is critical how EU regulations will affect bank lending. Credit risk is the major regulatory risk that requires banks to comply with prudential standards. The obligation under EU regulations to manage this ESG risk will therefore force a change in bank lending conditions in many aspects. In May 2020, the EBA published the Guidelines on loan origination and monitoring (EBA/GL/2020/06), and on 30 June 2021 the final version appeared (EBA/GL/2020/06) (Wytyczne…). Under the guidelines, banks are required to meet supervisory expectations in terms of standards for taking, managing, and monitoring credit risk, as well as providing appropriate practices in the areas of client protection and prevention of money laundering. The guidelines refer to lending, managing, monitoring, pricing, and pricing policies in

EU lending institutions and have an impact on existing bank lending and their refinancing, but also apply to new lending. The guidelines also introduce the notion of "environmentally sustainable credit". Granting such credit is related to the financing of environmentally sustainable business activities and requires the development of specific rules for their granting by banks. Banks that plan to grant environmentally sustainable credits should develop detailed policies and procedures for granting environmentally sustainable credits relating to their granting and monitoring. Banks should also specify transparently the criteria for regarding a credit as environmentally sustainable, as well as monitor the advisability of its use. While remaining in line with the EBA report (EBA Report…), banks are obliged to integrate ESG risk in a timely manner into their business strategies, governance, and risk management, as well as supervision. This process requires the preparation of their green financing strategy, defining qualitative and quantitative objectives supporting environmentally sustainable lending, and assessing the extent to which such lending is in line with or contributes to climate and environmental sustainability objectives. Therefore, banks are changing the terms and conditions of corporate lending in its classic form as well as ESG. Therefore, the costs of banking activities, both those directly related to bank lending and administrative and transaction costs, are increasing. It is also pointed out that banks expect an increasing demand for insurance services relating to ESG risk, which requires the preparation of special procedures for insurance providers who implement them. The probability of greenwashing occurring at the interface between two entities - banks providing green finance and companies financing green investments - is high. Disclosure, proper reporting, and a transparent taxonomy are in fact insufficient measures to mitigate ESG risks. The proper analysis of the risks arising from green financing of new techniques and technologies by various stakeholders in this process remains significant. Therefore, it is undoubtedly important to prepare ways and principles for the payment of compensation or liability of the parties for these damages, as well as to develop credit-rating institutions. A complicated credit risk management process in banks does not rule out their positive approach towards green lending. The conducted questionnaire survey indicates clearly that the stance of banks on green investments is changing. More than 50% of respondents point out a declining interest in financing investment projects that have a negative impact on the environment (fig. 1).

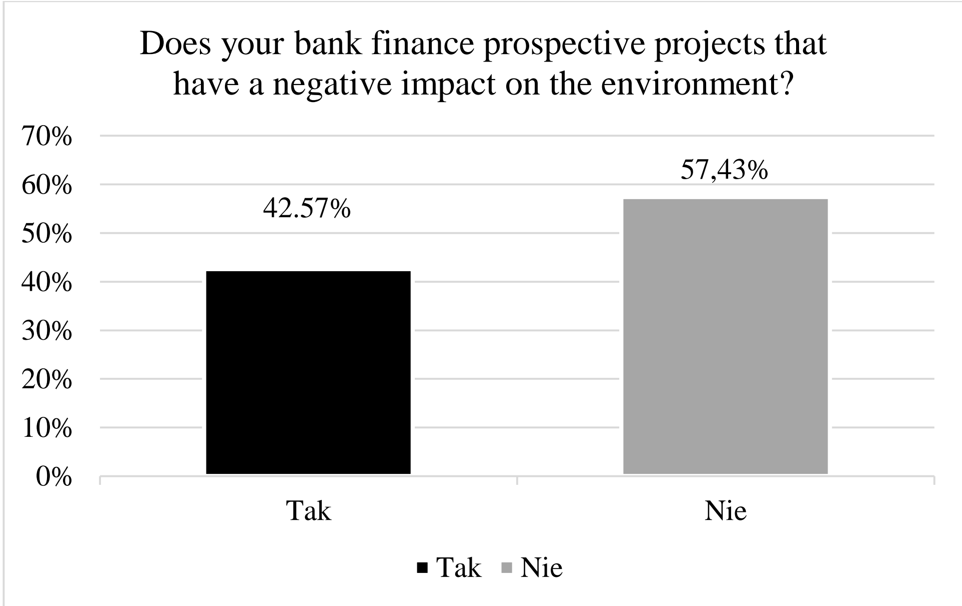

Figure 1. Survey results on the impact of bank finance prospective pojects on the environment.
Source: own elaboration.

Over 62% also confirm the increase in bank financing of ESG investment projects (fig. 2).

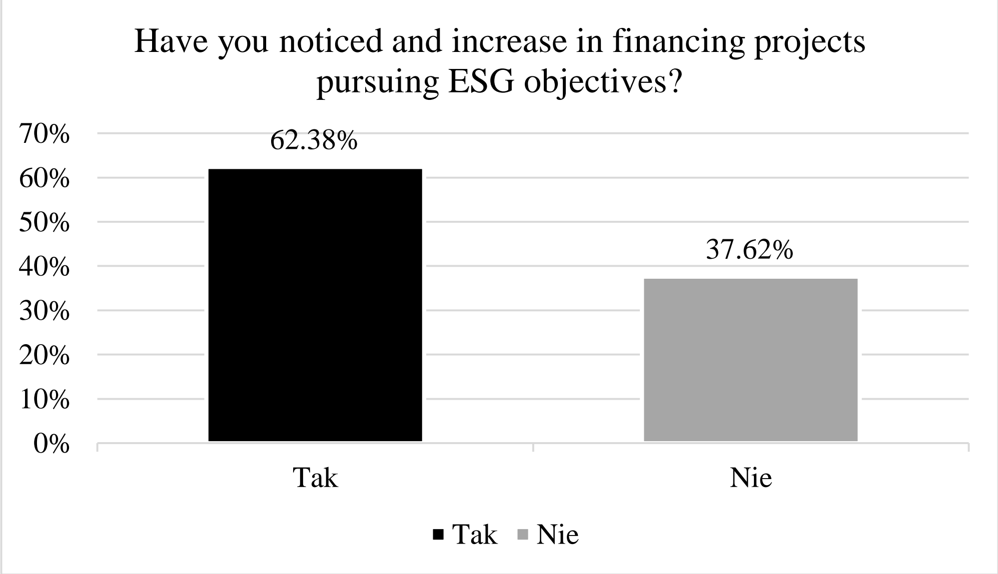

Figure 2. Survey results on the increase in financing projects pursuing ESG objectives.
Source: own elaboration.

Simultaneously, as many as 64.36% of respondents notice a redirection of bank capital flows towards sustainable investments (fig. 3).

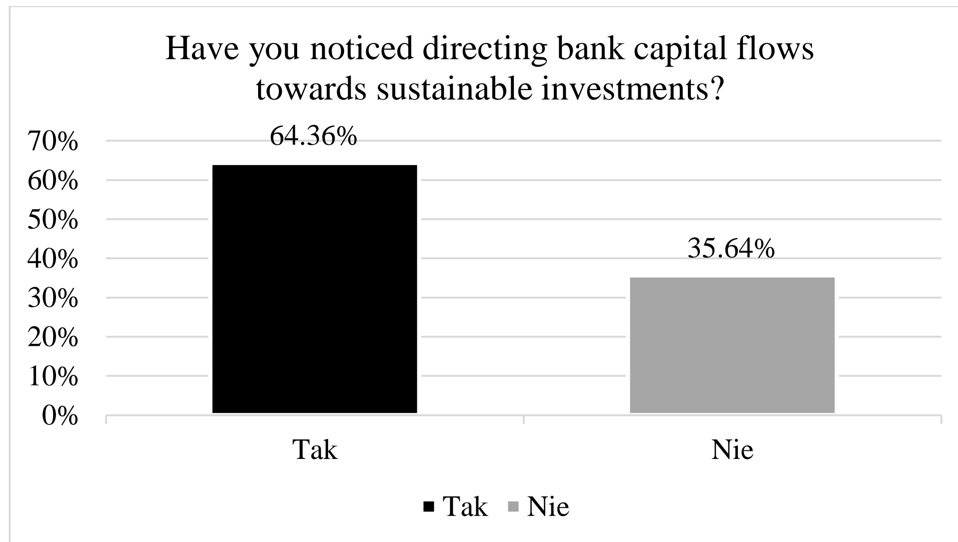

Figure 3. Survey results on directing bank capital flows towards sustainable investments.

Source own elaboration.

The study also confirmed the growing financing of investments in ecology. More than 74% of respondents are motivated by this criterion in financing investments with green loans (fig. 4).

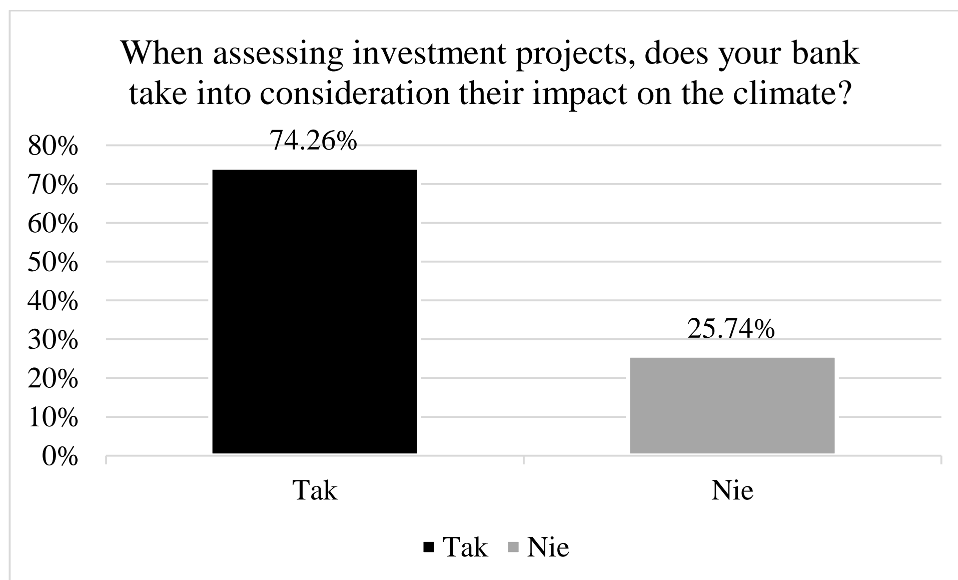

Figure 4. Survey results on the impact of climate considerations during bank's investment projects assessment.

Source: own elaboration.

The concerns of companies regarding the criterion of the carbon footprint of the investments financed were also positively verified (fig. 5).

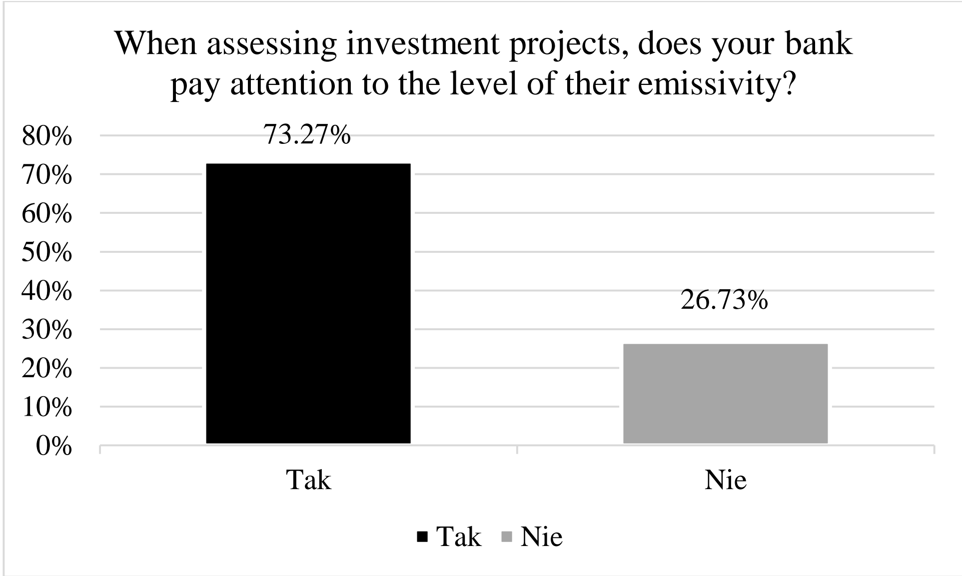

Figure 5. Survey results on the impact of emissivity level during bank's investment projects assessment.

Source: own elaboration.

The presented research results refer only to those oriented towards green financing of investments in banks. Conducted in the Polish banking sector, the research verifies several common sustainability-oriented opinions and doubts. They show a significant eagerness of banks to undertake green financing initiatives and to change the existing structure of the bank credit portfolio. However, the conducted survey indicates that financing of investment in the so-called classic energy sector is not changing as intensely as could be inferred from the approach of banks towards green loans.

3. Results

The research conducted has shown that the enthusiasm of the Polish economy to switch to green financing through bank credit is affected by several distinct factors. The first problem is related to a serious lack of capacity to identify ESG risk, estimate its level, and monitor and assess both its short- and long-term consequences. Another fundamental problem results from the increasing pressure from public authorities in the broad sense to accelerate the implementation of sustainability in companies, financial institutions, and households. Although the implemented EU regulations stabilise the conditions for raising capital for financing green investments and increase the financial security of business entities, they do not, however, eliminate all ESG risk factors. Corporate governance and the development of ESG risk management procedures standardised across all EU member states constitute a key area of its mitigation. It is assumed that only a proper ESG risk assessment creates opportunities for business growth and makes it possible to avoid potential risks. Proper ESG risk management

that takes into consideration non-financial reporting consistent with EU guidelines expands corporate operational capabilities, reduces the financial costs incurred by companies, and makes it possible to increase their net profit. It also contributes to increased business prospects, increases access to capital and financing, improves customer relations, and enhances the company's reputation. According to the survey, companies, while recognising the positive aspects of green investments, are not coping with the plethora of EU regulations in the ESG risk management process. Their sustainability is therefore related to the increasing demand for advisory or insurance services, and perhaps other ones yet unrecognised. Moreover, as ESG becomes increasingly integrated into business strategies, companies recognise the increasing number of risks associated with the loss of their market value. Thus, they may feign various sustainability measures (greenwashing phenomenon). On the other hand, according to the study, the use of bank credit to finance green investments is subject to special scrutiny. This is because bank credit is an instrument for financing green investments subject not only to EU regulations but also to strict prudential standards. Therefore, banks are better protected against ESG risks than other financial institutions in the process of financing green investments. However, ESG risk accumulates at the level of the interaction between companies and banking institutions financing green investments usually not standardised due to their spectacular features. The banks surveyed, however, explicitly declare financing green investments, shifting their strategies and risk management systems towards sustainable development. The discrepancy noted has its justification that requires further research. Indeed, a bank credit is merely an option to finance green investments. Its application to alternative options for financing green investments, from public capital resources, remains a great unknown. Therefore, by looking at companies seeking capital to finance green investments, it is possible to analyse further resulting research problems. They are certainly an indication of the lack and low transparency of information on corporate sustainability.

References

1. Alberti, M., (1996). Measuring urban sustainability. *Environment Impact Assessment Review, 16,* pp. 381-424.
2. Bocian, A.F. (2009). Implementacja idei zrównoważonego rozwoju w procesie globalizacji. In: B. Poskrobko (ed.), *Zrównoważony rozwój gospodarki opartej na wiedzy* (pp. 146-165). Białystok: Wydawnictwo Wyższej Szkoły Ekonomicznej w Białymstoku.
3. Borys, T. (2011). Zrównoważony rozwój – jak rozpoznać ład zintegrowany. *Problemy Ekorozwoju, 6, 2*, pp. 75-81.
4. Dziennik Urzędowym Unii Europejskiej z 7 czerwca 2019.

5. EBA Report on Management and Supervision of ESG Risk for Credit Institutions and Investment Firms, EBA/REP/2021/18EBA, EBA Roadmap on ESG Risk and Sustainable Finance. EBA/REP/2022/30, December 2022.
6. Forrester, J.W. *World Dynamics.* Cambridge: Wright-Allen Press.
7. Górka, K. (2010). Kontrowersje terminologiczne w zakresie ekonomiki ochrony środowiska i ekonomii ekologicznej. *Ekonomia i Środowisko, 2, 38*, pp. 15-21.
8. Kistowski, M. (2009). Koncepcja ekorozwoju profesora Stefana Kozłowskiego. In: D. Kiełszewski (ed.), *Od koncepcji ekorozwoju do ekonomii zrównoważonego rozwoju* (pp. 20-30). Białystok: Wydawnictwo Wyższej Szkoły Ekonomicznej w Białymstoku.
9. Kozłowski, S. (2007). *Przyszłość ekorozwoju.* Lublin: Wydawnictwo KUL.
10. Marcinkowska, M. (2022). Próby włączenia ryzyka ESG do unijnych regulacji ostrożnościowych dla banków. *Bezpieczny Bank, No. 3(88)*, p. 37.
11. *Nowa Rada ds. Standardów zrównoważonego rozwoju UE.* https://skwp.pl/aktualnosc/nowa-rada-ds-standardow-zrownowazonego-rozwoju-w-ue/
12. Pakiet bankowy 2021: nowe przepisy UE w celu wzmocnienia odporności banków i lepszego przygotowania się na przyszłość. Komunikat prasowy, 27 października 2021 r. Bruksela, https://ec.europa.eu/commission/presscorner/detail/en/ip_21_5401
13. Plan działania na rzecz zrównoważonego finansowania. European Commission. Action Plan: Financing Sustainable Growth (3 March 2018).
14. *Raport koszty i wyzwania ESG*. Warszawa: Polskie Stowarzyszenie ESG, p. 8.
15. Raport koszty i wyzwania ESG. Raport przygotowany przez Polskie Stowarzyszenie ESG we współpracy z Instytutem Badań Rynkowych i Społecznych IBRiS oraz firmą badawczą Quality Watch.
16. Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability- related disclosures in the financial services sector. *Official Journal of the European Union L 317/1, 9 December 2019.*
17. Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088. *Official Journal of the European Union L 198/13, 22 June 2020.*
18. Wytyczne dotyczące udzielania i monitorowania kredytów EBA/GL/2020/06 29/05/2020.