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Brown Banking: Assessing the Impact of Non-Compliant Financing within the EU's Focus on Sustainability

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Abstract

With a steadily growing number of standards and laws in the area of sustainability, the EU can be seen as a leader in sustainability regulation in the financial sector. However, this strong regulation could give rise to various risks, such as the deliberate establishment of non-sustainable banking outside the EU: brown banking. In the context of this study, brown banking is defined as the financing of brown as-sets and thus as banking activity that does not take into account economic, social and ecological factors for the protection of the climate, natural resources and social compatibility and deliberately finances CO2-intensive, EU taxonomy-compliant pro-jects and investments that can be measured in monetary terms. In doing so, clear reference should be made to the awareness behind the activity of brown banking. The aim of this thesis is to examine the probability of brown banking as a risk factor resulting from EU sustainability policy and to identify recommendations for regulatory authorities to prevent a brown banking sector. For this purpose, a qualitative research design in the form of expert interviews was chosen, as this ex-post-facto approach ensures a precise snapshot of the thought processes of the sample surveyed. Interviews were conducted with a wide range of bank employees at the management level from three different EU countries, as well as relevant experts from the banking sector.

The key finding was that the probability of brown banking as a risk cannot currently be quantified, but the impact of brown banking can. Impacts in the form of risks lie primarily in credit risk, which can even become a systemic risk in the event of high or widespread credit defaults, as well as in the area of reputational damage, loss of in-vestment or simply the loss of market share and thus the loss of competitiveness of European banks.

Well-thought-out regulatory approaches in the form of international harmonization of sustainability policy and independent auditing bodies such as auditors in the analysis of annual financial statements have also already been addressed.

Keywords: brown banking, banking risk, ESG, sustainability, finance

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1 INTRODUCTION

European Union regulations are gradually aligning with the principles of sustainability, with a particular emphasis on environmental, social, and governance (ESG) criteria. This evolution is instrumental in enhancing the resilience of banks and the broader financial system. Nevertheless, there exists the potential for the formation of a parallel "shadow" banking sector. The process of financing sustainable projects frequently incurs significant costs, engendering a phenomenon in this paper designated as "brown banking," whereby financial institutions may opt to support unsustainable ventures for the sake of higher profits.

The objective of this paper is to investigate the concept of brown banking as a pivotal risk factor within the EU's banking sector, precipitated by the enforcement of sustainability regulations. The initial step is to establish a universally applicable definition of brown banking. This is necessary because there is currently no such definition in academic or professional literature. Once this has been done, brown banking can be examined as a risk factor. This will determine whether it is a tangible or merely speculative threat. If it is identified as a tangible risk, the scope of this risk will be further investigated. Finally, the paper will propose strategies for the mitigation or elimination of brown banking through regulatory interventions. The intended audiences for this paper include a diverse range of financial entities, as well as ministries, banking institutions, insurance companies, and EU legislative bodies.

2 THEORETICAL FRAMEWORK

2.1 Literature Review

In recent years, there has been a marked escalation in the call for ESG responsibility across all economic sectors, with a pronounced emphasis on financial institutions. This trend is mirrored in both theoretical and practical academic discourses, where numerous studies have corroborated the beneficial influence of ESG criteria on enhancing stability and improving the risk management capabilities of banking entities.

A study by Chiaramonte et al. (2021) shows that compliance with ESG criteria reduces the fragility of banks, even in times of crisis. Large European banking groups benefit particularly from compliance with ESG criteria, which confirms the regulatory requirements for improved disclosure of non-financial information. High-income countries, which are more sensitive to sustainability issues, exhibit less systemic risk for financial institutions with good ESG rankings (Chiaramonte et al. 2021). Other studies, such as those by Azmi et al. (2021) and Galletta & Mazzu (2022), confirm that banks with high ESG standards take lower risks. However, they also show that high ESG scores above a certain threshold can be associated with a reduction in bank value. These findings suggest that ESG activities only contribute to a bank's performance up to a certain point and have diminishing marginal returns beyond a certain point. Studies such as those by Izcan & Bektas (2022) and Kiss et al. (2021) underline the importance of ESG criteria for reducing risk and increasing the financial stability of banks. They show that banks with high ESG scores and good governance practices have a lower risk of non-performing loans. Overall, the research confirms that compliance with ESG criteria leads to lower risk aversion and increased crisis resilience of banks. This is achieved, among other things, through greater transparency and lower information asymmetries associated with the implementation of ESG criteria (Izcan & Bektas 2022; Kiss et al. 2021). The following research questions can be formulated to consider negative effects

if these positive factors are deliberately undermined by banks: How realistic is the risk of the emergence of brown banking as a risk factor triggered by the EU's sustainability policy in the banking sector? Which regulatory measures can be recommended against brown banking, and how can these be implemented?

2.2 Definition of Brown Banking

This paper focuses on the assessment of "brown banking" as a risk in EU sustainability policy in the banking sector. Due to the lack of a definition in science, specialist literature or other sources, brown banking must be derived heuristically and defined for the first time. Basically, heuristics help to solve problems for which classical methods are no longer suitable (Ouassam et. Al 2021).

Whereas "green banking" is defined as banking activities that consider economic, social and environmental aspects to protect the climate and natural resources (Chowdhury et al. 2013; Rai et al. 2019), with green assets compliant with the EU taxonomy for sustainable investments and characterized by low CO2 emissions (Dong et al. 2023; Regulation EU 2020/852), forming the basis for this definition, the definition of brown banking can be provided heuristically through the use of negative demarcation. Thus, brown banking is defined as the financing of brown assets, which, in contrast to green assets, are CO2-intensive and do not comply with the EU taxonomy (Ferrari / Nispi Landi 2023). This deliberate financing of CO2-intensive, non-EU taxonomy-compliant assets is identified as a risk factor of EU sustainability policy. It is clarified that brown banking does not fall under the practice of greenwashing, which is defined as the deliberate manipulation of information to present non-sustainable investments as green (Nemes et al. 2022; Lee & Raschke 2023). Brown banking is thus defined as a targeted reaction by investors to increased sustainability policy and legislation.

2.3 Principles of Sustainability Policy in Europe

In principle, there are different bases of sustainability policy in the European Union, which are nevertheless interlinked in most situations and circumstances. In Article 3, paragraph 3, sentences 2 and 3 TEU, the EU sets itself very clear objectives and codifies its sustainability concept in law:

„[the European Union] shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance.“ (Art. 3, Paragraph 3, Sentences 2 and 3 TEU).

The 2030 Agenda, featuring 17 Sustainable Development Goals (SDGs), is a blueprint for global sustainability efforts (United Nations 2023). The European Union Sustainable Development Strategy (EU-SDS) aims to enhance life quality for pre-sent and future generations by addressing climate change through clean energy, promoting sustainable transport, consumption, production, and managing natural resources. It also focuses on health, poverty, sustainable development, social inclusion, demographics, and migration challenges. The strategy has broad implications, encompassing financial, economic, and implementation measures with follow-up actions (BMK Austria, 2023). National sustainability strategies, guided by the European Sustainable Development Network (ESDN), execute these measures across EU member states. Eurostat's biennial reports monitor the EU SDS's progress using various

indicators (BMK Austria 2023). This subchapter further explores components of the EU's sustainability policy.

2.4 Environmental Social Governance Criteria and Sustainability Reporting

ESG refers to the company's environmental, social and corporate governance standards. As 71% of Germans now prefer sustainable (financial) products (Hypo Vereinsbank 2023), transparency and sustainability are clearly an important issue for stakeholders, customers and the public, making ESG factors an important driver of competitiveness, resilience and growth for companies (pwc Austria 2023). The general requirement is for companies to take responsibility and adapt their respective business models to sustainable development (pwc Austria 2023).

The increasing importance of ESG criteria in investment strategies is underscored by recommendations for ESG-based reviews or investments in entities demonstrating positive ESG impacts (Deutsche Bank 2023). ESG criteria application is sector-dependent, with service and production sectors prioritizing social and environmental aspects, respectively, although corruption prevention remains a universal concern (Euramco 2023). The rising investor demand for ESG compliance signifies the convergence of corporate social responsibility (CSR) and capital market interests (Umweltbundesamt 2022). Furthermore, entities like the Global Reporting Initiative set sustainability reporting standards, while MSCI ESG Research evaluates companies' ESG risks and strategies, categorizing them from Laggards to Leaders and rating them from CCC to AAA (MSCI 2023).

Emphasizing ESG criteria facilitates sustainable investment and underpins regulatory frameworks. The implementation of the Corporate Sustainability Reporting Directive (CSRD) aims to enhance sustainability reporting, broadening the scope of CSR to include comprehensive sustainability disclosures. This transition signifies the shift from non-financial to sustainability reporting, acknowledging the importance of economic factors alongside environmental and social considerations. (Davison et al. 2023)

The CSRD seeks to redirect financial flows towards sustainable activities, supporting the transition to a sustainable economy aligned with the Green Deal's objectives.

Additionally, sustainability reporting now incorporates both inside-out and outside-in analyses, examining a company's impact on the environment and vice versa. This expanded approach to materiality, mandated by the CSRD, along with adherence to the green financial metrics of the Taxonomy Regulation EU 2020/852, enhances transparency and comparability in reporting, potentially subjecting companies to significant sanctions for non-compliance. (Förster 2022)

2.5 Influence of EU Sustainability Policy on Banks

2.5.1 Bank-specific Regulations of EU Sustainability Policy

Banks, operating within a global context, bear a worldwide responsibility, highlighted by the European Union's efforts to enhance sustainability in banking and finance through a regulatory framework. This framework comprises the Sustainable Finance Disclosure Regulation (SFDR), the EU Taxonomy, and amendments to the Markets in Financial Instruments Directive (MiFID II), each serving as a cornerstone in the EU's sustainability policy for the banking sector.

The SFDR mandates financial sector entities to disclose sustainability-related information, aiming to mitigate informational asymmetries about financial products' sustainability characteristics, thus facilitating informed sustainable investment decisions. This regulation requires asset managers to provide comprehensive details on how ESG criteria are integrated into their products, including the sustainability objectives, ESG consideration in investment decisions, and the alignment of derivatives with the products' ESG goals. (J.P. Morgan 2023)

Although the SFDR covers a wide range of disclosure requirements, it does not impose a direct obligation to make sustainable investments. Instead, it aims for transparency in order to improve the comparability of financial products in terms of their sustainability risks and returns without forcing investors to make certain investments (Breidenbach von Schlieffen, 2023).

The EU Taxonomy Regulation serves as a scientifically based classification system for assessing the environmental sustainability of economic activities with the aim of directing financial flows towards sustainable activities. It defines clear criteria for determining the sustainability of an investment, with a current focus on environmental objectives and plans to include social objectives at a later stage. The six environmental goals include climate protection, climate change adaptation, sustainable use of water resources, circular economy, prevention of pollution and protection of ecosystems (Federal Ministry of Economics and Climate Protection 2020).

In addition, the EU has been promoting the consideration of sustainability factors in investment advice and portfolio management through the MiFID II Directive since August 2022 in order to strengthen investor protection and improve the transparency and efficiency of the financial markets (Hauck Aufhäuser Lampe Privatbank 2023; Deutsche Börse 2023).

These regulations aim to increase transparency and openness in the financial sector and encourage investors to make sustainable investment decisions, but without creating legally binding sustainability obligations for banks or financial institutions.

2.5.2 Stabilizing the Financial Sector through Sustainability Policy

In the context of the CSR-RUG and EU taxonomy, credit institutions are required to provide not only non-financial but also business model-specific reporting, including the Green Asset Ratio (GAR), which shows the proportion of taxonomy-compliant financing (Brühl 2021). Disclosure of ESG risks and their management is also required. The discussion about capital requirements for ESG-compliant financing points to possible incentives for green financial products, although no final decision has yet been made (Bătae et al. 2020; Kiss et al. 2021).

Despite concerns that EU sustainability policy could limit the competitiveness of banks through cost-intensive audits and analyses, studies such as those by Simpson & Kohers (2002) and Azmi et al. (2021) prove the positive correlation between ESG integration and financial performance, albeit with certain limits. Particularly in times of crisis and in countries with high-income levels, a high ESG score strengthens the resilience of banks (Chiaramonte et al. 2021).

Furthermore, strict ESG regulations lead to a more risk-averse investment attitude among banks, which is reflected in a more in-depth analysis of investment projects and a reduction in idiosyncratic risks (Di Tommaso & Thornton 2020; Azmi et al. 2021; Galletta & Mazzu 2022). This results in better financial

health for banks, as evidenced by higher Z-scores and a lower number of non-performing loans for banks with high ESG scores (Badayi et al. 2021; Kiss et al. 2021).

In summary, numerous studies from different perspectives confirm the added value of ESG policies, which not only represent a moral responsibility but also contribute to the stability of the financial system and act as a catalyst for a robust financial system within the EU.

2.6 Potential Sustainability Impacts of Brown Banking

The academic and literary debate on the phenomenon of brown banking, which focuses on investments in environmentally harmful projects, has so far been insufficient. Despite the potential risks that an extensive brown banking sector could entail for the economy, there is a lack of sufficient discussion and analysis of this area.

The European Union (EU) is focusing intensively on sustainability in the financial sector, with banks playing a key role in promoting sustainable investment. EU regulation aims to make financial flows more sustainable at source. However, current regulatory measures, such as the SFDR, the EU Taxonomy and MiFID II, focus primarily on increasing transparency regarding the sustainability of investments and companies without creating a binding obligation for banks to finance sustainable projects.

The lack of a legal obligation could pave the way for a niche of brown banking, in which banks can achieve higher margins by financing non-sustainable projects. This would not only be morally questionable but could also jeopardize the entire financial system. Studies show that a high ESG orientation leads to a more stable financial system, while brown banking could have the opposite effect through increased risk-taking and more non-performing loans.

In conclusion, brown banking harbors both societal and systemic risks. It undermines the social and political demand for sustainability and could become a systemic risk for the European financial system through increased investment risk.

3 METHODOLOGY

3.1 Research Design and Methodology

To examine the impact of the EU sustainability policy on brown banking, a non-experimental, explanation-oriented research design was utilized, focusing on cause-and-effect relationships supported by the inductive analysis of data (Aeppli et al. 2016; Vollmer, n.d.). An ex-post facto design allowed for snapshot data collection, incorporating diverse socio-demographic factors (Lois 2015). Stakeholder interviews enriched this study, leveraging both formal qualifications and practical knowledge from a variety of experts (Pfadenhauer 2002; Meuser & Nagel 2009; Hildebrand 2018). This included interviewing senior bank management across different institution sizes and roles to capture a broad spectrum of insights.

The methodology emphasized theory generation through exploratory interviews, employing open-ended questions to foster new theoretical insights in areas lacking established theories (Bogner et al. 2002, 2005). The data were analyzed following grounded theory principles, where theories were derived and refined from the data, contributing to the theoretical framework (Corbin and Strauss 1990). Despite constraints like limited resources and unrepresentative sample sizes, the approach aimed to identify

diverse perspectives on brown banking risks and validate findings through triangulation (Kuß et al. 2018).

Interview guides, structured yet flexible, facilitated focused yet in-depth discussions, categorized into substantive and functional questions to close knowledge gaps and stimulate reflective thinking (Gläser and Laudel 2010; Heffrich in Baur / Blasius 2019). This comprehensive methodological framework supported a detailed examination of the intersections between brown banking and EU sustainability policies, contributing to ongoing research and theory development.

In the context of qualitative research, which explores the subjective reality of respondents, several factors were taken into account to maximize openness. Openness allows respondents to formulate their answers according to their own logic and with full articulation of their intentions, using their own terminological concepts. Researchers should not limit themselves to their own boundaries of understanding, but engage with different notions of normativity based on an ethnographic understanding of different cultures (Heffrich in Baur / Blasius 2019).

However, in some cases, it was necessary to limit openness due to research-related interests. Prior to interviews, participants were ethically informed about research objectives and the content of the work, even though this might limit the range of possible expressions. This transparency was considered ethically necessary in order not to conceal the purpose of the research and to inform participants that their statements would be analyzed and used in the writing of the paper.

Interview guidelines and predefined terms were provided to the participants in advance to enable proper and unstressed answer preparation, as stressful situations could impair the quality of the answers. The limitation of openness by research interests was considered specifically acceptable. The definition of brown banking was also explained to participants in the context of the work in order to avoid misunderstandings and create a uniform basis for understanding. Prior to the interviews, a profile overview of the participants was created to enable individual adaptation and conduct of the interviews, especially in personal and informal conversations (Heffrich in Baur / Blasius 2019; Bogner et al. 2014).

The interviews were analyzed using qualitative content analysis, according to Philipp Mayring (2022), by systematically processing the transcripts and classifying them into categories. This method aims to examine selected content precisely by structuring the material using a category system (Mayring 2022). This system makes it possible to effectively capture relevant text elements from the interviews. The analysis process comprises three steps: the definition of categories, the determination of anchor examples and the development of coding rules to ensure precise assignment to the categories (Mayring 2022). Category formation was based both on deductive approaches from the previous literature review and on inductive approaches that take into account new findings from the interviews. The aim was to answer the research questions by interpreting the results and applying the content in a practical way in the research field (Mayring, 2022).

3.2 Qualitative Research

3.2.1 Structure of the Qualitative Interviews

For the qualitative interviews, a combined approach of theory-generating and exploratory questions was used to investigate subjective experiences in the context of brown banking. Despite the challenges posed

by exploratory questions - as described by Philipp Mayring (2022) - they are essential for opening up new theoretical perspectives. The semi-structured interview guide was precisely designed to enable efficient evaluation and to adequately consider the research questions and expert assessments. The resulting structure of the interview guide is shown in detail in Table 2.

Tabelle 2: Structure of the Interviews.

Section	Content (overview)
Block 1 Introduction	▪ Query the expert's activities and corporate framework
Block 2 Dealing with sustainability & ESG	▪ Dealing with ESG and sustainability in professional environment
Block 3 Sustainability Risks	▪ Identification of sustainability risks in the financial sector ▪ Identification of risk severity and probability ▪ Future challenges through sustainability reporting
Block 4 Brown Banking	▪ Query the possible connection between ESG regulations and Brown Banking ▪ Investment shifts abroad through ESG regulation ▪ Restriction of competitiveness in the banking sector in the EU through ESG regulation ▪ Creation of opportunities and new business areas through Brown Banking
Block 5 Conversation conclusion	▪ Possibility of free expression of opinions by the expert ▪ Closing the conversation by saying goodbye

3.2.2 Subjects

In qualitative research approaches, the targeted selection of test subjects is crucial in order to comprehensively explore the research field and efficiently process research questions. This selection enables the detailed investigation of individual and collective perceptions through specific questions (Bohnsack et al., 2018).

The experts were largely selected by contacting them directly by email, with interview guidelines and a brief biography of the author included in the cover letter. The participants whose activity and institution were anonymized, but whose country of activity was named, fulfilled the de-fined criteria as persons concerned for the study.

Tabelle 3: Presentation of the experts.

Activity and area	Reasons for being qualified as an expert

Professor Research Field Sustainability in the Finan-cial Sector, Austria	Brown banking can be seen as the proverbial antago-nist to sustainable green banking, which is why a spe-cialist in sustainability in the financial sector should be consulted.
Professor Research Field Finance, Slovakia	A financial theorist can assess the theoretical implica-tions and problems of the subject area and derive future scenarios from their theoretical knowledge.
Management Board Savings bank ca. 30 Bil. Euro total assets, Germany	Part of the sample to represent different banks and sav-ings banks as a proxy for the financial industry.
Management Board Savings Bank ca. 4 Bil. Euro total assets, Austria	Part of the sample to represent different banks and sav-ings banks as a proxy for the financial industry.
Management Board com-mercial bank total assets ca. 900 Bil. Euro, Germany	Part of the sample to represent different banks and sav-ings banks as a proxy for the financial industry.
Management Board coop-erative bank ca. 3 Bil. Euro total assets, Germany	Part of the sample to represent different banks and sav-ings banks as a proxy for the financial industry.
Mid Management German Bundesbank, Germany	National bankers have a different view of and approach to working with interest rates and are primarily con-cerned with the effects of interest rate policy.

In view of the considerable geographical distance between the participants in a total of four different countries, all interviews were conducted and recorded via Microsoft Teams. This procedure was agreed with the participants in advance and proved to be practicable.

As part of the preparation of a study, the interview guide was pre-tested on two test subjects - a professor of finance and an employee of an Austrian cooperative bank - in order to evaluate its focus on results. Both subjects, selected on the basis of their professional competence and experience, adequately represented the target group of the study (Gläser / Laudel 2010). These preliminary tests, conducted in May 2023, did not reveal any immediate weaknesses in the guide. However, further checks by the supervisor of the paper and a colleague from the Czech Republic identified certain deficits, whereupon the guide was supplemented with questions on potential opportunities through brown banking so as not to focus exclusively on risks.

The adjustments after the pre-tests and the feedback from the experts not only made it possible to optimize the questionnaire but also broadened the perspective of the research questions. Despite the necessary restriction of openness during the interviews in order to ensure clarity and focus (Helfrich in Baur / Blasius 2019), the pretest was rated as successful overall. Sending the questionnaires to the

interview participants in advance proved to be effective, as all questions could be answered without any problems. In addition, ethical guidelines according to Kaiser (2021), such as respect, duty to inform and confidentiality, were strictly adhered to during the interviews.

3.3 Evaluation According to the Structuring Qualitative Content Analysis

Mayring's structured qualitative content analysis is a systematic approach used extensively in the social sciences to interpret textual data, as outlined by Mayring (2022). This method involves a comprehensive process that includes the selection of methodologically and theoretically sound data, followed by a detailed review and coding of the material. The coding process is crucial, involving the identification, marking, and categorization of relevant content into preliminary categories. These categories are continuously refined and organized into a coherent category system that accurately represents the complexity of the data. The analysis progresses through iterative coding and category refinement to ensure reliability and validity. The final steps involve interpreting the coded data to identify latent patterns and underlying relationships, aiming to deepen the understanding of the investigated phenomenon. This interpretation integrates empirical observations with theoretical frameworks to hypothesize or explain observed patterns. Finally, the results of this process are synthesized and reported, whereupon the identified patterns, themes, and categories are linked back to the original research question. In this manner, a structured presentation of the results is provided in the final scientific work.

3.3.1 Data Preparation

The available data was recorded analogously, not digitally, and documented in Excel, then subjected to a semantic analysis (Mayring 2022). Insignificant statements were categorized as "no category". The relevant statements were organized in Excel sheets by category, summarized and checked for relevance. Similar statements were aggregated to identify the macro-themes. This last process was supported by artificial intelligence and monitored by the author. The statements classified as relevant were summarized to facilitate a content-based analysis without neglecting unimportant elements. Finally, the statements were compared with the interview transcripts (Mayring, 2022).

3.3.2 Data Analysis

A total of seven categories were formed, the core statements of which can be found in the appendix:

Tabelle 4: Number of statements per category.

	Category	No. of statements
A	Challenges and risks in the financial sector	97
B	Regional classification of risk & regulatory approaches	105
C	ESG risks for banks	108
D	Relocation of investments abroad / restriction of competition	72
E	Impact and likelihood of brown banking	62

F	Opportunities and new business areas for banks through ESG or brown banking	86
NA	Non-relevant statements	169

Furthermore, after the categorization, topic headings were bundled within the category for all statement bundles in order to prepare the interview material as structurally as possible. The core statements were paraphrased under the topic headings so that the key statements of the interviews were clear at a glance.

3.4 Interpretation of Interview Results

In the following chapter, the already reduced core statements of the respective categories are further interpreted in the overall context of brown banking and its risks.

3.4.1 Interpretation Category Challenges and Risks in the Financial Sector

These findings indicate significant challenges associated with ESG regulation in the EU and a critical analysis of the risks for the financial sector. A key issue is the potential exodus of capital from the EU due to its strict ESG guidelines. This could result in brown banking activities being relocated to other countries, counteracting global efforts for sustainable finance. Additionally, the results demonstrate an ambivalent area of tension for financial institutions. While those with advanced ESG strategies may have short-term competitive advantages, the long-term economic sustainability of these initiatives is debated, especially in light of potentially more cost-effective, less regulated players. The interview data also highlights the potential role of states that could benefit from capital relocation out of the EU. This raises the risk of downward regulatory levelling, as some countries may neglect standards in order to achieve short-term economic benefits.

Despite the imperative for international cooperation on ESG standards, the challenges of implementing a coordinated strategy are evident. It is unclear how a common strategy could be designed to meet strict environmental standards while preventing capital flight. The potential reputation enhancement for financial institutions that implement ESG criteria also carries risks. There is a danger that such measures will be interpreted as greenwashing strategies that serve image cultivation rather than sustainability.

3.4.2 Interpretation Category Regional Classification of Risk & Regulatory Approaches

The significance of ESG criteria in the international financial discourse is being increasingly acknowledged. They are no longer isolated fringe issues but an integral part of a global debate. The European Union is recognized as a leading player in ESG issues and sets standards for European financial institutions. Despite supranational guidelines, individual countries retain the capacity to shape ESG policies, which presents both challenges and opportunities.

Calls for stronger regulation of the banking sector to increase accountability and transparency are being made. International coordination is seen as crucial to avoid fragmented approaches and ensure the effectiveness of ESG efforts. Finally, the prominent mention of independent auditing bodies highlights the limitations of internal, self-regulated mechanisms. The involvement of external, objective actors, therefore, appears to be considered essential for ensuring and validating compliance with ESG criteria.

3.4.3 Interpretation Category ESG Risks for Banks

The practice of brown banking presents a significant risk to the financial sector. Of particular concern is the credit risk, which can result in financial losses due to investments in unsustainable projects. Of particular importance here are the growing climate risks and the danger of stranded assets.

Another key element is reputational risk. Companies are increasingly required to assume social and environmental responsibility in order to protect their reputation. Public criticism of financial actors that invest in unsustainable assets is of great importance. The implementation of sustainability standards at the EU level introduces additional regulatory risks for banks, as the complexity of these regulations and the sanctions for non-compliance increase. From a competitive and market perspective, adherence to brown banking strategies may lead to a loss of market share, especially given the growing importance of sustainability criteria.

Adapting to sustainability standards requires operational and strategic realignment in order to meet regulatory requirements and maintain reputation and market position.

In conclusion, it is evident that in the context of heightened environmental and social awareness, brown banking is confronted with a multitude of intricate risks that necessitate both strategic and operational adaptations.

3.4.4 Interpretation Category Relocation of Investments Abroad / Restriction of Competition

The initial core statements emphasize the relocation of investments due to the introduction of strict ESG regulations in the EU. This could prompt investors to switch to markets with less stringent regulations, thereby increasing the risk of an unsustainable banking sector in non-EU countries.

It is also pointed out that banks could gain a competitive advantage through the early integration of ESG practices and sustainable products, as consumers and stakeholders increasingly value sustainability. Adapting to ESG regulations is seen as crucial for banks, as they must rethink their business models to remain competitive. Those that do not adapt quickly enough could lose market share. Furthermore, the need for international cooperation and transparency in the ESG area is emphasized, as sustainability knows no borders and coordinated efforts are needed at a global level. Finally, the potential negative impact of rushed ESG regulation on the EU's traditional industrial sectors is warned against. It is stressed that regulatory efforts must be balanced in order to maintain the competitiveness of the EU while striving for higher sustainability standards.

3.4.5 Interpretation Category Impact and Likelihood of Brown Banking

The involvement of financial institutions in "brown banking" entails considerable risks and problems that could affect not only the institutions concerned but also society as a whole. The experts point out the potential danger posed by investments in unsustainable projects, which could make banks vulnerable to financial instability, especially in the face of changing market conditions and increasing interest in sustainable alternatives. Furthermore, the link to unsustainable projects also poses significant reputational risks for banks. In the context of growing societal and regulatory interest in sustainability and corporate social responsibility, the practice of "brown banking" has the potential to erode customer and investor confidence and have long-term economic consequences. The concept of "brown banking"

is at odds with global efforts to combat climate change and social inequality. Against this backdrop, the concept is increasingly seen as outdated.

The regulatory role of the European Union in relation to "brown banking" is important, as different standards could encourage the emergence of non-transparent banking sectors. It is argued that a fundamental reorientation of the financial sector is required, not only in the self-interest of banks, but also in the interest of social and environmental well-being. The implementation of more transparent and sustainable business practices could result in significant economic and social benefits in the long term.

3.4.6 Interpretation Category Opportunities and New Business Areas for Banks Through ESG or Brown Banking

The growing demand for sustainable financial products suggests a strong trend towards sustainability in the banking sector. Banks that invest in this trend could have financial and competitive advantages. However, this optimistic assessment may understate the actual complexity of the issue. Firstly, increasing customer demand for sustainability does not necessarily mean the end of banks investing in conventional practices. There are still markets where returns take priority. The rapid transition to green practices may be unprofitable or logistically difficult for some banks. Theoretically, focusing on sustainability can protect against financial risk. In practice, however, this is not guaranteed. There are examples of "green" investments that have not proven to be financially viable or have not had the expected impact.

The technology and data analytics industry is also tricky. Stricter regulation does not automatically mean more efficient investment in technology. There could be high initial investments without a clear return on investment. The development of new sustainable financial products also involves risks. The introduction of new products in the highly regulated banking sector can present unforeseen challenges and significant costs.

The provision of advice and support to companies is not without its inherent risks. The growing demand for ESG advice raises expectations, yet a lack of standards or misunderstandings can result in suboptimal investments or legal issues. The distinctive selling point of sustainability may be transient. As banks become more involved in this area, their competitive advantage may diminish, potentially leading to a decline in profitability. Despite the global trend towards greater sustainability, there are regions where conventional banking could continue to be successful, particularly in developing countries or regions with less stringent environmental regulations.

3.5 Brown Banking as a Risk Factor

The EU taxonomy and its ESG guidelines could indeed lead to a geographical shift of capital, whereby investors could shift their capital inflows to less regulated, i.e., brown markets. This aspect could initiate a flight of capital from the EU, which in turn could strengthen the position of countries with less stringent ESG guidelines. And there is the paradox: while the EU is trying to make the financial sector more sustainable, other countries could benefit from laxer regulations and use them in a targeted manner, which could ultimately lead to a global lowering of environmental and social standards. This reaction was aptly described in an interview as ESG dumping.

To prevent such deliberate shifts due to sustainability policy, the EU has already introduced the Carbon Border Adjustment Mechanism, which is intended to maintain the competitiveness of EU companies. However, this mechanism has already led to trade conflicts with individual trading partners, such as the USA (Overland & Sabyrbekov 2022; Smith et al. 2024).

Despite these risks, brown banking also holds certain opportunities. It is likely that banks that do not rush to adopt green practices and invest in technology and data analytics may initially enjoy financial benefits, especially in markets that do not prioritize sustainability. However, it should be emphasized that such an approach may offer short-term gains rather than long-term reputational and financial risks. The banks' business environment and operations could, therefore, be given the opportunity to become more sustainable and financially stable. With a strong ESG lobby, sustainable banks in a brown banking environment would also gain in reputation and stability, and new business areas would be opened up, such as possibly ESG auditors, management consultancies in the sustainability sector and, above all, certainly digital and technology-oriented companies that know how to exploit the trend with different businesses.

In conclusion, brown banking operates in a field of tension between short-term financial benefits and long-term environmental, social and economic risks. The financial sector faces the complex task of addressing the pressure to adapt to sustainable practices on the one hand and managing the challenges associated with this adaptation on the other. It is essential that both supranational and national institutions act in a coordinated manner to avoid fragmented approaches and promote a comprehensive and sustainable financial landscape.

4 CONCLUSION

The paper examines brown banking as a risk factor for the EU's ESG policy and also looks at opportunities and new business opportunities. Brown banking is defined as the financing of CO2-intensive, EU taxonomy non-compliant projects that neglect social and environmental factors. The impact of EU sustainability policy on banks, in particular ESG factors, is highlighted. A qualitative study with seven experts from different financial sectors and countries provides insights. The results are used to answer research questions and derive recommendations for action for banking regulations.

4.1 Answering the Research Questions

The research addresses two main questions:

1. How realistic is the risk of brown banking as a consequence of EU sustainability policy in the banking sector?

The interviews show that brown banking as a risk factor is quite realistic, although it is difficult to quantify. The discussions focus more on the impact, especially on the reputational and credit risk of banks as well as regulatory risks and the possibility of capital relocation out of the EU.

2. What regulatory measures can be recommended against brown banking, and how can they be implemented?

It is emphasized that international regulatory approaches are necessary to ensure an effective fight against brown banking. The EU could take the lead in developing global standards for sustainability and

reporting. Independent auditing bodies have an important role to play here. The harmonization of sustainability factors could open up new opportunities for the economy but also requires thoughtful regulatory approaches to avoid investment relocation and ESG dumping.

4.2 Critical Appraisal and Outlook

In this work, the first research question could not be answered sufficiently, but a deeper analysis of the effects of risks was possible. Answering the second question was possible from multiple perspectives and potential opportunities of a regulated sector were identified. A mixed methods approach could potentially provide more data, but the selection and accessibility of the target group would be questionable. The research is challenging due to the complex nature of the topic and the diversity of stakeholders, as samples need to be chosen very carefully. The qualitative approach was successfully implemented and provided reliable results.

Future research could focus on an in-depth investigation of the opportunities and impacts of brown banking. It would be important to identify which business areas would benefit from such a sector and which would benefit from avoiding it. A quantitative analysis and the identification of individual risks could enable preventive regulatory measures based on the results of the study.

The EU also has a large number of building blocks for its sustainability policy, which have an impact both nationally and internationally. It is important to look critically at this policy development and adapt it to changing market conditions. A comprehensive analysis of the risks and opportunities of regulatory approaches is crucial, especially in light of potential problems such as the emergence of a "brown banking" sector. The increasing complexity and systemic relevance of these policies requires continuous monitoring and adaptation, especially in light of new technologies such as blockchain and artificial intelligence, as well as growing international competition. It is essential to carefully assess potential risks of EU sustainability policies and take preventive measures to promote a more sustainable global economy.

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APPENDIX

Core Statements in each interpretation category

Cat.	Topic heading and core paraphrases
A	**Investment relocation abroad due to strict ESG regulation in the EU** Due to strict ESG regulations in the EU, some investors may consider investing their money outside the EU to avoid less stringent regulations. (Int. 1, 82; Int. 2, 84; Int. 3, 91; Int. 4, 84) This could lead to a relocation of investments and the formation of a brown banking sector in non-EU countries. (Int. 3, 91)
	Impact on the competitiveness of banks Banks that invest early in ESG measures and offer sustainable products could gain a competitive advantage and attract customers who prefer sustainable options. (Int. 1, 92; Int. 2, 88; Int. 5, 74) Strict ESG regulation could put pressure on banks to rethink their business models and adapt. Those that don't do this quickly enough could find themselves at a competitive disadvantage. (Int. 1, 96; Int. 2, 89)
	Risks for non-sustainable investments Some countries could benefit from the outflow of capital from the EU by offering favorable conditions for unsustainable investments. (Int. 3, 98) There are concerns that less regulated countries could engage in social and environmental dumping. (Int. 6, 85)
	Need for international cooperation International collaboration and transparency around ESG practices and standards are crucial to ensuring that sustainable investments are promoted globally. (Int. 3, 99; Int. 3, 100)
	Impact on the reputation of banks Banks that adopt ESG early could improve their reputation and reputation and establish themselves as experts in the ESG space. (Int. 5, 76)
	Uncertainty regarding development There is uncertainty about how the shift in investment and ESG regulation will impact the competitiveness of banks and the financial industry as a whole. (Int. 7, 109)
	Industry-specific impacts

	There are fears that traditional industries in Europe, such as automotive, aircraft and defense, could face significant challenges due to ESG regulation. (Int. 7, 123)
B	**Global relevance of ESG** ESG is a global concern that is addressed at both international and national levels. The European and global dimension of ESG is of central importance because environmental and social issues do not recognize national borders (Int 1, 44; Int 1, 45; Int 2, 50; Int 2, 51; Int 6, 40).
	EU leadership in ESG The EU has played a crucial role in this area by developing a comprehensive ESG strategy, including ESG policy and other regulations. This has a direct impact on all European banks (Int 1, 46; Int 1, 47; Int 1, 48; Int 3, 57; Int 3, 58; Int 3, 59; Int 3, 60; Int 4, 44; Int 4, 45; Int 6, 44).
	National ESG regulations At the national level, countries may introduce additional ESG-related regulations and taxes that directly impact banks' operations (Int 1, 49; Int 1, 50; Int 3, 61; Int 3, 62; Int 3, 63; Int 4, 47; Int 4, 48; Int 4, 49).
	Proposals for banking regulation To ensure that banks operate sustainably, strict regulations and rules should be introduced. Banks should be forced to report transparently on their investments. If these regulations are not complied with, they should be subject to sanctions. There could also be financial incentives for sustainable investments (Int 1, 73; Int 1, 75; Int 1, 76; Int 1, 77; Int 1, 78; Int 1, 79; Int 1, 80; Int 2, 75; Int 2, 76; Int 2, 77; Int 2, 78; Int 2, 79; Int 2, 80; Int 2, 81; Int 2, 82; Int 3, 85; Int 4, 74; Int 4, 75; Int 4, 76; Int 4, 77; Int 4, 78; Int 4, 79; Int 4, 80; Int 5, 57; Int 5, 59; Int 5, 60; Int 5, 61; Int 6, 68; Int 6, 71; Int 6, 72; Int 6, 73; Int 6, 74; Int 6, 75).
	Importance of international coordination It is emphasized that international coordination and harmonization of ESG standards and regulations is crucial to ensure that sustainable practices are promoted worldwide (Int 1, 87; Int 1, 88; Int 3, 85; Int 3, 86; Int 4, 81; Int 4, 82; Int 5, 62; Int 6, 42).
	Importance of independent audit The importance of independent auditors or organizations ensuring that banks comply with their ESG obligations was also highlighted (Int 1, 79; Int 3, 87; Int 3, 88; Int 4, 80; Int 5, 57).
C	**Credit risk** Credit risk is seen as a key threat to banks, particularly in relation to unsustainable investments and projects. Credit risks can lead to significant financial losses, especially if they affect a

	significant credit portfolio (Int. 1, 20; Int. 1, 26; Int. 1, 29; Int. 1, 21; Int. 1, 22; Int. 1, 28; Int. 1, 30; Int. 1, 37; Int. 1, 39; Int. 1, 58).
	Reputational risk Another key risk is reputational risk. Damage to a bank's image can have serious and long-term effects, especially in today's world when the public is very sensitive to environmental and social issues (Int. 2, 21; Int. 2, 27; Int. 2, 31; Int. 2, 23; Int. 2, 24; Int. 2, 26; Int. 2 19; Int. 2, 20; Int. 2, 25; Int. 2, 28; Int. 2, 29; Int . 5, 27; Int. 5, 14; Int. 6, 16; Int. 6, 23; Int. 3, 29; Int. 3, 34; Int. 3, 42; Int. 4, 25; Int. 4 , 29).
	Regulatory risks With the introduction of EU sustainability standards, banks are also confronted with regulatory challenges. There are concerns about the growing complexity of the rules and the potential penalties for non-compliance (Int. 2, 59; Int. 3, 20; Int. 3, 21; Int. 5, 31; Int. 5, 32; Int. 6, 15; Int. 4, 67; Int. 6, 27).
	Competition and market concerns Banks express concerns about the potential loss of market share, the difficulty of standing out in a sustainability-focused market and the potential negative impact on global competition (Int. 3, 26; Int. 3, 27; Int. 7, 42 ; Int. 7, 43; Int. 7, 44; Int. 7, 45; Int. 7, 46).
	Adaptation to sustainability standards Some statements concern the challenge for banks to adapt to changing ESG and sustainability standards and the possible financial impact this could bring (Int. 4, 20; Int. 4, 21; Int. 4, 22; Int 4, 23).
D	**Shifting investments due to strict ESG regulation in the EU** Intensive ESG regulation in the EU could encourage investors to move their capital outside the EU to avoid stricter standards. (Int. 1, 82; Int. 2, 84; Int. 3, 91; Int. 4, 84; Int. 5, 66; Int. 6, 81; Int. 7, 87).
	Possible emergence of a brown banking sector There is a risk that the relocation of investments will create a brown banking sector in non-EU countries in which unsustainable businesses and projects are promoted. (Int. 3, 97; Int. 4, 85; Int. 4, 88; Int. 6, 85; Int. 7, 92).
	Competitive advantage through early ESG integration and sustainability Banks that adopt ESG practices early and offer sustainable products could benefit from an improved reputation, attract more customers and gain a competitive advantage. (Int. 1, 92; Int. 1, 93; Int. 2, 88; Int. 5, 74; Int. 5, 75; Int. 6, 89).

	Minimizing risk through ESG compliance Good management of ESG risks could reduce financial risks for banks, particularly in relation to asset impairment and credit risk. (Int. 1, 94; Int. 1, 95; Int. 6, 91; Int. 6, 92).
	Impact of ESG regulation on bank business models ESG regulation could force banks to rethink their business models. Banks that do not adapt quickly enough could find themselves at a competitive disadvantage. (Int. 1, 96; Int. 1, 97; Int. 4, 93; Int. 4, 94; Int. 4, 95; Int. 4, 96).
	International cooperation and transparency in the ESG area Global collaboration and transparency on ESG is crucial to ensuring sustainable investments are promoted worldwide. (Int. 3, 99; Int. 3, 100).
	Potential negative effects of hasty regulation on industry Too rapid or overly strict ESG regulations could harm the EU's traditional industrial sectors and reduce their competitiveness. (Int. 7, 107; Int. 7, 108; Int. 7, 109; Int. 7, 123).
E	**Risks of Brown Banking** **a. Financial and structural risks** Banks that invest in unsustainable projects may suffer financial risks and losses, especially when market conditions and customer preferences change. (Int. 1, 55; Int. 1, 56; Int. 1, 66; Int. 1, 69; Int. 4, 62; Int. 4, 63; Int. 6, 59; Int. 6, 61; Int . 6, 63; Int. 7, 77; Int. 7, 78; Int. 7, 82; Int. 7, 83). **b. Reputational risks** Participation in unsustainable projects can jeopardize the trust of customers and investors and lead to significant damage to your image. (Int. 3, 76; Int. 3, 77; Int. 3, 78; Int. 4, 64; Int. 4, 65; Int. 5, 54; Int. 5, 55; Int. 6, 64; Int 6, 65; Int. 6, 69).
	Social perspective and global efforts Brown banking stands in contrast to global efforts to curb climate change and reduce social inequalities. There is a growing awareness and drive in society to make sustainable and ethical investments. (Int. 1, 64; Int. 1, 65; Int. 1, 67; Int. 1, 86; Int. 5, 49; Int. 5, 50; Int. 5, 51; Int. 5, 53; Int . 6, 56; Int. 6, 57; Int. 6, 58).
	Role of EU regulation There are concerns that a brown banking sector could emerge outside the EU due to different regulatory standards in the EU and other countries. This could impact global efforts to promote sustainability and ESG standards. (Int. 1, 83; Int. 1, 84; Int. 1, 85; Int. 7, 76).

	Need for a rethink in the financial sector The financial sector should move towards more sustainable practices to minimize long-term financial, environmental and social risks. Banks should report transparently on their business practices and ensure that they provide added value to society. (Int. 1, 71; Int. 3, 81; Int. 2, 72).
F	**Demand and advantage of earliness** More and more customers are looking for sustainable and ethical financial products. Banks that invest early in this trend can meet this demand and have a competitive advantage (Int. 1, 42; Int. 1, 100; Int. 1, 102; Int. 1, 103; Int. 4, 98) .
	Financial stability and risk reduction A focus on sustainability can protect banks from financial risks as they keep a better eye on environmental and social risks (Int. 1, 104; Int. 1, 105; Int. 6, 98).
	Technology and data analysis The new regulations would allow banks to invest in better technology and data analytics, improving their efficiency and helping to better manage risks (Int. 1, 106; Int. 1, 107).
	New financial products and services Banks have the opportunity to develop new sustainable financial products such as green bonds, investment funds, renewable energy loans and advisory services (Int. 2, 93; Int. 2, 94; Int. 2, 98; Int. 3, 120; Int . 3, 121; Int. 4, 105; Int. 4, 111; Int. 4, 114; Int. 5, 91; Int. 5, 92).
	Advice and support for companies There is a growing demand for advice on ESG issues. Banks can offer advisory services, data analysis and support in complying with ESG regulations (Int. 2, 95; Int. 4, 113; Int. 5, 94; Int. 5, 95; Int. 6, 8; Int. 6 , 9).
	Market position and competitive advantage Banks that offer sustainable solutions and act as pioneers in sustainability can stand out from the competition and win new customers (Int. 3, 109; Int. 3, 115; Int. 3, 116; Int. 5, 83; Int. 5, 86).
	Funding and investments With the growing focus on ESG, more investments could flow into renewable energy and sustainable projects, creating new business opportunities (Int. 4, 106; Int. 4, 107; Int. 5, 97; Int. 6, 96) . Global trends and market expansion: If the trend towards greater sustainability continues worldwide, banks could open up new markets (Int. 7, 116; Int. 7, 117).