To my family

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ESG factors in European banking regulation and supervision

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PREFACE

There are words that we hear and use every day: sustainability, circularity, environment, global warming, and many others. These terms are so widespread that they resonate in every type of public and private discourse like mantras. The impression is that their omnipresence, bordering on over-use, has emptied them of their substantive meaning, often degrading them to sterile and useless slogans, sometimes even counterproductive.

Science has confronted us with the evidence of a world that is rapidly transforming to cope with a climate change that seems to be accelerating more and more. The urgency of the problem strikes and increasingly affects the new generations, who appear to be more aware and concerned about the consequences of climate change. However, often the reaction of the younger layers of the population is driven by instinctive impulses such as anger and concern. The risk is that these feelings, although justified by uncertainty about the future, in the face of the complexity of themes like sustainability and climate change, may impoverish the debate and push people towards the search for simple and illusory solutions, masked by catchy slogans.

In this hectic context, the European Union has embraced the challenge of global warming and climate change

with a series of measures and actions aimed at changing the paradigm and strengthening the resilience of its economy.

The underlying idea of this thesis is to escape from excessive simplifications, through an analysis of how the European Union legislator is translating sustainability into the concreteness of a fundamental sector such as the banking business. Indeed, banks are a crucial point because, thanks to their credit-granting activity, they serve as catalysts for economic growth. By analysing how banks can integrate sustainability themes, it is possible to concretely address the challenge of the effects of climate change.

Therefore, what I have set out to do is to combine the passion, shared with many of my peers, for sustainability with the critical and rigorous attitude learned during my academic journey, with the goal of questioning, albeit in my own small way, what can truly be done to understand and confront a challenge of unprecedented complexity.

CHAPTER I

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NEW CHALLENGES FOR THE EU BANKING SECTOR

1. *Sustainable development*

Sustainable development is a relevant topic of every policymaker's discussion nowadays, but this expression is not a newcomer. In 1972, the United Nations gathered in Stockholm: it was the first world conference to make the environment a major issue. Indeed, the Stockholm Declaration[1] is deemed a milestone and the birth of a new way of considering the environment as strictly linked to economic growth and development. The Declaration encourages the adoption of the so-called "long-term approach" in order to reduce the negative externalities of economic activities and reach a compromise between profit and responsibility.[2] Another step was made by the 1987 Brundtland report, which defined "sustainable development" as "not a fixed state of harmony, but rather a process of change in which the exploitation of resources, the direction of investments, the

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[1] The Declaration is available at www.un.org/en/conferences/environment/stockholm1972.

[2] Although thinking about the "long term" alone is not sufficient to evaluate the positive impact of undertakings over environmental and social issues: see Mario Stella Richter, 'Long-Termism' (2021) Rivista delle società 38.

orientation of technological development, and institutional change are made consistent with the future as well as present needs."[3]

The drafting of documents and acts concerning the topic of sustainability and sustainable development continues up to recent times[4] and influences every area of economic activity. Indeed, the 17 Sustainable Development Goals (SDGs)[5] set by the 2030 Agenda act as guidelines for policymakers, with the aim to better shape any decision in a long-term perspective.

The 17 goals encompass a wide range of topics that address the well-being of individuals and society. The commitment made is highly ambitious. For instance, the first goal aims to "End poverty in all its forms everywhere." By 2030, the objective is to eradicate extreme poverty for all people worldwide. The goals cover various areas, including ensuring good health and well-being for all, addressing world hunger (goal 2) and inequalities (goal 10), promoting quality education (goal 4), ensuring access to clean water and sanitation (goal 6), and fostering affordable and clean energy (goal 7), among others.

The 17 goals also focus on communities, such as promoting sustainable cities and communities (goal 11) and supporting decent work and economic growth (goal 8), as well as fostering industry, innovation,

[3] Gro Harlem Brundtland, 'Our Common Future. Report of the World Commission on Environment and Development' (1987) United Nations General Assembly Document A/42/427.

[4] We are referring, for instance, to the Kyoto Protocol, adopted in 2000, the Paris Accords, adopted in 2015, the UN 2030 Agenda for Sustainable Development and the Glasgow Climate Pact, adopted in 2021.

[5] Adopted by the United Nations General Assembly, 'Transforming our world: the 2030 Agenda for Sustainable Development' (21 October 2015) A/RES/70/1, at https://sdgs.un.org/goals.

and infrastructure (goal 9). Climate action (goal 13) is given significant attention, along with the preservation of life below water (goal 14) and on land (goal 15). Furthermore, the United Nations has developed targets and indicators to provide specific guidance and expand on the 17 goals.

The European Union is one of the most important players focused on delivering concrete actions to achieve the goals[6] set by the 2030 Agenda. The proof of this commitment towards sustainable development lies in the adoption of the European Green Deal[7] in 2019, a package of policy initiatives aimed at reducing greenhouse gas emission by at least 55% by 2030.[8] The aim of the European Green Deal is to set the EU on the path to a green transition, with the goal of reaching climate neutrality by 2050. This is a milestone, because the Green Deal does not try to rule transitions that already took place, like a plain legislative act that regulate

[6] The progress towards the sustainable development objectives in an EU context is duly monitored by Eurostat. For the last report available see Markus Hametner and others, *Sustainable Development in the European Union — Monitoring Report on Progress towards the SDGs in an EU Context — 2022 Edition* (2022).

[7] Commission, 'The European Green Deal' (communication) COM (2019) 640 final.

[8] Actually, Sustainable development has always been a cornerstone of the European Union, important enough to be mentioned in the founding Treaties. See, among others, art. 3(3) of the Treaty on the European Union (TEU) and the role of environmental and social issues in international cooperation (art. 21 TEU).

phenomena already occurred, but it has rather the claim to be the guide that foster the transition itself.[9]

As the ambitious targets set by the 2030 Agenda require a joint effort of all players, including governments, financial institutions, and companies, they should adopt every measure deemed adequate to fulfil those objectives.

One of the best ways to drive sustainable development is through the progress of sustainable finance. Indeed, sustainable finance plays a key role in the EU's strategy, given that reorienting capital flows is fundamental "to support an environmentally and socially sustainable economic system".[10]

Another essential player is surely the banking sector, because of its role in granting credit to empower and back up the real economy.[11]

Moreover, to achieve sustainable development in a holistic way,[12] credit institutions need to implement a wide and robust framework to

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[9] See Passalacqua Michela, 'Green deal e transizione digitale. Regolazione di adattamento a un'economia sostenibile' [2022] AG 27, 30.

[10] This is one of the priorities recognized by the EU, as stated in one of the most relevant documents about sustainable development, i.e., the Commission, 'Action Plan: Financing Sustainable Growth' (communication) COM (2018) 097 final.

[11] The topics of sustainable finance and the role of the banking sector will be further analyzed in paragraph 3 of this chapter.

[12] The concept of the holistic approach to sustainability derives from the necessity to tackle the SDGs from several sides. The complexity of sustainable development requires simultaneous actions. ESG factors, covering environmental, social and governance represent the basis of sustainability, as stated by the European Banking Authority (EBA), 'On management and supervision of ESG risks for credit institutions and investment firms' (report) REP (2021) 18.

address Environmental, Social and Governance (ESG)[13] matters and to cope with the risk for stakeholders that can arise from the mismanagement[14] of these factors.

[13] ESG factors will be explained in depth in the next paragraph.

[14] The reference is to the ESG risks, a topic that will be approached in chapter 2.

2. *ESG factors (Environmental, Social and Governance)*

A short definition of ESG factors could be quite challenging, given the extent of the topic and its various facets. ESG factors certainly represent the main pillars of sustainability.[15] Nevertheless, this is just an intuitive understanding of their complexity. Indeed, ESG is an abbreviation of three words: Environmental, Social and Governance.[16] The key point is to provide a common definition for these three aspects. Indeed, the extent of ESG factors lies in the establishment of uniform metrics and methods to assess them.[17] It becomes clear that uniform metrics have a significant consequence, they make the implementation[18] of Environmental, Social and Governance

[15] There is not a single established definition of ESG factors, as pointed out by the EBA, REP (2021) 18 27.

[16] Each of the factors that make up the ESG acronym will be individually discussed in this paragraph, whereas the following one focuses on the relevance of ESG factors as risks for credit institutions.

[17] One of the main issues is, indeed, the existence of multiple ESG reporting frameworks and the lack of "consistency and comparability of metrics", as expressed by the report of the World Economic Forum, 'Measuring Stakeholder Capitalism: Towards Common Metrics and Consistent Reporting of Sustainable Value Creation' (*World Economic Forum*) 6.

[18] The proper way to achieve this implementation will be further developed in the next chapter with regards to the banking business.

factors into an undertaking's overall business strategy easier, more consistent and contribute to their wide adoption.[19]

Another crucial aspect related to the implementation and the consideration of ESG factors depends on the business model adopted by undertakings. There is indeed a clash of theories. On one side the so-called "Shareholder theory". According to this theory, shareholders' interest is the only one that should be taken into account when considering the economic activity of a firm. On the other side, the "Stakeholder theory" presents a different criterion, advocating for the maximization of expected total value for stakeholders, such as consumers or employees, rather than solely focusing on profit maximization. This approach aims to internalize externalities and serves as a key reason to adopt and consider ESG factors.[20] "Stakeholderism" in this sense refers to the long-term interests that go beyond, and sometimes against,

[19] Namely, the main problem is how to incentivize the adoption of ESG metrics. Prioritizing the uniformity of recommended metrics and addressing them in a company's annual report will ensure that consideration of ESG factors is on the agenda and is part of the overall corporate governance process. Another incentive could be the adoption of the "disclose or explain" principle, to encourage companies to explain "eventual specific information omitted and the reasons for those omissions", according to 'Measuring Stakeholder Capitalism: Towards Common Metrics and Consistent Reporting of Sustainable Value Creation' (n 17) 13.

[20] It is interesting to note that this difference of views has a geographical distribution. Indeed, the shareholder view of the corporation is prevalent in the Anglo Saxon countries, the UK and the US, while the shareholder view is much more widespread in countries as France, Germany and Japan, according to Michael Magill, Martine Quinzii and Jean-Charles Rochet, 'A Theory of the Stakeholder Corporation' (2015) 83 Econometrica 1685.

the simple shareholders' profit, and must be distinguished from the so-called "structural stakeholderism", which is just another form of shareholderism.[21] As regards specifically banking business, the adoption of a stakeholder approach could have serious consequences[22] also on the choice of new investors and shareholders, which, at this point, should in turn meet sustainability requirements, with all possible risks

Within the EU regulatory framework, an important step towards the uniformity of standards related to ESG is the adoption of the EU Taxonomy Regulation.[24] The Taxonomy immediately addresses the issue of the sources of sustainability and sustainable development.[25] Its primary focus is to determine whether an economic activity is

[21] As evidenced by Raffaele Lener and Paola Lucantoni, 'Sostenibilità ESG e attività bancaria' [2023] Banca Borsa Titoli di Credito 9.

[22] As stated by Riganti Federico, 'L'impresa bancaria nella transizione sostenibile: principi e problemi' [2022] AG 315, 321.

[23] For example, the risk that sustainability could prevail on the financial soundness of an investor.

[24] Regulation (EU) of the European Parliament and of the Council 2020/852 of 18 June 2020 on the establishment of a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088 (Taxonomy Regulation).

[25] It is noteworthy that determining if an economic activity is environmentally sustainable and establishing the degree of sustainability, as in the article 1 of the, is an ambitious goal and quite challenging, given the disagreement still present on the term of sustainability, as previously explained by Bill Hopwood, Mary Mellor and Geoff O'Brien, 'Sustainable Development: Mapping Different Approaches' (2005) 13 Sustainable Development 38.

contributing positively or negatively to climate change mitigation[26]. Undertakings are expected to align with the objectives and principles set forth in the Taxonomy. These principles are jointly developed and further specified through the adoption by the European Commission of regulatory technical standards, drafted by the European Supervisory Authorities.[27]

However, it is important to note that the Taxonomy primarily addresses the environmental aspect among the ESG factors. Given the broad scope of the concept of ESG factors and sustainable development, as well as their constant evolution, it is necessary to conduct a more specific analysis of each individual factor. It is worth mentioning that, thus far, policymakers and Authorities have predominantly focused their attention and efforts on the development and deepening of the environmental factors, placing relatively less emphasis on social and governance factors.[28]

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[26] Climate change mitigation is only one of the environmental objectives set by the Taxonomy Regulation, the complete list of objectives in provided at article 9 of the Taxonomy Regulation.

[27] The reference is to the three European Supervisory Authorities established by Regulations (EU) No 1093/2010, (EU) No 1094/2010 and (EU) No 1095/2010. Namely, the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (EIOPA) and the European Securities and Markets Authority (ESMA).

[28] Concerning the imbalance between ESG factors, Federico Riganti, 'Climate Change e Vigilanza Prudenziale: Questione Di (Semplici) "Aspettative"?' (2022) 45 Le nuove leggi civili commentate 1252, 1260, states that "The complex regulatory and legislative framework outlined earlier gives greater significance to the profile of Climate Change, which, in principle, would correspond to a sort of

First, the "E" pillar concerns the relationship between economic activity and climate-change. International and European frameworks identify and analyse a wide variety of factors related to the environment. These environmental factors, both positive and negative,[29] include greenhouse gas emissions (GHG), energy consumption and efficiency, water usage and consumption, pollution, and the protection of biodiversity.[30] On one side, the focus is on mitigating negative externalities, which refers to the environmental impact of a firm's activity. On the other side, the goal is to enhance efficiency while maintaining productivity standards and reducing the consumption of resources. The primary objective is to gather "valuable forward-looking information on a company's exposure",[31] and ensure a good "management of risk and opportunities to support a low carbon transition".[32]

Second, the "S" pillar pertains to the social impact of economic activity. Specifically, the term "social" refers to the investment outcomes and their effects on stakeholders. The economic activities of a firm can

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preference towards the 'E' factor of ESG" (our translation). Climate change, therefore, has leverage over the social and governance factors.

[29] The negative connotation concerns the poor management or the ignorance of environmental factors and the consequent materialization of the related ESG risks, see chapter II, paragraphs 1 and 2.1.

[30] Note that these are just some of the factors, there are indeed many more areas included in the "E" pillar, as schematically displayed by the EBA, REP (2021) 18 26.

[31] This should be the primary goal, according to OECD, 'ESG Ratings and Climate Transition: An Assessment of the Alignment of E Pillar Scores and Metrics' (OECD 2022) 19.

[32] ibid.

impact various individuals, including investors,[33] workers, clients, suppliers. Social factor encompasses aspects such as human capital management, inclusiveness, workplace health and safety, respect of human rights, gender equality, and work life balance. These are just a few examples of social factors. It is important to note that "social matters may have a positive or negative impact on the financial performance or solvency of an entity".[34] Failure to consider workplace health and safety, for example, can harm a company's reputation and lead investors to withdraw from partnerships to avoid any association with it, resulting in potential financial losses. On the other hand, a proper consideration of workplace health and safety could improve a company's reputation, making it more attractive to new investors.[35]

The EU recognizes the significance of social factors, and in 2018, the European Commission, in collaboration with the European Parliament and the Council, published a document containing 20 principles developed in three areas: equal opportunities, fair working conditions, and social protection and inclusion.[36] However, social factors face greater challenges than environmental factors in terms of lack of

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[33] In this case, investors are not just shareholders, but anyone who somehow injects money into the business, for example bondholders.

[34] This is an attempt of the EBA to standardize the definition of social factors, given the increasing importance and impact that the "S" pillar could have, according to EBA, REP (2021) 18 43.

[35] This is just a small example of how ESG factors could turn into risks and lead to economic and financial damage if not properly addressed. The topic will be explored further in chapter II, paragraph 2.3.

[36] The 20 principles are collected by European Commission and Secretariat-General, *European Pillar of Social Rights* (Publications Office 2018). The main goal is to shape a fair, inclusive and full of opportunities EU.

adequate and standardized metrics required to effectively collect data. Moreover, there is still no consensus on the proper way to address these factors, as the effects of economic and financial activity on workers, clients, suppliers, and the social environment can be different and unfold over a long period of time.[37]

Lastly, the "G" pillar pertains to the governance aspects. Governance factors, as defined by the EBA, are "governance matters that may have a positive or negative impact on the financial performance or solvency of an entity, sovereign or individual".[38] Governance refers to how an organization is managed at the highest level and the systems in place to facilitate effective management. It is logical to recognize that an effective implementation of ESG factors necessitates good governance practices.[39]

ESG frameworks often consider the rights and responsibilities of directors, including the adoption of codes of conduct and business disciplines, promotion of board diversity and structure, implementation of anti-corruption and anti-bribery policies. Another significant governance factor is the structure of director's remuneration. A substantial portion of a director's is often composed by bonuses, tied to

[37] Here is, indeed, another practical example of the issues of the long-term effects of ESG factor.

[38] EBA, REP (2021) 18 47.

[39] Chapter II, paragraph 2.4. addresses how governance factors could turn into risks.

various goals. By aligning these bonuses with the achievement of ESG-related objectives, directors can be more incentivised to prioritize them.[40]

While national legislation often covers governance topics,[41] the lack of common frameworks and metrics used by the markets to address governance factors remains a challenge. Moreover, the implementation and proper disclosure of effective governance policies can reduce risks and make a company more appealing for investors, providing a competitive advantage.

In conclusion, ESG factors, as explained in this paragraph, relate to sustainability in different ways, but the main reason for which they are now really considered in the banking business is because they can emerge as a new category of risks. Indeed, ESG may jeopardize credit institutions' financial soundness if they materialize.

Banking[42] is a heavily regulated, risk-based activity, and those risks are captured in different categories,[43] thus, ESG, as new risks, are a fundamental objective of EU institutions. How can these new risks be properly addressed in the European banking prudential framework, and how they can transmit to the traditional risk categories?

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[40] Remuneration policies are widely used to avoid excessive risk-taking in bank internal governance, as explained by Matteo De Poli, *Fundamentals of European Banking law* (2nd edn, CEDAM 2020) 128-129.

[41] EBA, REP (2021) 18 47.

[42] Intended as the business of taking deposits and other repayable funds from the public and granting credits for its own account, according to the definition of CRR, art 4(1)(a).

[43] The traditional risks of the banking business are credit risk, market risk, operational risk, liquidity risk. See chapter II, paragraph 2.

The next chapter is devoted to the analysis of the relationship between ESG risks and traditional banking risks, in order to understand their relationship and how one can be transferred to the other.

3. *Sustainable finance and the banking sector*

The EU's Action Plan: Financing Sustainable Growth[44] provided a comprehensive definition of sustainable finance. It generally refers to "the process of taking due account of environmental and social considerations in investment decision-making, leading to increased investments in longer-term and sustainable activities".[45] The strategy for sustainable finance, as previously said in the first paragraph, involves redirecting capital flows towards sustainable investments, managing financial risks arising from the mismanagement of ESG factors, and promoting transparency and long-term thinking in financial and economic activities.[46]

The Action Plan aligns with the objectives[47] set in the European Green Deal,[48] strengthening the foundations for sustainable investment.[49]

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[44] Commission, COM (2018) 097 final.

[45] ibid 2.

[46] These are the aims of the EU, as expressed by ibid.

[47] Commission, COM (2019) 640 final.

[48] The Green Deal could also finance the social, economic and environmental costs of the transition to a greener economy through the establishment of the Just Transition Fund (Regulation (EU) 2021/1056 of the European Parliament and of the Council of 24 June 2021 establishing the Just Transition Fund), according to Passalacqua Michela (n 9) 34.

[49] This is the path followed by the EU, as stated by Danny Busch, Guido Ferrarini and Arthur van den Hurk, 'The European Commission's Sustainable Finance Action Plan and Other International Initiatives' in Danny Busch, Guido Ferrarini and Seraina Grünewald (eds), *Sustainable*

Moreover, the EU has developed tools and standards to guide private investment towards the transition.[50] One tool is the development of an EU taxonomy for sustainable activities, which aims to provide clear definitions of economic activities that can be considered environmentally sustainable. It's important to note that the Taxonomy Regulation itself does not define sustainable financial products; instead, it establishes "the criteria to determine to what extent a financial product is aligned with the taxonomy".[51]

The Taxonomy has been complemented by a Commission Delegated Regulation,[52] which sets out the criteria for determining

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Finance in Europe: Corporate Governance, Financial Stability and Financial Markets (Springer International Publishing 2021) 22.

[50] High level of financing, standardization and transparency are needed to ensure that market are able to efficiently allocate funds to activities identified as sustainable, according to Clara I. Gonzalez, 'Overview of Global and European Institutional Sustainable Finance Initiatives' (2021) Banco de Espana Article 30/21, 12.

[51] As properly clarified by Paolo Canfora and others, 'Development of the EU Sustainable Finance Taxonomy - A Framework for Defining Substantial Contribution for Environmental Objectives 3-6' (*JRC Publications Repository*, 29 March 2022) 22.

[52] Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives 2021 (OJ L). It displays, in the Annex I, a detailed table of contents, showing for every economic sector the proper way to enact the transition to a low impact and more sustainable economy.

whether an economic activity qualifies as sustainable or not. This approach demonstrates how the EU implements sustainable finance in the real economy. The screening criteria are developed with the support of technical reports that provide evidence-based scientific support to the European policymaking process.[53]

Another tool developed by the EU is the European Green Bond Standard (EUGBS),[54] which aims to direct financial and capital flows to green investments[55]. In May 2023, the EU reached a political agreement on the Commission's proposal for a European Green Bond Regulation, which will establish a robust sustainability framework for green bonds with stringent requirements.[56] While there is a high political consensus on green bonds, the actual effects on reducing the carbon footprint associated with green bond issuance are still relatively unexplored due to data limitations, and further analysis is needed in the future.[57]

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[53] One example of these reports is the one developed by Canfora and others (n 51).

[54] The EU green bond standard was firstly announced in the Commission 'Sustainable Europe Investment Plan, European Green Deal Investment Plan' (communication) COM (2020) 21 final 11.

[55] The main feature of these securities is the link with environmental objectives, e.g., large-scale climate-friendly investments.

[56] According to the Commission 'Proposal for a Regulation of The European Parliament and Of the Council on European green bonds' COM (2021) 391 final, issuers of EUGBS would need to ensure that at least 85% of the funds raised by the bond are allocated to economic activities that align with the Taxonomy Regulation.

[57] Green bonds are mostly issued to finance investment projects geared towards climate change mitigation. There are evidences that, "compared with conventional bond issuers with similar financial characteristics and environmental ratings, green issuers display a decrease in

Another area of focus for the EU in sustainable finance is transparency and disclosures. This involves two key pillars: the Non-Financial Reporting Directive (NFRD)[58] and the Sustainable Finance Disclosures Regulation (SFDR).[59] The EU aims to enhance transparency by making the methodologies of low-carbon and ESG benchmarks more transparent. To achieve this, a Technical Expert Group (TEG) was established, which published a final report on climate benchmarks and ESG disclosures for benchmarks.[60] Subsequently, based on the Commission's proposal, a Regulation[61] on EU climate transition

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carbon emissions (per unit of assets) after borrowing on the green segment", according to Serena Fatica and Roberto Panzica, 'Green Bonds as a Tool against Climate Change?' (2021) 30 Business Strategy and the Environment 2688, 2689. Empirical findings have also shown that there is a small negative yield differential in favor of green securities compared with similar regular bonds, according to Gianfranco Gianfrate and Mattia Peri, 'The Green Advantage: Exploring the Convenience of Issuing Green Bonds' (2019) 219 Journal of Cleaner Production 127. The yield difference could be determined by the high demand from investor motivated by nonpecuniary motives, specifically pro-environmental preferences, see Olivier David Zerbib, 'The Effect of Pro-Environmental Preferences on Bond Prices: Evidence from Green Bonds' (2019) 98 Journal of Banking & Finance 39.

[58] Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups 2014. See paragraph 4 (n 71).

[59] 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 2019 (OJ L). See paragraph 4 (n 68).

[60] Andreas Hoepner, Paolo Masoni and Brenda Kramer, 'TEG Final Report on Climate Benchmarks and Benchmarks' ESG Disclosure' (2018).

[61] Regulation (EU) 2019/2089 of the European Parliament and of the Council of 27 November 2019 amending Regulation (EU) 2016/1011 as regards EU

benchmarks was adopted. The Benchmarks Regulation empowers the Commission to adopt delegated and implementing acts that specify how competent authorities and market participants must comply with the obligations outlined.[62]

Sustainable finance has a strong relationship with the EU banking sector, as credit institutions play a crucial role in facilitating the transition to a more sustainable economy while supporting economic growth. The integration of ESG factors is essential for achieving these goals, and operators in the banking sector must consider these factors when making investment decisions.

To ensure the effective incorporation of sustainability considerations into relevant EU banking legislation, the EU legislators assigned the task to the European Banking Authority (EBA) along with other European Supervisory Authorities (ESAs). The EBA drafted an action plan[63] outlining how it intends to implement the strategy on sustainable finance within its overall objectives.[64] In 2022, the action plan was replaced by the EBA roadmap on sustainable finance,[65] which

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Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks.

[62] The EU Climate Transition Benchmarks and the EU Paris-aligned Benchmarks needs to have specific requirements, and a standardized methodology, according to art. 19b and ANNEX III of the Regulation (EU) 2019/2089.

[63] EBA 'Action Plan on Sustainable Finance' (2019).

[64] The EBA shall contribute to "the short-, medium- and long-term stability and effectiveness of the financial system", according to ibid 10. The challenge is how to effectively introduce sustainability considerations in its mandate.

[65] EBA 'Roadmap on Sustainable Finance', REP (2022) 30.

serves as a memorandum of the EBA's work plan on sustainable finance and ESG factors and risks.

EBA's roadmap follows a holistic approach[66] to sustainable finance addressing eight main areas of focus. The approach is sequenced, with priority given to some areas. The first theme addressed by the EBA is transparency and market discipline regarding ESG issues. Simultaneously, the management of ESG risks by institutions and potential changes to the prudential treatment of exposures are considered.[67] Additionally, there is a need for continuous and evolving reassessment of ESG standards and labels, with a particular focus on combating greenwashing. Lastly, the development of an effective methodology for stress testing and scenario analysis is crucial for monitoring ESG risks and sustainable finance. The EBA's initial focus will primarily be on environmental and climate-related risks, depending on the specific mandates assigned to them.

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[66] The EBA recognizes the relevance of a comprehensive approach, covering, updating, and enhancing all the three pillars of the banking framework (market discipline, supervision, prudential requirements), as stated in EBA, REP (2022) 30 7.

[67] The EBA's approach follows the pillar structure of the Basel Accords, i.e., the banking supervision accords developed and issued by the Basel Committee on Banking Supervision (BCBS). More specifically, transparency and market discipline fall under the Pillar III, management of ESG risks falls under Pillar II, and prudential treatment of exposures falls under Pillar I.

4. *The EU sustainable finance framework*

The aim of this paragraph is to provide a summary of the European Union sustainable finance framework, with a list of the relevant acts (both binding and non-binding) to bring order to a legislative approach to this topic that often lacks organic unity.

The cornerstone of this framework is the European Green Deal, which set the goals and the targets for Europe's economy and society.[68] These goals have been put into law by the European Climate Law.[69]

Hence, sustainable finance plays a key role in supporting the goals set out in the European Climate Law. The EU sustainable finance framework is composed of a section regarding disclosures that comprehends two directives and a Regulation. First, the sustainable finance disclosures Regulation (SFDR),[70] concerning "rules for financial market participants and financial advisers on transparency with regard to the integration of sustainability risks and the consideration of adverse sustainability impacts in their processes and the provision of sustainability-related information with respect to financial products".[71]

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[68] See paragraph 1.

[69] Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') 2021 (OJ L).

[70] 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.

[71] ibid 1.

Then, the Corporate Sustainability Reporting Directive (CSRD),[72] to strengthen the rules concerning the social and environmental information that companies have to report. Finally, the Non-Financial Reporting Directive (NFRD),[73] regarding the information related to ESG matters that large companies must publish.

The other part of the frameworks comprehends the legislative proposal for a European green bond standard (EUGBS),[74] containing a standard for the use of green bonds to raise funds on capital markets, and the EU Taxonomy Regulation[75] for sustainable activities, adopted with the aim to set the conditions that an economic activity must meet to qualify as environmentally sustainable.

In addition to the Taxonomy, there are several Delegated Regulation and Acts, to set detailed standards and specify better the list of environmentally sustainable activities. First, the Climate Delegated

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[72] Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting 2022.

[73] Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups (n 45).

[74] Proposal for a Regulation of the European Parliament and of the Council on European green bonds 2021.

[75] 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.

Act,[76] then the Disclosures Delegated Act[77] and the Complementary Climate Delegated Act,[78] containing measures to accelerate the decarbonization process.

Moreover, in 2021, the Commission published two proposals for a new amended version of the Capital Requirements Directive (CRD V) and the Capital Requirements Regulation (CRR II), with the aim to incorporate ESG risks and considerations into the European banking and regulatory framework.[79]

Ultimately, in June 2023 the Commission adopted a new package of measures to build on and enhance the foundations of the EU sustainable finance framework. The new package (not yet legally binding) contains a Proposal for a Regulation on the transparency and integrity of

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[76] Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives.

[77] Commission Delegated Regulation (EU) 2021/2178 of 6 July 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by specifying the content and presentation of information to be disclosed by undertakings subject to Articles 19a or 29a of Directive 2013/34/EU concerning environmentally sustainable economic activities, and specifying the methodology to comply with that disclosure obligation.

[78] Commission Delegated Regulation (EU) 2022/1214 of 9 March 2022 amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities 2022 (OJ L).

[79] See chapter II, paragraph 3 (n 53) (n 54).

Environmental, Social and Governance (ESG) rating activities,[80] and some targeted amendments to the EU Taxonomy Climate Delegated Act.[81]

In this wide-ranging legislation concerning sustainable finance, the EBA has received several mandates to assess how to include and decline sustainability into the banking regulatory framework. The first mandate, contained in the Capital Requirements Directive[82] (CRD), requires the EBA to assess "the potential inclusion in the review and evaluation[83] performed by competent authorities of environmental,

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[80] Proposal for a Regulation of the European Parliament and of the Council on the transparency and integrity of Environmental, Social and Governance (ESG) rating activities 2023.

[81] Commission Delegated Regulation (EU) /... supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to the sustainable use and protection of water and marine resources, to the transition to a circular economy, to pollution prevention and control, or to the protection and restoration of biodiversity and ecosystems and for determining whether that economic activity causes no significant harm to any of the other environmental objectives and amending Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities 202AD.

[82] Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC 2022 art 98.8.

[83] Namely, the supervisory review and evaluation process (SREP) is a review of the capital's adequacy of credit institutions to absorb losses

social and governance risks." The EBA in 2021 published a report on ESG risk management and supervision to address the topic.[84]

The second mandate relates to the development of a technical standard specifying uniform disclosure formats for including environmental, social and governance risks in the disclosure requirements of credit institutions.[85]

The third mandate requires the EBA to assess "whether a dedicated prudential treatment of exposures related to assets, including securitizations, or activities associated substantially with environmental and/or social objectives would be justified".[86] The EBA provided a discussion paper[87] in 2022, with the aim to identify any reasonable change to the existing regulatory framework of credit institutions, to include sustainability objectives.[88]

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and it's performed by the supervisory authorities. The topic will be addressed further in chapter 3.

[84] EBA report 'On management and supervision of ESG risks for credit institutions and investment firms' (2021) 18.

[85] The CRR requires large institutions to disclose information on ESG risks, including physical risks and transition risks. See Arts 434a and 449a of the Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012.

[86] Ibid 501c.

[87] 'Discussion Paper on the Role of Environmental Risks in the Prudential Framework' (*European Banking Authority*, 2 May 2022) <https://www.eba.europa.eu/regulation-and-policy/credit-risk/discussion-paper-role-environmental-risk-prudential-framework>.

[88] The issue will be further addressed and explained in chapter 2.

In addition, in 2022 the EBA published a roadmap,[89] with all the mandates to be delivered in the area of sustainable finance and environmental, social and governance risks. The mandates cover all the areas of the banking framework.

However, the EBA expects additional mandates in these fields, as the banking package is currently undergoing revision.[90]

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[89] 'EBA Roadmap on Sustainable Finance.Pdf' <https://www.eba.europa.eu/sites/default/documents/files/document_library/Publications/Reports/2022/ESG%20roadmap/1045378/EBA%20Roadmap%20on%20Sustainable%20Finance.pdf>.

[90] 'The EBA Publishes Its Roadmap on Sustainable Finance' (*European Banking Authority*, 13 December 2022) <https://www.eba.europa.eu/eba-publishes-its-roadmap-sustainable-finance>.

CHAPTER II

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ESG RISKS AND PRUDENTIAL REGULATION

1. *The definition of ESG risks*

After introducing, in the previous chapter, the definition of ESG factors, it is necessary to focus on the negative impact that these can have both on individual credit institutions and on the entire European banking sector. Here comes the concept of ESG risks, which will be discussed in this paragraph, while the following paragraph will provide a deeper analysis of how ESG risks can impact traditional risks stemming from the banking business.

According to the EBA, ESG risks for institutions can be defined as "the negative materialization of ESG factors through their counterparties or invested assets".[1] The term "negative materialization" specifically refers to "any negative financial impact on the institution stemming from the current or prospective impacts of ESG factors".[2] These definitions are

[1] EBA, REP (2021) 18 32.

[2] Ibid 33.

aligned with those in the CRR proposal,[3] which aims to introduce new harmonized definitions of ESG risks in the supervisory framework. Indeed, the CRR proposal states that ESG risks are the risks of "losses arising from any negative financial impact on the institution stemming from the current or prospective impacts of environmental, social or governance (ESG) factors on the institution's counterparties or invested assets".[4] For financial institutions, "these factors are relevant in the form of risk in relation to the financial counterparties, which are subject to them, or the services and products offered, which are affected by them".[5]

However, financial impact on credit institutions is a broad concept and requires further clarification. There are two perspectives to consider: institutions can either have an impact on ESG risks or be impacted by ESG risks.[6]

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[3] Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 575/2013 as regards requirements for credit risk, credit valuation adjustment risk, operational risk, market risk and the output floor 2021. See chapter I, paragraph 4.

[4] CRR proposal, art 1 (52d).

[5] Vito Bevivino, 'Il Bank Government Dopo l'integrazione Dei Fattori ESG Nella Regolazione Prudenziale Europea' in Banca Impresa Società, 3, 2022 595 (our translation).

[6] Here comes the concept of double materiality, which could be split into an inward dimension and an outward dimension. The double materiality was first introduced by art. 19a of the CSRD, then the SFRD set disclosure obligations about it, with the aim to provide useful information on ESG risks, see Marco Bodellini, 'Tra Principi Generali e Standards Internazionali Di Soft Law: La Disciplina Europea Sulla Finanza Sostenibile e l'inizion Di Una Nuova Stagione per Il "Brussels Effect"?' (2023) 03 Rivista Trimestrale di Diritto dell'Economia 347–354.

In the first case, there is an inside-out perspective, where an institution's impact arises from its own fully controlled activities and related management arrangements.[7] On the other hand, the second case involves an outside-in perspective, where institutions can be influenced by ESG risks through their counterparties and invested assets. These counterparties themselves may be subject to ESG risks or have an impact on ESG risks. Indeed, both perspectives are closely interconnected.

For instance, a counterparty's business whose activities harm the environment (namely, producing a negative inside-out impact on environmental factors) could be, in turn, more vulnerable to the enforcement of transition policies designed to discourage such practices (reflecting in this way a negative outside-in impact of environmental factors).[8] This illustrates how the two perspectives can mutually influence each other.[9]

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[7] Inside-out ESG risks could stem, for example, from the mismanagement of information and communications technology (ICT) system used, or from substandard employee working conditions adopted by the institution. These types of risks will be addressed within the risk management and internal governance frameworks, discussed in Chapter 3.

[8] E.g., businesses with a heavy carbon footprint that rely mostly on fossil fuels (negative inside-out environmental impact) could be damaged by the adoption of a carbon tax (negative outside-in environmental impact). This policy may reduce the profitability of these business, with consequences on the ability to repay any loans granted by credit institutions. This aspect will be further explored in paragraph 2.1.

[9] This is also defined as "financial materiality", i.e., the impact of ESG factors on a company's economic and financial activities affecting the value (returns) of such activities, according to the EBA, REP (2021) 18 33.

In addition to that, ESG risks can also impact the financial system and the economy as a whole, with potential systemic consequences. Specifically, environmental risks could interact with other types of risk[10] and affect macroeconomic factors, such as labor productivity, economic growth, government debt, gross domestic product, and socio-economic changes.[11] The biggest consequence is that the effects of ESG risks for banks materialize as a type of risk that can impact on governance, supervision and capital requirements of credit institutions.[12]

[10] Environmental risks have such scale, breadth and complexity that they could have impact institutions by affecting the economy in which they operate. Central banks and financial regulators increasingly acknowledge the financial stability implications of climate change, according to 'Climate Change, Central Banks and Financial Risk – IMF F&D |December 2019' (*IMF*) https://www.imf.org/en/Publications/fandd/issues/2019/12/climate-change-central-banks-and-financial-risk-grippa.

[11] EBA, REP (2021) 18 33.

[12] This is one of the issues raised by Bevivino (n 5) 608.

2. *The relationship between ESG and the traditional risks*

ESG risks are becoming increasingly relevant for credit institutions. The main issue concerns their impact on credit institutions' financial performance. A question arises, how can this impact materialize?[13]

The answer lies in a causal chain that explains how the counterparties' mismanagement of ESG factors produces risk drivers. These drivers, through the so-called transmission channels, can turn into financial risks[14] and therefore negatively impact credit institutions. National Competent Authorities (NCAs) are aware of the impact of ESG risks on the traditional risk categories and they have developed several guidelines containing a set of practices that credit institutions are expected to follow, in order to cope with the materialization of ESG risks (especially climate-related and environmental ones).[15]

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[13] Indeed, "ESG risks impacts on credit institutions in different ways. They affect the objectives, the information that banks provide, the risk managed and the regulation of the whole banking sector" (our translation), according to Vito Bevivino, 'L'attività ESG Delle Banche e La Prospettiva Di Riforma Della Regolazione Prudenziale Delle Informazioni' (2022) 1 Rivista Trimestrale di Diritto dell'Economia 484, 513.

[14] We are talking about the traditional risks faced in banking business, as credit, market, operational, liquidity and funding risks, which are mostly affected by an institution's exposures.

[15] More specifically, the European Central Bank, 'Guide on Climate-Related and Environmental Risks' <https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.202011finalguideonclimate-relatedandenvironmentalrisks~58213f6564.en.pdf>, and the Banca d'Italia, 'Aspettative Di Vigilanza Sui Rischi Climatici e Ambientali'

The next subparagraphs analyze each type of risk (Environmental, Social and Governance risks) together with their respective risk drivers and transmission channels by which they can affect the financial soundness of credit institutions.

<https://www.bancaditalia.it/focus/finanza-sostenibile/vigilanza-bancaria/en_Aspettative_di_vigilanza_BI_su_ESG.pdf>. These documents will be further addressed in chapter III.

2.1. *Climate related and environmental risks*

Climate related and environmental risks concern the financial risks of an institution's exposures to counterparties that may be affected by or contribute to the negative impacts of environmental factors.[16]

A counterparty can be affected in two ways. In the outside-in perspective (financial materiality), the introduction, for example, of a carbon tax may decrease the profitability of carbon intensive business or decrease the competitiveness of their products. In the inside-out perspective (environmental materiality), a counterparty's large GHG production may in turn affect it, by triggering or reinforcing a negative outside-in impact.[17]

Climate-related risks are certainly the most recognized subcategory of environmental risks. Climate change and environment are strictly linked and influence each other,[18] producing a wide range of risk drivers.

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[16] E.g., air pollution, water pollution, scarcity of fresh water, land contamination, biodiversity loss and deforestation. These and other environmental factors are listed in chapter 1, para. 2.1.

[17] This is just one example provided by the EBA. More of them are explained in the Annex 1 of the EBA, REP (2021) 18.

[18] One clear example is given by the effects that an increase of temperatures may have on biodiversity and ecosystems on land and in the sea. The possible consequences are addressed in the special report 'Global Warming of 1.5 °C' of the The Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change, available at 'https://www.ipcc.ch/sr15/. Higher temperatures will lead to the rising of sea levels, more severe weather events as rainfalls and storms, acidification of ocean water and increased draught, due to water scarcity.

Indeed, the physical effects of climate change and environmental degradation, as well as the transition to a low-carbon and more circular economy drive financial risks. Their impact can occur directly, through for example the devaluation of an institution's assets, due to counterparties' loss of profitability. The wide variety of risk drivers, as consequences of climate and environmental risks, can be categorized as physical risks and transition risks.[19]

Physical risks arise from the physical effects of climate change and environmental degradation.[20] They can be classified as either acute, if they arise from climate and water-related events, or chronic, if they arise from pressive shifts in climate and weather patterns.[21] An example of acute physical risk divers are heatwaves and consequent wildfires, damaging fauna[22] and local economies, generated by an increase in

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[19] This categorization is recognized and adopted, among many others, by the EBA, the ECB and the The Network of Central Banks and Supervisors for Greening the Financial System (NGFS).

[20] The definition of physical risks is provided is the CRR proposal as well. See CRR proposal, art 1 (52f).

[21] The distinction between acute and chronic events is introduced by the NGFS in the 'Guide for Supervisors: Integrating climate-related and environmental risks in prudential supervision' (2020) 10. Also, the Basel Committee on Banking Supervision (BCBS) adopts this distinction in his report 'Climate-Related Risk Drivers and Their Transmission Channels' <https://www.bis.org/bcbs/publ/d517.htm>.

[22] A striking example of climate change risk is biodiversity loss. Exploitation of land and water, direct exploitation of organisms, pollution, a growing population, and deforestation deteriorate biodiversity, affecting ecosystems as well as economic activity. Agriculture could become less productive, due to a lack of biodiversity, according to Ilse Storch and others, 'Evaluating the Effectiveness of Retention Forestry to Enhance

temperatures around the globe. Another example is destructive flash floods, associated with the increase in the severity of rainfall that cause physical damages to properties, infrastructure, and agriculture. These events have the potential to generate significant and recurring financial losses.[23]

Chronic physical risk drivers generally include rising average temperature, rising sea levels and ocean acidification. They are characterized by a prolonged duration over time and potentially serious consequences[24]. Increased temperatures may lead to further chronic climate events, such as desertification and prolonged drought,[25] with

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Biodiversity in Production Forests of Central Europe Using an Interdisciplinary, Multi-Scale Approach' (2020) 10 Ecology and Evolution 1489, 11. Therefore, the risk of biodiversity loss could impact the risk profile of a credit institution's counterparty and transmit is transfer to the balance sheet of the institution through its effect on the counterparty's profitability, which increases its credit risk.

[23] 'Climate-Related Risk Drivers and Their Transmission Channels' (n 12) 6.

[24] The EU provides a comprehensive overview on climate change consequences, evidencing that it's very serious threat that impacts many different aspects of our lives. 'Consequences of Climate Change' <https://climate.ec.europa.eu/climate-change/consequences-climate-change_en>.

[25] Another example of physical risk drivers in the context of environmental risks is water stress. According to a contribute of the Dutch National Bank (DNB), water stress, defined as the ratio between demand and supply of fresh water, is growing in many regions of the world, with a potential impact on society at large and economy. Water stress is caused by the combination of prolonged draught and the rising of temperature with a growing demand of fresh water by populations and business activities. Therefore, businesses operating in water stressed regions are exposed to increased risk, and so are the institutions that invested in them. Indeed, a significant proportion of the operating facilities of businesses in financial institutions'

relevant damages to agriculture, and the melting of ice sheets and glaciers, with endemic or even permanent inundations.

As regards the distribution of these events, although climate change is a worldwide occurrence, the economic repercussions of physical risks associated with it may differ depending on the geographical location. This is because various regions possess unique climate patterns and levels of development. As a result, certain regions are projected to experience more substantial consequences compared to others. This discrepancy arises from their increased exposure and vulnerability to specific types of weather-related disasters.

Transition risks are the other category of risk drivers. They arise from a transition to a low-carbon economy, and they are related to the adjustments towards a more circular and sustainable economy. The EBA defines them as "the risks of any negative financial impact on the institution stemming from the current or prospective impacts of the transition to an environmentally sustainable economy on its counterparties or invested assets".[26] The CRR proposal adopts the same definition as well.[27] The proposal also includes the risks related to the transition towards a list of environmental objectives, such as climate

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equity portfolios are located in regions with high or extremely high levels of water stress, as stated by Guan Schellekens and Joris van Toor, 'Values at Risk? Sustainability Risks and Goals in the Dutch Financial Sector' (2019) <https://www.dnb.nl/media/hm1msmzo/values-at-risk-sustainability-risks-and-goals-in-the-dutch.pdf>.

[26] EBA, REP (2021) 18 41.

[27] CRR proposal, art 1 (52g).

change mitigation and adaptation[28] and the transition to a circular economy.[29]

There are three factors that trigger these risks. First, changes in public sector policy. Second, technological changes that can affect the competitiveness of economic activities. Third, changes in the behavior and preference of consumers and investors. [30]

Climate policies are being adopted and implemented by more and more countries[31] and they could have a disruptive impact on carbon intensive sectors. The main goal, indeed, is to reduce GHG emissions through the establishment of several policy initiatives. Among them, the adoption of a carbon tax that increases the cost of fossil fuels, along with the introduction of increased energy efficiency standards for businesses, and subsidies that encourages the use of electric vehicles.

On the other hand, technology concerns the changes that undertakings adopt to reduce GHG emissions in order to meet policy

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[28] CRR proposal, art 1 (52e)(a) and (b).

[29] CRR proposal, art 1 (52e)(d).

[30] These underlying risk drivers have been developed by the NGFS. In addition to them, the Commission added other underlying risk drivers such as legal risks, for example the risk of litigation for failing to avoid or minimize adverse impacts on the climate; market risks, for example if the choices of consumers and investors shift towards products and services that are less damaging to the climate; reputational risks, for example the difficulty of attracting clients or shareholders if a company has reputation for damaging the climate. See: Commission, 'Guidelines on non-financial reporting: Supplement on reporting climate-related information' (communication) COM (2019) 4490. However, these are just subcategories that can be included in the extended definition of the three risk drivers by the NGFS.

[31] According to the Bank for International Settlements (BIS), As of January 2020, the Paris Agreement was ratified by 190 countries.

goals. The most common examples are technological changes relating to low-carbon and energy-saving transportation or the use of non-fossil fuels. Undertakings that need to adopt new technologies or to update the existing ones to remain competitive and productive could bear high costs of transition, with relevant consequences on their financial stability and potential losses for the institutions that invested in them.

Lastly, both investors and consumers' awareness of climate change is increasing. Climate risks are more and more considered by investors, which indeed are willing to incorporate climate change into their investment approach and decision making. This could represent a possible threat to the economic activities that are exposed to climate change, as carbon-intensive businesses.[32] Also, a change in consumer behaviors represents a relevant factor. Indeed, retail clients of banks may request more climate friendly financial products and guide banks to adjust their business strategies. Therefore, a change in preferences of investors and consumers can impact the value of assets that are less climate friendly.

[32] Institutions exposed to counterparties that become less attractive for investors are also could be impacted as well.

2.2. *Transmission channels*

Transmission channels link environmental and climate risk drivers to the financial risks faced by banks and the banking sector. The EBA defines them as "The causal chains that explain how these risk drivers impact institutions through their counterparties and invested assets".[33] Transmission channels have two dimensions. They could be either macroeconomic or microeconomic.

Microeconomic channels refer to the causal chains by which climate risk drivers affect banks' individual counterparties, with direct effects on banks themselves, on their exposures and on the ability to fund themselves.

Macroeconomic channels act in a more indirect way, by affecting macroeconomic factors, such as economic growth and labor productivity, and their impact on the economies in which banks operate.

Hence, climate risk drivers do not properly represent a new type of risk.[34] They instead translate into traditional financial risk categories, and therefore they must be considered under the categories of credit risk, market risk, liquidity risk, operational risk, and reputational risk.[35]

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[33] EBA, REP (2021) 18 7. The EBA's definition refers generally to all categories of risk drivers, including those stemming from social and governance factors.

[34] Although they have distinctive elements that characterize them, as explained in paragraph 2.1.

[35] According to 'Climate Change : Which Risks for Banks and Insurers' (*Banque de France*, 10 April 2019) <https://acpr.banque-france.fr/en/climate-change-which-risks-banks-and-insurers> and Martijn Regelink and Henk Jan Reinders, 'Waterproof? An Exploration of Climate-Related Risks for the Dutch Financial Sector' <https://www.dnb.nl/media/r40dgfap/waterproof-an-exploration-of-

As regards microeconomic transmission channels and credit risk, physical risk drivers mainly impact banks' credit risk indirectly through their counterparties. Physical hazards could destroy households, corporate and sovereigns' assets (housing, property, equipment, or infrastructures) and reduce their value. The damage may be caused by acute physical risk, like storms, wildfires, or floods, and also by chronic risk, such as rising sea levels.

Banks' lending activity to households primarily consists in granting mortgage loans for the purchase of housing. Evidence[36] show that severe or chronic weather events could impact households' property's value and increase their probability to default. This may cause an increase of non-performing loans (NPL) and lower bank equity ratio. Therefore, banks with residential property as mortgage collateral in regions exposed to physical risks could see their credit risk increase.

Even corporates are exposed to physical risks. Natural disasters can result in decreases in corporate sales, with damages to global supply chain.[37] The financial health of borrowers is also threatened by chronic

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climate-related-risks-for-the-dutch-financial-sector.pdf>, the existing Basel risk categories could be used to reflect climate-related risks.

[36] Negatively affected borrowers took on debt because of extreme weather events, according to Felix Noth and Ulrich Schüwer, 'Natural Disasters and Bank Stability: Evidence from the U.S. Financial System' (2023) 119 Journal of Environmental Economics and Management 102792 and Benjamin L Collier and others, 'Firms' Management of Infrequent Shocks' (2020) 52 Journal of Money, Credit and Banking 1329.

[37] Evidence of climate vulnerability of the global supply chain are explained by Valeria Andreoni and Apollonia Miola, 'Climate Change and Supply-Chain Vulnerability: Methodologies for Resilience and Impacts Quantification' (2015) 4 International Journal of Emergency Services 6.

risks, such as rising temperatures. Therefore, credit institutions' exposures, in particular credit quality, are strongly impacted by climate related risks.

Countries as well are impacted by climate change. Sovereigns that are more vulnerable to climate-related risks bear higher borrowing costs or suffer limited access to debt markets.[38] Consequently, Banks' credit risk may increase, due to exposures in sovereign debt issued by these less resilient countries.

Credit risk can be influenced also by risk drivers arising from transitioning away from a carbon-intensive economy. Govern policies, indeed, may affect firms and corporations.[39] For example, the introduction of a carbon tax, with the aim to discourage the emission of GHG, could reduce earnings and therefore also reduce the corporation's creditworthiness.[40] If credit cost increases, the firm's ability to repay debts to banks could decrease. Moreover, if stringent carbon taxes

[38] The impact of climate change vulnerability and resilience on sovereign bond yields and spreads in 98 advanced and developing countries is analyzed by Serhan Cevik and Jalles João Tovar, 'This Changes Everything: Climate Shocks and Sovereign Bonds' (*IMF*) <https://www.imf.org/en/Publications/WP/Issues/2020/06/05/This-Changes-Everything-Climate-Shocks-and-Sovereign-Bonds-49476>.

[39] Even though empirical evidence of the impacts of transition risk drivers is still limited, according to the BCBS report 'Climate-Related Risk Drivers and Their Transmission Channels' (n 12) 13.

[40] Firms with poor environmental profiles or high carbon footprints tend to have lower credit ratings and higher yield spreads, particularly when their facilities are located in states with stricter regulatory enforcement, according to Lee Seltzer, Laura T Starks and Qifei Zhu, 'Climate Regulatory Risks and Corporate Bonds' (20 April 2022) <https://papers.ssrn.com/abstract=3563271>.

regulations are introduced, corporates that rely on carbon-intensive technologies may become less competitive if they fail to adopt new technologies.[41]

Another transmission channel is stakeholder sentiment. Indeed, when consumers and investors are more sensible to less carbon-intensive products or investments,[42] firms that are not following these consumption patterns may experience less profits[43] and eventually increase the credit risk of banks that granted them credit.

Climate risk drivers also have an impact on the value of financial assets. For example, the volatility of stock options of firms located in

[41] The most common example regards the automotive sector, where manufacturers who are unable to produce electric vehicles may suffer for lower profitability. It must be remembered that in 2023 the EU Parliament approved the new CO2 emissions reduction targets for new passenger cars and light commercial vehicles. The EU, indeed, aims to cut emissions from cars 55% and from vans 50% by 2030, compared with 2021, in order to reach the goal of zero emissions from new cars and vans by 2035; see 'Fit for 55: Zero CO2 Emissions for New Cars and Vans in 2035 | News | European Parliament' (14 February 2023) <https://www.europarl.europa.eu/news/en/press-room/20230210IPR74715/fit-for-55-zero-co2-emissions-for-new-cars-and-vans-in-2035>.

[42] Firms with environmental concerns put off institutional investors, according to Patrick Bolton and Marcin T Kacperczyk, 'Do Investors Care About Carbon Risk?' (1 April 2020) <https://papers.ssrn.com/abstract=3594189>.

[43] The reason is that the cost of capital and funding for some corporates may increase as equity and debt investors and rating agencies include climate-related or environmental factors in their investment and rating decisions.

areas subjected to physical risks such as floods could increase significantly.[44]

Transition related changes may influence market risk as well. Investors, indeed, could either reward borrowers they believe are taking the right steps towards a greener economy, or not invest in carbon-intensive economic activities. Even if they decide to invest in businesses that will be impacted by transition costs, investors could demand a higher return on the investment.[45]

Liquidity risk is another traditional risk category impacted by climate risk drivers that affects banks' counterparties. Evidence shows that the liquidity profile of financial institutions is sensible to the environmental effects of climate change.[46] Moreover, "banks in countries with greater climate risk experience more pressure on their liquidity compared to the banks that are domiciled in countries with relatively lower climate risk".[47] For example, households or corporates facing an extreme weather event need liquidity to recover from the possible damages suffered and they can get it by not depositing any liquidity they already have, or by withdrawing deposit from their bank accounts. In both cases, banks experience a loss of liquidity and an extreme difficulty in raising money from the public.[48]

[44] See Regelink and Reinders (n 23) 27.

[45] However, according to the BCSB, evidence of potential risk differentials between assets that are sensitive to transition risks are currently limited.

[46] According to Qiaoqi Lang and others, 'The Interaction of Climate Risk and Bank Liquidity: An Emerging Market Perspective for Transitions to Low Carbon Energy' (2023) 191 Technological Forecasting and Social Change 122480.

[47] ibid 4.

[48] Which is one of the fundamentals of the banking business. See Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013

Lastly, operational risk and physical risks may be linked. Operational risk is defined by the CRR as the "risk of loss resulting from inadequate or failed internal processes, people and systems or from external events".[49] Two relevant components of operational risks that could damage banks are the increasing legal and regulatory compliance risks. For example, climate related lawsuits could invest banks that finance corporates responsible for negative environmental impacts.

However, available information on operational risks is scarce, banks and corporates often keep them private and, according to the BCBS, "Studies quantifying operational risk faced by banks as a result of climate risk drivers are extremely limited, and are rarely made public"[50]

After reviewing the microeconomic transmission channels, macroeconomic impacts on the traditional risks[51] of banking business need to be examined as well. Indeed, climate change and physical risks could decline agriculture, labor productivity, and affect economic growth. Several OECD findings reveal that "changes in crop yields and in labor productivity are projected to have the largest negative consequences, causing loss to annual GDP of 0.9% and of 0.8%,

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on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012, art 4.

[49] See CRR, art 4 (52). The definition of operational risk is also provided by the Basel Committee on Banking Supervision (ed), *Principles for the Sound Management of Operational Risk* (June 2011, Bank for International Settlements 2011) 3.

[50] BCBS, 'Climate-Related Risk Drivers and Their Transmission Channels' (n 111) 19.

[51] Macroeconomic transmission channels influence mostly credit risk. Regarding the other traditional risks, there is still a lack of solid evidence.

respectively, by 2060”.[52] In addition, the effect of climate change on economic growth is higher in developing countries.[53] These reductions in GDP may impact borrower creditworthiness, and increase their default rate.

Furthermore, to meet the goals of the Paris climate accords, transition risks coming from policy measures, such as carbon emission taxes or changed consumers and investors preferences, may result in macroeconomic effects, i.e., higher prices, lower households’ consumption standards, higher unemployment. These aggregate effects can affect the income of banks’ counterparties and worsen their ability to repay their debts, increasing the credit risk of their banks.

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[52] OECD, *The Economic Consequences of Climate Change* (Organisation for Economic Co-operation and Development 2015) 12 <https://www.oecd-ilibrary.org/environment/the-economic-consequences-of-climate-change_9789264235410-en>.

[53] The reductions on GDP due to natural disasters is more relevant in emerging markets rather than in advanced economies, according to ‘Global Financial Stability Report, April 2020: Markets in the Time of COVID-19’ (*IMF*) 89 <https://www.imf.org/en/Publications/GFSR/Issues/2020/04/14/Global-Financial-Stability-Report-April-2020-49020>.

2.3. *Social risks*

Social risks are defined by the EBA as "the risks of any negative financial impact on the institution stemming from the current or prospective impacts of social factors on its counterparties or invested assets"[54]. This definition has been adopted by the CRR proposal as well.[55] Social factors[56] have been already analyzed in the first chapter, but it is necessary to understand how the social risks impact on the balance sheets of credit institutions, what are the risk drivers and the transmission channels.

As for environmental factors, the risks analyzed relate to firms and corporates that are banks' counterparties, or in which banks invested. Social risk drivers could be included in three categories: environmental risks, changes in social policy and changes in the market sentiment regarding social factors.[57]

Environmental risks as drivers of social risks refers to the environmental degradation caused by climate change and extreme

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[54] EBA, REP (2021) 18 47.

[55] See CRR proposal, art 1 (52h).

[56] Namely, the relationships a company has with all the categories of stakeholders (shareholders, clients, employees, the community).

[57] EBA, REP (2021) 18 46. However, the EBA points out that, unlike environmental risks, the categorisations of physical risks are less strict. For example, the division between physical and transition risks is not relevant.

weather events.[58] These effects could push the people that live in the most affected regions to migrate, with global repercussions.[59]

Another driver of social risks is the change in social policies towards a more equitable and inclusive society.[60] The respect of labor rights nowadays is becoming even more paramount for corporations. Labor rights means a wide variety of aspects, for example fair wages and equal pay for men and women, a reasonable work-life balance, and safer and healthier workplace conditions. Counterparties that do not offer these conditions may face "increased costs of compliance in the future, which could have a potential impact on their financial position".[61]

Furthermore, market sentiment could increase the negative impact of social risks. Indeed, as for companies that do not appear committed to considering climate and environmental risks, undertakings unwilling to consider social risks may face a loss of profits, due to the departure of consumers and investors sensitive to these issues. The impact could also result in lawsuits, market pressure and reputational damage. Therefore, credit, market and reputational risk of credit

[58] This is a clear example of how "climate issues clearly go beyond purely scientific bounds to strongly influence the social, economic and legal fields" (our translation), according to Riganti (n 28) 1260.

[59] According to See McKinseyGlobal Institute, 'Climate Risk and Response: Physical Hazards and Socioeconomic Impacts' 47: "Severe climate change effects could trigger migration, social and political unrest, and potentially even conflict in affected regions, which in turn may have global repercussions".

[60] These are, indeed, part of the goals set in the UN 2030 Agenda for Sustainable Development, previously analyzed in chapter one. In particular, the target in question is Goal 10: Reduce inequality within and among countries".

[61] EBA, REP (2021) 18 46.

institutions associated[62] with these companies could in turn be negatively impacted. For example, a bank investing in a manufacturing firm violating labor and human rights can suffer both market volatility and reputational risk due to consumer preferences to not trade with this firm.[63]

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[62] The relationship could have different features. A bank can invest in these companies, becoming either a shareholder or a bondholder. A bank can also grant a loan to them, becoming a lender, or it can just keep the company's deposits, whether available for withdrawal or in order to invest them in securities.

[63] This is a theoretical example, provided by the EBA, of the impact of social factors in credit institutions' balance sheet.

2.4. *Governance risks*

Governance factors have already been explored in chapter one. In this subparagraph, instead, governance risk will be examined. According to the EBA, governance risks are "the risks of any negative financial impact on the institution stemming from the current or prospective impacts of governance factors on its counterparties or invested assets".[64] The definition of governance risk is also covered by the CRR proposal.[65] The governance risks under analysis, as the social ones, refers to the institutions' counterparties or invested assets, and not to the banks themselves. These risks can be triggered by a variety of drivers.

First, poor management of the other ESG factors brings problems on the governance side. It is clear, indeed, how environmental, social and governance risks almost always come together and interact with each other. Traditional governance risk comes from a non-compliance with corporate governance frameworks. For example, a poor code of conduct can lead managers to underestimate risks such as money-laundering and bribery. If these issues become public, clients and investors could lose faith and divest their capitals, in addition to possible lawsuits and penalties for the companies,[66] and consequent repercussions on their balance sheets.

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[64] EBA, REP (2021) 18 49.

[65] CRR proposal, art 1 (52i).

[66] One of the most famous scandals regards the German car manufacturer Volkswagen. They declared lower-than-real emission levels to the licensing authorities and to their consumers. The scandal cost to Volkswagen USD 2.8 billion in fines and up to USD 17 billion in damages in the US alone.

On the other side, a wise management of environmental and social risks is seen as a sign of good governance and could attract new investors and customers.

3. *ESG risks and prudential requirements*

The previous paragraph addressed the way ESG risks interact and transmit to the traditional risk categories. It is important to mention that, according to the EU banking regulation, credit institutions must follow strict requirements to manage the risks usually faced. The EU, indeed, adopts a risk-based approach. The rationale behind this approach is to manage future economic and financial shocks and to build a resilient financial sector that can sustain and drive the real economy.[67]

The EU prudential requirements on banking regulation have been established by the "CRD IV Package", composed of a directive, the Capital Requirements Directive (CRD V)[68] and of a Regulation, the Capital Requirements Regulation (CRR II).[69]

It is important to note that European banking regulation has mostly been the result of "the transposition of recommendations,

[67] The 2008 financial crisis was the proof that the stability of the financial sector could not be achieved without sufficient and better-quality capital and high levels of liquidity.

[68] Directive (EU) 2019/878 of the European Parliament and of the Council of 20 May 2019 amending Directive 2013/36/EU as regards exempted entities, financial holding companies, mixed financial holding companies, remuneration, supervisory measures and powers and capital conservation measures 2020.

[69] Regulation (EU) 2019/876 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) No 575/2013 as regards the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk, exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements, and Regulation (EU) No 648/2012 2020.

standards, principles, and guidelines issued by international organizations without regulatory authority".[70] The "Basel Accords" represent the outcome of a long process of setting international uniform standards for capital measurement of credit institutions. This journey starts in 1988 with the issuing, by the BCBS, of the so-called "Basel I" and the introduction of the so-called "risk-weighted approach". Indeed, every credit institution is required to hold an amount of capital proportioned to the value of its exposures, re-determined by considering their different degree of risk.[71] More precisely, Basel I use the expression "own funds", which stands for a combination of two parts, differing in the capacity to absorb losses.[72]

The BCBS continues its work on soft law, drafting in 2004 the Basel II, which recalls the principles set by Basel I, but with a much more detailed and in-depth analysis. Furthermore, Basel II introduces the pillar system[73] and the Internal Ratings-based Approach (IRB), a new standard to assess the riskiness of exposures and the capital adequacy of credit institutions. However, Basel II raised some critics. Pillar I was

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[70] See De Poli (chapter I n 40) 109.

[71] Basel I first introduced the "8% rule". In order to be sufficiently adequate, banks' own funds should be at least 8% of their risk weighted assets (RWA).

[72] First, an "aggregate asset base capital" (also called Tier 1 capital), mainly composed of equity shares and retained earnings, and deemed the most appropriate to absorb losses. Then, a "supplementary capital" (also referred as Tier 2 capital), composed by items such as undisclosed reserves, specific hybrid instruments and subordinated term debts, considered less loss-absorbing.

[73] Basel II introduced three pillars. Pillar I, concerning minimum capital requirements. Pillar II, concerning the supervisory review process. Pillar III, regarding market discipline.

deemed less careful in considering the economic cycle, with not enough focus on liquidity risk and excessive leverage.[74]

The BCBS took into account the critics, and in 2010 Basel III is released. Basel III insists on the capital's quality of credit institutions, with the introduction of additional capital buffers, and adjusts the requirements on liquidity and leverage. In 2017 the BCBS, to implement Basel III, also releases Basel IV, containing additional rules concerning the relationship between the internal models to calculate the bank's risk weighted assets (namely, the IRB) and the standardized models.[75]

The EU adopted the standards for international banking prudential regulation set by the BCBS and put Basel III into law, with some adjustments to fit the diversity of the European banking system.[76]

As explained in the previous paragraphs, nowadays institutions, regulators, and supervisors are aware of the significance of ESG risks. Indeed, ESG risks are changing the risk framework of the financial sector and will become even more relevant going forward. However, a problem arises. How to integrate these new risks within the existing prudential risk framework set by the Basel Accords and adopted by the EU?

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[74] According to De Poli (chapter I n 40) 114, and to Basel III, during the most severe episode of the financial crisis in 2008, the market lost confidence in the solvency and liquidity of many credit institutions.

[75] Namely, the creation of an "output floor". The risk-weighted assets assessed with internal methods should be at least 72.5% of the ones calculated with standardized models.

[76] See 'Prudential Requirements' <https://finance.ec.europa.eu/banking-and-banking-union/banking-regulation/prudential-requirements_en>.

The concerns regard the appropriateness of the current prudential framework to address ESG risks. Is it necessary to consider a dedicated prudential treatment or the existing prudential framework can sufficiently account for these new risk drivers?

The EU commissioned[77] the EBA to analyze the necessity of a new regulatory framework to address ESG risks. The EBA provided a Discussion Paper[78] (from now on DP) to evaluate if these risks are already reflected in the prudential framework. The analysis focuses on the impact of environmental risks[79] on the traditional banking risk categories, and mainly on credit risk. Indeed, credit risk represent "The most relevant part of the prudential framework".[80]

This is the starting point from which the EBA began to examine the usefulness and the feasibility of a change in the credit risk rating prudential framework, as well as the introduction of a specific treatment of exposures related to environmental risks. This topic is of crucial

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[77] in relation to the mandates in Article 501c of Regulation (EU) No 575/2013, i.e., the Capital Requirements Regulation (CRR), and in Article 34 of Regulation (EU) 2019/2033, i.e., the Investment Firms Regulation (IFR), for the EBA to provide reports on the topic.

[78] EBA, 'The role of environmental risks in the prudential framework' (Discussion Paper) (2022) 02.

[79] The DP does not analyze Social and Governance risks. Indeed, there are not similar assessment yet, likely due to the even bigger struggles in retrieving reliable data on these risk factors.

[80] According to the DP, the Risk Weighted Assets (RWAs) attributable to credit risk are over 80% of total RWAs. This is also the field with the broader literature provided. See EBA Discussion Paper (2022) 02 24.

importance, because it could directly affect the composition of credit institutions' regulatory capital.[81]

It is worth noting that the CRR allows credit institutions to use different kinds of approaches to credit risk. In the Standardized Approach (SA), which is deemed the simplest one to credit risk,[82] the "Risk-weighted exposure amounts are calculated as the product of the exposure amounts and supervisory determined risk weights".[83] Namely, the CRR assigns a percentage of risk[84] to each category of exposures and the bank must only apply this percentage to each exposure of its balance sheet. Therefore, in this approach, the risks are weighted in proportion to the scales provided by the CRR. According to this process, "the exposure value of an asset shall be its accounting value remaining after specific credit risk adjustments"[85]. Moreover, exposures are divided in 17 classes,[86] with dedicated risk weights coefficients prescribed. For certain exposure classes, external credit ratings are also allowed. Namely, credit rating means an opinion regarding the creditworthiness of an entity, a debt or a financial obligation, issued using an established and defined ranking system of rating categories,[87] while a credit rating agency is a

[81] The DP, hence, focalizes exclusively on the Pillar I as defined by the Basel Accords.

[82] Because it does not require sophisticated risk management and measurement practices.

[83] See EBA Discussion Paper (2022) 02 28.

[84] From 100% if it is a full risk item, to 0% if it is a low-risk item, see CRR, art 111.

[85] CRR, art 111.

[86] CRR, art 112 provides the list of all 17 classes of exposures.

[87] This is the definition provided by art 3.1 (a) of the Credit Rating Agencies (CRA) Regulation. See Regulation (EC) No 1060/2009 of the

legal person[88] whose role includes the issuing of credit ratings on a professional basis.[89]

The SA is deemed a balanced approach between simplicity and risk sensitivity, and it is mostly adopted by smaller credit institutions to calculate regulatory capital.[90] However, the EBA has drawn up some points and suggestions to better reflect environmental risks in the current framework.

First, rating agencies which provide external credit assessments need to strengthen up their ESG evaluation methodologies.[91] Also due diligence requirements may be broadened, if possible, to explicitly integrate environmental risks. However, the EBA insists that any adjustments to the Pillar I framework should be risk-based and driven by further empirical evidence on risk differentials that should be collected "prior to proposing any amendments".[92]

European Parliament and of the Council of 16 September 2009 on credit rating agencies 2019.

[88] Which must be established in the Union and registered in accordance with the CRA Regulation.

[89] CRA Regulation, art 3.1 (b).

[90] According to the EBA, "the SA represents on average around 40% of all credit-risk-weighted exposure amounts in the European Union, although this percentage differs markedly by country", see EBA Discussion Paper (2022) 02 28.

[91] According to the ESMA, environmental factors are captured unevenly, due to a lack of common credit rating methodologies. See ESMA 'Technical Advice on Sustainability Considerations in the Credit Rating Market' <https://www.esma.europa.eu/document/technical-advice-sustainability-considerations-in-credit-rating-market> (2019).

[92] See EBA Discussion Paper (2022) 02 35.

Also, The CRR provides credit institutions a second approach to calculate their own funds requirements, called "Internal Rating Based" (IRB) Approach. In this approach, institutions calculate their risk-weighted exposure amounts by estimating four parameters: the Probability of Default[93] (PD), the Loss Given Default[94] (LGD), the Credit Conversion Factor[95] (CCF) and the Maturity[96] (M). Competent authorities must grant the permission to use the IRB approach only if the conditions set out in the CRR are met.[97]

In the DP, the EBA wonders about the actual possibility of better integrating environmental risks, especially in relation to the use of own risk parameters. An area of improvement could be the shaping of the Reference Data Sets (RDS) that institutions use to extract its own parameters. In particular, the valuation of the collateral[98] already includes many environmental risk drivers,[99] but the existing framework could be enhanced to include more explicitly and comprehensively the

[93] The PD is the likelihood of a default over a particular time prospect.

[94] The LGD is the estimated amount of money a bank or other financial institution loses when a borrower defaults on a loan.

[95] The CCF determines the probability of an off-balance sheet exposure to convert into an on-balance exposure.

[96] The M is the date on which the final payment is due on a financial instrument.

[97] See CRR, art. 143. Moreover, the permission to use the IRB approach is strongly linked to a sound risk management process and corporate governance.

[98] Used by credit institutions to derive the LGD.

[99] The reference is to the assessment of the value of the collaterals consisting of immovable properties, in which some data are already collected, such as energy efficiency and location in areas affected by floods.

environmental risk factors, for example by requiring higher standards for collateral management.[100]

However, the most challenging problems remains the proper integration of "environmental risks that are not fully materialized yet, or not in the expected frequency or with the expected impact on credit risk.".[101] Indeed, the main issue with environmental risks, in particular physical risks, is that their frequency and magnitude is likely to be different from past observations. Risk-based models' performances are evaluated on collected past data and, consequently, their effectiveness could drop when evaluating risk factors not yet materialized.

It appears necessary to adopt a more forward-looking perspective, however, the EBA is always careful to emphasize some key points. First, the IRB framework must always be focused on risk measurement,[102] and any adjustments are only allowed if they increase the model accuracy. Second, any new forward-looking elements should be backed by available empirical evidence on the impact of climate change and environmental degradation.[103]

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[100] See EBA Discussion Paper (2022) 02 38.

[101] ibid 43.

[102] The issue is relevant. For example, what kind of ESG score should be applied by a bank that grants credit to a counterparty active in the nuclear industry (or in any other energy-intensive sector) which is both profitable and strategic? What is the relationship between ESG and those business sector that are not so green, but still remain essential for the economy? Clearly the risk measurement becomes much more complicated. These are some of the questions posed by Chiloiro Andrea, 'ESG e sostenibilità nelle operazioni di finanziamento all'impresa: possibili profili giuridici' [2022] AG 263, 287.

[103] EBA Discussion Paper (2022) 02 43.

Although it appears extremely difficult to integrate ESG risks in the Pillar I framework, it is clear that the majority of credit institutions have put too little effort into this task. Indeed, a study conducted by Black Rock on behalf of the European Commission takes stock of the situation on the incorporation of ESG factors into banks' risk management processes. The analysis, based on the collection of a wide range of data, proofs that, within the representative sample of EU banks analyzed, "ESG integration is at an early stage, and the pace of implementation needs to be accelerated in order to achieve effective ESG integration into banks' risk management and business strategies, as well as prudential supervision".[104]

The data collected shows that just 22% of credit institutions examined have directly incorporated ESG risks for RWA calculation,[105] and mostly with the application of an ESG score to their rating models.[106] Instead, 39% of credit institutions have integrated ESG risks, but for other calculation, whereas the remaining 39% have not incorporated any kind of ESG risks but are planning to integrate it in the future.

According to the credit institutions that responded to the survey, ESG are usually not integrated for the calculation of capital requirements

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[104] BlackRock Financial Markets Advisory and Financial Services and Capital Markets Union (European Commission) Directorate-General for Financial Stability, *Development of Tools and Mechanisms for the Integration of ESG Factors into the EU Banking Prudential Framework and into Banks' Business Strategies and Investment Policies: Final Study* (Publications Office of the European Union 2021) 4 <https://data.europa.eu/doi/10.2874/220248>.

[105] Ibid 88.

[106] EBA Discussion Paper (2022) 02 40.

due to "The lack of regulatory guidance, limited evidence of ESG risk materiality and impact, as well as concerns related to quantification methodologies under different time horizons".[107]

[107] BlackRock Financial Markets Advisory and Directorate-General for Financial Stability (n 83) 87.

3.1. *Environmental adjustment factors.*

Adjustments factors are specific changes to the credit risk prudential framework with the aim to increase or decrease capital requirements. Their objective is to incentivize financing and access to credit for certain business sectors. The introduction of adjustment factors is an EU peculiarity in divergence with the Basel framework. These adjustments are directly involved in risk-weighted exposures, working as "discount factors to exposures meeting certain eligibility criteria"[108]. The main consequence is that downward adjusted exposures require less prudential capital stored in own funds than normally due.

In the EU, the sectors which have benefited from these adjustments are the small and medium enterprises[109] (SMEs) and the infrastructure projects.[110] However, the idea of introducing new environment-related adjustments factors[111] in prudential rules is

[108] EBA Discussion Paper (2022) 02 44.

[109] CRR, art 501.1 determines risk weighted adjusted formula for exposures to a SME.

[110] For example, the infrastructure supporting factor attracts a discount of 25% of risk-weighted exposure amounts, subject to meeting certain criteria, displayed in CRR, art. 501a.

[111] The idea is to lower risk weights for assets labeled as environmentally sustainable through the application of a green supporting factor (GSF). On the other side, brown penalizing factors (BPF) should increase the amount of prudential capital for the exposures deemed environmentally harmful. This strategy should redirect capital flows from financing carbon-intensive businesses towards green or sustainability-linked investments.

increasingly gaining ground, and the debate is going on, with several arguments for and against adjustment factors.

The EBA collected some theoretical pros. Among them, the strongest ones seem to be linked with the idea of a smoother transition to a more sustainable economy. In addition, environmentally sustainable activities could reduce the negative impact of risks that probably materialize over the time horizon usually considered by capital requirements. Therefore, GSF could be a way to adequately price these risks.

On the other side, environmental adjustment factors may carry some disadvantages. The main one is that these kinds of adjustments may not be risk-sensitive, leading to possible weakened resilience of institutions. The EBA sustains that "applying a factor which is not risk-based to prudentially calibrated RWAs means that the adjusted RWAs would no longer correspond to the actual risk of relevant exposures".[112] Consequently, credit institutions' ability to manage risks and absorb potential losses resulting from environmental risks could be hindered.

In conclusion, the EBA stated that there are some priorities to be met before any possible inclusion of environmental adjustment factors, e.g., understanding if and at what point environmental risks are already captured into existing Pillar I instruments. Hence, it seems clear that the focus of any policy approach must be the pursuit and the preservation of the overall level of prudential capital.

[112] EBA Discussion Paper (2022) 02 45.

4. *The regulatory framework on ESG disclosures.*

As previously mentioned,[113] the EU adopted the Basel Accords and put them into law to regulate the banking business. The structure of the Basel Accords in their recent update (Basel III) consists of three main pillars: Pillar I, addressing minimum capital requirements, Pillar II, regarding supervisory review, and Pillar III, concerning market discipline. The idea of the Basel Accords is to promote market discipline through disclosure[114] requirements for credit institutions. These requirements want to provide market participants with key information related to the soundness of credit institutions in order to increase transparency and confidence and to reduce information asymmetry.

The BCBS has identified five guiding principles to provide a high-quality Pillar 3 risk disclosures to "better understand and compare a bank's business and its risks".[115]

The first principle addresses clarity. Indeed, key stakeholders should easily find and understand disclosures.[116] The second principle requires that disclosures must collect all significant risks, together with sufficient information and a proportionate level of detail.[117] The third one regards the communication of meaningful disclosures. The most

[113] See Chapter 2, para. 3.

[114] Disclosures consist of documents, provided by undertakings (in this case credit institutions), which deliver to the public data and information deemed useful.

[115] BIS, 'DIS - Disclosure Requirements' (1 January 2023) 7 <https://www.bis.org/basel_framework/index.htm>.

[116] ibid 8.

[117] ibid.

significant current and emerging risks must be provided and must add value to users' understanding.[118] The fourth principle involves disclosures' consistency and their consequent effectiveness to identify trends in a bank's risk profile.[119] The last principle requires that disclosure should be comparable across banks, also across different jurisdictions.[120]

After pointing out the principles, the BCBS specifies the forms of disclosures. Indeed, disclosures must be presented in the form of templates or tables, which could be fixed or variable in accordance with the prescriptions given. In addition, banks should pair the information provided with a "narrative commentary to explain at least any significant changes between reporting periods and any other issues that management considers to be of interest to market participants".[121]

The increasing attention for sustainability and ESG experienced in recent years in the banking business has led European institutions to spread the disclosure framework to these emerging issues. The next paragraph will address the related implementations made by the EU.

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[118] ibid.

[119] ibid.

[120] ibid 9.

[121] ibid 11.

4.1. *The EU disclosures framework.*

A preliminary approach to disclosures in the ESG field is provided by the NFRD,[122] which lays down the rules on non-financial information reporting by large companies.[123] In 2017, as required by the directive, the Commission published its non-binding guidelines.[124] In addition to that, in 2019 the Commission published new guidelines on reporting climate-related information, a new supplement to the existing guidelines.[125] The introduction of the Taxonomy brought additional disclosure requirements. Indeed, article 8 of the Taxonomy Regulation requires any undertaking which is subject to the NFRD to include how and to what extent its activities are associated with economic activities that qualify as environmentally sustainable.[126] Other relevant acts concerning disclosures and sustainability are the SFDR, which sets rules

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[122] Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups (chapter I n 48).

[123] Large companies refer to large public interest entities with over 500 employees (listed companies, banks, and insurance companies).

[124] Communication from the Commission — Guidelines on non-financial reporting (methodology for reporting non-financial information) 2017.

[125] Communication from the Commission — Guidelines on non-financial reporting: Supplement on reporting climate-related information 2019.

[126] 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, art 8.

for financial market participants and financial advisers on transparency with regard to the integration of sustainability risks and the provision of sustainability-related information with respect to financial products,[127] and the CSRD, which aims to strengthen the rules concerning the social and environmental information that companies have to report.[128]

Moreover, disclosure requirements have been a major topic also for the EBA. Indeed, in its Roadmap on Sustainable Finance, the EBA set eight key objectives, each one related to an area of intervention, with the aim to embed ESG factors into the financial system to increase its stability and resilience.[129] The first key objective pinpointed regards sustainability-related disclosure requirements.[130]

Art 449a of the CRR demands that large institutions which have issued securities that are admitted to trading on a regulated market of any Member State[131] shall disclose information on ESG risks, including physical risks and transition risks.[132] In accordance with these requirements, in 2022 the EBA drafted an Implementing Technical Standard (ITS)[133] containing the tables, templates and associated

[127] See chapter I (n 69).

[128] See chapter I (n 71).

[129] The document follows the so-called "holistic approach" as previously explained (n 11).

[130] 'The EBA Publishes Its Roadmap on Sustainable Finance' (n 90) 7.

[131] Not just credit institutions shall comply. This gives a taste of the importance assigned to disclosures in the financial system.

[132] Physical and transition risks are here defined according to art 98(8) of the CRD.

[133] The mandate to EBA do develop draft ITS is specified by art 434a of the CRR.

instructions that institutions must use to disclose relevant information on ESG risks.[134] The ITS were then adopted by the Commission.[135]

The disclosure templates are both quantitative and qualitative. Quantitative templates include information on climate change transition, physical risks and how the institutions are mitigating those risks, Taxonomy-aligned activities that are contributing to environmental objectives and climate change adaptation actions that help to mitigate climate-change-related risks.[136] Qualitative templates regard qualitative information on Environmental, Social and Governance risks. The necessity to overcome information asymmetries between the bank and its counterparties is a fundamental step to reduce default risk, and uniform ESG disclosure standards surely represent a powerful tool.[137]

The EBA follows a sequential approach for the development of the Pillar 3 ESG ITS: other than the above mentioned, there will be subsequent ITS regarding other environmental risks that shall be

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[134] 'EBA "Final Draft Implementing Technical Standards on Prudential Disclosures on ESG Risks in Accordance with Article 449a CRR" (2022) 01' <https://www.eba.europa.eu/sites/default/documents/files/document_library/Publications/Draft%20Technical%20Standards/2022/1026171/EBA%20draft%20ITS%20on%20Pillar%203%20disclosures%20on%20ESG%20risks.pdf>.

[135] See Commission Implementing Regulation (EU) 2022/2453 of 30 November 2022 amending the implementing technical standards laid down in Implementing Regulation (EU) 2021/637 as regards the disclosure of environmental, social and governance risks 2022 (OJ L).

[136] 'EBA "Final Draft Implementing Technical Standards on Prudential Disclosures on ESG Risks in Accordance with Article 449a CRR" (2022) 01' (n 224) 10.

[137] As underlined by Bevivino (n 103) 503.

covered by Taxonomy criteria. In future, there will also be ITS on quantitative information on social and governance risks, together with the review of the existing disclosures.

Quantitative disclosures include 10 total templates provided by the Commission Implementing Regulation.[138] Four templates address climate change transition risk. Template 1 shows information on assets more exposed to the risks stemming from the transition to a low-carbon and climate-resilient economy, in particular the exposures towards non-financial corporates that operates in carbon related sectors.[139] Template 2 includes information on the distribution of real estate loans and advances and of repossessed collateral, by energy consumption and by Energy performance certificate (EPC) of the collateral.[140] Template 3 shows information on institutions' scope 3 emissions[141] for different sectors.[142] Template 4 aims to show institution's exposures towards the top 20 carbon-intensive companies in the world.[143]

Template 5 regards quantitative disclosures on climate change physical risk and gives information on exposures "collateralized with

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[138] Reg 2022/2453.

[139] 'EBA "Final Draft Implementing Technical Standards on Prudential Disclosures on ESG Risks in Accordance with Article 449a CRR" (2022) 01' (n 224) 16.

[140] ibid 17.

[141] Scope 3 emissions includes all the indirect emissions that occur in the upstream and downstream activities of an organization (e.g., business travel, employee commuting, waste disposal, transportation, and distribution).

[142] 'EBA "Final Draft Implementing Technical Standards on Prudential Disclosures on ESG Risks in Accordance with Article 449a CRR" (2022) 01' (n 110) 18.

[143] ibid 19.

immovable property and on repossessed real estate collateral that are exposed to chronic and acute climate-related hazards".[144]

Templates 6 to 10 provide quantitative information on mitigation actions. Template 6 includes a summary of the Green Asset Ratio (GAR) values as defined by the Commission Delegated Act.[145] According to the EBA, "information on the GAR must be fully aligned with the information that institutions will disclose under Article 8 of the Taxonomy Regulation".[146] Template 7 shows the assets suitable for the calculation of the GAR.[147] This includes information on loans, advances, debt securities and equity instruments towards sectors covered by the Taxonomy Regulation. Template 8 provides additional information on the GAR of the institution, including a "breakdown by environmental objective and counterparty, for specialized lending, transitional and enabling activities, and the total GAR of the institution."[148] Template 9 provides additional information on the exposures towards non-financial

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[144] ibid 20.

[145] Commission Delegated Regulation (EU) 2021/2178 of 6 July 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by specifying the content and presentation of information to be disclosed by undertakings subject to Articles 19a or 29a of Directive 2013/34/EU concerning environmentally sustainable economic activities and specifying the methodology to comply with that disclosure obligation.

[146] 'EBA "Final Draft Implementing Technical Standards on Prudential Disclosures on ESG Risks in Accordance with Article 449a CRR" (2022) 01' (n 110) 22.

[147] ibid.

[148] ibid 24.

corporates not subject to NFRD[149] disclosures. For corporates that are not required to make disclosures under the Taxonomy, institutions must collect info on a bilateral basis in the context of the loan origination and monitoring process or using estimates.[150] Lastly, template 10 shows all the other actions institutions put in place to mitigate climate-change-related risks, others than the action already included in templates 7 and 8. This template shall be accompanied by a narrative containing an exhaustive explanation of the type of risks they aim to mitigate, together with the nature and type of mitigating actions reflected in this template.[151]

Qualitative disclosures are designed by the EBA for ESG risks and are expected to complement the quantitative information. These disclosure requirements are organized in tables and divided by three risk categories. Table 1 shows qualitative information on environmental risk, table 2 on social risks and table 3 on governance risks. Each table is subdivided in the same areas: governance, business model and strategy and risk management.[152]

Disclosures under governance address the responsibilities of the management body in setting, in the context of ESG policies. The integration of ESG risks into the organizational arrangements and other

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[149] This information must be collected to calculate the Banking Book Taxonomy Alignment Ratio (BTAR), which covers the EU non-NFRD and non-EU non-NFRD exposures.

[150] 'EBA "Final Draft Implementing Technical Standards on Prudential Disclosures on ESG Risks in Accordance with Article 449a CRR" (2022) 01' (n 110) 25.

[151] ibid.

[152] ibid 26.

aspects, like the alignment of the remuneration policy with ESG risks.[153] Disclosures under business model and strategy regards objectives, targets and limits for the assessment of environmental risk in the short term, medium term and long term, and any possible adjustment of the business strategy to integrate ESG risks and factors.[154] Moreover, always according to the ITS, institutions' disclosure on risk management must comprehend current standards that institutions use for ESG risk management, with all the processes adopted to identify, monitor activities and exposures sensitive to ESG risks. All the risk tools to manage them, such as stress test and scenario analysis must be under disclosure as well, together with the links between ESG risks and traditional risk categories of banking business.[155]

Institutions surely bear additional costs to produce all this accurate documentation, but the benefits could be positive and lasting. Indeed, in all these templates and tables described, clearly appears the EU's effort to align institutions with the sustainability goals and helping stakeholders to understand the risks and vulnerabilities stemming from climate change. These ITS, where climate risks have been prioritized, represent a starting point included in a wider agenda, in which all the other risk factors (social and governance risks) are planned to be included also in a quantitative analysis.

[153] ibid 27.

[154] ibid.

[155] ibid.

CHAPTER III

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ESG RISKS AND PRUDENTIAL SUPERVISION

1. *A flexible and gradual approach*

The previous chapter analyses the possibilities to integrate ESG factors and their relative risks in the prudential regulatory framework. It turned out that banking regulation does not consist of wide principles, instead there are a lot of specific prescriptions with the purpose to prevent any excessive risk.[1] Credit institutions, therefore, are heavily regulated, and thus there is a strong need to control whether they follow the pertinent prudential regulations. Here comes into play the role of supervision. Indeed, prudential supervision is a complimentary device of prudential regulation, as they both may be considered as two sides of the same coin: one presupposes the other.[2]

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[1] The EU adopts a rule-based and risk-based approach. Indeed, when it comes to the banking business, the average level of detail is much higher than in any other field: just think of the precision and the complexity of the CRR and the CRD.

[2] This definition, provided by Matteo De Poli, *Fundamentals of European Banking law* (2nd edn, CEDAM 2020) 16, well explains the double

This third chapter aims to address, after a necessary overview of the current prudential supervisory framework, the integration of ESG factors into prudential supervision practices carried out by the competent authorities. This is still an on-going process that brings problems like those encountered in prudential regulation. The banking legislative framework, especially the Capital Requirements Directive, already provides supervisory authorities with a wide range of powers and tools[3] to perform their tasks, however reaching an effective implementation of ESG considerations poses some serious challenges and needs a flexible and gradual approach, and the EU is moving in that way.[4]

link that elapses between banking regulation and supervision. Bank defaults can be avoided only if both works properly.

[3] The next paragraph is devoted to exploring some of these powers and tools.

[4] Once again, the EBA Roadmap on Sustainable Finance explains that the steps necessary to include ESG are progressive and cover simultaneously all the aspects of the banking legislative framework, according to the so-called holistic approach.

1.1. *The current supervisory framework*

Banking supervision in the EU is a wide and complex topic that involves various legislative acts and authorities. Indeed, there are different types of supervision that operate at multiple levels. One of the main subdivisions is between banking supervision at the EU level, and the one strictly related to the Eurozone. Supervision could also be exercised directly on the individual credit institutions[5], or by coordinating the authorities that hold direct supervisory powers.[6] In addition, supervision could be divided into micro-prudential and macro-prudential, depending on the target to which is directed. The former addresses the supervision of credit institutions at an individual level. The latter aims to monitor the stability of the whole financial system.[7]

The most important pieces of legislation regulating banking supervision are the CRD,[8] for the entire EU, and the

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[5] In this case it is called direct supervision.

[6] Namely, indirect supervision.

[7] The goal is to prevent the systemic risk, i.e., the risk that the financial hardships experienced by a credit institution could spread throughout the system. This is also called risk of contagion.

[8] Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC.

Single Supervisory Mechanism Regulation[9] (from now on SSMR) for the Eurozone.[10] At the same time, the authorities entrusted with supervisory powers are numerous and with significative differences.

According to the CRD, micro-prudential supervision in the EU shall be the responsibility of the national competent authorities (NCAs)[11] of the home Member State.[12] On the other hand, in the Eurozone the supervision of credit institutions is carried out either by the ECB or the national competent authorities, depending on the significance of the institution.[13]

Macro-prudential supervision is carried out in the whole EU by national competent authorities and the European Systemic Risk Board (ESRB).[14] The ECB has also powers concerning

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[9] Council Regulation (EU) No 1024/2013 of 15 October 2013 conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions 2013 (OJ L).

[10] It is important to note that the rules set by the SSMR and applied to the Eurozone do not exclude the effectiveness of the CRD, instead they represent another level of legislation. Moreover, the SSMR is also applied to Croatia and Bulgaria.

[11] See CRD, art 49.

[12] As for the granting of authorization to carry out the banking business, the competence to supervise credit institutions follows the home Country Principle, first introduced by Basel II.

[13] ECB directly supervises banks established in participating Member States that are considered "significant". The criteria to determine whether an institution is significant or less significant are based on the size, the importance for the economy of the Union or any participating Member State, and the significance of cross-border activities, according to SSMR, art 6.

[14] A special body whose purpose is the oversight of the EU financial system and the prevention and mitigation of systemic risk, established in 2010.

macro-prudential supervision in the Eurozone. The SSMR indeed, bestows ECB with macro-prudential task and tools,[15] for example, the possibility to request credit institutions to hold higher capital buffers[16] than those usually applied by the competent authorities or any other stringent measure addressing systemic risks.

Moreover, after the 2008 financial crisis, to enhance indirect supervision over the financial system, the EU designed the European System of Financial Supervision, a network centered around three European Supervisory Authorities (ESAs)[17], responsible for micro-prudential supervision, and the ESRB, responsible for macro-prudential supervision of the financial system in the EU. The ESAs work primarily on harmonizing financial supervision practices in the EU by developing the single rulebook, a set of prudential standards for individual financial institutions and authorities.[18] The main tasks of the ESRB are collecting

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[15] See SSMR, art 5.

[16] Capital buffers consist of additional layers of usable capital, introduced by the Basel framework. One example is the countercyclical capital buffer (CCyB), which aims to encourage banks to build up buffers in good times that can be drawn down in bad ones, in order to limit the banking system amplifying economic fluctuations: see Mathias Drehmann and others, 'Countercyclical Capital Buffers: Exploring Options' (1 July 2010) 1 <https://papers.ssrn.com/abstract=1648946>.

[17] Namely, the European Banking Authority, the European Insurance and Occupational Pensions Authority and the European Securities and Markets Authority.

[18] European Central Bank, 'European System of Financial Supervision'

and analyzing relevant information to identify systemic risks, issuing warnings where systemic risks are deemed to be significant, issuing recommendations for action in response to the risks identified, monitoring the follow-up of warnings and recommendations, and cooperating and coordinating with ESAs and national competent authorities.[19] However, the authorities making up the ESFS do not replace the competent national authorities and their direct supervision duties. Instead, the ESFS shall cooperate with them in different tasks.[20]

Furthermore, it is necessary to clarify the specific role that the EBA has in indirect supervision. According to the EBA Founding Regulation,[21] the EBA shall develop a supervisory handbook, to "set out supervisory best practices and high qualities and methodologies",[22] and contribute to a "common supervisory culture".[23] Among the supervisory tasks assigned, the EBA has the powers to investigate on EU law breaches[24], together with the power to coordinate any actions undertaken by the relevant competent supervisory authorities in the case of adverse developments which may

<https://www.bankingsupervision.europa.eu/about/esfs/html/index.en.html>.

[19] ibid.

[20] De Poli (chapter 1 n 40) 136.

[21] Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC 2021.

[22] EBA Founding Regulation, art 8(1)(aa).

[23] ibid, art 8(1)(b).

[24] ibid, art 17.

seriously jeopardize the financial system in the Union.[25] Another relevant power concerns the mandate to periodically perform EU-wide stress tests, in order to assess the resilience of financial institutions to adverse market developments, as well as to contribute to the overall assessment of systemic risk in the EU financial system.[26]

As far as micro-prudential direct supervision is concerned, the legislative framework has two levels. The CRD regulates supervision at EU law level. However, the establishment of the European Banking Union has led to a shift of powers towards the SSM. It is therefore necessary to consider and analyse individually the two levels created.

Under the CRD, credit institutions are directly supervised by the NCAs, which have a wide range of supervisory powers and tools. Indeed, aside from the powers to authorize credit institutions to carry out the banking business,[27] or withdraw the authorization before granted,[28] NCAs hold supervisory, sanctioning, and investigatory powers.

Supervisory powers consist mostly in performing the Supervisory Review and Evaluation Process (SREP),[29] which is a periodical review of individual credit institutions' arrangements and processes to fulfill the requirements of the CRD and CRR. If the result of the SREP shows that the institution does not

[25] ibid, art 18(1).

[26] ibid, art 32.

[27] CRD, art 8.

[28] ibid, art 18.

[29] ibid, section III.

comply with the regulations, NCAs may apply the supervisory powers set out in art 104 of the CRD,[30] together with the early intervention powers defined by the Bank Recovery and Resolution Directive (BRRD).[31]

Sanctioning powers refer to the possibility to inflict administrative penalties and other administrative measures in respect of breaches of national provisions transposing the CRD and the CRR.[32] Penalties may be applied to credit institutions, but also to the members of the management body and to other natural persons who under national law are responsible for the breach.[33] The CRD leaves the choice of the sanctions and the penalties to each Member State, keeping for itself the determination of their quantitative limits.[34] However, the administrative penalties and other administrative measures shall be

[30] NCAs may require institutions e.g., to hold additional own funds (a) or to strengthen them with net profits (h), to reinforce their arrangements, processes, mechanisms, and strategies (b), to restrict the operations or to request the divestment of activities that pose excessive risks to the soundness of an institution (e), or to provide additional disclosures (l).

[31] See Title III of the Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No 1093/2010 and (EU) No 648/2012, of the European Parliament and of the Council 2022.

[32] CRD, art 65(1). In addition, art 66 of CRD contains a list of the measures applicable in case of breaches of authorization requirements and requirements for acquisitions of qualifying holdings.

[33] ibid, art 65(2).

[34] See De Poli (chapter 1 n 40) 153.

effective, proportionate and dissuasive,[35] and all the decisions and measures are subject to a right of appeal.[36]

Investigating powers concern the possibility for the NCAs to gather all the information necessary to carry out their duties. Information needs to be provided at recurring intervals and in specified formats for supervisory and related statistical purposes.[37] NCAs may require the submission of documents,[38] and can also obtain explanation,[39] examine the books and the records,[40] and conduct all necessary

As previously mentioned, in the EU there is an additional level of banking supervision and resolution, born after the 2008 financial crisis. The Banking Union (BU), indeed, was created with the purpose to strengthen the Economic and Monetary Union in the Eurozone and to make European banking more transparent, unified, and safer.[42] The BU has two pillars, the SSM and the SRM,[43] but in this dissertation only the SSM will be covered.

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[35] CRD, art 65(1).

[36] CRD, art 72.

[37] CRD, art 65(3).

[38] CRD, art 65(3)(b)(i).

[39] ibid, art 65(3)(b)(iii).

[40] ibid, art 65(3)(b)(ii).

[41] ibid, art 65(3)(c).

[42] As stated in European Central Bank, 'Banking Union' <https://www.bankingsupervision.europa.eu/about/bankingunion/html/index.en.html>.

[43] The Single Resolution Mechanism governs the resolution of a bank that is failing or likely to fail. The framework for the resolution of banks in EU countries participating in the BU, see Regulation (EU) No 806/2014 of the European Parliament and of the Council of 15 July

The peculiarity of the SSM[44] is that it is designed to centralize and transfer to the ECB an important set of powers, tools and tasks usually conferred to NCAs.[45] Therefore the ECB becomes the center of a network made up of the NCAs, and together they perform the supervisory functions. However, credit institutions under the SSM are split into two groups, depending on their significance.[46] Significant credit institutions established in participating Member States are under the direct micro-supervision of the ECB. Less significant institutions established in participating Member States, instead, remain under the supervision of NCAs. According to the SSMR, the ECB has the exclusive competence to grant or withdraw the authorization to carry out the banking business and to assess acquisitions and disposals of qualifying holdings in credit institutions.[47] Regarding significant credit institutions, the ECB holds the powers to ensure the compliance with Union law and to carry out stress tests and the SREP, along with investigatory and sanctioning powers.[48]

2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010 2022.

[44] Set out by the SSMR, see (n 8) and (n 9).

[45] The legal basis are set out in the Consolidated version of the Treaty on the Functioning of the European Union 2016 art 127(6).

[46] See (n 12).

[47] SSMR, artt 4 - 6.

[48] ECB powers and tasks reflect the one assigned to the NCAs by the CRD, sections III-IV.

1.2. *ESG and prudential supervision, a challenging integration.*

In the previous paragraph, the analysis of the EU banking supervisory framework offered a sneak peek of the complexity brought by the simultaneous cooperativeness of several layers of legislations and different authorities, with the concrete risk of functions and powers overlapping. In this context the integration of ESG factors are quite challenging. Therefore, the EU seems to be cautious and willing to adopt a progressive approach.[49] The first concrete step was the establishment of a strong dialogue between credit institutions, competent supervisory authorities, and stakeholders, through the enhancement of disclosures' requirements.[50]

Moreover, most competent authorities agree on the importance of a consistent path of supervisory engagement activities, including dialogue[51] with credit institutions, issuance of ESG related guidelines and expectations, speeches, publication of research. Evidence on that is provided by a Black Rock study on ESG, prepared for the Commission, in which a survey among European supervisory authorities shows that "62% of supervisors interviewed have already released guidelines around ESG risk considerations, while 8% plan on

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[49] As underlined in the EBA Roadmap on Sustainable Finance. See chapter I (n 64).

[50] Transparency and disclosures are the first key objectives in the development of a sustainable finance framework, according to the EBA Roadmap on Sustainable Finance. See chapter I (n 64).

[51] Dialogue could be either formal or informal.

releasing guidance within the next year, and 15% within the next three years".[52] These are tool belonging to the world of the so-called "soft law", which is widely adopted by the EU institutions.

Supervisors' commitment to fostering awareness of ESG risk-related issues in supervised banks is not the only step made. Indeed, the EU began a process also to the "hard law" side to integrate ESG in banking prudential supervision. The Commission, on its proposal for a directive amending the CRD,[53] highlighted the will to introduce consistent previsions concerning ESG factors and risks. One of the specific objectives is to enhance the focus on ESG risks in the prudential framework.[54] Indeed, the CRD proposal aims to introduce new provisions and adjustments to several articles "to address the significant risks that credit institutions will face due to climate change and the profound economic transformations that are needed to manage this and other ESG risks".[55]

Among the amendments proposed, articles 73 and 74 should require that "short, medium and long-term horizons of ESG risks be

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[52] See BlackRock Financial Markets Advisory and Directorate-General for Financial Stability (n 83) 160–161. The relevance of ESG guidelines for credit institutions will be properly addressed in the following paragraph.

[53] Proposal for a Directive of the European Parliament and of the Council amending Directive 2013/36/EU as regards supervisory powers, sanctions, third-country branches, and environmental, social and governance risks, and amending Directive 2014/59/EU 2021.

[54] The CRD proposal admits that the present legal requirements alone are insufficient to provide incentives for a systematic and consistent management of ESG risks by banks. See CRD proposal 4.

[55] CRD proposal 12.

included in credit institutions' strategies and processes[56] for evaluating internal capital needs as well as adequate internal governance".[57] Article 87a aims to introduce a sustainability dimension in the prudential framework "to ensure a better management of ESG risks and incentivize a better allocation of bank funding across sustainable projects, thus helping with the transition to a more sustainable economy".[58] This new article empowers competent authorities to ensure that credit institutions have robust strategies, policies, processes and systems for the identification, measurement, management and monitoring of environmental, social and governance risks over an appropriate set of time horizons. Moreover, article 87a gives to the EBA the mandate to issue guidelines to specify minimum standards for the measurement and management of ESG risks,[59] together with quantitative and qualitative criteria for the assessment of the impact of ESG risks on the financial stability of institutions in the short, medium, and long term.[60]

In addition, CRD proposal articles related to the SREP are amended to require competent authorities "to assess the adequacy of institutions' exposures as well as of the

[56] An effective risk management that embeds ESG factors into business strategies is an indispensable element for the creation of value in the medium to long term, as reported by Rosa Calderazzi, 'La Sostenibilità Nell'impresa Bancaria' Supplemento al n. 4/2022 Rivista Trimestrale di Diritto dell'Economia 182.

[57] ibid.

[58] ibid.

[59] CRD proposal, art 87a (5)(a).

[60] CRD proposal, art 87a (5)(c).

arrangements, strategies, processes and mechanisms to manage these risks in their review and evaluation",[61] together as well with the amendment article to introduce ESG risks into the stress test methodologies performed by the NCAs.[62] Concrete supervisory powers to address ESG risks are also added in the amended article 104. Among them, competent authorities shall require credit institutions to reduce the risks arising from a misalignment with EU objectives relating to ESG factors over the short, medium and long term, including through adjustments to their business models, governance strategies and risk management. [63]

Even though the CRD proposal has not already turn into binding regulation, the EU seems to be quite determined to raise the bar pushing the effective integration of ESG risks into both the banking regulatory and supervisory framework. Indeed, the EU is aware that "the long-term nature and the profoundness of the transition towards a sustainable, climate-neutral and circular economy will entail significant changes in the business models of institutions",[64] and that "The adequate adjustment of the financial sector, and of credit institutions, is necessary to achieve the objective of net-zero greenhouse gas emissions in the Union's economy by 2050, while maintaining the inherent risks under control".[65]

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[61] CRD proposal, art 98.

[62] ibid, art 100.

[63] CRD proposal 91d (27)(a)(ii).

[64] CRD proposal, whereas (33).

[65] ibid.

This approach raises some concerns, due to the recurrent lack of unform and reliable data sets and models,[66] and given that these new binding acts require a deep understanding of the topic, which doesn't seem to have been achieved yet.[67]

[66] See chapter II (n 103).

[67] Namely, as Bevivino (chapter II n5) 598 says, "these forms of regulation require a broad understanding of the topic, so until then it will be more useful to use bank governance and supervision, along with useful skill acquisition processes, to accompany the regulation of sustainability in the presence of a paradigm shift." (our translation).

2. *Supervisory expectations*

Expectations play a fundamental role inside the integration process of ESG risks into prudential supervision. In 2020, the NGFS[68] recognized their relevance to foster the transition to a more circular and sustainable economy through a productive and useful supervisory dialogue with institutions directly supervised.

Indeed, according to the NGFS, supervisors shall clarify to credit institutions what is expected of them. In their guide for supervisors,[69] to effectively manage climate-related and environmental risks, the NGFS analyze five areas that should be covered by supervisory expectations.[70]

Governance, strategy and risk management are of major importance. A clear definition of the roles and the responsibilities within existing governance arrangements is fundamental to incorporate properly these new risks inside a

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[68] The Network for Greening the Financial System is a group of central banks and supervisors committed to sharing best practices, to support the transition toward a sustainable economy and to develop environment related risk management in the financial sector. The NGFS current composition consists of 127 members and 20 observers. See 'NGFS' (*Banque de France*) <https://www.ngfs.net/en>.

[69] NGFS, 'Guide for Supervisors: Integrating Climate-Related and Environmental Risks into Prudential Supervision' <https://www.ngfs.net/en/guide-supervisors-integrating-climate-related-and-environmental-risks-prudential-supervision>.

[70] The five areas are Governance, Strategy, Risk management, Scenario analysis and stress testing, and Disclosures.

long-term business strategy.[71] In addition, Supervisors should expect credit institutions to have “policies and procedures in place to identify, assess, monitor, report and manage all material risks”,[72] and to incorporate climate-related and environmental risks in their processes for traditional risks. Supervisors should also expect credit institutions to enhance their scenario analysis and stress testing methodologies and tools, together with the relative disclosures, in order to start integrating ESG risks in their decision making and risk management processes.

[71] NGFS (n 69) 38.

[72] ibid.

2.1. *The ECB and Bank of Italy supervisory expectations*

Following the recommendations set in the NGFS Guide for Supervisors[73], as well as the provisions set out in the European Green Deal[74] and in the Commission action plan on financing sustainable growth,[75] the ECB developed a guide[76] which describes the expectations on how institutions should "consider climate-related and environmental risks – as drivers of existing categories of risk – when formulating and implementing their business strategy and governance and risk management frameworks".[77]

The guide focuses on climate-related and environmental risks,[78] developing 13 expectations in 4 strategic fields.[79] First, the ECB expects institutions[80] to understand the impact of these kind of risks on the business environment in which they operate, in the short, medium, and long term.[81] Identifying and assessing these risks and their influence is a

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[73] See (n 56).

[74] Commission, 'The European Green Deal' (communication) COM (2019) 640 final.

[75] Commission, COM (2018) 097 final.

[76] European Central Bank (n 105).

[77] ibid 3.

[78] This is just one of the themes composing ESG risks. However, as specified in Chapter I, paragraph 2, the EU progressive approach addresses environmental issues first.

[79] Respectively: business model and strategy, governance and risk appetite, risk management and disclosures.

[80] The ECB guide is aimed at significative credit institutions directly supervised by the ECB.

[81] Expectation 1, European Central Bank (n 62) 16.

preliminary step for credit institutions, in order to adapt their business strategy process. This process requires the use of scenario analysis,[82] a specific tool useful to test the resilience of a business model, as well as the implementation of key performance indicators (KPIs).[83] Institutions are expected to perform both a short-to-medium[84] term and a long term[85] assessment. The latter is particularly important because the environmental risks horizon could be longer than traditional banking risks.

Another relevant area regards the management body. Indeed, the ECB expects that the management body is aware of climate-related and environmental risks,[86] and that specific roles and responsibilities concerning these risks are clearly allocated to its members.[87] A clear allocation of responsibilities that identifies, assess, and manage these risks should be transparent and fully documented.[88]

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[82] Expectation 2, ibid 18.

[83] Some relevant KPIs, according to the ECB guide, are the carbon emission footprint of its assets, the average energy label of mortgage portfolios, and the number of homes that saw an energy label improvement thanks to its financing.

[84] Usually, three to five years.

[85] Five years or more.

[86] Indeed, "prior to regulating in the dark, the situation should be first assessed prudently with a focus on understanding the interaction between governance and sustainability factors", according to Dirk A Zetzsche and Linn Anker-Sørensen, 'Regulating Sustainable Finance in the Dark' (25 August 2021) 37 <https://papers.ssrn.com/abstract=3871677>.

[87] Expectation 3, European Central Bank (n 62) 21. The management body is also expected to oversight over the effective integration of climate-related and environmental risks in the business strategy. Moreover, the ECB strongly recommend the establishment of a dedicated risk committee.

[88] ibid 26.

Furthermore, institutions are expected to develop these risks in their risk appetite framework (RAF),[89] to increase their resilience.[90] Institutions are expected to develop a consistent risk inventory by adopting appropriate key risk indicators for managing climate-related and environmental risks.[91] This goal should also be reached through a coherent remuneration policy that stimulates members of the management body to commit to moderate risk-taking environmental strategies.

The natural consequence of these recommendations is that institutions are expected to set out regular and transparent reporting mechanisms to provide the management body and the risk committee[92] with regular reports on the institution's exposures to climate-related and environmental risks. This is the best way to achieve the best decision-making process at management level so managers can effectively monitor, manage, and mitigate their exposures.[93]

The ECB, after examining banking governance and risk appetite, focuses on its expectations relating to risk management. Namely,

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[89] Namely, the amount of risk that an organization is willing to accept in pursuit of its business objectives.

[90] Expectation 4, European Central Bank (n 62) 24.

[91] The ECB insists on the importance of effective compliance and internal audit procedures that are capable to duly address and manage climate-related and environmental risks.

[92] Several banks have nominated a Chief Sustainability Officer and have established a committee dedicated to sustainability in order to help the management body to implement ESG risks. See Anna Maria Pancallo, 'Fattori ESG e Governance Bancaria' Supplemento al n. 4/2022 Rivista Trimestrale di Diritto dell'Economia 217.

[93] Expectation 6, European Central Bank (n 62) 29.

institutions are expected to incorporate climate-related and environmental risks as drivers[94] of existing categories into their risk management framework in the short, medium, and long-term horizon.[95] Institutions are also expected to consider in their capital adequacy assessment[96] any risk stemming from climate change and energy transition, and to perform regular internal reviews to check the adequacy of the methodologies adopted.

As regards credit risk, which is the main risk category from a quantitative and qualitative point of view,[97] the ECB expects credit institutions to consider, in their credit risk management procedures, climate-related and environmental risks at every stage of the credit-granting process and to monitor the risks in their portfolios.[98] Institutions are expected to identify borrowers that may be exposed to increased environmental risks, due to, for example, the geographic areas where they are located. These considerations also affect the value of collateral provided by borrowers. For example, as concern commercial and residential real estate, institutions must take into account the

[94] Chapter II, paragraph 2 analyzes the ways in which climate-related and environmental risks drive the different risk areas, including credit, market, and operational risks.

[95] Expectation 7, European Central Bank (n 62) 31.

[96] Namely, the ICAAP, the internal capital adequacy assessment process, aimed to maintain on an ongoing basis the amounts, types and distribution of internal capital that institutions consider adequate to cover the nature and level of the risks to which they are or might be exposed. See CRD, art 73.

[97] As previously said in chapter II, according to the EBA Discussion paper (2022) 18, credit risk represents more than 80% of the RWA composition for credit institutions.

[98] Expectation 8, European Central Bank (n 62) 35.

physical locations and the energy efficiency of properties and then develop an adequate pricing that reflects and comprehends these risks.[99] Moreover, the EBA guidelines on loan origination and monitoring establish that institutions should implement a pricing framework linked to the characteristics of the loan, considering all the relevant costs.[100]

Operational risk is another relevant category considered by the ECB. Indeed, institutions are expected to consider how climate-related and environmental factors can jeopardize operations in all the business lines and procedures.[101] Operational risks linked to environmental factors can materialize in different ways. Institutions' IT services and activities are vulnerable to these risks, for example if their service providers are established in locations prone to extreme weather events and business continuity is consequently put at risk.[102] Another way is through reputational damage. Institutions involved in social or environmental scandals and controversies could face negative financial impacts as market sentiment is becoming increasingly responsive to environmental and climate related risks. Financing business with significant polluting activities and a big carbon footprint represents a real risk, whereby institutions are expected to periodically screen

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[99] CRD, art 76(3) prescribes that institutions shall review whether the price of assets offered to clients take the business model and risk strategy fully into account. Therefore, clime-related and environmental risks are expected to become part of the assets pricing model.

[100] EBA GL 2020 06 Final Report on GL on Loan Origination and Monitoring.

[101] Expectation 9, European Central Bank (n 62) 38.

[102] Many services provided by credit institutions are digitalized. Therefore, IT is a fundamental aspect to consider when evaluating operational risks.

counterparties for controversial activities and reflect the results in the relevant risk report.

Regarding market risk management, the ECB expects institutions to set out policies to identify any market risk stemming from environmental and climate related risks,[103] e.g., a potential shift in supply and demand for financial instruments, product, and services. The business model of an institution should be able to capture the risks coming from exposure to activities which do not adopt a sustainable management approach, or to activities that can negatively be affected by a change in public's perception.[104]

Furthermore, institutions exposed to climate related and environmental risks are expected to evaluate the appropriateness of their stress testing process and methodology, with the aim to incorporate these risks and vulnerabilities into their stress scenarios.[105] The ECB set some aspects that should be considered at least when conducting a stress test, such as how the institution might be affected by physical risk and transition risk, how these risks might evolve under various scenarios, and how they might materialize in the short, medium and long term, depending on the scenarios considered.[106] The usual perspective should cover a forward-looking horizon of at least three years. Institutions are

[103] Expectation 10, European Central Bank (n 62) 41.

[104] The negative shift of market sentiment in relation to environmental and climate-related risks often comes from the perception of a business model as environmentally unsustainable because the company is not sufficiently committed into sustainability, or it is guilty of greenwashing.

[105] Expectation 11, European Central Bank (n 62) 42.

[106] ibid.

expected to extend the time horizon for climate-related and environmental risks.

The ECB also considers liquidity risk management. Indeed, institutions should assess whether material climate-related and environmental risks could cause net cash outflows or depletion of liquidity buffers and, if so, incorporate these factors into their liquidity risk management and liquidity buffer calibration.[107]

The last expectation concerns disclosures. The ECB acknowledges the importance of an effective disclosure process, so institutions are expected to disclose climate-related and financial risks that they deem to be material through meaningful information[108] and key metrics.[109] The assessment of these risks needs to be public and not confidential. Even in case an institution deems climate-related risks to be immaterial, the institution is expected to explain relevant information about their assessment.

Supervisory expectations set out by the ECB are addressed to significant institutions established in the Banking Union and under the SSM. However, the guide was developed jointly by the ECB and the NCAs, with the aim of applying these recommendations also in the prudential supervision of less significant institutions (LSIs). The goal is to ensure a consistent and uniform application of high supervisory standards across the Eurozone.[110] Following the path of the ECB, NCAs have issued guidance on sound, effective and comprehensive

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[107] Expectation 12, ibid 43.

[108] Disclosures comprehend not just metrics and targets, but also methodologies, definitions and criteria associated with them.

[109] Expectation 13, European Central Bank (n 62) 47.

[110] ibid 7.

management, and disclosure of climate-related and environmental risks. Among them, the Bank of Italy in early 2022 developed a set of 12 expectations, to begin a supervisory dialogue with the credit institutions directly supervised.[111] The expectations aim to provide general, non-binding guidance, leaving room for the institutions to adopt the methodologies deemed more adequate to their level and intensity of exposure to risks, based on their business model.[112]

The Bank of Italy's expectations faithfully follow the ones established by the ECB, addressing the integration of climate-related and environmental risks in key areas such as Governance, business strategy and operational processes, risk management framework and disclosure to the market. The expectations are addressed to all the entities whose activities are subject to authorization and supervision by the Bank of Italy in accordance with the Consolidated Law on Banking and the Consolidated Law on Finance.[113] All the entities are expected to enhance their corporate culture and strategy, starting from the management body, down to the business model and strategies. The Bank of Italy insists in particular on the principle of proportionality,[114] and it also proposes

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[111] Banca d'Italia, 'Aspettative Di Vigilanza Sui Rischi Climatici e Ambientali' (2022) <https://www.bancaditalia.it/focus/finanza-sostenibile/vigilanza-bancaria/en_Aspettative_di_vigilanza_BI_su_ESG.pdf>.

[112] ibid 3.

[113] Namely banks, SIMs, SGRs, self-managed SICAVs/SICAFs and financial intermediaries under Article 106 of the TUB and related parent companies, payment institutions, IMEL. See Banca d'Italia, 'Aspettative Di Vigilanza Sui Rischi Climatici e Ambientali' (2022) 3.

[114] Namely, the different interventions to address climate-related and environmental risks should be proportioned to the materiality of the risks the institution may incur. See Expectation 3, Banca d'Italia (n 105) 7.

different approaches and possible organizational solutions. First, the centralized approach, which involves the "establishment of an *ad hoc* structure to govern climate-related and environmental risks and that serves as a reference point for all issues relating to sustainability".[115] Then, the decentralized approach, where the management of sustainability issues is spread across the various business units involved.[116] Finally, the Hybrid approach,[117] which combines the presence of a structure dedicated to climate-related and environmental risks with the assignment to other subjects of specific responsibilities requiring ad hoc expertise, due to their level of technicality and complexity.

The Bank of Italy insists on other aspects which are already evidenced by the ECB, such as the necessity to incorporate the impact of climate-related and environmental risks into their ICAAP and ILAAP.[118] Moreover, institutions are expected to consider the impact of these risks on the traditional risk categories, namely credit, market, operational and liquidity risks,[119] together with the expectation on ESG disclosures.[120]

Right after the issuing of the supervisory expectations, a survey was conducted on a representative sample[121] of 21 LSIs to provide a

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[115] ibid.

[116] ibid.

[117] ibid.

[118] Expectation 6, ibid 11.

[119] Expectations 8, 9, 10 and 11.

[120] Expectation 12.

[121] The institutions were selected to ensure diversification terms of business model, size, and geographical area in which they operate. the sample included both commercial banks offering traditional lending activities and banks more oriented on asset management.

snapshot of the state of art of the implementation of climate-related and environmental risks. The report[122] obtained from the survey shows how there is an urge to adopt adequate measures to incorporate these risks into LSIs' ordinary risk management and governance frameworks. The main findings evidenced that about 60% of intermediaries received an unfavorable assessment for over 50% of the risk analyzed,[123] hence there is a low degree of alignment with the expectations.

According to the survey, there are large gaps in the following areas: data governance strategies, integration of climate-related risks into the RAF, definition of a suitable framework for reporting to the board and inclusion of climate-related risks in the remuneration policies and internal control systems.[124] Credit institutions report that the main focus in on the difficulty in obtaining robust and reliable data, with an inevitable impact on all the areas covered by the expectations.[125]

However, at the same time the survey shows a widespread and growing awareness of the key role of climate-related and environmental risks. The Bank of Italy is urging the management bodies of all LSI'a to approve an action plan to integrate these risks into their decision-making processes and organizational and operational systems.[126]

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[122] Banca d'Italia, 'Survey on the Extent of Integration of Climate and Environmental Risks into the Organizational System of Less Significant Institutions (LSIs)' (2022).

[123] ibid 1.

[124] ibid 6.

[125] ibid.

[126] ibid 7.

2.2. *Supervisory expectations: binding or not binding?*

The previous paragraph analyzes the expectations addressed to credit institutions operating in the Eurozone. Both the ECB and the Bank of Italy state that these expectations are not legally binding.[127] However there are concerns on the actual relevance of these expectations. Are credit institutions able to decide whether and to what extent to comply with them?[128]

In Supervisory Authorities' idea, the expectations are the starting point of a dialogue with credit institutions. Therefore, it should be clear their soft law character. Nevertheless, this framing is in contrast with the requirements for the management body to adopt precise steps to comply with the supervisory requests. It is also in contrast with the fact that the expectations do not simply suggest how to incorporate climate-related and environmental risks into the risk framework, but they prescribe the adoption of precise behavioral paradigms that, if not shared by the institutions, will hardly lead to a judgement of compliance.[129] Indeed, "in the constant dialogue between the supervised subjects and the Authority,

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[127] In European Central Bank (n 62) 6, the ECB states that "This guide does not substitute or supersede any applicable law". In addition, in Banca d'Italia (n 94) 3, the Bank of Italy states that "The expectations aim to provide general, non-binding guidance" (our translation).

[128] Indeed, while not legally mandatory, such guidelines or expectations might still carry weight due to the entities establishing them, namely the ECB and the NCAs.

[129] The ambiguous nature of the expectations issued by the Bank of Italy is explored in depth by Riganti (n 28) 1268. See also Bodellini (chapter 1 n 96) 359.

any potential departure from climate-related and environmental issues would be challenging to comprehend and accept".[130]

Furthermore, within a system where the SSM ultimately broadened the intervention authority of supervisory bodies, these new expectations might significantly increase their involvement in managerial decisions, under the guise of the 'sound and prudent management' principle.[131] This intervention could threaten the necessary freedom needed by administrators to manage the institution, in the name of sustainability.[132] After all, given the undeniable influence of climate change in the environment in which banks operate, a good director should already take this into account and adjust the bank's strategy regardless of the regulatory framework on the issue.[133] Surely, it's a difficult balance to reach.[134] The only way that seems viable is the pursuit

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[130] ibid 1275 (our translation).

[131] The concerns related to this issue are real, indeed the question is whether "the banking system can withstand the flood of hard and soft law measures aimed at achieving 'sound and prudent sustainable management"', as stated by Raffaele Lener and Paola Lucantoni, 'Sostenibilità ESG e attività bancaria' [2023] Banca Borsa Titoli di Credito 21, (our translation).

[132] According to Riganti Federico, 'L'impresa bancaria nella transizione sostenibile: principi e problemi' [2022] AG 315, 325, "However, it would seem incorrect to also assign to the sustainability profiles under consideration here a valence such as to go beyond those boundaries that leave necessary room for action to administrators, which are already burdened by multiple regulatory restrictions" (our translation).

[133] This is a point of criticism raised by Concetta Brescia Morra, 'Chi Salverà Il Pianeta: Lo Stato o Le Grandi Corporation? ESG: Una Formula Ambigua e Inutile' (2022) Supplemento al n. 4/2022 Rivista trimestrale di diritto dell'economia 83.

[134] It therefore seems legitimate to ask "whether there is still freedom in business choices, or whether the limitations placed do not in fact undermine the

of a kind sustainability that is sustainable itself by mixing together profits and ESG considerations.[135]

The positive side of the ECB guide and the expectations set by the Bank of Italy is that they serve as a starting point to gather reliable and standardized data on climate-related and environmental risks, while also developing specific expertise within the management body on how to manage these risks in banking business, but besides these efforts, "regulators must refrain from meddling with the organization and operating business for intermediaries for now".[136]

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independence, especially managerial independence, of the credit institution.", as said by Andrea Minto, *La governance bancaria tra autonomia privata ed eteronomia* (CEDAM 2012) 23, (our translation).

[135] As a consequence, the quality of the human capital of the bank's management body becomes even more important, according to Pancallo (n 92) 220.

[136] This is one of the concerns that emerge from Dirk A Zetzsche and Linn Anker-Sørensen, 'Regulating Sustainable Finance in the Dark' (25 August 2021) 43 <https://papers.ssrn.com/abstract=3871677>.

3. *Supervisory review in the EU*

The previous chapters show the wide variety of requirements that credit institutions in the EU must comply with, to properly recognize, address and mitigate the inherent risks of the banking business. In this context, supervisors regularly assess and measure the risks for each institution through an activity called Supervisory Review and Evaluation Process (from now on SREP). The SREP "shows where a bank stands in terms of capital requirements and the way it deals with risks".[137] At the end of the process, the supervisor sends a SREP decision in which key objectives are set to address the identified possible issues. In addition, within the Eurozone, once a year the ECB carries out a summary of aggregate SREP results for all the banks directly supervised, to assess the overall health of the banking system.[138]

As stated by the CRD,[139] the competent authorities shall review, at least annually, the arrangements, strategies, processes, and mechanisms implemented by the institutions to comply with the CRR and the CRD itself.[140] Moreover, in 2022 the EBA, as required by the art

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[137] European Central Bank, 'What Is the SREP?' (*European Central Bank - Banking supervision*, 18 November 2021) <https://www.bankingsupervision.europa.eu/about/ssmexplained/html/srep.en.html>.

[138] For example, for SREP 2022 aggregate results, see European Central Bank, 'Aggregated Results of SREP 2022' <https://www.bankingsupervision.europa.eu/banking/srep/2023/html/ssm.srep202302_aggregateresults2023.en.html>.

[139] CRD, art 97(1).

[140] Also, the Basel Framework recognizes the paramount importance of the supervisory review process "not only to ensure that banks

107(3) of the CRD, publishes a final report setting the guidelines on common procedures and methodologies for the SREP and supervisory stress testing.[141]

The SREP has three main outcomes. First, a holistic, forward-looking assessment of the overall viability of the institution.[142] Then the issuance of a decision requiring banks, when needed, to meet their capital/liquidity requirements and implement other supervisory measures.[143] Third, the SREP provides an input into the determination of the minimum level of supervisory engagement for a specific institution as part of the next Supervisory Examination Program (SEP).[144]

The SREP framework is built around some major components. There is a categorization of institutions based on their size, risk profile, structure, internal organization, scope and on the nature and complexity of their activities. Then comes the monitoring of key quantitative and qualitative indicators. After that, the supervisory authority carries out the assessment of four areas: business model, internal governance and

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have adequate capital and liquidity to support all the risks in their business, but also to encourage banks to develop and use better risk management techniques in monitoring and managing their risks", as stated in 'Basel Framework SRP 10' (15 December 2019) <https://www.bis.org/basel_framework/chapter/SRP/10.htm?inforce=20191215&published=20191215>.

[141] European Banking Authority, 'Guidelines on Common Procedures and Methodologies for the Supervisory Review and Evaluation Process (SREP) and Supervisory Stress Testing under Directive 2013/36/EU' (2022).

[142] ibid 28.

[143] CRD, art 104.

[144] CRD, art 97-99.

institution-wide controls, and the risks to capital and to liquidity and funding. These elements are the core of the SREP process, after which the authority issues an overall SREP assessment and assigns the institution a score from a range of 1 (low risk) to 4 (high risk). The SREP assessment may also be used in setting triggers for early intervention measures,[145] and in determining if an institution is "failing or likely to fail", with all the consequences set out in the BRRD and the SRMR.[146]

Furthermore, the CRD[147] gives to the EBA the mandate to assess the potential inclusion in the SREP of ESG risks. The next subparagraph addresses the links between the ESG-related strategies, and the existing elements of the supervisory review, together with the measures identified, and the recommendations made by the EBA on how ESG risks could be reflected in supervisory review.

ESG risks, as shown in chapter II, may materialize in the form of financial risks and have a consequent negative impact on the soundness of a credit institution. Therefore, there is a link between ESG and the supervisory review, and it becomes necessary for the SREP to reflect also ESG considerations and assessments. The NGFS first raised the

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[145] As provided by the article 27 of the Bank Recovery and Resolution Directive (BRRD), see Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No 1093/2010 and (EU) No 648/2012, of the European Parliament and of the Council.

[146] See BRRD, art 27.

[147] CRD, art 98(8).

awareness on the topic,[148] then the EBA, within the CRD mandate, developed a report[149] containing some guidelines on how ESG risks should be evaluated by supervisors as an additional perspective.[150]

The EBA structures its analysis on the four areas of the SREP, beginning with the business model analysis. From an ESG perspective, supervisors should start from the analysis of the business environment in which credit institutions operate, namely their main activities, geographies, and market position. This is the starting point from which evaluate the materiality of the risks stemming from institution's exposures.[151] After that, a forward-looking assessment of the future business environment is necessary. Indeed, authorities must consider the economic long-term effects of both environmental,[152] economic[153] and social changes.[154] Then, supervisors should conduct the current business

[148] The NGFS, within the Guide for Supervisors on integrating climate-related and environmental risks into prudential supervision, first recognized the need to integrate the SREP with accurate ESG considerations, see NGFS (n 56) 48.

[149] EBA, REP (2021) 18.

[150] The report itself suggests that this work is still at an early stage and that these are just considerations to raise the awareness and to chart the course towards a full integration of ESG risks into the SREP, see EBA, REP (2021) 18 131.

[151] For example, according to EBA, REP (2021) 18 133, "Institutions providing funding to areas prone to weather hazards or industries with a record of lower labor safety standards".

[152] For example, the effects of chronic or acute weather events, as described in chapter II, paragraph 2.1.

[153] The change of trends in the market due to macroeconomic variables, relevant political commitments such as the Paris Agreement or the EU Climate Law, or shifts in the market sentiment, as explained in chapter II, paragraph 2.3.

[154] Resulting from, for example, the COVID-19 pandemic and increasing digitalization, see EBA, REP (2021) 18 133.

model analysis from an ESG risks perspective, to understand the impact of these risks from both a quantitative[155] and a qualitative[156] point of view. Supervisors are deemed to analyze the institution's financial and strategic plans as well, especially the feasibility of the projected financial performance linked to ESG risk-related objectives. Namely, understanding what the institution's goals in terms of sustainability are[157] and assessing if there are the necessary execution capabilities to achieve them. Overall, the effective evaluation of the sustainability of an institution's business strategy in the context of SREP requires a more forward-looking stance than the time horizon usually adopted. Indeed, to properly consider ESG risks,[158] the EBA recommend competent authorities to analyze institutions' business plans and strategies for a period of at least 10 years ahead.[159] This new aspect[160] would certainly

[155] Namely, supervisors should assess what assets are exposed to ESG risks and at what concentration, and whether there are differences in profitability between conventional exposures and ESG risk-related exposures, e.g., green loans.

[156] According to the EBA, REP (2021) 18 135, qualitative analysis of the business strategy regards the institution's internal capacities of evaluating and dealing with ESG risks, its relationships with stakeholders and whether the offering of sustainable banking products brings a potential competitive advantage for the institution.

[157] How the institution aims at aligning with SDGs, and how to mitigate ESG risks stemming from its exposures.

[158] In this circumstance the time horizon refers especially to climate-related and environmental risks.

[159] EBA, REP (2021) 18 135. This long-term horizon could enable authorities to spot institutions that are performing well in the short term, but whose strategy could become too risky when the business environment fundamentally changes.

represent a change in the paradigm, improving the control over the resilience[161] of the business strategy.[162]

The second area of analysis concerns internal governance and institution-wide controls. Supervisors should ensure that institutions have a transparent organizational structure with clearly defined responsibilities regarding the ESG-related aspects of the business risk strategy.[163] Supervisors should also evaluate whether the management body has sufficient knowledge and skills about ESG factors and risks, and whether the risk culture of the management body includes a clear guidance that spreads across all levels of the organization.[164]

Supervisors should assess the suitability of the institutions' remuneration policies. According to the EBA, "the most relevant from

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[160] In the current framework supervisors evaluate the business model viability from year to year. The commonly used timeframes by institutions does not exceed a 3 to 5 years horizon.

[161] However, the reliability of scenario analysis is paramount to achieve this goal. According to the EBA, the development of methodologies and the availability of more precise data will be necessary, see EBA, REP (2021) 18 139.

[162] The ECB is aware of the issue represented by the mismatch between the need for measures in the short term to mitigate the impacts of climate change on financial stability in the long term. However, market players (not only credit institutions) are increasingly aware that the climate-related and financial risks consequences that they thought lay in the remote future are now much closer. See Seraina N Grunewald, 'Climate Change as a Systemic Risk – Are Macroprudential Authorities up to the Task?' (17 April 2020) 5 <https://papers.ssrn.com/abstract=3580222>.

[163] The EBA is aligned with the expectations set by the ECB, see chapter III, paragraph 2.1.

[164] Supervisors should ensure that ESG factors and risks are sufficiently incorporated as part of the overall risk management framework.

the perspective of ESG is the alignment of remuneration policy with the institution's long-term risk management framework and objectives".[165] As another part of the internal governance framework, supervisors should also assess that IT systems are capable of supporting data aggregation and of identifying, quantifying, and monitoring ESG risks.[166]

The third area of the SREP regards the assessment of risk to capital. Supervisory authorities should evaluate how to properly understand the impact of ESG factors on the risk to capital and capture the level of ESG risks to which credit portfolios are exposed. First, it is necessary to assess if the institution is aware of how ESG risks drive credit risk, then if the institution has assessed their impact on its credit risk, and how ESG risks are consequently included in loan origination and monitoring.[167] Other factors to analyze are the sectoral and geographic concentration of exposures, better if matched with physical risk metrics, in order to assess counterparties' physical risks in the medium to long term. This kind of evaluations raise some serious challenges, so the EBA suggests including a set of forward-looking tools for supervisors to understand how institutions' exposures can be impacted by ESG risks.[168] One of the tools provided is the assessment of the criteria that institutions deem eligible for environmentally

[165] EBA, REP (2021) 18 141.

[166] Another point in common with the ECB supervisory expectations, see chapter III, paragraph 2.1.

[167] Namely, how the institution evaluate the ESG risk profile of the counterparty through its rating assignment.

[168] EBA, REP (2021) 18 146. The tools proposed by the EBA regards climate-related and environmental risks.

sustainable lending.[169] Another tool for supervisors consists in checking if the institution's credit strategy is fully aligned with the established ESG risk appetite.

As regards market risk, supervisors should check whether credit institutions have a proper ESG strategy for market risk in place. Supervisors should also assess the presence of an ESG checklist embedded in a solid due diligence framework on market investments.[170]

On the other side, a thorough supervisory review on operational risk should comprehend some considerations on how the exposures that the institution is financing could increase the risk of future reputational or legal damage.[171]

The last area of the SREP is the assessment of risk to liquidity and funding. According to the EBA, supervisors should focus on the evaluation of liquidity needs, in particular if ESG risks could cause net cash outflows that negatively impact the institution's liquidity position.[172] Supervisors should also evaluate the stability and sustainability of the funding profile, namely whether funding instruments with high ESG risks could affect funding in the medium to long-term horizon.[173] Therefore, a particular attention to a different and more ESG oriented

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[169] Through this tool supervisors should be able to check if institutions are exposed to the risk of greenwashing.

[170] This is a sign that institutions are committed on sustainability matters.

[171] The impact of ESG risks on reputational and legal damage are explored in chapter II, paragraph 2.2.

[172] Chapter II, paragraph 2.2 analyses more in depth the link between ESG and liquidity risks.

[173] EBA, REP (2021) 18 149.

funding and liquidity profile could be a key indicator for supervisory authority.[174]

The integration of ESG risks into the supervisory review framework is a progressive and proportional process. The EBA acknowledges the uncertainties related to the quantification of ESG risks. The lack of data seems to be the biggest stumbling block. However, data availability methodologies to detect ESG risks are expected to largely improve once institutions and their counterparties start disclosing information on these risks.[175] In this context, the adoption of stress testing could be useful to assess the resilience of institutions in specific scenarios.

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[174] In this case governance plays a key role in the risk management framework underlying liquidity and funding risk.

[175] EBA, REP (2021) 18 150.

4. *ESG risks in stress testing*

Stress testing is a powerful tool for EU banking supervision to assess how well credit institutions can manage financial and economic shocks. The CRD states that competent authorities shall carry out as appropriate but at least annually supervisory stress tests on institutions they supervise, with the aim of providing useful information to facilitate the SREP.[176] The CRD also mandates the EBA to develop guidelines[177] to ensure the application of common methodologies among the competent authorities when conducting annual supervisory stress tests.[178]

In addition to the prevision of the CRD, every two years the EBA carries out an EU-wide stress test exercise. Indeed, the EBA Regulation gives the Authority powers to coordinate the stress test in cooperation with the ESRB, the ECB and the NCAs. The goal is to assess "the resilience of financial institutions to adverse market developments, as well as to contribute to the overall assessment of systemic risk in the EU financial system."[179] The test covers the largest banks in the EU and European Economic Area (EEA)[180] and allows supervisors to analyze

[176] CRD, art 100(1).

[177] European Banking Authority (n 119).

[178] CRD, art 100(2).

[179] 'EU-Wide Stress Testing' (*European Banking Authority*, 2 November 2018) <https://www.eba.europa.eu/risk-analysis-and-data/eu-wide-stress-testing>.

[180] For example, according to the EBA, the 2023 EU-wide stress test involved 70 banks from 16 countries, covering 75% of the EU banking sector assets, see 'EBA Publishes the Results of Its 2023 EU-Wide Stress Test' (*European Banking Authority*, 28 July 2023)

the banking sector over a three-year horizon under both a baseline and an adverse scenario.[181] The ECB simultaneously to the EU-wide stress test conducts its own stress test for those banks under its direct supervision that are not included the EBA stress test.[182]

Stress tests in practice consist of a forward-looking evaluation of an institution's capital that shows how a hypothetical economic and financial negative shock would affect its capital ratios. The EBA in its guidelines describes the key objectives of stress testing and shows that competent authorities should primarily assess institutions' risk to capital, to liquidity and funding, together with the suitability of institutions' own scenarios adopted to test the strength of their ICAAP and ILAAP.[183] Another goal of stress testing is to identify possible deficiencies in overall governance arrangements or institution-wide controls.[184]

Under this current framework, NCAs need to find a way to include ESG risks in stress testing in the most effective way. In 2022, the ECB performed the first climate risk stress test (CST) as its annual stress

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<https://www.eba.europa.eu/eba-publishes-results-its-2023-eu-wide-stress-test>.

[181] ibid.

[182] In 2023, the ECB in parallel examined another 41 directly supervised smaller banks, reaching 80% of the euro area's banking sector, see European Central Bank, 'Stress Tests' (25 July 2023) <https://www.bankingsupervision.europa.eu/banking/tasks/stresstests/html/index.en.html>.

[183] European Banking Authority (n 119) 221.

[184] This part of the stress test provides useful information for the assessment of the appropriateness of the management body under the annual SREP, see chapter III, paragraph 3.

test.[185] The CST[186] explores institutions' level of preparedness for managing climate risk. The ECB asked banks to provide data and projections under different climate risk scenarios following a bottom-up methodology[187] previously established.[188] A substantial part of the stress test consisted in gathering information to understand the steps made by credit institutions to integrate climate risk into their internal stress-testing frameworks.[189]

The methodology imposed by the ECB had three modules. In Module 1 there was a qualitative questionnaire to provide a uniform assessment of banks' climate risk stress-testing capabilities.[190] Module 2 consisted of two climate risk metrics aimed at testing the sensitivity of

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[185] In years when there is no EU-wide EBA stress test, the ECB tests institutions under its direct supervision against a specific kind of shock, in cooperation with national supervisory authorities. The 2022 climate stress test falls within the supervisory priorities for 2022-2024 set by the ECB together with the national competent authorities, see European Central Bank, 'ECB Banking Supervision – Supervisory Priorities for 2022-2024' <https://www.bankingsupervision.europa.eu/banking/priorities/html/ssm.supervisory_priorities2022~0f890c6b70.en.html>.

[186] European Central Bank., *2022 Climate Risk Stress Test.* (Publications Office 2022) <https://data.europa.eu/doi/10.2866/97350>.

[187] The bottom-up approach aims to let banks provide "the qualitative and quantitative input while complying with a common methodology and applying a common set of scenarios", according to ibid 10.

[188] According to the note 'Climate Risk Stress Test (2021)' <https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.climateriskstresstest2021~a4de107198.en.pdf>.

[189] European Central Bank. (n 186) 20.

[190] ibid 10.

banks' income to transition risk and their exposure to carbon-emission intensive industries.[191] Module 3 featured the bottom-up stress test, where banks were asked to provide projections for a number of different scenarios and risk areas,[192] namely three long-term transition risk scenarios.[193]

However, it is important to note that this stress test is different from the standard ones. The ECB analyzed a wider set of qualitative and quantitative information than usual.[194] Given the relevant peculiarities of this stress test, the ECB decided essentially to use it as a learning exercise, without any direct capital implications for the supervised institutions.[195]

The CST provided some relevant outcomes. The ECB found that climate risks are relevant for the large majority of significant institutions directly supervised, which means that banks generate a significant amount of income from activities with a heavy carbon footprint. Consequently, significant institutions are exposed to acute physical

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[191] ibid.

[192] ibid.

[193] The orderly scenario, with a smooth and gradual transition. The disorderly scenario, bringing out higher transition risks due to delays in the implementation policies. Then, the "Hot house" world scenario, which assumes that no new climate policies are implemented, see ibid Box 1.

[194] Rather than simply look at quantitative results, the ECB took into account a lot of qualitative aspects. This is partly due to the lack of available data on climate risks by the institutions, coupled with the lack of harmonized legislation in force, see ibid 4.

[195] The ECB decided that any supervisory findings could impact in the annual SREP in an indirect and qualitative way only.

risks.[196] Another relevant finding is that many credit institutions appear to lack long-term strategies for credit allocation policies, paying too little attention to the future possible effects of the transition policies.[197]

Despite banks have started to integrate climate risk into their stress-testing frameworks, the overall development of such frameworks is still at a very early stage.[198] For example, the credit risk models developed by the institutions analyzed were found to be ineffective to detect and manage climate risk shock depicted in the scenarios. The ECB found that just around 10% of the tested credit institutions has a more advanced climate-related credit risk modelling, which considers both direct and indirect transmission channels,[199] together with the analysis of counterparties through actual data.[200]

Moreover, the different practices followed by institutions to collect reliable data sets are still a relevant issue. Institutions'

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[196] Namely drought and heat events and flood risks. These are the transmission channels explored by the CST.

[197] The nature and the materiality of transition risks are addressed in chapter II, paragraph 2.1.

[198] According to the European Central Bank. (n 163) 6, "around 60% of banks do not yet have a well-integrated climate risk stress-testing framework, and most of those banks envisage a medium to long-term time frame for incorporating physical and/or transition climate risk into their framework".

[199] Transmission channels are analyzed more in depth in chapter II, paragraph 2.2.

[200] The actual data extrapolated from the disclosure documentation are used only for large counterparties. For small and medium enterprises, the standard is still the adoption of proxy data through indirect channels, see European Central Bank. (n 186) 36.

heterogeneous ways to approximate GHG emissions[201] led to report different emission estimates, even for the same counterparties. The most relevant consequence for supervisors is that the quantitative results of the CST are not yet reliable enough and should be considered "with caution".[202] However, the CST findings are going to be integrated into the SREP in a qualitative "non-mechanistic" way.[203]

In addition, the ECB collected in the CST some examples of good practices that some banks already carry out to better integrate climate-related and environmental risks in their stress testing activities. Among the good practices observed, some banks have already integrated climate risk in their ICAAP by enhancing their credit modelling capabilities.[204] Moreover, some banks have elaborated plans to deal with the green transition, including green transition targets and KPIs.

The ECB hopes that other banks will also adopt these commendable practices and remain engaged in its ongoing follow-up activities.

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[201] Also due to the recourse to different data consultants.

[202] European Central Bank. (n 186) 7.

[203] ibid 51.

[204] In particular, the ECB has positively assessed the capacity of some banks to operate at sector level or even firm level to better address the heterogeneity in corporate sector vulnerability to climate-related risks, see European Central Bank. (n 186) 52.

CONCLUSIONS

The European Union, through the Green Deal, has fearlessly embarked on the mission of making its economy sustainable. Within this all-encompassing commitment, a fundamental aspect of the strategy involves integrating ESG (Environmental, Social, and Governance) factors into banking regulation.

This integration has been addressed from various angles. The first step involved the requirement to provide uniform disclosures on ESG issues, aiming to achieve a comprehensive understanding of how and to what extent banks were sustainable. The results showed that, until a few years ago, ESG factors were considered to a minimal extent in banking activities.

In addition, the EU adopted a Taxonomy Regulation, to clearly indicate the conditions that an activity must meet to be considered sustainable. Moreover, there is currently the ongoing reform of the Capital Requirements Regulation (CRR) and Capital Requirements Directive (CRD), which aims to integrate ESG risks in both banking prudential regulation, which addresses the capital requirements of credit institutions, and supervision, which concerns the implementation of tool such as the Supervisory Review and Evaluation Process (SREP) and the stress testing.

At the same time, soft law plays a fundamental role in the integration process. The expectations on climate and environmental risks developed by the European Central Bank (ECB) and subsequently by the Bank of Italy are a concrete tool to indicate the measures that banking governance must adopt to align with these expectations. The goal is to establish a constructive dialogue with the supervisory authority,

simplifying and facilitating a transformation that would otherwise be very complex. In addition, the European Banking Authority (EBA) has received mandates for the development of reports, guidelines, and standards on possible ways to address ESG risks.

However, this integration process encounters limitations that make it very challenging. Among these there is the absence, lamented by both operators and competent authorities, of reliable and shared data and metrics, making it very difficult to quantify the risk of ESG factors. This is a problem, as the legislative framework prescribes that the quantity and composition of banks' regulatory capital should be based on the value of individual exposures weighted for their risk. When this risk cannot be accurately calculated due to incomplete data and models, there is the possibility to deviate too far from the prevailing paradigm of the risk-based approach.

Furthermore, the doubts about the non-binding nature of the expectations issued by competent authorities raises a series of questions. To what extent can administrators conform to these expectations? At what point, on the other hand, can they deviate from them? What would be the potential consequences? It seems that the boundary within which bank administrators can autonomously decide on business strategies has become simultaneously less clear but even more restrictive.

In conclusion, the commitment undertaken by the EU on sustainability is already yielding a series of fundamental changes in the banking sector. These changes need to be monitored and integrated by all stakeholders with the aim of embedding ESG factors and related risks in the regulatory framework in the best possible way.

ABBREVIATIONS

BCBS - Basel Committee on Banking Supervision

BIS - Bank for International Settlements

BPF - Brown penalizing factors

BRRD - Bank Recovery and Resolution Directive

BU - The Banking Union

CCF - Credit conversion factor

CCyB - Countercyclical capital buffer

CRA - Credit Rating Agencies

CRD - Capital Requirements Directive

CRR - Capital Requirements Regulation

CSRD - Corporate Sustainability Reporting Directive

DNB - Dutch National Bank

DP- Discussion Paper

EBA - European Banking Authority

ECB - European Central Bank

EIOPA - European Insurance and Occupational Pensions Authority

EPC - Energy performance certificate

ESAs - European Supervisory Authorities

ESFS - European System of Financial Supervision

ESG - Environmental, Social and Governance

ESMA - European Securities and Markets Authority

ESRB - European Systemic Risk Board

EU - European Union

EUGBS - European Green Bond Standard

GAR - Green Asset Ratio

GDP - Gross domestic product

GHG – Greenhouse gas

GSF - Green supporting factor

ICAAP - Internal Capital. Adequacy Assessment Process

IFR - Investment Firms Regulation

ILAAP - Internal Liquidity Adequacy Assessment Process

IMEL - Istituti di moneta elettronica

IMF - International Monetary Fund

IPCC - The Intergovernmental Panel on Climate Change

IRB - Internal Ratings-based Approach

IT - Information technology

ITS - Implementing Technical Standard

KPIs - Key performance indicators

LGD - Loss given default

LSIs - Less significant institutions

M - Maturity

NFRD - Non-Financial Reporting Directive

NGFS - The Network of Central Banks and Supervisors for Greening the Financial System

NPL - Non-performing loans

OECD - Organisation for Economic Co-operation and Development

PD - Probability of default

RAF - Risk appetite framework

RDS- Reference data sets

RWAs - Risk Weighted Assets

SA - Standardised approach

SDGs - Sustainable Development Goals

SFDR - Sustainable Finance Disclosures Regulation

SGRs - Società di gestione del risparmio

SICAFs - Società di investimento a capitale fisso

SICAVs - Società di investimento a capitale variabile

SIMs - Società d'intermediazione mobiliare

SMEs - Small and medium enterprises

SREP - Supervisory Review and Evaluation Process

SRMR Single Resolution Mechanism Regulation

SSM - Single Supervisory Mechanism

SSMR - Single Supervisory Mechanism Regulation

TEG - Technical Expert Group

TUB - Testo Unico Bancario

Relevant Legislation

1. *Treaties*

Treaty on the European Union (TEU)

Treaty on the Functioning of the European Union (TFEU)

Declaration of the United Nations conference on the human environment, 5-16 June 1972, Stockholm

Kyoto Protocol to The United Nations Framework Convention on climate change, 1997

The Paris Agreement 2015

Glasgow Climate Pact 2021

Transforming our world: the 2030 Agenda for Sustainable Development 2015

2. *European regulations and directives*

Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting 2022

Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups 2014

Proposal for a Directive of the European Parliament and of the Council amending Directive 2013/36/EU as regards supervisory powers, sanctions, third-country branches, and environmental, social and governance risks, and amending Directive 2014/59/EU 2021

Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC 2022

Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No 1093/2010 and (EU) No 648/2012, of the European Parliament and of the Council 2022

Directive (EU) 2019/878 of the European Parliament and of the Council of 20 May 2019 amending Directive 2013/36/EU as regards exempted entities, financial holding companies, mixed financial holding companies, remuneration, supervisory measures and powers and capital conservation measures 2020

Commission Delegated Regulation (EU) /... supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to the sustainable use and protection of water and marine resources, to the transition to a circular economy, to pollution prevention and control, or to the protection and restoration of biodiversity and ecosystems and for determining whether that economic activity causes no significant harm to any of the other environmental objectives and amending Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities 202AD

Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 575/2013 as regards requirements for credit risk, credit valuation adjustment risk, operational risk, market risk and the output floor 2021

Proposal for a Regulation of the European Parliament and of the Council on European green bonds 2021

Proposal for a Regulation of the European Parliament and of the Council on the transparency and integrity of Environmental, Social and Governance (ESG) rating activities 2023

Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change

adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental 2021 (OJ L)

Commission Delegated Regulation (EU) 2021/2178 of 6 July 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by specifying the content and presentation of information to be disclosed by undertakings subject to Articles 19a or 29a of Directive 2013/34/EU concerning environmentally sustainable economic activities, and specifying the methodology to comply with that disclosure obligation 2021 (OJ L)

Commission Delegated Regulation (EU) 2022/1214 of 9 March 2022 amending Delegated Regulation (EU) 2021/2139 as regards economic activities in certain energy sectors and Delegated Regulation (EU) 2021/2178 as regards specific public disclosures for those economic activities 2022 (OJ L)

Commission Implementing Regulation (EU) 2022/2453 of 30 November 2022 amending the implementing technical standards laid down in Implementing Regulation (EU) 2021/637 as regards the disclosure of environmental, social and governance risks 2022 (OJ L)

Council Regulation (EU) No 1024/2013 of 15 October 2013 conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions 2013 (OJ L)

Regulation (EC) No 1060/2009 of the European Parliament and of the Council of 16 September 2009 on credit rating agencies 2019

Regulation (EU) 2019/876 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) No 575/2013 as

regards the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk, exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements, and Regulation (EU) No 648/2012 2020

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 2019 (OJ L)

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 2020 (OJ L)

Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') 2021 (OJ L)

Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012 2013 (OJ L)

Regulation (EU) No 806/2014 of the European Parliament and of the Council of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010 2022

Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC 2021

3. *Diritto nazionale*

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4. *Soft law*

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