

## Analysis of ESG disclosures in Pillar 3 reports. A text mining approach



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*Keywords: ESG, environment, social, governance, sustainability, climate change, carbon emissions, environmental risks, physical risk, transition risk, natural language processing, pillar 3.*

*This paper tries to assess how prepared European financial institutions are for the disclosure requirement of environmental, social and governance (ESG) information, and applies text mining techniques to analyse the prudential reports, commonly referred to as Pillar 3 reports, for 2019 and 2020 of most of the significant banks under the ECB direct supervision in order to evaluate the level of awareness of these institutions in relation to the materiality of ESG risks. By applying a simple taxonomy of terms based on lexicons and regular expressions using a tool that we have developed, we are able to identify relevant excerpts with a high level of precision searching for different combinations of concepts within the taxonomy of terms. The results indicate that although there is an increased awareness of the ESG risks, the level of detail included is generally low and the introduction of the new ESG mandatory disclosures should have a significant impact on the level of disclosures in this area.*

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<sup>1</sup> The opinions in this Policy Brief are solely the author's and do not necessarily represent those of Banco de España or the Eurosystem. This Policy Brief is based on A. Moreno and T. Caminero (2022) "[Analysis of ESG disclosures in Pillar 3 reports. A text mining approach](#)", Banco de España, Working Paper, 2204.

## 1. Introduction

Climate change and environmental degradation are, in words of the European Commission, “defining global challenges of our time” (European Commission, 2021) and are increasingly being addressed by different policy initiatives.

Although climate and environment-related policies have gained a greater development, in the last years the focus is turning to the wider concept of sustainability, including its social aspect and also fostering responsible conduct of corporations. The financial sector is expected to play a key role in this transition. To reflect this, some mandates have been extended to the European Banking Authority (EBA) aiming to improve the identification, assessment and management of Environmental, Social and Governance (ESG) risks by institutions. Following these mandates, the EBA published in March 2021 draft Implementing Technical Standards (ITS) for public consultation (EBA, 2021).

Although the disclosure requirements outlined in the ITS are applicable from June 2022, the existing prudential framework already required the disclosure of those types of risks (ECB, 2020), so banks would be expected to include ESG disclosures in their Pillar 3 reports even before the ITS were published.

The current article evaluates the ESG disclosures of Significant Institutions (SIs). To that end, we analyse the presence of ESG concepts related to material risks and opportunities within Pillar 3 reports of 2019 and 2020. The study covers 106 Significant Institutions and follows the same technique described by Moreno and Caminero (2020). We have enhanced the process and the tool used in our previous work to adapt it to this specific scope.

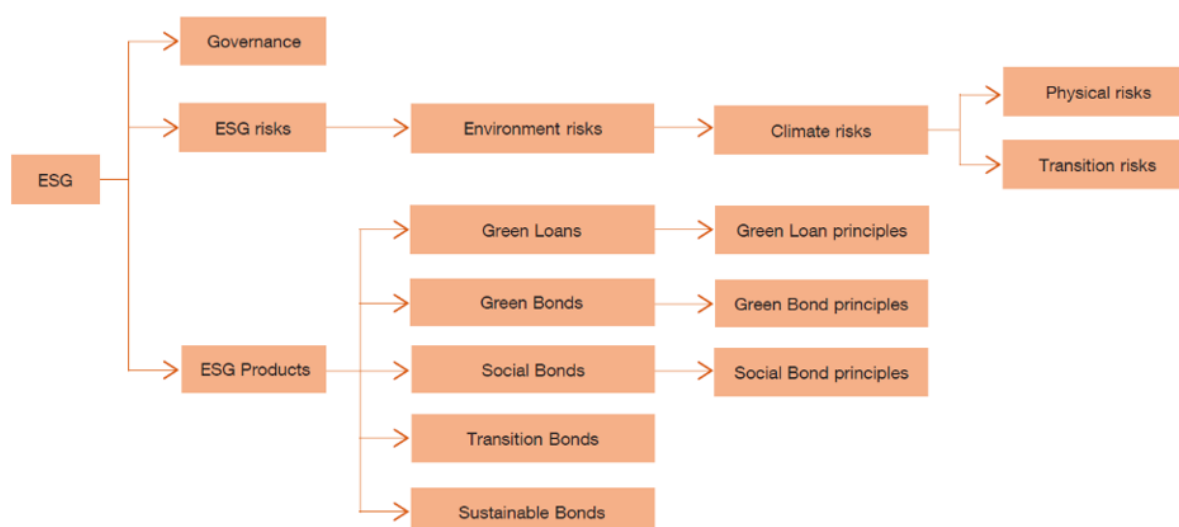
## 2. Methodology and set-up

Starting from the list of SSM SI as of July 2021, we gathered the different Pillar 3 reports from the corporate websites of each institution. We chose the English version whenever available. Otherwise, the version in the corresponding country language was used.

As described in Moreno and Caminero (2020), the process involved extracting the text of the reports, partitioning them into excerpts, tagging specific expressions according to a set of rules mainly based on lexicons and regular expressions and, finally, indexing the words and tags in the excerpts to allow querying the excerpts using a simple query language.

The tagging structure formed a hierarchy of concepts that allowed creating queries at different levels (see Figure 1). One of the benefits of having this layer on top of the terms is that excerpts in different languages can share the same concepts. In fact, since Pillar 3 reports, although typically published in English, can be published in the official language of the corresponding jurisdiction, our lexicons included terms and expressions in five different languages: English, German, French, Italian, Spanish and Portuguese.

Once a good level of confidence was reached with the rules and lexicon structure, three sets of queries were created, each set targeting one of the following areas: **ESG awareness, ESG risks and ESG products**.

**Figure 1:** Partial view of the structure of the concepts of the tagging taxonomy

### 3. Analysis of the relevance given to ESG

The first area of analysis was the awareness of ESG in terms of whether Institutions considered relevant mentioning ESG concepts as part of the Pillar 3 disclosures. The results reveal that in 2020 more institutions mention each of the concepts than in 2019, indicating a progressive increase of awareness of ESG as material to the business.

We observe that when analysing the references to ESG concepts and portfolio concepts combined in the same excerpt there are relevant difference between bigger institutions and smaller ones, especially in 2019, when no institutions referring to those concepts were found within the ones with less than 30€ billion in assets, with a significant increase up to nearly 30% of those smaller institutions in 2020.

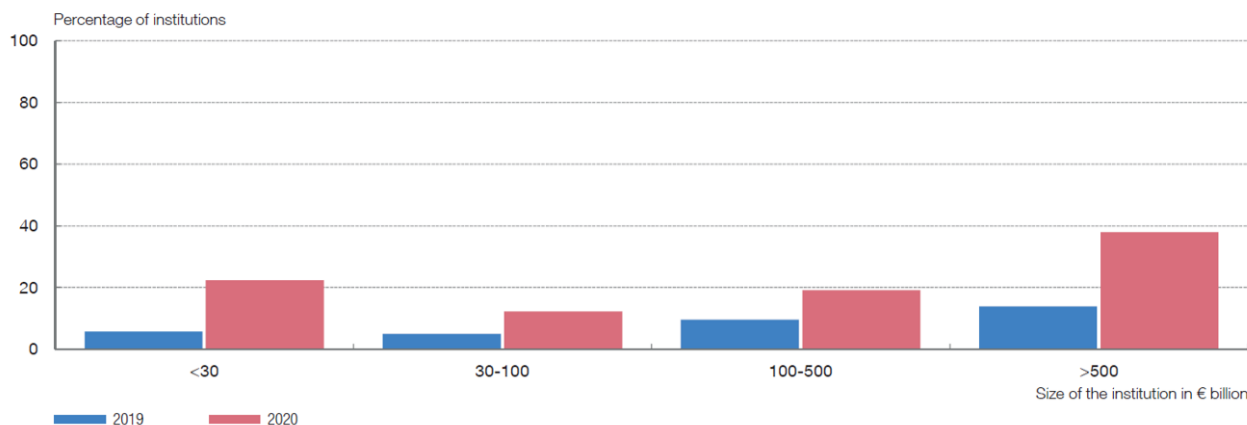
### 4. Analysis of the ESG risk-related methods described

Concerning the ESG risk-related methods, the EBA outlines several key concepts in this area:

- **International Frameworks** and standards defining ESG factors.
- The **EU Taxonomy regulation**, which classifies environmentally sustainable economic activities.
- **ESG Ratings and scoring** can provide complementary information for risk monitoring.
- **ESG Risk management methods**, being scenario analysis a method highlighted by the EBA.

Based on the above concepts, we see that although few institutions mention these very specific concepts, when arranging the metric by size (see Figure 2), it becomes clear that bigger institutions tend to refer to these concepts more. Again, the difference between 2019 and 2020 in smaller institutions is noteworthy.

**Figure 2:** Percentage of banks mentioning concepts related to ESG and risk management frameworks by size



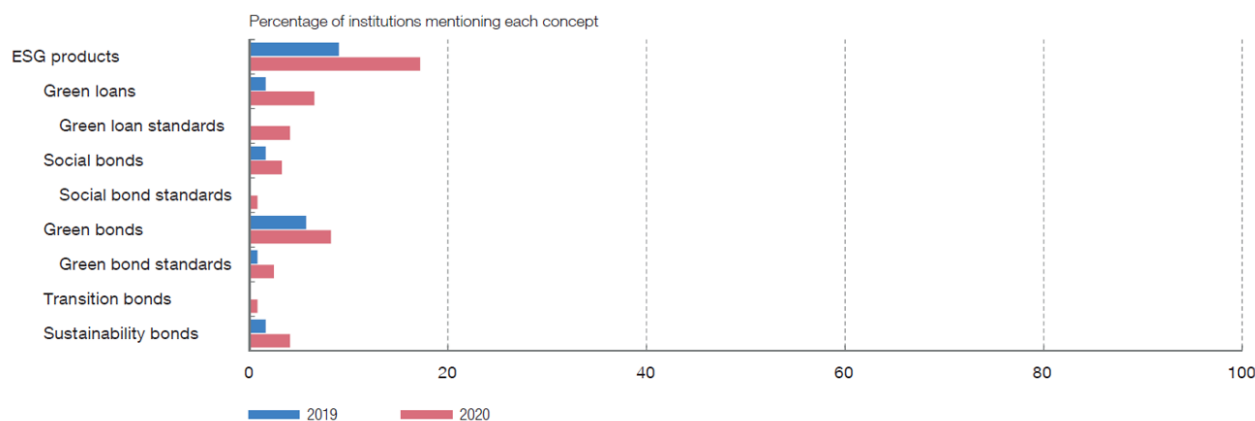
## 5. Analysis of the ESG products mentioned

The ESG-related products, are typically marked as “green” or “social”, being the two main categories: *loans* and *bonds*. Some institutions offer some type of “green loans” and have developed either internal standards or use established market standards, for example, the Green Loans Principles or the Energy Efficient Mortgages Action Plan (EeMAP).

In the case of Bonds, the EBA mentions three types in their report: *Social Bonds*, *Green Bonds*, and *Sustainability-linked bonds*. In addition, some institutions issue also a product called *transition bonds*. Finally, there are also *Sustainability bonds*, which should follow the Sustainability Bonds Guidelines provided by the ICMA (2021).

Basing our analysis on the concepts above, we can see again (Figure 3) that the number of institutions mentioning these products increased in 2020, although the percentage remains low. When looking at the distribution by size we see the same pattern as previously identified: the percentage of large institutions mentioning these products is greater than the percentage of smaller institutions.

**Figure 3:** Percentage of institutions mentioning concepts related to ESG Products



## 6. Conclusions

In this article we applied the techniques outlined by Moreno and Caminero (2020) to evaluate the level of awareness of the materiality of ESG factors in Pillar 3 reports in 106 Significant Institutions.

The technique was applied to reports in multiple languages, allowing to perform a consolidated analysis and providing a quick way to obtain an overview of the evolution of ESG disclosures within Pillar 3 reports, giving some interesting insights useful for supervisors and policy-makers. The approach could be further extended to other areas within the central bank supervision tasks. The multi-language possibility opens the door to collaboration with other supervisors in similar projects that could be applicable to multiple jurisdictions.

The results show an increased awareness of the ESG factors as material to the banking business, especially for larger institutions, but with smaller ones seemingly catching up quickly in 2020. This growing awareness coincides with the increase of regulation efforts towards making the financial system a key part of the transition towards a more sustainable economy. Still, the level of references to concepts related to very specific disclosures remains very low. As the new ITS on Pillar 3 disclosures on ESG risks becomes mandatory, the level of detail in the disclosures it is expected to increase. ■

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