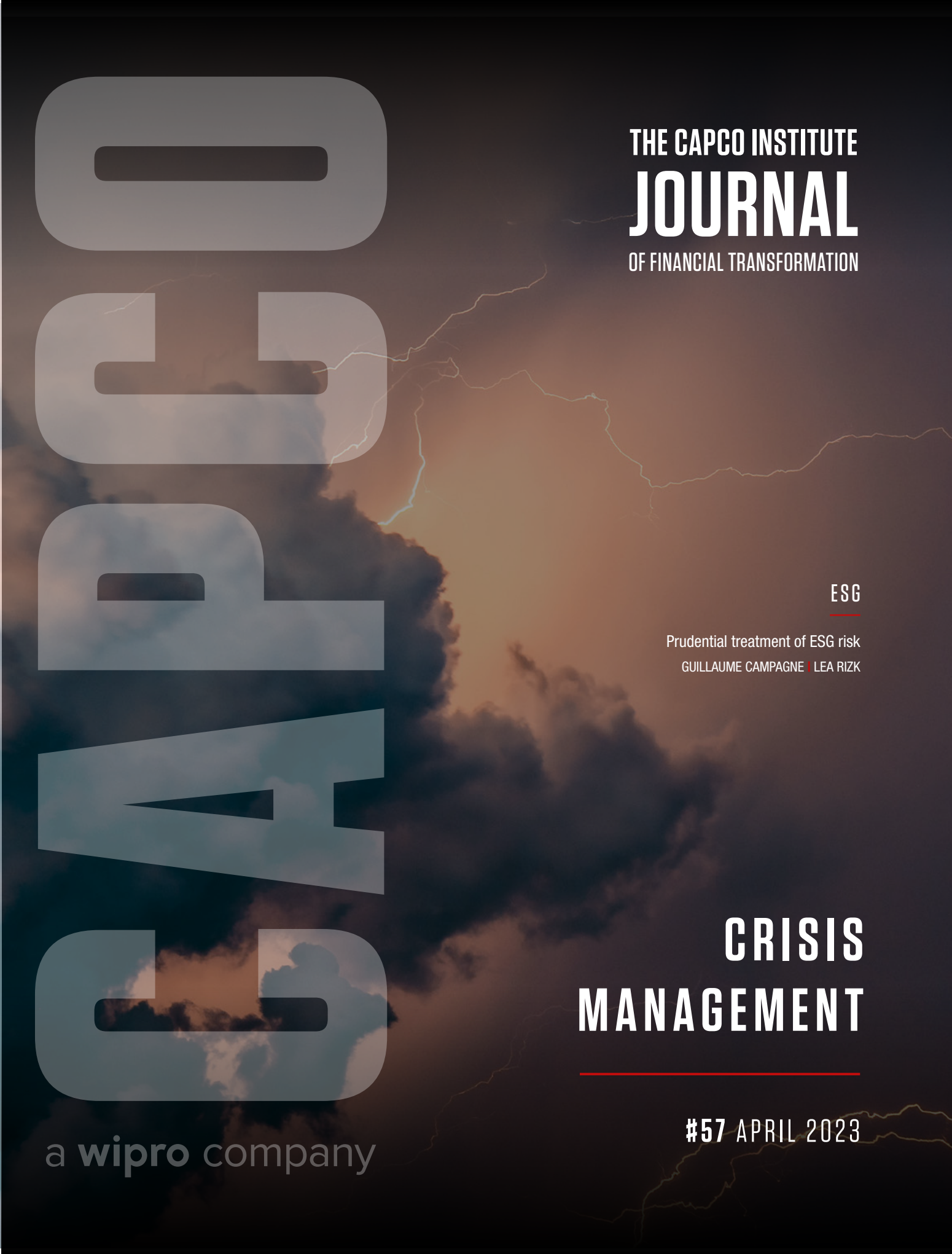

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ESG

Prudential treatment of ESG risk

GUILLAUME CAMPAGNE | LEA RIZK

CRISIS MANAGEMENT

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CONTENTS

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DEAR READER,

Recent events in the U.S. banking sector, and broader concerns around instability and contagion within the global financial services industry, have meant that crisis management is once more front of mind for many institutions.

In addition, the world of business and finance is facing broader geopolitical and socioeconomic challenges, ranging from conflict, climate change, inflationary pressures, and precarious energy resources. Factor in heightened regulatory and competitive pressures, and it becomes clear that financial institutions must prioritize risk management, within their own organizations and with their counterparties.

The papers in this edition of the Journal address the theme of crisis management through various lenses, including regulatory compliance and traditional risk management, as well ESG, the low carbon economy, and sustainable finance. Our authors also explore topics such as the impact of social change on the world of finance, the rise of artificial intelligence and virtual reality technologies, and cybersecurity.

Contributions in this edition come from a range of world-class experts across industry and academia, and showcase some of the very best expertise, independent thinking, and strategic insights within the financial services sector.

As ever, I hope that you find the latest edition of the Capco Journal to be engaging and informative. Thank you to all our contributors, and thank you for reading.

Lance Levy, **Capco CEO**

PRUDENTIAL TREATMENT OF ESG RISK

GUILLAUME CAMPAGNE | Executive Director and Financial Risk Practice Lead, Capco
LEA RIZK | Consultant, Capco

ABSTRACT

In May 2022, the European Banking Authority (EBA) published a discussion paper with the aim of evaluating the appropriateness of the current prudential framework to accurately assess the rising risks resulting from environmental issues. A key question the discussion paper seeks to address is: does the current Pillar 1 framework adequately cover new risks, such as environmental risk, or should they be subjected to a new dedicated treatment? In this article, we present the key concepts of environmental risk and examine the EBA's analysis of the interaction between environmental risks and the traditional prudential risk categories – such as credit, market, operational, and concentration risks – in order to determine whether the tools used for the latter could be modified to manage the former. We further outline the key actions firms need to take to prepare themselves for a potentially binding Pillar 1 treatment, while awaiting further regulatory guidance.

1. INTRODUCTION

In May 2022, the European Banking Authority (EBA) published a discussion paper[1] with the aim of evaluating whether the current Pillar 1 framework adequately covers new risks, such as environmental risk, or whether they should be subjected to a dedicated treatment. This article presents the key concepts of environmental risk and examines the EBA's analysis of the interaction between environmental risks and the traditional prudential risk categories – such as credit, market, operational, and concentration – in order to determine whether the tools used for the latter could be modified to manage the former.

1.1 Environmental risk – overview and key challenges

Environmental risks are by nature multidimensional, non-linear, uncertain, and forward-looking. Despite the uncertainties, environmental risks could be linked to the classic categories of financial risk through a range of transmission channels (Figure 1), and as such, they should not be considered as a separate category of financial risks.

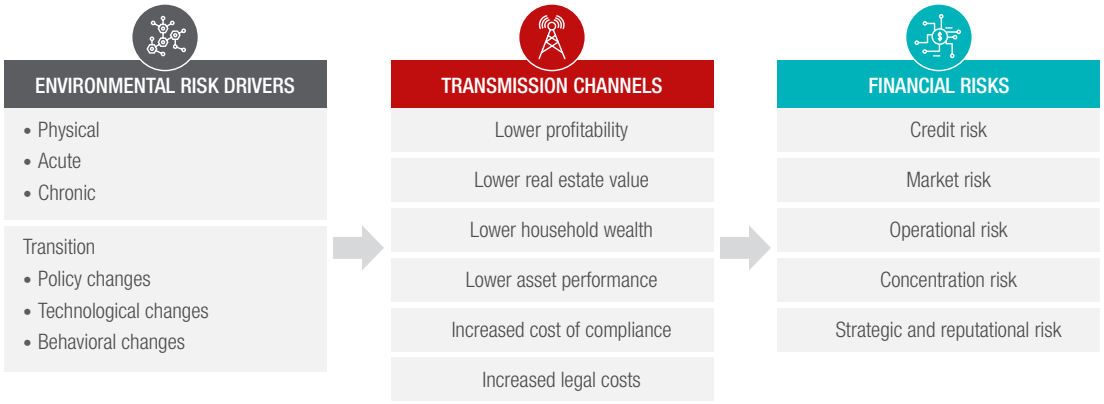
The main challenges in measuring environmental risks revolve around three major axes:

- **Data availability:** the risk classification and analysis are limited by the lack of data that is relevant, consistent, of high quality, and sufficiently granular. With time, data will become less of an issue as the E.U. taxonomy, the Corporate Sustainability Reporting Directive (CSRD), and other disclosure requirements are rolled out.
- **Estimation of losses:** the prudential framework is calibrated based on historical data, which is unlikely to fully reflect environmental risks, given the lack of sufficient or comparable information about losses due to climate-related events or transition trends.
- **Nature of most environmental risks:** there is a mismatch between the time horizon of the Pillar 1 framework (designed to capture the possible extent of cyclical economic fluctuations) and the long-term time horizon over which environmental risks are likely to fully materialize.

One of the key messages from the discussion paper is that to make the necessary adaptations to capture environmental risks within the structure of the prudential framework, it is important to keep in mind that the framework's sole objective is to strengthen institutions' resilience to all risks. The purpose of the prudential framework should not be to incentivize

[1] https://bit.ly/3D1i5XE

Figure 1: How environmental risks affect financial risks through various (non-exhaustive) transmission channels



Source: EBA, 2022, "The role of environmental risks in the prudential framework," EBA discussion paper no. 2022/02

Figure 2: How to integrate environmental risks within the standardized approach of the credit risk framework

	TOOL	ACTIONABILITY	LIMITATIONS / POTENTIAL UPSIDE
STANDARDIZED APPROACH	**External credit assessment (ECA)** – ESG factors are one of the criteria taken into consideration for the rating assessment	+	• Ambiguity over the methodology and analysis adopted by credit rating agencies (CRA) to capture environmental factors • Covering environmental aspects is not compulsory under CRA regulation leading to discrepancies • Ongoing initiatives to enhance environmental disclosure requirements and ensure transparency on ESG rating methodologies
	Credit risk mitigation (CRM) techniques – ESG factors to be captured via collaterals' valuation particularly for **exposures secured by immovable properties** whose valuation can be impacted by physical or transition risks	++	• Valuation methodologies and monitoring do not explicitly integrate environmental aspects • CRR3 proposal clarifies that energy efficiency improvements unequivocally increase the property value • Valuations will get better over time with data, standards and methodologies improvements
	Prescribed risk weights (focus on corporate and retail exposures) – ESG factors to be captured via a specific sub-exposure class. Any adjustment to the framework should be risk-based	-	• Lack of empirical evidence on risk differentials. • Adaptation of risk weight for retail exposures would be particularly challenging • Collecting further evidence (historical data, empirical research, etc.) on the risk differentials to be applied

- Very complex and/or long-term perspective
+ Complex and/or mid- to long-term perspective
++ Not complex and/or short-term perspective

institutions to redirect capital and lending, as this could negatively impact the framework's efficiency and undermine its credibility.

For that reason, the EBA adopted a risk-based approach to assess whether prudential requirements adequately reflect environmental risks and ultimately support institutions' resilience to such risks. It must also be noted that Pillar 1 is only one component of the prudential framework, which relies on the Pillar 2 entity-specific own-fund requirements, macroprudential capital buffers, and provision requirements from the accounting framework.

2. RELATIONSHIP BETWEEN ENVIRONMENTAL AND TRADITIONAL RISKS

Focusing on credit and market risks, the EBA discussion paper examines the different mechanisms (depending on whether the standard or internal model approach is used) through which environmental risk drivers could be captured within the current Pillar 1 framework and what adjustments may be necessary. Below, we examine each risk type in turn, summarizing the suitability of tools that could be activated to integrate environmental risk.

2.1 Credit risk

Credit risk is by far the most significant risk-weighted asset (RWA) component of the prudential framework. Mechanisms to integrate environmental risks into the framework depend on whether institutions apply the standardized or internal ratings-based approach.

The standardized approach is prescriptive and more simplified, thus any adjustments to integrate environmental risk drivers should avoid undue complexity. The EBA recognizes that environmental risks should be better reflected in the framework, which may be achieved through the following existing tools: external credit assessment, credit risk mitigation (collateral valuation), and prescribed risk weights (Figure 2).

Even if some modifications might need to be applied to credit risk mitigation techniques, they may be the least complex tool to use, as environmental risks may already be captured by collateral valuation.

External credit assessment is more of a mid- to long-term tool, as some improvements are necessary to guarantee the robustness and transparency of credit assessments. In its response to the EBA's discussion paper, the European Banking Federation (EBF)[2] suggested that improvements in ESG-related data quality is a priority. Improved data quality would allow credit rating agencies (CRAs) to better challenge their credit risk analyses, which in turn could lead to enhanced due diligence. Enhanced and robust methodologies should also prevent institutions from cherry-picking the most favourable credit rating, which may be based on less sound guidelines (where ESG factors are not adequately taken into account).

Figure 3: How to integrate environmental risks within the "internal rating-based" approach of the credit risk framework

	TOOL	ACTIONABILITY	LIMITATIONS / POTENTIAL UPSIDE
INTERNAL RATINGS-BASED APPROACH	Adding additional risk drivers to the **risk differentiation** step	−	• Model performance could be hindered if environmental risks not materialized yet via historical credit losses are integrated • Future defaults/losses may not be predicted by models entirely based on historical data • Ad-hoc conservatism doesn't easily tackle the uncertainty on risk differentiation as it could impede homogeneity within grades and pools • Model's design allows to capture environmental risks through expert-based qualitative variables as the IRB model is not based exclusively on optimization of quantitative performance metrics
	Adding environmental considerations to the **risk quantification** step through add-ons or margin of conservatism (due to data/ model deficiencies)	+	• Calibration of MoC usually based on existing data • Any adjustment will apply to all exposures in a grade or pool including those not impacted by environmental drivers • Introduction of "calibration segments": separation of risk quantification between exposures impacted by environmental risk drivers and unimpacted exposures.
	Applying further adjustments either as ad-hoc conservatism or as overrides during the **rating application** step	−	• Overrides are not intended to be a substitute for the model in general • Overrides do not require changes in the risk quantification and could be used as a temporary tool to address specific cases
	Amending the **RW formula** (change of correlation or systemic risk factors for PD, change of calibration for LGD and CCF in IRB-F approach)	−	• Difficulties defining common and impartial differentiation factors • Difficulties calibrating the adjustments and thus ensuring the framework's robustness • Double counting may arise as a result of potential adjustments and estimates.

− Very complex and/or long-term perspective + Complex and/or mid- to long-term perspective ++ Not complex and/or short-term perspective

[2] https://bit.ly/3l1W6BX

Prescribed risk weights are the most complex tool, as incorporating further differentiation is subject to numerous limitations. EBF stated that using risk differentiation in the corporate exposure class may be justified, but that implementation is still unclear and will need to go beyond just the sector level. As for the retail class, EBF acknowledged that risk differentiation may be too complex to establish.

The internal ratings-based approach is by nature much more risk sensitive and thus can embed environmental risks, thanks to its capacity to account for multiple risk drivers and its reliance on expert judgment. The main pitfall would be in how to manage the integration of environmental risk drivers without deterioration in the performance of the current model. The EBA highlights four tools in the credit risk modeling path where adjustments can be made, emphasizing the institutions' ability to establish a complete "reference dataset" as a prerequisite for ensuring good modeling (Figure 3). Whichever tool is activated, the EBF warns of the reliance of credit risk parameters on observed data and the great complexity of modifying related quantitative formula, such that expert judgment should be recognized to a greater extent to facilitate environmental risk integration.

2.2 Market risk

Market risk is typically characterized by a much shorter time horizon than credit risk and makes the integration of environmental risks even more complicated. Both standardized and internal model approaches are relying on the use of

Figure 4: How to integrate environmental risks within the market risk framework

	TOOL	ACTIONABILITY	LIMITATIONS / POTENTIAL UPSIDE
SENSITIVITIES-BASED METHOD	**Risk weights** adjustment through complementing projections or refined buckets (incorporating environmental risk dimension)	−	• Using projections based on forward-looking scenarios would be a significant divergence from the existing approach • CRR3 proposal introduces a lower risk weight for the commodity delta risk factor related to carbon emissions trading
	Creating a **specific risk class or "risk factor type"** on top of delta, vega and curvature, or adjust correlations	−	
	Residual risk add-on (RRAO) framework could be used to capitalize environmental risk without amending the two main building blocks of the framework (SbM and JTD)	+	• RRAO is not risk sensitive and its scope would need to be enlarged to comprise simple trading book instruments (currently addresses complex payoffs or exotic underlying only)
INTERNAL MODEL APPROACH	**Adjusting historical data** to reflect potential future dynamics	−	• Such a solution would be intrinsically difficult. It will likely be at the cost of affecting the accuracy of the traditional risk factors' measure
	Dedicated add-on outside the existing framework thus avoid adjusting historical data and avoid adapting regulatory tests	++	• Such a solution will require changes in the regulatory requirements for internal models as they are intended to capture all material risk • Similar existing treatment for the case of capturing unpegging event risk (not historically observed) for material FX exposure
	Integrating environmental risks into a **capital adequacy stress testing program,** which is part of the internal model approach's qualitative requirements	+	• According to stress test results, institutions would have to implement appropriate actions

− Very complex and/or long-term perspective + Complex and/or mid- to long-term perspective ++ Not complex and/or short-term perspective

historical data, such that complementing current measures with forward-looking data (adjusting the risk weights for the "sensitivities-based method" (SBM) or historical data for the "internal models approach" (IMA)) would represent a significant divergence from the existing approaches and would likely come at the cost of affecting their accuracy. To overcome this difficulty, as well as the fact that environmental risks are only likely to increase, the EBA is contemplating the use of add-on tools (Figure 4). This might be achieved through either the existing "residual risk add-on" (although it would imply a review of its scope of application) or the calibration of a dedicated add-on.

Regarding the default risk charge, in both standardized and internal ratings-based approaches, the EBA considers that, hypothetically, to capture default risk in the trading book, institutions must replicate the relevant/proposed credit risk solutions.

2.3 Operational and concentration risks

Operational risk covers losses of a diverse nature, and all loss types can be triggered by the environmental risks factors (e.g., damage to physical properties and liabilities arising from environmental factors and resulting in legal and conduct risks). The new standard framework for operational risk relies on two components: internal loss multiplier and business indicator component, although the former is likely to be neutralized in the European framework. Both components are based on historical losses and do not include any forward-looking elements. Such elements could be integrated in the framework in the future once clear evidence of the impact of environmental factors on banks' operational risk and robust data become available. In the meantime, the EBA advocates that institutions should identify environmental factors as triggers of operational risk losses on top of the existing risk taxonomy, in order to assess the materiality and the trend of the operational risks linked to environmental factors.

The Pillar 1 framework does not currently explicitly capture concentration risks resulting from environmental factors. Such integration could rely on the large exposure framework (concentration risk resulting from exposures to an individual client or group of connected clients), although it would need to be revamped to include sectorial and/or geographic dimensions. Alternatively, a new concentration limit for clients significantly exposed to environmental risks could be designed (e.g., limiting the exposure to counterparties subject to high transition risk as a percentage of a bank's Tier 1 total RWAs), but in a very careful manner to avoid undesirable side effects (e.g., decrease of financing for transitioning to environmentally sustainable activities).

3. CONCLUSION

So far, the European regulator is logically focusing on Pillars 2 and 3 (through stress testing exercises) to tackle the integration of environmental factors into the prudential framework. Academic research and preliminary regulatory proposals (highlighted by the EBA discussion paper) on the appropriateness of the Pillar 1 framework and its potential adjustments are inconclusive and nothing is set in stone (although the EBA excludes the use of supporting or penalizing factors).

While awaiting further regulatory guidance (as reaffirmed by the ECB in September 2022 at the 9th Banking Union conference),[3] financial institutions should nevertheless prepare themselves for a potentially binding Pillar 1 treatment and initiate the following actions:

- Design a robust environmental data framework and actively work on the data collection and quality, as a necessary (although only partial) prerequisite for any Pillar 1 integration.
- Engage in academic, regulatory, and industry discussions to raise awareness and be up to date with the latest developments.
- Begin exploratory work internally on prioritized items (e.g., assessing the relevance of additional risk drivers for credit risk differentiation, defining a methodology for calibrating overrides, etc.) to accelerate the learning curve and prepare the organization for a future implementation.
- Identify opportunities for partnership with other market players, both from within and without the financial services sector (data providers, regtech, fintech, greentech, etc.), in order to benefit from mutual efforts, best practices, and solutions.

[3] https://bit.ly/3D1qo5S

ABOUT CAPCO

Capco, a Wipro company, is a global technology and management consultancy focused in the financial services industry. Capco operates at the intersection of business and technology by combining innovative thinking with unrivalled industry knowledge to fast-track digital initiatives for banking and payments, capital markets, wealth and asset management, insurance, and the energy sector. Capco's cutting-edge ingenuity is brought to life through its award-winning Be Yourself At Work culture and diverse talent.

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