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# Connecting the dots between climate risk management and transition finance

## The case of banks and their prudential authorities

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With the contribution of the European Union LIFE program



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# EXECUTIVE SUMMARY

## **The need to clarify the linkages between two approaches to climate action for the financial sector: the “risk approach” and the “transition finance approach”**

The private financial sector’s response to climate change can be approached from two angles. On the one hand, the mobilization of the sector is necessary to help to finance the low-carbon transition. Some stakeholders thus advocate the explicit mobilization of the sector in favor of financing the transition. This rationale for action is known as the “transition finance approach”. On the other hand, the sector is exposed to the financial risks arising from climate change and the necessary transition. This observation motivates a rationale for action known as the “risk approach”, aimed at managing the exposure of financial institutions to such risks.

In practice, the prudential authorities have approached the climate issue through the prism of risks. A range of stakeholders have expressed the hope that the objective of better managing climate risks in the financial sector will help to mobilize the sector to finance the transition.

This report seeks to objectively clarify to what extent the risk approach could effectively lead to mobilizing private financial institutions to finance the transition. It focuses on the risk approach from the perspective of commercial banking institutions and their prudential authorities at the European Union level. The report considers the loan and trading activities of banks. The arguments are based on findings from the European Finance ClimAct and 4i-TRACTION projects, as well as on broader research carried out by the authors and references from the literature.

## **When adopting the perspective of a commercial bank, the risk approach does not necessarily foster transition finance**

From the perspective of a commercial bank, the “risk approach” is a question of managing the risk-return profiles of its portfolios. In theory, if the bank were to integrate transition and physical climate issues into its risk management process, this could result in financially penalizing the development of climate-harmful activities. It could also lead the bank to encourage the development of activities that are relevant for the low-carbon transition of the economy.

However, in practice, there are many reasons why the integration of transition and physical risks into this process does not necessarily help to mobilize the bank for transition finance. Two types of conditions that are necessary for a bank’s risk approach to foster transition finance are not always met.

First, banks do not necessarily perceive climate-harmful activities as being financially riskier in their usual time horizon of interest. This relates, for example, to the assumption that a company that carries out such activities can rely on its financial robustness to manage the consequences of its exposure to transition and climate impacts. The bank may also consider that the company’s activity is risky only after the end of the contracted financial service. It could also subjectively consider that the scenarios that put the company

at risk are not sufficiently credible to justify any revision of the company’s risk-return profile.

Second, when a bank makes a decision to actively manage its climate risk exposure, this is not necessarily beneficial to the transition. For example, if the bank disengages from a company involved in climate-harmful activities – by selling its equity share, no longer providing loans, and so on –, other actors may then propose similar financial services to that company, but with no intention of motivating the company to green its activities. The bank can also provide its financial services to other activities that make no significant contribution to the low-carbon transition, and all the more so given that activities that are favorable to the transition may be risky and unprofitable.

## **When adopting a prudential perspective, the risk approach shows greater potential for convergence with the transition finance approach**

The prudential authorities look at the risk approach through the lens of financial stability. This establishes a double-edged link with transition finance. On the one hand, an early, orderly transition consistent with the Paris Agreement climate objective is necessary to safeguard long-term financial stability. Such a transition limits the increase in climate hazards beyond the coming decades and the risk of uncontrollable impacts on the financial system. On the other hand, financing this necessary transition can be a challenge in the shorter term, given the potential implications for financial risk-taking.

Analyses by the prudential authorities clarify that an early, orderly and climate-ambitious transition considerably reduces the risk of financial instability in Europe compared with the other scenarios, both in the short and the long term. The financial supervisors also recognize that unabated climate change can be a significant source of financial instability and that their analyses currently underestimate the risks overall.

Given this current state of knowledge, the prudential authorities should therefore integrate the need to support an ambitious and orderly transition without delay. However, this has not been the case so far. The prudential banking authorities have taken concrete action to address climate risks, essentially micro- and macroprudential stress tests as well as requirements for banks to integrate the climate into their internal practices. These actions were not explicitly aimed at stimulating transition finance and there is no guarantee that they will deliver substantial co-benefits in this respect.

Typically, the prevailing approach of the prudential authorities with stress-testing has been to accurately measure financial risks before taking corrective actions to manage them. These risk assessments are difficult to make because of the persisting deep uncertainty surrounding the exact shape of the low-carbon transition and its consequences. Conditioning broader corrective actions for banks on the improvement of these measures may lead to a timeline of action that is not consistent with the urgency of carrying out an ambitious transition aligned with the Paris Agreement.

### **The prudential banking authorities should implement two principles of action to enable them to unlock the potential of their risk approach to mobilize transition finance**

A “proactive precautionary approach” is needed to recognize that transition finance is a priority in the prudential framework. This calls for using the best available information to take “preventive” action immediately in order to defuse the crisis. In other words, it calls for immediately taking the actions needed to avoid the worst anticipated impacts, based on the current state of available information rather than waiting for perfect information.

This is appropriate in the case of climate issues, given the persisting difficulty in assessing the risks perfectly. Keeping this principle in mind should help the prudential authorities to conclude that immediate financing of the transition is a priority. This is indeed the necessary condition for avoiding the irreversible downward spiral towards the worst climate impacts expected mostly in the long-term and posing the most serious threat to financial stability.

This leaves open the question of the role that the prudential authorities could play to proactively mobilize transition finance in the broader scope of public action. This is not completely obvious as, for example, the usual tools of the prudential authorities are not readily actionable in the context of climate issues, especially when recognizing the need to mobilize transition finance.

A “coordination principle” would help to clarify their role. This calls first for recognizing that the prudential authorities should seek to foster transition finance to the extent that it supports government actions. Governments are responsible for deciding on the direction of the sectoral transition strategy for their national economies. They are also responsible for establishing economic signals that are consistent with the objectives of the transition.

In this context, the prudential authorities can seek to contribute to the success of government plans for the transition. For example, they can investigate the barriers that banks face in financing the transition and inform governments when these difficulties are related to economic policies. They can also help economic players to converge in their expectations of an orderly transition, by enquiring through banks about how they are preparing for the transition, the financial services they require in order to do so, and so on.

The coordination principle also invites prudential – and other – authorities to be active in adapting their tools and to develop innovative approaches to help to mobilize transition finance where needed. This includes, for example, building cooperation between public authorities.

### **Next steps for a better integration of climate issues in prudential work**

This report highlights the case for the prudential banking authorities to be more proactive in mobilizing transition finance. This is a necessary objective in order to avoid long-term climate impacts.

However, it is important to acknowledge that the prudential authorities will need to address a broader range of climate-related prudential issues. For example, there are potential risk-taking issues associated with financing a rapid and orderly transition. If such a scenario did not actually occur, a range of other climate-related scenarios could materialize with their own risks for the real economy and the financial sector. The financial sector could also play a role in risk amplification mechanisms (e.g. the formation and shift of financial market sentiment).

Consistently with the principles set out in this report, the prudential authorities will need to help to find ways to address these challenges proactively and in coordination with the other public authorities, so as to reach a policy mix that is compatible with the overarching objective of mobilizing transition finance.

The EU prudential authorities are making progress, for example on the macroprudential policies they could use. Transition plan requirements as part of Pillar 2 of the prudential framework also appear as an essential tool. It will be important to frame these plans in a way that encourages banks to build granular, ambitious and applicable transition finance strategies, consistent with government actions, and without creating excessive risk-taking in the short-term.

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# INTRODUCTION

## Risk management and transition finance: two approaches dealing with climate issues in the financial sector

The transition to a low-carbon economy – as planned by national and local governments – requires investments that clearly go beyond public actors’ financial capacities. Moreover, the transition will only take place if all financial flows are aligned with this objective, which will therefore require the mobilization of the private financial sector for “transition finance”. In particular, to finance the transition, financial institutions will need to cease financing the development of certain emitting activities and instead finance low-carbon activities and the decarbonization of the economy (Cardona, 2023).

The financial sector and its prudential authorities (*i.e.* prudential regulators and supervisors) have taken an interest in climate issues from a different perspective, known as “the risk approach”. This is consistent with current prudential rules that were built around a risk approach following the financial crisis. The link between the risk approach and climate issues first gained prominence through the work of the Carbon Tracker, which showed that a low-carbon transition would lead to stranded assets in the fossil fuel extractive industries, thereby exposing the financial sector to financial risks. This was reinforced by the 2015 seminal speech by Mark Carney, the then Co-Chair of the Financial Stability Board and Governor of the Bank of England, who explained how climate issues could generate physical risks, transition risks and liability risks, with potential impacts on financial stability. In 2020, the Bank for International Settlements and the Banque de France also warned about the “green swan” events from climate change that could generate the next financial crisis (Bolton *et al.*, 2020).

This “risk approach” has strongly shaped the way in which commercial banks and their prudential authorities have conceptualized their action on climate issues.

## The interplay between the two approaches is still to be clarified

There has been a persistent lack of clarity on the co-benefits for transition finance that could be expected from the financial sector and its regulators and supervisors with the “risk approach”.

Questions remain concerning the potential co-benefits of changing practices within financial institutions. Civil society introduced the transition risk discussion by saying that GHG-emitting activities would expose the financial sector to financial risks if the transition were to happen. In the following discussions, there has been a somewhat implicit assumption that, all other things being equal, better climate risk management by financial institutions would also help to mobilize the financial sector for the transition. However,

this assumption on the co-benefits for transition finance of managing climate risks has been questioned by several research papers (see, for example, Hilke *et al.* (2021) and Boissinot *et al.* (2022)).

Expectations for financial authorities are also highly debated. Financial regulators and supervisors have increasingly recognized that the low-carbon transition is necessary to reduce long-term risks to financial stability arising from unmitigated climate change. In other fields of EU regulation, for example regarding company disclosure, proposals for transition plans have explicitly emphasized the need for organizations to develop a strategy to align their investments with the low-carbon transition.<sup>1</sup> However, in the field of prudential requirements (*i.e.* focusing on financial risks), there is a lack of consensus surrounding proposals on financial regulators and supervisors acting explicitly in favor of transition finance. This can be seen, for example, in the debate on the introduction of prudential climate transition plans for banks at the European level.

## A discussion of the interactions between the two approaches and an outlook for future banking prudential requirements

The interactions between the two approaches have been a conundrum and will probably remain under discussion for some time. The goal of this report is to help to objectively clarify the interplay between the “risk approach” and the “transition finance approach” given current knowledge, and to pave the way for further action. To do so, the report focuses on the case of commercial banking institutions and their prudential authorities (*i.e.* prudential regulators and supervisors) at the European Union level. The insights formulated in this report are based on findings from the European projects Finance ClimAct and 4i-TRACTION, as well as on broader research carried out by the authors and references from the literature.<sup>2,3</sup>

**Section 1** clarifies what the “risk approach” to climate issues means from the perspective of commercial banks and why it may not spontaneously help to mobilize them for transition finance. **Section 2** explains how prudential banking authorities may give a different meaning to the risk approach. In particular, it describes how the prudential risk approach would more explicitly benefit from the materialization of an early, orderly and ambitious low-carbon transition. **Section 3** explains how, in practice, prudential banking authorities could more effectively help to mobilize transition finance as part of their risk approach if they applied a precautionary approach and a coordination principle. **Section 4** concludes on the way forward to implement these principles.

1 Disclosure requirements on transition plans are so far defined generically for financial and non-financial companies as part of the European Sustainability Reporting Standards (ESRS) developed by EFRAG and adopted at this stage by the Commission as the Delegated Regulation C(2023) 5303 final ANNEX 1 supplementing the Corporate Sustainability Reporting Directive (CSRD).

2 See more information on the Finance ClimAct project here: <https://finance-climact.eu/>

3 See more information on the 4i-TRACTION project here: <https://www.4i-traction.eu/>

# 1. BANKS' CURRENT CLIMATE RISK MANAGEMENT PRACTICES MAY NOT HELP TO MOBILIZE THEM TO FINANCE THE LOW-CARBON TRANSITION

Financial actors have considered that climate issues could be at the origin of different risks to their activities. As summarized in **Box 1**, these risks include transition risks and physical risks (as well as liability risks, which are sometimes considered as a specific case of the first two categories). There has been a tendency to think that if banks manage these risks, this will help to mobilize them for “transition finance” as defined in **Box 2**. However, in practice, there is a range of reasons why the climate-related risk management approaches that banks have developed so far may not necessarily produce the co-benefit of mobilizing them for transition finance.

The first part of this report illustrates these limitations on different aspects of “transition finance”. **Sections 1.1 to 1.4** illustrate some of the limitations by taking the theoretical example of a bank and its risk management process applied to a counterparty involved in GHG-emitting activities and with no intention of building a strategy to make itself compatible with a low-carbon transition. **Section 1.5** illustrates how limitations also apply to the decarbonization of a counterparty’s activities and to the financing of low-carbon activities. **Section 1.6** concludes that banks are not necessarily mobilized for transition finance through the risk approach, drawing a parallel with the “double materiality” concept defined in European regulatory disclosure frameworks.

## BOX 1. DEFINING CLIMATE-RELATED RISKS

Several types of “climate-related risks” can affect the financial health of financial institutions (e.g. banks, institutional investors, asset managers) and non-financial actors (e.g. companies producing non-financial goods and services, households, governments).

This report mainly discusses the climate-related “**transition risks**” that arise from the transition to a low-carbon economy (but a broader definition also includes the risks arising from the transition to an economy that is also resilient to climate impacts). These transition risks can originate from several drivers:

- The policy risk driver has received much attention in discussions on transition risks. It can materialize, for example, as energy efficiency requirements in houses or industrial facilities, as carbon-pricing instruments that increase the price of fossil fuels, or as a ban on specific products.
- A second key transition risk driver is technological innovations or improvements that foster the emergence, decline in cost and increased deployment of solutions that support the transition to a low-carbon economy. Such change can affect the competitiveness of activities, their production and distribution costs, and ultimately their demand.
- A third key transition risk driver is changes in economic agents’ behavior regarding climate issues. This includes changes in consumers’ habits and demands as well as changes in companies’ product and service offerings. It also includes changes in investors’ perception of the relevance of the low-carbon transition, with consequences for the pricing of assets, for example. Moreover, it includes communication and campaigns launched against economic actors considered to be transition laggards, which can have reputational consequences (e.g. reduction in goodwill, limited capacity to build partnerships). A final aspect of behavioral change is people and organizations taking action to obtain compensation for losses from people and institutions that foster activities that are harmful to the low-carbon trajectory. This final aspect is part of what is known as “**liability risks**” in other risk typologies.

Climate change can also impact the financial health of financial and non-financial actors in the form of “**physical risks**”. These can arise from a range of climate hazards, including changes in extreme climate events (e.g. hurricanes, catastrophic floods) and changes in other climate conditions (e.g. the seasonality and spatial distribution of rainfall, sea level rise).

These definitions are compatible with the European disclosure requirements for companies on sustainability issues.<sup>4</sup>

<sup>4</sup> See the definition of climate-related physical risk and climate-related transition risk prepared with the European Sustainability Reporting Standards and available in Annex II of the Delegated Act to the CSRD: <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:32023R2772>

## BOX 2. DEFINING TRANSITION FINANCE

In this report, “transition finance” refers to how financial institutions should shape their financial activities to align them with the needs of a net-zero transition that limits global warming to below 1.5°-2°C. This encompasses several aspects, listed below and adapted from Cardona (2023):

- No longer financing the development of high-emission activities that cannot be decarbonized (coal, gas, oil, internal combustion engines, plastics industry, etc.) and in which the economic actors are reluctant to develop a relevant transition strategy;
- Managing the phase-out of activities that cannot be decarbonized (including identifying assets that should no longer be used for these activities and financing their closure or potential repurposing);
- Providing finance to enable or facilitate activities that are already “sustainable” (e.g. renewable energy) or the development of “climate solutions” (e.g. infrastructure for electric transport or low-carbon hydrogen);
- Providing finance to enable or facilitate the decarbonization of the highest emitting activities (in sectors such as agriculture, cement, steel, car production) and energy renovations in buildings (housing, service industry, etc.), as well as adapting activities that will be indirectly affected by the transition (tourism, health, etc.).

This definition is broadly compatible with the recommendations of the European Commission on “transition finance”, and the first bullet point above goes beyond that definition.<sup>5</sup>

### 1.1. An asymmetry between the environmental impacts of activities and the consequences for their financial risk and return

Banks make risk management decisions that primarily seek to optimize the financial risk and return profile of their portfolios. Generally, an activity that potentially generates higher financial returns also involves a higher risk of failure, which could result in financial loss. Therefore, if this risk management rationale were to benefit the low-carbon transition, a prerequisite would be that when portfolio counterparties are involved in activities that are climate-harmful, the financial risks increase and the financial returns decrease. However, this can be invalidated in several cases.

#### 1.1.1. Emitting GHGs does not necessarily mean the activity is more exposed to physical climate risks

In the first place, the local GHG emissions of all economic activities contribute to global climate change, which can in turn impact any activity throughout the world. In this context, from a systemic perspective, reducing the GHG emissions of all economic agents is required in order to limit further exposure of the overall economy to physical climate risks. It is therefore tempting to assume that banks would seek to reduce GHG emissions in the real economy so as to reduce their exposure to physical climate risks.

However, the physical risk management rationale of banks does not focus on the systemic interest of reducing GHG emissions. As explained in the introduction to **Section 1.1**, banks' physical risk management concentrates on what the counterparty in the portfolio should do to reduce its own

risk exposure. In this specific context, the bank will consider reducing the counterparty's GHG emissions to be relevant if it directly limits the banks' exposure to physical risk.

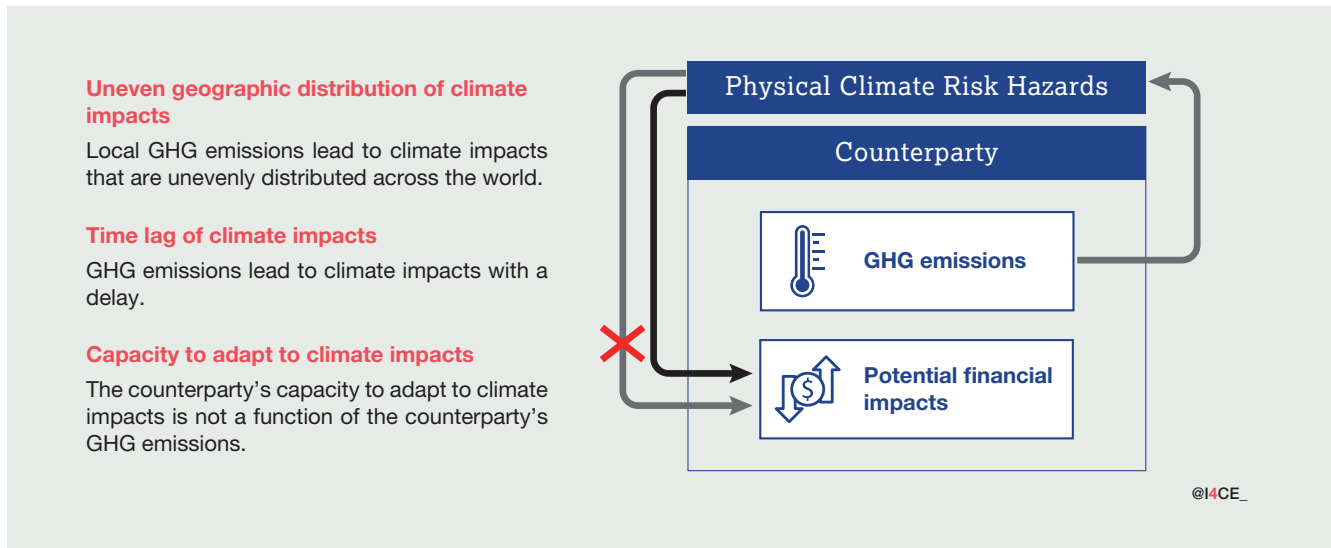
This condition is not necessarily fulfilled, however, due to several factors. For example, the impact of a counterparty's activities on the climate does not necessarily translate into physical climate risks for that specific counterparty. This is because GHG emissions are a local form of pollution that disturbs the global climate, and the resulting increase in climate hazards is unevenly distributed across geographies. To give a very simplified example, a highly emitting power plant could be particularly vulnerable to the shrinkage and swelling of clay soils arising from alternating periods of rain and drought. But a plant may not be located in an area with clay soils. In this case, the plant will not directly suffer the climate impacts of GHG emissions. There is also a time-lag between GHG emissions and their visible climate impacts.

In addition, counterparties have specific levels of vulnerabilities and capacities to adapt to the impacts of climate change, and these are not necessarily related to GHG emissions across their value chain. For example, a company may be adapted to climate impacts partly thanks to the climate preparedness of the local authorities. Consequently, highly GHG-emitting activities are not necessarily the ones that will be the most exposed to physical climate impacts.

5 The European Commission issued recommendations on how to understand transition finance for the transition to a sustainable economy: “Although the Union's legal framework does not define the concept of transition finance, transition finance should be understood as the financing of climate- and environmental performance improvements to transition towards a sustainable economy, at a pace that is compatible with the climate and environmental objectives of the EU”. Source: recital (5) of the Commission Recommendation (EU) 2023/1425 of 27 June 2023 on facilitating finance for the transition to a sustainable economy: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023H1425>



**FIGURE 1. FACTORS DECORRELATING THE COUNTERPARTY'S GHG EMISSIONS FROM THE COUNTERPARTY'S DIRECT EXPOSURE TO PHYSICAL CLIMATE RISKS**



Source: I4CE (2024) *Connecting the dots between climate risk management and transition finance.*

The management of transition risks does not necessarily motivate banks to finance the transition either, as illustrated in the following sections.

### 1.1.2. GHG emitting companies may be tempted to claim they are financially viable in the transition without making relevant decarbonization efforts

A counterparty may be tempted to claim it has the capacity to preserve its financial health in the transition without making its activities beneficial to the transition.

Such a claim could be based on the counterparty's general financial characteristics. For instance, the counterparty may claim to have the liquidity capacity to cover costs from potential carbon pricing schemes. A company could also stress that it has diversified revenue streams that may not all be affected equally by the transition, and that this could contribute to the overall financial robustness of the company. It could also underline the assumption that its bargaining power would help it to pass on costs to its value chain. Or it could rely on its capacity to seize the last market opportunities of the harmful activity, for example based on production cost competitiveness relative to its sectoral peers.

Such a claim may rely on other factors, including mild transition scenario assumptions. For instance, an oil extraction company could refer to a transition scenario in which oil prices decrease significantly only over several decades. As the valuation process for the company's oil projects discounts long-term cash flows, the impact of the transition on the company may be presented as limited, in spite of the clear adverse climate impact of its activities.

While these financial robustness claims may rely on questionable assumptions, the result is that banks may consider that the negative climate impact of a counterparty's activities does not necessarily result in transition risks for that specific counterparty.

### 1.1.3. Climate-harmful activities can have direct financial risk implications that have been overlooked

There is a direct reputation risk in financing climate-harmful activities. A bank can be exposed to bad press when environmental activists draw public attention to climate-harmful activities during general assemblies. This can damage the institution's reputation and result in difficulties attracting new talent for job offers. It can also reduce its brand attractiveness from a consumer perspective, etc. This can in turn reduce the bank's profitability and its capacity to meet its financial commitments. The reputation risk can also impact the bank more indirectly, through reputational impacts on its counterparties.

There is also a liability risk in financing climate-harmful activities. People suffering the consequences of climate change may in the first instance seek to obtain compensation based on their insurance policies covering the related damage. But for non-insured damage, these people may also look for organizations that are responsible for or contribute to climate change and seek compensation from them. For example, three French NGOs sued BNP Paribas in February 2023, accusing it of supporting fossil fuel development.<sup>6</sup>

These examples of potential dynamics build a strong connection between the negative climate impact of activities and the negative consequences for banks. In theory, this reduces the asymmetry between the environmental impacts of activities and the consequences for their financial risk and return.

However, the integration of such risks by banks has remained limited for a range of potential reasons. These might include limited perceived credibility of these risks and of their potential consequences as explained further on, as well as limited analytical approaches.

6 <https://bnp-case.com/>

## 1.2. A time horizon mismatch between financial commitments and the expected materialization of risks

As coined by Mark Carney in 2015, the management of climate issues in finance is limited by the “tragedy of the horizons”, in other words a time horizon mismatch that can manifest itself in various ways.

In the field of loan activities, the time horizon related to the financial activity may be the financial instrument’s maturity horizon, which is limited to a few years at most for a loan, for example. These time horizons can be much shorter than the expected time horizon of transition risks or catastrophic climate-related impacts in the real economy. This time horizon mismatch limits the motivation of banks to support the low-carbon transition from a risk management perspective.

This mismatch can also apply in other fields, such as financial market activities. The time horizon of the financial asset can play a role in the same way as explained above. The expected holding period of the financial asset can also play a role. This period may be very short with market activities, for example in the case of algorithmic trading of equity securities.

While this mismatch is often described as a natural barrier in finance, it is worth noting that the time horizon of financial institutions’ commitments to specific activities in the real

economy could be considered to go beyond the maturity of the financial title or its holding period. This can be explained, for example, from a strategic perspective. It is unlikely, especially for banks, that they will quickly turn their back on a client at the end of a loan when they have worked for years to build up and maintain that business relationship. This is even less likely if their client relationship covers several asset classes, and especially if there is a lack of alternative assets with appropriate financial risk and return profiles, including from a climate risk perspective.

Qualifying this mismatch as a natural barrier is also questionable given the subjectivity of “expectations” that transition risks or catastrophic climate impacts will materialize in the relatively long term. This thinking typically ignores the possibility of significant and repeated climate impacts in the short term that are already likely under current climate conditions. It also ignores the deep uncertainty surrounding the broader climate-related phenomena that could occur in the short term, including changes in consumer preferences, for example.

## 1.3. The deep uncertainty surrounding the low-carbon transition may affect banks’ decisions through subjective judgments on the credibility of transition risk

### 1.3.1. Deep uncertainty surrounding the low-carbon transition

As explained by Hubert *et al.* (2022), climate issues are characterized by “deep uncertainty”. This refers to difficulty anticipating the complex and unprecedented dynamics that may play out over the course of the transition to a low-carbon economy (and the materialization of physical climate impacts). It also includes difficulty identifying how these dynamics may impact banks. A range of plausible transition scenarios exist, with no possibility so far of objectively ranking the probability of their actual occurrence and outcomes.

### 1.3.2. Consequences of the use of subjective probability for managing risk

This raises questions about how banks can integrate transition risk information into their decisions. Some approaches could focus, for example, on limiting exposure to a chosen maximum level of losses across all scenarios, without focusing on the probability of occurrence for each scenario. However, when making decisions, financial institutions usually rely on a range of metrics based on probabilities. Accordingly, when making decisions on transition risks, they may tend to weight the consequences of the transition depending on their perceived credibility (or “subjective probability”) of the transition scenario and its resulting impacts.

Consequently, if a bank is not confident that a restructuring of the economy towards a low-carbon system will effectively occur with significant impacts in the short term, it will not be inclined to think that GHG-emitting companies are at risk.

### 1.3.3. Consequences of collective market mechanisms related to risk management

Another consequence of the deep uncertainty surrounding the low-carbon transition is the importance of collective mechanisms, as suggested from a Keynesian perspective on financial market actors’ rationality. In particular, there could be a collective market “convention” or market “sentiment”, for example, on the likelihood of the transition.

This collective sentiment could get stuck on the idea that transition risks are not credible, even if, objectively, the evolution of economic signals tends to demonstrate the opposite. In this case, as stated above, it would provide no incentive to align financial activity with transition pathways and to provide transition finance.

This sentiment could also shift abruptly towards the idea of an urgent need for a low-carbon transition. This could be based, for example, on an increase in unprecedented climate disasters. Such a shift in market sentiment could lead to the sudden repricing of assets based on their perceived compatibility with a low-carbon transition. The

shift in financial actors' anticipation of transition dynamics – if not correctly managed – could have consequences for risk pricing that increase the abruptness of the transition

and potential financial instability. Such dynamics are usually accompanied by value losses that undermine the amount of finance to be mobilized for the transition.

## 1.4. Risk management decisions can have a questionable impact on financing the transition, even if this is part of their objective

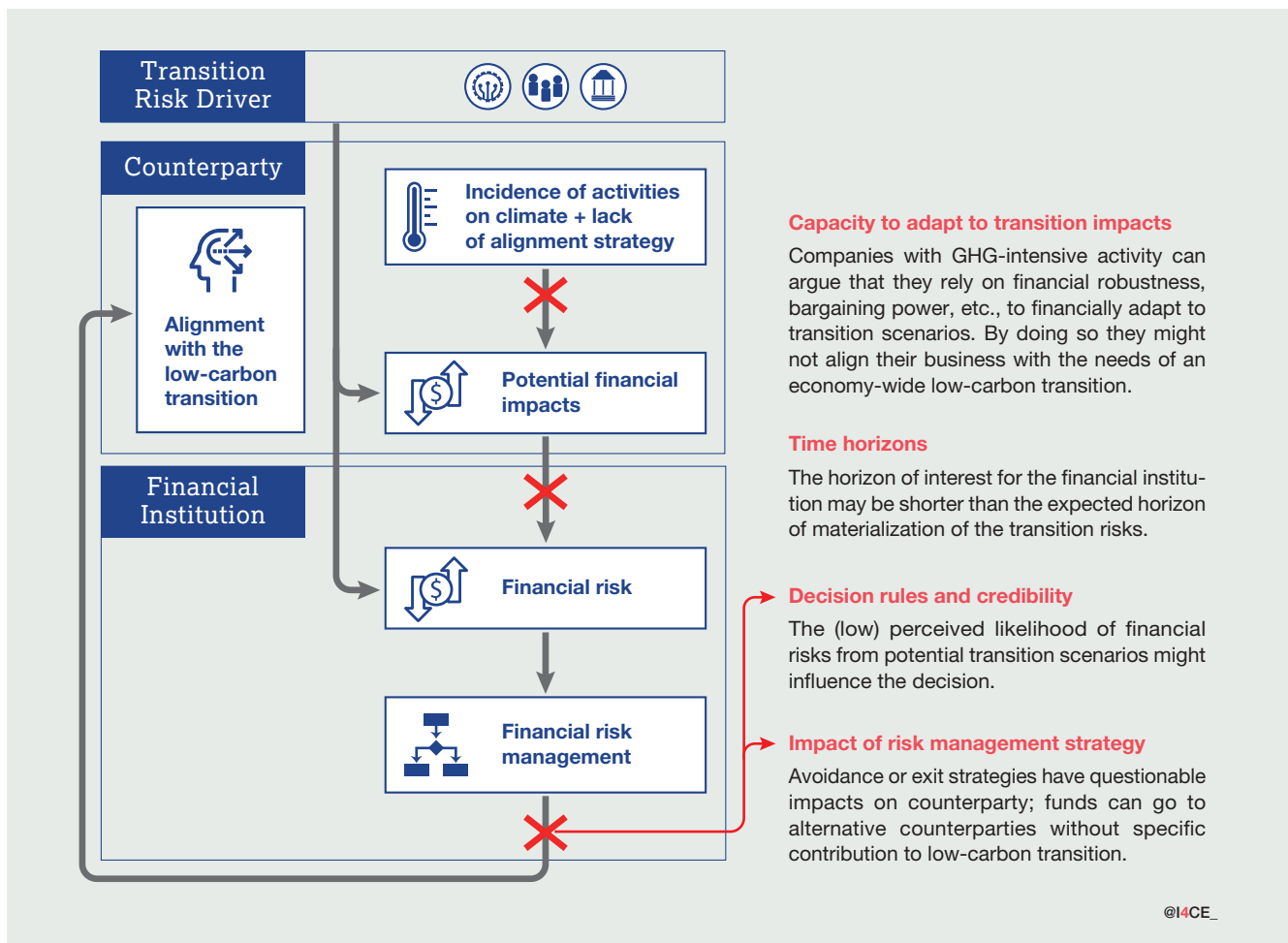
Financial institutions can apply a range of risk management approaches, some of which may have potentially negligible direct implications for the company's activities and emissions. For example, to a certain extent, a bank could decide to increase its reserves to absorb the potential losses should a transition scenario impact a counterparty that conducts climate-harmful activities.

In some other cases, the risk management approach may have direct implications for the company, but in practice have no real impact on the company's activities and emissions. For example, a bank could consider that the GHG-emitting company is indeed risky due to the incompatibility of its activities with the low-carbon transition. Based on this, it

could decide to avoid providing any financial service to that company or to terminate its engagements. However, any other financial actor could take over the opportunity to provide a financial service, with no intention of fostering improvements in the company's strategy to align its activities with a low-carbon transition. In addition, the bank that avoided the company could also reallocate its funds to any other activity that makes no specific contribution to the low-carbon transition.

It is worth acknowledging, however, that some risk management approaches could effectively have an impact on the transition.<sup>7</sup>

**FIGURE 2. TRANSITION RISK MANAGEMENT PROCESS OF A FINANCIAL INSTITUTION AND LIMITATIONS WITH REGARD TO TRANSITION FINANCE**



Source: I4CE (2024) *Connecting the dots between climate risk management and transition finance*.

<sup>7</sup> See, for example, the escalation process described on page 18 of this report: Hilke *et al.* (2021) "Taking climate-related disclosure to the next level – minimum requirements for financial institutions" Available at: <https://www.i4ce.org/en/publication/taking-climate-related-disclosure-to-the-next-level-minimum-requirements-for-financial-institutions/>

## 1.5. Financing low-carbon activities or the transition of counterparties can have unattractive risk and return profiles

As explained in Box 2, the mobilization of the financial sector to finance the transition covers several aspects, including: no longer financing the development of certain emitting activities, supporting the phase-out of these activities in the real economy, financing low-carbon activities, and financing the decarbonization of other activities. The first Sections of this report have explained how the risk approach could lead to limited co-benefits in terms of motivating banks to cease financing the development of certain emitting activities.

The present Section explains how the risk approach of banks could lead to limited co-benefits in terms of financing low-carbon activities and the decarbonization of activities, as well as the phase-out of activities. A range of factors are involved, as mentioned in previous sections: the asymmetry of impacts on the climate and impacts from the climate, adaptive capacity, time horizons and deep uncertainty.

### 1.5.1. Unattractive risk/return profiles of low-carbon assets

Counterparties that already contribute to the low-carbon economy do not necessarily provide financial institutions with a hedge against physical climate impacts. In addition, exposure to some transition risk drivers is not necessarily correlated with the potential positive climate impact of the activity. Green activities are also exposed to transition risks, including innovation risks. In other words, not every activity may be successful in all transition scenarios. This may reduce the attractiveness of the risk/return profile for those companies that seek to grow activities with potential benefits for a low-carbon economy. Moreover, as mentioned above, the perceived credibility of scenarios and market sentiment

can both play an important role and discredit companies or activities that thrive in scenarios with lower perceived credibility.

In terms of adaptive capacity, the financial robustness of the company is not necessarily correlated with the climate-friendliness of its activities. A green company could have overall low financial robustness, which would make it riskier. This can be the case in particular for climate-friendly start-ups or SMEs.

Moreover, climate-friendly investments often involve high upfront investment costs and potentially lower operating costs. While such investments can be profitable over the lifetime of the economic asset, they may be unattractive for a bank that focuses on short-term financial risk management.

### 1.5.2. Unattractive risk/return profiles of decarbonization finance or phase-out of activities

Financing the decarbonization of activities can involve financial risk-taking. For example, a company may need to make heavy strategic investments to restructure its activities and produce changes in its strategic business environment, which could create financial weaknesses in the process. This could also entail a decrease in financial returns in the short term, which is a problem if the financial institution is primarily interested in this aspect. This is also a concern where the transition of the company requires asset stranding so as to remain within global carbon budgets, for example by writing off numerous assets. Financing the transition of the company may also be risky because the success of the new activities may be uncertain from one transition scenario to another.

## 1.6. The conclusion that the risk approach of banks does not necessarily mobilize them for transition finance echoes the “double materiality” concept

The salient examples provided above show how a pure financial risk approach – as defined from *the* perspective of a bank, i.e. with a focus on portfolio risk/return – may not necessarily mobilize the bank for transition finance.

These conclusions echo the “double materiality” of climate and sustainability issues introduced by the European Commission in disclosure requirements, as further detailed in Box 3 below. Indeed, it can be understood from this concept that when a company looks at its exposure to climate and transition issues through a portfolio risk/return lens, this does

not necessarily lead the company to thoroughly explore the question of how bad or good its activities are for the climate. A fortiori, it does not necessarily lead the company to try to reduce the negative climate impacts of its activities, or to promote GHG emission reductions more broadly.

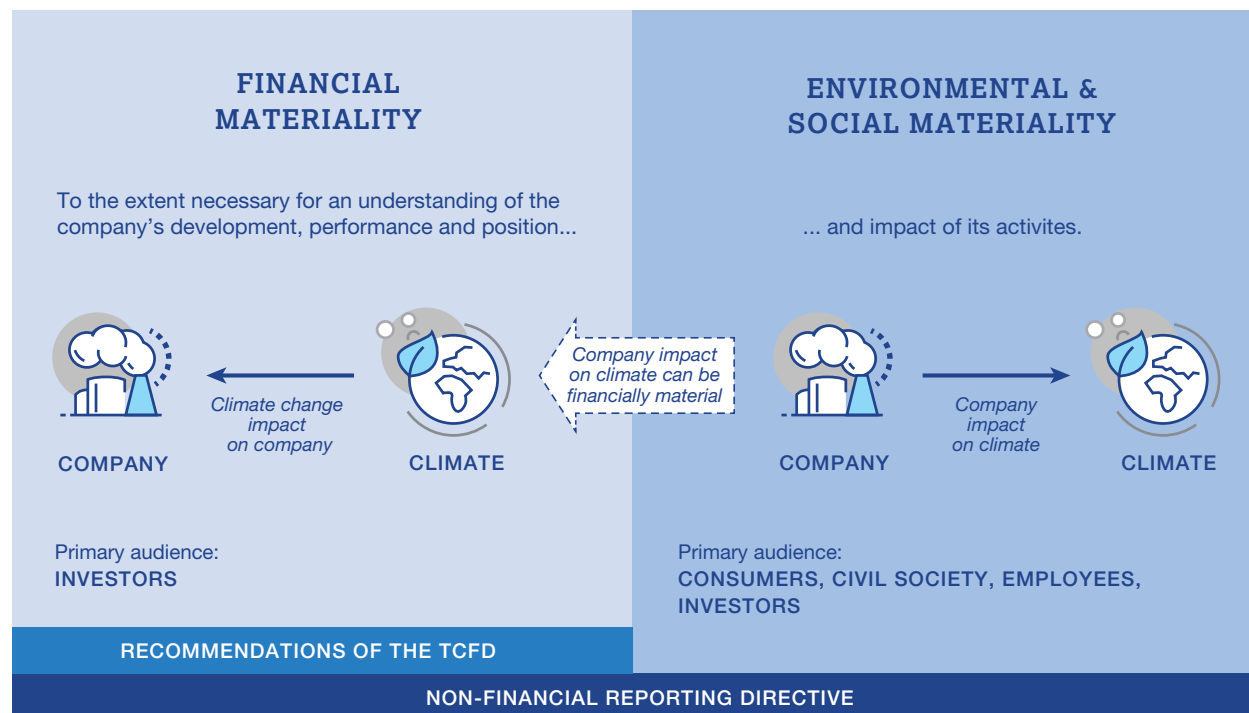
### BOX 3. THE “DOUBLE MATERIALITY” OF CLIMATE ISSUES AS INTRODUCED BY THE EUROPEAN COMMISSION

The European Commission (EC) introduced the double materiality of climate issues in the context of the non-financial reporting directive (NFRD) applying to large financial institutions and non-financial companies.<sup>8</sup> In this context, “materiality” refers to the relevance of information. The idea of the NFRD is that companies should focus their disclosures only on the relevant information.

The EC specifies that climate issues can be material from a “financial” perspective, to the extent that they inform about the undertaking’s “development, performance [and] position”. This typically includes the portfolio financial risk/return perspective that financial institutions have used to take account of climate issues.

The EC also explains that financially material climate-related information does not necessarily include all the information that is required to characterize the climate “impact” of the company’s activities. The EC considers that the provision of climate-related information that is relevant from an impact perspective requires a specific approach known as the “environmental and social materiality” of climate issues.

The EC asks for information on the company’s climate issues that is environmentally and socially material in its own right. This is in addition to asking for information that is material from the financial perspective usually adopted by the company. These form the two branches of the “double materiality” of climate issues, as illustrated below, while financial materiality taken alone is called “simple materiality”.



*\* Financial materiality is used here in the broad sense of offering the value of the company, not just in the sense of affecting financial measures recognised in the financial statements.*

Source: EC NFRD Non-binding guidelines supplement on climate-related information (C/2019/4490).

Section 1 has discussed implications for transition finance arising from the financial “risk approach” defined from the point of view of a commercial bank, in other words focusing on the short-term risk/return profiles of the institution’s

portfolios. The following Section explains how the “risk approach” can be framed from the perspective of prudential banking regulators and supervisors, and how this perspective converges more directly with the transition finance approach.

<sup>8</sup> More specifically, the EC introduced the concept in its 2019 supplementary application guidelines on climate-related information (C/2019/4490), available here: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52019XC0620%2801%29>

## 2. THE PRUDENTIAL PERSPECTIVE RECOGNIZES THAT AN ORDERLY TRANSITION IS NEEDED TO MITIGATE CLIMATE-RELATED FINANCIAL INSTABILITY RISKS

Section 2.1 explains that financial regulators and supervisors are concerned with financial risks from the perspective of financial instability. Since climate risks became a topic on the agenda for prudential frameworks, there has been increasing recognition that the focus on financial stability should incorporate a more forward-looking and long-term view, in addition to the short-term view.

As discussed in Section 2.2, this financial stability lens sheds light on a double-edged connection between the risk

approach and transition finance. On the one hand, transition finance appears explicitly as a necessity to avoid the risk of long-term climate-related instability. On the other hand, transition finance can have risk-taking implications in the short term. Section 2.3 highlights that, at the European level, the preliminary research of prudential authorities shows that an orderly transition in the short term is the best way to address the climate-related risk of financial instability over time.

### 2.1. Prudential authorities seek to avoid financial instability

Financial instability is the situation in which the financial system is malfunctioning and this is impacting the real economy. The “financial system” can consider a range of geographies, activities and institutions including, for example, banks, insurance companies and financial markets – although each type of activity can be considered separately.

Instability can arise at the financial system level through a range of mechanisms. For example, a critical range of financial institutions in the sector can be exposed to a common shock in the real economy with severe consequences for each institution. The structure of the financial sector can also play a role. For instance, as financial institutions’ balance sheets are interconnected, the failure of one institution could have a domino effect on the others. In addition, some dynamics that

are internal to the financial sector can amplify a risk at the systemic level and have consequences for the real economy. This is the case, for example, of fire sales. This happens when a price decrease in certain financial securities leads financial actors to sell these securities, causing the security price to decrease even more, which affects end investors in the real economy, and so on.

Prudential authorities seek to avoid financial instability at the systemic level through macroprudential measures. They also seek to ensure the safety and soundness of individual financial institutions through microprudential measures. These can be relevant to avoid the systemic consequences arising from the practices and difficulties of individual financial institutions.

### 2.2. A double-edged connection between transition finance and climate-related financial instability risks

The potential implications of transition finance for financial stability may differ depending on the time horizon of interest.

#### 2.2.1. An orderly transition is key to avoid long-term catastrophic climate-related impacts on the real economy and their consequences for financial stability

There is widespread consensus that, in the long term, climate change is a major threat at the level of the real economy

and society. For example, according to the NGFS, in a “current policies” scenario in which no additional policies are implemented to reduce GHG emissions, temperature increase could exceed 1.5°C in the 2030s and 3°C in the 2090s. In a +3°C world, labor productivity could, for example, decline by 10% on average globally.<sup>9</sup> The development of higher climate impacts in the medium to long term could also lead to hasty transition action for the low-carbon transition, making it more abrupt and less foreseeable. This type of transition risk would lead to even higher overall economic costs.

<sup>9</sup> See more information about the NGFS Scenarios on the dedicated portal here: <https://www.ngfs.net/ngfs-scenarios-portal/explore/>

See information on climate impacts from the climate scenarios (including NGFS scenarios) per country on the Climate Impact Explorer here: [https://climate-impact-explorer.climateanalytics.org/impacts/?region=EUROPE&indicator=tasAdjust&scenario=h\\_cpol&warmingLevel=1.5&temporalAveraging=annual&spatialWeighting=area&compareYear=2030](https://climate-impact-explorer.climateanalytics.org/impacts/?region=EUROPE&indicator=tasAdjust&scenario=h_cpol&warmingLevel=1.5&temporalAveraging=annual&spatialWeighting=area&compareYear=2030)

These long-term climate and transition impacts in the real economy could be accompanied by financial instability in the long run. For example, repetitive and cumulative physical climate impacts in the real economy might affect a major systemically important financial institution and lead to domino effects among other financial institutions. The financial sector could also amplify the climate-related shocks. For example, with the multiplication of climate impacts and hasty transition actions becoming more and more credible, the financial market might eventually shift its perception of transition risks. This could lead to a sudden repricing of climate-harmful activities on financial markets.

To minimize the economic costs and broader climate impacts on society, the best way proposed by the NGFS scenarios is to initiate orderly yet drastic efforts in the coming decades for a low-carbon economic transition that limits global warming to below 1.5°C to 2°C by the end of this century. If the transition is postponed, it will be necessary to make even more drastic efforts in a shorter amount of time, and the cost of reducing GHG emissions will therefore be higher.

To sum up, an early and orderly low-carbon transition would be the best way to avoid the potential long-term financial instability risks arising from unmitigated climate change in the real economy and from the potential amplification of impacts through the financial system. Such an orderly transition requires a massive and sustained mobilization of public and private finance, starting immediately.

### 2.2.2. On the other hand, an orderly transition can involve economic losses in the short term with potential consequences for financial stability

As explained in Section 1, the low-carbon transition can be a risky endeavor at the level of economic actors. A range of companies need to phase out harmful activities or to transform some activities to align them with a low-carbon transition, and this may involve strategic risks for the company. The development of green activities can also involve risk-taking, as not all green business models will necessarily be successful in all types of transition scenarios, and so on.

The economic risks of implementing the transition could also be accompanied by financial instability in the short term. For example, banks' involvement in financing the transition process of their counterparties may expose them to the risks related to those companies' transition strategies. Transition finance therefore has risk-taking implications for banks too. The financial sector can also amplify short-term impacts through specific mechanisms. For example, as explained in Section 1, financial market participants might suddenly shift their view on the potential realization of a low-carbon transition in the short term, considering that this is significantly becoming the more credible scenario. Such a sentiment shift might lead to more abrupt repricing of economic activities on financial markets, and could eventually lead to higher economic costs in the short term.

## 2.3. Research at the EU level shows that an early and orderly low-carbon transition consistent with the Paris Agreement is preferable for financial stability across time horizons

The financial authorities have gradually clarified the implications of the low-carbon transition for short- and long-term financial stability. This is based on the work they do to characterize and estimate the potential effects of different transition and climate scenarios over various time horizons. Below is a summary of their key findings in this respect.<sup>10</sup>

### 2.3.1. A timely and orderly transition consistent with the Paris Agreement is best for long-term financial stability

The results of supervisory exercises suggest that long-term financial stability issues could arise from unmitigated climate impacts – that is in the absence of transition efforts. The ECB (2021) climate-related stress test of euro area banks clarifies that physical climate risks can be a significant source of systemic risks, in the absence of transition policies. It also concludes that, if climate change remains unaddressed, corporate loan portfolio losses from physical risks could

become critical over the next 30 years. The ECB (2023) also considers that if the transition is delayed, this will lead to more physical risks and potential compounding effects of transition and physical risks.<sup>11</sup>

It should be noted that, at this stage of the research in the EU and across different jurisdictions, the long-term system-wide risk of financial instability from unmitigated climate change is estimated to be moderate. However, the supervisors have acknowledged the technical limitations to their conclusions so far (FSB, 2022). These limitations very probably underestimate the long-term risk of financial instability and losses from the absence of a transition.

The review of the ECB exercises shows that the supervisory estimations of climate impacts on financial stability have not yet integrated a range of complexities in the potential dynamics of climate risks. These include multi-climate hazard risks and their non-linear effect, complex climate exposures of financial assets through international counterparties' value chains, amplification mechanisms from interdependencies

10 As part of the international Network for Greening the Financial System (NGFS), central banks and supervisors have worked with climate scientists to create climate-related narratives and scenarios that can be used to assess risks to financial stability. At the European level, the ECB has used these scenarios to carry out bottom-up stress tests with banks from a microprudential perspective. The ECB (and the ECB/ESRB project team on climate risk monitoring) also carried out top-down stress tests of banks and other types of financial institutions from a macroprudential perspective. Comparable exercises have been carried out by authorities in other jurisdictions.

11 In the ECB (2023) exercise, this disorderly transition scenario is the “delayed transition scenario” leading to +2.6°C global warming.

and dynamics in the financial sector, and so on. Applying actuarial principles to examine climate scenario modelling, Trust *et al.* (2023) also demonstrate that “the observed benign results for the hot-house world are deeply flawed and underestimate the impact of the risks we expect to face”. This relates, for example, to the use of damage functions that exclude the risks from tipping points, or societal consequences such as involuntary mass migration.

### 2.3.2. Such a transition appears to be low risk for short-term financial stability

The financial authorities so far estimate that the implementation of a timely low-carbon transition meeting the Paris Agreement objective leads to moderate instability risk in the banking system over the coming decade. The short-term financial instability risk in this scenario is also estimated to be lower than the long-term risk in other scenarios.

In particular, the ECB (2023) concludes that a timely low-carbon transition meeting the Paris Agreement climate objective would not lead to instability risks in the coming decade. This conclusion is reached even when considering an ambitious transition scenario that limits global warming to below 1.5°C through immediate and accelerated measures. The ECB also concludes that delaying the start of the transition by three years, while maintaining the 1.5°C objective, would require a more abrupt and stronger transition.<sup>12</sup> This would result in a weaker economy and higher expected losses for banks in the coming decade, but still no system-wide risk of financial instability. The results also show that the risks are concentrated in certain sectors and banks that would require more careful monitoring during the transition process.

Another ECB/ESRB simulation explicitly illustrates how anticipation effects on financial markets could generally reinforce the case for a timely and orderly low-carbon transition from a short-term financial stability perspective (ECB-ESRB, 2022).<sup>13</sup> This first finding concerns market losses of corporate equity and bonds.<sup>14</sup> The stress test concludes that if market actors priced in climate-related anticipations, an anticipated orderly net zero 2050 transition (leading to the credible limitation of climate impacts in the long term) would result in much lower immediate market losses than if the current policy scenario were considered central. A second finding concerns banks’ loan portfolios. The long-term climate benefits of the orderly net zero 2050 transition would not be priced into loans, as the horizon of loans is shorter-term. As a result, the transition would lead to “subtly higher credit losses” than in the current policies scenario.

The same exercise also concludes that anticipation effects can increase the short-term risks that would arise from delaying the transition. If the transition is anticipated to be delayed, the market losses are higher compared to the current policy scenario until the end of the horizon. This reflects the fact that the delayed reduction in physical risks emerges beyond the horizon of the stress test analysis (*i.e.* 2050) and the hypothesis that asset prices only discount the delayed future reduction in physical risks to a limited degree. In addition, if the transition is delayed, the long-term benefits (in the form of lower losses) of the transition for banks compared with current policies exist, but are weaker than in the case where the transition is orderly. It is worth noting that the conclusions mentioned in the paragraphs above are also conditional on the analytical choices and limitations of research work.

As a result, the early and orderly low-carbon transition consistent with the Paris Agreement is preferable to other emission scenarios, both from short- and long-term financial stability perspectives. This emerging signal leaves open the question about the role that prudential banking authorities could play to mobilize the financial sector in transition finance.

<sup>12</sup> This scenario is called the “late-push” transition scenario in the ECB (2023) exercise.

<sup>13</sup> The report also accounts for amplification mechanisms from interconnections across banks, funds and insurance companies in the euro area.

<sup>14</sup> Although the model is applied to EU insurance companies’ and funds’ portfolios, it can be assumed that the mechanisms are also relevant to banks’ trading books.



# 3. IN PRACTICE, THE PRUDENTIAL BANKING AUTHORITIES COULD BETTER HELP TO MOBILIZE TRANSITION FINANCE AS PART OF THEIR RISK APPROACH

The current state of the research conducted by the financial authorities shows that an early and orderly transition is preferable from a prudential perspective. This suggests that the climate risk approach in the financial sector should be at least compatible with, if not encourage, an immediate transition that would be as orderly and ambitious as possible.

However, it is not clear what exactly can be expected of the prudential banking authorities in terms of fostering such a transition through their risk approach. Questions remain, for example, on the technical feasibility of supporting the low-carbon transition in a prudential framework. There are also

questions regarding which actions the prudential authorities can legitimately undertake to support the transition compared with other actors, such as governments.

This Section explores how proactive the prudential banking authorities could be in mobilizing transition finance by banks. **Section 3.1** first takes stock of climate-related prudential actions undertaken so far in order to characterize their potential synergies with transition finance. **Section 3.2** then proposes principles that the prudential authorities could use to more actively exploit the convergence between the prudential risk approach and transition finance.

## 3.1. The prudential banking authorities have so far implemented the risk approach without supporting transition finance

The actions undertaken so far by the prudential authorities on climate risks have not sought to directly foster transition finance. Moreover, these actions are unlikely to yield a co-benefit for the mobilization of transition finance.

### 3.1.1. Prudential banking initiatives on climate risks have not integrated any explicit objective on transition finance

The bank supervisory authorities have sought to identify climate-related risks that are key for the safety and soundness of individual banks (*i.e.* from a microprudential supervision perspective) and for financial stability at the system level (*i.e.* from a macroprudential supervision perspective). This has led them to explore risk propagation channels in the real economy and the financial sector, in connection with the development of stress tests. As explained in the previous Section of this report, the importance of transition finance only begins to emerge as a conclusion of these exercises.

The supervisory authorities have also taken concrete microprudential actions. They have essentially sought to accompany banks towards a better integration of climate and transition issues within their internal risk-related processes. At the European level, for example, the EBA set “supervisory expectations” in 2020 that banks include ESG and climate-related aspects in their credit risk management framework.<sup>15</sup> Later in 2020, the ECB also published its final list of supervisory expectations on climate-related risk management

within banks (ECB, 2020). As part of this, banks were steered into a microprudential climate stress test where they were expected to build and demonstrate their capacity to test their financial resilience to physical climate and transition risk scenarios. This test and the review of broader supervisory expectations resulted in supervisory letters being sent to banks, with demands for corrective actions regarding their internal organization for climate-related risks. This also contributed – only qualitatively – to the revision of capital requirements for banks through the SREP (which is part of the European supervisory process implementing Basel Pillar 2). These actions have not directly and publicly targeted the mobilization of transition finance.

The supervisory authorities have only begun to explore macroprudential policies on climate issues. At the European level, the most tangible steps have been the macroprudential top-down stress tests of the financial system by the ECB and the ESRB. These exercises have not directly targeted the mobilization of transition finance. Moreover, the supervisory authorities have only recently started to more broadly explore the utility of their usual macroprudential policy tools for banks or the potential to adapt these tools to the context of climate issues (ECB-ESRB, 2022). For example, the EBA (2023) recommends further exploring the opportunity of using systemic risk buffers for climate-related impacts. Macroprudential approaches could be relevant, as climate-related risks might involve propagation mechanisms defined at the systemic level and not only at the individual institution level.

<sup>15</sup> These supervisory expectations are published in the EBA’s 2020 guidelines on loan origination and monitoring.

### 3.1.2. The approaches developed so far are not necessarily conducive to a significant co-benefit in terms of mobilizing transition finance

#### 3.1.2.1. Limitations of the current “measuring precisely before correcting” strategy

Many of the actions taken so far have sought to identify and measure the consequences of climate-related risks both on individual institutions and at the systemic level, prior to taking corrective actions.

However, as explained in Section 2.3.1 of this report, the climate stress tests developed so far have underestimated the financial instability risk from climate change. This indirectly results in underestimating the importance of mobilizing transition finance in the name of financial stability. Further technical improvements are relevant to understand the risks, and at the same time the task of identifying and modeling the risk propagation mechanisms, acquiring relevant data, and so on, is a laborious process.

Conditioning the use of broader corrective actions on the improvement of these measures may lead to a timeline of action that is inconsistent with the urgency of achieving an ambitious transition consistent with the Paris Agreement (it should be conceded, however, that to some extent the stress test results were integrated qualitatively into the SREP in Europe.)

In addition, the utility of these analytical processes may come up against the difficulty of making decisions depending on a transition whose shape and consequences remain deeply uncertain (Dépoues *et al.*, 2019; Hubert *et al.*, 2022).

#### 3.1.2.2. Limitations of the current micro-prudential approaches in terms of rationale and corrective actions

The microprudential actions taken so far to modify banks’ behavior are not necessarily conducive to the mobilization of transition finance.

The supervision approach has been framed to help banks effectively integrate climate-related risks. To do so, the supervisors essentially try to improve both the information made available to banks and their internal tools to process it. They only partly question the decision rationale of banks, for example by expanding the time horizon for which they are accountable when analyzing and managing the risk.

This approach, however, essentially leaves the banks to implement their own risk management perspective, which is not necessarily conducive to fostering transition finance, as illustrated in Section 1.

In particular, Box 4 below illustrates how bottom-up climate stress test exercises for the French banks have yielded limited co-benefits in terms of the mobilization of transition finance.

#### BOX 4. LIMITED CO-BENEFITS OF BOTTOM-UP CLIMATE STRESS TESTS FOR TRANSITION FINANCE IN FRANCE

Calipel and Fidel (2023) investigate to what extent a selection of past stress-testing exercises in France and the EU have brought co-benefits in terms of mobilizing banks for transition finance.

They conclude on the one hand that these exercises have brought several co-benefits, mainly in terms of raising awareness on climate issues among the institutions’ teams. They have also helped to mobilize and build relevant connections between a range of teams, including ESG divisions and risk divisions.

On the other hand, they also conclude that climate-related stress tests entail a large amount of work for the teams concerned, which is mainly useful for short-term financial stability purposes. But that work is not sufficient to help the teams to become competent or mobilized to finance the net-zero transition. Moreover, while a lot of work has been done by banks, their teams consider that the results of the exercise are too questionable to be used in decision-making. This has precluded any observation on whether or not these decisions would have been favorable to transition finance.

Moreover, the corrective measures currently resulting from these exercises have questionable co-benefits for transition finance. In particular, the additional capital requirements seek to ensure that banks are financially able to cope with the crisis should it occur, rather than seeking to defuse the gradual build-up of a potential crisis before it happens.

As a result, current prudential practices do not explicitly help with transition finance. What more could be expected from prudential regulation and supervision in this respect?

## 3.2. Principles to legitimate proactivity of the prudential banking authorities in mobilizing transition finance

This Section proposes principles that the prudential banking authorities could use to recognize and better address transition finance as part of their prudential risk approach. A “proactive precautionary approach” would be relevant to address climate-related risks. This would ensure more explicit and greater importance is given to transition finance as part of prudential action. However, the prudential banking authorities are not the only authority that should play a role in fostering

transition finance. Other streams of financial and economic regulation should also be involved. This raises the need for a “coordination principle” that clarifies how the prudential banking authorities could take relevant and legitimate action in this broader context.

### 3.2.1. Principle 1: a proactive precautionary approach to prudential action on climate risk

#### 3.2.1.1. An appropriate approach calling for a prudential treatment of climate risk that actively fosters transition finance

The precautionary principle defines a way to address risks whose occurrence and impacts are surrounded by considerable uncertainty. This is typically relevant to the case of transition risks, which are characterized by “deep” or “radical” uncertainty (Chenet *et al.*, 2021; Dépoues *et al.*, 2019; Hubert *et al.*, 2022). However, there is no consensus on the interpretation of the precautionary principle and especially its implications for taking action.

Therefore, following Chenet *et al.* (2021), this report instead proposes a “proactive precautionary approach” to prudential action, without referring to a specific legal definition of the “precautionary principle”. This approach is explicitly oriented towards taking early action. The proactive precautionary approach posits that it is relevant to adopt cautious behavior allowing “preventive” action to be taken that is appropriate to avoid the worst anticipated impacts, based on the best available information and without waiting for additional information to become available.

In the case of climate risks to financial stability, in Europe the best available information to determine preventive action is provided by the EU financial authorities themselves and by broader research, as explained in Section 2.3. The work of the EU financial authorities increasingly stresses that an early, orderly and climate-ambitious transition considerably reduces the risk of financial instability in Europe compared with the other scenarios in the long term. The authorities also recognize that unabated climate change can be a significant source of financial instability, although their analyses currently underestimate the risk. This underestimation is further confirmed by the broader research. Furthermore, the EU financial authorities highlight that an early, orderly and climate-ambitious transition is low risk for short-term financial stability.

The best available information in the case of Europe therefore suggests that the low-carbon transition is a direct necessity for avoiding the irreversible downward spiral towards the worst climate impacts expected mostly in the long-term and posing the most serious threat to financial stability. As a result, when applying the proactive precautionary approach as a guide for their actions, the prudential authorities should consider that the mobilization of financial institutions for transition finance is a relevant objective to them.

#### 3.2.1.2. Implications for the evolution of the prudential mindset and practices

This principle calls for a more proactive mindset among the prudential banking authorities regarding what they can do to help to mobilize “transition finance” in its diverse aspects. This includes taking action that contributes more actively to limiting finance for the development of climate-harmful activities, helping with the early phase-out of climate-harmful activities, fostering the decarbonization of activities where possible, and fostering the financing of activities that are in line with a low-carbon economy.

In particular, the precautionary approach calls for questioning whether and how prudential action on climate risks should

focus more on **preventing** the build-up of climate impacts, by fostering transition finance. The rationale of defusing the crisis already existed within the prudential framework before discussions on how to address climate risks. For example, after the Great financial crisis, some approaches – such as the systemic risk buffer – were developed as part of the macroprudential framework specifically to prevent the build-up of systemic risk, as well as to help banks to increase their resilience. However, this rationale needs to be explicitly emphasized in the context of climate issues and to be implemented with adapted tools that are largely favorable to transition finance.

This principle also calls for taking action to avoid the worst impacts despite limited information. It would thus call for reinforcing those actions in favor of mobilizing transition finance that are **not necessarily conditional on a thorough estimation** of the financial impacts arising in all types of scenarios (not to undermine the broader importance of this type of analysis). For example, the SREP is consistent with this principle, as the corrective actions assigned to banks do not necessarily rely entirely on precise quantitative estimates of climate-related impacts in the different scenarios. This process also influences the internal organization aspects of banks, which have been a key limitation to the capacity of these institutions to finance the low-carbon transition (Evain, 2022).

This principle might also call for **reviewing to what extent the traditional prudential tools and their categorization are relevant per se to foster more transition finance**. For example, what is the validity of the traditional dichotomy between microprudential tools and objectives on the one hand, and macroprudential tools and objectives on the other, when discussing transition finance? Transition finance is necessary for the long-term stability of the financial system, which makes it relevant among macroprudential objectives. However, banks’ capacity to finance the transition depends partly on their portfolio exposures, business environment, staff organization and skills, as well as on the institution-wide strategy. Their capacity to finance the transition also implies looking at the transition capacity of their counterparties in the real economy, and this is missing from their transition risk management tools (Hubert *et al.*, 2022). Taking account of these specific aspects as part of banks’ transition planning can be viewed as a more granular risk management tool with micro- but also macroprudential objectives.

### 3.2.2. Principle 2: coordinating the proactivity of the prudential banking authorities for transition finance with broader public action

To operationalize the use of the precautionary approach, it is necessary to clarify which of the challenges to transition finance the prudential banking authorities should be in charge of considering and addressing.

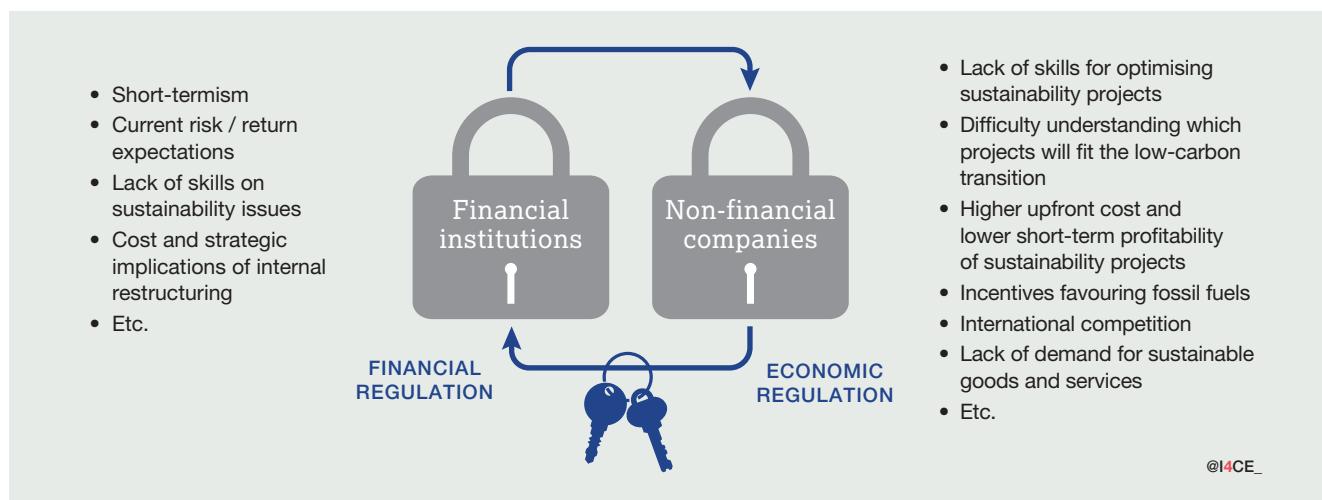
#### 3.2.2.1. The diverse barriers to transition finance could justify action from a range of public authorities

As illustrated in Figure 3, the barriers to transition finance can arise from both the financial sector and the real economy. For example, financial institutions need to enhance their teams’ skills in analyzing the alignment of their deals with

a low-carbon transition and the risks associated with these strategies. As regards the real economy, economic signals

need to better align the risk/return profiles of activities with their contribution to limiting GHG emissions.

**FIGURE 3. HOW FINANCIAL AND ECONOMIC REGULATIONS ARE KEYS TO UNLOCK BARRIERS TO CLIMATE ACTION IN THE FINANCIAL SECTOR AND THE REAL ECONOMY**



Source: I4CE (2024) Connecting the dots between climate risk management and transition finance based on Evain and Cardona (2021).

A range of public authorities could take action to lift these barriers from both the financial sector and the real economy. This is not necessarily obvious where proactive initiatives from the prudential banking authorities would be relevant in the broader landscape of public action to remove these barriers. For example, a range of tools that the prudential authorities traditionally use are not readily actionable for managing climate-related risks (EBA, 2023). This is particularly the case when recognizing that fostering transition finance is part of managing climate-related risks.

However, the prudential authorities may demonstrate active efforts to identify their legitimate and relevant contribution, in coordination with other public authorities. This generally began to be discussed several years ago by key institutions such as the Bank for International Settlements and the Banque de France (Bolton *et al.*, 2020).

### **3.2.2.2. The prudential authorities should aim for an active contribution that is consistent with the transition strategies framed by governments**

The prudential authorities cannot override government prerogatives. National (and sub-national) governments are in charge of setting the overarching national and sectoral transition strategies. It is their role to directly develop the transition strategy for the real economy, to lead the way to structuring its implementation and to ensure that the future trajectory of public action is foreseeable. It is also their responsibility to provide economic regulations that seek to internalize the cost of GHG emissions in the risk/return profiles of economic activities, and prudential action cannot be a substitute for this. Actions by the prudential authorities will be legitimate only if they are clearly consistent with government policy directions.

However, this does not mean that the prudential authorities should adopt a wait-and-see attitude while governments do all the work of setting and testing approaches for transition finance. For example, the prudential banking authorities can actively contribute to ensuring the convergence of economic actors' anticipations that the low-carbon transition is inevitable in the short-term. This can be done, for instance, by stimulating banks to engage with their counterparties to understand how climate change affects their business models, how they are preparing for planned government policies, and what their transition finance needs are.

Another way in which the prudential banking authorities could help is by requiring explanations from banks on how risk/return considerations influence their decisions in terms of financing the environmentally-relevant transition plans of their counterparties. If this undermines transition finance, then the prudential authorities could investigate what drives this risk/return perception and provide governments with information they could use to design solutions, perhaps implying roles for a broader range of public authorities. For example, if the need arises, potential solutions for de-risking transition finance could be explored, perhaps with public-private partnerships.

This also leaves room for the prudential banking authorities to help to address the barriers that more specifically arise from the banking sector, such as the lack of internal skills.

More broadly, the prudential banking authorities will not be able to address all of the issues of transition finance by themselves. Nonetheless, the prudential authorities – as well as the other public authorities – will need to demonstrate how they explore and implement their potential to be involved in lifting the barriers. This should be based on using existing approaches and tools if possible, adjusting them on innovating when necessary, and actively addressing coordination needs across the fields of public action.<sup>16</sup> Such coordination needs are recognized even between the micro- and macroprudential fields (EBA, 2023).<sup>17</sup>

<sup>16</sup> For example, the EBA (2023) explains that traditional tools might need to be adapted.

<sup>17</sup> The modalities of this coordination principle are a current field of debate that goes beyond the few examples given in this report. For instance, Cardona *et al.* (2023) propose a strong interpretation of this principle. They recommend a deep “articulation” of economic and financial regulations (including prudential regulations) to better mobilize private financial institutions in transition finance while avoiding systemic risk. This includes, for example, setting common objectives between the fields of economic and financial regulations for transition finance, as well as the dynamic articulation of instruments over time.

## 4. CONCLUDING REMARKS

This report seeks to contribute to disentangling the interplay between the climate risk approach and the transition finance approach, taking the example of the banking sector and its prudential authorities in the EU.

The report shows that there is no guarantee that a better integration of climate issues within banks' usual risk management practices will lead these institutions to mobilize for transition finance. From a prudential perspective, however, the immediate financing of an early, orderly and climate-ambitious transition in the real economy is the preferable scenario for financial stability. The prudential authorities cannot foster such a transition alone, but they can help to more explicitly mobilize transition finance. To do so, they particularly need to implement a proactive precautionary

rationale for climate issues, while coordinating with other fields of public action – including support for the transition strategies established by governments.

The following remarks provide insights on how the prudential authorities should move forward in mobilizing transition finance as part of their risk approach. First, the prudential authorities will need to act in favor of the transition while also managing the broader climate-related prudential issues (Section 4.1). Second, when looking for tools and approaches to better mobilize transition finance, the prudential authorities will need to integrate the principles of action set out in this report, while more broadly ensuring the resilience of the financial sector.

### 4.1. Actively mobilizing transition finance while managing the broader climate-related risk implications in the financial sector

This report concludes that there is a case for the prudential banking authorities to be more proactive in mobilizing transition finance. However, this is not an invitation to evade the broader climate-related prudential issues. These should be managed consistently with the overarching objective of mobilizing transition finance massively and rapidly, which is a necessary objective in order to avoid long-term climate impacts. This should be done following the principles presented in this report.

#### 4.1.1. Risk taking implications of transition finance

As discussed in this report, according to the stress-testing exercises of the prudential authorities, a low-carbon transition compatible with the Paris Agreement can lead to risk-taking in the short term.

While in the current state of research estimates of the potential losses and stability implications are low, there is a need for the prudential authorities to understand and monitor the risk-taking implications for specific activities and how they can be a barrier to transition finance.

Keeping in mind that prudential regulation cannot foster transition finance if this jeopardizes the stability of the financial sector, the prudential authorities can still support the transition in many ways, in cooperation with other public authorities – consistently with the principles explained in this report. For example, the prudential authorities can determine what the banks perceive to be risky with transition finance, and what drives this perception. They can identify how the unattractive risk-return profiles relate to the tools that governments use to foster the transition and share this information with governments to enable them to take action accordingly. The prudential authorities can also determine whether banks could objectively finance the transition more without going beyond their capacity to take risks.

In connection with this investigation of risk-taking implications, more broadly, the prudential authorities may need to better understand how the dynamics in the financial system itself might amplify the risks at the institution or system level. For example, a better understanding of the development of collective market sentiment about climate risks could be a relevant area of research. It could help to understand how climate-related risks and opportunities are perceived, how they drive the willingness of market actors to finance the transition, and how market sentiment might remain sluggish or change abruptly and magnify the risks. Collaborations of the prudential authorities with other actors – such as researchers – could help.

#### 4.1.2. Implications of the deep uncertainty surrounding climate-related scenarios

More specifically, the question of the deep uncertainty surrounding which potential futures could occur is also a challenge to the financial stability mandate of the prudential authorities. Even when a government clarifies plans for the low-carbon transition of its national economy, a wide array of uncertainty sources can influence the economic and financial trajectory. These could include a very belated transition, or the compounding of climate and non-climate risks even in the short term. The prudential authorities need to continue exploring these scenarios and their impacts in the real economy and the financial sector.

Integrating this range of plausible scenarios into decision-making is still a challenge, as much for the prudential authorities as for the financial institutions themselves. For instance, a focus on ensuring the capacity of individual institutions to withstand failures of counterparties in their transition process in a range of scenarios could come at the cost of limiting, to a certain extent, the availability of financial institutions' resources to finance the transition.

Coordination of a range of public authorities and policies may be necessary to address this uncertainty, while not undermining the availability of resources for transition finance. Decision-making theories under deep uncertainty may also be a relevant field of research for the prudential

authorities to make progress on this integration (Dépoues *et al.*, 2019; Hubert *et al.*, 2022). The prudential authorities would also need to monitor – to the extent possible – which scenario is becoming more plausible as time goes by.

## 4.2. Exploring tools and approaches to better mobilize transition finance as part of the prudential risk approach

This report explains that the proactivity of the prudential authorities for transition finance should be justified and framed based on a precautionary approach and a coordination principle. These principles may stimulate further exploration and testing of tools and approaches that the prudential authorities could use to help to mobilize transition finance.

There is a need to explore the added value of a range of tools – including potential combinations of tools and adjustments to them. The European prudential authorities are making progress in this respect, as reflected in the work of the ECB/ESRB Project Team on climate risk monitoring (2022). They recognize that climate risks are an issue at both the institutional and the system level (including banks, non-banking institutions and financial markets) and that this calls for broadly exploring the policy options not only for governments, but also for a range of actors including the prudential authorities. In particular, their report begins to explore the potential for macroprudential policies and their interplay with other policies, including microprudential tools (ECB-ESRB, 2022). As also explained by Cardona *et al.* (2023), the list of potentially relevant tools to be investigated may include, for example, systemic risk buffers. Previously, a number of studies were also carried out on specific tools highlighting attention points. For example, Chamberlain and Evain (2021) analyze the effectiveness of a green supporting factor and a dirty penalizing factor on French banks, based on bank data and a model-based simulation. They conclude that there are limited impacts and unintended side effects. This may also have limited actionability in practice, as it relies on accurately measuring risk while failing to effectively take account of deep transition uncertainties (Cardona *et al.*, 2023).

Transition plan requirements as part of Pillar 2 of the prudential framework appear as an essential tool of the policy mix. It is important to frame the design of these plans to encourage banks towards transition finance, consistently with the principles presented in this report. Such transition plans would indeed help to lead banks to develop granular, ambitious and applicable transition finance strategies that help to reduce the build-up of climate-related risk in the system, in synergy with government actions, and without creating excessive risk.

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