

Berg, Tobias et al.

Research Report

Climate regulation and financial risk: The challenge of policy uncertainty

SAFE Policy Letter, No. 100

Provided in Cooperation with:

Leibniz Institute for Financial Research SAFE

Suggested Citation: Berg, Tobias et al. (2023) : Climate regulation and financial risk: The challenge of policy uncertainty, SAFE Policy Letter, No. 100, Leibniz Institute for Financial Research SAFE, Frankfurt a. M.

This Version is available at:

<https://hdl.handle.net/10419/273078>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Tobias Berg
Elena Carletti
Stijn Claessens
Jan Pieter Krahenen
Irene Monasterolo
Marco Pagano

Climate regulation and financial risk: The challenge of policy uncertainty

This paper is published in collaboration with the Research and Policy Network on European Economic Architecture of the Centre for Economic Policy Research (CEPR). An earlier version was published as [CEPR VoxEU Column](#).

SAFE Policy Letter No. 100 | June 2023

Leibniz Institute for Financial Research SAFE
Sustainable Architecture for Finance in Europe

policy_center@safe-frankfurt.de | www.safe-frankfurt.de

Climate regulation and financial risk: The challenge of policy uncertainty*

*Tobias Berg, Goethe University Frankfurt, and CEPR
Elena Carletti, Bocconi University, and CEPR
Stijn Claessens, Bank for International Settlements, and CEPR
Jan Pieter Krahen, SAFE, and CEPR
Irene Monasterolo, EDHEC Business School, and CEPR
Marco Pagano, University of Naples Federico II, and CEPR*

June 2023

Abstract

Climate risk has become a major concern for financial institutions and financial markets. Yet, climate policy is still in its infancy and contributes to increased uncertainty. For example, the lack of a sufficiently high carbon price and the variety of definitions for green activities lower the value of existing and new capital, and complicate risk management. This column argues that it would be welfare-enhancing if policy changes were to follow a predictable longer-term path. Accordingly, the authors suggest a role for financial regulation in the transition.

Transitioning to a carbon-neutral economy requires structural changes. Fossil fuel-based energy needs to be replaced by renewable alternatives (e.g. wind and solar), and high-carbon activities such as heating need to be transformed (IEA 2021).

Public debate and academic contributions have been focusing on ways to implement the low-carbon transition (NGFS 2019), on the financial costs of a late transition (Alogouskofis et al. 2021), and on the benefits of early action (Gourdel et al. 2022). The debate is increasingly relevant for financial stability analysis and risk management (BIS 2021). For example, to inform climate stress tests, the Network for Greening the Financial System (NGFS) has developed climate scenarios showing higher costs and risks for high-carbon activities, in particular in a late or disorderly transition (NGFS 2021). While these scenarios take carbon taxation into account, they fail to consider how changes in financial regulation, both over time and across constituencies, affect financial valuations and investment levels.

Absent a coherent climate regulatory strategy, financial institutions and markets may not perform efficiently, as their role in reallocating funds and managing risks may be severely impaired. This

* SAFE policy papers represent the authors' personal opinions and do not necessarily reflect the views of the Leibniz Institute for Financial Research SAFE or its staff.

should not be seen as a surprise: policy uncertainty adds risks, increasing the cost of capital for green investments and thus the value of postponing adjustments (Castellini et al. 2021).

Regulatory uncertainty and risk assessment

A set of climate policies such as a carbon tax and environmental and financial regulation, preferably coordinated globally, is needed to send the right signals to investors and elicit an effective response (Stiglitz et al. 2017). However, these are slow in the coming. Drivers of this policy uncertainty and limited coordination include:

- Swinging perception of climate risks by policymakers, also due to swings in public opinion (e.g. the *gilet jaunes* demonstrations in France, presidential succession in the US);
- New climate-related information reflecting availability of new data and improved methodologies, as well as the availability of new technologies that alter economic and policy trade-offs
- The global dimension of climate policy and the difficulties to reach consensus¹
- Exogenous shocks, such as the current energy price crisis, which may inadvertently increase the attractiveness of regenerative energy sources or, by contrast, divert policies from formerly envisaged path of transition
- Poor quality of corporate carbon risk disclosure leading to unfair competitive advantage and greenwashing possibilities,² as well as different disclosure coverage at the regional and global level, contributing to contradictory and ambiguous information to investors³

Implications of policy uncertainty for investments and risk management

As argued above, policy uncertainty tends to increase the cost of capital as far as the transition is concerned, negatively affecting the willingness (but also the ability) of investors to fund low-carbon activities in a variety of ways.

¹ An example is the UNFCCC COP27 conference held in Sharm-el-Sheik in 2022.

² For instance, in the transport sector, Scope 3 emissions represent more than 90% of total emissions but are rarely reported, or when reported the quality varies greatly from firm to firm with differences of also 30 times in values across companies (Bressan et al. 2022).

³ For instance, while the SEC is eager to leave Scope 3 emissions out of firms' disclosure efforts, both the European Financial Reporting Advisory Group (EFRAG) in charge of updating the European Sustainability Reporting Standards (ESRS), and the International Sustainability Standards Board (ISSB), require Scope 3 emissions disclosure in accordance with the GHG emissions Protocol. Scope 3 emissions cover emissions through corporate's upstream and downstream value chain (e.g. suppliers and distributors), business travel, leased assets, and financial exposures through financial contracts (equity and debt).

First, policy uncertainty has direct consequences for investment valuation as it bears negatively on net present values. The more volatile green policy measures, the lower their impact on investment decisions – and the lower the green investment levels in the economy.

Second, by fostering uncertainty throughout, delays in climate policy decisions contribute to a scarcity of green assets, so that a sudden swing in demand may trigger commensurate green asset price increases (Demekas and Grippa 2021). Once the transition occurs, and green assets are more plentiful with technology at scale, a decrease in green asset prices might follow. Hence, uncertain climate policies may induce destabilizing swings in the prices of green assets over time.

As uncertainty contributes to delay the transition towards low-carbon real activities, market pressure to move towards greener technologies will remain limited. If a transition occurs unexpectedly, high-carbon firms will have stranded assets on their balance sheet (Mercure et al. 2018) and losses in the P&L statement. This, in turn, may translate into credit risk for financial institutions funding them (Battiston et al. 2017).

Third, policy uncertainty affects risk assessment at the level of financial institutions, which therefore may:

- Assume that others, including governments, will do what is needed in the public interest – so there is no need to act on their side
- Underestimate the systemic spillovers from joint or concentrated exposures to, or fire-sales of, stranded assets
- Ignore – or even encourage – the migration of activities to less-regulated parts of the world and financial markets

The upshot is that policy uncertainty may result not only in a slower-than-necessary green transition, but also in higher risk of financial instability. A secondary effect operates via a reduced willingness of financial institutions to fund the low-carbon transition, generating a negative feedback loop as the delay in the transition may raise financial instability (Battiston et al. 2021).

Conclusions: The need for policymakers to act now

Is there a way to lower policy uncertainties so that greening investment decisions can take place rapidly and with large impact? What role should financial regulators and supervisors play? We argue that these actors, and in general all relevant policymakers, should devote sufficient resources to assessing the implications of policy uncertainty for individual and systemic financial risk, and reflect on the implications of such uncertainty on the financial system.

There is surprisingly little discussion about the role of policy uncertainty as a potential source of idiosyncratic and systemic risk for financial markets. This is where supervisory institutions and central banks should play a more active role. A systematic analysis of how various policy decisions (e.g. carbon tax, banking regulation, subsidies, environmental regulation) – and in particular their variability over time – influence corporate investment decisions and bank lending conditions could better inform policymakers about the costs of discretionary climate actions and policy volatility, and the related trade-offs.

In particular, policymakers that regulate financial markets and intermediaries could reduce transition risk by following a few basic principles:

1. They should strive to render climate-related rules impactful, by making them stable over time, credible in implementation, and predictable in evolution. For the sake of price stability, policy changes should be predictable and not easily reversible. For credibility, policy changes should be impactful rather than cosmetic. For predictability, rule changes should follow a particular direction, say, increasing the carbon price steadily. To this aim, benchmarking for all three characteristics (stability, credibility, predictability) should be used.
2. Rule setting by policymakers and regulators should explicitly consider the impact new rules and regulations could have on (a) existing capital in place, and (b) new investments in high- and low-carbon activities. The asset price effects of rule setting are the driving force of corporate adjustment towards a net-zero economy, and an explicit consideration of opportunity costs can help to improve the effectiveness of rule setting.
3. Finally, to enhance the effectiveness of climate policymaking, policymakers should take into account expectation formation by financial industry participants, via transparency about (a) climate-related impact of investment (e.g. by supporting data standardization, comprehensive collection, full disclosure), and (b) the longer-term policy agenda (e.g. rule changes), encompassing the international/global dimension of this agenda.

References

Alogoskoufis, S, N Dunz, T Emambakhsh et al. (2021), “ECB economy-wide climate stress-test. Methodology and results”, ECB Occasional Paper Series 281.

BCBS – Basel Committee on Banking Supervision (2021), “Climate-related financial risks – measurement methodologies”, Working paper, April.

Battiston, S, I Monasterolo, K Riahi and B van Ruijven (2021), “Accounting for finance is key for climate mitigation”, *Science* 372(6545): 918-920.

Battiston, S, A Mandel, I Monasterolo, F Schütze and G Visentin (2017), “A climate stress-test of the financial system”, *Nature Climate Change* 7(4): 283–288.

Bressan, G, I Monasterolo and S Battiston (2022), “Sustainable investing and climate transition risk: a portfolio rebalancing approach”, *The Journal of Portfolio Management Novel Risks* 48(10): 165-192.

Castellini, M, F Menoncin, M Moretto and S Vergalli (2021), “Photovoltaic Smart Grids in the prosumers investment decisions: a real option model”, *Journal of Economic Dynamics and Control* 126, 103988.

Demekas, M D G and P Grippa (2021), “Financial Regulation, Climate Change, and the Transition to a Low-Carbon Economy: A Survey of the Issues”, *International Monetary Fund*

Gourdel, R, I Monasterolo, N Dunz, A Mazzocchetti and L Parisi (2022), “The double materiality of climate physical and transition risks in the euro-area”, *ECB Working Paper No. 2665*.

IEA – International Energy Agency (2021), *Net Zero by 2050: A roadmap for the Global Energy Sector*, IEA Flagship report, May.

Mercure, J F, H Pollitt, J E Viñuales et al. (2018), “Macroeconomic impact of stranded fossil fuel assets”, *Nature Climate Change* 8(7): 588-593.

NGFS – Network for Greening the Financial System (2021), [NGFS Climate Scenarios for central banks and supervisors](#), Technical report.

Stiglitz, J E, N Stern, M Duan et al. (2017), [Report of the high-level commission on carbon prices](#), High-level Commission on Carbon Prices.