Network for Greening the Financial System

Technical document

Survey on monetary policy operations and climate change: key lessons for further analyses

December 2020

NGFS

Central Banks and Supervisors
Network for Greening the Financial System

NGFS Technical document

DECEMBER 2020

This document was prepared by the "Scaling up Green Finance" workstream of the NGFS, chaired by Dr Sabine Mauderer from the Deutsche Bundesbank.

This report has been coordinated by the NGFS Secretariat/Banque de France.
For more details, go to *www.ngfs.net*
and to the NGFS Twitter account *@NGFS_* , or contact the NGFS Secretariat
sec.ngfs@banque-france.fr

BANQUE DE FRANCE
EUROSYSTÈME
NGFS
Secretariat

NGFS
Central Banks and Supervisors
Network for Greening the Financial System

Table of Contents

Executive summary 3

1. Introduction 4

2. Review of information made publicly available by central banks 4

3. Questionnaire: main stylised facts 5

3.1. Institutional context 6

3.2. Scope of potential measures 6

3.3. Other topics for investigation 8

4. Conclusion 9

Acknowledgements 10

Executive summary

Building on the initial takeaways regarding monetary policy and climate change that were published in June 2020, the Network for Greening the Financial System (NGFS) is examining more closely how prepared central banks currently are to take account of climate-related risks in their monetary policy operations.

The NGFS conducted a review of 107 central banks with the aim of analysing their institutional frameworks and balance sheet features. In addition, a questionnaire was sent to central banks worldwide to identify whether they are contemplating adjusting their operational frameworks to take account of climate-related issues in the implementation of monetary policy. 26 central banks representing 51 countries participated in the survey, affording a comprehensive and geographically diverse overview of the latest developments in the field.[1] The key findings, based on the survey responses, are as follows.

1. **All central banks consider climate change to be a challenge, both on account of its potential threat to the economy and its impact on central banks' operational frameworks.** In fact, the large majority of central banks think that climate change could affect monetary policy transmission, though only a small number of them indicate that they have already experienced some of these transmission channel effects (mainly following the occurrence of natural disasters).
2. **The majority of central banks see scope in their respective mandates for adjusting their operational frameworks to reflect climate-related risks, albeit with considerable institutional differences across central banks.**
3. **While the majority of respondents are considering climate-related measures in general terms, the implementation of specific measures in their operational frameworks is still at a very early stage.** In fact, for most of the specific measures discussed in the survey (both protective and proactive[2]), the large majority of central banks indicate that they have not considered implementing them yet, though several respondents say that they may do so in future.
4. **The main incentive for central banks to adopt protective measures is stated as being the mitigation of financial risks stemming from exposures to climate-related risks on their balance sheets.** The lack of consistent climate-related disclosure requirements is named as an obstacle, while acknowledging that the situation may improve when data and enhanced methodologies become more broadly available.
5. **The main argument put forward in favour of adopting proactive measures reflects the primary objective of most central banks, i.e. supporting an orderly transition towards a low-carbon economy to ensure a smooth monetary transmission over the long-term.** The main argument raised against proactive measures is to avoid potential conflicts with the operational ability of central banks to pursue their conventional monetary policy targets (e.g. by giving rise to trade-offs with other objectives).
6. **Central banks see international coordination as key to facilitating the integration of climate-related risks into their operational frameworks.**

Overall, the survey results confirm an increasing and shared awareness of climate-related risks among central banks, even if the concrete actions taken have been limited so far. This latter finding is indicative of a prudent approach attributable to the complexity of the matter (i.e. data availability issues and lack of standardisation) and the limited work done so far within central banks on how to implement possible measures in practical terms.

The analytical work performed by the NGFS on monetary policy and climate change thus constitutes an important milestone and provides a basis for future action.

1 Two monetary unions are included in the responding central banks.

2 Protective measures aim to protect central banks' balance sheets from climate-related risks, while proactive measures aim to proactively support the transition to less carbon-intensive economic activities, where compatible with banks' mandates. In practice, however, the distinction between protective and proactive measures may not always be so clear-cut.

1. Introduction

In June, the NGFS published a report on the effects of climate change on the fundamentals relevant for the conduct of monetary policy.[3] Building on its initial studies, the NGFS group of experts on monetary policy and climate change is investigating the interaction between central banks' operational frameworks and climate change more closely and seeks to assess the case for and the pros and cons of potential climate-related adjustments. To shed further light on this issue, the group decided to complement its analytical work with a review and a questionnaire. The review consisted of screening the publicly available information for a large sample of central banks with a view to identifying the institutional scope for climate-related objectives in monetary policy implementation. The questionnaire was sent to NGFS members with the aim of identifying whether central banks are considering potential measures to factor climate-related considerations into their operational frameworks.

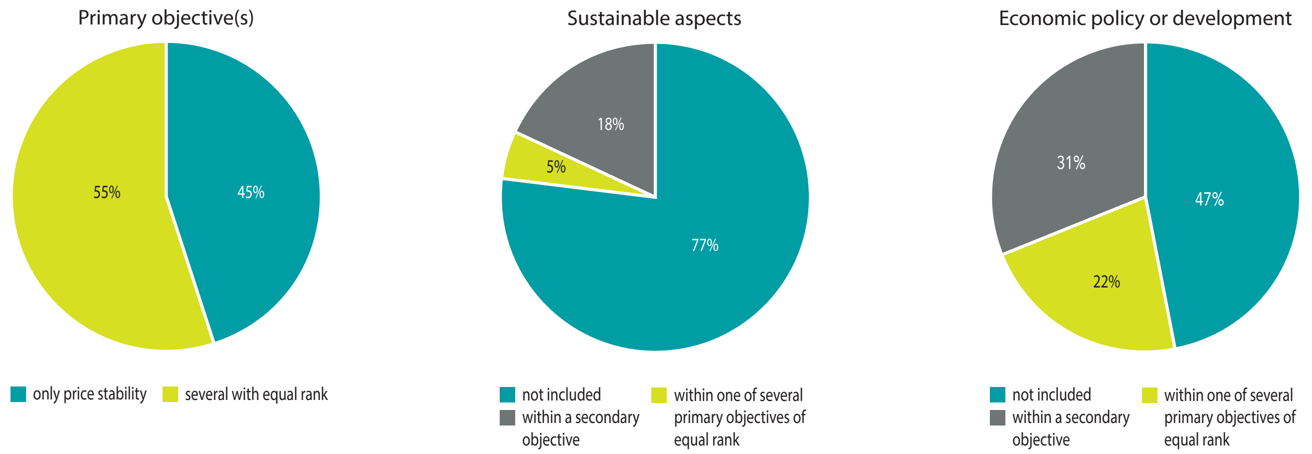
This document is structured as follows. Section 2 introduces the topic with an analysis of a broad sample of central banks' mandates (107 central banks reviewed from public sources); Section 3 details the key findings from the 26 responses to the questionnaire; and Section 4 concludes.

2. Review of information made publicly available by central banks[4]

Central bank mandates set the institutional scope within which climate-related measures can be considered from a monetary policy implementation perspective. In order to establish this institutional scope, the group reviewed the publicly available information for 107 central banks worldwide, leaving the matter of how these central banks actually interpret their mandates aside.

References to "sustainability" and to the support of "economic development" or "government economic policy" among the objectives in central banks' mandates would, in principle, provide room for central banks to integrate climate-related objectives, provided that these do not jeopardise the

Figure 1. **Analysis of central bank mandates (based on publicly available data)**



Source: Textual analysis of central banks' statements

3 See Climate Change and Monetary Policy Initial takeaways: *https://www.ngfs.net/sites/default/files/medias/documents/climate_change_and_monetary_policy_final.pdf*

4 The analysis in section 2 was conducted primarily by Deutsche Bundesbank staff. It draws on information pertaining to central banks in 107 countries and currency regions based on latest statement available at time of research (May 2020).
This analysis takes a broad, global view and is not meant to account for the detailed approaches that central banks may follow to integrate climate considerations into their investment strategies. Readers interested in this subject can refer to the NGFS' SRI guide published in October 2019 and the recent progress report on SRI implementation.

fulfillment of (other) primary objectives.[5] However, the review suggests that few central banks have a mandate that explicitly refers to "sustainability" as a central bank objective, while references to "economic development" are more common. Overall, a limiting factor with regard to central banks' mandates might be that they usually set medium-term time horizons for meeting their objectives, while some climate-related issues may have a longer-term horizon.

- Almost half of central banks have price stability as their sole explicit primary objective, with the remaining central banks having different primary objectives with equal rank.
- Almost one-quarter of all central bank mandates reviewed explicitly list sustainability-related aspects as central bank objectives, though only 5% as part of the primary objectives.
- About half of the central banks have mandates that explicitly refer to supporting government economic policy or economic development either as a primary (22%) or as a secondary objective (31%).

In addition to mandates, the composition of a central bank's balance sheet is largely determined by its objectives, history, operational framework, and the financial system in which it operates. That said, to the extent that the central bank is able to influence this, the balance sheet composition may have more or less scope to factor climate-related objectives into monetary policy operations in different jurisdictions.

3. Questionnaire: main stylised facts

The group designed a questionnaire for all NGFS member central banks in order to gather more detailed information on central banks' views on climate-related measures and the current state of play regarding their potential application. The survey was conducted in early summer 2020 and received responses from 26 central banks across the world, including two monetary unions, hence representing 51 countries.

The broad characteristics of the respondents can be summarised as follows. First, when considering central banks' objectives, the sample of NGFS central banks which participated in the questionnaire is fairly representative with respect to their mandates and objectives compared with the larger (107) sample used for Section 2, as the table below shows. Second, the vast majority of respondents (77%) target short-term interest rates in their monetary policy operations, whilst a minority pursue exchange rate targeting (12%) or other operational targets such as the yield curve as a whole or structural money market shortages (12%).

	26 respondents to the questionnaire	Review of 107 central banks
Price stability is the sole primary objective of the central bank	50%	45%
The mandate includes several primary objectives	50%	55%
Sustainability aspects included in the primary objectives	8%	5%
Sustainability aspects included in the secondary objectives	19%	18%
No sustainability aspects included	73%	77%

5 The terms "economic development" and "government economic policy" both appear in various mandates and refer to similar goals (e.g. supporting a sustainable or balanced economic growth), and were therefore treated as having broadly equivalent meaning for this analysis.

Two-thirds (64%) of the responding central banks hold monetary policy assets in domestic currency that represent less than 25% of their total assets. A third (36%) have monetary policy assets in domestic currency that account for more than half of their total assets. Only 18% hold monetary policy assets amounting to more than 75% of their total assets.

The main results of the questionnaire are presented below. They are organised in three parts: (i) the institutional context, (ii) the potential measures for adoption by central banks together with their respective rationale, and (iii) other topics for investigation closely linked to monetary policy greening.

3.1. Institutional context

While they may operate in different institutional contexts, most surveyed central banks feel that there is scope in their respective mandate to adjust their operational frameworks in order to cater for climate-related risks. The majority of central banks (18 out of 26) answered "yes" or "yes, but not explicitly" to the question about whether there is scope in their mandate to adjust their monetary policy frameworks to address climate-related risks. However, nearly half (12) of the 26 respondents indicate that no discussion has yet taken place regarding the opportunities that exist to modify their operational framework to address such risks.

When asked whether they could identify any prerequisites that needed to be in place before changing their operational framework, all central banks highlighted the need for sufficient research, in particular on long-term crisis scenarios.[6]

Most respondents identify the risk of creating financial distortions as a potential obstacle to greening monetary policy operations. One respondent noted that this constraint might not apply in the presence of market failures. Another respondent also noted that the demand for green assets currently exceeds supply, weakening the justification for central banks to support the development of this asset class.

The highest-ranked prerequisites and constraints identified by respondents are the need for a legal clarification of the interlinkage of climate goals with their primary objective, and the fact that environmental sustainability is not part of their mandates. At the same time, interestingly, around a third of respondents did not list the compatibility of pursuing environmental sustainability goals with their mandate as a constraint. While some respondents highlighted the fact that environmental sustainability was implicitly included in the objectives of maintaining sustainable growth or financial stability, some responses also stressed that this objective is typically subordinated to other policy objectives.

For lower-ranked preconditions, some respondents mentioned that the identification of exposures to climate-related risks was a prerequisite to greening monetary policy. One central bank had already gauged climate-related risks' exposures from its portfolios. One respondent, on the contrary, considered the identification of exposures to be less essential, to the extent that credit rating agencies were in a position to incorporate the risk into their assessments. In relation to taking on political responsibilities, some respondents feared government pressure to fund green industrial and other government policies. One central bank noted that mission creep could occur if, for example, the central bank had to provide its own green classification in the absence of an official taxonomy. Other constraints identified by the respondents included the potential conflict with other policy objectives and the availability and liquidity of green assets, as well as data availability and the research needed to support the changes to the operational framework. One respondent identified the need for a financial market deepening programme that supports sustainable funding in its jurisdiction as an additional prerequisite.

3.2. Scope of potential measures

To gain an overview of the broad strategic orientations of NGFS members, the questionnaire asked central banks about potential measures for adoption, distinguishing between measures that could help protect a central bank's balance sheet against climate-related financial risks

6 The NGFS has already published a report which lays out and discusses the NGFS' research priorities with regard to the analysis of the macroeconomic and financial stability impacts of climate change (June 2020): *https://www.ngfs.net/sites/default/files/medias/documents/ngfs_research_priorities_final.pdf*

(protective measures) and those that aim to support the transition to a low-carbon economy (proactive measures). It should be noted that these two perspectives, protective and proactive measures, are sometimes referred to as following "financial objectives" (i.e. addressing the impact of risk on portfolios) or "extra-financial objectives" (i.e. addressing the impact of a portfolio structure on climate change or the environment). However, those latter terms usually appear in the context of asset management strategies by private or public funds.

Based on the responses, there is a general and shared understanding that climate change poses a challenge for central banks. The respondents also view climate-related risks as a potential threat to the economy as well as to the functioning of a central bank's operational framework. Only seven respondents (27%) are not currently considering taking climate-related measures at all. Interestingly, even those central banks that have not yet considered such measures signal that they are reflecting on the potential impact of climate-related events on the conduct of monetary policy.

However, the responses also reveal that, in practice, central banks are still at a rather early stage when it comes to considering adjustments to their operational frameworks to incorporate climate change-related factors. For most indicative measures listed in the survey, for both protective and proactive approaches to climate change, the large majority of central banks indicated that they have not yet considered implementing the measures (57% and 59% respectively, whilst a few more did not specify). However, several respondents indicated that they deem it likely that some measures will be considered in the future (15% for protective and 13% for proactive measures), which suggests that further analytical work within the NGFS may be beneficial. In terms of specific measures, closing data and knowledge gaps in the field of disclosure practice and exposure to climate change-related financial risks in monetary policy operations constitute a common theme among respondents.

Some responses highlighted that disclosure is, in any case, an essential element for the further consideration of climate-related measures. Yet with regard to climate disclosure requirements, only a few respondents provided concrete answers detailing actions they have initiated or plan to initiate in that field.

Another takeaway from the responses is that **some central banks may in future increase their reliance on external disclosure standards,** with a view to supporting the comprehensive reporting of climate-related risks. That being said, **only a limited number of central banks have already implemented actual disclosure measures related to climate risks.** Two central banks have set up climate-related disclosure requirements for commercial banks. Furthermore, one central bank has enhanced disclosure criteria for the issuance of green bonds. Three other central banks have identified existing international disclosure standards that they might consider implementing if they were to request or recommend new reporting on climate change-related information from banks in the future (TCFD and SDGs).[7]

The following two sub-paragraphs outline central banks' considerations regarding protective and proactive measures.

3.2.1. Considerations regarding protective measures

Half of the participating central banks (13) provided comments about the pros and cons of acting in a protective or proactive manner.

Respondents put forward two main reasons to support <u>protective measures</u> (which also shows that the scope of the practical definition of protective measures may vary across central banks):

1) to mitigate financial risks on the central bank's balance sheet;
2) to safeguard financial stability.

The arguments put forward by the respondents against adopting protective measures are more diverse. The concerns most often raised relate to limitations in terms of data availability/collection and appropriate analytical techniques. The lack of consistent climate-related disclosure requirements was also named as an obstacle, whilst acknowledging that the situation could improve when data and enhanced methodologies become more broadly available. Some respondents also mention

7 More details on some concrete steps taken by some central banks in terms of climate-related risks, in the specific context of their broader portfolio management activities, are presented in the NGFS Progress Report on the implementation of Sustainable and Responsible Investment practices in central banks' portfolio management.

that the adoption of protective measures might also indirectly cause market distortions, and highlight the need for monetary policy operations to be as neutral as possible in terms of their financial risk control measures.

One respondent also cited the expected progress in methodologies of credit rating agencies as an argument against taking protective measures. Whilst explicitly incorporating climate-related risks into its operational framework might be worthwhile per se, it might not add value to the quantification of credit risk for a central bank's bond portfolio if rating agencies incorporate climate-related risks into their credit assessments properly.

3.2.2. Considerations regarding proactive measures

Interestingly, the main argument put forward in favour of adopting proactive measures often concerns the role of the primary objective of most central banks, i.e. supporting an orderly transition towards a low-carbon economy with a view to ensure a smooth monetary transmission mechanism over the long-term. For some of the 11 respondents who expressed views on this issue, the rationale for taking a proactive stance regarding climate risks and the impact of climate change rests on the premise that the transition towards a low-carbon economy is expected to be an important factor in achieving price stability. Other arguments in favour of proactive measures included maintaining financial stability and mitigating the effects of climate change on the economy. A few central banks indicated that promoting green investments could be a way to lower the associated funding costs (as long as such an approach is compatible with the respective mandate).

The main argument raised against proactive measures in their monetary policy operations was to avoid potential conflicts with the operational ability of a central bank to pursue its conventional monetary policy targets (e.g. by giving rise to trade-offs with other objectives). In this respect, several respondents mentioned the risk of creating market distortions. They also referred to the risk of "policy overreach" in terms of overstepping the boundaries of the central bank's mandate as a main concern. Those respondents argue that encouraging the transition towards a low-carbon economy is closer to the role of political authorities and elected lawmakers.

3.3. Other topics for investigation

Responses to questions not strictly related to operational issues reveal a high degree of awareness of the risks posed by climate change to the activities of central banks. On balance, an overwhelming majority of respondents believe that climate change could affect monetary policy transmission (20 positive answers and 4 negative responses) through shocks to asset prices, supply and demand, and expectations.

However, only a minority of central banks (4 responses) indicate that they have already witnessed some of these effects (mainly following natural disasters) on the transmission channels of their monetary policy or on the functioning of their monetary policy operational frameworks. Consequently, only a minority of respondents have introduced or are likely to introduce measures to mitigate such risks in the future, in particular risks regarding stranded assets. The assessment of carbon footprints was also mentioned.

Concerning stranded assets, respondents' views were split almost equally between those (10) **who see the potential rise of stranded assets as a source of concern and those who do not** (9).[8] Six other respondents believe that stranded assets will become a likely source of concern in the future. In operational terms, the potential rise of stranded assets in banks' and/or companies' balance sheets is currently being monitored for collateral or asset purchase programme purposes by only four respondents. However, five central banks say they are likely to consider monitoring these risks in the future.

A minority of respondents currently assess the carbon footprint of their monetary policy operations (4 positive responses), with 8 additional central banks stating that they might consider doing so in future. One of the four central banks that currently assess the carbon footprint of their holdings in monetary policy portfolios might

8 The term "stranded assets" usually refers to assets suddenly losing financial value ahead of their anticipated economic lifetime as a result of changes in legislation, market forces, disruptive innovation, agents' preferences, environmental shocks, or climate policy in particular.

also extend this practice to its collateral framework in the future.[9]

Finally, international coordination is identified as key to facilitating or accelerating the integration of climate risks into central banks' operational frameworks. In detail:

- As regards coordination, the majority of respondents (15 responses) agree that central banks should coordinate climate-related adjustments with their operational frameworks on account of the cross-border nature of climate risks. However, most central banks state that they have neither initiated nor been approached to initiate such coordination within their geographical area (23 responses). Nevertheless, some central banks (3 responses) listed cooperation with the NGFS as an example of international coordination.
- Finally, the majority of respondents (17 responses) believe that international coordination would facilitate or accelerate central banks' integration of climate risks into their operational frameworks. The identified benefits from coordination include experience-sharing, the development of common guidelines and the bridging of data gaps. Conversely, some central banks stress the domestic nature of their mandate and the challenges of coordinating the evolution of operational frameworks across central banks.

4. Conclusion

The findings based on the survey of NGFS members show that central banks clearly acknowledge the potential threat to the economy posed by climate change and share increased awareness of its impact on central bank operational frameworks. While the majority of respondents are considering climate-related measures in general terms, the implementation of specific measures (both in protective and in proactive fashion) in their operational frameworks is currently still at a very early stage.

International coordination is seen by many respondents as key to facilitating the integration of climate risks into central banks' operational frameworks. Central banks recognise the need for consistent, comparable, and reliable climate risk data. This confirms the NGFS' view that strengthening disclosure efforts will be instrumental for improving data availability over time. Finally, many central banks call for further knowledge-sharing exercises and enhanced dialogue. They consider an intensified exchange of experiences essential to overcome operational difficulties on the path towards reflecting climate-related risks in central banks' monetary policy frameworks.

9 The specific role of carbon footprint assessments for the balance sheets of central banks is also discussed in the NGFS Progress Report on the implementation of Sustainable and Responsible Investment practices in central banks' portfolio management in the specific context of these banks' broader portfolio management activities.

Acknowledgements

The technical document *Survey on monetary policy operations and climate change: key lessons for further analyses* is a collaborative effort of the members of the "Scaling up Green Finance" workstream of the NGFS. This document was prepared under the auspices of the chair of the workstream, Dr Sabine Mauderer (Deutsche Bundesbank). It was coordinated by Pierre-François Weber (Banque de France), and Alessandro Calza (European Central Bank), with support from the NGFS Secretariat at the Banque de France (Clément Bourgey and Amandine Afota) and the chair's team at the Deutsche Bundesbank.

The chair of the workstream is grateful for contributions provided by: Jana Aubrechtova (European Central Bank), Pauline Bacos (Banque de France), Lena Mareen Boneva (European Central Bank), Gianluigi Ferrucci (European Central Bank), Vincent Grossmann-Wirth (Banque de France), Daniel Gybas (European Central Bank), Liliana Jerónimo (Banco de Portugal), Philipp Kuss (Deutsche Bundesbank), Katri Mikkonen (European Central Bank), Yvo Mudde (de Nederlansche Bank), Franziska Schobert (Deutsche Bundesbank), Mark A. Weth (Deutsche Bundesbank).

This document also benefited from the comments and advice from De Nederlandsche Bank (Lisanne Cock and Rianne Luijendijk) and Reserve Bank of Australia.

The chair of the workstream is also grateful to all the central banks who participated to the survey.

BANQUE DE FRANCE
EUROSYSTÈME

NGFS
Secretariat