

Supporting the Transition to Net-Zero Emissions: The Evolving Role of Central Banks

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Abstract

While climate change was largely tackled by government policies in the past, central banks are increasingly grappling with the risks climate change poses. They are evaluating their operational policies to reflect these risks and the transition to a net-zero economy. This paper explores the trade-offs and considerations central banks face.

Topics: Central bank research, Climate change, Financial markets

JEL codes: D53, E58, E63, G32, Q54

Résumé

Les politiques de lutte contre les changements climatiques sont traditionnellement surtout du ressort des gouvernements, mais les banques centrales sont de plus en plus confrontées aux risques liés à cet enjeu. Les banques centrales évaluent leurs politiques opérationnelles pour les adapter à ces risques et à la transition vers une économie carboneutre. Ce document examine les compromis et les facteurs qu'elles doivent prendre en considération.

Sujets : Recherches menées par les banques centrales, Changements climatiques, Marchés financiers

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The 2015 Paris Agreement identified the need to limit global warming. This call for climate action is echoed in the United Nations' Sustainable Development Goal 13. The goal requires a complex level of coordination, both between and within nations. Historically, governments have played the central role in regulating and promoting climate-related action as well as negotiating multilateral agreements.

Central banks have not historically been directly involved in climate action. Krogstrup and Oman (2019) identify that traditionally there has been a lack of alignment to associate long-term mitigation of climate change and monetary policy implementation. Rather, fiscal authorities have been best suited to address structural and redistributive considerations that can span generations. In theory, the same argument could be made for other kinds of long-run structural changes (e.g., labour productivity or aging populations) that tend to be associated with fiscal policy. However, events driven by climate change, known as physical risks, are beginning to occur, and are expected to escalate (Ens and Johnston 2020). As well, transition risks—the risk of an abrupt repricing of carbon-intensive activities in markets or more broadly in economies in response to changes in sentiment or policy interventions for these activities—are recognized as emerging. Such risks can further turn these climate concerns into financial ones. They can feed through the economy and financial system and create adverse feedback loops of potentially systemic consequences (Network for Greening the Financial System 2021b). Physical risks and transition risks are relevant for economic well-being and financial stability, and this is increasingly being recognized by central banks.

In 2017, a small consortium of central banks and financial supervisors formed the Network for Greening the Financial System (NGFS) to encourage examination of climate change risks to the financial sector. The NGFS has grown to more than 127 members and additional groups of observers, including transnational organizations such as the International Organization of Securities Commissions and the Bank for International Settlements (BIS) (NGFS 2023). The NGFS mission is to enhance management of the financial systems' climate risk, mobilize green and low-carbon investments, and strengthen the global response for meeting the goals of the Paris Agreement (NGFS 2019).

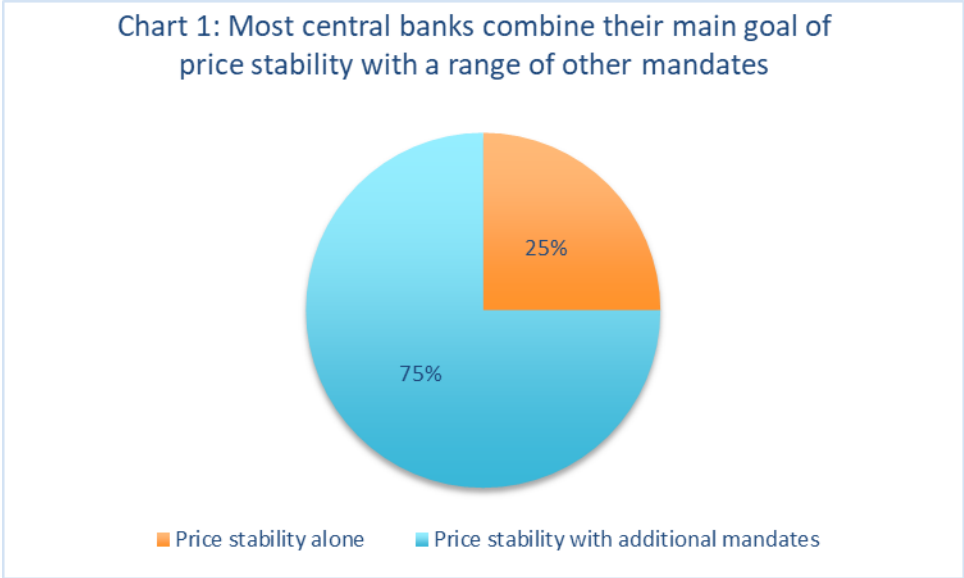
This paper explores the evolving role of central banks in addressing climate change as part of global, collective action on the goals of the Paris Agreement. It examines climate risk considerations and explains the trade-offs some central banks may be grappling with in the context of adjustments to their frameworks for market operations and collateral policies. The paper explores three key elements:

- **central bank mandates and broader directives**—to gauge alignment with and potential obstacles to climate actions
- **neutrality**—a common thread in central bank market activities—as well as the climate considerations associated with central bank neutrality
- **policy adjustments**—potential options for central banks and their expected influence and outcomes.

Central bank mandates

The big picture

How does climate change action align with central bank mandates? The BIS’s Markets Committee Compendium of monetary policy frameworks and central bank market operations (BIS 2022) shows that not one single mandate can be applied uniformly to all central banks. Those in the compendium with flexible exchange rate regimes (23 countries plus the Eurosystem) focus on price stability through inflation targeting).¹ For example, the Bank of Canada is squarely focused on price stability, which it sees as key to promoting the economic and financial well-being of Canadians (Bank of Canada 2020b). However, roughly three quarters of central banks in the BIS compendium combine the goal of price stability with various other objectives (**Chart 1**).



Sources: Bank for International Settlements and Bank of Canada calculations

Countries with secondary mandates identify a relatively narrow range of factors largely associated with economic growth, economic prosperity, economic welfare or employment. Other factors include financial stability, the sound development of the financial system, the proper functioning of the payment system and support for government policies (BIS 2022). For example, the mandate of the US Federal Reserve not only includes price stability and maximum employment, but also specifies moderate long-term interest rates. However, the Fed is commonly referred to as having a dual mandate since the influence on long-term interest rates arises from managing price stability and maximum employment (The Board of Governors of the Federal Reserve 2021). Indeed, financial system stability has become a more important consideration for central banks following the 2008–09 global financial crisis (Papadia and Välimäki 2018). For example, the Bank of Korea clearly states a dual mandate of price stability and financial stability (BIS 2022).

¹ Currently, 63 central banks and monetary authorities are members of the BIS (BIS n.d.).

A text-based analysis of broad central bank statements from a wide range of documents reveals similar observations. The NGFS examines central banks in 107 countries and currency areas. It observes that 45% of central banks have only a price stability mandate, while others have a range of mandates. As well, approximately one-quarter of institutions refer to sustainable aspects, and about half have economic policy or development included as part of their mandates or supporting government policy (NGFS 2020). The analysis concludes that these components within mandates offer greater flexibility for aligning climate considerations with central bank activities. In a supplementary survey with central banks, most respondents felt there is room within mandates even if not expressly stated for climate considerations. This includes a portion of respondents remarking that environmental sustainability is implicit within the objectives for sustainable growth or financial stability, but that these elements may be subordinated to primary policy pursuits. The additional mandate elements that the NGFS flushes out may naturally extend the time horizon over which central banks seek to include them in their assessments.

Dikau and Volz (2021) also consider central bank mandates, using another source—the International Monetary Fund legislation database. They point out that central bank mandates were written before climate change became a major societal issue and that a modest 12% of the 135 central banks they examine have sustainability references in their mandates. However, they also identify a large group mandated to support government policy priorities that have broad sustainability goals, allowing those central banks to align more naturally with climate objectives. They further conclude that climate-related risks should be factored into policy frameworks to mitigate risk and support macro-financial stability.

Some specific examples

While the literature examined does not identify instances of climate action expressly specified in central bank mandates, climate change likely will affect how economies function and, similarly, has potential financial stability impacts. This is elaborated in Bolton et al. (2020) in what is termed “green swan” risks, which arise due to the uncertainty that climate change introduces to the financial system. As a result, there is growing recognition that the transformation underway will bring both challenges and new opportunities. As part of this, some central banks are contemplating how they could adjust their analysis and operational frameworks to integrate the effects and, in some instances, facilitate the transformation. While climate considerations have not traditionally been part of central banks’ scope, they are increasingly considered nested within a range of mandate elements (i.e., financial stability, economic prosperity, or well-being) or as a result of broader directives (i.e., support for government policies).

For example, in 2021, the United Kingdom’s Chancellor of the Exchequer introduced a more substantial push to bring climate action into focus. The terms of reference of the previous Monetary Policy Committee (MPC) remit were expanded “...to reflect the government’s economic strategy for achieving strong, sustainable, and balanced growth” by adding “...that is also environmentally sustainable and consistent with the transition to a net zero economy” (HM Treasury 2021, 1). While “sustainable” could suggest an environmental bent related to growth or employment, it may imply more generally a steadiness, in contrast to volatile bouts. Environmental sustainability, by comparison, tends to incorporate intergenerational considerations, for instance so that the use of resources in the current period is not at the expense of those in the future. The two perspectives from the different disciplines are complimentary

but may reflect a somewhat different time horizon. The subsequent MPC remit in 2022 did not contain a reference to the transition to a net-zero economy as part of it (HM Treasury, 2022).

Similarly, the European Central Bank (ECB) announced in 2021 that it is integrating climate change into its monetary policy strategy. In a statement, the ECB notes, “while governments and parliaments have the primary responsibility to act on climate change, within its mandate, the ECB recognises the need to further incorporate climate considerations into its policy framework” (ECB 2021). It developed a climate change–related roadmap spanning from 2021 to 2024 and covering nine action areas. In July 2022, it introduced incremental measures in line with that roadmap to better account for climate change in its corporate bond purchases, collateral framework, disclosure requirements and risk management (ECB 2022). These measures are expected to decarbonize its operations, reduce financial risk related to climate change in the Eurosystem’s balance sheet, support enhanced transparency and encourage the green transition of the economy.

Unlike the Bank of England and ECB, the Bank of Canada has not expressly factored climate into its monetary policy framework. It has indicated that it will seek to improve its understanding of the impacts of climate change on the economy and the financial system. The Bank’s renewal of the monetary policy framework in 2021 remained focused on inflation targeting. As for an express direction on climate change, the mandate renewal goes on to say that monetary policy cannot directly tackle the threats posed by climate change, but that the Bank will develop modelling tools to account for the implications on the Canadian economy and financial system (Bank of Canada 2021b, 72). Among the evidence-based capabilities the Bank cited as valuable for its effectiveness are climate-related tools for:

- understanding macroeconomic implications
- analyzing and managing risk exposure as well as encouraging structural best practices, including for climate disclosure and efficient climate-related pricing in markets
- reviewing its operational framework for monetary policy with a view to including climate change considerations where appropriate.

The Bank joined the NGFS in 2019. The Bank has noted the importance for Canadian financial institutions to disclose their exposures to climate risk and committed to disclosing its own climate exposures (Bank of Canada 2020a). The Bank’s first report—in line with Task Force on Climate related Financial Disclosure (TCFD) practices—was published in 2023, capturing its exposure to climate risks, i.e., how the physical effects of climate change and potential transition risks could affect the Bank’s ability to deliver its core mandate and operations (Bank of Canada 2023).

Concerns and critiques

The mismatch between the horizon of various cycles—economic, political, credit and technocratic—and that of climate change creates a pervasive impediment called the “tragedy of the horizon” (Carney 2015). Climate-related challenges evolve over a much longer horizon than typical decision-making, and this timing dynamic represents relevant context in transition considerations. Despite growing consensus among central banks to develop new techniques to understand the impact of climate change on economies and market vulnerabilities, some observers remain critical of central banks including climate-related matters within their purview. They may argue such considerations could limit the central banks’

ability to control inflation or interfere with central bank independence. One aspect is that by expanding a central bank's reach into structural issues such as climate issues—a domain where governments have held the main responsibility—governments could see this as inappropriate and put more controls on the central banks, thus reducing their independence further. Krogstrup and Oman (2019) highlight that, ideally, fiscal tools should address climate change. However, they note that in a world where climate distortions interact with market and government failures, fiscal tools may not suffice, and other types of policy are needed to support them. Therefore, government is the primary actor through their policies and expenditures while central banks may play a complementary and secondary role.

Another reason that central banks may wish to integrate climate considerations is to safeguard their asset holdings against climate risk. Prudence is a key operational guideline in the Bank of Canada's policy for acquiring assets, and the Bank's 2021 Annual Report includes its recent work to incorporate environmental and climate-related risks into general risk management practices (Bank of Canada 2021c; Bank of Canada 2021d) along with the Bank's recent efforts to assess the climate risk exposure to both the balance sheet and its pension fund (Bank of Canada 2023). Moreover, central banks may also be examining the possibility that their purchases and collateral policies—which we explore further in the next section—may influence broader conditions and affect other actors' holdings. Factoring climate change into operational policies may lead to better climate-related informational outcomes and greater price efficiency, for smoother adjustments and more favourable systemic transitions.

Climate change action may align naturally with some elements of central banks' mandates, even if that alignment is not explicitly stated. Some actions could factor into the institution's own risk mitigation or that of the financial system as a whole or to ensure its general on-going effectiveness. Due to subtle differences in mandates, central banks may draw upon different elements of them to integrate climate considerations in policy adjustments. They may also draw upon parts of their mandates that naturally have somewhat of a longer time horizon associated with them to better incorporate climate considerations. Nevertheless, central banks' climate-related initiatives should complement their financial stability and monetary policy objectives and may serve to complement or reinforce the primary role of fiscal tools in climate action.

Neutrality and the climate transition

In normal times, central banks typically follow the principle of neutrality, meaning they seek to minimize potential distortions to the relative prices of securities when conducting routine market purchases or implementing collateral policies.² To execute their responsibilities for monetary policy and financial stability, central banks conduct market operations both in normal and extraordinary times. Their operating frameworks and balance sheets are closely associated in order for policy signals to be transmitted to the economy (for example, see Bank of Canada 2021a). However, some researchers question whether market-neutral corporate bonds purchased during extraordinary operations might have the effect of impeding climate transition and influence the pricing of carbon-intensive assets (i.e., Matikainen, Campiglio and Zenghelis 2017; Schoemaker 2019; and Papoutsis, Piazzesi and Schneider

² While under exceptional circumstances, such as during periods of stress, central banks may seek to transact in a non-neutral fashion so as to facilitate the return of markets to normal functioning.

2021). This is because the historical approach to asset purchases typically targets the proportion of eligible securities represented in the market today, thus reinforcing business-as-usual practices. This section explores what neutrality is, how it appears in purchases and collateral policy, and its potential impact on decarbonization. The section also provides some context of central bank balance sheets, including that of the Bank of Canada, under different environments.

Market purchases

Neutrality of central bank purchases has two elements, according to Bindseil (2016); one relates to the government and the other to broader markets for asset purchases. Regarding the relationship between central banks and government debt liabilities, Bindseil explains that some central banks prefer that the two entities be treated as having one consolidated public-sector balance sheet, while others approach it from a standpoint of independence and avoiding government securities. The second aspect of neutrality Bindseil identifies is that central banks avoid having a distorting effect on relative financial market prices. In practice, neutrality with respect to government securities purchases may involve the central bank buying in the same proportion as issuance to minimize distortion.³ However, central banks may also implement a market-neutral approach with corporate bond purchases. This could be accomplished by seeking to buy securities in proportion to those sectors' share of a reference portfolio, such as a bond or stock index (Schoenmaker 2021). Buying on a neutral basis could allow policy signals to spread as broadly as possible through the economy and could minimize potential price distortions. This section discusses the impact of neutrality through the lens of climate change.

Collateral policies

Not only could central bank asset purchases influence markets, but so could their policies for lending and payment system liquidity, referred to as collateral policy. This policy largely serves to manage risks associated with credit, market and liquidity risk for securities that counterparties use for liquidity needs. The Committee on the Global Financial System (CGFS) states that central banks typically use market-based prices and haircuts that should reflect market and liquidity risk. In this way, no eligible asset should be favoured over another, which minimizes unintended distortions (CGFS 2015).

Notably, central bank policies could have wide-ranging influences on markets and the long-standing emphasis has been on a non-distortionary approach to avoid favouring a set of eligible assets over another. For example, the CGFS identifies three channels through which adjustments could occur in response to eligibility changes in central bank collateral policy:

- i. **Price and liquidity effects** may occur from adding new security types (i.e., prices of the security type may increase, or the bid-offer spread may narrow, indicating an increase in liquidity).
- ii. **Quantity effects** may arise since eligibility may increase demand for securities. Eligibility lowers the opportunity cost of holding the securities, creating conditions that encourage greater issuance.

³ In normal times, for instance, bond purchases could roughly align with the tenor of government's issuance. In exceptional circumstances, purchases may focus on other aspects—for example, targeting a sector to influence long-term interest rates, as was the case for quantitative easing by some central banks during the COVID-19 pandemic.

- iii. **Structural adjustments** may influence the features of securities issued in the future so as to comply with the policy (CGFS 2015). Examples in the Canadian context where policy influenced future features are the transparency and disclosure requirements for asset-backed commercial paper in 2008 and the reduced reliance on credit rating in 2018 (Bank of Canada 2008; 2018).

Both collateral policies and central bank asset purchases could carry influence on the market. However, a subtle distinction arises between market operations and collateral policy. The central bank typically takes a more active approach with acquisitions of assets through its market operations, whereas with collateral policies, participants ultimately decide what collateral to use within the guidelines of the policy, based on their holdings. Nonetheless, in both acquisition of assets and collateral policy, the concept of neutrality is present in normal times for a non-distortionary effect. Neutrality as a concept is borne out of fairness, to have a broad effect and for independence.

Neutrality and climate transition considerations

Two recent studies look at central bank corporate bond purchases (under credit easing) that aimed for neutrality, and they identified the risk of an adverse impact on climate transition. In both, the authors observe that the traditional approach to credit easing involves targeting purchases in proportion to the eligible securities represented in the market, thus reinforcing the status quo sectoral make-up, and potentially slowing momentum for a transition.

The first study, from the London School of Economics in 2017, looks at corporate bond purchases by the Bank of England and the ECB as part of their unconventional policies. It finds that the central banks' sectoral distribution of purchases included sectors that were more carbon intensive (Matikainen, Campiglio and Zenghelis 2017). The authors note these purchases added to the demand for the sectors' debt outstanding and therefore bolstered the value of these carbon-intensive securities, which may have the unintended result of extending the transition to a low-carbon economy. Similarly, in the second study, Papoutsis, Piazzesi and Schneider (2021) analyze the ECB's corporate bond purchases and find that the carbon-intensive sectors outweigh others in the market portfolio, producing a favourable effect on these sectors' cost of capital.

More recently, some central banks have considered neutrality when it comes to these types of unconventional corporate bond purchases. In 2021, the Bank of England changed its corporate bond purchase program to acknowledge the climate risk associated with carbon-intensive sectors. It introduced what it refers to as a tilt toward lower-carbon issuers by setting a path for achieving emissions reduction targets (Bank of England 2021). Over time, it will gradually rebalance the bond portfolio to achieve reduced carbon intensity.

The ECB has also recently announced that it plans to factor climate change in its monetary policy operations including with its corporate bond purchases, collateral framework, disclosure requirements and risk management practices (ECB 2022). In September 2022, it announced that in 2024 it will implement common minimum standards for incorporating climate change risk into its in-house credit rating assessment system in the Eurosystem collateral framework (Lagarde 2022 and K rding and Resch

2022). The following month, it began accounting for each issuer's climate scores with reinvestment purchases for its corporate bonds to accomplish a tilt in its holdings (Lagarde 2022).

These examples show that central bank policies, practices and risk mitigants could be reviewed using a climate lens. Even policies with the best intentions may give rise to unintended climate impact and reinforce business-as-usual practices. This can run counter to the transition to a net-zero economy. Adjustments in policies such as those mentioned above demonstrate new ways for integrating climate considerations, encouraging the transition and promoting greater resilience. Examining the principle of neutrality reveals that central bank policy may inadvertently support carbon-intensive activities, potentially delaying needed action to limit global warming. This could increase the potential for higher transition risks. However, a carbon-informed approach to asset purchases and collateral policy could be an important evolution for central banks, so that they can introduce incentives that are consistent with an effective and orderly transition to a low carbon economy.

Policy options to reflect climate change considerations

Central bank operational policies are a reference for the type of securities that may be used for liquidity or operational purposes. These policies address credit, liquidity and market risk to safeguard the institution (CGFS 2015). An example in the Bank of Canada's case is its Standing Liquidity Facility (SLF). This policy document describes acceptable collateral for overnight loans, including the attributes of assets eligible as collateral. In the SLF, the Bank does not specify eligible industries or issuers. However, some central banks publish eligibility lists in detail, for example, down to the security identifier. Another component of the SLF document is a haircut schedule.⁴ This schedule sets out various terms and conditions for operations. Others in industry may look to the central bank policies as a reference for their practices, such that changes to eligibility may have a ripple effect, as shown by the CGFS's transmission of the eligibility impact.

The NGFS has outlined several forms of potential adjustments for climate-related risk consideration for asset purchases, credit operations and liquidity operations (NGFS 2021a). Some central banks already use select methods in their operational policies, but their pension funds or foreign reserves may use them also. As mentioned above, some central banks have started integrating climate considerations and evaluating the carbon intensity of security issuers, as seen in the Bank of England's tilt towards lower-carbon issuers. The NGFS's general guidance has also used the tilt language related to asset purchases such that the purchases are skewed according to climate-related risk or criteria applied at the issuer level (NGFS 2021a, 6). Other techniques are identified, such as negative and positive screening, which are not conceptually new. Screens are commonly used by institutional investors, as discussed below. Similarly, new environmental, social and governance (ESG) indexes adjust the traditional composite indexes (i.e., S&P TSX and S&P TSX ESG indexes) using some of these techniques as well. Disclosure of climate-related risks is an element that crosscuts the various policy options for asset purchase, credit and liquidity operations, and this can be attributed to the information not only helping central banks being risk

⁴ A haircut is the amount of the discount on a security's price to protect against a decline its value in case of disposal. Haircuts are expressed as percentages.

informed in their exposures, but also possibly carrying broader benefits for the market as a whole due to imperfect pricing.

Screening

Positive screening is a technique that serves to relax traditional eligibility criteria or quantity limits in favour of collateral-supporting sustainable activities (NGFS 2021a). All else being equal, positive screening could motivate an increase in the stock of eligible collateral that favours the climate transition and could encourage more sustainable credit. In contrast, negative screening could make traditionally eligible assets ineligible due to concerns about the carbon intensity of a particular entity or business activities. Potentially, another way of using negative screening could be based on requiring climate disclosure practices, particularly as factoring in carbon intensity becomes standardized, described in more detail below.

Responsible investment incorporates ESG factors into investment decisions, and this can include factoring in climate considerations as one element (Hebb et al., 2016).⁵ While screens have been used for some time, they are not the only method used by responsible investors. For instance, the Responsible Investment Association's 2022 "Trends Report on Responsible Investment" notes that 9 out of 10 organizations integrate both ESG factors and negative screens; however, climate considerations appear to carry differing levels of prominence among them (Responsible Investment Association and Environics Research 2022). For ESG factors, climate considerations are quite prevalent, and a variety of strategies may be used. In contrast, exclusionary screens could be based on a diverse range of considerations that extend beyond climate considerations. Indexes have also used screens combined with ESG scoring for which the lowest performers would be excluded.⁶ However, if central banks use widespread negative screening and exclude otherwise-eligible issuers, this may produce a more pronounced response. Furthermore, as Papoutsis, Piazzesi and Schneider (2021) note, many carbon-intensive issuers are highly rated and among the best capitalized. For this reason, issuers could be well positioned to pivot to more sustainable practices and play an active role in the transition to net zero. Therefore, broad-based negative screening could hamper that transition process, instead of creating an environment where sectors can work toward a low-carbon economy. A better outcome could be to dissuade the bias for business-as-usual practices as an area that central banks consider. They could do so as part of adjustments to eligibility standards and encourage the pivot toward the net-zero transition. Indeed, more systematic integration of factors such as carbon emissions and their outlook can be facilitated by disclosure practices. Nonetheless, there could be instances where targeted negative screens for practices seen as not having a place in the transition could still be valuable. The elements that could favour this more inclusive approach to encouraging transition include climate risk disclosure, carbon footprint, projected carbon reduction and possibly ESG scoring, described in more detail in the next section.

Environmental, social and governance disclosures

Disclosure could be used as a component of eligibility and encourage structural reform as a result of central bank adjustments to eligibility. Recall that the CGFS identifies policies to spur the development of securities features.⁷ The ECB introduced enhanced sustainability disclosure requirements for its collateral

⁵ The formation of the United Nations Principles for Responsible Investment in 2006 was a key development that brought ESG integration efforts into focus for the financial sector. It continues to address evolving issues in relating to ESG considerations and policies.

⁶ To illustrate some of these techniques, the S&P TSX provides the [methodological approach](#) to its ESG index and its routine recalibration.

⁷ Non-climate examples include when the Bank of Canada introduced transparency and disclosure requirements for asset-backed commercial paper in 2008 (Bank of Canada 2008) and the reduced reliance on credit rating in 2018 (Bank of Canada 2018).

eligibility, and the European Union has mandated sustainability disclosures of large corporate and publicly listed firms through legislation (European Commission 2023). Further, a primary vehicle internationally for organizations' disclosure has been prepared by the accounting standards entity, International Financial Reporting Standards (IFRS), which set up the International Sustainability Standards Board (ISSB) specifically for sustainability standards. In June 2023, the ISSB published two sustainability disclosure standards usable by a broad range of organizations: IFRS S1, covering requirements for disclosure of sustainability-related financial information, and IFRS S2, covering climate-related disclosures (ISSB 2023). Both standards will take effect for the annual reporting periods beginning January 1, 2024. The climate-specific standard, IFRS S2, broadly integrates and is broadly consistent with the TCFD. Moreover, the recent formation of the Canadian Sustainability Standards Board (CSSB) in June 2023 will bring forward the ISSB standards in the Canadian context, and the CSSB will collaborate with regulatory bodies (Financial Reporting and Assurance Standards Canada 2023). Regulatory developments have been under development in Canada. For example, the Canadian Securities Administrators produced a draft national instrument for publicly listed issuers in 2021 and has solicited comments. However, they noted in July 2023 their intention to modify the draft instrument (NI 51-107) to adopt disclosure standards based on ISSB standards, with modifications for the Canadian context (Canadian Securities Administrators 2023).⁸ The move towards globally standardized disclosure clearly specifies climate risks and provides consistent reporting standards, enhancing transparency for the benefit of investors and broader stakeholders. Thorough and consistent disclosure is expected to lead to risk-informed investment decisions and to improve how capital is allocated, for a smoother transition. For example, in 2020, Canada's eight largest pension funds made a joint statement calling for just such widespread improvements in reporting corporate ESG disclosures (Kiladze 2020). And with the launch of the new ISSB standards, this position was reinforced in 2023 by the pension funds in support of the new standards since they will both aid in consolidating disclosure standards while including the TCFD within the new framework ((Canada Pension Plan Investment Board 2023).

Other policy options and techniques

Similarly, central banks could adjust haircuts to better account for climate risks that are not contained in historical data (NGFS 2021a). If haircuts increase due to climate-related risks, they would require more collateral for the pledger to support payment activities. Historically, the market-neutral approach to implementing collateral policy has not administered sector-specific haircuts. However, climate risks, especially in the form of transition risk, could be more pronounced for carbon-intensive sectors; therefore, this may present a dilemma for not taking a differentiated approach.

While the haircut is a form of protection typically applied to the value of an individual security, the NGFS also points to the option of applying a carbon limit or a target for a counterparty's collateral portfolio (NGFS 2021a). Although a novel approach, such carbon caps may prove more challenging to employ for liquidity purposes for operational needs. Nonetheless, at an institutional level, pension funds and others commonly measure and report on a portfolio's carbon footprint and intensity at standard reporting frequency (Smart Prosperity Institute 2021). In 2022, the Bank of England introduced a version of a carbon-intensity measure for its corporate bond purchase portfolio. It is targeting a 25% reduction in the weighted average carbon intensity of the portfolio by 2025 and full alignment with net zero by 2050 (Bank of England 2021).

⁸ In July 2023, it noted that it expects a further market update in the coming months (Canadian Securities Administrators 2023).

Many new techniques and policy adaptations could help central banks better account for climate change and its associated risks in different areas of their operational policies. For example, techniques could guard against climate risk, promote efficiency in sharing climate risk information, or align or add incentives for climate adjustments for a range of sectors and transition possibilities. As well, central banks could gradually introduce adjustments to policies. For instance, the Bank of Canada has used graduated approaches to implementation in the past with other collateral policy matters, which has allowed market or payment system participants to prepare for an upcoming change and adapt efficiently to the practices to support it. Two examples include reducing the percentage access for the non-mortgage loan portfolio and introducing concentration limits to private-sector securities in its SLF (Bank of Canada 2009, 2014).

Conclusions

Central banks have historically had little direct involvement in climate change action. However, there has been a move to consider whether climate risks are adequately accounted for, as well as if and how policies could adapt, given the transition to net zero. Climate change will affect how the economy functions, and thus from a monetary policy perspective, central banks need to try to understand it. Likewise, climate change will bring increasingly disruptive events that can be material to financial stability considerations. As a result, it is timely for central banks to reflect on their evolving role in global collective action and evaluate the potential for adjustment to their frameworks for market operations and collateral policies. These adjustments may be defensive in nature, by central banks incorporating more climate risk-informed practices. Jurisdictions may seek to complement or harmonize actions, such as with disclosure practices for collective benefits, and still others may seek to influence the transition and potentially catalyze it through spurring climate-informed financing opportunities, i.e., either for green technology or to encourage transition financing opportunities. By contemplating where and how to incorporate climate risk considerations in their practices, policies and operations, central banks could potentially encourage the transition to be more orderly, thus lowering the transition costs and uncertainty, while fostering economic and financial well being.

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