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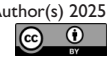

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Why the Fed and ECB parted ways on climate change: The politics of divergence in the global central banking community

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Abstract

Central banks form a global policy community with a historically high degree of convergence around the norms of central bank independence. However, in recent years, climate change has emerged as a topic of clear-cut divergence – most strikingly between the historically similar European Central Bank (ECB) and US Federal Reserve (Fed). We develop a theoretical framework that allows us to explore not only factors pushing towards central bank convergence, but also divergence. We show that in an initial stage of emergence, a largely autonomous process of internal deliberation led the ECB to endorse new climate-related norms, where this dynamic was absent in the United States. In a second phase of cascade, marked by the founding of the Network for Greening the Financial System and a growing body of research on climate impacts and central bank objectives, climate-related norms began to exert limited pressure towards convergence. However, the Fed's perceptions of political risk constrained its adoption of climate-related policies, and eventually led to a retreat from climate following the re-election of President Donald Trump at the end of 2024.

Keywords

central bank independence, climate policy, Donald Trump, European Union, financial policy, monetary policy

Introduction

Today, central banks generally recognise the reality of climate change – or at least not deny it. Most also acknowledge its potential significance for traditional price stability and financial stability objectives. Still, central bankers have taken widely divergent approaches to the role of climate and environmental considerations within their policy frameworks.

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The most proactive central banks have been concentrated in Europe (Deyris, 2023; Quorning, 2024; Siderius, 2023; van 't Klooster, 2022) and Asia (DiLeo et al., 2025; Larsen, 2023). Established in 2017, the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) had grown to 143 members by 2025 (NGFS, 2025), and other key transnational central banking forums, including the Basel Committee for Banking Supervision (BCBS), also took up climate change as a relevant issue (e.g. BCBS, 2022). By contrast, the US Federal Reserve (Fed) has taken a starkly different approach. It belatedly began to address climate risk in 2019, joined the NGFS at the end of 2020, and then abandoned all climate initiatives with Donald Trump's return to the presidency in 2025 (NGFS, 2025).

The parting of ways between central banks is surprising in light of the extensive research on the factors contributing towards convergence on institutional norms. Over the course of the 1970s, 1980s, and 1990s, central banks converged on a set of norms around central bank independence (CBI) (Johnson, 2016; McNamara, 2002; Singleton, 2010). These norms require that monetary policy operations should narrowly focus on pursuing price stability by controlling short-term interest rates; that prudential supervision should prevent excessive risk-taking by financial institutions; and that central banks should operate independently from political pressures. After the Global Financial Crisis, central banks introduced a wider range of operational instruments and new objectives, but a high level of adherence to the CBI norms and corresponding practices persisted (Helleiner, 2014). As the literature stresses, the development of central bank norms takes place to a large extent internationally, where central banks cooperate to regulate the global financial system and coordinate international legal frameworks (Borio et al., 2008; Braun et al., 2021; Kahn and Meade, 2018; McNamara, 1998; Verdun, 1999). While an extensive literature theorises international convergence, there is not yet a developed framework dedicated to theorising how central banks diverge domestically within the context of the still broadly shared CBI norms (Helleiner and Pagliari, 2011).

We analyse the recent divergence on climate in terms of adherence to *foundational* norms by the Fed and adherence to *proactive* norms by the European Central Bank (ECB). Foundational norms have a narrow focus: central banks continue to pursue their traditional prudential and monetary objectives but take into account some of the potential impacts of climate change, in alignment with traditional interpretations of the CBI norms. These include the increased direct economic damage from higher temperatures and more extreme weather (Pörtner et al., 2022) and (typically more reluctantly) the far-reaching and potentially disruptive economic and industrial transformation from efforts to limit global warming. Going beyond these foundational norms, some central banks – notably the ECB – have over time come to adopt the view that pursuing their broad goals of financial and monetary stability involves contributing to a successful and well-managed transition to a low-carbon economy in a reinterpretation of, but adherence to, the CBI norms (Boneva et al., 2022; Massoc, 2024). Such proactive norms can induce revisions to monetary policy operations (e.g. setting climate-related criteria for asset purchase programmes) and foster supervisory interventions to shape bank behaviour (cf. Baer et al., 2021; Kedward et al., 2024; Oman et al., 2024; Thiemann et al., 2023). We also identify a third set of *reformist* norms which would push beyond central banks' traditional objectives altogether. The ECB has been pushed to move in this direction by outside critics, but has consistently resisted that push.

To capture the global dynamics of policy convergence and divergence, we turn to the international relations (IR) literature on norm proliferation and contestation. The norms

framework has typically been used to understand topics as diverse as reproductive rights, torture, and the conduct of elections. We show it can also be used to study divergence among independent central banks concerning monetary and financial policy. While recognising the diversity within this literature, we draw two core insights from it, drawing in particular on recent work, for example, by Deitelhoff and Zimmermann (2019), Deitelhoff (2020), and Wiener (2018). First, as norms are increasingly adopted, different factors exert influence towards convergence or divergence on both the domestic and international levels. Second, norms can continue to be contested even as they spread through a large number of institutions, resulting in both alternative interpretations in different domestic contexts, as well as ongoing conflict and divergence internationally. We operationalise three types of *political risk* to analyse the impact of central banks' domestic contexts.

We trace the roots of divergence to the early 2010s, where the new norms emerge in a relatively depoliticised discussion over climate change and finance in Europe. European governments, think tanks and nongovernmental organisations (NGOs), and central bankers convinced individual central banks in Europe to adopt foundational climate-related norms against a backdrop of broad societal and political support for climate policies. By contrast, even during the Obama administration, the Fed was operating in a deeply polarised and partisan US debate on climate change, stoked by the interests of an influential domestic fossil fuel industry, and norm entrepreneurs targeting the Fed are strikingly absent. Then, as the norms proliferated, conflicts started to emerge between international norms and domestic politics. The creation of the Network for Greening the Financial System in 2017 initiated the international adoption of climate-related central bank policies. From 2019 onwards, that is, already during the first Trump administration, the Fed moved towards the adoption of the foundational climate norms as the relevance of climate change to central bank objectives, even sticking closely to traditional interpretations of CBI, became increasingly clear. International norms mattered, but by 2024, the Fed's perceptions of domestic political risk started to shift, leading up to its exit from the NGFS in 2025.

This article speaks to IR and central banking scholars. Central banks remain an underexplored topic in IR (cf. Hauke, 2023; Krampf, 2013; Quaglia et al., 2025). We introduce a new type of actor to the norms literature, central banks, which have received little attention. This is surprising given the extent to which central banks participate in international processes of norm-setting. We contribute to the recent literature on norms in IR that has focused on norm contestation and backlash, rather than strict convergence, providing new dimensions to this literature through our focus on central banking and our theorisation of political risk (Alter and Zürn, 2020; Deitelhoff, 2020; Wiener, 2018). Given that central banks' incentives to adopt transnational best practices make them strong candidates for theories of normative convergence, our study should be of particular interest to scholars of norm contestation as we demonstrate dynamics of controversy and backlash even under such conditions.

The central banking literature has studied the importance of ideas (Quorning, 2024; Siderius, 2023; van 't Klooster, 2022) as well as domestic political dynamics (Deyris, 2023; DiLeo, 2023; Jackson and Bailey, 2023; Massoc, 2024; Moschella, 2024) in explaining central banks' new climate attention. This literature, and the more recent literature on the politics of central banking more broadly, has also often provided a comparative lens on the approaches of different institutions on particular topics, including climate change (Blondeel et al., 2024; Jabko and Kupzok, 2024) as well as other topics like financial stability reforms (Thiemann, 2024) and new digital forms of money (Chia, 2024). While a small number of studies have touched on the international dynamics of

green central banking (Helleiner et al., 2025; Thiemann et al., 2023), or on the influence of the NGFS in particular case studies (Blondeel et al., 2024; Deyris, 2023), our paper's original contribution is to systematically theorise the interplay between international norms and domestic conditions in explaining convergence and divergence.

This article proceeds as follows. We first outline existing theory concerning domestic and international dynamics of central bank policymaking and introduce our two-level norm formation framework. We then introduce our empirical methodology and discuss the ECB's and Fed's participation (or lack thereof) in constructing new climate norms in central banking.

Theoretical framework

Central bank convergence

The existing literature on the *international* dynamics of central banking has focused primarily on explaining convergence rather than divergence – that is, why a central bank will adopt a new policy norm within the global community and not reject it. Over the course of the 1970s, 1980s, and 1990s, central banks exhibited a striking process of ideational convergence around three key policy norms, which we describe as the norms of CBI (Johnson, 2016; McNamara, 2002; Singleton, 2010). The first set of CBI norms concerns monetary policy, namely that central banks should pursue price stability by managing interest rates (Bernanke et al., 1998). In response to high and persistent inflation in the 1970s and 1980s, central banks around the world converged on an inflation objective in the 1990s that focused on annual consumer price growth of around 2%. A second set of CBI norms, codified largely through the BCBS and other transnational regulatory fora, provided consistent standards for supervision and regulation to prevent excessive risk-taking by individual financial institutions (Borio et al., 2008; Braun et al., 2021; Goodhart, 2011). These standards not only shaped supervisory practices but also influenced legal structures. Finally, these changes to the objectives and instruments of central banks went together with a set of norms around institutional independence from undue political influence (Tucker, 2018; van 't Klooster, 2020). Central banks were expected to build credibility by focusing on a narrow set of monetary and financial concerns.

Several theoretical traditions have sought to explain the enduring convergence on these norms, with most emphasising the key role of the strong transnational networks of central bankers. Central banks face a practical need for coordination in fulfilling their objectives in governing a global financial system (Borio et al., 2008; Jones and Zeitz, 2019; Kahn and Meade, 2018). However, the influence of these transnational communities goes much deeper. As technocratic institutions, central banks are underpinned by epistemic sources of authority and a claim to knowledge and expertise (Centeno, 1993; White, 2024). Over time, central banks have become increasingly 'scientized' (Goutsmedt and Sergi, 2025; Marcussen, 2009), making the spread of new international norms highly influential. From an ideational perspective, the CBI norms are backed by macroeconomic ideas that emphasise the risks of inflationary expectations and political business cycles (Arbogast et al., 2023; Helgadóttir and Ban, 2021; James, 2024; Johnson et al., 2019). International networks of experts crafting shared understandings of values and policy problems and sets of common practices and policy responses reinforce the basis of these ideas (Kapstein, 1992; McNamara, 2004; Westermeier, 2018). International institutions built on the CBI norms and the need to maintain credibility in the face of public and private actors make it hard for individual states to diverge from the existing norms.

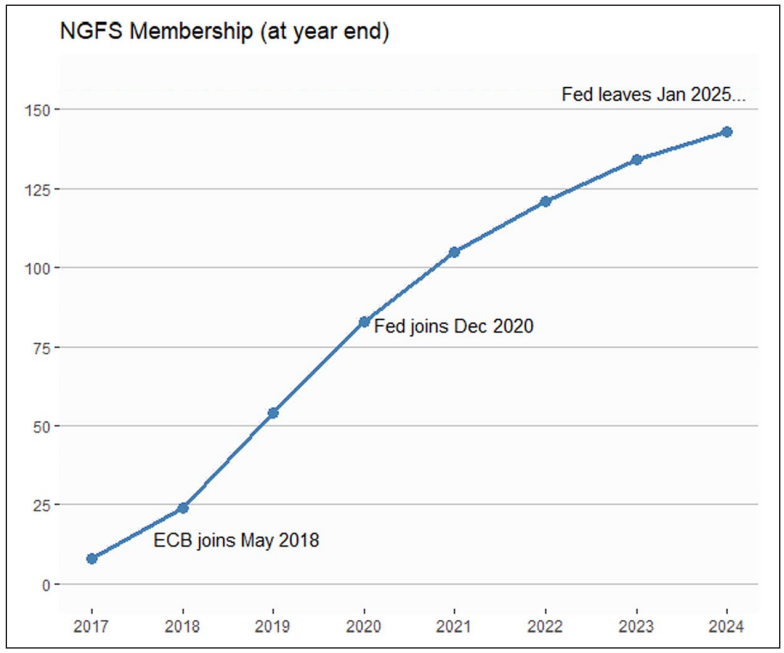

Figure 1. NGFS membership, 2017–2024.
Data from NGFS annual reports.

Climate divergence

Central banks have recently diverged starkly over the implications of climate change for their objectives. On the one hand, the NGFS, established at the end of 2017 by eight central banks, has added members rapidly (Figure 1), and includes all G20 central banks (minus the Fed after its recent withdrawal). It has emerged as the primary international forum within which central banks have developed new climate-related norms and policy proposals, including scenario analysis and supervisory expectations, which have seen broad interest from a diverse range of central banks (e.g. NGFS, 2020a, 2021b). While the literature on these developments is still nascent, several studies note the influential role that the NGFS has played both in creating interest in climate change among central banks, as well as in other transnational central banking forums like the BCBS, which later established its own climate taskforce (Helleiner et al., 2025; Thiemann et al., 2023). In many ways, the NGFS represents the institutionalisation of the new climate-related central banking norms, and it has produced a remarkable volume of research and resources as a technical basis for the adoption of at least the foundational norms by central banks. Helleiner et al. (2025) refer to the NGFS's 'normative' role in promoting this new set of connections between climate change and the economy and financial system and central bank mandates.

However, the success of the NGFS obscures a remarkable divergence between two of the most globally significant and closely cooperating central banks, the Fed and the ECB. This divergence has occurred in multiple dimensions. Fed policymakers lagged well behind European counterparts, who took on the issue earlier and have continued

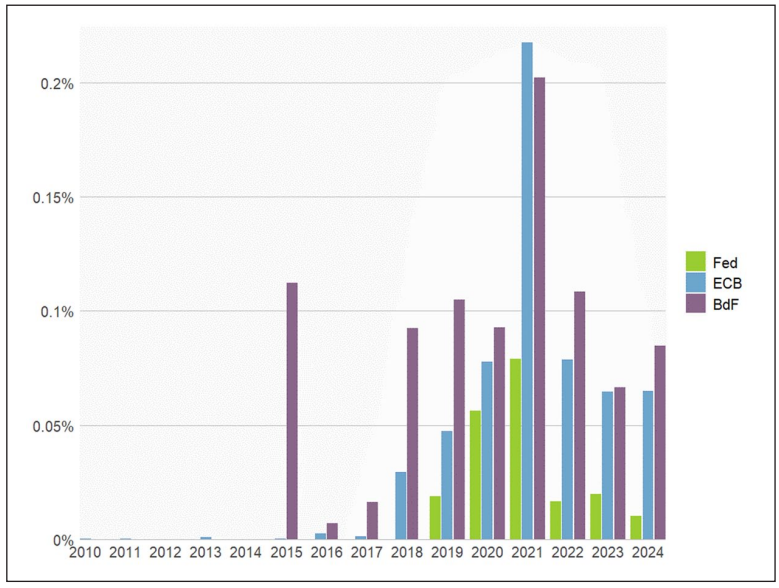

Figure 2. Relative frequency of 'climate change' in central banker speeches (BdF: Banque de France).
Source: BIS speech database.[1]

policymaking and speaking on the topic (see Figure 2). The Fed joined the NGFS (2021), but stayed out of its powerful steering committee and left again in January 2025. This divergence is particularly surprising given that the Fed has typically been a crucial and leading presence in the establishment of other transnational forums given the size and significance of US financial markets (Drezner, 2007; Helleiner, 2014; Reisenbichler, 2015). In fact, the NGFS was in part initially created to circumvent US opposition to addressing these issues in existing forums (Helleiner et al., 2025).

As the NGFS grew and its ideas became more widespread, the Fed did clearly take note and made steps to adhere to the most basic central bank climate-related norms. So how did the ECB and Fed diverge? To theorise how central bankers conceive of climate change in relation to the traditional CBI norms, we propose a three-fold taxonomy in Table 1 (cf. Baer et al., 2021; DiLeo, 2023; Oman et al., 2024; Thiemann et al., 2023).[2] The foundational norms are termed as such because they are the most basic central bank climate-related norms. They involve acknowledging that climate change may expose financial institutions to material losses and thus require appropriate prudential supervision (NGFS, 2019) and that climate-related risks are relevant for price developments and setting monetary policy in response (NGFS, 2020b). These norms do not involve new instruments. Proactive refers to taking action to anticipate and solve a problem before it becomes an issue, rather than waiting to react to it. These norms acknowledge that climate change raises new challenges and, therefore, require a reinterpretation of CBI norms, justified by the need to achieve prudential and monetary objectives. Accordingly, they imply the need to find better instruments and intermediate objectives for policymaking. Outside critics have proposed doing more, a set of 'reformist' norms, which would push well beyond prudential and monetary objectives and accordingly traditional CBI norms. They involve a reform of central bank roles, for example, in supporting fiscal

Table 1. Three categories of climate-related norms.

Three sets of climate-related norms	New tasks for central bankers and supervisors	Policy implications (examples)
Foundational norms – no evolution from basic CBI norms	Take into account the potential impact of climate change on prudential and monetary objectives without introducing new instruments and objectives	Research economic and financial effects of climate change; conduct stress tests to identify financial risks; clarify existing supervisory rules and standards
Proactive norms – reinterpretation of CBI norms	Acknowledge profound challenges for achieving monetary and prudential objectives, which require new instruments and intermediate objectives	Climate considerations inform monetary policy operations (e.g. asset purchases) and financial supervision (e.g. stress tests with potential implications for bank capital)
Reformist norms – moving beyond traditional CBI norms	Support for transition towards a sustainable economy; climate objectives in ways that go beyond, and may potentially conflict with, monetary and prudential objectives	Monetary-fiscal coordination and green credit guidance in support of specific industrial strategies

expenditures or specific industrial strategies, possibly requiring ex ante policy coordination. Such an approach has had little uptake at the ECB, let alone the Fed. We include it in our taxonomy to bring out not only divergence but also tacit agreement between the two institutions.

From the start of 2025, this divergence further deepened as the Fed withdrew from the NGFS, cordially stating that its broadening activities are 'not a good fit for the Fed' (Powell, as in CNBC, 2025). While the Fed had in 2023 conducted its first climate scenario analysis and issued supervisory principles for large financial institutions to manage climate-related risks, the latter were then withdrawn in October 2025 (Board of Governors, 2024, 2025). The ECB, on the other hand, has remained committed to its climate work, with one of its officials explaining that 'the ECB is there to stay' (Heemskerk, cited in Costa, 2025).

A framework for contestation

The proliferation of the CBI norms would seem to align well with traditional understandings of norm cycles in the IR literature, which emphasise a relatively stable path for norms once adopted at the international level (Checkel, 1999; Finnemore and Sikkink, 1998; Risse et al., 1999). This first generation of norms literature distinguishes three stages of norm proliferation, which play out on the domestic and international levels, and are shared in the first column of Table 2. In an initial phase of emergence, individual policy entrepreneurs promote a new norm, where the decisive mechanism is persuasion, and its initial adoption by central banks depends on their domestic context. Ideas that govern how to exercise the monetary policy and financial stability task emerge within the central banking community, with a supporting role from the broad domestic policy environment, comprised of a range of societal actors from think tanks, NGOs, academia, government, and the private sector. A second phase of norm cascade is marked by a 'tipping point' when a critical mass of institutions adopt the new norm (Checkel, 2005; Goldstein and Keohane, 1993). New countries increasingly begin to adopt the norm even in the absence of strong domestic pressure, or alternatively, domestic pressure can also emerge as a result of international dynamics. In a final phase, according to this original literature, a norm is 'internalised' and exerts hard to resist pressure to conform.

Certain aspects of this framework also work well for organising an analysis of central banks and climate change. The story of norm entrepreneurship in individual countries in the first phase aligns well with work that emphasises, for example, the role of 'field arbitrageurs' in outlining the financial stability risks posed by climate change (Quorning, 2024). We situate a 'tipping point' from the first to second phases at the formation of the NGFS at the end of 2017, as this is the moment that climate-related norms acquired international standing (Goldstein and Keohane, 1993).

However, the story of the climate norms presents a challenge to a strictly linear understanding, where contestation primarily occurs at the initial point of norm emergence. For one, climate norms have not reached a status of 'internalisation'. Furthermore, even central banking norms that have arguably reached widespread implementation, like CBI, remain the subject of continued domestic debate and at times attack from a range of nongovernmental and governmental actors (Johnson, 2016). The Fed's divergent approach on climate change compared to the ECB, even while the NGFS grew, demonstrates how norms can continue to be contested even as they reach a high level of salience internationally (Deitelhoff and Zimmermann, 2019; Wiener, 2018). Contestation may take different

Table 2. Norm life cycle, updated (stages from Finnemore and Sikkink, 1998).

1. Stages	2. Mechanism of contestation	3. Robust: CBI	4. Unstable: climate
Emergence	Norm entrepreneurship by new types of actors and/or new kinds of ideas challenges the status quo	Individual states move to depoliticisation of inflation governance to address time inconsistency problem	Individual central banks begin considering climate change; eventually create NGFS
Cascade	Conflict between international norm and domestic politics as norm spreads; local 'translation' of global norms	Pressure to conform from international institutions and investors (e.g. Johnson, 2016)	Increasing international convergence, but continued conflict with domestic political risk
Widespread implementation ('Internalization')	The norm itself becomes a decisive force, but remains vulnerable to contestation, backlash, and regression	CBI subject to ongoing critique and pressure but has largely endured	Unlikely, for now

Table 3. Varieties of political risk.

Political risk	Definition	Strategy
Inability to pursue objectives	Struggle to pursue objectives due to conflicting policies of other policymakers	Continuing to pursue climate-related work in relation to primary objectives creates risk of political backlash when other agencies are not aligned
Reputational damage	Loss of reputation with central banks' several audiences: political bodies, financial actors, media, general public	Depending on preferences, climate can shift to and from political risk or political asset in the view of elected officials
Risk of interference	Policymakers may formally or informally assert control over areas of central bank policymaking	Central bankers cede control of peripheral policy areas to maintain control of core monetary policy tasks

forms at different stages (see column 2 in Table 2), leading to alternative interpretations of global norms at the domestic level as new norms spread (Zimmermann, 2016, 2017; Zwingel, 2012), more radical political backlash to norms where the authority of the institution (e.g. central bank) may be challenged (Deitelhoff, 2020), and the eventual erosion or decline of the norm itself (e.g. Heller et al., 2012; Panke and Petersohn, 2012).

How can these dynamics of contestation be theorised specifically for central banks? While the formation and proliferation of norms takes place within the central banking community, the subordinate and vulnerable constitutional position of central banks also makes their adaptation subject to domestic *political risk* perceptions. The relatively autonomous process of central bank norm development raises a risk of domestic divergence, where central bankers adopt views that conflict with those held by ruling parties and other domestic elites. Central bankers have a limited ability to push other policymakers to shift their views on other topics. Accordingly, the need to maintain domestic support puts strict limits on central bank norm adoption. Since the 2008 Global Financial Crisis new political entanglements have again become increasingly visible (Binder and Spindel, 2018; Blondeel et al., 2024; Jabko and Kupzok, 2024). Central banks are subject to legislative oversight, and their leaders are appointed by elected officials. As a consequence, central banks are 'well aware of the need for legitimacy for their continued operation' (Thiemann, 2019: 566).

When norms in the international community diverge from those of domestic policymakers, central bankers need to manage three forms of political risk (see Table 3). First (1), new norms mean that central bankers develop views of their objectives that diverge from those that govern domestic economic policies. Since these policies are closely intertwined, central bankers may fear an *inability to pursue objectives* due to conflicting policies by other policymakers. Incoherence in preferred climate-related policies between the central bank and other areas of government may present a challenge to central banks' abilities to meet their core price and financial stability objectives. Second (2), and in part as a consequence of such conflicts, central banks may face *damaged reputations* in the face of political and media elites, financial actors and average citizens (Blondeel et al., 2024; Moschella, 2024). Central bankers' reputations with these varied audiences are crucial tools of building legitimacy, particularly in the context of their independence, and central bankers are thus likely to be responsive to their demands depending on the risks that these present to their reputations. For example, central banks' attention to climate change has also proved a liability in an era of elevated inflation, raising accusations that central banks were distracted from their

core task as inflation returned after the COVID-19 pandemic (Crook, 2023; The Economist, 2022). Finally (3), central bankers face the *risk of interference* in the autonomous policy-making of the central bank. While central bankers may bargain with this risk by accepting a level of interference in policy areas seen as more peripheral, the risk of interference into central banks' core task of setting monetary policy is viewed as an existential challenge to the present institutional framework of CBI.

As we demonstrate in what follows, the increasing adoption of climate norms by central banks cooperating in international forums, most importantly the NGFS, did push towards some level of convergence among central banks as the scientific basis for addressing climate change was developed and spread, including at the Fed (even under the first Trump administration). In Europe, a fossil fuel-importing jurisdiction, the political risks on all three dimensions were perceived by the ECB to be low: a relatively high level of coherence within EU institutions on climate policy, a relatively stable social and political basis for climate action, and a low risk of interference by other EU institutions. However, as new climate norms made their way to the Fed, a lobby initiated by the fossil fuel industry pressured it to abandon the issue altogether, raising the political stakes. A highly unstable social and political context combined with an increased risk of interference under the first and presently second Trump administrations has contributed further to these stakes. Divergent political risk perceptions explain divergence: the ECB's adherence to the new norms, even when wavering after 2022, and the Fed's messy exit.

Methods

We focus our analysis on the period from the emergence of climate-related norms from 2011 through the Fed's exit in January 2025. We selected the Fed and ECB as case studies for this substantive divergence due to their shared convergence around CBI norms, as outlined in detail above. Both central banks are active members of the international community of central bankers, where they both have an important role as norm leaders, and they also both have high levels of market autonomy, given the size of their economies and the issuance of internationally widely used currencies. A crucial point of difference concerns the ECB's mandate being enshrined in a difficult-to-revise international treaty. Nonetheless, we see that the ECB is, like the Fed, clearly responsive to member state political actors and citizens.

This study is empirically underpinned by analysis of relevant documents and speeches, as well as several interviews with high-level officials. First, we analysed central banker speeches from Fed and ECB officials. This included quantitatively tracking key climate-related terms for a high-level view, and qualitatively coding climate-related speeches based on the three-norm taxonomy given above for a fine-grained understanding of how central bankers' views on climate change evolved over time. We furthermore comprehensively reviewed climate-related Fed and ECB policy documents and research papers, as well as a search of archival news coverage of central banking from specialist publications including risk.net, centralbanking.com, Financial Times, and The Wall Street Journal. Finally, we conducted interviews with 16 European and American central bankers, government officials, and practitioners in NGOs and think tanks, as well as central bankers from other NGFS member institutions with knowledge of international processes of central bank diplomacy (see Appendix 2).[3]

Using this empirical material, we trace cause-and-effect linking domestic and international factors to norm adoption drawing on criteria proposed by Zimmermann (2017): (1)

if changes in variables are in the right temporal order; (2) if changes in one variable can be linked to outcomes theoretically; and (3) by considering where rival explanations can be excluded. These criteria share commonalities with other process-tracing approaches (Trampusch and Palier, 2016).

Emergence of climate-related norms

We now study the spread of climate-related norms through detailed case studies of the ECB and the Fed. In this section, we turn to the initial process of norm emergence that culminated in the founding of the NGFS in 2017. In this phase, a set of ideas around central banks and climate change were developed by policy entrepreneurs in Europe which were largely absent at that time in the United States, reflecting a different constellation of ideas, interests, and political risk in these two jurisdictions.

European climate engagement

The early emergence of ideas about central banks' role in addressing climate change reflected a supportive European context. The earliest articulation of foundational climate norms stemmed from a small group of European bankers and think tanks who both had an interest in climate action and a strong background in finance (Quorning, 2024). In 2011, the NGO Carbon Tracker published the study 'Unburnable Carbon: Are the world's financial markets carrying a carbon bubble?' (Campanale et al., 2011). Around the same time, a HSBC study set out the transition risk faced by the fossil fuel sector (Spedding et al., 2013). One of this report's co-authors would join the United Nations Environment Program Finance Initiative (UNEP-FI), which first set out what would become the basic NGFS norms. Other NGOs such as the Dutch Sustainable Finance Lab and 2 Degree Investment Initiative (2DII) in France further developed the idea of a 'carbon bubble' and the related idea of climate stress testing (Quorning, 2024).

These new ideas emerged through a largely depoliticised process of central bank deliberation, embedded in a context of social and political support for climate action. The emerging norms resonated with sympathetic officials in finance and environment ministries and elected politicians, which served to amplify calls for central banks to take these seriously. In France, the July 2015 Climate and Transition Law requested that the Banque de France produce a report on climate risk and climate stress tests. In the Netherlands, the finance ministry repeatedly requested that the central bank produce more information on climate risk from 2014 onwards, resulting in the first study of energy-related transition risk in 2016 (Siderius, 2023: 10). In this way, these new ideas about central banking and climate change were amplified by the policy priorities of early mover central banks' elected governments and there was little political risk for these institutions.

Subsequently, climate-related financial risk became an early topic of research at the Banque de France and the Nederlandsche Bank, and central bankers began to publicly acknowledge climate change as relevant to their tasks. Most famously, Bank of England Governor Mark Carney's October 2015 Tragedy of the Horizon speech set out the distinction between the physical impact of climate change (the actual changes to the natural environment) and transition impact (resulting from economic policies that make existing financial assets no longer economically viable) (Carney, 2015). Two months later, ECB Governor François Villeroy de Galhau set out a similar concept at the COP21 Conference in Paris, also drawing out implications for monetary policy (Villeroy de Galhau, 2015). These early speeches set out a *foundational* norm concerning the need to take climate change into account in making financial and

monetary policy using already-existing instruments. This initial norm is agnostic in terms of policy implications. In prudential policy, it involves understanding physical and transition risks as potential causes of financial losses. In the context of monetary policy, this may involve incorporating climate-related factors into inflation forecasts. In 2017, for example, the Netherlands central bank developed the first stress test for the impact of sea level change on the Dutch economy (Regelink et al., 2017).

From 2015 onwards, central banks committed to these foundational climate norms also started collaborating and pushing for action in global agenda-setting forums such as the G20 and the Financial Stability Board (FSB). Under the Chinese G20 presidency in 2016, a Green Finance Study Group was set up. However, in the face of US intransigence, it was clear that progress within this group, and as a consequence the FSB and the BCBS, would not be forthcoming.[4] As a result, the NGFS was formed in December 2017 as a 'coalition of the willing' by eight leading central banks and financial supervisors including several European national central banks and the ECB joining shortly after its founding. At the time, its foundational members stated that they were:

> . . . willing, on a voluntary basis, to exchange experiences, share best practices, contribute to the development of environment and climate risk management in the financial sector, and to mobilize mainstream finance to support the transition toward a sustainable economy. (NGFS, 2017)

US divergence on climate

While Eurosystem central banks were active participants in the emergence of new climate norms in the 2010s, the Fed did not even begin to consider a foundational climate norm until 2019. What explains this stark divergence?

Two potential explanations have merit but are insufficient on their own. The first pertains to the Fed's mandate, which is focused on price stability and full employment and does not include a version of the ECB's secondary mandate to support the broader economic priorities of the elected government. While this explains some of the later differences in policy scope between the Fed and the ECB, it is not so useful in explaining why the ECB quickly adopted foundational climate norms tied to its primary mandate, while the Fed has struggled to maintain even these. The ECB only 'rediscovered' its secondary mandate in relation to climate change in 2021 (Deyris, 2023; Elderson, 2021a). In over 2,500 speeches from 1997 until 2021, the secondary objective(s) had been mentioned in 10 (van 't Klooster and de Boer, 2023). Rather, it was only after the ECB board endorsed the climate norms that the secondary mandate was brought in as a further source of legitimation. A second explanation is the start of the first Trump administration at the beginning of 2017. While Trump's first election dampened the Fed's interest in addressing climate change, the divergence between the ECB and the Fed began prior to this. For example, not only was the US not involved in the UNEP-FI initiative that was crucial in promoting the new climate norms, a US veto of this initiative was already identified in 2014 as a crucial risk for implementing these ideas.[5] While an *anticipatory* form of political risk of a future climate-hostile administration was present during the Obama administration, this involves a more nuanced explanation than one that begins only in 2017, as most other studies of this case do (Blondeel et al., 2024; Jabko and Kupzok, 2024). The Fed began to address climate change publicly in 2019, before the end of Trump's first term (see section 'Limited Fed convergence').

In the United States, there was near silence from the kind of policy entrepreneurs external to the central bank that turned out to be crucial in the European context. The role

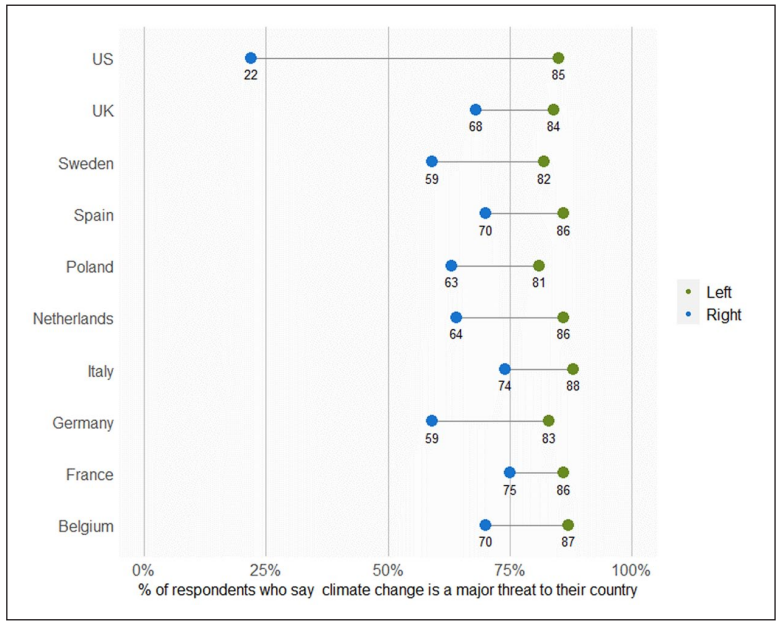

Figure 3. Public opinion on climate change from those who identify with the political left versus right, 2022.
Authors' graph, based on original figure and data from Poushter et al. (2022).

of financial regulators in addressing climate change was simply not on the domestic agenda. For example, the abovementioned Carbon Tracker report was also widely read in the United States, but it didn't translate into pressure on supervisors. Bill McKibben, a prominent American environmentalist, was key in amplifying this report in the United States. However, he translated the report into a campaign for college students to push their universities to divest from fossil fuels (Mckibben, 2012; Nisbet, 2013). Advocacy groups like the NRDC, Sierra Club, RAN, and 350.org only started campaigning for Fed action on climate change in 2019, a sharp contrast to the pressure put on Eurosystem central banksas early as 2010. The backdrop to this lack of advocacy was a highly polarised social and political context surrounding climate change, stoked by an influential fossil fuel industry (e.g. see Figure 3).[6]

The effect was that would-be policy entrepreneurs in the United States were not focused on extending their institutional reach. One interviewee elaborated on this dynamic from the perspective of advocacy organisations:

> Ten years ago (and even still) we were very much contending with debates around whether climate change itself is even real. If you're focused on that debate, it's a pretty distracting question, and difficult to extend climate action to thinking about something like what the Fed's role should be.[7]

This divergence was situated in a broader context of deeply contested climate politics, industry interest, and enduring party polarisation in the United States (Chinn et al., 2020). Importantly, this political split was not only relevant during the Trump administration, which was openly antagonistic to government action on climate change, but had begun to

diverge further under the Obama administration from relatively stable positions prior, just as new ideas were developing in Europe around central banks' role in addressing climate change (Chinn et al., 2020; McCright et al., 2014).[8]

Following President Obama's election in 2008, the American Clean Energy and Security Act (ACES) failed in the Senate in 2009, in the midst of stiff Republican opposition and well-funded lobbying by electric utilities and oil and gas companies (Weiss, 2010). This left an absence of any legislated greenhouse gas emission targets, meaning there was no legal basis to assume a transition might occur. This stands in stark contrast to the EU, which established an Emissions Trading System in 2005, was party to the Paris Agreement from 2015, and set out to translate its 2050 net zero target into policy initiatives from then onwards (European Commission, 2023a, 2023b). There was also little pressure on the Fed to engage on climate change from elected officials during the Obama administration, and Fed officials took no real action. One of the only exceptions occurred in 2013, when the Bicameral Task Force on Climate Change sent a form letter to nearly 70 Inspectors General throughout the federal government – including at the Fed – asking what they were doing and could do to address climate change (Waxman et al., 2013; Whitehouse, 2013). The Fed's response focused only on minor operational issues like recycling and the energy efficiency of its buildings, a marked contrast to the idea that climate change may impact the core objectives of central banking (Office of Inspector General, 2013).

While these forces were already present before the first Trump administration, the agenda froze decisively after 2016. For example, President Trump withdrew the United States from the Paris Agreement on the first date possible under the conditions of the accord, making the United States the only country in the world to pull out (Pompeo, 2019; The White House, 2017). The contested politics of climate change, even prior to the 2016 elections, created an environment where climate-related central banking norms had little basis to develop. However, the Trump administration's hostile environment to climate action meant that when attention to climate change within central banks began to pick up elsewhere, the United States remained outside the developing consensus.

Climate norm cascade

The Fed could easily ignore the new climate-related norms as they emerged within a few European and Asian central banks, but this became harder as the new norms proliferated. As in Figure 1, membership in the NGFS rapidly grew following its founding, with central banks joining the new transnational network required to have a 'proven commitment' to greening the financial system encompassed in a list of five areas (NGFS, 2018). The climate norms thus became institutionalised internationally in a way that was absent prior.

Following the creation of the NGFS, new dynamics of convergence and divergence become important. While the Fed ultimately joined the NGFS at the end of 2020 as a result of these international developments, its commitment to even foundational norms remained tenuous in the face of domestic opposition. As the NGFS members turned to adopting pro-active climate-related norms, the Fed's position became increasingly hesitant, setting the stage for its 2025 exit.

The ECB pushing forward

Despite the strong force of the established CBI norms, ECB central bankers increasingly came to put forward and endorse what we describe as proactive climate norms (see Figure 4).

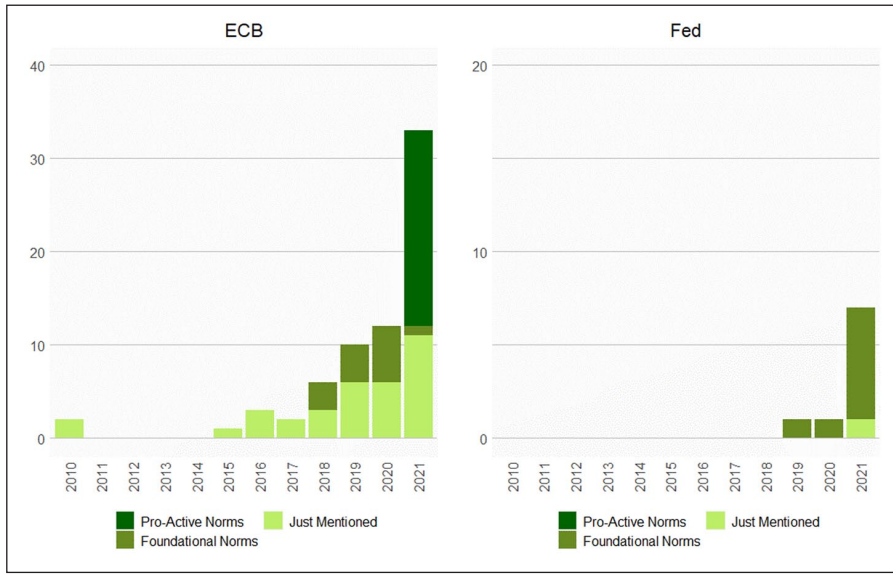

Figure 4. These graphs show the number of speeches in which a member of the ECB executive board or the Federal Reserve Board (i) mentions climate change, (ii) endorses one or more foundational climate norms or (iii) endorses proactive climate norms (note the different vertical axes).

From 2019 onwards, the NGFS started to put forward the view that climate-related risks have special features that make them hard to manage using backward-looking risk management techniques and require the development of new prudential instruments. In January 2020, the NGFS, BIS, and Banque de France published a report titled *The Green Swan*, which set out a detailed critique of the limitations of existing prudential policies (Bolton et al., 2020). The report argued that climate-related risk would largely escape existing bank risk management techniques, and called for an 'epistemological break' with a new climate coordination role for central banks with other relevant public and private actors. The NGFS (2021a) also discussed using monetary policy to directly steer bank lending in accordance with climate policy objectives. These new 'proactive' climate norms continue to reflect the basic assumptions of the CBI norms concerning the primacy of monetary and prudential tasks (Baer et al., 2021; Șimandan et al., 2023; van 't Klooster, 2022). However, these norms are re-interpreted to imply novel intermediate objectives and instruments.

While ECB board members both contributed to and endorsed the critical diagnosis it set out, they would consistently emphasise that they were closely adhering to the basic CBI norms. Initial work focused on prudential policy, and from 2020 a proactive approach requiring new procedures and instruments to supervise bank risk-taking also emerged. In 2020, the ECB published a new guide with supervisory expectations, which set out the internal practices that large European banks were expected to use to address climate-related risk (ECB, 2020). By 2022, 30 banks had been required to hold more supervisory capital due to inadequate climate-related risk measures (ECB, 2022). In 2021, Elderson introduced the idea of prudential transition plans, requiring banks to 'highlight at any given point in time, from now until 2050, the bank's alignment and potential divergences

with the relevant policy objectives through which the EU implements the Paris Agreement' (Elderson, 2021b). These requirements were ultimately incorporated into EU banking legislation with the revision of the EU Capital Requirement Directive and Regulation tabled in October that year.

The ECB was more reluctant to act on monetary policy but from 2021 onwards set out to introduce new ways to screen climate-related risks in its monetary policy operations. In 2016, the ECB started coming under pressure from the European Parliament, NGOs, and academics to consider climate impact in monetary policy programmes (Corporate Europe Observatory, 2016; Matikainen et al., 2017; van 't Klooster and Fontan, 2020). The ECB initially took the view that its programmes should be tied to a norm of 'market neutrality', even if that meant that it disproportionately benefitted carbon intensive sectors (cf. Weidmann, 2017). However, the ECB's domestic context made that position increasingly untenable. In December 2019, the member states had agreed on the project of a European Green Deal and legally binding climate objectives set out in a European Climate Law (European Commission, 2023b). They also appointed a new ECB president, Christine Lagarde, who early on signalled her willingness to explore how to design instruments in light of climate change. The EU Council also appointed two new board members favourable to such a policy. One of them, the German central banker Isabel Schnabel, would be the first to explicitly challenge the norm of market neutrality (Schnabel, 2020). Endorsing the arguments of external critics, she argued that 'market neutrality may not be the appropriate benchmark for a central bank when the market by itself is not achieving efficient outcomes'. Alongside Schnabel, the former NGFS chair Frank Elderson brought in legal and supervisory expertise. In 2021 he was the first to defend the view that the ECB mandate required supporting the EU's climate agenda, where that was possible without negatively impacting price stability (Elderson, 2021a). Throughout these experiences, political risk for the ECB was non-existent. To the extent that political momentum emerged for restricting CBI, these pushes came from what we describe as reformist climate norms, where fighting climate change is held to require suspension of the CBI norms (Dezernat Zukunft, 2020; Hennette et al., 2019).

The ECB's political risk calculus changed in 2022. Amid record levels of inflation, the ECB set out a tightening policy with a narrow focus on bringing down inflation (Goutsmedt and Fontan, 2024). Being slow to raise rates, the ECB became the object of widespread debate, with critics repeatedly arguing the central bank had been too busy with the climate to care about inflation (The Economist, 2022). For the ECB, this presented both a reputational form of political risk, as well as rekindling internal disagreement on what the ECB should do. In January 2023, Schnabel argued that when raising interest rates no divergence from market neutrality was required, and that 'restoring price stability in a timely manner provides the conditions under which the green transition can thrive sustainably' (Schnabel, 2023). The search for new monetary policy instruments had slowed down, even if prudential policy continued to become more binding.

Limited Fed convergence

Climate change first emerged on the Fed's policy agenda in 2019 with a short article acknowledging the work that other central banks had done in this space, and speeches by Governor Lael Brainard and New York Fed Head of Supervision Kevin Stiroh identifying climate change as a material financial risk that the Fed should be attentive to (Brainard, 2019; Rudebusch, 2019; Stiroh, 2019). In these communications, Brainard and Stiroh

take a cautious approach that acknowledges potential climate-related financial risks in line with the foundational climate norm and call for more study and the additional need for 'careful thought and rigorous analysis of the unique aspects of climate risks' (Brainard, 2021). Chair Jerome Powell summarised the Fed's approach to climate change by emphasising the Fed's research capacity: 'We can try to help understand what will the pathways be through which climate change effects the economy . . . That's what we can do, and that's what we will do' (Powell, 2021: 17). At least part of the intent of these speeches appears to be signalling that Fed officials were aware of new ideas circulating the international community of central bankers.[9]

The Fed took an important step to address climate change by joining the NGFS in December 2020 (NGFS, 2020c). This was followed by a Supervision Climate Committee being formed at the Board of Governors at the start of 2021, with Stiroh tapped to lead the group, as well as a Financial Stability Climate Committee (Board of Governors, 2021a). At the same time, Fed policy staff and economists had begun to devote more attention to climate change (e.g. Bauer and Rudebusch, 2023; Brunetti et al., 2021). While the Fed would eventually announce an exploratory climate scenario analysis exercise, by the end of 2021, the Fed was yet to make a first climate-related policy announcement. Furthermore, Fed officials sought to distance themselves from the proactive norm that had at this stage emerged in Europe, rejecting the incorporation of climate concerns into monetary policy operations. In a sharp departure from the ECB's 2021 monetary policy strategy, Powell asserted his commitment to market neutrality, stating that he is 'very reluctant' to incorporate climate change in any way that would see the central bank 'picking one area as creditworthy and another not' (Powell, 2020b).

This raises two distinct questions: first, why did the Fed begin to look at climate change in 2019? Second, why has the Fed been reluctant to move beyond these foundational climate norms, and why have even these remained contested? As we demonstrate below, the proliferation of new norms underpinned by a growing body of research around central banks and climate change in forums like the NGFS had the effect of partially depoliticising the issue in the US context, as a new scientific basis emerged for adopting a foundational norm. However, domestic climate contests continued to constrain the Fed's full participation and political risk has remained high, ultimately leading to the Fed's pullback in 2025.

Forces of convergence. While the election of the Biden administration undoubtedly assisted in easing the Fed's ability to address climate change, the timeline of events does not entirely support this simple explanation alone: while the Fed began to consider its response to climate change at the start of 2019, President Biden was not elected until the end of 2020, coinciding with the Fed's decision to join the NGFS. So why did Fed officials begin to contemplate their role prior to this?

The spread of a scientific basis for central banks to address climate change through international organisations plays a key role in this story. As membership in the NGFS expanded and climate norms made their way to discussion at other key international forums, for example, the G20, BCBS, and the FSB, they increasingly became a part of central banks' transnational 'logic of appropriateness' (March and Olsen, 1998), underpinned by a growing body of research examining how climate change connects to central bank objectives. This took some Fed officials by surprise at first. As one interviewee said of Mark Carney's leadership, 'I thought at the time that Carney was being quite forward-leaning, doing something that wasn't like what the Fed would do at all'.[10] However, as

more central banks began to consider climate change as relevant to their core objectives, these new norms became relevant to the Fed, even in the absence of domestic pressure. And, as one US official remarked, 'The formation of NGFS was the key moment that catalysed these ideas'.[11]

Even prior to the 2020 election in the United States, the Fed had begun to engage internationally. For example, the Fed began to include climate activities at the International Association of Insurance Supervisors (IAIS), a forum within which the Fed 'participate(s) actively in standard setting', in their required annual reporting on the activities of global regulatory forums as early as 2019 (Board of Governors, 2019). Also in 2019, Governor Brainard referred to the Fed's 'benefit from working with international peers who are taking the lead on understanding the effects of climate-related risks on their financial systems' and that the Fed was 'participating in climate-related discussions at the FSB and other standard-setting bodies' (Brainard, 2019). In March 2020, New York Fed Head of Supervision Kevin Stiroh signed up to co-chair the newly formed Task Force on Climate-related Financial Risks (TFCR) at the BCBS (Milburn, 2020).

Another effect of this developing global consensus was that the globally active financial institutions supervised by the Fed had been required by their supervisors in European jurisdictions to include the impacts of climate change in their risk analyses. The Fed was thus hearing about climate change not only from other central banks, but also from supervised institutions (e.g. Board of Governors, 2021b: 16; Brainard, 2021). At the end of 2020, Chair Powell remarked that:

> . . . we are, you know, very actively, in the early stages of this, getting up to speed, working with our central bank colleagues and other colleagues around the world to try to think about how this can be part of our framework. And we're watching what other – what other countries are doing. (Powell, 2020a)

For the Fed, the effect of climate change becoming an issue widely addressed by central banks was to remove some political charge from the Fed's attention to the subject as the scientific case grew. In 2023, the Fed embarked on its first climate-related policy actions, which included a pilot climate scenario analysis exercise as well as supervisory principles for large financial institutions in managing climate risk (Board of Governors, 2024; Board of Governors et al., 2023).

Continuing contestation. Unlike the ECB, political risk for the Fed never went away. It did ease at the start of 2021 with the beginning of the Biden administration, which saw the United States re-joining the Paris Agreement, and the Fed formally joining the NGFS at the end of 2020. The Fed also received explicit direction to examine climate-related financial risks with a 2021 Executive Order (The White House, 2021).

Yet while the United States now had an administration supportive of climate action, its political context remained risky. The continued absence of legislated emissions reduction targets gave the Fed no clear transition pathway to align its policy to, stymying a key component of a move to a proactive norm. Furthermore, Fed officials became subject to regular attacks from members of Congress over their nascent attention to climate change (e.g. US Senate, 2021a: 5, 2021b: 3–4). Anticipated political risk also persisted, since the possibility of a change of administration and renewed presidential scrutiny never abated. In these ways, the Fed continued to face all three types of political risk outlined in Table 3. First, the present *and* future risk of misalignment with other government institutions; second, the

reputational risks of continued action on climate change from anti-climate members of Congress; and third, the outstanding possibility that the Fed could lose some of its autonomy in the face of policymaker dissatisfaction. The result was that while the Fed began to incorporate climate change into its agenda, it did not move beyond the foundational climate norms, limiting its role to a primarily prudential, risk-based, and voluntary approach.

Even during the Biden administration, these political risks manifested in attacks on the Fed from elected officials, and through them from the fossil fuel lobby. In 2022, for example, Sarah Bloom Raskin withdrew her nomination to the Federal Reserve Board over Congressional climate objections, which centred on her earlier comment that regulators should 'ask themselves how their existing instruments can be used to incentivize a rapid, orderly, and just transition away from high-emission and biodiversity-destroying investments' (Raskin, 2021). Senator Joe Manchin (D-West Virginia), in opposing her nomination, stated that Raskin had 'failed to satisfactorily address my concerns about the critical importance of financing an all-of-the-above energy policy to meet our nation's critical energy needs' (Manchin, 2022). His political opposition has been linked to the high level of influence of the fossil fuel industry in Congress: Manchin had at that time taken more money from fossil fuel interests than any other senator (Kaufman, 2021). Republican resistance to Raskin, led by Senator Pat Toomey, was also supported by a conservative dark-money group called the American Accountability Foundation (Dennis, 2022; Mayer, 2022).[12]

Then, with the re-election of Trump to the presidency at the end of 2024, the Fed's political risk reached new levels, as previously *anticipatory* risk shifted into the present and new risks emerged. In particular, the third form of political risk took centre stage, given both President Trump's proclivity to opine on monetary policy as well as a wider push to place independent agencies under greater presidential control (Madhani et al., 2025; White, 2018; White House, 2025a). The Fed's new attention to climate change also came under scrutiny in Project 2025, the Heritage Foundation's blueprint for a second Trump term (Dans and Groves, 2023). The Trump administration again pulled out of the Paris Agreement on the first day of the new presidency (White House, 2025b). But the Fed didn't leave its participation in global climate forums to chance. With the inauguration scheduled for Monday, January 20, the Fed announced its withdrawal from the NGFS on Friday, January 17. Powell insisted again that this timing was coincidental, stating that he was 'aware of how it can look', but that, 'It was really not driven by politics. It was driven by the disconnect between the work of the N.G.F.S. and our mandate' (Smith, 2025). In the context of the varieties of climate norms presented in this article, the Fed's withdrawal from the NGFS can be read as a doubling down on its rejection of the proactive norms. Whether it may continue its existing work in line with the foundational norms looks increasingly unlikely (Azizuddin, 2025; Board of Governors, 2025). The Fed's preemptive withdrawal from the NGFS – along with similar actions such as curtailing supervisory efforts regarding climate risk – appears part of a strategy to manage a severe political risk: losing its independence. Ceding discretion on a politically contentious topic such as climate change may be thought to help the Fed maintain control over monetary policy, but such an outcome is far from assured (Giles, 2025; Steele, 2025).

Conclusion

Central banks are both independent domestic agencies and caretakers of the global financial system. In this article, we put forward a framework to understand the interactions between national and international arenas of central bank politics by bringing in a crucial

international dimension of convergence and divergence of policy norms. In recent decades, the ECB and Fed have become closely aligned in their interpretation of the policy norms of CBI, but changing risk perceptions led the central banks to diverge on climate change. Our framework captures both the domestic and international influences underlying these developments. In an initial stage of norm emergence, differing domestic political environments allowed for new ideas to develop in the European context on central banks' role in addressing climate change, while the Fed failed to consider climate change in any meaningful way. However, as new climate norms were more widely adopted and the scientific basis for central banks to address the topic grew, pressure for convergence emerged. Yet while the Fed initially adopted basic foundational norms, it stayed clear of the ECB's proactive norms, ultimately leaving the NGFS, which championed such policies, after the re-election of President Trump.

Even though domestic politics ultimately triumphed in the US, there was also a genuine role for international proliferation of policy norms. The Fed's 2025 turn does little to undermine these theoretical points and an alternative course of events is easy to imagine. That the administration and their fossil fuel allies sought to undo progress made on climate norms in the past years reflects the fact that these efforts bore fruit. This article thus shows that political action in favour of climate norms remains important despite these developments. Moreover, the international interconnectedness of central banking will likely to continue providing a level of sustained pressure towards convergence. This could happen if the EU scales back some of its proactive commitments or if the reality of ongoing catastrophic climate events force the United States to change course on this topic. Until then, central banks are likely to seek compromises to appease distinct audiences, assuring domestic actors of their responsiveness and policy restraint while cooperating with international peers on less overt regulatory interventions.

In reviewing these developments, this article has made both empirical and theoretical contributions. Empirically, we have put forward an IR perspective on the climate turn in central banking, thereby bringing out the crucial role of international norm proliferation and its relationship to domestic political dynamics. Theoretically, we introduced central banks as a new type of diplomatic actor, for which we introduced the device of political risk to theorise the constraints on international norm emergence and adoption resulting from domestic forces. While we focused on the Fed and the ECB in this article, future work on other central banks will likely open new insights. For example, Australia and Canada are also large fossil fuel exporting jurisdictions with strong vested industry interests, making their central banks interesting cases for further comparison.

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Notes

1. The BIS (2025) collects speeches provided in English on central bank websites. These texts were pre-processed to remove punctuation, URLs, numbers, and a list of common stopwords. This figure represents the percentage of words in a central bank's speeches each year that are 'climate change' to control for varying corpus size for different central banks. For the Fed, this figure includes Board of Governors speeches only. See Appendix 1 for a figure with nine climate-related terms for only the Fed and ECB. Thanks to Aurélien Goutsmedt for sharing code to scrape the BIS website.
2. Our taxonomy is distinct and serves to analyse divergence in relationship to the existing CBI norms. The foundational norms imply a prudential policy objective and are accordingly typically risk-based (e.g. Baer et al., 2021), but foundational norms also concern non-prudential tasks. The proactive norms do not imply promotional objectives, since they still tie policymaking to monetary and financial stability objectives (van 't Klooster and Prodani, 2025). Reformist norms bear some similarity to those that guide policy at central banks like the People's Bank of China (DiLeo et al., 2025; Larsen, 2023), but the PBoC has never been guided strictly by the CBI norms.
3. Each author has participated in pushing for climate policies in this policy space, with two authors formerly employed at the Federal Reserve.
4. Interviews 1, 15.
5. Interview 3.
6. Several studies have documented both the direct and indirect influence of the fossil fuel lobby on US climate politics, for example, through the promotion of climate change denialism, as well as stark differences in public opinion based on geographic proximity to fossil fuel industry sites (Dewitte, 2023; Grasso, 2019; Oatley, 2023).
7. Interview 11.
8. One well-known artefact of this partisan divergence is embodied in former Republican House Speaker Newt Gingrich's participation in a 2008 ad with Nancy Pelosi advocating for bipartisan climate action, which then in 2011 caused substantial blowback for Gingrich during his presidential run (Samuelsohn, 2011).
9. Interview 2.
10. Interview 6.
11. Interview 6.
12. In another example, in April 2020, a group of 17 Republican senators wrote to Chair Powell after the Fed engaged BlackRock to help administer bond purchases. The Senators urged the Fed to ensure that BlackRock did not follow any ESG criteria in this connection. Their particular concern was that the energy and transportation sectors would not be excluded from Fed bond purchases (Cramer et al., 2020, also see Toomey et al., 2021).

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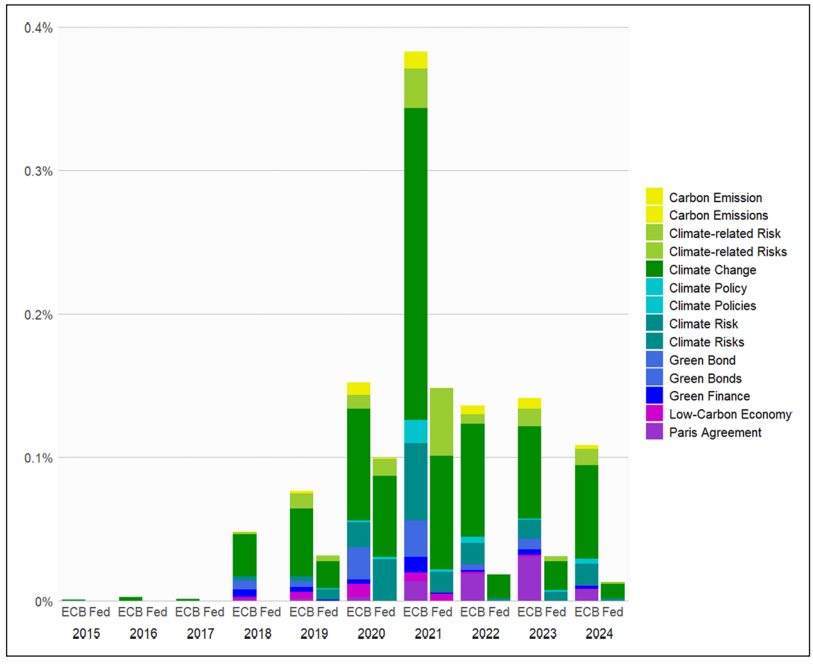
Appendix 1

Extended speech analysis

As a robustness check, we also examined speeches from the BIS central banker speech database in terms of the nine climate-related terms defined by Arseneau et al. (2022). While more rich, these figures do not show substantive differences in trend compared to Figure 2 in the main text.



Appendix 2

Interviews.

Interviewee	Organisation
1	Central bank
2	Policy think tank, treasury
3	International organisation
4	Central bank
5	Central bank
6	Central bank
7	Central bank
8	Central bank
9	Central bank
10	Central bank
11	Policy think tank, central bank
12	Policy think tank
13	Policy think tank
14	Policy think tank, treasury
15	Policy think tank, central bank
16	Financial regulator