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Publication date

2023

Document Version

Final published version

[Link to publication](#)

Citation for published version (APA):

DiLeo, M., Rudebusch, G., & van 't Klooster, J. (2023). *Why the Fed and ECB Parted Ways on Climate Change: The Politics of Divergence in the Global Central Banking Community*. (Hutchins Center Working Paper; Vol. 88). Brookings Institution. <https://www.brookings.edu/articles/why-the-fed-and-ecb-parted-ways-on-climate-change-the-politics-of-divergence-in-the-global-central-banking-community/>

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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 bankers form a global policy community that for several decades has been characterized by a high degree of convergence in terms of policy tools, frameworks, and objectives. 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 U.S. Federal Reserve (Fed). We develop a theoretical framework based on Finnemore and Sikkink's norm life cycle model, to describe how new norms are created and become influential in the context of domestic and international pressures. In an initial stage of norm emergence, broad support in the EU for climate policy and persuasive policy entrepreneurs helped push the ECB to endorse new climate-related norms. By contrast, domestic socio-political polarization on climate policy led the Fed to avoid the topic. A second phase of norm cascade was marked by the founding of the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). While the global spread of climate-related norms began to exert pressure towards convergence, the Fed did not adopt the ECB's more ambitious policies. Given the persistent differences in domestic political pressures, it seems unlikely that the divergence will disappear soon.

Acknowledgments: Authors would like to thank Michael Bauer, Stefan Eich, Ilene Gabel, Aaron James, Galina Hale, Eric Helleiner, Kate McNamara, Saule Omarova, Francesco Paolo Mongelli, and David Wessel for helpful comments.

Disclosures: Jens van 't Klooster received funding from the Dutch Research Council (NWO) under grant 406.18.FT.014. Other than the aforementioned, the authors did not receive financial support from any firm or person for this article or from any firm or person with a financial or political interest in this article. The authors are not currently an officer, director, or board member of any organization with a financial or political interest in this article.

The Brookings Institution is financed through the support of a diverse array of foundations, corporations, governments, individuals, as well as an endowment. A list of donors can be found in our annual reports published online [here](#). The findings, interpretations, and conclusions in this report are solely those of its author(s) and are not influenced by any donation.



1. Introduction

Central banks around the world have in recent years adopted ambitious climate and environmental changes to their policy frameworks. These developments have been concentrated at leading central banks in Europe (Deyris 2023; Quorning 2023; Siderius 2022; van 't Klooster 2022), and Asia (Larsen 2023). Following the 2015 Paris Agreement, eight countries—Mexico, the UK, France, Netherlands, Germany, Sweden, Singapore, and China—came together in 2017 to coordinate a response to climate change and formed the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). By the end of 2022, the NGFS had over 120 members (NGFS 2023), while other key transnational central banking forums, including the Basel Committee for Banking Supervision (BCBS), have also taken up climate change as a relevant issue (e.g., BCBS 2022).

Although they have approached the topic in different ways, most major central banks have become members of the NGFS, which implies recognition of two broad channels of adverse climate impact. First, increased direct economic damage through worsening heat waves, droughts, floods, extreme precipitation, species extinction, and the collapse of ecosystems (Pörtner et al. 2022). Second, efforts to limit global warming will likely require a far-reaching and potentially disruptive economic and industrial transformation. Central bankers will find it hard to achieve their broad goals of financial and monetary stability without a successful and well-managed transition to a low-carbon economy (Carney 2015). However, the appropriate role and level of engagement remains controversial and moving beyond the central bank's traditional mandate comes with risks to their reputation and independence (Boneva, Ferrucci, and Mongelli 2022).

The policies of NGFS members reflect two versions of climate-related policy norms. A foundational norm requires that in pursuing its prudential and monetary objectives, a central bank should take into account the potential impact of climate change. Major central banks like the U.S. Federal Reserve (Fed) have researched how climate change affects their objectives but refrained from adopting policies in support of decarbonization. In contrast, other central banks—notably the European Central Bank (ECB)—have recognized that climate change raises more profound challenges for achieving monetary and prudential objectives. In adopting proactive climate policy norms, these central banks have revised their monetary policy operations (for example, setting climate-related criteria for asset purchase programs) and started to introduce far-reaching supervisory interventions to shape bank behavior.

The recent parting of ways between central banks is surprising given the existing research focus on the pressures towards convergence. Over the course of the 1970s, 80s, and 90s, central banks converged on a set of norms around central bank independence (CBI) (Johnson 2016; McNamara 2002; Singleton 2010). These norms required that monetary policy operations would 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 independent from political pressures.

Since the Global Financial Crisis, central banks have become more deeply drawn into increasingly politicized disputes and have embraced a wider range of operational instruments and new objectives (Best 2016; Goodhart et al. 2014; Helleiner 2014). Central banks have broadened their interpretation of the scope available within their often vague mandates to make major domestic economic policy choices (Conti-Brown 2015; Menand 2023; van 't Klooster 2020). However, 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, Toniolo, and Clement 2008; B. Braun, Krampf, and Murau 2021; Kahn and Meade 2018; Verdun 1999). In this context, the central banking community develops its own norms, which constitute a shared “logic of appropriateness” (March and Olsen 1998, 951).

To capture the global dynamics of policy convergence and divergence, we turn to the existing literature on norm proliferation. This literature studies how standards shape what actions members of a policy community deem to be appropriate (Deitelhoff and Zimmermann 2019; Stimmer 2019; Wiener 2018). The norms literature has typically been used to understand topics as diverse as reproductive rights, torture, and the conduct of elections, but as we show it can also be used to study divergence among independent central banks with regard to monetary and financial policy.

In the following, we develop a dynamic norm formation framework that builds on the norm life cycle model of Finnemore and Sikkink (1998). We show that the adoption of new climate-related norms can be analyzed in terms of two distinct stages. In a first stage of “norm emergence,” norm entrepreneurs develop the idea that climate change is directly relevant to the tasks of central banks. Against a background of broad societal support for climate policies, European government actors, think tanks, and nongovernmental organizations (NGOs) convince individual central banks to adopt basic climate-related norms. By contrast, in the case of the Fed, the socio-political environment on climate action was highly fractious and norm entrepreneurs targeting the Fed are strikingly absent.

In a second phase of “norm cascade”, a critical mass of early NGFS members started to spread these new climate norms, thereby creating a new political dynamic at the international level. The proponents of the new norms, with the ECB at the forefront, adopted a shared logic of appropriateness that would increasingly exert pressure on other central banks. In the context of widespread international adoption of climate-related central bank policies, the Fed reconsidered its climate stance. However, the deeply polarized and partisan U.S. debate on climate change, stoked by an influential domestic fossil fuel industry, led it to merely adopt a modest version of the foundational climate norms. So, while the ECB pursued proactive climate-related policies to support government-wide low-carbon transition policies, the Fed’s limited engagement went together with distancing itself from the ECB’s proactive policies.

This paper proceeds as follows. We will first briefly outline the existing state of the theory concerning international dynamics of central bank policymaking, and then introduce our two-level norm formation framework. This is followed by a brief review of qualitative and quantitative text analysis as well as central bank participant interviews that underpin our empirical analysis. We then review the ECB’s and Fed’s participation (or lack thereof) in the construction of new climate norms in central banking, tracing the phases of norm emergence and then norm cascade until the end of 2021.

2. Theoretical framework

The existing literature on the political economy of central banking has focused primarily on explaining convergence and has fewer theoretical resources to account for divergence: What determines whether any given central bank will adopt or reject a new policy norm within the global community? We develop a two-level theoretical framework to describe how the domestic context and international norms influence the evolution of central bank policymaking. While the dynamics of divergence on climate policy have been studied in other contexts (Keohane and Victor 2011; Rowan 2021), we provide a novel account of such divergence within the central banking community.

2.1 Central bank convergence

Over the course of the 1970s, 1980s and 1990s, central banks' relative domestic autonomy and extensive international connections enabled a striking process of global convergence around three key policy norms, which we describe as the norms of central bank independence (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, Toniolo, and Clement 2008; 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 political manipulation (Tucker 2018; van 't Klooster 2020). Central banks were expected to build credibility by focusing on a narrow set of monetary and financial concerns. This greater independence also reinforced a CBI norm that central banks would also avoid credit allocation or industrial policy.

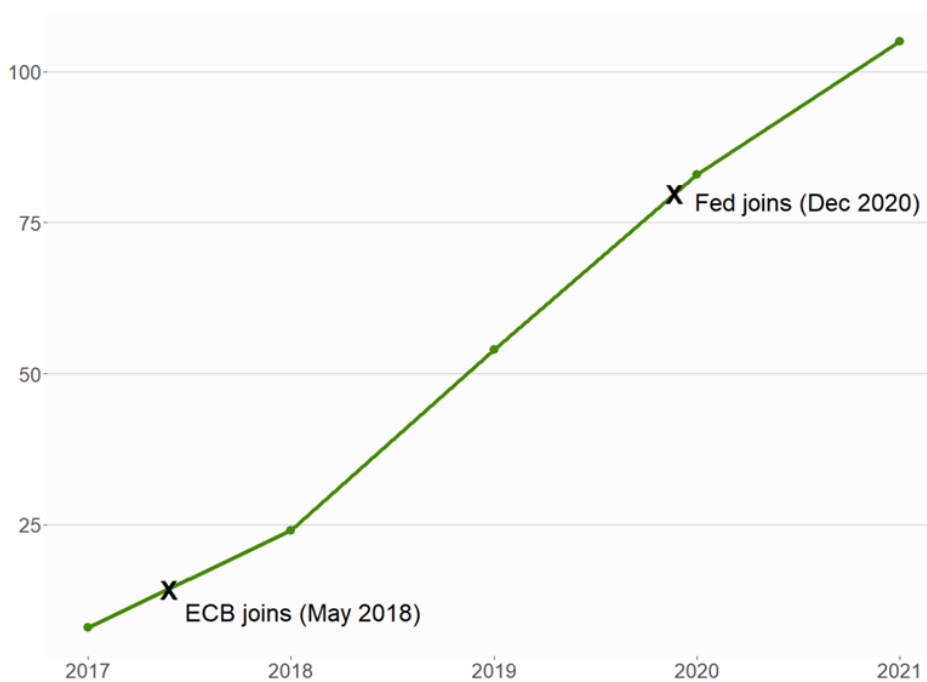
The Global Financial Crisis put pressure on all three of these broad CBI norms. For example, monetary policymakers in the U.S. and Europe followed Japan in implementing unconventional monetary policies, which remained geared towards price stability but added central bank balance sheets as a policy instrument (Christensen and Rudebusch 2012). Furthermore, financial governance at many central banks expanded the focus on excessive risk taking to include macroprudential or financial stability concerns. Finally, central bank independence and legitimacy were called into question by the increasingly visible distributive nature of central bank action.

Despite these pressures, a high level of adherence to the CBI norms persisted (Helleiner 2014). There are several theoretical traditions that have sought to explain these robust levels of convergence. First, rational choice explanations describe this global consensus as the optimal policy framework to achieve price stability, with convergence incidental to this (Shepsle 2009). Structural theories, on the other hand, focus most frequently on the hegemonic influence of the United States and its monetary power in cementing these new norms (Baker 2006; Helleiner 1996; Strange 1987, 1996), or alternatively, that of Germany (Krampf 2019), typically within the broader transnational process of European monetary integration (Dyson and Featherstone 1996; James 2013). Scholars in the tradition of the new interdependence approach have furthermore demonstrated pressures for global regulatory convergence around Basel standards stemming from the interconnected nature of the global financial system itself (Jones and Zeitz 2019). Finally, the literature on epistemic communities and central banking has documented the importance of international networks of experts in crafting shared understandings of values and policy problems and sets of common practices and policy responses (Kapstein 1992; McNamara 2004; Westermeier 2018). The shared ideas and policy norms provided by epistemic communities tend to be most impactful when policymakers face conditions of uncertainty and complexity and may be unsure of how to achieve their goals, particularly when potential outcomes are strongly linked to the decisions of other states; undoubtedly a feature of climate change (P. Haas 1992, 2021). However, while some scholars have pointed to the need for increased theoretical resources to explain *divergence* (see Helleiner and Pagliari 2011), explanations of variation in central banking policy norms remain underdeveloped.

2.2 Climate-related norms and central bank divergence

Despite decades of convergence, central banks have recently diverged starkly over the implications of climate change for their objectives. The NGFS, established at the end of 2017 by eight central banks, has grown rapidly (Figure 1) and has emerged as the primary international forum within which central banks have developed new climate-related norms.

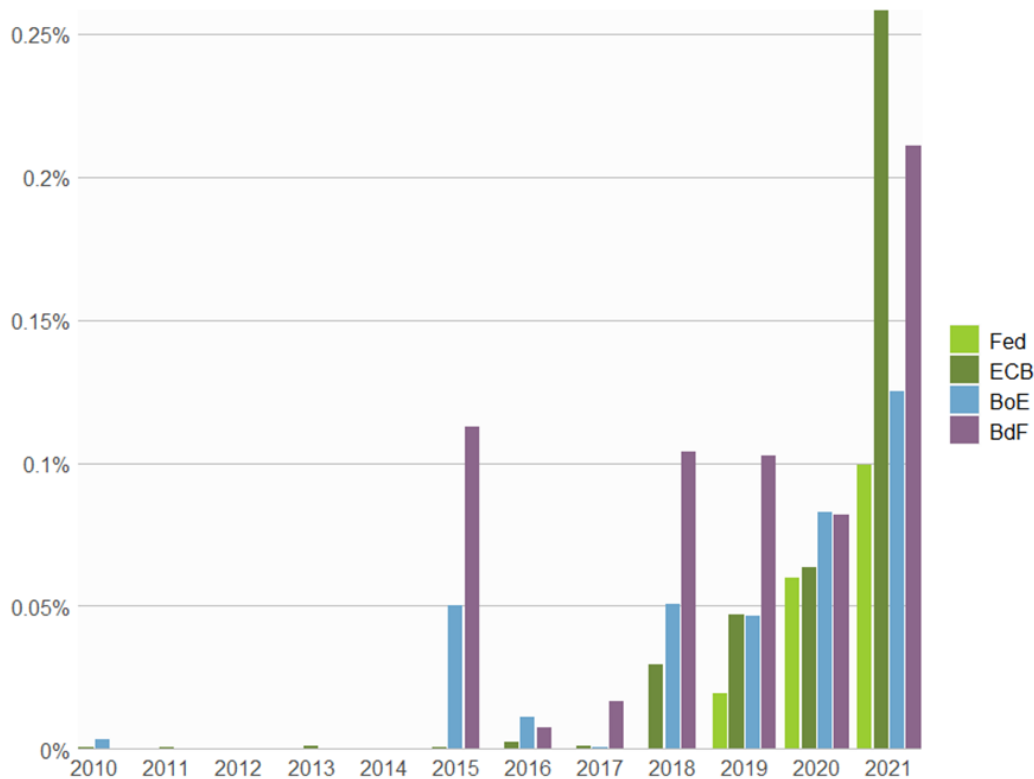
Figure 1: Number of NGFS members, 2017-2021



Source: Data from NGFS annual reports.

While European central banks were among the early NGFS leaders, the Fed initially refrained from joining. This divergence is clear when examining when climate change entered the public statements of central bank officials. As demonstrated in Figure 2 below, Fed policymakers lagged substantially behind some of their closest counterparts in publicly considering the issue of climate change in relation to the Fed's objectives.

Figure 2: Relative frequency of “climate change” in central banker speeches (BoE: Bank of England, BdF: Banque de France)



Source: BIS speech database.¹

The Fed joined the NGFS at the end of 2020 and has since taken steps to adhere to the most basic central bank climate-related norms. As summarized in Table 1, such “foundational” norms include acknowledging that climate change is relevant to many of the macroeconomic and financial developments at the heart of monetary policy (NGFS 2020a) and that climate-related risks may expose financial institutions to material losses and thus require appropriate prudential supervision (NGFS 2019). In contrast, a more ambitious set of climate-related norms, which we describe as “proactive,” remains highly contested. The ECB has been among the central banks pushing for such policies, while the Fed has so far refrained from endorsing them. Despite norm divergence, the debate among central bankers has taken place on the basis of CBI norms as a shared intellectual background. In contrast, outside critics have called for more radical “reformist” central bank climate-related norms that would push well beyond the traditional CBI norms, in moving away from strict independence and giving central banks a more active role in promoting specific industrial strategies.

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1. The BIS (2023) 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.

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 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 indicators	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 CBI norms	Support for transition toward a sustainable economy; climate objectives in ways that go beyond, and may potentially conflict with, monetary and prudential objectives	Monetary-fiscal coordination; green credit guidance in support of specific industrial strategies

2.3. Two-level norm formation framework

To develop a theoretical framework for explaining the recent divergence on climate policy norms, we draw on the international relations literature on norms to provide a theory of international central bank relations that can account for both convergence *and* divergence. We introduce a dynamic norm formation framework with two separate levels of domestic and international influences to describe the complex interactions over time that shape central bank processes and narratives.

Table 2: Three stages of international norm dissemination

Stages	Actors	Domestic context	Force of the new global norm
Norm emergence	Norm entrepreneurs persuade	Decisive in whether norm will emerge	New norm not yet established on international level, but existing norms shape which norms can emerge
Norm cascade	Norm leaders push	Influence whether and how norms are translated and implemented	Norms increasingly exert pressure on central banks through global regulatory forums and functional pressures
Norm internalization	Norm itself takes on a decisive force	Domestic forces influence ongoing robustness of norm	Norm exerts hard-to-resist pressure on central bank to conform

Our framework builds on Finnemore and Sikkink's (1998) norm life cycle model, which distinguishes three stages of norm formation: norm emergence, norm cascade, and norm internalization (see Table 2). Each phase has its own decisive actors and characteristic mechanisms of change. In the phase of norm emergence, individual norm entrepreneurs promote a new norm, where the decisive mechanism is persuasion. As we will see, the climate-related norms emerged largely from a small but influential international ecosystem of internal and external experts who prompted a handful of central banks in the mid-2010s to examine potential connections to climate change. The second phase, the norm cascade, is reached following a tipping point where "a critical mass of relevant state actors adopt the norm." In this stage, the decisive mechanism is a "dynamic of imitation" in which "norm leaders attempt to socialize other states to become norm followers" (Finnemore and Sikkink 1998, 895); we illustrate this mechanism of "normative suasion" in section 4 of this paper (Simmons, Dobbin, and Garrett 2006). We take the formation of the NGFS at the end of 2017 as this tipping point: this represented an institutionalization of the climate-related norm on an international level (Goldstein and Keohane 1993) and resulted in a clear framework for how other central banks could adopt this new norm. The final phase, norm internalization, occurs when a norm becomes so widespread that it acquires a "taken-for-granted" quality. As we will see, although climate-related norms remain deeply controversial, CBI norms have such a quality, acting as "the prevailing standard of appropriateness against which new norms emerge and compete for support" (Finnemore and Sikkink 1998, 895), so states often had little choice but to accept CBI (Johnson 2016). However, contestation does not end with the first two phases, and the debates around climate change illustrate recent progress in understanding the "inherent dynamism" of norms, even in this third phase (Deitelhoff and Zimmermann 2019, 5; Wiener 2018).

What factors cause central banks to participate, or not, in the creation of these new norms, or adopt them later on? We focus on (1) the complex domestic political context in which central banks operate, and (2) how this interacts with the force of emerging global norms. The domestic political context shapes how central banks undertake their mandated objectives and respond to new policy problems (S. Binder and Spindel 2017). Within the context of the CBI norms, central banks are insulated from direct political control and their mandates are often vague and include multiple objectives, leaving central banks to choose policy tools for achieving these goals and respond to new circumstances not explicitly outlined (Menand 2023; Conti-Brown 2015; van 't Klooster 2020). However, central banks are subject to legislative oversight and their leaders are appointed by elected officials. As a consequence, they are "well aware of the need for legitimacy for their continued operation and the dangers of overburdening" (Thiemann 2019, 566).

The evolving norms of the international central banking community act as a second force shaping the norms that individual central banks adhere to. Central banks are active in complex practices of global exchange within which central bankers develop their own norms (B. Braun, Krampf, and Murau 2021; Borio, Toniolo, and Clement 2008; Verdun 1999). Central bankers also cooperate on economic policy, implement global financial legal frameworks, and routinely lend each other billions of dollars (Kahn and Meade 2018; McDowell 2017). Beyond a mere desire for individual central banks to "belong to the club", the conditions of financial globalization also create a practical need for coordination (Michaels 2023). In the context of the interpretive translation of policy mandates to policy action, central banks share a "logic of appropriateness" that serves as a guide for policymaking, setting out the types of problems central banks should address and how they should go about responding to them (Hall 1993; Magen and McFaul 2009; March and Olsen 1998). Such a logic is "the sum of technical information and of theories about that information which commands sufficient consensus at a given time among interested actors to serve as a guide to public policy designed to achieve some social goal" (E. Haas 1980, 367–68). The diffusion of a

new norm can thus reflect the spread of new technical knowledge about what is effective in a field, usually, as in the case of central banks, via international epistemic communities as major venues of the construction of such knowledge (P. Haas 1992; Simmons, Dobbin, and Garrett 2006).

The key insight from the two-level norms framework is the way in which the balance of these factors changes at different stages in this process: while the domestic political context is most influential at early stages of norm formation, once a ‘tipping’ point is reached with a critical mass of central banks adopting a new norm, international pressures for convergence will become relatively stronger (Checkel 2005; Finnemore and Sikkink 1998). However, the influence of this domestic context persists in the ways that determine how norms will be adapted and translated in a particular domestic context, a process which is multidirectional and can also continue to shape how global norms will evolve (Risse 2002; Zimmermann 2016; Zwingel 2012).

2.4. Methods

We focus our analysis on the period from the emergence of climate-related norms in the early 2010s through the end of 2021. We ended our analysis in 2021 because the available observation sample ended at this point when we started data collection; furthermore, reconciling the subsequent rise in inflation with climate concerns is a developing issue worthy of a follow-on study. We selected the Fed and ECB as case studies for this substantive divergence due to their shared convergence around CBI norms, as outlined above. While the ECB itself is a transnational institution whose mandate is enshrined in a difficult-to-revise international treaty, both central banks fit the two-level norm formation framework. As we document, the ECB is, like the Fed, clearly responsive to member state political actors and citizens. Both central banks are active members of the international community of central bankers, where they both have an important role as norm leaders.

This study is empirically underpinned by analysis of relevant documents and speeches, as well as several interviews with high-level officials. We first analyzed speeches from the BIS central banker speech database through natural language processing techniques to demonstrate when climate change began to receive attention from central bank officials. We then qualitatively coded speeches from officials at the ECB and the Fed that included the term “climate change” 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 supplemented this work with a review of relevant 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 ten European and American central bankers, government officials, and practitioners in NGOs and think tanks. Each author has participated in pushing for climate policies in this policy space, with two authors formerly employed at the Federal Reserve.

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).

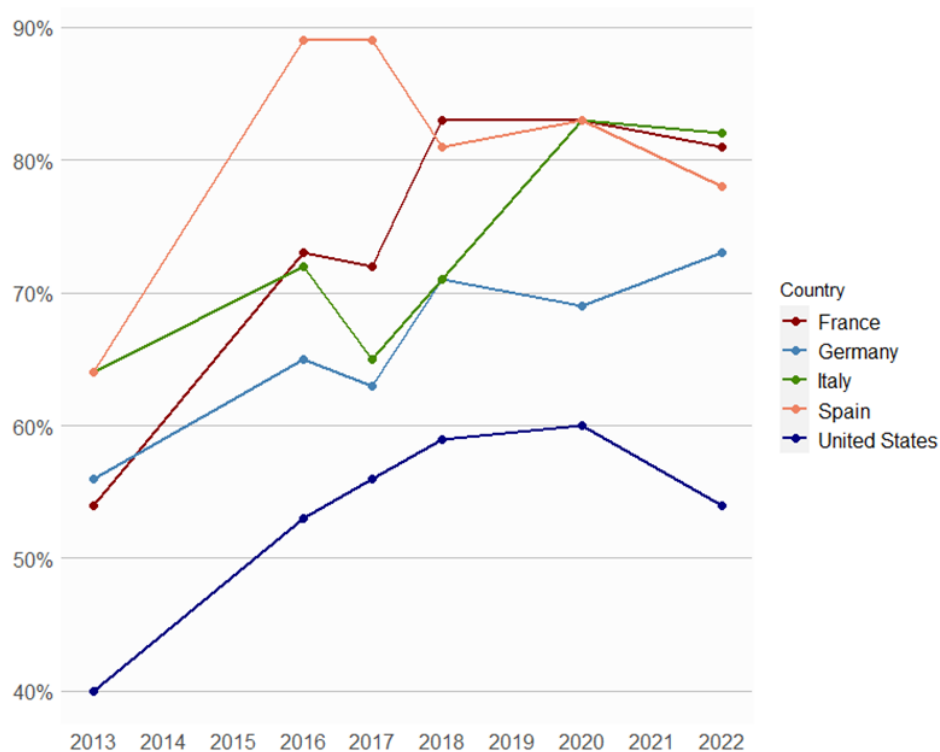
3. Emergence of climate-related norms

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 process of norm emergence that led to the founding of the NGFS in 2017. In line with the norm life cycle model, the crucial domestic forces driving divergence take the form of broad societal attitudes towards climate change, alongside persuasion by policy entrepreneurs. At this stage, these emerging norms exert no pressure internationally. Global climate-related norms only start to exert their influence during the norm cascade stage that we analyze in Section 4.

3.1 European climate engagement

The early emergence of climate norms in Europe primarily reflected a supportive domestic environment. For one, the ECB and the national central banks of the euro area (jointly referred to as the Eurosystem) acted in a context of widespread public support for climate action. In 2013, for example, around half of all EU citizens thought that climate change was one of the world's most serious problems and one in six identified it as the most serious (European Commission 2014). As can be seen in Figure 3, in the period since 2013, public identification of climate change as a major threat has generally increased in Europe. Beyond this broader context, central bankers were at crucial moments pushed forward by legislative initiatives and could draw on policies and reports developed by relevant external experts.

Figure 3: Percentage of public who think climate change is a major threat



Source: Authors' graph, data from Pew Research Center 2022.

The earliest articulation of foundational climate norms occurred outside the central banking community itself (Quorning 2023). In 2011, the NGO Carbon Tracker published the study “Unburnable Carbon: Are the world’s financial markets carrying a carbon bubble?” (Campanale, Leggett, and Leaton 2011). The report drew on climate science that estimated the cumulative levels of CO₂ emissions compatible with warming below 2°C and compared these to the much larger available stock of fossil fuel resources. The report highlighted this disparity and argued that financial regulators should act to ensure that relevant financial risks are adequately monitored: “The recent financial crisis has shown that capital markets were not-self-regulating and required unprecedented intervention; regulators were not monitoring the biggest systemic risks and so missed key intervention points” (Campanale, Leggett, and Leaton 2011, 3). Around the same time, a HSBC study set out the transition risk faced by the fossil fuel sector (Spedding, Mehta, and Robins 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.

Because climate change exposes financial institutions to material risk, the relatively uncontroversial prudential objective of preventing excessive risk-taking by financial institutions creates a strong basis for regulatory action. Accordingly, climate-related financial risk became an early topic of research at the Banque de France and the Nederlandsche Bank, in part due to pressure from other policymakers and think tanks (Quorning 2023; Siderius 2022). 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 2022, 10). Similarly, a plethora of exploratory studies from sympathetic think tanks and EU-level financial policymakers developed to push for central bank action (ESRB 2016; Weyzig et al. 2014).

Drawing on this early research, central bankers began to acknowledge climate change as relevant to financial stability. Most famously, Mark Carney’s October 2015 “Tragedy of the Horizon” speech set out the distinction between the physical impact of climate change (i.e. 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 similarly set out this emerging foundational climate norm at the COP21 Conference in Paris, also highlighting potential 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:

Foundational climate policy norms: Climate change affects existing prudential and monetary policy tasks, and accordingly should be studied and taken into account in using already-existing instruments.

This initial norm is foundational in the sense that it is agnostic in terms of policy implications and is formulated within existing CBI norms. The basis for action is either strictly tied to statutory objectives already pursued by the central bank or takes the form of more informal guidance. 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 started collaborating and pushing for action in global agenda-setting forums such as the G20 and the Financial Stability Board (FSB), which could instruct sectoral standards setters such as the BCBS, the International Organization of Securities Commissions (IOSCO), and the International Association of Insurance Supervisors (IAIS). Under the Chinese G20 presidency in 2016, a G20 Green Finance Study Group was set up; however, with the election of Trump in November 2016, it became clear that progress within the G20, and as a consequence the FSB and the BCBS, would not be forthcoming. The NGFS emerged as a “coalition of the willing,” announced at the December 2017 One World conference in France. 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).

3.2 U.S. divergence on climate

While European 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 some merit but are insufficient on their own. The first pertains to institutional features—notably, the central bank legal mandates and policy toolboxes. The Fed’s mandate is focused on price stability and full employment, which seem narrow, but their attainment could be considered incompatible with severe climate change. The ECB has a more explicit secondary mandate to support the broader economic priorities of the elected government, which has been interpreted to include climate goals. However, it was only in 2021 that the ECB “rediscovered” its secondary mandate in relation to climate change (Deyris 2023; Elderson 2021a).² That is, not until after the ECB board had already endorsed climate norms was the secondary mandate brought forward as a further source of legitimacy. Similarly, the set of policy instruments employed also varies across central banks—with, for example, the ECB having a clearer path to purchase corporate bonds. However, like mandates, central bank toolboxes have typically been sufficiently elastic to accommodate new economic developments, and from a legal perspective, the Fed would also seem to have considerable scope in its operations to achieve climate-related objectives.

A second explanation that came up in our interviews is the start of the Trump administration at the beginning of 2017. While Trump’s election restrained the Fed’s interest in addressing climate change, the divergence between European central banks and the Fed occurred prior to this event. For example, not only was the U.S. not involved in the UNEP-FI initiative that was crucial in promoting the new climate norms, a U.S. veto of this initiative was already identified in 2014 as a crucial risk for implementing these ideas.³ Instead, as we now show, the Fed did not face the type of pressure from NGOs and elected officials that was key in the European case to the formation of foundational climate norms. Moreover, the polarized political environment facing climate policy in the United States was already present during the Obama administration.

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2. In over 2,500 ECB speeches from 1997 until 2021, the secondary objective was mentioned in just 10 (van ’t Klooster and Boer 2023).

3. Interview 3.

3.2.1 Lack of pressure from policy entrepreneurs

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. This cannot be understated in its importance in making sense of the different environment that the Fed faced: it was not that Fed officials had received pressure on climate-related financial risks and chose not to act on them. Rather, the role 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 did not 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 European central banks as early as 2010. This lack of early pressure is also striking in light of these groups' already existing campaigns around climate change and financial institutions at this time.

Similarly, there was little if any pressure on the Fed to engage on climate change from elected officials during the Obama administration, and Fed officials took no real action. For example, in 2013, the Bicameral Task Force on Climate Change sent letters 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, given that climate change “presents a significant financial risk to the federal government” in the context of President Obama’s 2013 State of the Union address (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 (Office of Inspector General 2013).

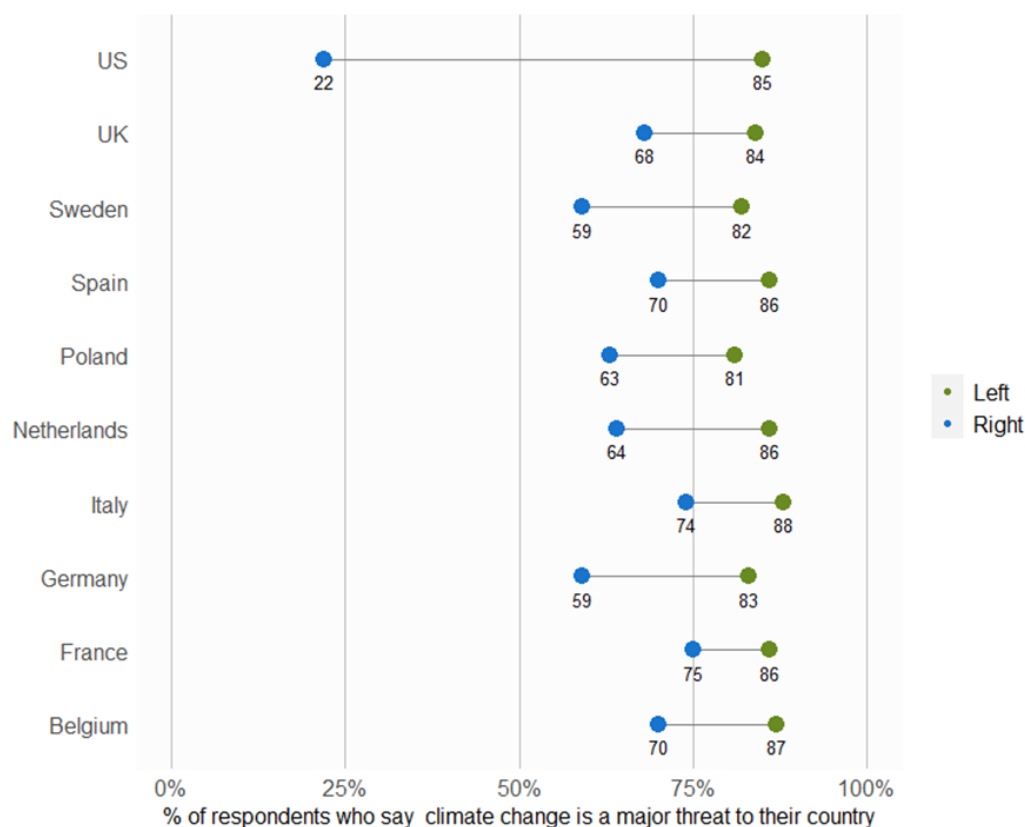
3.2.2 The domestic politics of climate change

The United States has deeply contested climate politics and enduring party polarization on climate change (Chinn, Hart, and Soroka 2020). Importantly, this political split was not only relevant during the Trump administration, which was openly antagonistic to government action on climate change, but also under the Obama administration, when European central banks were beginning to address climate change. The effects of U.S. climate partisanship can be seen in the failure to join the Kyoto Protocol (UN 2023). In addition, cap-and-trade bills failed to pass the U.S. Senate in 2003 and again in 2005 (Profeta 2018). 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). The much more important role of the fossil fuel industry in the U.S. relative to Europe—in terms of economic, financial, and political influence—is a crucial factor in undercutting any robust consensus on climate change and carbon emissions (Brulle 2018; Dewitte 2023; Grasso 2019). While the Obama administration made some climate policy progress via executive action, the absence of any legislated greenhouse gas emission targets meant that 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 fine-grained policy initiatives from then onwards (European Commission 2021, 2023).

Beyond the absence of a legal foundation, the climate science underlying the foundational climate norms is deeply contested in the U.S. As shown in Figure 3, relative to Europe, the American public has been consistently less concerned about the effects of climate change. Moreover, Figure 4 demonstrates the

exceptional political polarization of climate concern in the U.S., which began to diverge more sharply in 2010 from relatively stable positions prior (Chinn, Hart, and Soroka 2020; McCright, Dunlap, and Xiao 2014).

Figure 4: Public opinion on climate change from those who identify with the political left vs. right, 2022



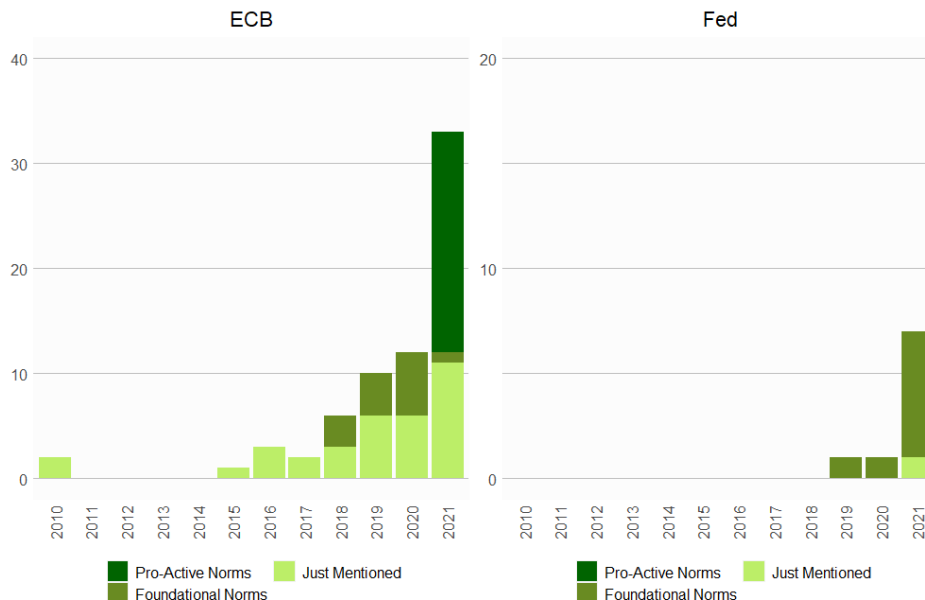
Source: Authors' graph, data from Poushter, Fagan, and Gubbala 2022.

While these forces were already present before the Trump administration, the agenda froze decisively after 2016. President Trump withdrew the U.S. from the Paris Agreement on the first date possible under the conditions of the accord, citing the “unfair economic burden” it would impose, making the U.S. the only country in the world to pull out (Friedman 2020; Pompeo 2019; The White House 2017). The contested political environment prior to the 2016 elections meant that no climate-related norms developed. Then, 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 U.S. remained outside the developing consensus. Even after demonstrable success of policy entrepreneurs in Europe, the Fed faced a dearth of persuasion to adopt climate norms until the start of the Biden administration (Steele and Gelzins 2019).

4. Climate norm cascade

Once a critical mass of institutions adopt a norm, a phase of norm cascade starts when “countries begin to adopt new norms more rapidly even without the domestic pressure for such change” (Finnemore and Sikkink 1998, 901–2). Following the creation of the NGFS, we see new dynamics of convergence and divergence. In the Eurosystem, debates occurred on how to interpret existing tasks in light of climate change, with contestation taking place between foundational and new proactive norms, which helped shape increasingly ambitious global norms. While the Federal Reserve ultimately joined the NGFS at the end of 2020, even its commitment to foundational norms remained tenuous.

Figure 5: 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)



4.1 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 5):

Proactive climate policy norms: Climate change raises profound challenges for achieving monetary and prudential objectives, and accordingly requires the development of new instruments and intermediate objectives.

The proactive climate norms continue to reflect the basic assumptions of the CBI norms concerning the primacy of monetary and prudential objectives (Baer, Campiglio, and Deyris 2021; Şimandan, Păun,

and Glăvan 2023; van 't Klooster 2022). However, these norms are re-interpreted to promote novel intermediate objectives and instruments. For monetary policy, the core climate norm under debate concerned what types of instruments central bankers can permissibly use to pursue price stability. The ECB eventually came to adopt the view that it should introduce new ways to screen climate-related risks in its operations and avoid supporting issuers that are not aligned with the EU's transition policies. In doing so, the ECB re-interpreted its task, but also continued to adhere to the basic CBI norm that its overriding objective should be price stability. For prudential policy, the proactive climate risk norm holds that climate-related risk should be its own topic of concern and that new instruments and policies are required to achieve prudential objectives.

4.1.1 Market neutrality and climate-related norms for monetary policy

From 2016 onwards, the ECB came under pressure from the European parliament, NGOs, and academics to consider climate impact in monetary policy programs (Corporate Europe Observatory 2016; Matikainen, Campiglio, and Zenghelis 2017; Papoutsi, Piazzesi, and Schneider 2022; van 't Klooster and Fontan 2020). The first debate that made it into the wider European public sphere centered on the 2016 Corporate Sector Purchase Programme (CSPP). Because the program was designed in accordance with a principle of “market neutrality,” the program targeted bonds available in the market in proportion to their volume in the market. Because fossil fuel companies were heavily relying on these markets to fund new investment, the program, its critics argued, was not in fact neutral. The concern that the CSPP was biased to favor fossil fuels became a regular topic of critique in the European Parliament and elsewhere from the program's inception onwards.

Initially, President Marco Draghi and other Governing Council members rejected proposals to counteract the CSPP's carbon bias as antithetical to CBI norms.⁴ For example, in July 2017, the German central banker Jens Weidman argued that “taking climate risks into account” in setting monetary policy would be to go beyond the ECB's monetary policy task, and that “monetary policy should not be overburdened by other policy objectives” (Weidmann 2017). However, the ECB's domestic context made keeping that position increasingly difficult. 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 2021). They also appointed a new ECB president, Christine Lagarde. She would start a review of the ECB's monetary policy strategy which would explicitly investigate how to design instruments in light of climate change. The EU Council also appointed two new Board members favorable 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 the economic arguments of Schnabel, the appointment of 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). These developments again took place against a supportive external context, which, however, was increasingly politicized. In 2021, the Koala Kollektiv occupied the Bundesbank office to award it a prize for “best

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4. Market neutrality has a superficial basis in the mandate's formulation that the central bank should act “in accordance with the principles of a market economy” (TFEU, article 127(1)).

climate killer,” while that same year Greenpeace landed a paraglider onto the ECB headquarters (Greenpeace 2021).

Within Europe, debates outside the ECB increasingly moved to the intersection of proactive climate norms and what we describe as reformist norms, where fighting climate change is held to require suspension of the CBI norms. As a consequence, the proactive climate norms increasingly became the conservative position within the broader range of views under debate. Proposals to revise the ECB’s independence, often put forward with reference to the EU’s climate agenda, became widespread (B. Braun 2017; de Boer and van ’t Klooster 2020; Dezernat Zukunft 2020; Hennette et al. 2019). Even the NGFS discussed using monetary policy to directly steer bank lending in accordance with climate policy objectives (NGFS 2021). Ultimately, the ECB’s 2021 monetary policy strategy represented an ambitious revision of the ECB’s task in light of climate change, but it would stay largely within the norms of CBI. The ECB acknowledged the tension between monetary policy implemented in a market neutral way and the EU’s climate agenda, and set out a Climate Action Plan to mitigate undue benefit to the fossil fuel industry (Drudi et al. 2021). The measures for monetary policy focused on the CSPP and the collateral framework, with the first policies announced a few months after the end of 2021 (when the timeframe for our analysis ends). The ECB measures would be presented as supporting the broader EU climate policies, but individual programs remained geared towards maintaining price stability and operational choices focused on managing climate-related financial risk.

4.1.2 Market-shaping prudential policy

Prudential efforts continued to play out largely within existing practices, treating climate change as a material risk that could expose banks to losses. However, from 2019 onwards, it became clear within the NGFS that climate-related risks have special features that make them hard to manage using backward-looking risk management techniques and require development of new prudential instruments. In January 2020, the NGFS and BIS 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. In particular, the usual calibration of potential losses based on historical data could capture neither the physical effects of climate change nor transition policies without historical precedent. As a result, supervisors would need new procedures and instruments to supervise bank risk-taking.

Endorsing the critical diagnosis set out by the BIS and NGFS authors, the ECB would introduce a range of new modalities and instruments. 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, thirty 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). As ambitious as these policies were, ECB board members would consistently emphasize that they were only addressing climate change as part of their prudential task.

4.2 Limited Fed convergence

Climate change first emerged on the Fed’s policy agenda in 2019 with a short article from San Francisco Fed economist Glenn Rudebusch taking a broad sweep of how climate change interacts with the economy,

and some of the work that other central banks had done to make this connection already (Rudebusch 2019). This was followed in November of that year by speeches from then-NY Fed Head of Supervision Kevin Stiroh and Governor Lael Brainard identifying climate change as a material financial risk to which the Fed should be attentive (Brainard 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). Powell summarized the Fed’s approach to climate change by emphasizing 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 signaling that Fed officials are aware of new developments in their regulatory field.⁵

The Fed took an important step to address climate change by joining the NGFS in December 2020 (NGFS 2020b)—very soon after the election of Joe Biden as President. 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 2021). At the same time, Fed policy staff and economists had begun to devote more attention to climate change (e.g., Avtar et al. 2021; Bauer and Rudebusch 2021; Brunetti et al. 2021; Rudebusch 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 discussing this, Chair Jerome 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 is a sharp departure from the ECB’s 2021 monetary policy strategy (see especially point 10) (ECB 2021).

This begs two further 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? While the domestic dynamics discussed have continued to constrain the Fed’s participation, we also see that the proliferation of new norms around central banks and climate change in forums like the NGFS were key in enabling foundational climate norms to permeate the Fed.

4.2.1 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: while the Fed began to puzzle over 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 consider their role prior to this?

The key marker of a norm cascade is that international norms begin to exert increasing influence over domestic institutions. This pressure to conform with new international climate norms does not exert influence via direct pressure nor coercion but is rather through “normative suasion.” In this sense, the NGFS explicitly bills itself as a “coalition of the willing.”

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5. Interview 2.

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 the logic of appropriateness that defines central banking. This made the norms relevant to the Fed, even in the absence of domestic pressure.⁶ Two quotes from key policymakers illustrate this dynamic:

We also benefit from working with international peers who are taking the lead on understanding the effects of climate-related risks on their financial systems. We are participating in climate-related discussions at the FSB and other standard-setting bodies, and we will continue to support the work of the FSB’s TCFD in order to improve standardization of financial disclosures related to climate change (Brainard 2019)

...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)

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 (as noted by Brainard 2021). These international initiatives tended to depoliticize the Fed’s efforts in the sense that its activities were already a regular part of the technocratic business of central banking.

4.2.2 *Continuing divergence*

The international spread of the climate norms increasingly influenced the Fed’s approach to climate change, but the ways that these norms were translated domestically again reflected the domestic political context. Since the Fed’s initial examination of climate change in 2019, this context had become more enabling in some regards and more constraining in others. On the former, the election of the Biden administration has provided a more supportive political environment for action on climate change, with the U.S. re-joining the Paris Agreement. The administration change coincided with the Fed’s 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).

However, while the U.S. now had an administration supportive of climate action, the domestic political context remained defined by socio-political polarization on climate change. The continued lack of legislated emissions reduction targets meant that there was no clear transition pathway for the Fed to align its policy to, even if the Fed had a clear secondary mandate like the ECB, stymying a key component of a move to a proactive norm. While the Fed began to incorporate climate change into its agenda, it did not move beyond the foundational climate norm, limiting its role to a primarily prudential, risk-based, and thus far voluntary approach. In this context, Fed officials also explicitly highlighted the domestic constraints that they faced:

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6. Interviews 1, 6.

And because we have a narrow remit, and because we stick to it, Congress has given us a precious grant of independence from direct political control. So society’s broad response to climate change is for others to decide—in particular, elected leaders (Powell 2020a).

The way that the domestic context constrains the Fed is also clear from attacks on the Fed from elected officials and the fossil fuel lobby. In 2022, for example, Sarah Bloom Raskin withdrew her nomination to the Federal Reserve Board over Congressional climate objections, which centered 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 (S. T. Dennis 2022; Mayer 2022). 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).

Despite international pressures for convergence, these domestic political dynamics thus affected the way that the Fed translated global climate norms to its national context. While an emerging global consensus among central banks enabled the Fed to adopt foundational climate norms as part of the new technocratic “logic of appropriateness” for central banks, an unstable and divided domestic political environment has prevented the exploration of the reformist climate norms present in Europe.

5. Conclusion and potential for convergence

Central banks are unique in their status as both independent, delegated agencies domestically and as caretakers of the global financial system and thus negotiators of international norms. As we demonstrated, the political dynamics that govern the convergence and divergence of policy norms within the central banking community can be fruitfully studied from the perspective of the existing literature on norm proliferation. In recent decades, the ECB and Fed have become closely aligned in their interpretation of the policy norms of central bank independence, but they are taking increasingly divergent approaches to the economic consequences of climate change. We proposed a two-level norm formation framework to analyze the domestic and international influences underlying these developments. We showed that in an initial stage of norm emergence, differing domestic political constraints allowed the ECB to become a climate leader, while the Fed failed to consider climate change in any meaningful way. We documented the striking absence of external policy entrepreneurs in the U.S. context, while these forces were instrumental in pushing forward the ECB’s turn to proactive climate policies. In a second phase of norm cascade, the widespread adoption of the norms began to exert pressure towards convergence. The more widely the new norms were adopted, the stronger their pull became. Once the ECB acknowledged that climate change was relevant to the interpretation of its tasks, a process of exploration and deliberation led it to adopt increasingly ambitious policies. The Fed clearly felt

the pull of the new norms, leading it to take actions in conformity with the foundational norms—but facing a divided domestic audience, it avoided the ECB’s proactive policies.

The current divergence is unlikely to disappear soon, as the forces of divergence are deeply rooted in domestic climate politics. At the same time, given the international interconnectedness of central banking, we expect global policy norms to provide sustained pressure towards convergence. In this context, the ECB could still scale back some of its proactive commitments (Van Doorslaer and Vermeiren 2022), although it is unlikely to entirely disavow its current stance. The Fed is likely to seek a more favorable compromise, such as assuring domestic audiences of policy restraint, while cooperating with international peers on less overt regulatory interventions.

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APPENDIX 1: INTERVIEWS

Interviewee	Organization
1	Central bank, treasury
2	Policy think tank, treasury
3	International organization
4	Central bank
5	Central bank
6	Central bank
7	Policy think tank, central bank
8	Policy think tank
9	Policy think tank
10	Policy think tank, treasury



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