Valuation Studies 12(2) 2025: 258–282

Theme issue contribution

A Climate for Investors. Climate Scenarios in the Network for Greening the Financial System

Alexandre Violle

Abstract
A growing body of scholarly contributions has shown how environmental issues are being "financialised", as financial actors problematise the environment and the climate as a question of financial valuation. But what effects are their valuation processes having on financial and economic knowledge? By considering the case of the Network for Greening the Financial System (NGFS), I show how central bank economists are trying to create a "climate for investors" out of climate change, defining climate scenarios that give banks incentives to finance low-carbon activities and thus encourage the transition to a "good global economy". I argue that NGFS economists are doing boundary work that treads a path, carefully highlighting certain threats of climate change for an audience of investors, without losing their legitimacy or running the risk of appearing to be political actors. In doing so, these central bank economists are also transforming their understanding of what makes up national economies.

Keywords: financialisaton; good economy; climate scenarios; risks; boundary work; central banks

Alexandre Violle is a postdoctoral researcher at the Centre for the Sociology of Innovation at Mines Paris.

https://doi.org/10.3384/VS.2001-5992.2025.12.2.258-282
Hosted by Linköping University Electronic press
http://valuationstudies.liu.se

Introduction

Valuation studies have conceptualised financialisation as a configuration in which actors use instruments or knowledge from the world of finance to attribute value to goods (Chiapello 2015; Leyshon and Thrift 2007; Muniesa et al. 2017). Recently, a number of studies inspired by this understanding of financialisation have demonstrated how using financially-based valuation techniques to address environmental problems is becoming more widespread (Aguiton 2018; Bracking 2019; Sullivan 2013). In the case of environmental damage, public and private authorities are increasingly adopting an investor-style reasoning in terms of "risks", "costs" and "returns on investment", along with the related measurement techniques, in order to put a financial value on "nature". This has made investors the political subjects in whose names the legitimacy of action to address environmental problems is assessed (Ortiz 2013). Finance is analysed by some authors as a body of knowledge, actors and practices, extending its field of action to an ever-increasing quantity of environmental goods that are turned into profitable assets on behalf of investors (Birch and Muniesa 2020). This literature has provided very important analyses of the political consequences induced by assigning a financial value to the environment or the climate. Yet its analytical approach tends to focus on how economic concepts and instruments affect the transformation – the economisation – of entities. Valuation studies rarely consider that economic and financial knowledge derived from theory is being transformed in valuation processes.

In showing how the central bank economists belonging to the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) seek to integrate the issue of climate change into their banks' supervision practices, I will demonstrate how these actors must transform both the climate as an object of scientific knowledge, and some of their conceptions of finance, to achieve their aim. Studying the co-production (Jasanoff 2004; Laurent 2017) of a climate for investors, and the global economy that central bank economists want to enact, enriches analysis of both the political consequences of valuation operations and the contemporary changes in central banks' economic interventionism.

Central bankers are increasingly acknowledging the challenges posed by the climate issue (Langley and Morris 2020). This is the outcome of a long process of framing climate change as a public matter of concern for the financial community. In 2015, the "Breaking the tragedy of the horizon" speech given by Mark Carney, then Governor of the Bank of England, was widely reported as the first public stand by a senior official on the relationship between central bank action and climate change. It was indeed the first time that a person of such standing argued in favour of central bank action in response to climate change, to preserve financial stability. But that

speech was not the only event that turned climate change into a concern for central banks. Coalitions of various actors had been campaigning since the financial crisis of 2007–2008 to politicise central banks' policies (McPhilemy and Moschellla 2019). For instance, NGOs (non-governmental organisations) and parliamentarians played an important role in linking financial and climate risks (Massoc 2022; Quorning 2023). In prominent central banks such as the European Central Bank, internal conflicts and the replacement of certain senior officials contributed to stabilise a concern to combat climate change (Deyris 2022).

Analyses of the action taken by central banks to address climate change have given rise to debate in the literature. Christophers (2017), for example, analysing the proposals of the "Task Force on Climate-Related Financial Disclosures", one of the most visible initiatives of the central banks which began in 2015, showed that these banks' main concern was to produce financial information about climate change so that the financial markets, assumed to be efficient, would take it into consideration when pricing assets and thus redirect capital flows towards "greener" activities. Christophers uses the term "neoliberal governance" to emphasise that the public authorities do not envisage any new regulations for banks. With the benefit of a longer time horizon, other authors (Thiemann et al. 2023) have recently argued that central bank actions are founded on different problematisations of their economic intervention. Central bankers seem to be gradually abandoning the idea of regulating and supervising the economy apolitically in the name of a market neutrality paradigm.[1] Central banks are moving towards a more proactive role, shaping market forces rather than just acknowledging them, and this paradigm shift has ushered in new monetary policy strategies. Some of these banks, such as the Bank of England and the European Central Bank, are gradually developing measures to "green"[2] their monetary policy, introducing green asset purchase programmes to encourage investors to favour green assets over carbon assets in their asset management strategy. At the moment, these initiatives are not coordinated and are far from being stabilised with dedicated instruments (Monnet and Van't Klooster 2023). This is partly because central bankers do not totally agree on the appropriateness of such policies, and partly because they lack the legitimacy to take public responsibility for climate change without prior democratic deliberation on their missions (Van't Klooster 2022).

---

[1] This paradigm, regularly used by central banks to justify their independence from governments (Van't Klooster and Fontan 2023), posits that monetary policies should not favour any economic player, so as not to impede the "laws of the free market".

[2] The question of what constitutes "green" and "non-green" economic activities is the subject of much debate and many power struggles.

What the contributors to this debate have in common is that they seek to show how central banks' economic interventionism has evolved. In many studies examining changes in central banks' capacity to address climate issues, the concept of the climate itself is taken for granted. It is the starting point for analyses of how central banks change or do not change the way they govern the financial sectors they help to supervise or regulate. In this article, I aim to contribute to the debate on central bank action by asking the following question: what conception of climate and finance are central bankers acting on, and to what effect? To answer this question, we must seriously consider the version of the global economy that central banks seek to enact in the name of new moral and political concerns (dubbed 'a good economy' by Kristin Asdal and her colleagues (Asdal et al. 2023)), and a specific conception of climate change that is gradually becoming institutionalised as the banks develop expertise on climate issues.

Adopting this perspective, I look at the most important collective step taken by central banks, namely the creation of the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) in 2017. The NGFS brings central bankers together to develop climate-related financial expertise by building climate scenarios intended to simulate the effects of climate change on banks' and insurance companies' balance sheets, in order to make financial actors "sensitive to climate change", in the words of one of the chief economists at the Banque de France (Clerc 2020). We are thus witnessing a new age of "scientisation" (Mudge and Vauchez 2016) at the central banks, which are bringing in new economists to respond to the problem of climate change with science (in this case, financial economics). Climate scenarios are valuation tools that enable central bankers to take new moral and political concerns into consideration, in order to contribute to a reorganisation of the banking sectors they help to supervise and regulate (Coombs and Thiemann 2022), in response to the risks that climate change represents for financial actors.

To build climate scenarios, the central banks need new expertise in climate finance, and a new institutional setting to debate and elaborate the scenarios. We have here a particularly interesting case of co-production of a scientific and political order (Jasanoff 2004; Laurent 2017), with central bankers explicitly seeking to stabilise a new form of expertise and economic intervention. I argue that the development of this new expertise is based on a process of boundary work (Gieryn 1983; Jasanoff 1987; Latour 1993), during which the NGFS economists transform climate change into an object of intervention that falls within their scope of expertise, while excluding climate issues they consider too "political".

The rest of this article begins with a presentation of the methodological approach I have adopted to study the development of

climate scenarios. I then discuss three boundary work operations that turn climate change into "a climate for investors" with the aim of enacting a "good global economy". I conclude by discussing the implications of my case study for valuation studies and the literature on central banks.

Boundary work at the NGFS: materials and methods

Taking the NGFS actors' aims seriously means analysing how their conceptions of both the economy and the climate are transformed by their attempt to enact a new conception of the economy. This is exactly what Kristin Asdal and her colleagues did when they studied the bioeconomy (Asdal et al. 2023). They showed that the originality of the bioeconomy does not lie in the idea of grounding the economy in the "biological" but rather in seeking to bring about a "new version of the economy" in which markets and "biological resources" are co-transformed in the name of moral imperatives. This is what they call a "good economy".

I propose to analyse the work of the NGFS economists in a similar way, characterising what I call the "good global economy" they want to enact by building climate scenarios for bankers and investors. It is important to clarify an empirical point here. As the NGFS membership includes over 70 central banks worldwide, it is impossible to document the work of all the economists from all those banks. However, the NGFS structures its activities into workstreams. At the time of its creation in 2017, it had three workstreams. One focused on climate change-related financial stability issues, the second on macroeconomic modelling issues, and the third on scaling up green finance and developing ideas for appropriate financial instruments to finance the transition. By reconstructing the debates in workstreams 1 and 2 through interviews with participants in those debates, I have been able to identify the type of "good global economy" these actors seek to enact. In the rest of this article, when I refer to the "NGFS economists" or "NGFS actors" I am talking about the economists participating in NGFS workstreams 1 and 2, who are a small subset of all the central bank economists involved in the debate on the relationship between finance and the climate.

As previously mentioned, the NGFS economists' work involves boundary work operations. Looking at the NGFS' activities in terms of boundary work enables me to analyse the way the actors link ontological questions such as "what does climate change mean for economic actors such as investors?" and "what is a good global economy in transition?" to institutional and political questions such as "how can central bankers intervene to influence economic actors, and

with what legitimacy?". I do this by examining how they construct the boundaries between the scientific expertise they develop, the politics they want to promote and political matters they consider beyond their remit. In practice, this boundary work explains how central bank economists turn "the climate", defined as an object of climate science, into an eligible object of central bank intervention, in other words how they create a "climate for investors".

The NGFS economists' boundary work consists of three main operations that make up the three sections of this article. First, they draw a line between what is problematic and what is unproblematic for them and their audience. At this stage, the climate is problematised as a source of risk for investors, who could lose money due to global warming. Second, they seek to enact a "good global economy" by promoting a certain type of politics with the aim of encouraging banks and insurance companies[3] to make calculations that will favour the transition to a low-carbon global economy rather than maintaining the status quo and continuing to finance fossil fuel industries. Finally, they leave it up to the national central banks to define their "transition". I suggest that "climate diplomacy" emerges from the NGFS economists' actions, as they produce climate scenarios and then allow the national central banks to translate those scenarios according to their own idea of what a national economy in transition should look like. This last boundary work operation leads national central banks to ask themselves new valuation questions about what "national economies" are and how they should be represented.

My research takes the form of a qualitative inquiry involving interviews with eleven European central bankers (mainly French and British), and a review of press articles and the econometric literature on climate scenarios and models. I also studied the public reports on climate finance produced by the Banque de France, the Deutsche Bundesbank, the Bank of England, the European Central Bank and the NGFS from 2017 to 2023. I chose to focus on European central banks because they are among the most active central banks in the NGFS' workstreams. Some of them have even carried out what they call "climate stress tests" or "scenario analysis exercises" at national level based on the climate scenarios developed at the NGFS. I analysed these documents using an inductive method (Glaser and Strauss 2017) aiming to identify the actors' problematisation of climate change and finance, and then explored these issues further through the interviews. I also conducted an ethnographic study of four workshops for central bank economists, to observe how they debated the topic of climate finance.[4]

---

[3] Central banks supervise financial institutions, which may be either banks or insurance companies. Consequently, central banks may decide to carry out climate stress tests or scenario analyses that relate to either banks or insurance companies.

[4] See Appendix 1 and 2 for more information.

Defining what is and what is not problematic

The first task of central bankers is to define what is and what is not problematic in the relationship between finance and climate (first boundary work operation). As mentioned previously, the process of establishing the climate issue as a concern for the finance world lasted several years and involved a wide variety of players (both finance and non-finance professionals). I focus here on the first emblematic public stance taken by a central banker, in the famous 2015 speech given by Mark Carney, then Governor of the Bank of England and Chairman of the Financial Stability Board.[5] This speech has the advantage of clearly setting out the problem, concepts and solutions that central bankers considered after 2017 in the NGFS (Engen 2025). I analyse it from a "good economy" perspective, to characterise both the problem Carney wants to address and the "good global economy" he wants to help emerge.

The reasoning in this speech is entirely based on an investor's point of view. Carney presents climate change no longer just as a source of physical risk, in the sense of the threat of environmental disasters, but as a financial risk, potentially endangering the profitability of assets held by investors – and thus global financial stability. He defines the good economy as a low-carbon global economy in which climate change will not bankrupt investors. In other words, Carney is expressing the relationship between climate change and finance by presenting the climate as a source of moral and financial concern for central banks because of the threat it poses to financial stability. He also promotes the use of a dedicated instrument to identify this good economy: climate stress tests.

The title of this important speech was "Breaking the Tragedy of the Horizon – Climate Change and Financial Stability". It was given on 29 September 2015 at Lloyds Bank in London to an audience of bankers and insurers from the City. Mark Carney started with a diagnosis that he called the "tragedy of the horizon", observing that the temporality of climate change is different from the temporality of financiers (who think in terms of a maximum ten-year time horizon). If financial actors wait until the effects of climate change materialise to ponder their role in financing fossil fuels, even though those effects are already quite visible and will become more patent in the coming decades, it will be too late to manage climate change risks.

> We don't need an army of actuaries to tell us that the catastrophic impacts of climate change will be felt beyond the traditional horizons of most actors

[5] An international organisation of central bankers and finance ministers of the G20 countries, formed to set the international agenda for financial regulation.

> – imposing a cost on future generations that the current generation has no direct incentive to fix. (…)
>
> The horizon for monetary policy extends out to 2–3 years. For financial stability it is a bit longer, but typically only to the outer boundaries of the credit cycle – about a decade.
>
> In other words, once climate change becomes a defining issue for financial stability, it may already be too late. (Carney 2015: 4)

Carney then went on to explain why climate change should be a serious concern for financiers: it could disrupt or prevent business activity, and jeopardise the stability of the global financial system. Although the financial world was aware of climate change (insurers have been worried about the increasing frequency of natural catastrophes for decades (Gray 2021)), Carney's conceptual innovation was to propose a typology of climate change-related risks, for consideration in order to preserve financial stability. He identified three categories of climate change risks that can impact the international financial system: (1) physical risks (characterised by the growing number of natural disasters such as hurricanes, floods and droughts), (2) liability risks (which correspond to the increase in demands for economic compensation from polluters) and (3) transition risks (the costs associated with the move to a lower-carbon economy). These are the most important risks driving central bank action today.

After identifying these risks, Carney set out how central bankers should act to break the tragedy of the horizon. He suggested a classic line of reasoning for a financial actor: climate change must be approached as a problem of the financial information that is reflected in asset prices. Adopting an investor's reasoning, he problematised climate issues as solvable through asset revaluation. He argued that in order to transition to less carbon-intensive activities, the climate change factor should be included in financial risk calculations, so that financiers and investors will ultimately withdraw from fossil fuels due to their low profitability.

> More properly our role can be in developing the frameworks that help the market itself to adjust efficiently.
>
> Any efficient market reaction to climate change risks as well as the technologies and policies to address them must be founded on transparency of information.
>
> A "market" in the transition to a 2 degree world can be built. It has the potential to pull forward adjustment – but only if information is available and crucially if the policy responses of governments and the technological breakthroughs of the private sector are credible.

Mark Carney's solution consisted of translating climate change into a problem of financial market efficiency: climate-related financial

information must be produced so that it can be incorporated into prices, and the markets will do the rest through the interplay of supply and demand. This expression of the climate change issue belongs to financial imagery that has already been studied in the literature (Ortiz 2014, 2021). It rules out other forms of public action, such as using the law to ban financing of certain infrastructures. It sees climate change as a problem only insofar as it affects investors' assets and financial stability: central bankers' job is to maintain economic stability, so devastated landscapes, displaced populations and colossal floods are only considered when financial stability is threatened. In the investor-centred view of the climate issue, many of the impacts of climate change are ignored because they have no financial value (Christophers 2017).

Carney argued that the appropriate instrument to transform the climate into financial information would be climate stress testing using specific climate models and scenario analysis.

> (…) [S]tress testing could be used to profile the size of the skews from climate change to the returns of various businesses. (…)
>
> Stress testing, built off better disclosure and a price corridor, could act as a time machine, shining a light not just on today's risks, but on those that may otherwise lurk in the darkness for years to come.

Stress tests use hypothetical crisis scenarios (such as a sharp fall in property prices, or a sudden drop in growth) to model the future value of portfolios, in order to control banks' capital adequacy and prevent them from insolvency even in the event of a crisis. During the 2007–2008 financial crisis, after the collapse of Lehman Brothers the Fed (the United States' central bank) made the first use of stress tests to publicly demonstrate the solvency of American banks and stabilise stock market fluctuations (Langley 2013). It carried out a full-scale stress test simulation exercise and published the results of its scenarios bank by bank (instantiated by stock prices), to reassure investors that they could still trust American banks because they were sufficiently capitalised, and in the process possibly forcing undercapitalised banks to increase their capital.[6] The advantage of stress testing over other supervisory instruments is that instead of referring to the average outcomes of past events to anticipate future losses, it works on a forward-looking, scenario-based approach that is more appropriate for

[6] Central bankers don't perform their demonstration in front of a real public of investors. This public is mostly supposed to express itself via the variation of stock prices (a high variation observed after the public disclosure of stress tests results is supposed to be "a panic", a price decrease is a sign of "relief") (Preda 2005; Montagne and Ortiz 2013).

events whose frequencies of occurrence do not follow probabilistic rules[7] (Collier 2008).

The way Mark Carney framed the issue of climate change and its solutions has become the main concern and raison d'être of the NGFS. Since the NGFS was formed in 2017 following the Paris Agreement, most of the institution's publications have focused on climate risks and the development of scenarios as advocated by Mark Carney. The NGFS members I interviewed frequently referred to this speech as their source of inspiration for theorising transition risk.

Enacting a good economy: the politics channelled through climate scenarios

I am interested here in the practical ways NGFS economists translate the climate issue into financial scenarios. To do so, they have to identify and compartmentalise the type of politics they want to promote through their scenarios (the second boundary work operation).

To build their climate scenarios, the NGFS economists use the "physical risks" and "transition risks" categories described by Mark Carney. In other words, they consider that climate change could have two main effects. First, the increase in extreme weather events (such as droughts, hurricanes and rising sea levels) could affect banks' balance sheets by destroying assets that are likely to generate value in the future: these are the "physical risks". Second, climate change could engender costs that are likely to cause assets to lose value and thus affect the balance sheets of financial firms: these are the "transition risks". These costs may result from a transition that is "too slow" or "too fast" for the targets set by the Paris Agreement for 2050, as one NGFS economist explained to me:

> For us, the "transition" means compliance with the Paris agreements. And there's an infinite number of ways to achieve it. So, we distinguish between smooth and not so smooth transitions, based on their degree of success with regard to the Paris agreements. We call the ones with more negative impacts "disorderly".[8]

---

[7] As climate change will generate unpredictable catastrophes, central bankers cannot rely on their traditional models, which simulate financial losses based on past statistical series. The aim is not to anticipate a simple fluctuation, for example in property market asset prices (they have probabilistic models based on long historical statistical series to do that), but rather to anticipate an abnormal, unusual loss in such markets, for example by simulating a sudden fall in value equivalent to the financial crisis of 2007–2008.

[8] Interview with an economist at the Banque de France on 25 February 2022.

In the economist's reasoning, if the climate transition is too slow to meet the terms of the Paris Agreement, it will be costly in the sense that economic activities will have to be halted abruptly because a rising number of environmental disasters will destroy entire economic sectors (and emergency government decisions will be made to reorganise these economic activities, with no advance planning). Similarly, if the transition is too fast, it will generate a certain number of costs, due to early discontinuation of economic activities that are still generating cash flows. Using this analysis based on the speed of the climate transition, the NGFS economists have developed several scenarios corresponding to different transition trajectories, which they group into "orderly", "disorderly", and "hot house world" scenarios and compare to a "business as usual scenario". NGFS builds scenarios concerning the evolution of the global economy. In an "orderly" scenario, the global economy is gradually restructured through proactive government action, ultimately reaching net zero by 2050. In a "disorderly" scenario, governments are assumed to adopt a wait-and-see approach until 2030, before implementing binding public policies to urgently reduce CO2 emissions. In this configuration, the transition is economically costly due to the faster winding down of certain activities.

For these scenarios to be translated into measures of impact on the global economy, the NGFS economists work to incorporate them into macroeconomic models so that national central banks can use them. Measurement of the scenarios' effects is made possible by combining several models, derived from the Intergovernmental Panel on Climate Change (IPCC) teams working on Integrated Assessment Models (IAMs), and the central bankers' communities (Allen et al. 2020).

The challenge of using this complex set of models is how to translate global trends into impacts on specific economic sectors. To achieve this, the NGFS builds legitimacy and scientific authority by its association with the IPCC, and more specifically the laboratories which have been developing IAMs, such as the Postdam Institute for Climate (PIK) or the Pacific Northwest National Laboratory (PNNL). The IPCC has been documenting climate change for decades and was the instigator of the first models for measuring the economic effects of climate change on economic sectors (Cointe et al. 2019). However, IAMs aggregate national economies into less than a dozen economic sectors (such as agriculture, energy and services) and are not sufficiently precise for the NGFS members' aims. Finance is not represented as a sector in its own right in the IAMs. For greater granularity in their modelling, NGFS economists therefore disaggregate the results of the IAMs to match their preferred macroeconomic classification, the European Union's "NACE" system (the Statistical Classification of Economic Activities in the European

Community), which breaks down national economies into almost 400 economic sectors.

Once the sectors have been disaggregated, the NGFS economists translate climate change into the question of a carbon tax to influence the price of carbon, to be implemented sooner or later, progressively or otherwise (as a proxy for the climate transition in their scenarios). This operation ultimately enables NGFS members to give national central banks a way to measure the impact of their scenarios on the macroeconomic equilibrium of national economies (which they model using the "NiGEM", the model most widely used by central banks).[9]

This brings us to what the NGFS economists are trying to demonstrate through their scenarios and the politics they want to promote. They want to contribute to the emergence of a good global economy in transition, and that means they have to produce a very specific public demonstration that will encourage banks and insurance companies to finance low-carbon assets rather than carbon assets. This means they have to make the scenarios of a delayed, disorderly or non-existent transition for the global economy less desirable than the scenario of a gradual transformation of production systems, as one member of the NGFS explained to me:

> Imagine an article that says: "The Banque de France has estimated that the transition to a low-carbon economy would result in a GDP loss of 3%". People would say that it's better not to make the transition. Or worse: "The Banque de France, or the Bank of England, estimates that a transition to a low-carbon economy would put such a systemic bank in great difficulty" (…). We were scared our results might be used like that. The NGFS, and the Banque de France in particular, are trying not to take a position on the merits of the transition. They take them for granted. But it can be done in various ways, it could be disorderly. That's the transition that we think involves the greatest financial risks.[10]

This dilemma relates directly to the user who is imagined (Akrich 1992) when the NGFS economists elaborate a scenario: an investor or a banker who would like to read the climate stress test results in order to decide where to invest. In a financialised world, showing risks, whether they are high or low, enables the owners of capital to choose where to invest, and possibly decide not to finance low-carbon projects if they do not fit their business strategies. The economists at the NGFS are fully aware that financial actors may not be willing to make the

---

[9] National Institute Global Econometric Model. National central banks need data on the portfolios of the banks or insurance companies they wish to assess in order to measure the scenarios' effects on specific institutions. There are many different ways to take this final step in the use of the scenarios, which is beyond the scope of this article.

[10] Interview with an economist at the Banque de France on 15 March 2022.

cost–benefit calculations they believe are necessary to bring about a low-carbon world, and their scenario-building anticipates that:

> The question for investors is whether it's better to face the cost of transition risks now, or to face the materialisation of physical risks, which will increase in number later. As we want to show that it's preferable to start a transition now, we're always trying to increase the detail in the modelling of physical risks. Initially, we kept things very simple, mainly considering cyclones and floods. We also used mostly historical data. We're gradually bringing in models of lots of other events, such as heat waves and droughts, and gradually increasing granularity by country. We're also using more complex meteorological models that can model an increase in the frequency and intensity of events. The more physical risks we add, the better it is for investors to prioritise the cost of achieving a transition over multiple extreme weather events.[11]

In other words, the NGFS economists calibrate their scenarios so as to generate calculations that favour financing a climate transition, in the hope of encouraging banks and insurance companies to invest in low-carbon activities. In building their climate scenarios, NGFS actors are also problematising what they see as a good global economy and how to achieve it. They want to show by their scenarios that it is morally and economically better for investors to contribute to a transition by financing low-carbon activities, because a carbon-intensive world is not politically desirable and will not be profitable (the physical risks being considered outweigh the transition risks in their scenarios). Their boundary work is thus political: they are deliberately producing incentives with the aim of promoting certain financing and investment decisions rather than others.[12] The aim is to make climate change matter financially by guiding banks and insurance companies towards calculations that are likely to lead to a less carbon-intensive global economy. This is the politics that the NGFS economists promote through their scenarios.

However, this calculated orientation by NGFS members conflicts with other aims they are pursuing, such as refraining from being the public arbiter of what a climate transition should look like and thus exposing themselves to criticism. We will now see how the NGFS leaves a number of sensitive issues it considers "too political" to the national central banks.

---

[11] Interview with two economists at the Banque de France on 11 September 2023.

[12] However, this is a bit of a gamble by the NGFS actors. The attempt to show that a world without transition is financially riskier still leaves investors with the choice of continuing to finance carbon projects, partly because higher risks may also mean higher returns (De Goede 2004; Morris and Collins 2023).

Politics beyond the NGFS' remit: climate diplomacy with national central banks

When building their scenarios, NGFS members are faced with a number of dilemmas that they do not wish to resolve on their own (the third boundary work operation). The future of the energy mix is one example, because each country has a different energy mix and NGFS actors do not want to judge which country has the "best" mix (is nuclear power acceptable? What kind of renewable energies should be included?).

> The real problem arises when we move to country disaggregation. National policy choices may not be fully reflected, and the differences in positioning may be more obvious. Particularly on variables such as the energy mix, for example. (…)
> Again, we try to be receptive to what the transition experts say, we aren't transition experts. Some of them say there's a place for nuclear power, for gas, in the transition. But the general public can see things very differently.[13]

NGFS actors fear they will be criticised for going beyond their official mandate and taking a normative approach to what a good climate transition should be. They want to encourage the redirection of international financial flows, without pointing the finger at certain financial or state actors. They fear losing their legitimacy in a field of public action where they are starting to take the lead. To understand these fears for their reputation, it is important to remember that the central banks became independent of their national governments due to a technocratic aim to separate monetary policy issues from the vagaries of the democratic game (Braun 2016). Central banks are frequently criticised for exceeding their mandate without legitimacy, mostly by academic or financial actors who hold an ordo- or neo-liberal conception of central banks and are prepared to take them to court (as has already happened at the German Court of Justice) for acting "too politically" – for instance, if they fund programmes that are considered to violate market neutrality (Fontan and Howarth 2021).

In order to deal with any disagreements that might arise over their climate scenarios, the NGFS members leave the national central banks plenty of room for manoeuvre as to how to use them, as one of the institution's economists pointed out:

> On the question of energy mixes, we don't make the decisions ourselves. We draw on the three major existing IAMs, and each models the future energy mix very differently. Our scenarios work with all three of those models, then we leave it up to the national central banks to choose the trajectory that

[13] Interview with an economist at the Banque de France on 18 March 2023.

> suits them best. Similarly, if the central banks want to use some other macroeconomic model rather than the NiGEM, they can.

Consequently, when national central banks want to organise climate stress tests or scenario analysis exercises, they choose NGFS scenarios compatible with their own modelling practices and their own conception of what a good energy mix is and how it will evolve in each scenario. The NGFS can thus be said to be engaged in climate diplomacy, in the sense that it aims to provide national central banks with scenarios that encourage banks and insurance companies to conduct risk calculations that favour the transition, while allowing national central banks the flexibility to redefine the use of these scenarios according to their own understanding of what the transition entails. As in other diplomatic arenas such as the IPCC (Miller 2001), national sovereignty prevails. This fact is manifest in this case study, as the choice of scenarios and their implementation through models are left up to the national central banks, to avoid international political disputes.

But that does not mean there are any debates on critical issues between NGFS members and other actors (public or private). NGFS actors frequently meet, read NGO reports, and exchange views with research centres and other public modelling bodies to debate the scenarios. In the end, however, the national central banks decide on the details of their stress test models, as one NGFS economist confirmed:

> There's a line the NGFS mustn't cross in terms of the information it can give out. A balance has to be found between the mandate of the NGFS to facilitate its members' work by giving them as much information as possible, and at some point the NGFS should, not judge, but better understand the specificities of certain political decisions to make choices in modelling exercises, otherwise those exercises would be out of step with certain jurisdictions' political or strategic positions. So, there's a balance to be struck between giving enough information to make things feasible for its members, and not descending to a granular level of modelling that makes the exercise impossible for an institution with an international mandate.[14]

For fear of criticism, NGFS members do not allow non-members behind the scenes of their scenario-building and uses. This is typical of many areas of public action where expertise is likely to be contested (Hilgartner 2000). The NGFS consults financial and other actors, but does not provide public access to its internal debates and decides for itself whether or not to leave certain options for adaptation open in its scenarios.

---

[14] Interview with an economist at the Banque de France on 25 February 2022.

When national central banks use the NGFS climate scenarios, the public demonstration they perform is entirely different from conventional stress tests. Contrary to classic stress testing-based demonstrations (Langley 2013; Violle 2017; Coombs 2022), central bankers do not publish their results bank by bank, to avoid blaming any particular establishment or economic sector. As a result they also avoid publicly attributing responsibilities in the transition to a low-carbon economy. They fear criticism for exceeding their official mandate and having a normative take on what a good transition should be. Unlike with traditional stress tests, at the moment, the central banks are not responding with regulatory measures such as obliging banks to recapitalise in the event of poor results:

> Everyone realises that we'll get to the point of higher capital adequacy requirements. For the moment, our tool isn't mature enough for that. Imagine if a central bank required additional capital based on the NGFS climate scenarios, there'd be attacks from all sides, on the models, the methodology and the assumptions. For the moment, we don't have a sufficiently legitimate instrument, but we will get there.[15]

Stabilising expertise at the intersection of climate and financial issues is a risky business for the NGFS. Numerous objections are already emerging. Academics, NGOs and financial actors have criticised the use of IAMs, considering them too optimistic about climate change. Some denounce what they call the "neoclassical reasoning" used by central banks to model the economy (Finance Watch 2023); others say that publishing the results of scenario analyses or climate stress tests is often an exercise in self-congratulation by the central banks for the stability of financial systems (Baudoin 2023), or lament the lack of pluralistic debate about the scenario-building process itself (Grandjean and Lefournier 2021).

This climate diplomacy, which leaves national central banks with freedom to choose how to apply the scenarios, nonetheless has significant political and ontological implications regarding the way national economies in transition are conceptualised. In practice, the "good global economy" as described in the NGFS scenarios is never fully implemented in the national central banks' models. When national central banks redefine the use of these scenarios, they are also redefining what constitutes a "good economy" at national level. The use of climate scenarios by national central banks even requires central bank economists to change their valuation practices and economic knowledge, by altering their conception of a national economy.

As Peter Miller and Andrea Mennicken have shown, any valuation operation that involves accounting processes has territorialising effects, in the sense that it defines a space of calculation and the relationships

[15] Interview with two economists at the Banque de France on 11 September 2023.

between entities within that space (Mennicken and Miller 2012). To date, macroeconomics as an economic discipline has considered modelling of the national economy its implicit purpose, seeking to measure movements of monetary aggregates on national territories (Mitchell 1998). Now, the national central banks are having to ask themselves new questions about the boundaries of national economies and the geographical location of the economic activities they model (which I call the territorialisation of national economies). The territory described by central bankers no longer matches the territory of national accounting (which measures the economic output of a national territory whose boundaries correspond to the geographical borders of nation states). Instead, it now encompasses the financial and material economic interdependence of companies and public institutions. For instance, when the European Central Bank (ECB) wants to integrate physical risks into its climate scenarios, its modellers need to know the geographical location of the production chain financed by banks, since physical risks are not evenly distributed across the globe, but they do not have the relevant data in their computer system. By default, the ECB's 2022 climate stress tests used head office location as a proxy for the geographical location of a company's production (Baudoin 2023). The territorialisation of economic activities is also at work when insurers start using climate scenarios to anticipate the economic viability of customers and their supply chains:

> We're in the process of a major project with our customers to map out their economic activities. We're asking them to tell us the location of their supply chains, which means a lot of work for them because they themselves don't always know the geographical origin of the goods and services they order, but it's necessary for these forward analysis exercises.[16]

In other words, there are two sides to the climate diplomacy between central bankers that I am describing. One side involves selection by national central banks of the scenarios that suit them best for modelling the future of the national economies they help to regulate. The other side has a more ontological dimension, relating to how the good global economy can be enacted. National central banks enact "good national economies" by making visible the economic and territorial relationships between economic activities, and thus generate properties of national economies that did not exist before (Muniesa and Linhardt 2011). The NGFS aims to produce a good global economy in transition by contributing to the national central banks' multiple descriptions of good national economies. Through those

---

[16] Interview with the economist in charge of Impact & Regenerative Financing at an insurance company on 29 September 2023.

descriptions, central banks can help to bring important political questions into the public debate: where are the assets of banks and insurance companies located? How are they geographically linked to each other? How can economic activities be reorganised territorially? These questions cannot currently be debated publicly, since the results of scenario analyses are kept private by central banks for fear of public criticism.

Moreover, boundary work is always connected with the construction of institutional legitimacy and the making of an object of knowledge (in this case climate change) by selective consideration of certain epistemic and political issues rather than others (Laurent 2016). In the case studied here, delegating the task of implementing good national economies to national central banks, in order to respect national sovereignty, ignores the question of whether the transition-related choices made by the central banks will have significant effects on the achievement of a coherent global low-carbon transition.

Conclusion

I have examined how NGFS economists transform the climate from an object of knowledge, derived from climate sciences, into a "climate for investors" through the production of climate scenarios that aim to enact a "good global economy". I have shown that creating a climate for investors involves three boundary work operations.

Mark Carney contributed to the first of these operations by clearly positioning climate change in the public debate as a problem for the central banks, because it was likely to be a source of financial risk. This is a boundary work operation that consists of defining what matters for central banks. It has had important effects, since Carney's speech is one of the key conceptual sources used by central bankers to legitimise the existence of the NGFS and its agenda.

The second boundary work operation analysed concerns the way the NGFS economists promote a certain type of politics in building their climate scenarios. They aim to guide the banks' and insurance companies' future risk calculations, and design their scenarios to encourage them to finance low-carbon projects and stop financing carbon-intensive projects now, rather than continuing the business-as-usual status quo.

The third boundary work operation analysed concerns the politics the NGFS economists do not want to endorse: namely making national central banks use a standard conception of the transition and standard scenarios. Climate diplomacy is thus emerging, since the national central banks can ultimately decide which scenarios and models they want to use to assess their assets. This climate diplomacy is political not only in the sense that central banks are free to choose the climate scenario parameters for their own territory, but also in the sense that

the NGFS scenarios help to make visible where banks' assets are located, how companies and their activities are linked to other companies and other activities, and how they could be reorganised in the future. In other words, the NGFS climate scenarios territorialise national economic activities and allow central banks to describe a variety of potential "good national economies". The question of the concrete effects of the scenarios and the similarity of the "good national economies" implemented in each national exercise, however, is not debated and falls outside the scope of the NGFS' remit.

This article makes a number of contributions to valuation studies, and to the literature interested in characterising the transformation of central banks' economic interventionism. It shows how, in practice, the economic operations used to value the environment or the climate can result in transformation of the financial or economic knowledge likely to be applied to the object to be valued (here, the climate). Although the NGFS economists do mobilise concepts derived from mainstream financial theory, such as risk and cost (which financialise the understanding of climate change), the study of their scenario-building process also shows how economists come to ask new questions about what makes a national economy, how it should be represented, and the role of the financial sector in structuring it. This is in line with the conclusions of an emerging body of literature that shows how the climate issue is transforming the valuation practices of financial actors, and driving hybridisation of the actors' economic and financial knowledge with climate science (Folkers 2024).

This article also makes a contribution to the study of central bank action. At a time when central banks' monetary policies seem to be moving towards more ambitious economic interventionism (Thiemann et al. 2023), the central banks' supervisory policy promoted by the NGFS is encouraged through incentives rather than required by legal constraints on banks and insurance companies. Also, showing how the climate is conceptualised and then valued in practice by economists at the NGFS or individual central banks opens up interesting avenues of research. Comparative studies of different national initiatives could be carried out to understand how certain central banks seek to promote more and less ambitious conceptions of the transition to low-carbon economies. Finally, studies could be conducted inside banks and insurance companies to see how climate scenarios are used and whether or not they influence changes in the banks' asset portfolio management. The NGFS scenarios are based on an incentive logic, but scenarios can be built and used to support different conceptions of climate change and its effects on national economies, and research analysing this is needed to study the contemporary transformation of central banks' economic interventionism.

Acknowledgments

The author would like to thank Kistrin Asdal and Liliana Doganova for coordinating the special issue, as well as the two anonymous reviewers. He would also like to thank Brice Laurent and Quentin Dufour, Anne Rasmussen, Sezin topçu and Sara Aguliton for their helpful comments on earlier drafts.

Funding

This research was supported by an IFRIS grant for the project "Climatizing Finance or financializing climate? The material politics of climate stress in Europe", and by funding from the PEPR *Sous-sol bien commun* program (Grant reference: ANR-22-EXSS-0002).

Appendix 1: Interviews

Interview number	Date	Interviewee
1	08/02/2022	Economist 1 at the French National Environment and Energy Agency (ADEME)
2	08/02/2022	Economist 2 at the French National Environment and Energy Agency (ADEME))
3	25/03/2022	Economist 1 at the Banque de France
4	11/03/2022	Economist 1 at the Bank of England
5	15/03/2022	Economist 2 at the Banque de France
6	30/08/2022	Economist at the University of Montpellier
7	20/10/2022	Economist at 2 the Bank of England
8	18/01/2023	Economist at the French International Research Centre for Environment and Development
9	17/04/2023	Economist in charge of stress tests at a French bank
10	11/09/2023	Economists 3 and 4 at the Banque de France
11	29/09/2023	Economist in charge of Impact & Regenerative Financing at an insurance company

Appendix 2: events attended

Event number	Date	Event
1	28/03/2022	Banque de France seminar on climate finance
2	19/12/2022	French seminar organised by the Association Europe- Finances-Regulations (AEFR): "Green finance. Climate, the financial sector and the net zero transition"
3	27/06/2023	FFJ-Banque de France workshop "Climate change, natural disasters, and financial risk: how could central banks integrate environmental issues into their policies?"
4	27/03/2023	Lecture by John Hassler: "Climate and Climate Policy - what we know, don't know and should do", Banque de France - Paris School of Economics, March 27, 2023

References

Aguiton, Sara. 2018. "Fortune de l'infortune. Financiarisation des catastrophes naturelles par l'assurance." *Zilsel* 4(2): 21–57.

Akrich, Madeleine. (1992). "The De-Scription of Technical Objects". *In Shaping Technology/Building Society: Studies in Sociotechnical Change*, edited by Wiebe Bijker and John Law, 205-224. Cambridge, MA: MIT Press.

Asdal, Kristin, Béatrice Cointe, Bård Hobaek, et al. 2021. "'The Good Economy': A Conceptual and Empirical Move for Investigating How Economies and Versions of the Good are Entangled." *BioSocieties* 18(1): 1–24.

Allen, Thomas, Stéphane Dees, Jean Boissinot, et al. 2020. "Climate-Related Scenarios for Financial Stability Assessment: An Application to France". Banque de France working papers, https://publications.banque-france.fr/sites/default/files/ medias/documents/wp774.pdf, accessed 21 June 2023.

Baudoin, Florian. 2022. "Les stress tests climatiques, entre politique de stabilité financière et tentative de transition écologique", Master thesis. Paris Nanterre University.

Baudoin, Florian. 2023. "Les premiers pas de la supervision financière des risques climatiques par stress tests : une gestion prudentielle ou incitative?", blog article, www.caissedesdepots.fr/blog/article/supervision-financiere-des-risques-climatiques-par-stress-tests, accessed 11 March 2023.

Birch, Kean and Fabian Muniesa (Eds). 2020. *Assetization: Turning Things into Assets in Technoscientific Capitalism*. Cambridge, MA: MIT Press.

Bracking, Sarah. 2019. "Financialisation, Climate Finance, and the Calculative Challenges of Managing Environmental Change." *Antipode* 51(3): 709–729.

Braun, Benjamin. 2016. "Speaking to the People? Money, Trust, and Central Bank Legitimacy in the Age of Quantitative Easing." *Review of International Political Economy* 23(6): 1064–1092.

Carney, Mark. 2015. "Breaking the Tragedy of the Horizon – Climate Change and Financial Stability." Speech given at Lloyd's of London, 29: 220–230.

Chiapello, Eve. 2015. "Financialisation of Valuation." *Human Studies* 38(1): 13–35.

Christophers, Brett. 2017. "Climate Change and Financial Instability: Risk Disclosure and the Problematics of Neoliberal Governance." *Annals of the American Association of Geographers* 107(5): 1108–1127.

Clerc, Laurent. 2020. "Évaluer les risques et les vulnérabilités et sensibiliser les acteurs financiers au risque de changement climatique : le rôle des stress tests." *Revue d'économie financière* (2): 225–242.

Cointe, Béatrice, Christophe Cassen, and Alain Nadai. 2019. "Organising Policy-Relevant Knowledge for Climate Action: Integrated Assessment Modelling, the IPCC, and the Emergence of a Collective Expertise on Socioeconomic Emission Scenarios." *Science & Technology Studies* 32(4): 36–57.

Collier, Stephen. 2008. "Enacting Catastrophe: Preparedness, Insurance, Budgetary Rationalization." *Economy and Society* 37(2): 224–250.

Coombs, Nathan, and Matthias, Thiemann. 2022. "Recentering Central Banks: Theorizing State-Economy Boundaries as Central Bank Effects." *Economy and Society* 51(4): 535–558.

Coombs, Nathan. 2022. "Narrating imagined crises: How central bank storytelling exerts infrastructural power." *Economy and Society* 51(4): 679-702.

De Goede, Marieke. 2004. "Repoliticizing Financial Risk." *Economy and Society* 33(2): 197–217.

Deyris, Jérôme. 2022. "Too Green to Be True? Forging a Climate Consensus at the European Central Bank." *New Political Economy* 28(5): 713-730.

Engen, Stine (2025) "On Green Swans and Catastrophic Futures: Climate Change as Complexity Theory in Financial Regulation." *Valuation studies* 12(1): 171-194.

Finance Watch. 2023. "Finance in a Hot House World." *Report,* retrieved from: www.finance-watch.org/policy-portal/sustainable-finance/report-finance-in-a-hot-house-world/, assessed 10 October 2024.

Folkers, Andreas. 2024. "Risking Carbon Capital: Reporting Infrastructures and the Making of Financial Climate Risks." *Economy and Society* 53(3): 504-526.

Fontan, Clément, and David Howarth. 2021. "The European Central Bank and the German Constitutional Court: Police Patrols and Fire Alarms." *Politics and Governance* 9(2): 241–251.

Grandjean, Alain, and Julien Lefournier. 2021. *L'illusion de la finance verte*. paris: Éditions de l'Atelier.

Gieryn, Thomas F. 1983. "Boundary-Work and the Demarcation of Science from Non-Science: Strains and Interests in Professional Ideologies of Scientists." *American Sociological Review* 48(6):781–795.

Glaser, Barney, and Anselm Strauss. 2017. *Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Routledge.

Gray, Ian. 2021. "Hazardous Simulations: Pricing Climate Risk in US Coastal Insurance Markets." *Economy and Society* 50(2): 196–223.

Hilgartner, Stephen. 2000. *Science on Stage: Expert Advice as Public Drama*. Stanford: Stanford University Press.

Jasanoff, Sheila S. 1987. "Contested Boundaries in Policy-Relevant Science." *Social Studies of Science* 17(2): 195–230.

Jasanoff, Sheila S. 2004. "The Idiom of Co-Production." In *States of knowledge,* edited by Sheila Jasanoff, 1–12. New York: Routledge.

Langley, Paul. 2013. "Anticipating Uncertainty, Reviving Risk? On the Stress Testing of Finance in Crisis." *Economy and Society* 42(1): 51–73.

Langley, Paul, and John, Morris. 2020. "Central banks: Climate governors of last resort?" *Environment and Planning A: Economy and Space* 52(8): 1471–1479.

Latour, Bruno. 1993. *We Have Never Been Modern*. Cambridge, MA: Harvard University Press.

Laurent, Brice. 2016. "Boundary-Making in the International Organization: Public Engagement Expertise at the OECD." In *Knowing Governance: The Epistemic Construction of Political Order*, edited by Jan-Peter Voss and Richard Freeman, 217–235. London: Palgrave Macmillan UK.

Laurent, Brice. 2017. *Democratic Experiments: Problematizing Nanotechnology and Democracy in Europe and the United States*. Cambridge, MA: MIT Press.

Leyshon, Andrew, and Nigel Thrift. 2007. "The Capitalization of Almost Everything: The Future of Finance and Capitalism." *Theory, Culture & Society* 24(7–8): 97–115.

Massoc, Elsa. 2022. "Climate Change Versus Price Stability: How 'Green' Central Bankers and Members of the European Parliament Became Pragmatic (Yet Precarious) Bedfellows." SSRN Journal LawFin working paper No. 33.

McPhilemy, Samuel, and Manuela Moschella. 2019. "Central Banks under Stress: Reputation, Accountability and Regulatory Coherence." *Public Administration* 97(3): 489–498.

Mennicken, Andrea, and Peter Miller. 2012. "Accounting, Territorialization and Power." *Foucault Studies* 13(May): 4–24.

Miller, Clark. 2001. "Hybrid Management: Boundary Organizations, Science Policy, and Environmental Governance in the Climate Regime." *Science, Technology, & Human Values* 26(4): 478–500.

Mitchell, Timothy. 1998. "Fixing the Economy." *Cultural Studies* 12(1): 82–101.

Monnet, Eric, and Jens Vant't Klooster. 2023. "Using Green Credit Policy to bring Down Inflation: What Central Bankers Can Learn from History Policy." *The Inspire Sustainable Central Banking Toolbox,* Briefing Paper 13.

Montagne, Sabine, and Horacio Ortiz. 2013. "Sociologie de l'agence financière: enjeux et perspectives: Introduction." *Sociétés contemporaines* (4): 7–33.

Morris, John H., and Hannah Collins. 2023. *(Mis) managing Macroprudential Expectations: How Central Banks Govern Financial and Climate Tail Risks*. Cheltenham*:* Edward Elgar Publishing.

Mudge, Stephanie, and Antoine Vauchez. 2016. "Fielding Supranationalism: The European Central Bank as a Field Effect." *The Sociological Review* 64(2): 146–169.

Muniesa, Fabian, and Dominique Linhardt. 2011. "Trials of Explicitness in the Implementation of Public Management Reform." *Critical Perspectives on Accounting* 22(6): 550–566.

Muniesa Fabian, Liliana Doganova, Horacio Ortiz, Alvaro Pina-Stranger, Florence Paterson, Alaric Bourgoin, Véra Ehrenstein, Pierre-André Juven, David Pontille, Basak Saraç-Lesavre, Guillaume Yon. 2017. *Capitalization: A Cultural Guide*. Paris: Presses des Mines.

Ortiz, Horacio. 2013. "Financial Value: Economic, Moral, Political, Global." *Journal of Ethnographic Theory – HAU* 3(1): 64–69.

Ortiz, Horacio. 2014. "The Limits of Financial Imagination: Free Investors, Efficient Markets and Crisis." *American Anthropologist* 116(1): 38–50.

Ortiz, Horacio. 2021. *The Everyday Practice of Valuation and Investment: Political Imaginaries of Shareholder Value*. New York: Columbia University Press.

Preda, Alex. 2005. "The Investor as a Cultural Figure of Global Capitalism." In *The Sociology of Financial Markets*, edited by Karin Knorr Cetina, and Alex Preda, 141–162. Oxford: Oxford University Press.

Quorning, Stine. 2023. "The 'Climate Shift' in Central Banks: How Field Arbitrageurs Paved the Way for Climate Stress Testing." *Review of International Political Economy* 31(1): 74-96.

Sullivan, S. (2013). Banking Nature? "The Spectacular Financialisation of Environmental Conservation." *Antipode* 45(1): 198-217.

Thiemann, Matthias, Tim Büttner, and Olivier Kessler. 2023. "Beyond Market Neutrality? Central Banks and the Problem of Climate Change." *Finance and Society* 9(1): 14–34.

Van't Klooster, Jens. 2022. "Technocratic Keynesianism: A Paradigm Shift without Legislative Change." *New Political Economy* 27(5): 771–787.

Van't Klooster, Jens, and Clément Fontan. 2020. "The Myth of Market Neutrality: A Comparative Study of the European Central Bank's and the Swiss National Bank's Corporate Security Purchases." *New Political Economy* 25(6): 865–879.

Violle, Alexandre. 2017. "Banking Supervision and the Politics of Verification: The 2014 Stress Test in the European Banking Union." *Economy and Society* 46(3–4): 432–451.

Alexandre Violle is a postdoctoral researcher at the Centre for the Sociology of Innovation at Mines Paris. He is interested in the ways in which expertise based on economic knowledge or theories of innovation contributes to shaping the way in which public action is conceived and carried out, whether in France or Europe, in various sectors (banking, energy, metal, and mineral supply).