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Note from the editor

Climate change – what economic sociology has to offer

Anita Engels

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Welcome to crisis mode. Anthropogenic climate change is not only globally recognized as a well-established scientific analysis of what is currently happening to planet Earth, but it even seems to be accelerating recently. While governments are trying to contain the Covid-19 pandemic and struggle with its dramatic short- and long-term effects, the global climate crisis is building in the background with maybe even more far-reaching consequences. This next series of the Newsletter is dedicated to exploring the potential contributions of economic sociology to analyzing causes and consequences of the climate crisis.

I happily accepted the invitation to serve as editor for these coming issues, as my own academic career was built around what I call the sociology of climate change. Let me say a few words about how I look at climate change and why I find it important that economic sociology engages much more with this topic.

In the mid-1990s I started to do research on how discourses of climate change transformed an (uncertain) scientific hypothesis into the certainty of a pending catastrophe (Weingart, Engels, and Pansegrau 2000). For a student of sociology with backgrounds in Science and Technology Studies (STS) and in the sociology of developing countries, there were many obvious issues to explore. I found environmental sociology a good field to guide my research. However, at some point I felt that the field was not pushing me enough towards the core of the climate problem, which seemed to lie in economic processes. If we want

to understand why the carbon lock-in is so persistent despite decades of good reasons to switch globally to a non-fossil fuel base, we need to look at the ways in which we organize and (e)valuate the production and consumption of goods and services. This was a strong motivation for me to learn about economic sociology and enter a new field, which coincided with the beginning of my postdoc life, so a good moment for a new start. When I applied for a postdoc fellowship to go to Stanford University, I became engaged in the new institutionalism and how this approach looked at companies – those economic actors that I found most central to understanding the carbon lock-in.

At that time, in 1999, there was a fierce debate about the role of markets and market-based solutions in dealing with climate change. I dedicated my research proposal to applying new institutionalist approaches to the concept of carbon markets. The basic policy idea was to create a market for tradable emission rights on which emitters could buy allowances should they want to emit more than granted by a pre-established limit. In theory, such a market scheme would allow the emitters to react to price signals and base their investment decisions on price calculations – e.g., investments in technologies that would lower their emission volumes. While defined by critics as "the right to pollute," I found emission trading to be just the right topic for an economic sociology perspective. The introduction of emission markets was discussed both globally, under the Framework Convention on Climate Change, and in some polities, such as the US, a few Scandinavian countries, and the European Union. Economists fought over the question of the right discount rate that should be represented in a carbon price, and strongly favored the building of one global market for CO_2 allowances. The discussion was more often than not structured along an imagined *market versus state* demarcation line. Carbon markets were hailed as the one way in which economic freedom could be reconciled with the goals of the climate agreements, because the state would not decide where and by whom emissions would be reduced – this would be done by the market and the price signal it generated. From an economic sociology perspective, this reasoning had to be modified substantially. The more we looked at how such carbon markets (or comparable earlier markets in the US) were actually constructed, the more we could see that this was actually intense regulation rather than an antidote to regulation (Engels 2006). Making a carbon market function required heavy institutional work – both to set it up and to maintain it over time. The price of an emission allowance would always depend on the political decision over how many allowances to allocate in the first place. I simplify here for the sake of brevity, but economists often argued for emission markets that covered the entire globe, because only then would the enormous differences in the costs of reducing emissions help reduce the overall costs of climate mitigation. Buyers would turn to the sellers who were offering reductions at the lowest price – the market would lead the way. From sociological or political science perspectives, it was almost the opposite – the more border-spanning the market was, the more governments were involved, the higher were the chances of fraud and compromise.

I was particularly interested in looking at these emerging markets from the perspective of emitting companies. What they experienced was an extended period of fundamental uncertainty about how the market regulation would actually turn out for them, how many allowances they would receive, and along which allocation rules, how strict the monitoring and enforcement would be implemented, etc. Through my postdoc period I was in the very lucky position to be able to start a research grant looking at companies in the newly created European Emissions Trading Scheme (EU ETS) right after it started in 2005 (Engels, Knoll, and Huth 2008; Engels and Knoll 2014). Later, I extended this research interest to Chinese experiments with carbon markets (Engels and Wang 2018). Economic sociology provided fascinating theoretical tools for critical analysis of these new phenomena – looking at varieties of capitalism and national styles of regula-

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tion to understand the huge differences in company behavior across countries, at the way those markets were constructed in the first place and at the power games that were involved in this process, and at valuation processes that transformed greenhouse gases into a commodity.

Even though this varies over place and time, many companies are now anticipating a carbon-constrained business world. High-emitting companies experience growing pressure, and whole industries, be they energy, cement and minerals, automobile, food, or agriculture, feel the need to transform their business models. But how do these economic actors make sense of what is ahead of them, and how do they fix an understanding of their business future that enables investment decisions? The perspective of imaginary futures, advanced by Jens Beckert, has been very useful to grasp the specific circumstances under which companies have to operate (Engels, Kunkis, and Altstaedt 2019).

My own role as an academic has diversified over the years. I have engaged in problem-oriented basic research as well as transdisciplinary urban transformation labs. Currently I am conducting a long-term qualitative panel study on companies' responses to decarbonization pressures on four continents, together with colleagues from sustainable finance and from law. This latest research is embedded in the Cluster of Excellence on Climate, Climate Change, and Society (CLICCS, https://www.cliccs.uni-hamburg.de), which is funded by the German Research Foundation (DFG) from 2019 to 2025.

As a teacher I have seen that a growing number of students in sociology and interdisciplinary teaching programs are interested in climate change as a topic. In the natural and geosciences, I see a rising interest in understanding the societal foundations of climate change and finding a way to break away from the carbon lock-in and to start a transformation towards a low-carbon or even net-zero carbon society. Finally, I serve on expert committees and engage in public sociology. In all these roles I see how much sociology in general, and economic sociology in particular, has to offer to feed into these debates.

This impression is my main motivation to serve as the Newsletter's editor for a year. Economic sociology has great potential to engage in meaningful ways with the topic of climate change. However, this potential is currently not sufficiently exploited. Expert discourses on climate policies are dominated by economists and engineers, leading to some blind spots and biases. I therefore want to open the series with a set of three interviews that I conducted with scholars in the field who all have some special viewpoint on what economic sociology can contribute, how it can improve its visibility and make its voice heard more effectively in public and in expert circles in debates on climate policies, and on the possibility of deep transformational change.

The issue starts with an interview with Andy Hoffman, who is the Holcim (US) Professor of Sustainable Enterprise at the Ross School of Business and the School for Environment and Sustainability, University of Michigan. Before teaching at a business school, Andy Hoffman worked as a consultant, construction manager, and in the U.S. Environmental Protection Agency. I was interested in how he sees his role as a teacher and researcher who is trying to form the next generation of business leaders.

The second interview is with Benjamin Sovacool, Professor of Energy Policy at the Science Policy Research Unit (SPRU) at the University of Sussex Business School in the United Kingdom, where he serves as Director of the Sussex Energy Group. Since 2003 he has worked as a researcher on energy and climate issues. He interacts with academic, public, policy, and expert audiences alike. I was interested in meeting him because he co-founded a network and a journal around *Energy Research & Social Science.*

In the third interview I talk with Simone Pulver, who is Associate Professor and Director of the Environmental Leadership Incubator at University of California, Santa Barbara. She has been a pioneer working as a sociologist on oil companies' responses to climate change. A few years ago, she became involved in the American Sociological Association's Task Force Sociology and Global Climate Change, which tried to bring together what sociology had to offer to the analysis of climate change. I was interested in learning from her experiences gained in this task force and similar academic settings.

The idea is thus to learn from three types of experiences: teaching current and future generations of business leaders, organizing a sociological assessment on climate change, and establishing a journal and a new publication network.

In addition to these interviews, the Newsletter contains a paper written by Eve Chiapello, who holds a chair in the sociology of the transformation of capitalism (Sociologie des transformations du capitalisme) at the Ecole des Hautes Etudes en Sciences Sociales in Paris. She became known as the co-author of *The New Spirit of Capitalism* (with Luc Boltanski, in 1999). Since this seminal publication she has analyzed capitalism through the lens of new management and policy tools, in particular tools of financialization. In her contribution, which is a shortened and translated version of a chapter in an edited volume in French, she looks at the emergence of green finance in the context of an increasing financialization of the economy and

the ongoing delegation of responsibility for solving the climate problem and other sustainability issues from the state to the private sector. Her analysis is, unfortunately, very sobering with regard to the question of whether and how capitalism can be transformed into a "climate-friendly" version.

The focus in this series of the Newsletter on the environment and economic sociology follows the last series' focus on digital transformations. Many thanks to Akos Rona-Tas for editing three fantastic issues on this topic. Finally, the last point concerns the section on the book reviews that typically complete each issue. On behalf of the editorial board, I would like to express thanks and gratitude for the impressive work that Dr. Lisa Suckert has invested in this section since November 2016 (Newsletter 18.1). She continues to work as a senior researcher at the Max Planck Institute for the Study of Societies. In her role as the book reviews editor she will be succeeded by Dr. Sebastian Kohl, who is also a senior researcher at the same institute.

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Interview with Andy Hoffman

What is your motivation for teaching climate change in business classes?

I have a very clear answer to that question: If business does not solve the problem of climate change, it won't be solved. The market is the most powerful institution on Earth, business is the most powerful entity within it. So the market has to shift to address climate change. Many blame the market for climate change and the emergence of the Anthropocene, some call it the Capitalocene, and that's a fair criticism, but if we are going to address these issues the market has to shift. New forms of mobility, new forms of protein, new models of consumption, all these things have to come from the market or we are doomed. So that's my motivation for teaching climate change in business classes.

When did your interest in climate change start?

I was interested in environmental issues from the beginning. I could go all the way back to my undergraduate years in the early 1980s, but I started my PhD in 1990 and I was still interested in environmental issues. Climate change was only starting to pick up then. It only started to become an issue in business in the late 1990s, and in the business school it would just be part of a fringe elective until the early 2000s. It was only ten or eleven years ago that business schools really started to take this issue on in a serious way. When I was doing my PhD in the early 1990s and tried to get people on my committee in business schools, the reaction was, what are you doing here, why are you talking to us? Now I go back, look at the webpage of my alma mater, and all those same professors now list sustainability and climate change as one of their core areas. I also like to point out that in 1997 I interviewed at INSEAD in France, and they said "we love your stuff on institutional theory but think you are too focused on the environment." Now they would never say that. It was an issue that was not acceptable, you were seen as an advocate, as an activist, and if this is a political issue, what are you doing in a business school? Now it is totally different.

Do you encounter this as a reaction a lot, that people think you are more like an advocate, and that this is more a political issue than an academic one?

Certainly ultra-conservative people would see me as an activist. Those that do not believe that climate change is real. I have a folder for hate mail that I get. I had one attack me in a meeting who said "Why do you want to destroy the market? Why do you teach environmental issues in a business school? Why do you hate capitalism?" Those are fringe voices. More people in business know this is real. In my opinion, many are ahead of academia in taking it seriously as a business issue. Certainly the students are there. The students are clamoring not just for content on climate change per se, but on a new conception of business. We have seen this recently at the World Economic Forum, BlackRock, and Business Roundtable, all saying that the purpose of the corporation is NOT just making money for shareholders. The students are already there, they are anxious for this. I taught a brand-new course this past winter – Business in Democracy: Advocacy, Lobbying and the Public Interest – to take a look at the influence that business has on policy and the role of government in the market. It was a joint course between the School of Business and the School of Public Policy. I had 75 students enrolled and a waiting list. That just does not happen to a first-time class. A lot of students from the business school told me they are so anxious for content in their business curriculum on the proper role of government in the market. That is in line with what they look for in their careers. When I started, students who wanted to change the world typically went to schools for government and non-profit entities, and now many go to business schools because they see the power of business to improve the world – or to destroy it. They want a role in the former.

But too many business students think that the government has no role in the market, and that regulation is an unwanted intrusion in the market. And that's just absurd. They also take capitalism for granted, at least in its present form, and I have been trying to teach them that capitalism is actually diverse –Scandinavian capitalism, American capitalism, Japanese capitalism are all very different. And it is quite malleable, it changes over time. We need regulation in the

market to set the rules of the market. It is not a natural state like the law of gravity. It is a human-made institution, and an expression of human needs. And it changes when those needs change. So we need regulations that set the parameters of the market, or we are in deep trouble. I also would add that a lot of students from schools of government see business as the enemy. When I taught this course with students from the School of Business and the School of Public Policy, I asked them "what do your peers think when you are taking this course on business and democracy?" The students from the School of Public Policy said that their peers could not believe they were actually setting a foot inside the business school, because that's the enemy. And a lot of the Business students said that their peers asked, what relevance does that have for running a business? That speaks volumes to the problem that we have. The idea that government is irrelevant to business is just bizarre.

I would also add that many of the students I teach really go into business because they want to make a positive difference in the world, and they see the power of business to do it. I have a book manuscript that will come out next spring from Stanford University Press that is called *Management as a Calling*. It is playing on that idea that students see their role in management as having a vocational purpose in the same way we think of doctors and lawyers. If your dominant paradigm in your job is just to make money – and business is a way to make an obscene amount of money – we are doomed.

Do you think business schools are ready to introduce government as one of their core issues?

Maybe not into the core. Rebecca Henderson at the Harvard Business School has a course on Re-imagining Capitalism. She expected a short elective course, it turned out the students ate it up, she had four or five sequences of it, and she wrote a book! And think about the Sustainable Development Goals (SDGs). I find it fascinating to see the extent to which these have been taken up by business and business schools. They have really adopted the SDGs as a serious model for how to change the structure of business. I find the SDGs far more robust than the triple bottom line – social, environmental, and financial – which was innovative when it was first introduced in 1997, but it is too simplistic today, no one really knew how to put it into practice, make tradeoffs among the three parts and combine them into one metric. But the SDGs I find quite fascinating, the way they are picked up. Income inequality, reimagining capitalism, the role of government in the market – these kinds of courses have to be a part of the future of business education. I really do not like being labeled as a business and sustainability person, it is that category of electives for the do-gooders. It really has to be the core of the business school to give courses like this, to bring it to the fore.

Andy Hoffman got his PhD at the Massachusetts Institute of Technology in 1995. He is the Holcim (US) Professor of Sustainable Enterprise at the Ross School of Business and the School for Environment and Sustainability, University of Michigan. He uses a sociological perspective of institutional, organizational, network, and strategic analyses to assess the implications of sustainability issues for business. Before teaching at a business school, Andy worked as a consultant, construction manager, and in the U.S. Environmental Protection Agency. He has published award-winning books and articles, such as *How Culture Shapes the Climate Change Debate* (Stanford, 2015) and *Re-engaging with Sustainability in the Anthropocene Era* (Cambridge, 2018). He has seen generations of students come and go from business school, and he has been engaged with transforming the business curriculum to prepare it for the big sustainability and climate change challenges that are already visible and will only become more urgent in the future. He is not optimistic, but he thinks hope is a promising state of mind. I was interested in talking with Andy about the challenges of teaching future business leaders and doing research on companies that might be in the midst of a gigantic structural transformation. He calls for a stronger engagement of economic sociology in the political and public debate. *ajhoff@umich.edu*

What are the biggest challenges in your teaching programs?

There are some deeply held assumptions that will not die, and resistance from people in particular disciplines in my school. I think that resistance is not as strong in Europe. I find that finance is typically more resistant to these kinds of issues. When the dean at my business school wanted to re-focus and re-center the branding of the school around "positive business" and business making a positive difference in the world, it was the folks in finance who said "are you telling us that we are teaching negative business? What are you talking about?" In 2012 I co-edited a handbook for Oxford on business and the natural environment, and we invited authors from all of the disciplines. The hardest chapters to get authors for were finance and accounting. They do not see the natural environment or sustainability as theoretically novel and therefore they are much slower to write about it. Some of the assumptions in those disciplines are part of the problem: discount rates, gross domestic product, shareholder primacy – these concepts and models can stand in the way of real progress.

The persistent challenge has always been that issues around sustainability are typically electives, and it does not really penetrate the core. I tried to crack it, others have tried to crack it, but it's hard to crack. There is tremendous inertia in the core. But as students demand this to increase, it is going to be hard to avoid. This Covid crisis is going to be an inflection point for management education, because you cannot look at the market right now and the problems that have been exposed by Covid, particularly income inequality and climate change, and think you can stay on the present course. I do find change just in the past couple of months on two issues that are really important. One, rethinking management education and rethinking the role of business in society, but, two, the professors, the role of scholars in society. Too many of us think that we just write papers, publish in academic journals, and we are done. The quality of public discourse on science in particular is abysmal. Fake news, pseudoscience – if we as academics do not step into the breach and try to fix that, who will? And if we think that we can continue to draw our salaries, which are quite comfortable salaries, for doing work that merely talks to a small academic community, I think we do so at our peril. Again, I think this an area where Europe is ahead of the United States. I have found colleagues in Europe that are far more comfortable taking positions on public issues, where professors in the United States hold to that idea that the objective is to stand apart from the political debates. I think that's nonsense. We do our work, and it has political implications, whether you like it or not. Your silence will not save you; you have to step into the breach.

There has been a growing debate in the US around questioning the American model of the business school, while at the same time there is a movement within Europe to move more towards that model. It's like two ships passing in the night, and I want to say to the Europeans, stop, go back, go back to where you came from. Don't follow us.

The challenge before us is that we have to totally redesign the business curriculum. The challenge is not working climate change into the curriculum as it stands, the curriculum has to be redesigned for the twenty-first century. It has not changed for decades and so in that redesign process I would challenge people in economic sociology to enter the conversation. Because if you just leave it to economists, certain assumptions and models will stay, and that leads to shareholder primacy and short-termism, to a focus on one type of shareholder who does not care about long-term profits or a sustainable world, it will lead towards CEO compensation that is hooked to share price, which leads to perverse incentives. Economic sociology should enter this conversation, not only in education but also in public discourse, embrace the role of the engaged scholar. The conversation in the public sphere has been dominated by economists. People think that economists have all the answers, and that's unfortunate because they don't. There is room. Look at writers like Daniel Kahneman, Richard Thaler, Malcom Gladwell and others that are writing these social science books that people are diving into, they are anxious to read all these.

Do you have similar experiences in executive teaching as in graduate teaching?

I have done some executive teaching but not a lot. We have tried to get executive education programs going on climate change. Here in the US most companies will come back and say, we know that it is important, but right now we are on a "need to know" basis, and absent of any kind of move in Washington we don't need to know. But in some multinational companies that operate in other parts of the world, I have been called into executive education to teach about climate change and environmental issues more broadly – because in my teaching and research I take climate change as an example of something much broader, a whole class of issues that sit under the umbrella of the Anthropocene. There are nine planetary boundaries in the Anthropocene; climate change is just one of them. There is a shift in the extent to which humans are altering the systems of the Earth, be it particulates, species extinction, water scarcity – a whole host of issues. I like to point out to people that when I was born in 1961 there were 3 billion people on Earth, today there are 7.5, and by 2050 there will be 10 billion people. That alone speaks volumes to the extent to which we are now an animating force in the environment. If we do not understand our overpowering presence, we're in trouble. And the market is a source of that overpowering presence; the market has to shift.

Do you think that institutional theory is helpful for understanding and explaining change?

For me it is, because I put institutions and culture under the umbrella of macro-sociology, and these issues are as much cultural as they are economic, technical, or political. As an example: Economists, who pretty much dominate the political debate in talking about issues of climate change, keep focusing on a carbon price to solve the problem. I am not denying that a carbon price is important, but the idea that this is the silver bullet that is going to completely solve it is naive when you start to think about the political dimensions of it. For example, in the 1990s we had a price spike for oil, and the markets responded. People bought more

fuel-efficient cars and drove less, and economists said "see, pricing works." But if that same price spike was caused by a federal gasoline tax, the response would have been fundamentally different. People would rebel, they would get angry, they would push back. That is where the naivety about carbon price comes in. People are not like lab rats chasing cheese, they actually care about who is putting the cheese there and what the cheese is.

In Ireland, for example, they had a problem with plastic bags. They created a plastic bag tax and it worked. And people say "see, pricing works." And I come back and say "stop, time out." First of all, people were pretty much in agreement that they had a collective problem. And then a cultural norm got set that if you were seen carrying a plastic bag you were seen as a jerk, like someone who litters or doesn't pick up after their dog. That is the important piece here. How did those norms get set? And then you can start to look and say, well, people started calling it a problem, so they welcomed a solution. It is a very young and adaptable culture. And they had no domestic plastic bag manufacturers that could organize opposition. So, in the end, you have to consider the cultural and institutional alongside the economic.

When I take that thinking to talking about the Anthropocene, I think we are amidst a cultural shift comparable to the Enlightenment. It is that big. Once you put it on that frame, then you can start thinking differently and say, okay, when we reach a population of 10 billion people, can they all get a steak for their dinner every night? Absolutely not. How do we start to provide protein? Then you can think more towards vegetables, or plant-based meat substitutes, or insect-based proteins. The Covid crisis really tested us. The food chains became strained, and they are not totally secure yet. And people started asking, where does our food come from? This is an institutional and political challenge, not merely an economic and technical one. So how do you get people eating insects? I would like to point out that when sushi entered the US market in the early 1980s, people thought it was disgusting. Now it is a delicacy. People used to think that lobsters were disgusting. Now we love to eat them. So maybe it is not likely that in the future we eat whole crickets, but cricket powder as a protein source? Over time it will become normal. These are all cultural questions as much as they are economic and technical.

Would you say that cultural change is the most important engine for the transformation towards a climate-friendly society?

I think so. I have been trained in the institutional models of Dick Scott, or the cultural model of Edgar Schein. I see them as very parallel, since they have three layers or levels. What Scott calls regulatory institutions, Ed Schein calls the artifacts of culture – I find things like pricing and regulation at that top level. All of them are supported by deeper cultural beliefs. That is where change has to happen or we are not going to get there. If not getting my steak every night is seen as a sacrifice, as an imposition on my freedom, it won't stick. Why is Tesla such a great car? Elon Musk made it sexy and desirable. This is cultural, it is not just economic. The idea that people are willing to spend $80,000 for an electric car is actually quite mind-blowing if you think about it. The auto experts said that it would never work, but it did because he made it sexy.

Does that imply that you have to teach marketing, or teach how to make things sexy?

Well … When you put it in terms of marketing, you are trying to sell something. But put it in terms of strategy – where is the market going? That is again a cultural question. What is the future of the auto sector? What do people want? How are tastes changing? On cars, a lot is changing. For example, I own a couple of classic cars. I drove to a faculty dinner with a 1960 MGA. To me, it is a piece of art. But my young colleague looked at me, really looked at me, and said "Andy, I don't understand it. Can you explain this to me?" And I don't think I could. He saw a car as strictly utilitarian. So you can look at it like marketing, but I think it also helps to look at it in terms of where the market is going and why. Meat producers are investing in alternative meat companies because they see that is the future. It is not just a marketing question; it is a cultural question and therefore a market question.

People ask me, are you optimistic? My answer is, no, I'm not. But I'm hopeful. Hope has made things happen. Another book I am finishing up is called *The Engaged Scholar*, it is about scholars getting more involved in public and political discourse. It is important that, to communicate to the public, you do not just give them the data. If that were true, everyone would accept climate change. You need to find ways to touch people on an emotional and evocative level, you need to trigger that hope. When I talk about management as a calling or a vocation, my students light up, they really do. It gives me hope that younger generations can change things. The world can change on a dime when properly motivated. Think about changes after 9/11. Things that were not possible on September 10 were now possible on September 12. Covid is also one of those inflection points. Think about Thomas Kuhn's ideas about revolutionary science. We are there now. In the hands of the right social entrepreneurs you can

fundamentally change our world right now, and I have hope in young people doing it.

Do you have any recommendations for people working in economic sociology?

Well, again, there is so much that they have to offer to the public and political conversation. The rational economic model of homo economicus is dominating the conversation, and I think that's very limiting. People do not work just for wages, they work for meaning. The questions and challenges we face as a society are not merely economic, they are not merely technical, they are cultural, political – power issues start to come in here. What will supplant the fossil fuel industry is a power question, not just an economic one. Sure, shale gas has come in and has knocked out coal, that was convenient, but that was not by design. If you really want to be shrewd and smart about shifting institutions in society, you need to bring a political power lens to the conversation, a cultural lens, an institutional lens. Then we really give our students a full tool kit on how to think about driving change, and how to use the power of business to solve the world's problems. I do see more people in business really taking on this momentum, but we can't just rely on business to do it for voluntary reasons, we need to bring government back into the discourse.

I think Covid is a real test for the strength of our institutions, and we are seeing the cracks and how we can fix them. Just before Covid, we ran into this period of balkanization – Trumpism, every man for himself, breaking down world alliances – and I hope that people take a look at that and say, "we had a moment to reconsider our global institutions, now let's start to strengthen those institutions because climate change is going to do it to us again." We will have climate refugees, food shortages, coastal areas being devastated – this is our future, and how we can build the institutions to deal with that is the question before us.

Interview with Benjamin Sovacool

What was your motivation when you started thinking about a new journal on social science research on energy?

I wish I could give you an elegant grand answer that the motivation was to create a better world or to convince policy makers. But actually, it was a very strategic move of people in the energy studies field – people who study energy supply, energy use, energy demand. We had a whole family of journals that we could publish in, but even the so-called social science journals which had names like Energy Policy weren't very social science-oriented. We did a content analysis which showed that more than half of the articles are actually in pretty quantitative mathematics and economics, not in the core families of public policy, anthropology, and sociology, so they looked like they were social science journals, but we sent our articles to them and just got really, really bad reviews back. I don't mean reviews that disagree with you, I mean reviews that invalidated social sciences. I still remember multiple occasions where we would have a study that used rich qualitative data, let's say 30 or 50 research interviews, and it would be a one-sentence rejection that would say "Interviews, speaking with people, is not an appropriate method." So it was complete under-appreciation for what social science could offer. A related thing, too, was that particular journals had very strong biases for or against renewable energies or fossil fuels, so you could even do a study that was really well-designed, and the reviewers liked it, but then the editor jumps in at the last step and rejects it, invalidating the peer review. There were hundreds of us, and we talked about this at conferences, and we really wanted a new independent space that did not marginalize social science, that put it front and center, in the name of the journal and in the aims and scope. But it was not the only motivation: we also wanted to promote *good* social science. By that I mean social science that is interdisciplinary, rigorous, with mixed methods, and comparative. Still more than 90 percent of the research in the broad energy social sciences is none of those things. It is not comparative, it looks at only one case, it is not mixed methods but uses only one method, and it usually has some pretty problematic research design that you cannot even falsify. So it was not just a push to validate social science, but also a push to make social science more rigorous, more relevant, more explanatory, and just higher impact. We chose Elsevier and went through a long process of getting the concept approved and the journal started. This took us three years – we had a very important sponsor inside Elsevier, but we also met a lot of resistance from editors of other journals. Looking back, we are really delighted how great it has done, but at the time it could have flopped. Elsevier said half of the journals they create go under in the first five years.

Was it difficult to get Social Science accepted as part of the title?

We managed to find one journal we thought was a great model for what we wanted to do. It is called *Social Science and Medicine*. This is a great interdisciplinary health studies journal that brings the social science research on health to the technical and medical community. It is a very high impact journal, it is among the top 20 of Google Scholar rankings of all journals. Initially we really wanted to call our journal Social Science and Energy, very simple, but they flipped it into Energy Research and Social Science just to differentiate it a little bit. So that was kind of our model for how we wanted to do it, and since they had the word social science in their title, it made it much easier to get social science in our title. The publisher, the board members, the editors, the authors – they all took a risk to accept a new journal, with no impact factor, no credibility, and we were really lucky that first year to get a lot of high-quality contributions from people who just had faith that it was time for such a journal.

Given that the journal is interested in interdisciplinary work, what can you say about contributions from the field of economic sociology – does that play a role, are there specific topics or fields where it could play out?

It is difficult to say how much of this is economic sociology. I know economics is tricky because it spans so many different fields: mathematical sciences, physical

sciences, behavioral sciences as well as the social sciences. So when we did our content analysis, we just treated economics as a separate discipline. It was about 20 percent of authors writing in journals like *Energy Policy* or *The Energy Journal*, or *Electricity Journal*, had an economics background. But within that there is a whole range – orthodox economics, heterodox economics, applied, environmental, ecological – so even then you get into those different approaches and it is somewhat fragmented. Sociology is a little more identifiable, but of course they also already have their disciplinary journals. Not within energy, but obviously *American Journal of Sociology*, and *Organization and Environment*, *Environmental Sociology* were already kind of in the periphery.

In ERSS, we do not organize articles by discipline but by theme, and we have eight to ten core prominent themes. So let us approach your question by looking at these themes. Four themes account for at least two-thirds of submissions, and they are themes that completely and commonly recur. The first two are what I would call our bread and butter, where articles are submitted very frequently. They are either on energy behavior and use – patterns and modes of consumption, energy reduction, demand response, practices – all of that fits into this space of energy and behavior and how people put energy to use. The other one that is really core is the social acceptance, for a lack of a better term, of new energy systems and people's attitudes, preferences, and knowledge on things like shale gas, nuclear power, renewables, retrofits, and so forth. Then there are two that are less conventional but now very popular. One is energy justice and equity – all the stuff about just transitions, about winners and losers, about vulnerability and vulnerable groups, externalities, and energy poverty, fuel poverty fits into that space. The other one is transitions, sociotechnical, energy transitions, low-carbon transitions, transformations, disruptive innovation. If you are interested in the fastest-growing themes, in the two past years we have seen contributions on energy institutions and governance, especially new forms of governance like polycentrism, and what we have called energy and demographics – which is all the things like gender, race, class, age, income. Here we have seen a real flourishing, especially gender, that I am very pleased with because I think that those themes were very under-covered before. And even now that gender gets good coverage, there are not so many articles dealing with race, ethnicity, or indigenous communities. I am quite happy to see those areas starting to get some of the attention they deserve.

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If I try to draw obvious links from economic sociology to energy research, I would think of something like the role of economic actors in transition processes, or the capitalist foundations of energy production and consumption, or the role of finance in transforming energy systems, or energy markets – does that come up at all in the submissions you receive?

Certainly there is a little bit of the first, economic agents and actors and how they work, especially if you get into things like aggregators and how they work for electric mobility markets, or intermediaries – people who sit between the consumer and the producer, like a car sales person or a community energy planner. We do have an emerging theme on finance. But then it is more a question of the geography of finance than the sociology of finance. And then the final thing that we do have with people using geography approaches is regimes of accumulation, and neo-Marxist approaches, talking about dispossession, commodification of people, problems of capital and concentration of wealth. Honestly, one of the strengths of the journal is that we have been able to capture work in geography where there was not really a space for it. The economics energy community already has three very good core journals that are getting most of the economics papers: *Energy Economics*, *Ecological Economics*, and *The Energy Journal*. They even have their own association, the International Association for Energy Economics. We do not see the kind of usual economics work on energy here, because it goes to these journals.

On the relationship between economics and sociology and the study of energy, it's a challenge which way the contributions go. When you do research on energy that connects to a discipline, you can either bring the energy insights to the disciplinary journals, or bring the disciplinary insights to the interdisciplinary energy journals. Much of the work at the journal does both.

And each time it is a completely different style of writing and presenting.

Yes! Although I find myself getting a little more homogenous in my style. This is also important: to have your own voice. In fact, I even had some blind reviewers who wrote "This sounds like Benjamin." They clearly know how I write and how I think. But you are right – the framing for, let's say, a geography journal is fundamentally different from the framing for an economics journal. Or, especially if you are going up to a *Nature* journal, like *Nature Energy* or *Nature Climate Change*, this is also a completely different style, and much shorter articles.

How has the attention for social science research in the energy field evolved?

It started with a dormant or latent group of social scientists working on energy for thirty years, and my sense is that many of them are still around. They began working on these issues in the 1970s, with the energy crises, which catalyzed all of the people that were on my dissertation committee, all of my mentors. They just kept doing it. By now the journal has created a huge network and a conference. The network is called the *Energy and Social Science Network*, and we have grown from 200 members to 2000 members in three years. And then we have this Energy for Society conference every two years, and both of those times we dramatically underestimated the interest. The first time we did it we thought we would get 200 submissions for papers and posters – we got 1000. The second time we did it we thought we'd get 1000 – we got 2000. Clearly there is a huge appetite within the community, and I think this is precisely because you can be a geographer or sociologist or political scientist or psychologist or anthropologist and can still not only have a home but find a community that is really interesting and engaging.

But there is also a huge growth in the *demand* for social science research; it also has become more codified in a lot of the funding processes. Many of the top funding agencies have switched from disciplinary funding to more challenges-based funding, where the challenge is, for example, low-carbon retrofit. Then you organize research teams by the challenge, and when you do that, social science usually is at least a third of the team. In some cases they can be half or more of the team. And all of the major research platforms – Horizon 2020, ERC, and here in the UK the Research Council – use this challenge-based approach. While ten years ago it was sometimes really difficult to find calls for our proposals, we now get a request every week, within my group, to join someone's research proposal because they need social science research. I think there has been an exponential increase in demand for social science, recognized and driven predominantly because the funding organizations have restructured how they disperse their money.

Would you say that these requests to join proposals is mostly instrumental, in the sense that they look for the odd social scientist who does something about social acceptance?

I think it depends. We have had both. Within my own experience, out of the last ten projects that I have won, two have been what you say. We call it tokenism. It is a huge team of natural scientists but someone told them they need a social scientist, so they come to us and we do some sub-task, some random work package, and we generate a paper or two and they keep doing what they want to do. It is more like legitimation rather than meaningful involvement. That said, we still say yes, because usually we can still craft that work package ourselves, and usually we find something we were thinking of doing anyway, or we supplement a project. But the good news is that in the other eight projects, social science is core, front, and center. Eighty percent of our budget is social science. There are good examples where the social sciences really set the agenda for the next five years, and somehow the usual tokenism is inverted, that is, social science is the main focus, with other approaches being peripheral.

Where do you currently see the biggest challenges for social science contributions on energy questions to expert and public debates?

I see two very difficult challenges, and they are unfortunately contradictory. The first challenge is that too much social science research is not well-designed. This could be due to a lack of resources, or lack of training, or lack of appreciation of better methods. We get so many submissions to the journal with a sample size of ten interviews, or it is a research question that is really very vague and does not have a good answer. I think the need for greater rigor is immediately problematic.

Much of the research that we see is incomplete, does not adequately test rival hypotheses, our research does not reveal limitations – they sometimes do not even have a research method section, so you don't even know how they collected data, how they had a research design, how they executed it. That is the first challenge, because if you do not have rigorous research, then of course social science won't look as good and strong and robust as other research designs, or research that may have counter findings. And when you are debating things in fields like renewable energy or the risks of nuclear power, you want to make sure that your study has the highest degree of validity that it can.

However, the second challenge is the need to make social science far more translatable to the public and the experts. And the more you address the first challenge, with having some intricate technical research design, big data, triangulation, you lose the simplicity and the elegance of being able to translate it. Here I was really struck. My department has a very good relationship with the Parliamentary Office of Science and Technology – this is the kind of group that advises Parliament on issues of technology – and we had three of their senior staff visiting us three years ago, all of them had a PhD. We had a roundtable discussion and I flat out asked them when was the last time they had read an academic article. One laughed and said during their PhD, one said "I can't remember," and one said "Not since I started the job." So I said, wait, your job is to examine trends in science and technology and you are not reading any of the academic literature? They said, no, but we'll tell you what we do read: we read the press releases. Because if the study is important enough, they will translate it for us into a 600 or 700-word press release, and that's great because we can still cite it as being peer-reviewed, we get all the credibility of quoting academics without having to read the academic output.

Since then we have followed a strategy that every time we have a study that we want Parliament to engage with, we do a press release. And we have dramatically increased our mentions in Parliament because of this strategy. What this clearly indicates is not that these people have trouble reading social science, they don't even bother. It doesn't even occur to them to look up my journal or even *Nature Energy*. The ability to translate academic output into policy briefs, press releases, blogs, whatever it might be, really helps. As you know, writing a press release with a quote is a very different style than writing an academic article.

So I think the solution to those two challenges, making it more rigorous and making it more impactful, and to the tension between them is to write multiple outputs. You make your rigorous study for *Nature Energy*, and then you have the kind of simplified press-ready version for the public, and then you have a policy brief that distills the insights for policy makers. Every time you get an output, you actually do three things with it, not just one.

And how do you make your department acknowledge all this extra work, make room for it, or even incentivize you for doing triple work?

Well, right. In the beginning we did everything ourselves. And I had some really bad press releases. The University of Sussex Business School, which is where we are, has five departments and 300 faculty and staff and 5000 students. The University of Sussex has, given all of that, one press officer. He is really good and he is really responsive. He can be available because not that many people would ask for his service. So almost every day there is some press release, or he is calling the *Guardian*, or he was very good at getting me in *The New York Times* – not published, but they referenced our research last year – and he is very good at blogs. So we do have that. But then we started putting a greater focus on impact and engagement into our grant proposals. Now we actually have three full-time staff who do communication, outreach, and engagement. And it is not just this. The other key thing we do is we write testimonies and we respond to consultations from the government. We are frequently submitting written testimony to the House of Commons, House of Lords. I was actually in front of the Prime Minister's Council for Science and Technology here in the UK last month, talking about hydrogen, and we did a presentation for them but also produced a two-page brief, written exclusively for them. We would never be able to do that if we did not have this kind of communication and engagement team. We are doing a decent job, but we are not the best. I will give you an example of the University of Nottingham. They have an amazing anti-slavery institute called the Rights Lab. They are even more impactful than we are. They have had bills named after them, they were having dinner with Theresa May – they have twelve full-time communication and engagement officers, twelve! So that gives you a sense of what you need to get up to that level. You have to have staff capacity to do media and policy work at an equal rate to the academic work.

Do you have any recommendation for scholars working in economic sociology who want to engage in the field of energy research and want to get published there?

Yes. We often get asked by new early career researchers wanting to publish, or by those who publish articles that have no impact: What can I do to get better with

research? As we mention in an extremely long review paper, good research is actually three things. It is an equal mix of rigor, novelty, and style. Economics research, and to a degree some of the sociology research, in particular tends to excel in only one of those three areas. Really deep, quantitative economics work may emphasize rigor, with very sophisticated statistical techniques or modeling, but sometimes it has the least interesting research questions. Something like, what is the optimal rate for a feed-in tariff? Well, by the time you have finished the study, rates will have changed anyway; it doesn't matter how rigorously you answer that question, it is going to be politically challenged. Sociology can have very conceptually interesting pieces that have very little practical relevance. My plea is, remember that a great article needs more than any one of these things. You always have to find a contribution that is either conceptually novel, or empirically or methodologically novel, but you also have to write well. That is the trickiest area for most of us in the research community because we are taught to write very technically. Or we even think that styles of good writing do not apply to academia, like writing in the passive voice, or writing in the third person. I tell all of my fellows to do as much as they can at getting trained in how to write, creative writing, style of writing, visual elements, designing diagrams, photography – or, if they are more technically oriented, to learn how to tweak their programming skills with things like Python or MATLAB. Anything you can do to enhance the quality of your research. Because I think it's a huge shame if we put all this effort into generating huge research which is badly written – which means it is never picked up by policy makers or readers or students. The whole community is struggling to attract readers and put its research to use, so I guess it comes back to the translation point – being able to translate our work, but also being able to pay as much attention to writing well as to being rigorous.

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Interview with Simone Pulver

What was your motivation to engage in the ASA Task Force on Sociology and Global Climate Change?

I first got involved in this a very long time ago. The National Science Foundation (NSF) and American Sociological Association (ASA) co-ran a workshop in 2008, titled "Sociological Perspectives on Global Climate Change," which was a precursor to the ASA Task Force on Sociology and Global Climate Change, launched in 2010. You remember how it was back then; for a long time, climate change was an issue of interest in other disciplines. It was studied in the ecological and physical sciences, in economics, and in the international relations community in political science, but it didn't come into sociology for a long time. In the early 2000s, environmental sociology was concerned about other issues. Climate change was not something that people in sociology would talk about …

… unless from a Science and Technology Studies (STS) perspective, like deconstructing climate change knowledge and the climate models, right?

That's right. But even that was a relatively small community. In American academia, STS scholars are more at home in the disciplines of anthropology and political ecology. There is a sociology of knowledge section in the ASA, but STS is less prominent in that community.

So I remember going to this 2008 NSF-ASA workshop way back when I was an assistant professor at Brown University. At the time, I felt that I was one of only a few people working on climate change in sociology. I had started my graduate education in an interdisciplinary energy and resources master's program at UC Berkeley, where I developed my interest in climate politics, and then transitioned to the PhD program in sociology. At the time, there was no environmental sociologist on the faculty in the Berkeley sociology department, and certainly no climate sociologist. I still remember when I was in graduate school and during my first years at Brown, I went to ASA meetings and ISA, the International Studies Association, meetings. At the ISA conferences I would really find my people. There you had the global environmental politics scholars who were interested in the climate policy process. In contrast, the ASA had no focus on climate change and certainly not climate change in a transnational perspective, with a focus on the global negotiations. Arguably, climate change is only ten years old as a topic in American sociology. Now it has become a popular issue. But for a long time, it just was not talked about, so for me the 2008 NSF-ASA workshop elicited the feeling of, yay, there are other people working on climate change in sociology. There were a range of perspectives and disciplines represented at the workshop. One of the workshop leaders was Joane Nagel, who came to issues of climate from a natural hazards perspective. My contribution focused on corporations and climate change.

Following that workshop, one of my main motivations for participating in the ASA Task Force was really about supporting the statement that sociology as an area of research has all these important insights to contribute to how we understand climate change, the consequences of climate change, the drivers of climate change, and how you might think about solutions. I believe sociology has a really powerful set of tools – theories and methods – to understand lots of issues, climate change being one of them, and we as a discipline should be addressing this issue that is absolutely foundational to society.

A second benefit of the task force was for environmental sociology. Climate change is an issue, more so than any other, that has opened other sociologists' eyes to environmental sociology. At the time, environmental sociology was not central to the discipline. Sociologists emphasized issues of race, class, and gender, but environment was sidelined; a colleague once dismissed the entire subdiscipline as being about how people try to save whales. I don't think that is what environmental sociology is about at all. Look at environmental justice. You come to realize how central the environment is to questions of race, class, and gender. I feel that climate change has helped to pull environmental sociology into the mainstream of sociology.

The third motivation behind that task force was a public-facing one. We had to convince sociologists that climate change is an important issue, but we also had to convince the climate policy community that sociology is a useful source of knowledge, of actionable

science. Folks who were putting together the task force were both trying to show the best that sociology can offer in all these different ways, and also to inform the periodic climate assessments of the US Global Change Research Program. For me, all of these motivations were interesting. And as a junior scholar it connected me with other people who were working on the things I cared about.

What was the process like for you? You were central in bringing together the chapter on markets, and you had been working on the corporate world and how it responded to climate risks – how did that play into your experiences with writing the report in the task force?

In a community of sociologists, you don't have to convince people that markets matter, and that markets are about power and not the result of abstract interests. So the task force experience itself was very positive. The hardest task was naming the thing we, my co-author Chick Perrow and I, wanted to write about. We went back and forth over the title of the chapter; should it be "Capitalism and Climate Change," "Organizations and Climate Change," etc.? In the end, we decided on "Organizations and Markets." When you are writing about markets and climate change, it's a really unwieldy subject. It includes what companies are doing internally, the larger market systems in which they operate, which in turn includes the policies that regulate markets. Moreover, you can't talk about climate change without talking about energy, which brings in the topics of traditional and clean energy markets. In short…it's a beast.

At that time, there was some great economic sociology of climate change, including work by you and your team on the European Emissions Trading System, but there was not enough sociology of climate change and markets research to constitute a chapter. That meant we had to open it up to other disciplines. There is so much work on markets and the climate change from an economics perspective, from anthropologists, and from political scientists. For us it was almost unmanageable. We couldn't do a systematic review of the work in all those other disciplines, but if we only limited ourselves to sociology, there would not have been enough there. That is no longer true.

Once the book was published, and press releases sent out, how was it received in different audiences?

That is a great question. Within the sociological community it was definitely well received. I remember we did sessions at the ASA, and they were packed, big rooms and they were full to the back. We clearly thought about other sociologists as an audience for this book; we wanted to bring the climate change issue to the broader sociological community, and many contributors to the book came from all sorts of subfields. So there it was successful, and the ASA was also very supportive of it.

I don't think it was as successful in bridging that gap to a wider audience and to policy circles. I know that we were asked in the chapters to write a set of policy recommendations, but I don't think that was ever separately marketed, and there was no follow-up activity in which I was involved. We did not try to bring a group of people to Washington to do the rounds within policy circles. The one topic that has gotten extensive attention is the work on the organization of denial by Aaron McCright, Riley Dunlap, and others. Climate change denial is not an exclusively American thing, but it is significant in US politics. More recently, another topic that has done the successful crossover, from the academic to the policy world, is climate justice. A lot of that comes from the environmental justice community, from work on climate as a justice issue, and from sociological research on climate adaptation and vulnerability.

I think economic sociology faces a daunting, daunting, daunting mountain to climb in terms of contributing to policy. Scholarship on the organization of denial and climate justice challenges very powerful interests but does not have to displace research

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by other academics. For economic sociology, for anything that we want to transfer into the public policy arena, we have to elbow our way in and create space among the economists already actively contributing to those arenas. To me, that is the big challenge. How can you showcase that an economic sociology of climate change will tell policy makers something sufficiently compelling that it displaces the traditional, rational actor ways of thinking about economies, markets, and corporations that are so prevalent in US public policy? That is going to be a real challenge.

Did it get attention among climate activists?

I don't think so. It succeeded with its immediate audience. It did generate attention among sociologists, and it did consolidate what a sociology of climate change could be, showing that there are all these different aspects to it. But I think beyond that, less so. I think it was most successful as an academic book.

In hindsight, would you do that again, or would you try to do things differently?

Definitely. What the task force and book were trying to do within the discipline of sociology was of value in and of itself. That made it worth it. Plus, I am always skeptical of attempts to bridge the science-policy interface. That is such a hard thing to navigate, and that is part of why I became involved as a contributor to the most recent IPCC assessment report. An advantage of the IPCC process is that the policy audience is already predetermined, and the format is there, and it is about pushing your work, your perspective, into that format. Luckily, the lead author for the section to which I contributed, Elin Lerum Boasson from the University of Oslo, is very familiar with economic sociology and welcomed a sociological analysis of corporations and climate change. It is exciting that in this current IPCC assessment report, corporations are explicitly recognized as an actor group relevant to climate change. That said, the IPCC process can make it challenging to insert a critical perspective on corporate climate action. The format favors research on innovative climate action by a handful of corporate actors over theoretical analyses of why the majority of corporations and businesses in general are doing nothing to reduce their emissions.

Where do you see the most important contribution by economic sociology to understanding climate change?

Economic sociology offers at least two unique and important contributions to understanding climate change. First, economic sociology helps us understand how organizations function; both internally and in their operational environments. Understanding how organizations work is central to researching how corporations engage with climate change. One of my first projects examined oil industry responses to climate change. I tried to understand how they first started thinking about the climate issue, and what were the conduits through which they first started to get information. I showed that their responses to the climate challenge could be explained by the networks in which they were embedded. Of course corporate decisions are about profit and loss and effective strategies, but, under conditions of uncertainty, what corporate leaders think of as an effective strategy is shaped by their understandings of what else is happening in the communities in which they are operating. What are peer actors doing? What are they showcasing as the right strategy? This is a network or field view of the corporation, which is just one of several theoretical approaches used in economic sociology. A more cultural approach characterizes corporations as performing or manifesting their environments. This approach has been applied to analyzing how corporate carbon accounting practices create, assign, and extract value from carbon.

Second, economic sociology recognizes the state as central to the existence of markets and corporations. Anita, your work is relevant here. You analyzed how different national variants of capitalism informed corporate carbon trading strategies. I see this as falling under the broader umbrella of national styles of accumulation, reflective of underlying state-corporate relationships. For example, the US and EU are evolving distinct modes of carbon governance, reflective of the different relationships between states and various forms of collective organization. There are all kinds of capitalisms out there, and thinking about how the state and civil society mesh with corporations and create these different forms of carbon governance is a core concern of the institutionalist strand of economic sociology.

I remember one of your research projects in which you looked for polluting companies that refuse to respond. Can you say anything about the results of this project and how this would also provide a useful perspective on climate change?

Thanks for asking. That project focuses on toxic pollution, so it is a different form of pollution, and the companies we look at do not actually refuse to respond. In the US, there are mandatory reporting rules that require all facilities that meet certain thresholds to report annual releases of toxic chemicals. What we are finding in that project is that toxic pollution in US

manufacturing is very disproportionate. Hypothetically, let's imagine the frozen seafood industry, and you look at the fifty facilities all operating in the frozen seafood industry, and you control for the size of their operations. You would think that pollution would be relatively equal across the facilities, because they are all in the frozen seafood business. In fact, the opposite is true. Even when normalizing for facility size, there are a handful of very highly polluting facilities and the rest are moderate to low polluters. That is a fact and a pattern we have now established in over 300 industries with 15 years of Toxics Release Inventory data. How does this happen? We don't know yet, but the policy implications are very clear; with a little targeted intervention you can get a huge effect. The research also challenges a tendency in corporate environmental research to focus on the companies at the "green" end of the spectrum, who are already doing great. Our data suggest that we should focus research attention on the companies at the polluting end of the spectrum to determine what is holding them back.

And while our project focuses on toxic pollution, other research confirms that this disproportional pattern in pollution is also true for methane emissions, greenhouse gas (GHG) emissions at both the national and household levels, and, to a more limited extent, GHG emissions associated with power plants. For example, when you look at methane releases from the US oil and gas sector, they are highly disproportionately distributed. There is a small group of very big emitters. Some colleagues, like Andrew Jorgenson, Don Grant, Wesley Longhofer, Mary Collins, and Anya Galli Robertson, have looked for patterns in GHG emissions in the electric power sector. At the facility level, Collins and Galli Robertson find limited disproportionality in GHG emissions, but when they look at the parent company level, it reappears. In other words, there are certain parent companies that are more polluting than others. Jorgenson, Longhofer, and Grant were interested in disproportionality in GHG emissions as an independent variable, showing that higher disproportionality in the electric power sector was associated with higher national GHG emissions levels. That said, the dramatic differences we see in toxic pollution, we don't see in GHG pollution from electric power. You do see it with toxic releases from electric power, and you do see it in methane emissions.

Do you have recommendations for people who are in economic sociology and want to contribute to our understanding of the issue of climate change?

Looking ahead, I see two research directions that could be very interesting. First is the economic sociology of climate adaptation. There is fascinating work on flood risk maps and how they affect real estate markets. How does the "growth machine," which is how the sociologist Harvey Molotch characterized the interests that coalesced to promote real estate development in cities, intersect with sea-level rise? How do patterns in business-state relationships determine adaptation strategies? There are so many ways in which climate impacts affect the foundations of the economic system, or at least important parts of the market. So the business of adaptation and the politics of adaptation from an economic sociology perspective are areas of great interest to me.

The second research direction relates to theories of social and economic transformation. One of the limitations of climate change research in the past was the way in which it was parceled out – climate change in the energy sector, in the water sector, in the transportation sector, etc. – and I think we are coming to an understanding that dealing with climate change is about systems transformation. I think European research communities are way ahead of US perspectives on this. We are still operating in a pretty fragmented research world. The low-carbon economy is not just about eliminating greenhouse gas emissions, it is about agriculture, transportation, the media – think about Google and the GHG emissions associated with their data centers and server farms – it is about that entire complex. Economic sociology offers a theory of the economy that includes the state and society, which are central to theories of economic transformation.

How would you suggest dealing with the space already occupied by economists?

That's a tough one. I think the best example of the way forward was provided by one of my professors in graduate school, Neil Fligstein, a professor of sociology at UC Berkeley. I remember Neil was invited to speak to a group of leaders from European central banks. They invited him to speak because he had this interesting view on European unification and also on the banks' roles in that process. Now, who knows if any of the bankers in his audience acted on his insights and changed their behavior. That of course is the end goal. But there is still a lesson in this anecdote. Neil was invited to give this talk because he has something to offer. He had a perspective in which the bankers were interested, and I think that is your way in. I talked before about elbowing your way in, but that approach is the least likely to be effective. Instead, focus on articulating insights that are tangible and actionable, and then you get invited in.

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Stalemate for the financialization of climate policy

Eve Chiapello

Introduction

The aim of this article[1] is to suggest certain avenues of reflection on the growing importance of finance when imagining solutions to the climate crisis. We first retrace the progressive construction of green finance. In our opinion, this constitutes a new stage in environmental policies that systemically accompanies the financialization of capitalism. We then show that the alignment of green finance with the economic-political regime from which it emerged condemns it, for the time being, to impotence. Yet criticism might result in the reform effort shifting towards more ambitious proposals.

The green finance moment

The year 2015 ended with the Paris Agreement being adopted by all 195 delegations present at the Paris Climate Conference (COP21), and was a pivotal year for the visibility accorded to green finance. Article 2, which recalls the objective of containing global warming "well below 2°C" compared to the pre-industrial level, also announced the signatories' willingness to make "finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development." Since the 2008 financial crisis, the question of the financial world's responsibility for the production of solutions has been quietly evolving.

The gradual construction of green finance

Adopted in 2007, the Bali Action Plan brought the idea of reflecting on "innovative ways" and of mobilizing "private and public sector funding and investment, including facilitation of climate-friendly investment choices" in the Climate Convention (UNFCCC) process (Aykut and Dahan 2015). The failure of Copenhagen in 2009 only slightly delayed the expected decisions on this issue. As from the following year, developed countries committed to mobilizing $100 billion per year by 2020, all sources of financing combined (public, private, bilateral, multilateral), to address adaptation or emission reduction actions. It was thus clear from the outset that it would be necessary to call upon private money to reach this objective (OECD and CPI 2015).

NGOs and think tanks worked to put this issue on the agenda. The Climate Policy Initiative (CPI) created on the initiative of financier Georges Soros and funded by large American foundations and certain governments, began a finance initiative in 2010. The CPI has been producing an annual report ("Landscape of Climate Finance") on climate finance flows since 2012. This highly influential work on the Paris Agreement has since 2014 been integrated into the biennial report of the Secretariat of the UN Framework Convention on Climate Change. The Climate Bonds Initiative (CBI), created in 2010 and financed by major foundations and banks, focuses on the development of green bonds. In November 2015, in cooperation with the United Nations Environment Programme (UNEP) and the World Bank Group, it published a report aimed at political decision-makers (CBI 2015) and engaged in collecting signatures from asset managers on this issue.

The number of initiatives increased considerably during the months leading up to COP21, creating a knock-on effect. These major banks and industrial players drew attention to themselves with a series of statements.[2] They were supported by the United Nations Environment Programme Finance Initiative (UNEP-FI), which is itself a partnership between UNEP and global finance. UNEP-FI, launched in 1992 following the Rio summit, was not very active in the early years but multiplied its actions from the mid-2000s (creation of Principles for Responsible Investment [PRI] in 2006). It helped form the Portfolio Decarbonization Coalition in 2014, then with PRI in September 2015 launched the Montreal Pledge, which collects signatures by which investors commit to annual publication of the carbon footprint of their portfolio.

Financial regulators also joined the battle. In September 2015, Mark Carney, Governor of the Bank of England and Chairman of the Finance Stability

Board (FSB), gave a remarkable speech on the financial risks of climate change (Carney 2015). In December of that year, this same FSB initiated the creation of a Task Force on Climate-related Financial Disclosures (TCFD).

France, the host country of COP21 and characterized by a highly concentrated financial sector, wished to be at the forefront of the movement (Canfin and Grandjean 2015). One of the objectives was to make the Paris financial center one of the leading places for green finance, a project that has been steadily pursued ever since.

At the international level, 2015 was also the year of the adoption of the 17 Sustainable Development Goals (SDG) by the United Nations Assembly. This was preceded in July by the third Financing for Development conference in Addis Ababa, whose action plan focused on the importance of developing blended finance that combined private and public finance. It restated an obvious fact that had been shared in UN bodies since the first Financing for Development conference in Monterrey in 2002: public finance alone could not achieve this. The development of green finance was thus also part of this broader observation.

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She received the Anneliese Maier Research Award 2016 from the Humboldt Foundation. She has published the following books: *Artistes versus Managers* (1998), *The New Spirit of Capitalism* (Verso 2005, with L. Boltanski, first French edition 1999), *Management Tools* (Cambridge University Press, 2019, with P. Gilbert, first French edition 2013), translated into English and Spanish, and numerous articles in international peer-reviewed journals. She recently co-edited the book *Faire l'économie de l'environnement* (Presses des Mines, 2020, With A. Missemer and A. Pottier) and a special issue of Social Historical Research on *Social Finance, Impact Investing, and the Financialization of the Public Interest* (With L. Knoll, 2020). *eve.chiapello@ehess.fr*

The development of green initiatives and products

The obsession with green finance, which resulted in the publication of a wealth of grey literature, does not seem to have abated since 2015, and new initiatives have been added. Concerning public players and regulators, in partnership with the UN and the World Bank, the French government launched the first One Planet Summit in 2017. The summit announced the creation of a network of 34 central banks: the Network for Greening the Financial System (NGFS). In March 2018, the European Commission announced an "action plan" for financing sustainable growth (COM 2018). Like TCFD, these two initiatives sought to encourage the financial sector to take climate risks into account.

Concerning the financial actors, green products were developing rapidly. The most visible were green bonds, whose issuers committed to investing the money raised in projects that were designed to produce positive effects on the environment. The issuers were mainly public or development banks, government agencies, states, and local authorities. The volumes tracked year after year by their promoters such as the CBI showed a significant increase in issues since the first issue in 2007 by the European Investment Bank (CBI 2019) and the appetite of investment funds for these products. Europe was the leading geographical region for issuance, with France accounting for 55 percent of European volume. Numerous reports sought to engage public authorities in reforms that would allow the development of these financial products (WWF 2016; OECD 2017; IFC and CBI 2018). New green investment funds were being created and henceforth represented 10 percent (in number, not in value) of unlisted European investment funds, with the Paris Agreement leading to a peak in creation in 2016 (Novethic 2019). A network of investors (ClimateAction100+) was also launched in Paris in 2017 to put pressure on the 162 companies responsible for two-thirds of carbon emissions to develop a climate strategy and report on their emissions.

Public banks, and multilateral development banks in particular, were developing action plans (World Bank et al. 2016; ERDB 2019). They declared their wish to integrate climate issues into lending decisions more systematically and were seeking ways to mobilize private finance. For example, the European Investment Bank (EIB), which had had a climate strategy since 2015 (EIB 2015), proposed a range of "innovative instruments for climate financing." In particular, it highlighted its capacity to directly or indirectly invest in equity capital through dedicated private investment funds, as well as tools such as the PF4EE

(Private Finance for Energy Efficiency) for energy efficiency investments, or the NCFF (Natural Capital Financing Facility) for biodiversity projects. The watchword was the development of mechanisms designed to use public money to "leverage" and attract private money, such as the Juncker Plan in Europe (Mertens and Thiemann 2019).

All of these elements demonstrate not just how important financial discussion has become in relation to the climate issue but also the variety of actors who are mobilizing to green both public finance (issuance of green bonds, strategy of public banks) and private finance (investor commitments, creation of dedicated investment funds, demand for green bonds, taking climate risk into account, development of public-private risk-sharing instruments). In terms of climate policy, we can consider this to be a new moment in time in global policies, following those described by Pestre (2020).

Green finance in perspective

The perspective proposed by Pestre (2020) suggests a progressive privatization of global environmental policy by identifying three moments in time prior to the one that interests us here: (1) the invention of environmental policies as from the end of the 1960s; (2) the promotion of market instruments in the 1980s in the context of a neoliberal shift leading in particular to the creation of pollution rights markets; (3) as from 1988/92, multinational firms took charge of the environmental issue in the name of sustainable development, as seen in particular at the Rio Summit (1992).

Establishing themselves as the main actors capable of intervening on global value chains, large companies proposed during this third period to deploy their management tools, whilst labels and other ethical charters produced market signals for responsible consumers. The "responsible finance" niche developed in this context through the invention of extra-financial rating, which made it possible to manage portfolios of listed securities that, alongside financial performance, take into account the social and environmental actions reported by companies. For their part, public actors were trying to enlist economic goodwill through initiatives[3] aimed in particular at publicizing voluntary commitments and at the publication of non-financial information (e.g., the Global Compact launched by Kofi Annan in 2000) that feeds socially responsible investment. In addition to the considerable resistance by economic actors to any form of constraint in a context of increasing international competition that fostered a race to the bottom, nation states were considered incapable of framing a global economic game that is beyond them. This narrative of their impotence justifies the celebration of the capacity for responsible self-regulation of the business world, which then invests heavily in global arenas. The same decades also saw the rise of the World Economic Forum in Davos as a space for global coordination in competition with UN organizations. The increasing political power of multinational companies is concomitant with the growth of global finance, which is also increasingly emancipating itself from political power, thanks in particular to neoliberal financial deregulation.

We believe that green finance constitutes a fourth moment in time in environmental policies, following on from the first three described by Pestre (2020). This moment systemically accompanies the financialization of capitalism. The latter (Epstein 2005; Krippner 2005), characterized by an increase in profits captured by financial actors (Duménil and Levy 2001; Erturk et al. 2008), has accelerated since the 1990s. Fueled by the dematerialization of trade, the development of derivative products, and the growing indebtedness of agents, the financial sphere, made up of all assets managed or recorded on the balance sheets of financial firms, has continued to grow, reaching unprecedented proportions relative to world income, up to double the levels reached during the 1930s (Hildebrand 2017). Public debt, especially that of developed countries, has grown significantly, exceeding countries' levels of debt at the end of the First World War and approaching those of 1945 (ibid.). Countries now find themselves doubly constrained by global finance and are obliged to secure the latter's destructive upheavals by rescuing banks that have become too big to fail, as demonstrated by the 2008 crisis, but also to honor their debts at the risk of no longer being able to refinance themselves on a regular basis. The financialization of the economy leads to the financialization of public policies. New public policies are designed to capture the strengths of private finance, to engage its actors, and are also based on its techniques and forms of reasoning (Chiapello 2017). Not content to have essentially handed over responsibility for environmental matters to global firms, governments also have to deal with private finance, which holds the purse strings. The urgency of the climate crisis, the need to invest to transform an economic system that emits too many greenhouse gases and to protect societies from the consequences of global warming are forcing countries that wish to take action to spend considerable amounts. Yet they are not in a position to impose mobilization of the necessary funds as they would do in a war context, particularly as it is not a question of defeating a common external enemy, but rather of defeating oneself.

However, the 2008 financial crisis undermined the legitimacy of an industry hungry for returns and with little regard for the social or environmental consequences of its actions or those of the companies it puts under pressure. The crisis temporarily changed the balance of power and allowed a strengthening of regulations that some consider insufficient (Scialom and Giraud 2013); and it has also convinced certain players in the financial world that it is necessary to either try to use finance to serve causes other than mere financial returns, or, at the very least, to show a commitment to issues of world survival so as to push back regulatory intentions.

"Climate finance" initiatives, which henceforth mobilize a large number of people, must be placed at the intersection of these different trends: those of political actors looking for ways to finance investments that public budgets do not allow, those of finance workers who recycle their skills and knowledge of the financial world, and even the profits they have made, in an attempt to change practices, those of financial companies that choose to green their activities in order to improve their image, and finally those of certain public and private financial actors who are concerned about the long term or about global risks and who consider it necessary to integrate climate risk to a far greater extent in their forecasts. Despite their activism, in the following section we draw attention to the current limits of the finance proposals, which highlight the inadequacy of these efforts in that none of the investment targets set in 2015 have been met.[4]

Green finance promises at a dead end

The limits of green finance are inseparable from the neoliberal framework of thought that created it. Said framework postulates that public intervention should not hinder competition but remain "neutral" by guaranteeing equal treatment of agents. Once the framework has been established, the market must be allowed to make its choices. Public action must then be based on "incentives" and "signals" designed to guide action without forcing it. Incentives are based on the forms of reasoning and decision-making of firms whose legitimacy and preeminence are indisputable. We can trace the consequences of this framework, which already prevailed at the third moment in time described by Pestre (2020), in the case of green finance.

Voluntary commitments and self-regulation: No real constraints

As the list of initiatives mentioned above has shown, nowadays green finance exists primarily in the form of voluntary declarations and commitments with no binding force and indeed without the latter uniting the majority of actors. Although fund managers and insurers have mobilized, they still account for only a small share of managed assets, while other types of players, such as banks, are less present (Canfin and Zaouati 2018, 20ff.). Most signatories agree to make efforts to reduce, for example, the exposure of their portfolio to fossil fuels and to communicate on these issues, but they can do so at their own pace and in a manner of their choosing. When regulations are passed, such as the 2015 Energy Transition Law for Green Growth in France, which creates a unique in the world obligation for investors to communicate on how their investments impact the climate, they focus primarily on the communication of information without any specific obligations in terms of indicators. At best, most of the mechanisms work under the "comply or explain" regime, whereby if a company does not meet its disclosure commitments (which are themselves relatively vague), it merely has to explain why. As Ekeland and Lefournier (2019) have shown, the absence of any binding contractual obligation also lies at the heart of the green obligations, which are nonetheless widely promoted. Indeed, the commitment to use the money to finance green products is not a contractual obligation that would, for example, allow lenders to sue the borrower. So from a contractual standpoint, green bonds are no different from conventional bonds. At best, issuers commit to following standards that are set and managed by the financial industry in accordance with the classic logic of self-regulation,[5] thus leading to recommendations that are far from restrictive. So just like the corporate social responsibility policies of which it is a part, green finance does not dispel doubts concerning its ability to get past greenwashing.

For the time being, the initiatives driven by supranational regulators have the same shortcomings: proposals are drawn up by working groups that are essentially made up of representatives from the financial industry. The first stage of the EU Action Plan on Financing Sustainable Growth thus consisted in setting up a Technical Expert Group in July 2018 tasked with developing a taxonomy for environmentally sustainable or neutral (but not non-sustainable) activities, es-

tablishing a "voluntary standard" to frame activities that could be financed by green bonds (Green Bond Standard), proposing climate benchmarks and disclosures for benchmarks for investors who would like to develop a climate strategy, and, finally, developing "new guidelines on reporting climate-related information which supplement the non-binding guidelines on non-financial reporting." Regarding the FSB, the Task Force (TCFD) launched in 2015 is chaired by Michael Bloomberg, founder of the financial information company of the same name which acts as its secretariat. It is comprised of 31 people from various financial companies. The TCFD has produced "recommendations" on the themes and issues to be addressed in relation to climate reporting and produces annual reports in which it takes account of companies' communication practices.

A narrow financial framework

A second set of limitations stems from the fact that green finance products are developed and designed using classic financial tools and practices, in particular valuation models that make it possible to assess whether an investment or financial product is worthwhile (Chiapello 2015). The standard financial model implies (1) that the value of an investment proposal lies in the expected financial return and (2) that the riskier the proposal appears in financial terms (risk of losing the sums invested), the higher the expected return must be for the investment to be considered worthwhile. These two criteria of return and risk are the basis of all the calculations made by financial actors and of all the commitments they make. Asset managers must also declare the "investment theses" that guide their management and are bound by a "fiduciary obligation" to act in the (financial) interest of their clients (Chambost et al. 2018). Competition between managers is also organized on the basis of available yield and track records that are publicized. This organization of the financial world means that all projects with a suitable risk/return profile are able to find funding, whatever their type. As long as they are profitable and not too risky, green projects are no exception, so they do not need green finance. The latter is reduced to a labeling operation, among all the projects financed, of those that are green. This question certainly justifies the importance of taxonomic work, since it is itself potentially problematic. Indeed, there may be fears of lax labeling rules or a lack of attention being paid to the reality of the environmental performance of the projects funded (for one example see Brimont and Leroy 2018). Yet green bonds only promise the labeling, as their issuers also issue standard bonds. The latter must therefore essentially identify, from among the projects they manage, those that could pass for green (Ekeland and Lefournier 2019). The ability of these new modes of financing to fund projects that would not have been funded without them has therefore not been demonstrated.

Yet the environmental question requires investments, and these investments cannot find funding, either because the expected return is too low or even negative for the investor (although positive for society) or because the risk is too high, due in particular to the length of time before they bear fruit. Without calling into question the dominant financial framework, it remains for public finance to compensate for the shortfall by improving returns (for example, through tax exemptions) or by reducing risk (through co-financing or the provision of guarantees) in order to ensure that more projects see the light of day (Chiapello 2017). Which is why all reports seeking to develop green finance are forced to propose innovative "financial instruments" that allow "risk sharing" and the development of blended finance. Green finance therefore relies mainly on the efforts of public finance, as confirmed by all available data (I4CE 2018; CPI 2018).

The modern financial world also revolves around very large actors managing huge portfolios and therefore looking for significant investments – several tens or even hundreds of millions of euros or dollars. The transformation of the allocation of funds that the Paris Agreement hopes to achieve would therefore require that these actors be able to focus on products that are available in very large quantities. This phenomenon also explains why it is green bonds that seem to be the most capable of meeting these requirements, since they rely on large issuers (companies, public banks, governments). If these products are set aside, most green projects are too small. While major actors can certainly take shares in smaller funds dedicated to such investments, this is not a solution, because these small funds regularly announce their difficulty in finding enough viable projects in which to invest, especially as it is not necessarily worthwhile for said projects to turn to green windows given that they can find funding elsewhere. Financial actors then turn to public actors to ask them to work upstream to find projects that they can finance, or to heavily subsidize activities to develop the market (CBI 2015).

With the financial framework dominating in terms of risk/return, and the financial mechanisms and decision-making criteria and practices being taken as a starting point and as a constraint on action, it is very difficult to obtain the hoped-for shift in allocations. We believe that the desire of some to adjust the risk and return calculations is part of the same inability of green finance promoters to escape the dominant framework. In his famous 2015 speech, "The Tragedy

of The Horizon," Mark Carney identified three types of risk that climate change poses for the financial world: (1) the physical risks of material destruction by extreme weather events; (2) the legal risks of liability claims to which agents expose themselves by failing to act; and (3) transition risks relating to the probability that certain assets will be suddenly devalued in the event of regulatory or societal changes. It is therefore a case of translating climate change into financial risk, thus opening up the possibility that it could be taken on by central bankers, even if no binding proposals have emerged from these exchanges so far. In April 2019, the NGFS, which brings together 34 central banks, published six "recommendations," all of which call in one way or another for the production of information and new data. We are still a long way from imposing new calculation rules. Moreover, regulators are still unable to get away from an understanding of risk that is essentially based on the risk of default by banking or insurance institutions. This approach says enough about the inability of finance to properly consider the consequences of global warming on society.

The confining of reformist thinking within the dominant framework of finance can only be understood through its corollary, which confines public action within an equally narrow conception.

The cult of economic neutrality of public action

Financial and monetary policies were considerably reconfigured from the 1970s and 1980s onwards, making possible the increasing financialization of the economy. In the case of France, at least during the postwar period, the central bank in charge of currency supervises and also participates in credit policy (Monnet 2018). Credit, which is one of the sources of monetary creation, is therefore also considered as serving investment. It is consequently strictly governed by rules that are designed to favor certain sectors and investments. Each sector is financed primarily by certain specialized banking or para-banking intermediaries (Crédit Foncier, Caisse des Dépôts, etc.) which are in turn primarily refinanced by the Banque de France, due to the interbank market being poorly developed. Monetary policy is therefore indistinct from credit policy, to such an extent that it is possible to use its instruments to block the development of some investments by making them too expensive and to facilitate others by offering favorable forms of refinancing.

This highly specific construction, common to most developed countries (Monnet, 2018), was gradually dismantled in favor of a doctrine of currency neutrality. Henceforth, central banks should only be concerned with inflation and do nothing that might influence the action of agents or cause unequal treatment. Insofar as it acts on credit, monetary policy must be blind to the types of investment it allows. The legal construction of the independence of central banks makes it possible to prevent the pursuit of objectives other than that of currency stability. The finishing touch is prohibiting states from obtaining financing from their central bank and obliging them to issue on the markets (Lemoine 2016). This *doxa* explains the current refusal of central bankers to consider granting differential refinancing conditions that take into account the green quality of credits – such as that of Green Quantitative Easing (Aglietta et al. 2015). Quantitative easing (QE) refers to the massive repurchase by central banks of the bonds to which banks have subscribed in order to support the distribution of credit in an attempt to boost growth and most likely lower the cost of indebtedness of states feeling the pinch after their rescue of the financial system. Many central banks resorted to QE after the financial crisis, and in the EU the program continues to operate to a very large extent. More recently, in response to the Covid-19 pandemic, central banks have engaged in QE programs on an unprecedented scale. QE boils down to a massive injection of money into the financial system, but the circuit that is used remains the same, because the European Central Bank cannot give funds directly to agents or lend to states. Green QE would consist in prioritizing the buying-back of green credits, which would in fact mean subsidizing investments, not in the way that is currently proposed by the advocates of blended finance – through budgetary resources or public guarantees – but through monetary creation. Yet Green QE would amount to guiding allocation through a non-neutral credit policy, which makes it ideologically unacceptable.[6]

For their part, some banks (Canfin and Zaouati 2018, 25–26) would like the regulations governing the calculation of the regulatory capital for credit risks to reduce its level in the case of green project financing. This proposal is of course based on the banks' desire to reduce their constraints, which were revised upwards following the financial crisis, but it runs against the current ideological framework. Indeed, this project would mean no longer differentiating between loans solely on the basis of their financial risks, thus undoing the previous movement initiated by the Basel II agreements, which rendered invisible the nature of the activities financed in banking management (Baud and Chiapello 2015) and removed the privileges available to certain types of credit counterparty (Baud 2013).

The desire to ensure that states do not favor any particular actors is at the heart of the European construction and of the competition policies that have spread to most countries. This framework requires public action to not distort competition between

agents. It is therefore only possible for public authorities to intervene in the event of "market failure," which implies having to prove that the private sector is unable, on its own, to cope with – in this case to finance – certain activities. This obligation therefore also applies to any introduction of public financial instruments (loans, capital injections, subsidized rates, guarantees) that have to be compatible with the European regulations on state aid, which impose extremely restrictive conditions on the use of public money.

We can therefore see that within this framework, governments only have a narrow scope for action and that they can only direct private financial flows by relying on the markets. This explains their main focus on the requirements for the publication of information likely to guide the autonomous decisions of agents. The hope is that "market discipline" will obtain from financial actors that which public authorities have no right to demand.

Poor political targeting: Indirect intervention and exclusive focus on green finance

Green finance, just like pollution rights markets, is based on the postulate of indirect intervention, i.e., that by acting on prices (or on the information given prior to their formation), polluting players will reorient their practices. In the case of carbon pricing, the increase in the cost of carbon should encourage agents to invest in clean technologies. The hope behind green finance is that the cost of financing green projects will be lower than that of brown projects, so that agents will be encouraged to invest in green. This is how to explain the rhetoric of the "greenium," the supposed premium that is granted to green over conventional bond issuers but, as Ekeland and Lefournier (2019) show, cannot exist given the way the bond market works.

In the case of green finance, the action is even more indirect than is the case with pollution rights. With the latter, it is the issuers who are directly affected, whereas with green finance, financial actors are targeted – through demands for transparency on portfolios or climate risk calculations – so that they can then act on the issuing sectors. As the ClimateAction100+ initiative shows, some investors are prepared to take on this role and to show that they are trying to engage in dialogue with the major polluters regarding their climate policies and reporting, without it being clear whether they attach particular threats to these discussions. Given the financial volumes placed on the markets, the majority of observers believe that it would be very difficult for these larger actors to have no oil stocks in their portfolios. Given these difficulties, it would seem simpler to act directly on the issuing sectors rather than to spend public resources on creating sub-sectors that would act in the right direction.

The blind spot in most of the reports and mechanisms we have reviewed is their exclusive focus on what is ecologically sustainable, without paying any attention to polluting activities. Thanks to the efforts of the CPI and the UNFCCC, we now have annual monitoring of green finance flows, which shows that their growth is slowing down and is mainly supported by public flows. Considerable efforts are also being made to report on these investments, the investment sectors concerned, and the sources of the funding. But these statistical data are not systematically placed in the global panorama of investments made. We are in the situation of someone who has to go on a diet and only counts the number of salads eaten, not the number of ice creams. A reorientation of financial flows would suggest that less money would go into brown projects, which is not the case, because green finance is not developed to the detriment of brown projects. Nor is the change visible in the development bank allocations (Climate Transparency 2017).[7] The desire to create incentives that favor sustainable activities does not go hand in hand with the dismantling of those that favor polluting activities (e.g., persistence of subsidies for the use of fossil fuels).[8]

One cannot help but link this willful blindness with the predominance of analyses in terms of microeconomics, focused on the behavior of actors manipulated by incentives to the detriment of analyses of global macroeconomic systems. While the financial crisis has introduced systemic considerations into the regulation of the financial system, these still only concern the stability of the financial system[9] and not its impacts on the climate system as a whole.

The efforts devoted to green finance essentially lead to the existence of a new investment chain with its specialist players (assessors, auditors, investment funds) and its ecosystem, which is added as well as possible to the existing one. As in the case of the energy issue, there is no transition, but rather successive additions (Bonneuil and Fressoz 2016). These questions are nevertheless brought into the public arena by civil society actors who are trying to offer a different discourse.

The indictment of brown finance

Parallel to the "initiatives" taken in the financial world, various organizations are launching "campaigns" – not to obtain more green investments but for financial actors to withdraw from fossil fuels,[10] something that a certain number have agreed to do.[11] The DivestInvest network monitors fund managers who have commit-

ted to a more or less complete withdrawal from carbon assets (coal, oil sands, oil).[12] Counter-expertise is provided by other actors, such as BankTrack, which investigates the activities of 33 global banks. In its most recent report, BankTrack (2019) denounces the fact that since the Paris Agreement, fossil fuel financing has continued at the level of 600–650 billion dollars per year. It might be considered that while in terms of total volume these movements are barely more efficient than green finance, they nevertheless contribute to creating citizen pressure on the financial world.

Will the regulators, whose faint-heartedness has been demonstrated above, follow suit? The need to track not only green but also brown investment flows is making headway on the very basis of the Paris Agreement that commits to "making financial flows compatible" with climate undertakings. To this end, the OECD has just published a research study (Jachnik et al. 2019) explaining the limits of current statistical work and advocating the extension of monitoring not only to all new investment flows but also to investment stocks, on the basis that the bulk of current emissions are linked to existing installations. This work also identifies existing data sources that might allow advances to be made towards more ambitious statistics. Since its 2018 report, the French I4CE similarly puts forward elements on climate-adverse and fossil investment (I4CE 2018). The need to extend European taxonomic work to brown activities in such a way as to be able to compile adequate statistics is also gaining ground, but it seems to be encountering strong opposition. In March 2019 the European Parliament passed an amendment to this effect, which was withdrawn by the European Council, and the financial industry is mobilizing its lobbies to postpone implementation of the European Action Plan (Finance Watch 2019). With a view to setting up a new team at the European Commission, a consortium of civil society organizations[13] drew up a list of recommendations (EEB et al. 2019), taking Ursula von der Leyen at her word when she mentioned an ambitious European Green Deal. It calls not only for the creation of a taxonomy of brown activities to complement the projected taxonomy of green and neutral activities, but also for banks to be penalized when they lend to polluting activities, for the ECB's asset purchase policy to take into account the environmental quality of assets, and for pressure to be put on member states to reduce subsidies to fossil fuels. The same demands are now being addressed to the EU recovery plan put forward in response to the coronavirus crisis. For example, Finance Watch (2020) states that the greenness of the recovery package will only be ensured with a "brown taxonomy" or an "environmental and climate exclusionary list."

Conclusion

The question of the role of finance in the implementation of climate-resilient policies would now appear to be well-established. Each new report highlights the inability of economies to meet the targets they have set themselves, with financing targets being no exception. In response to this, we have seen that since 2015 green finance has been put forward as a new solution, to such an extent that it is being seen, particularly in France, as the new panacea. A large number of initiatives launched by public and private financial players have stemmed from this movement. We have analyzed this obsession as being a result of the place that the financial sector has taken in contemporary capitalism and as a continuation of the movement to privatize environmental policies that began in the late 1980s under the banner of sustainable development. As a form of response to the problems of capitalism in line with the dominant frameworks, green finance does not, however, make it possible to transform them and to become the hoped-for lever for change. Only significant transformations in the adopted forms of intervention and the removal of the doxastic constraints that weigh on them could make it possible to initiate a transition, which private financial actors are not willing to do on a voluntary basis.

Endnotes

1 This article has been adapted from a chapter written in 2019 and published in French (Chiapello 2020).

2 www.odi.org/opinion/10196-infographic-climate-finance-pledges-cop21-paris (accessed August 27, 2019).

3 Cf. the UNEP-FI and PRI launches mentioned earlier.

4 For France, which is nevertheless one of the most committed countries, I4CE (2019) explains that "investment of a further 15–18 billion euros is needed each year by 2023 to be on track" (and even more – an additional 32 to 41 billion euros – each year for the 2024–28 period), figures that should be compared to the 45.7 billion euros invested in 2018.

5 The most widespread standard is that of the Green Bond Principles laid down by the International Capital Market Association, which unites debt market actors.

6 For those who are looking for hopeful signs, note that on July 7, 2020, Christine Lagarde, head of the European Central Bank,

stated that she wants "to explore every avenue available in order to combat climate change," among them the "greening" of the ECB asset purchase scheme. Still a long way to go.

7 QE programs also widely benefit fossil fuel and carbon-intensive sectors (Reclaim Finance 2020; Matikainen et al. 2017)

8 For France, I4CE (2019, 10) mentions for example that "16 billion euros of climate-adverse tax expenditure" are identified in the French government's 2019 national budget and "four tax loopholes imply that 25% of French emissions are exposed to relatively low tax levels."

9 See also one of the latest NGFS reports explaining in detail how "climate-related risks" can lead to "financial stability risks" and as such should be considered as "drivers of prudential risk categories" (NGFS 2020).

10 www.350.org for example

11 For example, on November 15, 2019, the EIB announced that funding of fossil fuels would cease as from 2021.

12 www.divestinvest.org

13 European Environmental Bureau (EEB), Finance Watch, Climate Action Network Europe, Green Intervention, WWF, Positive Money, Fondation Nicolas Hulot.

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Book reviews

Abolafia, Mitchel · 2020

Stewards of the Market: How the Federal Reserve Made Sense of the Financial Crisis.

Cambridge, MA: Harvard University Press

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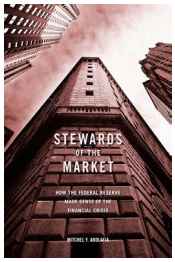

The Corona crisis has reaffirmed that the closest thing to a world government we have is the Federal Reserve. Its willingness to provide dollar liquidity, through swap line agreements and repo facilities, to other central banks effectively knows no borders anymore. In diametric opposition to the "America First" rhetoric and malign incompetence in the White House, the Fed thus continues to act as the guardian of the financial basis of US global hegemony. The current moment, then, adds yet another twist to the debate over central bank independence and reveals, once more, what is at stake. Like only few other institutions, central banks occupy a terrain on which the boundaries separating the technical from the political are negotiated. Triggered by the Global Financial Crisis and its ramifications, criticisms of the dominant model of independence, which seeks to isolate monetary policymaking from the emotionalized vagaries of everyday politics and its temptations to violate the iron laws of "the economy" waiting to return with a vengeance in the infamous long run, have gained steam over the past decade. Even that most dignified mouthpiece of "economic reason," *The Economist* (2018), has questioned its viability and called for a debate it considers "overdue." Should the management of the public good of money really be kept outside public debate and instead be left to technical, ideally rule-bound experts? Can their higher insight into the workings of the machine truly neutralize the political nature of money? And even if we agree that the complexity of the monetary system calls for technocratic control, what kinds of expertise should we put our trust in?

It is these thorny questions that Mitchell Abolafia raises in the conclusion to his latest book, *Stewards of the Market*. It is almost inevitable that he has to do so after taking a deep dive into the meetings of the Federal Open Market Committee (FOMC) during the unfolding of what would come to be called the Great Recession. Composed of twelve members drawn from the Board of Governors and the various regional reserve banks, the FOMC is the principal body within the byzantine Federal Reserve System in charge of its central task, the management of the US monetary supply. Abolafia, a pioneer in the sociology of finance long before its current boom, was also at the forefront of scholars exploiting the data trove that became available when the FOMC began releasing verbatim transcripts of its meetings, after a five-year retention period, in the late 1990s. *Stewards of the Market* continues his explorations of the social processes underlying monetary policymaking which Abolafia has been putting forth since the early 2000s. Focusing on 15 meetings and conference calls between August 2007 and December 2008, the book offers a detailed chronology of the crumbling of technocratic rationality and its certainties on the inside.

Its structure could hardly be more straightforward. After a brief introduction sketching the general approach as well as the history of the Federal Reserve and the role of the FOMC therein, each, except for one, of the following seven chapters reconstructs in chronological order and considerable detail how FOMC members assessed the economic situation, occasionally sparred over different interpretations, and ultimately came to a policy decision. Abolafia's central concern is how this group of policymakers collectively engage in "sensemaking" during the meetings, a concept first deployed by organizational scholar Karl Weick as a corrective to rationalist models of decision-making. As Abolafia does not tire to emphasize, even the most arcane and technical forms of policymaking are irreducibly social. Thus, FOMC members selectively drew on "cues" from the swaths of economic data provided to them to inductively construct collective – and sometimes competing, yet equally plausible – narratives in the face of an increasingly ambiguous situation. It comes as no surprise, given most FOMC members' background in professional economics, that the most widely shared and authority-wielding frame shaping their sensemaking was one deeply informed by the disciplinary conventions of contemporary macroeconomics. This specific vision of the socio-technical object we have come to imagine as "the economy"

relies on highly aggregated indicators such as inflation rates and GDP and, importantly, conceives of the financial sector as having no substantial bearing on the fundamental growth prospects of the "real economy." As others have also argued (Fligstein et al. 2017), this dominance of a macroeconomic frame is central for understanding why the FOMC, and by implication both key policymakers and academic economists, failed to acknowledge the initial signs of turmoil from the financial markets in 2007 and then were so slow to react when they grew ever more alarming. Putting further evidence on the table, *Stewards of the Markets* joins in and expands this argument.

Abolafia distinguishes between three "moments" of sensemaking during the 17 months he investigates. The first was most present in the early meetings. Here, in the summer of 2007, we find ourselves at the tail end of the Greenspanian heyday of confidence in the ability of far-sighted technocrats to unleash the forces of the market and liberate us into post-political bliss. While some FOMC members expressed concerns about turmoil in mortgage-related markets and the potential for contagion, the narrative that would hold the upper hand couched the situation in the optimistic terms of a "restoration" of economic order brought about by self-interested agents eliminating existent inefficiencies. With the dangers emanating from financial markets narratively domesticated, the FOMC refrained from any policy action. The "cues" of seemingly robust growth indicators were proving "the *resilience* of the underlying economy," as the President of the Federal Reserve Bank of Minneapolis put it. This reliance on routinized cues and procedures of narrative construction would persist even as the situation continued to grow more alarming. That policymakers "were slow to abandon their traditional tools of sensemaking" (p. 162) formed, for Abolafia, the major impediment to more rapid and effective action against the looming economic disaster.

While this first "moment" of sensemaking remained dominant, the coming months would see it punctuated with what Abolafia calls "textures of doubt." Voices questioning the predictive capacities of conventional "cues" grew louder as the situation became ever more unwieldy in the fall of 2007. This opened the door to Abolafia's second moment of sensemaking: spontaneous improvisation in the face of an urgent threat. Here, an imagery of emergency prevailed which made policymakers see themselves forced to act in highly unconventional and flexible ways, invoking the powers of the infamous Section 13(3) of the Federal Reserve Act and creating new lending facilities that had been unthinkable just weeks earlier. The imminent failures of investment banks – Bear Stearns, in March 2008, and Lehman Brothers, in September 2008 – represented the quintessential situations for such improvisation. Here, however, the FOMC was no longer at the center of action. Not only was it questionable whether the policy tools at its disposal would be effective, the slow-moving, circular temporality of its meetings was fundamentally out of sync with the escalating time of financial crisis where first days and then hours constituted the horizon of action. Abolafia acknowledges this by dedicating an entire chapter to the Lehman weekend, the ultimate short run, during which the FOMC was simply out of the picture. Here, rather than continuing his journey through the transcripts, he draws on journalistic reporting and congressional inquiry to construct an action-driven narrative of the dramatic events which would lead to the decision to let Lehman fail. For Abolafia, this decision represented not so much a resurgence of a "market logic" which had lost out to a "state logic" in the Bear Stearns deal. Rather, out of a concern about a potential loss of legitimacy for the Federal Reserve, chairman Ben Bernanke and New York Fed President Tim Geithner yielded to Treasury Secretary Hank Paulson's demand to preclude the use of public money for rescuing Lehmann. In other words, Abolafia suggests that what had been recognized as the necessary action from a technocratic viewpoint of economic stability – namely, rescuing Lehman – was set aside for the benefit of a political consideration. It had become clear that the veneer of an apolitical, purely technical rationality could not be maintained inside the vortex of a financial crisis.

The third "moment" of sensemaking, finally, gives Abolafia reason to strike a more optimistic tone. He observes "transformative learning," a more sustained departure from routinized sensemaking than the frantic improvisations of the Bear Stearns and Lehman situations, in the meetings of October and December 2008 when policymakers decided to shift to a "new regime" by reducing the federal funds rate to its lower bound and embracing quantitative easing. They had learned their lesson. Anything else, of course, would have been a declaration of intellectual bankruptcy: after all, it took the disaster of the Lehman failure and the impending collapse of the US economy for the majority of FOMC members to fully break through the obstinacy of their routinized frames and collectively adjust their sensemaking to the realities they had not foreseen.

As Abolafia emphasizes, *Stewards of the Market* is not a history of the financial crisis but an in-depth investigation into how a

group of elite policymakers tried to navigate a highly ambiguous, constantly evolving, and exceptionally challenging situation. Its great strength lies exactly in this detailed reconstruction of "sensemaking" *in vivo*: it masterfully conveys first the collectively produced false sense of confidence and then the dramatic disorientation and breakdown of established routines of grasping the world that define moments of crisis. Abolafia undoubtedly succeeds in his goal to "disenchant some of the mystique surrounding technical rationality" (p. 7) and to bring to the fore social processes underlying it. In this way, his interpretive chronology lays a very solid foundation for further sociological analysis of the Federal Reserve and technocratic policymaking more generally. The next step, then, should be to venture outside the narrow framework of the transcripts to elucidate the historically specific organizational, biographical, and intellectual vectors intersecting in the FOMC meetings and thus to provide a more comprehensive explanation of why they unfolded as they did.

For one, as in any organization, jurisdictional struggles are ever present within the Federal Reserve System. In *Stewards of the Market*, we learn of their existence briefly towards the end of the book when some regional reserve bank presidents raise concerns about the Washington-based Board of Governors taking over control of the most consequential decisions. This episode alerts us to the fact that "the Fed" can by no means be equated with the FOMC. Its tasks and authorities are limited to monetary policy and do not exhaust those of the entire system, especially not in moments of crisis when questions of financial stability come front and center. Arguably, the system's very design, which distributes tasks across multiple levels and unevenly between its members, even fosters such struggles. We should assume that they fundamentally shape what we can observe in the transcripts. Relatedly, reading the book raises pressing questions about the staff's role, largely composed of PhD economists with considerable research credentials. They appear to be much more than mere information providers without substantial impact on policymaking. This is in line with what we know about staff in organizations in general and the Fed in particular. For instance, in his history of the Fed, Peter Conti-Brown (2016, p. 87) relays the story of a senior staffer who claimed to be not interested in being nominated to the Board of Governors because "it would have reduced his influence over the Fed's policies if he [was]." We get a glimpse of this influence in *Stewards of the Markets* through the extraordinary presence of Bill Dudley, a former Goldman Sachs employee who was then a senior staffer at the New York Fed and would become its president in 2009. He would typically open the meetings by presenting the staff's projections for the economic outlook and suggest actions the committee should take. Not a formal member of the FOMC, he would time and again set the terms of discussion and frame them in a way that constituted "a break in the operating norms of central banking" (p. 74). Understanding the authority that Dudley, and the Fed staff more generally, wielded before, during, and after the meetings and throughout the organization requires, of course, leaving the transcripts. Only in this way can we gain a fuller picture of the intra-organizational dynamics shaping the Fed's actions.

Another promising avenue is to relate the fault lines that opened up during the meetings to the intellectual context of the moment as well as FOMC members' biographical trajectories. While Abolafia pits inflation hawks against doves, proponents of notions of "systemic risk" against those concerned with moral hazard, or, in the most general terms, those advocating a "state logic" against those propagating a "market logic," these oppositions appear purely situational in his account. However, the alliances we can observe in the transcripts are fairly stable. Hence, we find Bernanke and Geithner repeatedly arguing for more drastic and rapid action, whereas Richard Fisher and Charles Plosser, presidents, respectively, of the Dallas and Philadelphia Feds, typically opposed such measures which in their view would limit market discipline. Why is that? Here, the "sensemaking" approach reaches its limits. While it is a valuable tool for tracing which frames prevailed among the policymaking group as a whole, it provides little analytical leverage for understanding its internal differences and the dynamics through which some frames gain plausibility and others do not. In addition to ascertaining the predominance of a worldview rooted in professional economics, this requires tools that can dissect FOMC members' specific relationships to that frame and trace the genesis of their classificatory schemes. The case of Tim Geithner is illuminating in this regard. Unlike most FOMC members, Geithner was not a PhD-trained economist. Rather, he had earned his stripes in the Treasury Department's International Affairs division during the Asian crisis of the late 1990s. It might therefore not be a coincidence that he was more attuned to the risks of reacting too slowly to financial turmoil. Alongside Bernanke, a leading expert on the Great Depression, it was Geithner who most vigorously propagated the notion of "systemic risk" which had only recently begun to capture the technocratic imagination.

It stands to reason that Geithner's atypical career and specific position within the committee can be related to his advocating for a less orthodox policy response. Abolafia refrains from any explanation of the alliances found in the transcripts. His rationale is proto-behavioralist: since we cannot observe motivation directly, we shall remain silent on those issues. Yet, exploring actors' dispositions and the FOMC's peculiar location at the intersection of the state and the academic and economic fields in greater depth might shed greater light on the Fed's actions than the sensemaking approach can by itself. In other words, socially locating these elite policymakers and their interactions would allow us to "come back to the problems of biography, of history and of their intersections" (Mills 2000, p. 6) and thus to mobilize the full force of the sociological imagination. This is all the more urgent at this moment in history when it has become clear, once again, that the stakes of the question of who should be in charge of managing our money could hardly be higher.

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Stefan Ouma · 2020

Farming as Financial Asset. Global Finance and the Making of Institutional Landscapes.

Newcastle upon Tyne: Agenda Publishing

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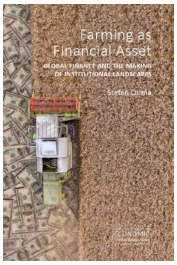

With *Farming as Financial Asset. Global Finance and the Making of Institutional Landscapes,* Stefan Ouma makes an important contribution to the study of global financial capitalism by following the money back to where it all began: agriculture. Standing in the light of the heated controversies of the "global land rush" driven by institutional investors resorting to more stable asset classes after the 2008-financial crisis, Ouma deliberately aims at unravelling the complex network of global money management for non-specialist readers, in particular activists raising concerns about the detrimental effects of finance. This orientation towards a wider public, however, doesn't make Ouma's book less interesting to scholars dedicated to understanding the finance–farmland nexus. Even just considering the impressive record of ethnographic field work within "agri-investment chains" in the US, UK, Germany, Singapore, Australia, Kenya, Tanzania, and Aotearoa New Zealand (with the latter two being the main sites), Ouma offers novel first-hand insights into the "blackbox" of this comparatively small but nevertheless highly profitable asset class.

The strength of Ouma's account lies in his interdisciplinary orientation and methodological heterodoxy, which allows him to link different global sites to trace the making of a new asset class. In doing so, Ouma develops the notion of "institutional landscapes," which he defines as "those parts of the human and non-human world that have become transformed into a financial asset, a property that yields an income stream and that can be resold in the future, as part of portfolio considerations of institutional investors" (p. 3). Hence, in contrast to trending notions such as "financialisation," which often seems to imply some sort of decoupling of money streams from production, Ouma's focus on social practices sensitises us to the fact that modern finance is grounded in real-world relations of humans with the environment. At the same time, it reminds us that "nature" is not an asset in itself but only comes into being as the often contested product of "landscaping practices" (p. 5).

After providing a critical review of the financialisation debate and a useful glossary of key notions (pp. 15–24), Ouma sets out by challenging the widespread view that the financialisation of the economy was kick-started by a neoliberal elite in the 1970s. In fact, Ouma's brief history shows agriculture was a pioneer for other asset classes in the history of global finance, which soon became complicit with the colonising efforts of the West (pp. 15–44). Getting a clear view of the scale of this new wave of financialisation, however, proves to be more difficult. Given the notorious opacity and secrecy that surrounds landownership and finance in many countries, Ouma's assessment is largely based on industry data provided by large real-estate firms, and if available, by official

government accounts. All things considered, however, Ouma comes to the conclusion that activists' alarmism over "finance-gone-farming" seems overstated. In particular, investments in African countries seem to be not very high on the agenda amongst Western investors due to increasing public scrutiny, as his interviewees reveal (pp. 58–63). Instead, they resort to economically liberal countries such as the UK, Australia, and New Zealand, or reach out to new frontiers such as Russia. In particular New Zealand's "thick institutional landscape" (pp. 78–84) created during the radical neoliberal restructuring of farming in the 1980s has proven to be particularly interesting for overseas investors. By contrast, "thin institutional landscapes" (pp. 84–87) only provide limited accountability and tend to attract particular segments of more risk-oriented capital funds, as the case of Tanzania shows. As a side-effect, the often contested practices of these ventures have fuelled the rise of xenophobic countermovements raising fears of "selling out" the homeland to foreigners.

Generally, the controversies around farmland investments have put investors under intense moral scrutiny, in particular from state-led pension funds of the global north (pp. 93–109). Capital, so the conclusion, does not simply "flow from A to B," as Ouma's inside view into "capital's own methods" (p. 134) makes clear. From this perspective, investment structures appear not only as abstract legal structures in which socio-spatial relations and values are negotiated and maintained on a daily basis, as other factors such as the sources of funding also determine largely which sort of institutional landscape may emerge (p. 135).

Finally, Ouma turns to the main site in which financial capital operates: the farm. Numerous examples from the ground make clear that financialisation does not follow a linear path, nor does it simply "colonise" communities. Rather, Ouma's tales from the field show that finance can indeed lead to long-term development with positive outcomes for communities at both frontiers, although too often "short-termism, the imperative to scale up quickly (...) and the uncertainties related to what happens to an 'asset' after the exit cast shadows over the value generation process" (p. 166). This is however, not only a problem of foreign investments, as old domestic money too often follows similar trajectories of inequality and enrichment (p. 165).

All in all, it seems as if the geographical scale of institutional investors remains a rather regional phenomenon given the remaining dominance of owner-occupied farms globally. But what if the real challenge for agriculture is not the short-term profit orientation of absentee landlords, but the creeping financialisation of an increasingly intensified and technicised industry, in which petit capitalist farmers have themselves become investors and debtors in the race for new soils? It is also in this light that we should seriously consider Ouma's concluding attempt of outlining a new ethics that allows us to explore new forms of property and community-based lending that allow for more "sustainable global food futures" (p. 179).

Ouma offers a refreshingly levelled account of an often emotionally charged subject. Part activist himself, it is Ouma's great accomplishment to take a step back to from the alarmist tone of media debates to gain a more nuanced view into the different global trajectories of a much contested asset class.

Sarah Quinn · 2019

American Bonds. How Credit Markets Shaped a Nation.

Princeton: Princeton University Press

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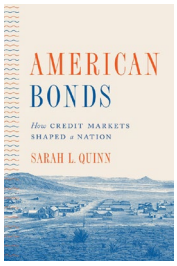

The CARES Act enacted on March 27, 2020 to help American businesses and citizens face the coronavirus crisis is largely composed of credits. A scandal quickly occurred when large companies managed to benefit from credits initially intended for small entrepreneurs, restaurants and retailers.

Reading Sarah Quinn's book, *American Bonds,* along with newspaper articles, opinion pieces, and debates about the CARES Act produces a dizzying feeling. The response to the contemporary economic crisis relies on the same actors and instruments that Quinn describes, such as the Small Business Administration (SBA), which has been providing emergency assistance to small businesses since the 1950s. As for the debates, they are similar to those that have marked the history of the US federal government's credit aid policies: these aids are accused of being anti-democratic and captured by powerful interests, not reaching enough of the poorest citizens.

Sarah Quinn's fascinating book explains why state protection of citizens in the United States has for two centuries taken the form of a redistribution of risk rather than a redistribution of wealth. It

traces the parallel history of securitization and credit programs and shows the political importance of these tools in this country of such complicated governance. In doing so, the author shows that the American federal state, far from the caricatures that portray it as a promoter of laissez-faire, is well and truly a developmental state.

The book is a journey through the political history of the United States from the founding era to the 1960s and shows the remarkable continuity with which the same tools have been mobilized in very different periods facing recurring challenges: to get money flowing through this gigantic country; to build a solid political and economic system despite the institutional crumbling; and to build a middle class. In the background, racial issues are continually in play: to gain acceptance of its policies in the southern states, the federal government has long accepted excluding Blacks from their advantages. In the 1960s, Black Americans finally gained access to financial tools, except that the era of extraordinary economic growth was coming to an end.

In the wake of authors such as Monica Prasad, Christopher Howard, Paul Pierson or Jacob Hacker, Quinn considers that the American welfare state is not only made up of direct transfers but also of fiscal tools and credit policies. The author considers that economic and social policies must be thought of together: "Land and housing programs have long served as America's functional equivalent of a European welfare state" (p. 16). This public aid has the added benefit of preserving Americans' sense of autonomy as credit is not stigmatized as charity.

The book has three major strands: the first is that credit is an economic *and* a social policy. The second is that credit is a "tool of statecraft". The last is the historical importance of credit policies in American racial inequality.

Credit as an economic and social policy

Quinn shows that, since the 18th century, the U.S. federal government has constantly used credit to build the country, whether it be to lend directly, to guarantee loans or to organize the market. The book traces an extremely complex geographical and historical landscape: the needs, the tools and the political contexts in which they have been deployed have varied over time. In the West in the 19th century, for example, the challenge was to help farmers settle and push back the Frontier. In the South, the issue was to help farmers become independent from landowners, in a context of permanent mobilization of Whites to prevent Blacks from achieving economic independence. While in the 18th century slaves were used as collateral for credit, the end of slavery did not signal their liberation because their attempts to organize themselves triggered lynchings and massacres. They mostly remained tenants. When they wanted to borrow money to buy their own land, the only possibility for them was to ask landowners: the interest rates were so high that their situation became debt peonage, forced to cultivate what the landowners imposed on them and to sell them their crops at miserable prices. National and local policies were always manufactured in order to exclude them. Even the New Deal programs, under pressure from white Southerners, excluded domestic servants and farm workers, that is, Blacks.

Quinn posits that credit models – the construction of the instruments employed, the guarantees, the distribution of risk – describes how a nation or community perceives itself. In the United States, credit has supported the figure of the financially independent man, at the heart of the nation-building process. The state has been promoting home ownership since the 1920s as well as the model of suburban life and the detached home: private property seems to give back the independence that wage-based employment had jeopardized. The New Deal programs, notably the creation of the Fannie Mae agency that guaranteed loans, made the housing market the wheel that drove the entire economy and made it possible to develop what Monica Prasad called mortgage Keynesianism.

Perhaps the most stimulating idea of the book is that the American state rather than wealth redistribution has conducted a risk redistribution, particularly with the development of securitization in the post-war period. Johnson's Great Society was built in part on a "socialization of market-risk".

Credit as a tool of statecraft

The social history of credit can only be understood by reconstructing its political history: the American federal state has used credit to such an extent because it addresses the constraints under which it operates. First of all, the federal state has been weak and indebted for a long time. However, lending or guaranteeing loans is mostly off-budget. Throughout these two centuries, the light and sometimes invisible character of credit aid policies, due to the complexity of its accounting, has made it a key instrument.

Credit allows the state to intervene while appearing not to do so, what Quinn calls a "hands-off" approach. In a country that still fears that the central state is too strong, credit conciliates all the components of the political landscape as it leaves the initiative to private actors and is decentralized.

Quinn shows, however, that with the use of credit, the state grows and sometimes accentuates its control over the private sector.

Quinn claims that credit is a "Swiss army knife" for the state. It serves multiple purposes: it can help companies with the Small Business Administration (SBA), it can support foreign policy as with the Marshall Plan, while student loans support the education system. In 2017, the government has $1 trillion in outstanding student loans and is guarantor of $200 million. There are also programs for agriculture and again for housing, whose credits are not only guaranteed but subject to massive tax exemptions.

The racial line

Finally, the book shows the importance of these credit policies in the constitution of the American racial wealth gap. The inequalities of black and white families on the credit market have already been often dealt with, as well as the contemporary wealth gap. Quinn provides a historical description that brings to the very roots of credit policies the construction of wealth inequality between Blacks and Whites. She shows that Blacks have not been able to benefit from the exceptional periods of growth that have lifted the wealth of the white middle class. When, in the 1960s, the state finally decided to tackle discrimination in the housing credit market as well as in business loans, the period of strong growth was coming to an end and Blacks had no time left to benefit from it. For them, credit is more often a source of over-indebtedness and exploitation by lenders than a lever of enrichment.

Sarah Quinn's book bridges Monica Prasad's and Greta Krippner's. In *A Land of too much,* Prasad detailed the importance of the agrarian question in American economic and social policy from the 19th century onwards and how the state responded to the massive production of farmers by a demand-side policy, i.e., general support for consumption through credit, until the development of what she calls a mortgage Keynesianism (Prasad, 2012). Krippner, for her part, showed the origins of the financialization of the American economy in the political problems encountered by the federal state in the 1960s and 1970s (Krippner, 2011). The historical length of Quinn's work allows us to see the links between these two eras of American politics and that, in a way, the challenges are always the same: supporting the economy in a political culture that distrusts state intervention.

This captivating work leaves us with two regrets. First the fact that the author assumes the reader is entirely familiar with the political, social and economic history of the United States over the past two centuries makes the reading sometimes difficult. Quinn is aware of the US-centered nature of the book because she calls for her research to be extended beyond the United States. The international echo received by the book proves that the integration of credit policies in the analysis of economic and social policies is a subject of concern well beyond the United States alone, certainly one of the most fruitful fields in the years to come.

The second regret is Quinn's weak emphasis on the problematic aspects of credit: while the scandals encountered by lending and guarantee institutions are well developed, the author is much less prolific on the sometimes-deleterious social effects of having built society on a credit-based growth. One of the reasons is chronological: the author stops in the 1960s, at a time of such growth that borrowers were able to repay their loans. However, the decades that followed were marked not only by the wealth gap between those who had been able to access these growth-engineering loans and those who had not, but also by the financialization of daily life, one facet of which was the extension of modes of credit: some, such as housing loans, continued to be "good" loans, favored by numerous tax advantages; others were bad loans, not just subprime loans, but loans that did not serve as levers but simply as survival tools and whose conditions were exploitative.

Of course, this critique does not detract from the very great interest of the book; instead it is an invitation to continue the story for a few more decades and to think even more about the society that the story told by Quinn has shaped.

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