TC Note & Podcast:
Adapting Macroprudential Frameworks to Climate Change Risks

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Opening automation: You're listening to a Toronto Centre Podcast. Welcome. The goal of TC Podcasts is to spread the knowledge and accumulated experience of global leaders, experts, and world-renowned specialists in financial supervision and regulation. In each episode, we'll delve into some of today's most pressing issues, as it relates to financial supervision and regulation. The financial crisis, climate change, financial inclusion, fintech, and much more. Enjoy this episode.

Demet: Hello everyone. I am Demet Çanakçı, Program Director at Toronto Centre. This podcast is based on a recent Toronto Centre's Supervisor Guidance Note. TC Notes are meant to provide practical guidance to financial sector supervisors on key supervisor challenges. My guest today is Barry Johnston, the author of the TC Note on Adapting Micro-Credential Frameworks to Climate Risks, which is published this month.

Let me introduce Barry to you briefly. Barry is a former assistant director of the IMF with more than 30 years' experience in assisting countries with financial sector policies, assessments, and analysis. Among his many responsibilities during his career, Barry was chief of the IMF division that developed the IMF's Financial Sector Assessment Program. Following the 2008 global financial crisis, he led the IMF BIS FSP team that developed the methodology to assess systemically important financial institutions.

Since retiring from the IMF, Barry has consulted for Toronto Centre, the IMF, the World Bank, and national authorities on topics including macro-credential policy, financial sector surveillance and assessments, financial crisis preparedness and

resolution, financial crisis simulations, international regulatory codes and standards, and identification of systemically important financial institutions.

Welcome, Barry. Thank you for taking the time to talk with us today.

Barry: Hello, Demet. Thank you for that introduction. It's a pleasure to be speaking to you today on the recently issued Toronto Centre Note on Adapting micro-credential Frameworks to Climate Risks.

Demet: Let me start by asking you about your motivation in writing this TC note.

Barry: Well, I live on a farm in the Blue Ridge Mountains of Virginia, and I'm a Virginia master naturalist, and I've observed firsthand the impact of climate change on the natural environment. As you mentioned in your introduction, I've been involved for most of my career on microfinance, and this long involvement provides a perspective that the frameworks for financial stability have had to evolve over time to address the most pressing financial stability risks. Climate change has become one of humanity's greatest challenges and one that creates potentially catastrophic risk for the financial system. So, the question motivating me was, "What role, if any, should micro-credential policies play in addressing the risks of climate change?" This is the question that led to the discussion on adapting micro-credential frameworks that is the subject of the note.

Demet: Thank you for sharing, Barry. Now let's move to the TC Note. Can you talk about transmission channels through which climate change can create micro and macro financial risks?

Barry: There are several channels. Let me mention three. First, climate change has a myriad of physical impacts, for example, from sea level rise or extreme weather events. These physical events impact the value of assets and the livelihoods of households and the viability of farms and create financial risks. Second as the world adopts greener policies in the transition to a low carbon economy, brown assets will lose their value, and this also creates financial risk. And third, there is extreme uncertainty about how the risks of climate change will materialize and how the various sources of risk will interreact. This raises the possibility; indeed, I would say the likelihood of reaching tipping points resulting in catastrophic failures.

The risks I have mentioned are both micro, impacting individual financial institutions, markets, and instruments, and macro, impacting the financial system as a whole and resulting in financial crises.

Demet: Thank you, Barry. In the Note, you talk about the challenges in reflecting climate risk in the analysis. Can you provide an example of those?

Barry: Well, Mark Carney, governor of the Bank of England explained the challenges as quote "the tragedy of the horizon", in this he meant that the risks from climate change will emerge over long time horizons. For example, my daughter's generation will face risks that will be multiple times those faced by my generation if the climate targets are not met. However, quantifying those risks is extremely difficult if not impossible since the impacts have barely begun to materialize. So, the normal techniques we use to quantify risk based on historical probabilities of losses cannot be applied in the case of climate change.

Demet: Many thanks, Barry. Very challenging indeed. Can you please tell us a bit about how do micro and macro-credential responses to climate risk differ?

Barry: Demet, last year, you and I recorded a TC podcast on the role of micro and macro-credential policies, and some of the topics we discussed then also apply to the risks posed by climate change. Now when it comes to micro-credential risks and responses to climate change, the approach taken by the international standard centers has been to augment elements of their core supervisory principles, such as those related to corporate governance, risk management, stress testing, and disclosures, as well as supervisory processes. The emphasis here is to make individual institutions, investors, and supervisors, more aware and responsive to climate risks.

Now macro-credential frameworks are concerned with systemic risk, that is the risk of failures in the financial system that can impact the real economy. As we learned from the global financial crisis of 2008, systemic risk is the result of feedback mechanisms which can greatly amplify the impact of individual institution decisions and failures on the financial system and the real economy. For example, an important contributor to the global financial crisis were the feedback loops from the failures of systemically important financial institutions which resulted in contagion in financial systems.

Now, when it comes to climate change where the risks will emerge over long time horizons, we need to interpret the feedback loops over similarly long-time horizons. So how do we do this? Well, first, while, as I've noted, quantifying the risks posed by climate change involves extreme uncertainty. The climate scientists tell us with a high degree of certainty that if climate targets are not met, there will be catastrophic failures that will impact the financial system. But second, we need to recognize that the financial system is the main engine for the allocation of financial resources in the economy. If the financial system fails to allocate resources consistent with the climate objectives, the climate targets will not be met. Hence, the feedback loop between the financial system and climate change. Failure to meet the climate targets will lead to catastrophic risk. Misallocation of financial resources will result in the missing of the climate targets and result in catastrophic risk.

Now, currently the pricing of assets does not generally reflect the cost of climate change. And so, the financial system will misallocate resources resulting in the over-funding of brown assets and the under-funding of green activities. Thus, the allocation of resources by the financial system increases the likelihood of over-shooting the climate targets, increasing the risks of catastrophic failures, and creating systemic risk. The allocation of resources by the financial system thus becomes a macro-credential concern.

So, in the context of climate change, the macro-credential frameworks should focus on the consistency of the allocation of financial resources with meeting the climate targets. Maybe I should just repeat that. In the context of climate change, the macro-credential framework should focus on the consistency of the allocation of financial resources with meeting the climate targets. So, the macro-credential response differs from the micro-credential by focusing on the overall distribution of financial flows in meeting the climate goals. These macro-credential assessments will compliment the micro-credential response and provide critical input into analysis of the financial stability implications of meeting the climate goals and the broader climate strategy.

I hope that this explains, but I would refer listeners to the Note for a further elaboration.

Demet: Yes. Thank you very much, Barry. I agree with you. Our listeners should read the Note for more information and detailed discussion.

Let me move to the next question I have. What is the key challenge in the assessments? What are the main steps in this process?

Barry: Well, at this stage, the framework, and steps that I've outlined in the Note is it is a proposal, and the practical issues will have to be worked out in implementation as it has often been in the case of our financial stability work. For example, when we conducted stress testing, we had to develop how actually to do that in practice.

So, one of the challenges will be to link the portfolios of financial intermediaries, that is the banks, the insurance companies, pensions funds, asset managers, and others, and the various asset classes, bonds, securities, the loans, to a carbon footprint. Now research is already making progress on this topic, and it will be assisted by new data initiatives, such as by the task force on climate related disclosures and the sustainable accounting standards board. I am confident that my macro financial colleagues would rise to the challenge.

Demet: Thank you very much, Barry. Perhaps a follow up question on this. Can you tell us a bit about the use of macro-credential tools to address climate risk? What are the considerations here?

Barry: Well, some of the macro-credential tools to address the risk of climate change are the ones that are already being proposed to deal with climate risks. And this would include such as the wider adoption of carbon taxes so that the financial institutions and markets are better able to align their decisions to reflect the social costs of carbon emissions. Other policies include those initiatives to promote green financing, and that would include the data and disclosure initiatives that I just mentioned. Following the global financial crisis, some specific macro-credential tools were developed to address systemic risk. An example was the countercyclical capital buffer that implemented by the Basel Committee.

Now some consideration has been given to applying similar tools to address systemic reposed by climate change. While this would seem an attractive option, there could be difficulties in application. For example, there is no historical data to calibrate the tools, and the post global financial crisis tools were largely applied to banks, but the climate tools would need to apply across all sectors, banks, insurance, pension, asset managers, and others. And there's also a risk that the application of such tools could result in the shifting of the brown finance from the regulated to unregulated sector. And this could be a source of systemic risk as it was as an important contributor to the global financial crisis. And this shift of resources to the unregulated sector would also weaken the response to achieving the climate goals.

So, the specific use of macro-credential tools to address systemic risk posed by climate change may be limited. However, I would emphasize that while a scope to use specific macro-credential tools may be limited, the macro-credential assessments of the consistency of financial flows with meeting the climate targets would be a critical input into design of the broader climate strategy. They would provide a consistency check on the feasibility of the climate targets, and they would form the bases for their assessment of the financial stability consequences of meeting those targets. They would also compliment micro-credential approaches that I have mentioned earlier.

Demet: Many thanks, Barry. It has been a fascinating conversation. Do you have any final comments?

Barry: I would like to recap that macro-credential frameworks have had to evolve to address prescient financial stability risks. The risks posed by climate change are very real. The time seems ripe to adapt the macro-credential frameworks to reflect the unique character of these risks.

Demet, thank you for hosting this podcast. It's been a pleasure speaking with you today.

Demet: Thank you, Barry. Likewise, and many thanks for being such a strong supporter of Toronto Centre. Much appreciate it. I encourage participants to read the TC Note, which can be found in the resource center on our website.

I'm here today with Barry Johnston, and you have been listening to another episode of TC Notes podcast series. Thank you for joining us today and stay tuned for the next episodes.