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Quantitative Greening

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BERKELEY – In 2015, just before the signing of the Paris climate accord, Mark Carney, the governor of the Bank of England (BoE), gave an historic speech warning that climate change poses escalating risks to global financial stability. Now, more than 40 central banks and regulators from countries that account for about 44% of global GDP have come together to address that threat. Through the Network for Greening the Financial System, the Bank of France, the BoE, the European Central Bank, the People’s Bank of China, and other major central banks – with the notable exception of the US Federal Reserve – are developing new regulatory standards and analytical tools for the age of climate change.

As many financial institutions and companies now know, climate risks are no longer simply reputational risks; they are material operational risks that exist in the present, not in some indefinite future, and they are drawing increasing concern from investors. Nearly \$1 of every \$3 under professional management – around \$30.7 trillion in assets – is already invested according to environmental, social, and governance (ESG) criteria. Green bonds have also grown rapidly, with issuance quadrupling from \$45 billion in 2015 to \$168 billion in 2018 – though the total still

represents just 3% of global bond issuance.

According to the UN Intergovernmental Panel on Climate Change, the costs of global warming could reach \$54 trillion by 2040 if carbon dioxide emissions continue at current rates. Between the direct costs of environmental changes and severe weather events and the indirect costs of actions to mitigate climate change, there are a variety of risks to financial-market stability, including business disruptions, rising bad-loan portfolios from bankruptcies, losses to insurers from weather-related damage, and declining coastal real-estate values. Moreover, even long-term financial risks can have short-term consequences if fossil-fuel assets are significantly repriced – or even “stranded” – in response to sudden changes in investor preferences or official policies.

To date, central banks have focused on voluntary disclosure and scenario analysis by companies to identify and evaluate rising climate risks to business performance and financial stability. While there has been a dramatic increase in climate reporting by businesses in recent years, there is also growing demand from regulators and investors, who worry that such risks are not being adequately disclosed and priced into asset values and portfolios.

Moreover, despite the increase in reporting, disclosures are not presented in a standardized format to enable easy cross-company comparisons, and they often lack adequate assessments of the financial implications of climate risks. Regulators and investors are thus pressuring companies to address these shortcomings and other gaps in the existing disclosure framework. The Task Force on Climate-Related Financial Disclosures (TCFD), a business-led outgrowth of the G20’s Financial Stability Board, has become an important ally of central banks in this endeavor.

In its June 2019 status report, the TCFD – whose members include most of the world’s leading financial institutions, accounting for nearly \$110 trillion in assets – found that, despite progress, “not enough companies are disclosing decision-useful climate-related financial information.” The longer companies delay, the greater the likelihood that such disclosure will become mandatory.

Beyond the issue of disclosure, regulators and central banks – starting with the BoE – are also encouraging financial institutions to conduct stress tests of their exposure to climate risks, and of their solvency across a range of climate-driven scenarios. Such tests proved to be a powerful microprudential tool of central banks in the wake of the 2008 financial crisis, and could help to evaluate the resilience of financial institutions, both in the event of a sudden shock and in the broader transition to a low-carbon economy.

Of course, as the World Bank’s International Finance Corporation has pointed out, climate-related stress tests are exceedingly difficult to design and execute. The relevant data sets are patchy, and capturing the dynamic interplay

between the macroeconomy, natural ecosystems, financial sectors, and regulatory regimes is daunting. Still, by adopting a stress-test approach, central banks can start to build a consensus on methods for determining climate-related financial risks, weighing probabilities, and calculating costs, thereby filling the vacuum in decision-useful information that currently vexes regulators, companies, corporate boards, and investors.

More broadly, central banks are well positioned to assess the macroeconomic and financial stability risks of a gradual global shift to a lower-carbon economy. Carbon pricing will be a critical but highly contentious factor in this process, as will the debate about “tail risks.” After all, how does one assign a discount rate to an unlikely but truly catastrophic event occurring at some unknown point in the future? Central banks may be the only institutions with the expertise and authority necessary to discuss such questions constructively. At a minimum, they can help to build a global consensus on best practices throughout the transition.

Whether central banks “go green” with their own balance sheets and pension portfolios will be decided on a country-by-country basis. Some, like the BoE and the Fed, have more policymaking independence than others. But, given that just a few of the largest central banks hold more than \$15 trillion in assets, even a partial shift toward green assets by a few of them could prove highly consequential – and controversial.

Central banks and financial regulators have a vital role to play in closing information and disclosure gaps, altering market incentives in favor of low-carbon investments, and developing stress tests and other analytical tools that could become invaluable public goods for a world struggling with climate change. But they will not be the ones driving the transition to a low-carbon future. Making the necessary investments will be up to the private sector; enacting the policies that will make such investments possible – at scale and at the necessary speed – is the responsibility of governments.



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1 Commentary

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