Rajeshwar Rao: Mitigating climate change risks and fostering a robust ecosystem for sustainable finance

Keynote address by Mr Rajeshwar Rao, Deputy Governor of the Reserve Bank of India, at the International Conference, organised by the Institute of South Asian Studies (ISAS) at the National University of Singapore (NUS), New Delhi, 29 November 2024.

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Distinguished Guests, Ladies, and Gentlemen, Good Morning.

Let me, at the outset, thank the organisers for inviting me here to share my thoughts on climate change, one of the most critical issues we face, not just as individuals, but as the collective global community.

As per the latest report from the Copernicus Climate Change Service's[1], the year 2024 will be the warmest year in the ERA5 reanalysis dataset, going back to 1940. This was also estimated to be the second-warmest October globally, after October 2023 with the average temperatures 1.65ºC above the pre-industrial level while also marking it the 15th month in a 16-month period where average temperatures were above the 1.5ºC threshold set by the Paris Agreement. Thus, the writing on the wall seems to tell us that unless we collectively take strong action, a grim future lies ahead. The recent tragic events, be it in Valencia, Spain, Wayanad, Kerala, or back-to-back hurricanes in USA, are stark reminders of the perils of climate change that the world at large is exposed to. It impacts our day-to-day lives in one form or other be it through heavy rainfall, flash floods, cyclones, droughts, melting of glaciers, loss of biodiversity, etc., and that too with increased frequency and severity. There can be no doubt therefore that climate change is going to be a major risk for the financial system, economy, and society at large with risks of severe catastrophic events putting at stake our very survival.

The financial system not only needs to brace up and equip itself to the present and future impacts arising from climate change, but should also play a catalytic role by overcoming the consequent challenges that arise. The biggest challenge faced by us and the Emerging Markets and Developing Economies is lack of adequate financing for development of sustainable technologies and requisite infrastructure to mitigate and adapt to climate change and build a robust sustainable financial system. India looks to be particularly vulnerable to climate change given its geographic location. It is estimated that by the year 2100, climate change could lead to an annual GDP loss of 3% to 10%[2].

Climate change risks and its impact on the financial system

There are essentially two types of risks emanating from climate change that we need to address: physical, and transition risks. An important consideration in this regard is also adaptation and related risks and measures. Let me delve a little bit into detail.

Physical risks stem from both gradual and sudden climate impacts, such as natural disasters, affecting real assets and financial instruments. These risks cause direct damage to assets, leading to loan losses and collateral damage, as well as indirect costs, including business disruptions, capital replacement, and supply chain issues.

These risks can affect trade, fiscal policy, monetary policy, and financial stability, requiring ongoing assessment. Estimating loan losses from physical risks is difficult due to lack of historical data on such losses, as financial institutions have not tracked them. Even the available data is of limited use due to the changing frequency, intensity, and location of physical events making projections based on past data a bit risky. Such data on loan losses is important for financial institutions as they impact credit risk, including the probability of default and loss given default.

Transition risks arise from efforts to mitigate climate change. It arises from the need for transition by the firms and economies as they strive to achieve their net zero targets, which can be disruptive. It could be a result of adaptation to low carbon technologies, as well as change in consumer behaviour, investor preferences about investments to specific sectors. It can also be a fall out of climate related regulations such as carbon pricing and taxes, transparency requirements, products, and service regulations. Thus, the transition risk emerges because of a disconnect arising from the expectations of various economic factors and could lead to rapid economic adjustment costs in a broad range of sectors. It creates uncertainty for firms and investors, which may further lead to financial risks, with its resultant impact on financial stability.

While transitioning is crucial, we cannot overlook the immediate impact of climate events which means that we also need to look at adaptation measures which currently appears to be a missing link as far as climate strategies are concerned. Adaptation involves responding to climate event impacts, which steadily deteriorate the environmental conditions essential for daily living, such as access to water, energy, air quality, and tolerable working temperatures. These conditions can be disrupted by short-term shocks like storms, floods, and wildfires, which have abrupt and devastating effects. We need to look at strategies that minimize loss and damage and adaptation financing is likely to be critical for building economic resilience and fostering sustainable development.

Climate related risks may also lead to macroeconomic impact on households, companies, and sovereigns affecting consumption, production, and investment patterns. Given their exposures to firms whether in the form of credit or investments, as well as their own operations, these risks impact the financial institutions through traditional risks categories of credit, market, liquidity, and operational risks. These losses may get amplified through interconnectedness among the financial sector players, between the financial and non-financial sectors, as well as within the non-financial sector. The inter-linkages between physical risk and transition risk may also act as a particular source for non-linear risk impacting financial stability. These risks may also get magnified through cross border trade and production interdependencies[3].

Regulatory response and challenges

While there is some debate on whether or not climate change is part of a mandate for a Central Bank, the fact that it has a bearing on both price and financial stability means that there is a need for a regulatory response on risks arising from climate change. The impact on the financial system and economy arising from climate change is dependent on the extent of their exposures to these risks and mitigation measures that are in place. The dilemna and challenge faced by the regulators is to not only put in place an enabling ecosystem from prudential perspective but also act as an enabler and

facilitator for orderly and sustainable development of the financial system and economy. Given the significant inter-sectoral dependencies, the mitigation of climate change risks not only requires individual sectoral response from regulators, but also inter-regulatory co-ordination.

The Reserve Bank of India has been proactive in its resolve to assess and mitigate the climate change risks that may impact the financial system. Over the last few years, we have taken several incremental measures in this direction. It started with the setting up a dedicated group within the Bank to assess climate change risks and foster a robust ecosystem for sustainable finance. This was followed by release of survey on climate risk and sustainable finance covering 34 scheduled commercial banks[4], Discussion Paper on Climate Risk and Sustainable Finance[5], followed by release of framework on green deposits[6]. Reserve Bank has been actively engaging with various stakeholders in the financial sector for integration of climate change risks in traditional risk management framework; climate scenario analysis to identify vulnerabilities in their balance sheets; taking steps to ensure adequate flow of credit for mitigation purposes and addressing gaps in capabilities for measuring and managing climate-related financial risks.

One of the measures for setting the expectations and nudging climate change risk mitigation actions within the ecosystem is by prescribing climate disclosure standards. Global standard setting bodies such as International Sustainability Standards Board (ISSB) has been a pioneer in this area and most jurisdictions including India have been making attempts to calibrate their respective disclosures with its prescriptions keeping in view the essentiality of their common but differentiated responsibilities. Reserve Bank had issued a draft disclosure framework for climate related financial risks[7] for public consultation. Based on the feedback received, the final guidelines are likely to be released shortly. The intent of the disclosure framework is to prepare the regulated entities to identify and build competencies to mitigate climate change risks and not to restrict lending to any particular sector or industry.

Though we may have a broad understanding, we are yet to reach the stage where we can comprehensively assess the risks arising from climate change. The major challenge for a true assessment of climate change risks is availability of required data[8]. Climate data is characterised by lack of uniform methodology, fragmentation in accessibility, lack of uniformity in publication of data and difference in metrics, units, and formats. There is lack of actual historical loan loss data related to climate risks, hazard data encompassing historical and future forecasts of occurrences of climate events, and sectoral benchmarks for transition to net zero. Currently there is no set practice among financial institutions of labelling loan assets which have gone bad basis any climate risk event. This limits the availability of realistic loan loss data for integration of climate related risks into traditional risk management models to estimate probability of default. It also inhibits the financial institutions from carrying out various simulations and scenario analysis exercises to arrive at realistic future loss estimations. Consequentially, various approximation methods/ data sets are being used at this point to arrive at loan loss data and measure expected future losses.

When we consider physical risk and particularly the hazard data, there is a need for India specific data that can be based on globally accepted range of scenarios. Having said that, the scenarios provided by NGFS and Intergovernmental Panel for Climate

Change (IPCC) serve as good starting point to derive India specific results. In the case of transition risks, there is a gap in terms of availability of sectoral transition benchmarks that can be used by financial institutions to gauge the relative transition risks of the firms. Absence of a definitive taxonomy at the national level is also a constraint to determine which sectors need to transition along with an indicative road map for the same. Further, the measurements of Scope 1, 2, and 3 emissions also remain a work in progress.

The Scope 3 emissions essentially pertain to upstream and downstream emissions in value-chain for a firm. It should be endeavour of each of the players in the value-chain to take care of their respective Scope 1 and Scope 2 emissions, so that issue relating to Scope 3 is automatically taken care of. It is from this perspective that climate risk related disclosures become very important and hence need for the financial system to capture respective Scope 1 and Scope 2 emissions. This will not only motivate firms towards assessment of their own climate change related risks but prepare the system at large to ward of any systemic issues going forward.

The Reserve Bank of India intends to address the gaps in climate data availability with the creation of the data repository namely, the Reserve Bank – Climate Risk Information System (RB-CRIS), which was announced by the Governor on October 09, 2024[9]. It is envisaged to consist of two parts. The first, a web-based directory, listing various data sources, (meteorological, geospatial, etc.) which will be publicly accessible on the RBI website. Second, a data portal comprising of datasets (processed data in standardised formats). The access to this data portal will be made available to the regulated entities in a phased manner.

Issues and challenges with Sustainable Finance

Here let me flag a challenge in augmenting the scope of sustainable finance. The world and India in specific require considerable amount of funding to achieve the respective net zero targets. Climate change was a topic of heated debate, particularly about availability of adequate climate related finance, at the recently concluded Conference of Parties (COP) 29 in Baku, Azerbaijan, which highlighted two issues, first climate related finance still gets negotiated at international fora and second EMDEs priorities are still not aligned with the developed nations. Though the agreement proposed to triple the climate finance for EMDEs from the previous goal of USD 100 billion to USD 300 billion annually by 2035, it fell short of EMDEs expectations. India had committed to the COP26, its Panchamrit goals (Nationally Determined Contributions (NDCs)). It is estimated that the funding requirement to achieve these targets ranges around USD 160 billion per year[10].

There are manifold challenges both at national and international levels for the effective flow of sustainable finance. First and foremost is inherent riskiness of the green or sustainable projects/ proposals. At the forefront of climate risk mitigation is going to be the availability of green and sustainable substitutes which requires considerable technological development. Given the fact that, green or sustainable projects are based on relatively newer technologies which are yet to stabilise and are mainstreamed, assessment of financial and techno-economic viability of these projects becomes that much more challenging. This leads to an inherent increased credit risk as compared to traditional projects.

Moreover, when it comes to sustainable finance, in a country such as ours, apart from mitigation, flow of resources for adaptation is equally important. Bankable projects invariably find credit, however there are issues with partially bankable and non-bankable projects, which generally gets associated with adaptation. Several issues in the form of data, knowledge and capacity gaps, technical, and institutional constraints limit the proper identification and development of adaptation projects which limits the access to both international as well as private finance. There is, thus an urgent need to develop an ecosystem to mainstream adaptation finance and to rise above the typical corporate social responsibility linked funding and public investments.

The Government has also been at the forefront in fostering sustainable and climate finance be it Green Hydrogen Mission, National Solar Mission, PM-KUSUM, PM-Suryaghar Yojana, Sovereign Green Bonds, Long-Term low Emission Development Strategy (LT-LEDS) etc. There is a need to further augment these efforts by forging public-private partnerships and look at blended finance options, including the role of Development Financial Institutions (DFIs). Efforts are needed to address commercial viability of projects and related market failures, along-with transparency, integrity, and disclosures. There is a need to collectively think as to how sustainable projects involving new and evolving technologies can be derisked without subjecting the financial system to any spill-over risks. There is also a need for more intense focus on promoting Research & Development in the area of sustainable technologies.

A related area that comes up for discussion at various fora is the non-availability of bankable projects in area of green and sustainable finance. In this context, firstly there is a need to differentiate between the corporate projects and projects related to SMEs/ MSMEs. A sustainable project could range from installation of a renewal power project to something like installation of a solar light on the rooftop of households/ firms. India is witnessing fast paced technological transformation with more and more youngsters setting up start-ups by taking the entrepreneurial route to problem solving. In this context, it is important to showcase such technological innovations which have stood the test of time and contributed towards sustainable development. We may need to consider creation of a green and sustainable asset repository which will showcase the use cases of such technologies for the financial institutions.

Given the quantum of funding required for sustainable finance, besides, other sectoral domestic investment requirements, there is a pressing need to leverage available international climate finance funds for climate mitigation and adaptation projects. There are two critical elements which can act as great enablers in this process – one is transparency and the other capacity building. Transparency, by means of disclosures, and adequate capacity building will enable both the donors and recipients to assess the involved risks and accordingly tailor the funding requirements. A graded approach needs to be followed for transparency and disclosures, which should be in consonance with the national circumstances. Capacity building needs to be looked at with special focus on increasing technical expertise. We need to build institutional capabilities to foster product innovation and provide technical evaluation support with respect to sustainable finance. These institutional capabilities can then be leveraged by financial institutions and the government machinery to augment credit flow to related sectors and act as a bridge with international funding organisations, DFIs, and MDBs for funding related to sustainable finance.

Conclusion

Climate change risks have started to impact the financial system and are envisaged to pose systemic risks in the coming future. The climate-specific vulnerabilities' interplay with real economy and financial sector vulnerabilities can lead to financial stability risks. In this context, it is essential to build capabilities to ensure correct assessment of these risks and put in place suitable adaptation and mitigation measures. Transparency and capacity building are going to be the key differentiators and we need to collectively move in this direction. We have a huge responsibility ahead of us and I am hopeful that together we will be able to provide a definitive roadmap for sustainable growth and environment for the future generations.

Thank you.

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[1] The year 2024 set to end up as the warmest on record | Copernicus

[2] Report on Currency and Finance, RBI (2023)

[3] For instance the proposed Carbon Border Adjustment Mechanism (CBAM) of European Union.

[4] Reserve Bank of India - Reports

[5] CLIMATERISK46CEE62999A4424BB731066765009961.PDF

[6] Reserve Bank of India - Notifications

[7] https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=57408

[8] The Network for Greening for the Financial System (NGFS)'s *Final report on bridging data gaps* highlights availability (e.g., coverage, granularity, accessibility), reliability (e.g., quality, auditability, transparency) and comparability, as issues in climate-related data.

[9] Reserve Bank of India - Press Releases

[10] https://www.iea.org/commentaries/india-s-clean-energy-transition-is-rapidly-underway-benefiting-the-entire-world