Towards Viable Disaster Risk Financing Solutions for SE Asia – Learning from Global Experiences, Successes and Challenges

Institute of Catastrophe Risk Management, Singapore

Science-based Catastrophe Risk Modelling informs Risk Management and Prudential Regulations

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Task Force on Climate-Related Financial Disclosures (TCFD) - Report to G20 Leaders (Osaka)

The report is written and submitted by Mark Carney, Governor, Bank of England.

1. Reporting:
- Markets need information to assess which companies are strategically resilient to the physical and transition risks associated with climate change
- Corporate Disclosures are becoming aligned with TCFD recommendations;
- Uneven disclosures (multiple reports, variance across industries and regions) make comparisons harder;
- The International Organization of Securities Commissions (IOSCO) could play a constructive role in coordinating consistency (disclosures).

2. Risk Analysis:
Steps to improve disaster risk management:
- the Bank of England's Prudential Regulation Authority (PRA) and Financial Conduct Authority (FCA) have established the Climate Financial Risk Forum and its technical assistance, to improve the operational resilience of firms and financial markets;
- the PRA will publish its final Supervisory Statement for banks, insurers and investment firms: guidelines on managing the financial risks from climate change, including: (i) Governance, (ii) Risk Management; (iii) Scenario Analysis; (iv) Consistent disclosure of climate risk.
- General insurers and reinsurers are on the front line of managing the physical risks from climate change
- Banks have begun considering the most immediate physical risks to their business models – from the exposure of mortgage books to flood risk, to the impact of extreme weather events on sovereign risk.

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3. Scenario analysis - industry metrics and climate stress tests:
- the PRA's Climate Financial Risk Forum will work with industry to review tools and metrics, with the view to publishing reference scenarios and standard assumptions;
- Climate Financial Risk Forum will work with banks, insurers and asset managers to ensure these scenarios are effectively implemented.

4. Working with supervisors and climate policymakers:
- A system-wide stress test can help supervisors and climate policymakers judge the adequacy of the current transition and whether further actions could be expected.
- Coordinate with the Network for Greening the Financial System (NGFS) to develop a small number of high- level scenarios.

5. Advances in reporting and risk analysis
- Regulators and market participants are collaborating to facilitate cross-border investments in green infrastructure.
- The European Commission's Sustainable Finance Action Plan is developing a classification system for sustainable economic activities, a harmonized green bond standard and methodologies for low- carbon indices.
- The three major credit rating agencies have all integrated environmental risk and green certification into credit ratings.
- Climate Bonds Initiative (CBI) and International Capital Markets Association (ICMA) have developed definitional frameworks, certification and validation methods for green financing.

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6. ESG - long-term value creation:

- sustainable investment can generate excess returns via: (i) companies with strong ESG metrics become more strategically resilient (generate true alpha); (ii) long-term strategic planning and value creation; (iii) valuation premiums are consistent with investor preferences - assets are moving to ESG strategies (20 per cent growth per annum).
- Analysis of over 2000 studies confirms that the economic case for ESG investment is tangible: focusing on ESG criteria generates a positive return.

“The speed with which this market develops will be heavily influenced by the coherence and credibility of climate policies. Finance will complement - and potentially amplify – but never substitute for climate policy action”, Mark Carney, Governor, Central Bank of England, co-author, TCFD.

Network for Greening the Financial System

The Network for Greening the Financial System (NGFS) is a voluntary network set up in 2017 by 8 central banks and supervisors.
At present, 29 members and five observers, represent countries accounting for nearly half of global emissions.
ASEAN members include the Monetary Authority of Singapore, the Bank of Thailand.

NGFS Objective:

- Contribute to the development of climate- and environment-related risk management in the financial sector
- Mobilize green finance.
- In April 2019, the three working groups recommended central banks to:

    - a. Integrate climate-related risks in the assessment of financial stability and micro-supervision,
    - b. Integrate Environmental, Social and Governance (ESG) factors into the management of central bank portfolios,
    - c. Bridge data gaps,
    - d. Mobilize skills and develop technical assistance in risk assessment.

NGFS Technical Assistance in Risk Assessment and Risk Management will include:

- Guidance on governance, strategy and risk management of climate and environment risks for: supervisors and financial institutions;
- Voluntary guidelines on scenario-based risk analysis;
- Mainstream sustainability criteria into central banks' portfolio management (climate-friendly investments);
- Train supervisors to assess firms' management of these risks;
- Foster the translation of scientific results into financial analysis.

Canada - Final Report of the Expert Panel on Sustainable Finance - Mobilizing Finance for Sustainable Growth

The Expert Panel (the Panel) on Sustainable Finance submitted its final report to the Finance Minister and Environment Minister in June 2019. The Panel is led by the former Deputy Governor of the Bank of Canada (Central Bank), and consists of senior members of Canada's pension funds, banking and insurance community. The Panel undertook national and international consultations with financial regulators, services, industry, governments, professional financial bodies, think tanks and academia

Priorities:
1. Need to shift climate change conversation from burden to opportunity
2. Develop a capital plan for a climate-smart economy with related investment and savings products
3. Ensure that government and industry join forces to pursue opportunity and manage risk.

Sustainable finance covers:
1. Capital flows (lending and investment)
2. Risk Management activities (insurance and risk assessment)
3. Financial processes (disclosures, valuations and oversight)

that assimilate environmental and social factors to promote resilient economic growth and the long-term stability of the financial system.

Foundations for Market Scale:
1. Establish the Canadian Centre for Climate Information and Analytics: authoritative source of climate information and decision analysis;
2. Develop a Canadian approach to effective climate-related financial disclosures from businesses and investors;
3. Provide legal clarity around obligations of investment fiduciaries;
4. Foster a supportive ecosystem of climate-informed professional service providers;
5. Embed climate-related risk into monitoring, regulation and supervision of Canada's financial system.

Translate Scientific Data into Risk Assessment and Financial Analysis
Rationale for the Canadian Centre for Climate Information and Analytics

Need for an Authoritative Source of Climate Information and Decision Analysis.

- Access to reliable and consistent climate data
- Ability to turn that data into relevant financial insight
- Essential for sustainable business decisions.

Overcome present challenges:

- The abundant scientific climate change data available today is hosted in various locations and formats
- Access is difficult and costly for large institutions, and prohibitively expensive for smaller ones
- Tools to translate data into tangible impacts for a business, city or financial portfolio are non-existent
- As a result, the financial system is just beginning to understand how to assess, measure and manage climate risk and opportunity.

Need to establish appropriate principles and protocols for data quality, protection and ownership:

"A single national hub synthesizing key information from Canada's consortia of climate, economic, academic and decision analytics would help alleviate Canada's critical information gap. …It may also have commercial value."

National Hub services may include:

- Climate scenarios to support stress-testing analysis in line with Task Force on Climate-related Financial Disclosures (TCFD)
- Financial product tagging to support sustainable finance taxonomies
- Physical risk analysis in the built environment
- Anonymous annual average of internal carbon shadow pricing to inform policy
- Prudential requirements and internal risk analysis.

Centralized Scientific, Catastrophe Modelling and Risk Management Hubs in the OECD

Mexico

National Center for Disaster Risk Prevention (CENAPRED, est. 1988)

Mandate: provide research, training, prevention and monitoring of natural disasters

- centralized link with scientific communities
- develops shared risk assessment at national level on earthquake, floods, and tropical cyclones
- provides training to local governments on risk atlases benchmarked to national risk assessment standards
- Housed within Ministry of the Interior's National Civil Protection System

Great Britain

National Hazards Partnership (NHG est. 2011)

Mandate: provide consistent analyses of natural risks and support the development of policies, communication and services related to natural risks.

- Centralized hub / consortium of 12 British scientific and technical bodies and 5 British government partners
- Enables exchange of data, research on all forms of natural risks (incl. meteorology, environment, geology, earth observation and health)
- Models natural catastrophes and provides risk assessment on geographical areas and properties vulnerable to risks
- Contributes to National Risk Assessment
- Provides Daily Hazard assessment service for next 5 days, next 30 days
- Has avoided overlap and duplication.

Centralized Scientific, Catastrophe Modelling and Risk Management Hubs in the OECD

France

National Risk Observatory (ONRN est. 2012)

Public-Private partnership: established by French Directorate General for Risk Prevention, the CCR (French reinsurance company), and private insurance companies.

Mandate: catastrophe modelling, shares data on natural risk assessment, connects data providers with users of risk-related information.

Five objectives:
- Improve existing knowledge of hazards and related issues
- Provide risk assessment and forecasting system
- Mainstream risk management and governance
- Support economic analysis of prevention and crisis risk management
- Raise awareness on risk management
- Produce national and local, decision-ready risk indicators.

Risk Assessment and Risk Management in ASEAN
The Leadership Role of the Insurance Industry
Developments in Risk-Based Capital Regime 2

Developments in ASEAN

1. Insurance regulators in ASEAN are in the process of implementing RBC2:
- RBC2 is a two-tier approach to determine the amount and quality of the insurer's capital, where the Total Available Capital is the aggregate of Tier 1 and Tier 2 capital, subject to risk charges, applicable limits and determinations.

2. RBC 2 is built on the foundations of the existing risk-based capital regime:
- In addition to good risk management, the RBC2 framework increases the level of harmonisation in the insurance industry and provides for market discipline and transparency.

3. Financial Regulators aim to coordinate and achieve a level playing field within the insurance industry and between the insurance and banking industry:

- In Singapore, the Monetary Authority of Singapore (MAS) proposes to incorporate Basel III requirements for approved tier 1 capital.

- MAS also intends to strengthen ERM by introducing new requirements such as the Own Risk and Solvency Assessment (ORSA).

Risk Assessment and Risk Management in ASEAN
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RBC2 - Total Capital Required

Each type of asset or liability attracts a charge according to the risks to which it is exposed. The sum (subject to diversification adjustments) of these charges form the RBC Requirement within the RBC2 formula.

The diversification between risks reduces the prescribed RBC requirement amount.

1. Components of the Non-Life RBC Requirement:

a. Credit Risk capital charge; b. Insurance Risk; c. Market Risk; d. Operational Risk; e. Catastrophe Risk.

2. Components of the life RBC Requirement are: [a to e] and f. Surrender Risk capital charge.

Catastrophe Risk

MAS would like insurers to capture catastrophe risk by constructing a catastrophe scenario most relevant to their business. Given the complexity of the task, MAS intends to propose catastrophe scenarios.

For Non-Life: MAS intends to prescribe a number of man-made and natural catastrophe scenarios in order to assist industry to derive the subsequent risk charge for non-life business.

For Life: MAS proposes the use of a pandemic event.

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and

Prudential Regulations

"Climate and catastrophe resilience isn't just an insurance industry issue, it's an economic priority. It needs to be on the agenda of every minister of finance and addressed in every government's budget. (…)

(…) Introducing risk management in policy making and in the governance of public institutions would go a long way in attracting capital into resilient infrastructure projects".
Charles Brindamour, CEO of Intact Financial. Extreme Events and Climate Risk Forum 2018. Toronto, Canada.

- **Next steps:**

1. Build on RBC2-based risk management:
   - insurance regulator to cooperate with finance, treasury, central bank on science-based risk assessment and risk modelling;
   - prudential regulators to coordinate on principles for greening the financial system;

2. Access / consider Technical Assistance provided by: Network for Greening the Financial System and The Climate Financial Risk Forum

3. Consider the benefits of a centralized science-based risk management hub

4. Incorporate climate change and disaster risk assessment into new infrastructure (energy, water, transportation).

Thank you

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