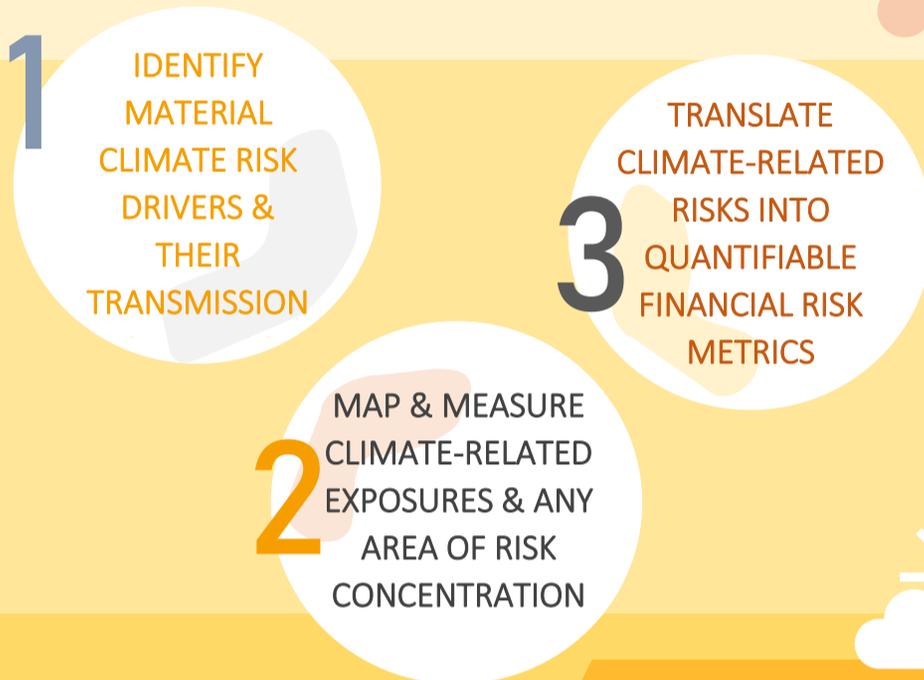


Climate Related Financial Risks – Methodologies & Measurements



THE SCALE of climatic changes is mostly unpredictable & can lead to unprecedented losses, both of a financial & economic nature for the Banking, Financial Services & Insurance (BFSI) sector. Risks stemming from weather related disruptions are difficult to measure as they are erratic & volatile. If these risks are overlooked or discounted, the impacts rippling from them will be ultimately negative & concur to severe foreseeable losses

To inculcate a **HEALTHY & EFFECTIVE** climate related risk management framework within the BFSI industry sphere, the Basel Committee on Banking Supervision (BCBS) has proposed **THREE** objectives;



Classification of risks based on their extent of **IMPACT & DEGREE OF DISRUPTION**

FUTURE DETERMINISTIC ASSESSMENTS that will employ Scenario design & testings', a timeline extrapolation of risk occurrences & Firm balance sheet future analysis

To build a **CLIMATE INTENSIVE FINANCIAL RISK FRAMEWORK**, the BFSI sectors can consider formulating



ECONOMIC IMPACT MODELLING & ANALYSIS to quantitatively derive the estimated impact of climate related risks within the business functions



DATA REQUIREMENTS that will map the climatic risk drivers & the vulnerabilities emerging from them. The climate impact data will help curate the potential risk exposures



Conceptual considerations that will assess the risks utilizing the **TOP-DOWN & BOTTOM-UP APPROACH**. It will help sieve the heterogeneities in the risk matrix as well as provide a possible overview of the incoming risk uncertainties

5 Key

Findings:

1

Unlike Financial risks, **CLIMATE RISKS POSSESS UNIQUE FEATURES** that challenge the traditional risk methods

High exposure granularity may be needed to assess both **PHYSICAL RISKS & TRANSITION RISKS** since there exists heterogeneities at varying stages within the BFSI industry, i.e. geographical, sector-wise, jurisdictions

2

Measurement of climate-fin risks can be conducted by **CLASSIFYING THE CARBON INTENSITY OF BFSI PORTFOLIOS**, including quantifying geographical & sectoral exposures, which in turn helps derive **INTERNAL CLIMATE RISK RATINGS**

The measurements provides a base for fostering more **STRINGENT CLIMATE POLICIES** to mitigate future negative impacts and boost the ability to **INSURE AGAINST PROSPECTIVE LOSSES**

3

Credit risk frameworks account for the largest share of risk management practise. **UNDUE WEIGHTAGE TOWARDS CREDIT RISK** has diminished the risk assessments and solutions capabilities for Climate-Fin risks

Climate related risks are modelled into processes and systems **ONLY AFTER A DISRUPTION HAS TAKEN PLACE** instead of factoring in a degree of climatic variables within the institutions risk matrix prior to an imminent disaster

4

Larger population of BFSIs are yet at a nascent stage of identifying climate related risks & its subsequent exposures. Measurement tools that quantify risks THROUGH FORWARD-LOOKING METHODOLOGIES & MULTIPLE SCENARIO TESTINGS' are being adopted by entities but framework controls for these methods to smoothly integrate into the traditional risk structures are not yet in place

Most of the risk data extrapolation & analysis is conducted by third party vendors. Thus, inaccuracies in HISTORICAL DATA, UNACCOUNTABILITY OF GEOGRAPHICAL & SECTORAL DIFFERENCES, INADEQUACIES IN DATA ON PHYSICAL & TRANSITION RISK IMPACTS, introduce formidable challenges & assumptions about balance sheet adjustment options

5

To near-accurately measure climate related financial risks, BFSIs would require sets of new & unique data that delve into **Three** areas:

DATA TRANSLATING CLIMATE RISK DRIVERS INTO ECONOMIC RISK FACTORS

DATA LINKING CLIMATE-ADJUSTED ECONOMIC RISK FACTORS TO EXPOSURES

DATA TO TRANSLATE CLIMATE-ADJUSTED ECONOMIC RISK INTO FINANCIAL RISK

FOCUS would be on acquiring geological data that illuminates the risk degree of physical damages occurred, climate change adaptations by industries as per stipulated climate transition policies and jurisdiction differences captured by granular data. BFSIs require a **CONVERGENCE OF TRADITIONAL RISK FRAMEWORKS WITH MODERN STRUCTURES** in a standardized format to limit exposures considerably



PROMINENT CLIMATE RELATED **FINANCIAL RISKS**



PHYSICAL RISKS

TRANSITION RISKS



Within the ambit of measuring **PHYSICAL RISKS**, financial exposure mapping can be derived from data inclusive of degree impacts and damages to real assets and resources responsible for revenue flows. This data can thereafter be integrated into BFSIs traditional risk models that will extrapolate specific financial risk parameters based on the degree of *Damage Functions*



TRANSITION RISKS related to climate, grapple BFSIs when they shift their business process from high to low carbon systems & deter financial flows. Both physical & transition risks may be inter-dependant as climatic transitions such as increasing global warming, greenhouse gas emissions & more such hazards can be catalysts in increasing the quantum of physical risks that generate from climatic distortions. Therefore, it is prudent to model risk frameworks that do not view physical & transition risks separately but assess both in a linear dimension