WU Conference on ESG and climate risks for the financial sector

# From climate risk assessments to supervisory approaches

Lessons from World Bank engagement in EMDEs

May 29, 2024

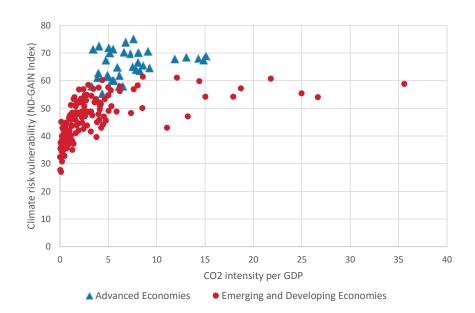
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#### EMDE economies are particularly vulnerable to climate change

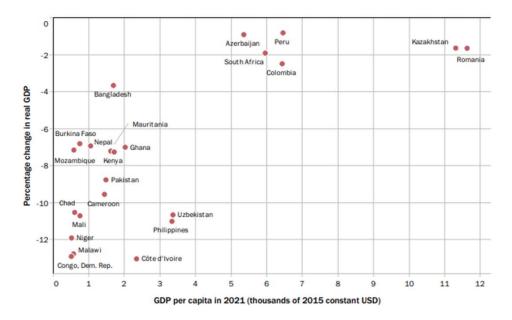
Countries which have contributed least to climate change are the most vulnerable to its impact...

Vulnerability to climate change and emission intensity for EMDEs and AEs



...with the economic impact being as high as 14% of GDP in certain EMDEs

GDP impact of climate change in 2050 in pessimistic scenarios for selected EMDE countries against a baseline scenario (percent of real GDP)



Source: World Bank based on ND-GAIN Index (2023) and Our World in Data (2023). ND-GAIN indices span in range from 0 to 100 with higher values representing greater readiness and lower vulnerability.

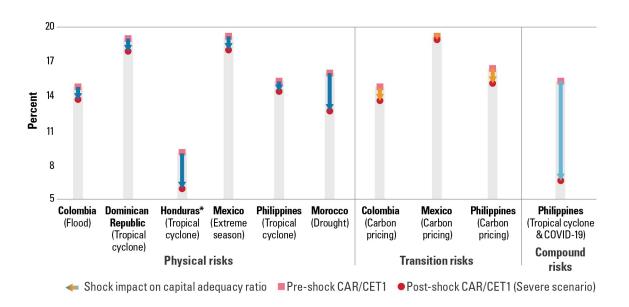
Source: World Bank, 2023

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### The impact on banks' capital seems manageable but limits to current stress-testing methodologies may lead to underestimation, while compounding scenarios can create severe stress

#### The impact of climate risk on banks' capital appear limited...

Climate stress test results as impact on system-wide capital adequacy ratio for different scenarios, selected countries (pre- and post-shock banking system capital ratio in %)



Source: World Bank Staff calculation based on publicly available climate risk assessments across 6 EMDEs.

#### ...but is likely underestimated due to methodology limitations

Limitations to current climate risk assessment methodologies

Data quality and availability

Impacts of tipping point events and extreme tail risks

Potential non-linearities arising from second-round effects

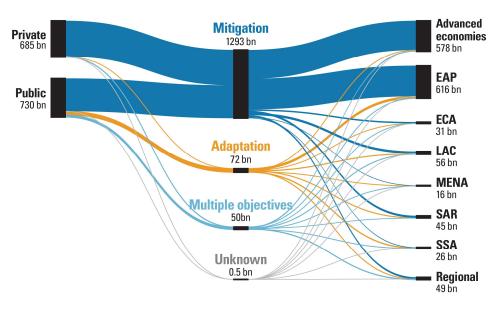
Limited subset of scenarios and transmission channels

Compounding shocks

#### EMDEs face specific challenges in providing and accessing climate finance

#### Private climate finance is nearly exclusively focused on mitigation, and mainly flows to advanced economies and China...

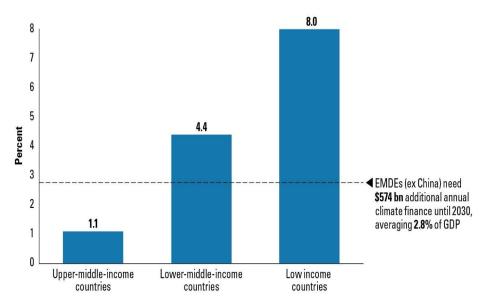
Climate finance flows by source type, use case and region of destination in 2022 (USD bn)



Source: World Bank staff calculation based on CPI (2023)

#### ...while climate finance needs are large in EMDEs

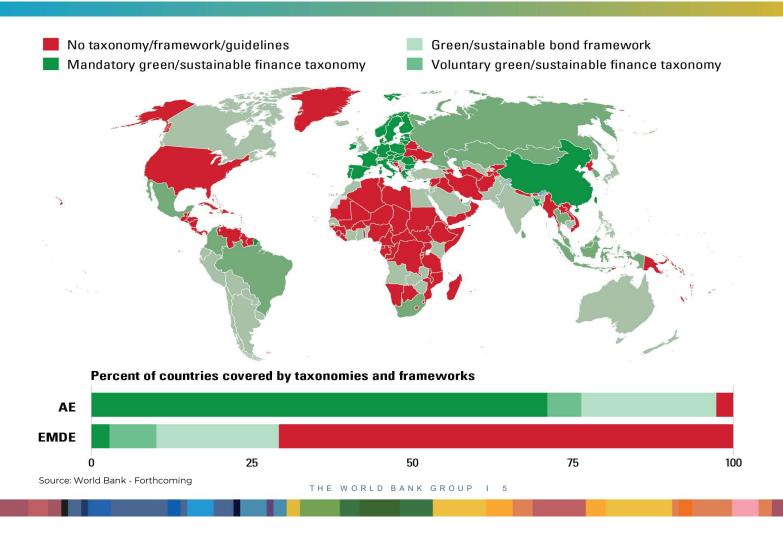
Additional annual climate finance needs between 2023 and 2030 by income level (percent of GDP)



Source: World Bank (2023)

Note: Based on estimates of 42 World Bank Country Climate Development Reports (CCDRs) on incremental investment needs compared with a realistic business-as-usual baseline.

### Effective classification of sustainable activities is needed, but only one-third of EMDEs are covered by taxonomies or sustainable bond frameworks



#### Climate-related financial risk assessments need to be adapted to local contexts

#### 1. EXPOSURE ANALYSIS

#### 2. SCENARIOS

#### 3. ECONOMIC IMPACT

#### 4. FINANCIAL IMPACT

#### Physical risk exposure

· Comparing geographical and sectoral exposures with global and local hazard maps to identify hotspots of physical risk, and identify transmission channels

Transition risk exposure

exposures with transition

indicators per sector (e.g.,

GHG-emissions) and identify

#### Physical risk scenario

 Estimating forward-looking hazard damages based on catastrophe model outputs, historical extreme events, and climate models.

#### Macro approach

 Climate-enhanced macro economic models for and transition scenario impacts (e.g., GDP, value add per sector/ region,

assessing indirect physical inflation, interest)

#### Transition risk scenario

 Identifying different transition pathways (e.g., carbon pricing, trade policies, energy mix)

#### Micro approach

• Using firm level credit model to estimate impact of scenarios on firm level debt serviceability and probability of default

#### Bank-by-bank



 Evaluating the effects of macro or firm-level shocks on a bank's CAR, loan quality indicators (e.g., NPLs, profitability) using econometric models and solvency stress tests

#### System-wide



 Assessing system-wide impacts of climate risk scenarios for financial stability, accounting for heterogeneity across banks.

Source: World Bank- Forthcoming

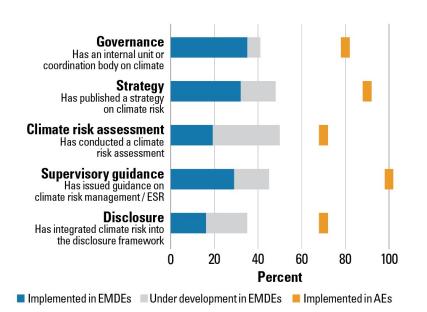
transmission channels

Comparing sectoral

#### Climate risk supervision and management are in the initial phases in EMDEs

#### EMDE banking authorities are in the earlier stages of climate risk supervision compared to advanced economies...

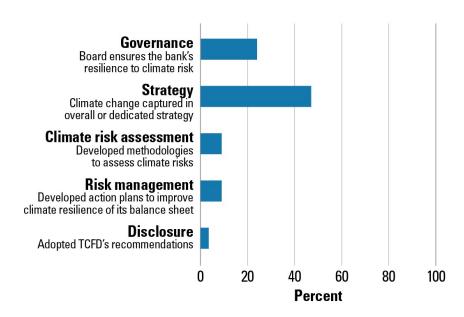
Share of banking authorities implementing selected supervisory actions related to climate risk



Source: World Bank staff calculations based on World Bank climate diagnostics and technical assistance in 31 EMDE countries and publicly available information in the 10 AEs with the highest GDP

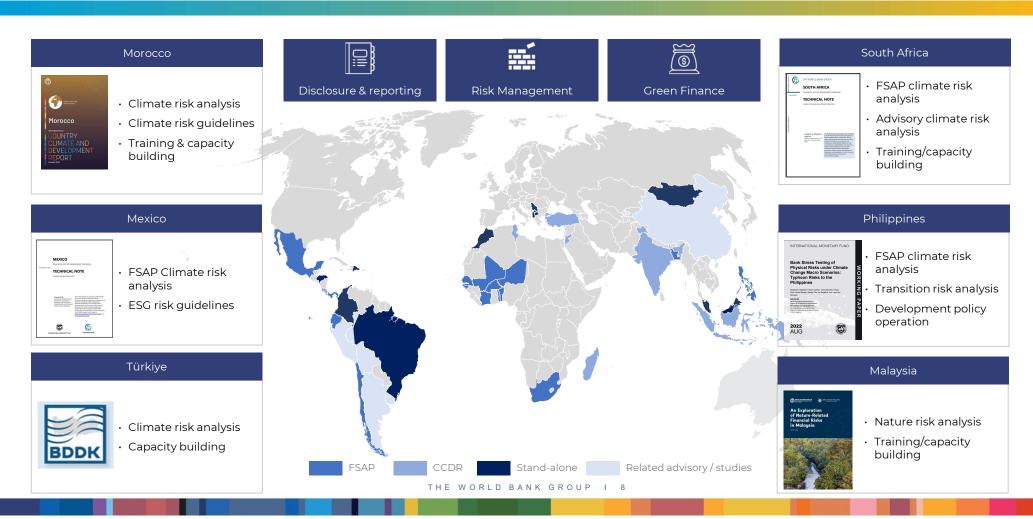
#### ....while climate risk management by EMDE banks is in its infancy

Share of EMDE banks that have adopted selected actions related to climate risk



Source: World Bank staff calculations based on IFC data

### The World Bank is supporting efforts to green financial sectors in 60+ countries through its technical assistance, analytical and lending activities



## Thank you

