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CLIMATE PHYSICAL SHOCKS RISK MANAGEMENT: WHO PICKS UP THE BILL?

ESG risk management framework for the financial sector – WU Wien / SUERF

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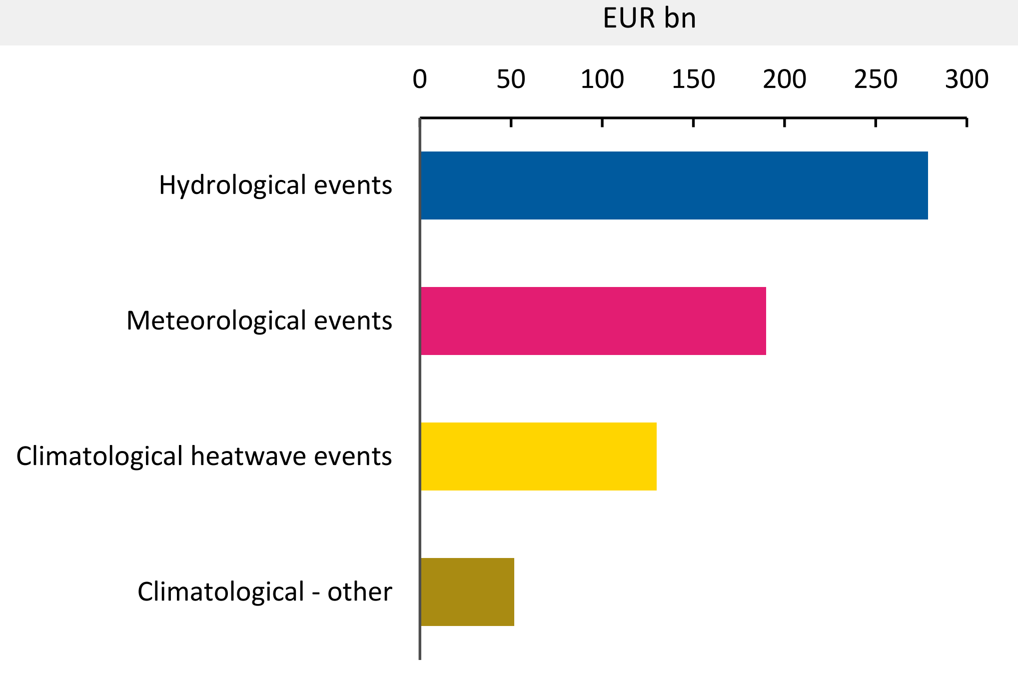
MAIN TAKE-AWAYS

- Extreme climate-related physical events and higher probability of compound events increases the cost of insurance
- Two objectives: preserve coverage and minimise contingent liabilities
- Shared solutions (private sector, public sector, investors) as a way forward:
  - Layering of interventions (public-private partnerships)
  - Diversification of risks
  - Climate-related financing clauses
- Incentive-compatible schemes as the key challenge of shared solutions

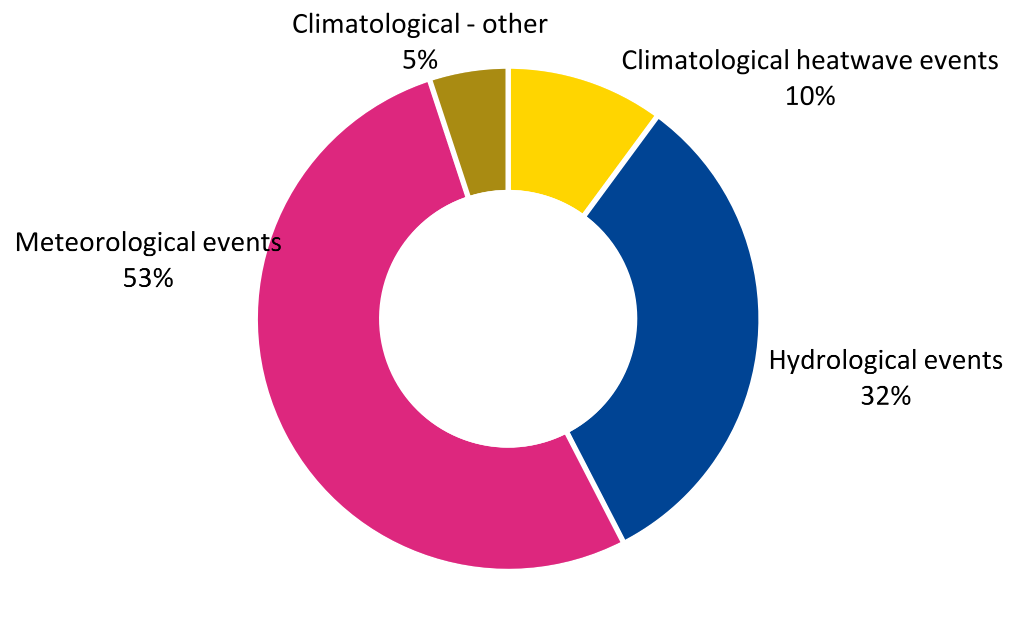
LOSSES ARE HIGH BUT ONLY A FRACTION IS COVERED THROUGH PRIVATE INSURANCE

Total losses 1980 to 2022 (EU-27)



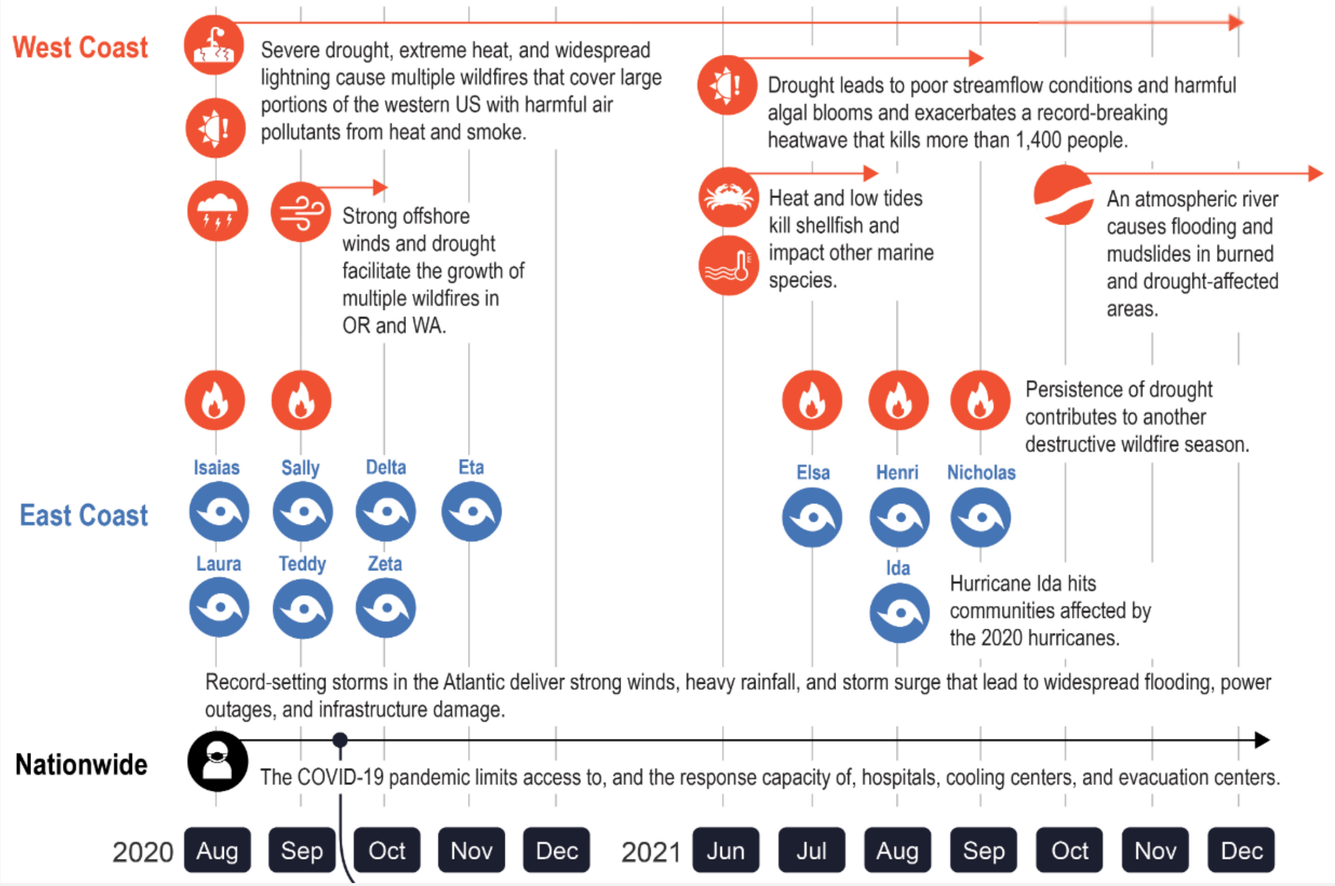
Source: European Environment Agency

Insured losses 1980 – 2022 (EU-27) by type of event (as % of total insured losses)



Source: European Environment Agency
Meteorological events: storms, landslides, subsidence, hydrological events: floods, climatological events: heat waves, cold waves, droughts, forest fires

COMPOUND CLIMATE (AND NON-CLIMATE) EVENTS



Source: NCA 5 report, available here, The timeline shows temporally compounding events in 2020–2021 on the West and East Coasts and their cascading impacts on communities and ecosystems

ECONOMIC CONSEQUENCES

EXCESSIVE PRICING
or
WITHDRAWAL OF COVERAGE

GOVERNMENT INTERVENTION

INEFFICIENT ALLOCATION OF RESOURCES
COSTS OF RELOCATIONS

CREDIT RATIONING
(E.G. REDUCTION IN COLLATERAL'S VALUES

WHY AND HOW SHOULD THE PUBLIC SECTOR CARE ABOUT INSURING AGAINST CLIMATE RISK?

GOVERNMENT INTERVENTION

ADAPTATION AND MITIGATION:
Provide efficient incentives to adapt and reduce emissions
Invest in public goods (R&D, Infrastructures)

ENABLE A PRIVATE SECTOR SOLUTION:
Risk sharing / backstop
Improve coverage

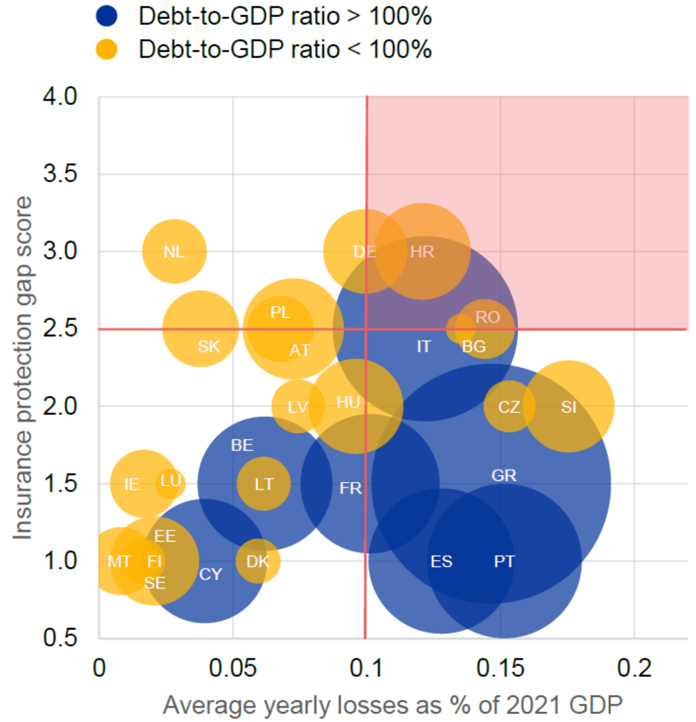
INEQUALITY:
Extend coverage to less resilient sectors
Targeted support

FISCAL RISKS
Quantify and control contingent liabilities

IMPACT ON DEBT SUSTAINABILITY

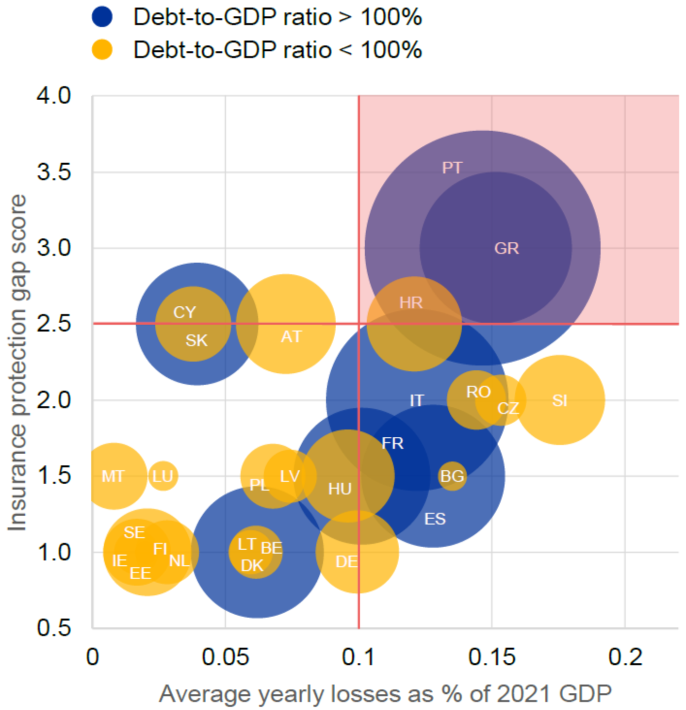
Historical losses and protection gap for floods

(x-axis: average yearly losses (1980-2021), percentages of 2021 GDP; y-axis: protection gap score; bubble size: government debt, percentages of 2021 GDP)



Historical losses and protection gap for wildfires

(x-axis: average yearly losses (1980-2021), percentages of 2021 GDP; y-axis: protection gap score; bubble size: government debt, percentages of 2021 GDP)



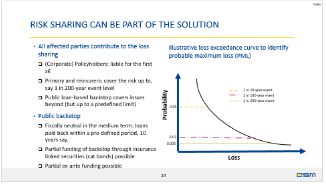
Source: ECB and EIOPA (2023), chart 5, available here

DISASTER RISK AND SOVEREIGN SPREADS IN THE EA

- ❖Government bond issuances in the EA preceded by a large climate disaster tend to see larger spreads-at-issuance
  - Even after accounting for other factors that drive primary market outcomes

- ❖ Evidence still surrounded by uncertainty but…

- ❖ …in the future the impact could be further amplified by insurance gaps and possible limited fiscal space



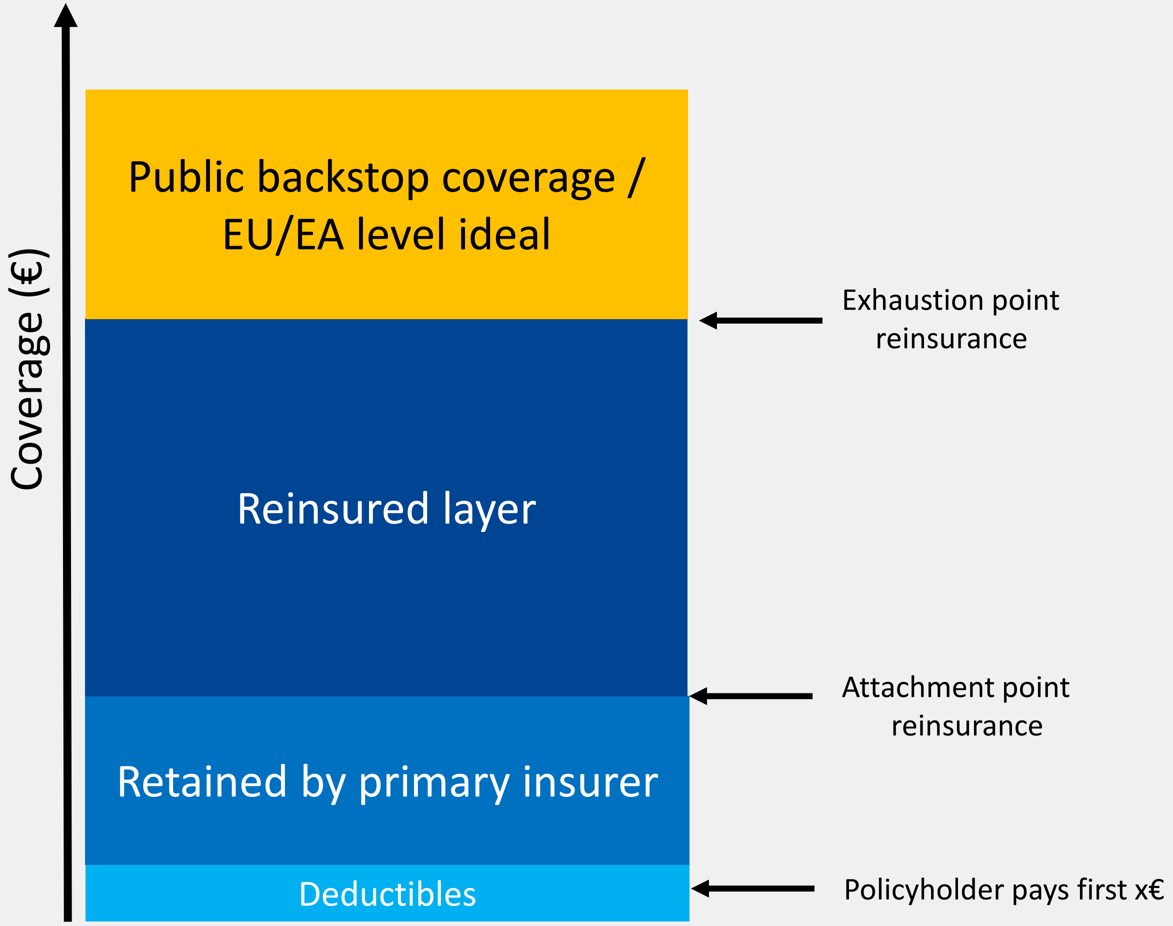
RISK SHARING – AN INTERPLAY BETWEEN DIFFERENT STAKEHOLDERS

Highest layer: Public backstop could cover this layer / EU/EA-level backstop

Reinsurers**: **cover risk from and up to a certain level. The may themselves ***(retro)cede*** some of the risk or issue insurance linked securities on the capital markets

Primary insurers: insure the ***first risk layer*** and cede risk above a certain limit

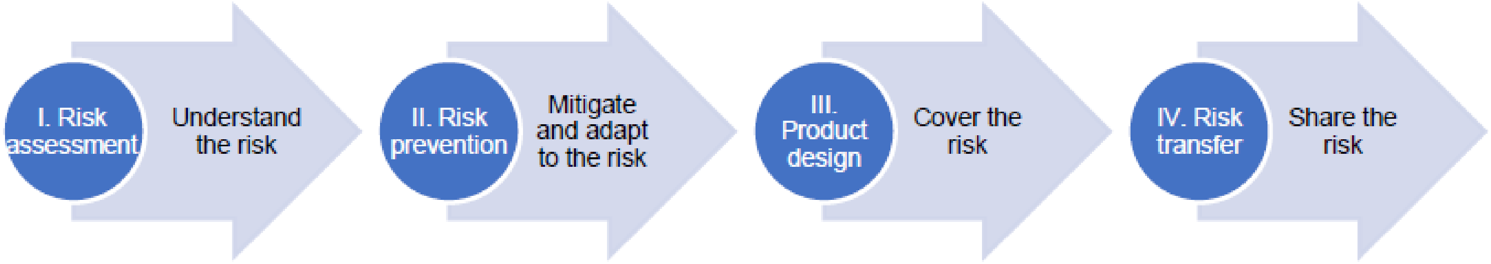
Insured pay the first layer of costs (deductibles - risk-based pricing): Increase risk awareness and possibly fosters risk adaptation



PUBLIC-PRIVATE PARTNERSHIPS

- Caisse Centrale de Réassurance (CCR) in France
- Consorcio de Compensación de Seguros (CCS) in Spain
- Flood Re in the United Kingdom
- National Flood Insurance Program (NFIP) in the United States

Elements of a shared resilience solution

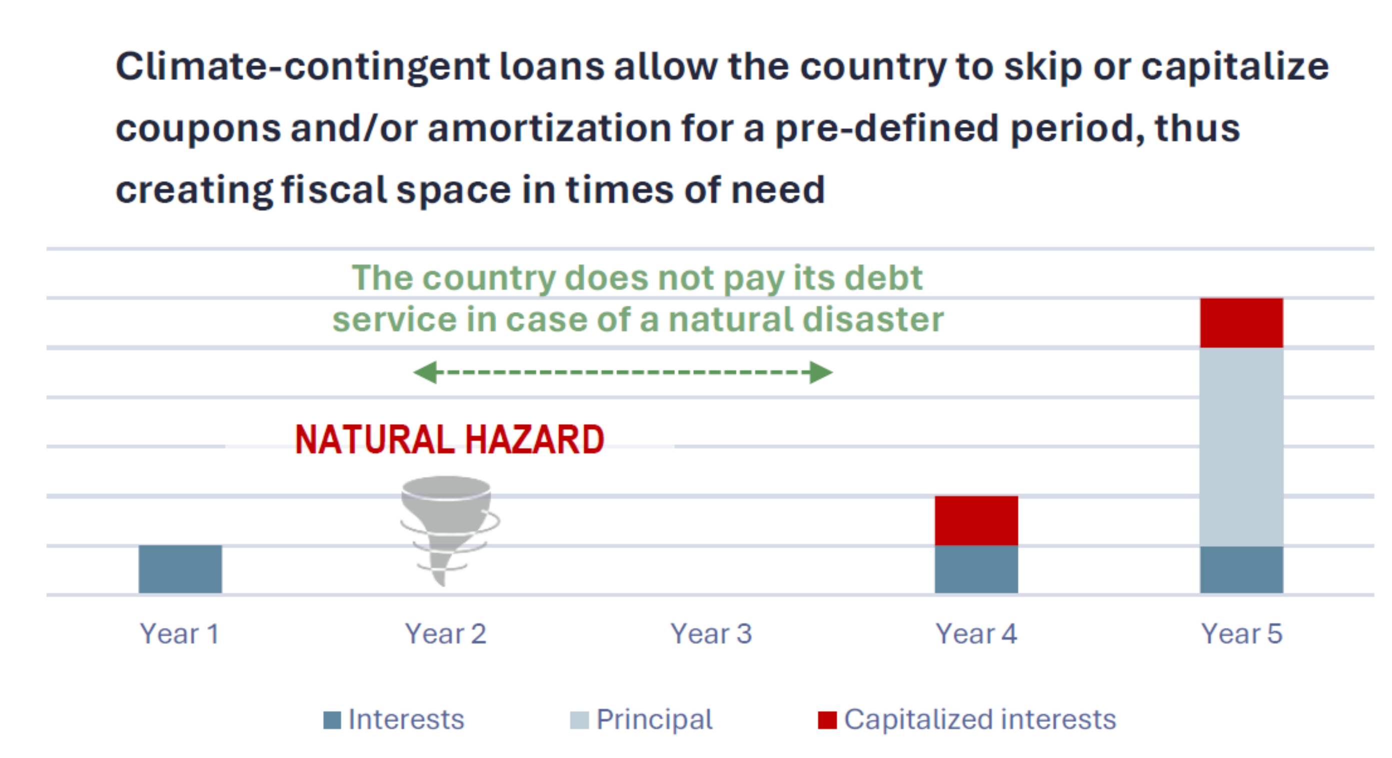


Source: EIOPA (2020).

CLIMATE-RELATED DEBT CLAUSES: AN OPTION FOR CRISIS TIMES?

NPV-neutral debt service suspension in case of extreme events (CDB, WB)

Suitable for low-income and small countries: an option for crisis times?



Source: Lazard and Caribbean Development Bank

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BACKGROUND SLIDES

RISK SHARING CAN BE PART OF THE SOLUTION

- All affected parties contribute to the loss sharing
  - ❑ (Corporate) Policyholders: liable for the first x€
  - ❑ Primary and reinsurers: cover the risk up to, say 1 in 200-year event level
  - ❑ Public loan-based backstop covers losses beyond (but up to a predefined limit)
- Public backstop
  - ❑ Fiscally neutral in the medium term: loans paid back within a pre-defined period, 10 years say.
  - ❑ Partial funding of backstop through insurance linked securities (cat bonds) possible
  - ❑ Partial ex-ante funding possible

Illustrative loss exceedance curve to identify probable maximum loss (PML)