Broadening the scope of risk sharing through a European backstop for natural catastrophes

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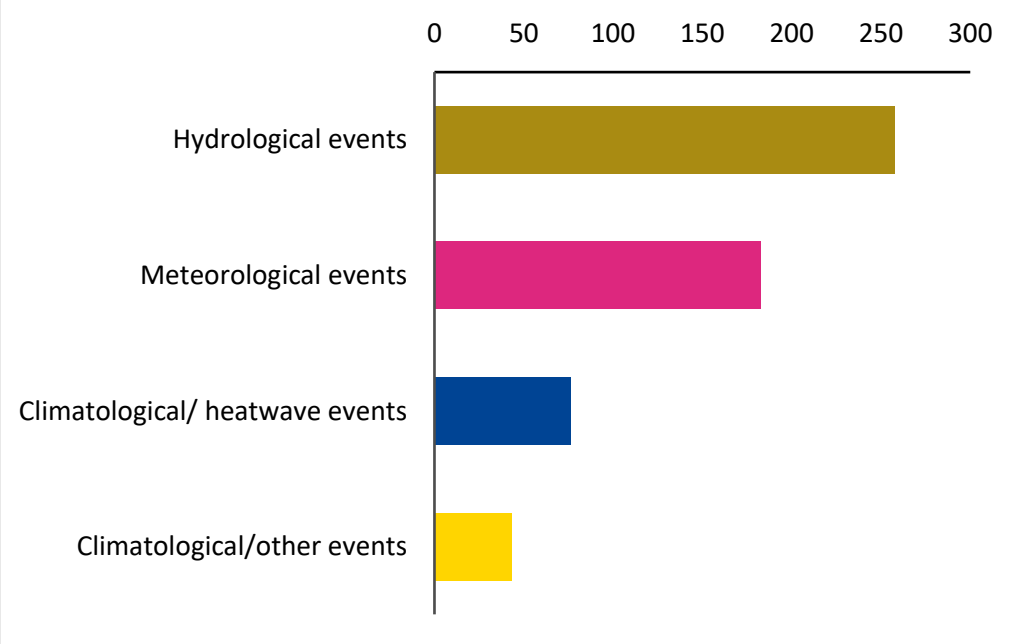
Introduction

- Climate change-related natural catastrophes increase in frequency and intensity.
- World Bank report highlights, disaster risk management currently relies too heavily on retention and more needs to be done to incentivize risk transfer to the private sector.
- According to a Swiss Re study global losses from natural catastrophes were USD 280 billion of which USD 108 billion were insured.

Economic Losses are high

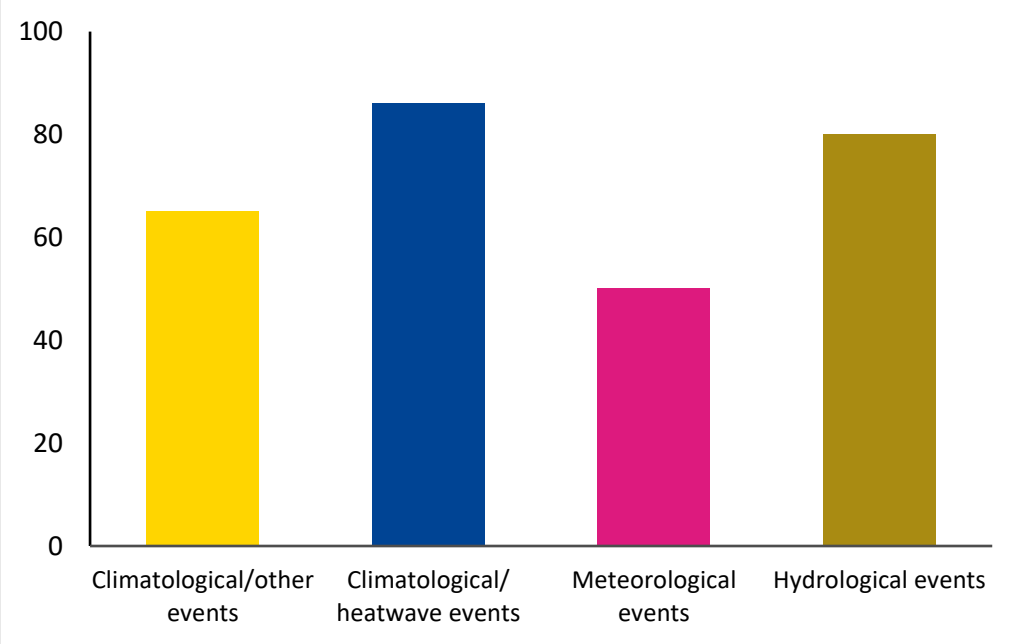
but only a fraction is covered through private insurance

Total losses 1980 to 2022 (EU-27)



Source: European Environment Agency

Share of uninsured climate-related economic losses by hazard type (in %, 1980 – 2022)

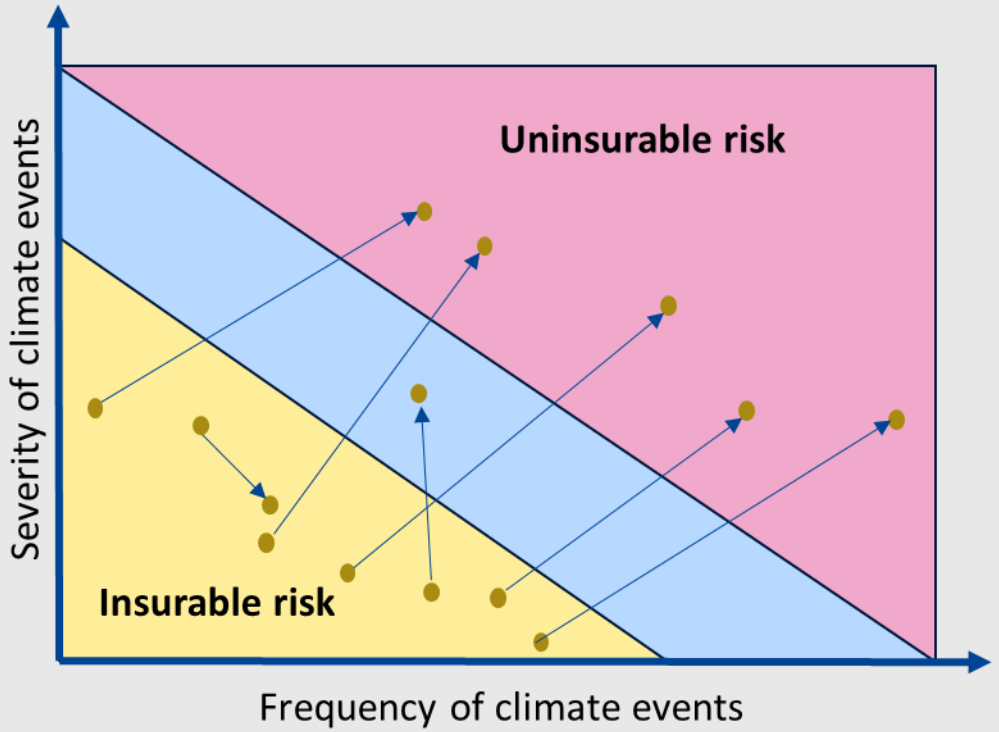


Source: European Environment Agency
Meteorological events: storms, landslides, subsidence, hydrological events: floods, climatological events: heat waves, cold waves, droughts, forest fires

Risks increase in frequency and intensity

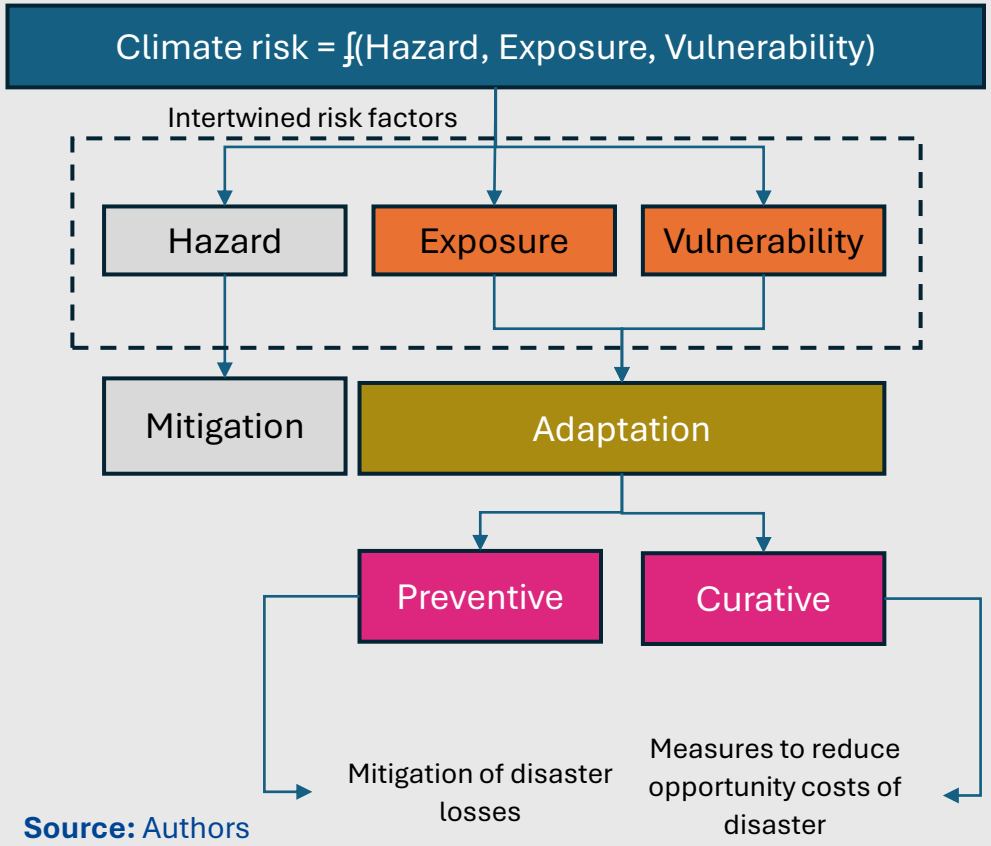
- Insured losses have significantly increased, but even more so total economic losses.
- In 2023 and 2024 alone,
  - ❑ Slovenia and Greece faced their costliest ever natural catastrophe event (flood) in 2023,
  - ❑ Storms in Italy led to highest ever insured loss
  - ❑ Second highest flood losses in Europe in 2024
- In some places, insurers are withdrawing from the market (California, Florida).
- In others, premia start to become penalising, or coverage is limited.

Impact of climate change on insurability



Breaking climate risk into its components

- Climate risk is a function of three intertwined risk factors (**hazard, exposure**, and **vulnerability**)
- **Mitigation measures** (e.g. reduction of GHG emissions) focus on the mitigation of (increases of) frequency and severity of natural hazards
- **Adaptation measures enhance physical and financial resilience**, by
  - Reducing the risk of losses before they occur
  - Addressing losses after disaster strikes



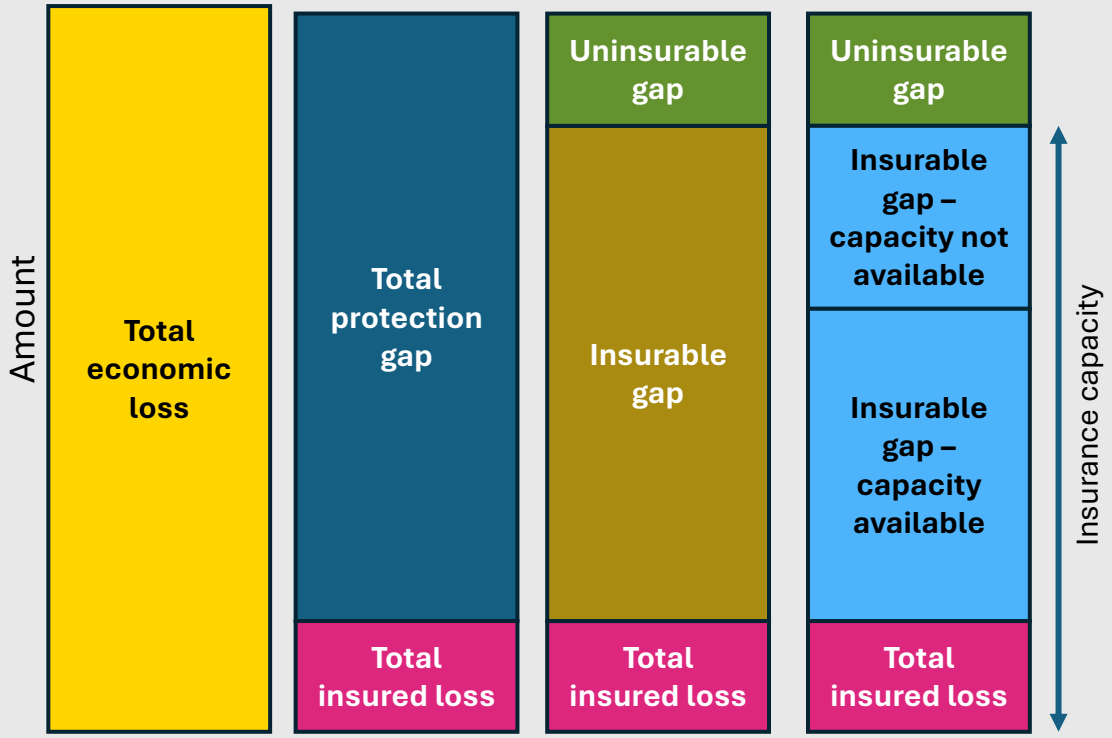
Source: Authors

Insurance coverage below capacity

- Increasing frequency and intensity of natural catastrophes reduces insurability of risks.

Nevertheless:

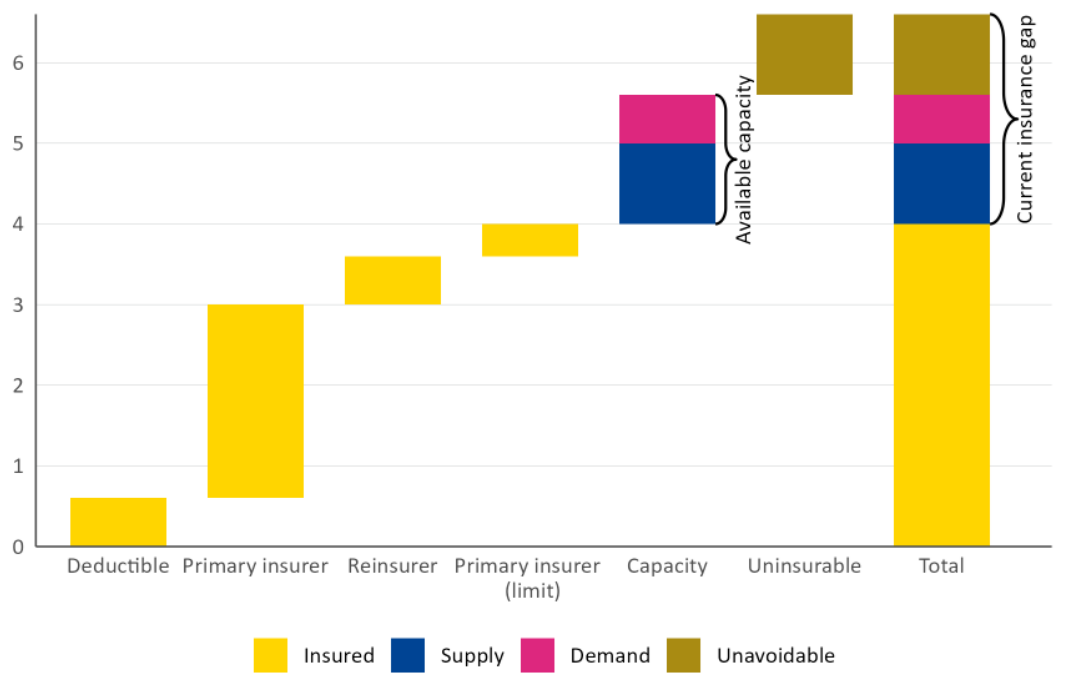
- Current insurance coverage is below capacity
  - It remains idle due to factors such as lack of risk awareness, government bailout expectation, etc. (available capacity), or
  - it can only be retrieved through additional intervention (unavailable capacity)
- An explicit backstop may help unleash additional capacity. Sufficient safeguards are required



Source: Adapted from Thorburn (2023)

Current risk sharing across private sector players

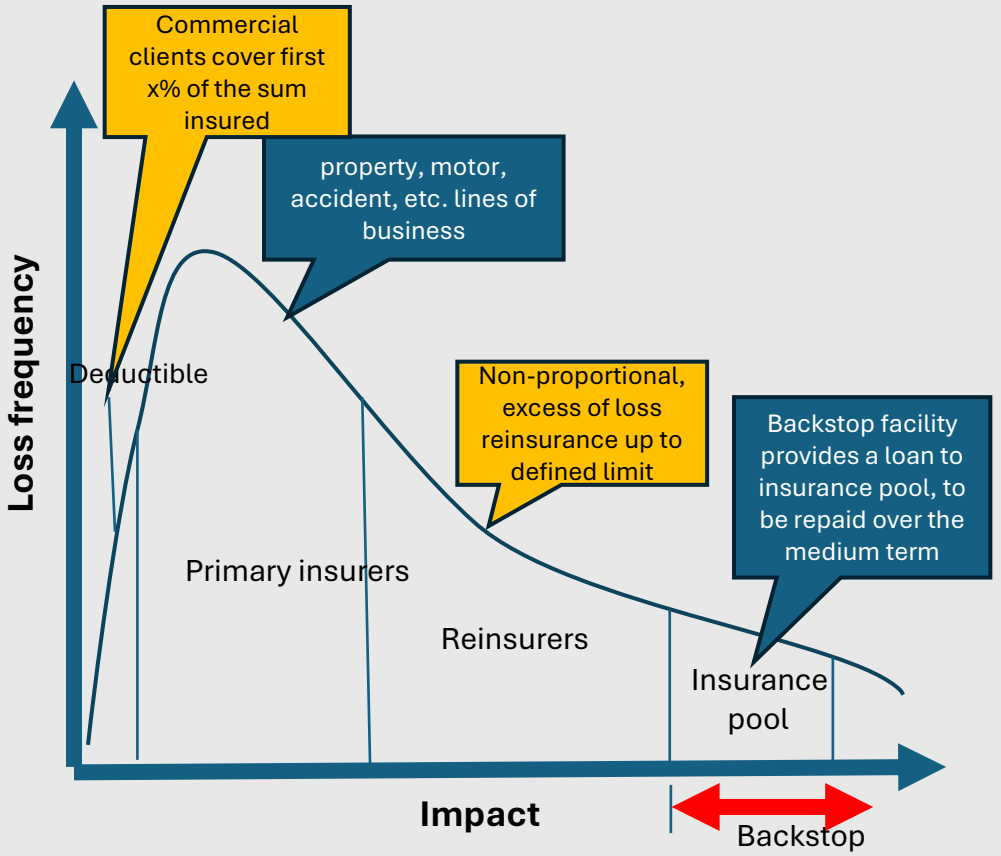
- Current risk sharing solution leaves a **significant gap between insured and total economic losses.**
- These losses are a combination of **supply-side and demand-side factors**,
- as well as unavoidable risks due to lack of insurability.
- Part of these uninsured losses can be reduced through **capacity enhancement**



Source: Authors

Unleashing private sector capacity

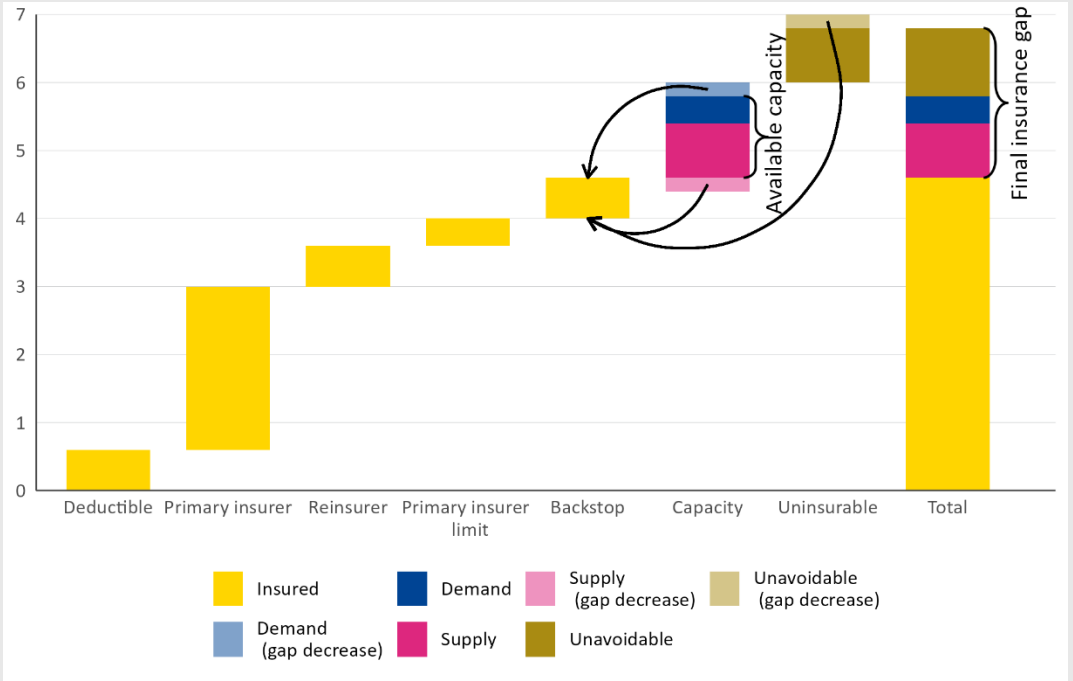
- Example of **public-private partnership**
- Backstop at **European** level increases diversification potential.
- **Loan-based** solution (for insurable losses) prevents capacity increase at public expense -> **fiscal neutrality in the medium term**
- Medium-term repayment reduces short-term burden of repayment
- Insurance premia will likely reflect the cost of the loan, but the impact is likely to be small.



Source: Authors

Risk sharing with a loan-based backstop facility

- Insurance pool bears the losses exceeding the reinsurance limits
- To cover losses and enable fast payouts, a backstop facility provides a loan to the pool
- Individual insurers contribute to loan repayment in the medium term.
- Albeit a nominal cost to the insurance sector, cheap funding conditions (independent of the underlying risk) explain superiority of backstop.
- **Alternative approach**: Capital instrument-based akin to a CAT bond, with insurance pool as issuer but with a single investor (the backstop).



Source: Authors

Efficiency gains from a loan-based backstop facility

To be beneficial, a (fiscally-neutral) loan-based backstop needs to be

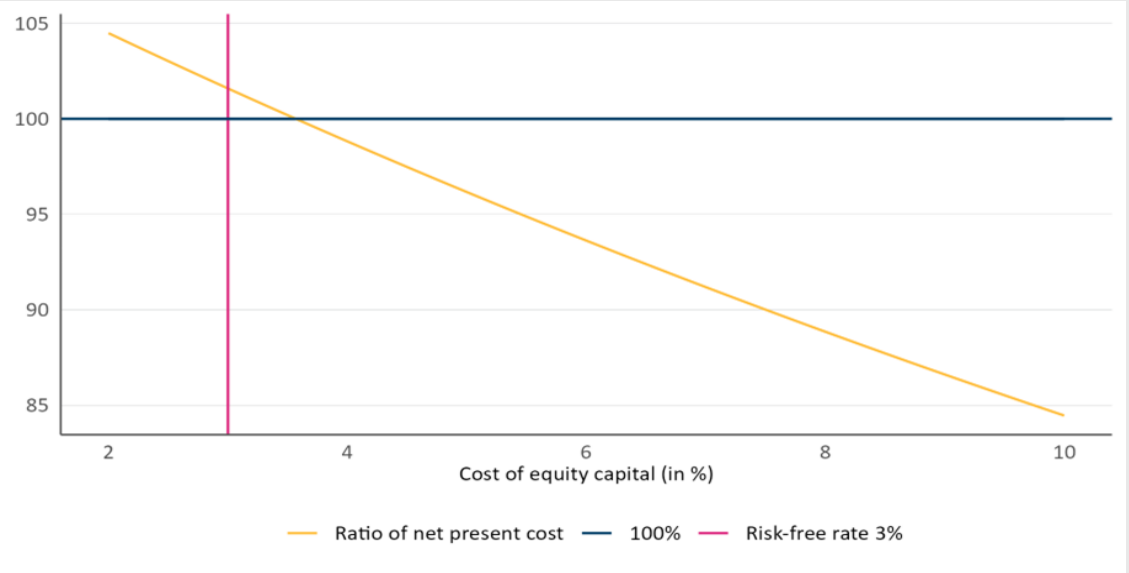
- Financially attractive to the insurers,
- Avoid adding a cost to the taxpayer

⇨ cost of the loan to be less than raising capital on the financial market (cost of equity)

$$\frac{NPC_B}{NPC_M} \leq 100$$

- NPC_X….net present cost of backstop loan (recapitalisation on capital market)

Comparison of net present costs, in %)



• Upfront fee	0.25%
• Margin rate	0.35% for the first three years, 0.5% thereafter
• Annual service fee	0.1%
• Risk-free rate (five years)	3%