

USING RISK FINANCING INSTRUMENTS FOR ADAPTATION IN THE EU

Reinhard Mechler
IIASA

Side event
*Policy instruments for Promoting Adaptation and the Sharing of Climate
Change Related Risks*

Bonn, June 7th 2011



Overview

- **Risk, ambiguity and insurability**
- **Incentivizing adaptation to climate change and climate variability**
- **Effective insurance markets and partnerships**

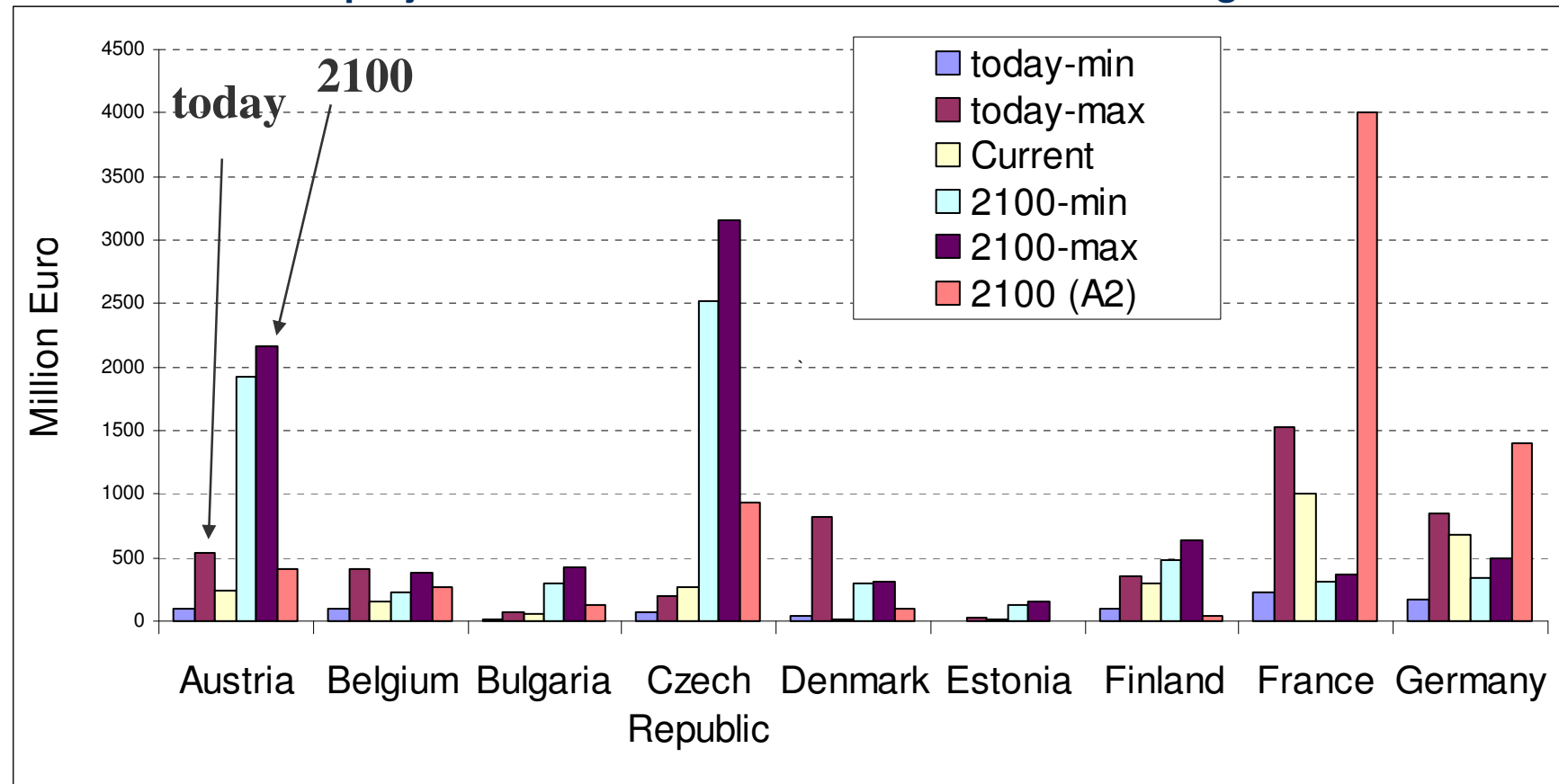
I. Risk, ambiguity and insurability

- **Climate change projected to lead to increase intensity and frequency of extreme weather events**
- **If increased risk to be covered by the insurance industry**
 - Increase premiums or set more stringent conditions
 - E.g. higher deductibles and lower limits
 - For high risk areas insurance may become unaffordable
 - Climate change might add new, uninsurable risks
- **Risk ambiguity: risk more difficult to estimate, some claim that “stationarity is dead”**

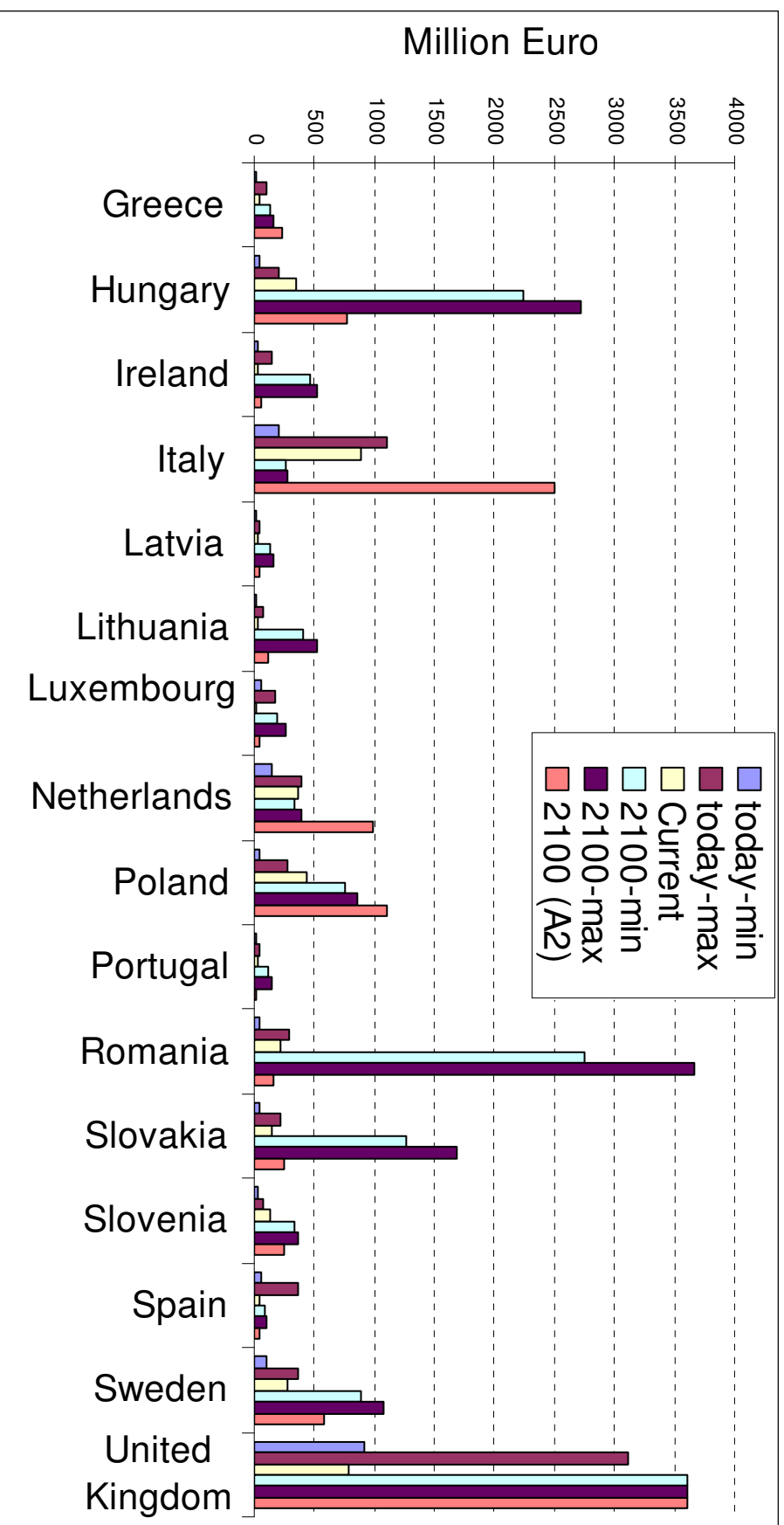


I. Risk ambiguity, risk increases and insurability

Future flood risk projections are uncertain and often relate to long time horizons



I. Risk ambiguity, risk increases and insurability



I. Risk ambiguity, risk increases and insurability

- Also “Legacy risks”: non-risks of the past becoming risks in the future...
- Challenges:
 - Can we robustly quantify risks?
 - How to avoid a worsening of insurability due to risk ambiguity in the wake of climate change?

II. Incentivizing adaptation to climate change and climate variability

- Risk pricing

- **Insurance may not only help with financial risk reduction/adaptation, but also lead to better physical adaptation**
- **Pricing risk provides incentives for risk reduction**
 - **If risks can be robustly evaluated and factored into premiums and terms, they provide a signal regarding an increased need for risk reduction**
- **Pricing risk leads to heightened risk awareness.**
- **Some insurers with other partners have made flood and other hazard maps publicly available**
- **Insurers can reduce premiums on catastrophe insurance to reward investments in loss reduction (often they do not....)**

II. Incentivizing adaptation to climate change and climate variability – risk pricing: study evidence

- **Risk-based premiums alone have led to significantly higher levels of adaptation than flat rate premium structures**
 - **well suited for addressing losses from floods by discouraging development where a key determinant of loss is exposure**
- **Risk pricing more easily implemented for flood zones than to individual household or business precautionary measures**
- **UK moving to individual risk pricing based on postal codes**

II. Incentivizing adaptation to climate change and climate variability – risk pricing: study evidence

- For hazards that occur more randomly, e.g., hail, drought, tornadoes, risk pricing is less effective
- Adjust for vulnerability, e.g. hail nets, tree management
- Pursuit of contributory agents:
 - Subrogation: Insurers assume the rights of those whom they compensate.
 - Enables insurers to pursue recovery of financial losses from any parties that contributed to the loss through negligence or breach of duty

III. Effective insurance markets and partnerships

- Properly functioning natural catastrophe insurance markets that respect clients' needs are a precondition (but not a guarantee) for incentivising adaptation action
- Indicators used for the study for “scoring” markets
 - ☐ Level of risk and uninsured risk
 - ☐ Institutional Applicability
 - ☐ Effectiveness
 - for incentivising adaptation
 - for financial adaptation- capacity for sharing an increasing loss burden and providing a reliable safety net
 - ☐ Efficiency in terms of benefits and costs
 - ☐ Equity in providing security to low-income population

III. Insurance markets

- Main obstacles in the markets?

Key Obstacles	Effectiveness of physical adaptation	Effectiveness for financial adaptation	Efficiency	Equity
Supply side				
Covariate risk			X	X
Adverse selection			X	X
Demand side				
Moral hazard	X		X	
Risk myopia	X	X		
Affordability			X	X

III. Insurance markets

- **One key aspect is Applicability: Bearing liability is context and culture specific, e.g. Flood insurance**



III. Insurance markets - Findings

- **Government support: All insurance systems require government backup or co-operation**
- **Private market systems have been shown to be less efficient, mainly because of higher administrative costs than their public system counterparts;**
- **However, public systems usually ‘piggyback’ on private systems**
- **Solvency II requiring additional backup capital may render insurance more expensive**

III. Beyond markets: need for multistakeholder partnerships

- **Often: there are disincentives by insurance leading to moral hazard**
 - i.e. don't engage in damage prevention due to existence of insurance
- **Insurers can require risk reduction as a contractual condition: e.g. fire safety measures as a condition for insuring a home or business**
- **Insurers can work jointly and invest in risk reduction**
Example Switzerland: cantonal public monopoly insurers contribute to risk reduction, including building codes and land-use planning, and also financing of the Fire Service and Cantonal Civil Defense Services
- **Multi sector partnerships (MSP) required: Insurers, public sector, risk reduction institutions, civil society...**

