



Investment and Financing for Water-related Disasters

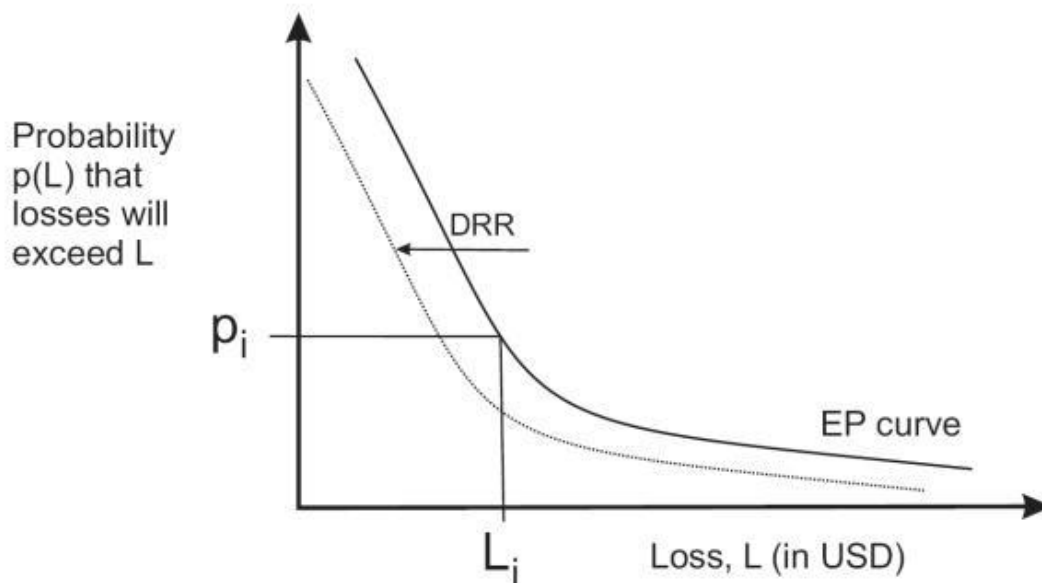
OECD Public Governance and Territorial Development

7th High-Level Experts and Leaders Panel on Water and
Disasters (HELP), 11 May 2016, Rotterdam)



Can governments define “optimal” resilience levels?

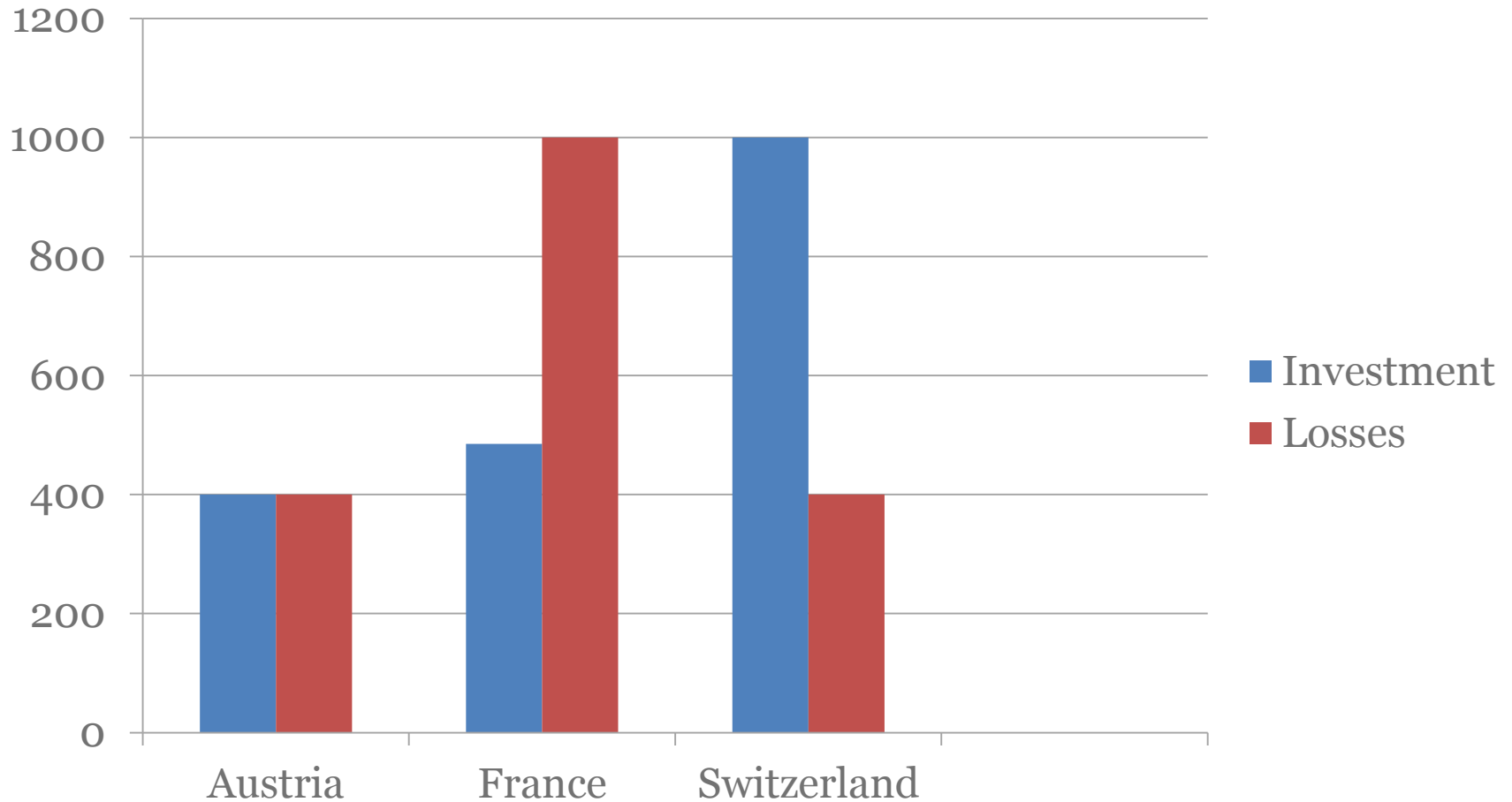
- The Exceedance Probability (EP) curve provides a tool to help understand the annual probability (p) that losses from a disaster will exceed at least a certain amount of economic loss (L)
- The area under the EP curve subsequently provides information on the „average annual loss“,
- Resilience measures reduce expected losses and shift the EP curve to the left



Source: Hochrainer-Stigler, S. et al (2010), „The Costs and Benefits of Reducing Risk from Natural Hazards to Residential Structures in Developing Countries“, Wharton Risk Management and Decision Processes Center.



Natural disasters: Investment and losses*



* Estimates based on not yet harmonized data



Investing in the reduction of water related risks in Morocco (1/2)

Infrastructure development is one of Morocco's key priorities

- Tanger-Med port, Tanger-Marrakech-Casablanca highway, high-speed train between Tanger and Agadir, Ouarzazate's solar power plant, multiple dams under construction

Recent floods reveal the vulnerability of critical infrastructure systems

- 2014 floods in Sidi Ifni caused long-lasting damage to the road network
- 2010 floods interrupted the railway connection between Rabat and Casablanca.



Floods in Mohammedia, 2002



Investing in the resilience of critical infrastructures in Morocco (2/2)

Morocco has no formal framework for investment in the resilience of critical infrastructure

Public initiatives to build resilience in critical infrastructure investments

- Practice: Risk evaluation and business continuity planning are required dimensions of investment plans.

The important role of the private sector

- Many critical infrastructure networks are owned and operated by the private sector – through delegated management contracts.
- Recent investment programs have been financed through public-private partnerships : e.g. Casablanca's new sewer system



여러분의 관심 에 감사드립니다

Bedankt voor uw aandacht

ご清聴ありがとうございました

Merci pour votre attention

شكرا على الاهتمام

Vielen Dank für Ihre Aufmerksamkeit

感谢您的关注

The OECD High Level Risk Forum thanks you
for your attention

jack.radisch@oecd.org