



ACTUARIAL ASSOCIATION OF EUROPE

Risk Mapping Social Security Pension Systems

Social Security Sub-committee

Rome 05 October 2022

Setting Context

Pension Adequacy Report and the Ageing Report

Enterprise Risk Management – a risk management tool

Pension is a financial transaction

Discussion Topics

- ERM of
 - Financial institutions
 - Banks, Insurers, Pension Funds and
 - Look at Social security pension funds as public financial institutions
- Objective
- Risk categories
- KRIs

Note on a Disclaimer and the Basle and Solvency economic capital tools

ERM Risk and Risk assessment

COSO, ISO

Risk

- The possibility that an **event** will occur and adversely affect the achievement of **objectives**

Risk assessment

- Risks are analyzed considering likelihood and **impact**, on an **inherent-and-residual** basis, for determining how they should be managed

What kind of risks? – Enterprise risk categories

Governance and organisation

- Governance and Strategy risks, Reputational risk, Compliance risk
- Organisational structures, processes and HR

Business risks: specific to own business activities

Financial risks like:

- **Market risks, Credit risk, Solvency/Liquidity risks**

Operational risks: operating as an organisation

- the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events
- Costs and IT/cyber are here

What kind of risks? – Financial institutions' risk categories



Governance and organisation

- Governance and Strategy risks, Reputational risk, Compliance risk
- Organisational structures, processes and HR

Business risks: Financial institutions trade in money and risks

- ***For them Financial risks are business risks:***
 - **Their trade is transforming risks and durations**

Operational risks: operating as an organisation

- the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events
- Costs and IT/cyber are here

Pension systems

Objective

The World Bank: The primary goal of a pension system should be to provide adequate, affordable, sustainable, and robust retirement income.

The individual perspective

- Consumption smoothing
- Insurance

Additional public policy objectives

- Redistribution
- Poverty relief

prof. Nicholas Barr: Different pension systems share risks differently

Pensions Risks

Multi pillar pension systems are defined along different

- adequacy objectives and
- risk sharing arrangements

The pillars define the governance, organisation and finances

- Public or private
- PAYG or funded
- DB or DC
- Mandatory or voluntary
- Intergenerational by arrangement or not

European Public pension systems

For the purposes of this discussion take the example of 1st Pillar Social security pension systems

Objective

- Adequacy and Sustainability

Governance and organisation relations

- The Institution: public pensions

Business and Finances

- PAYG

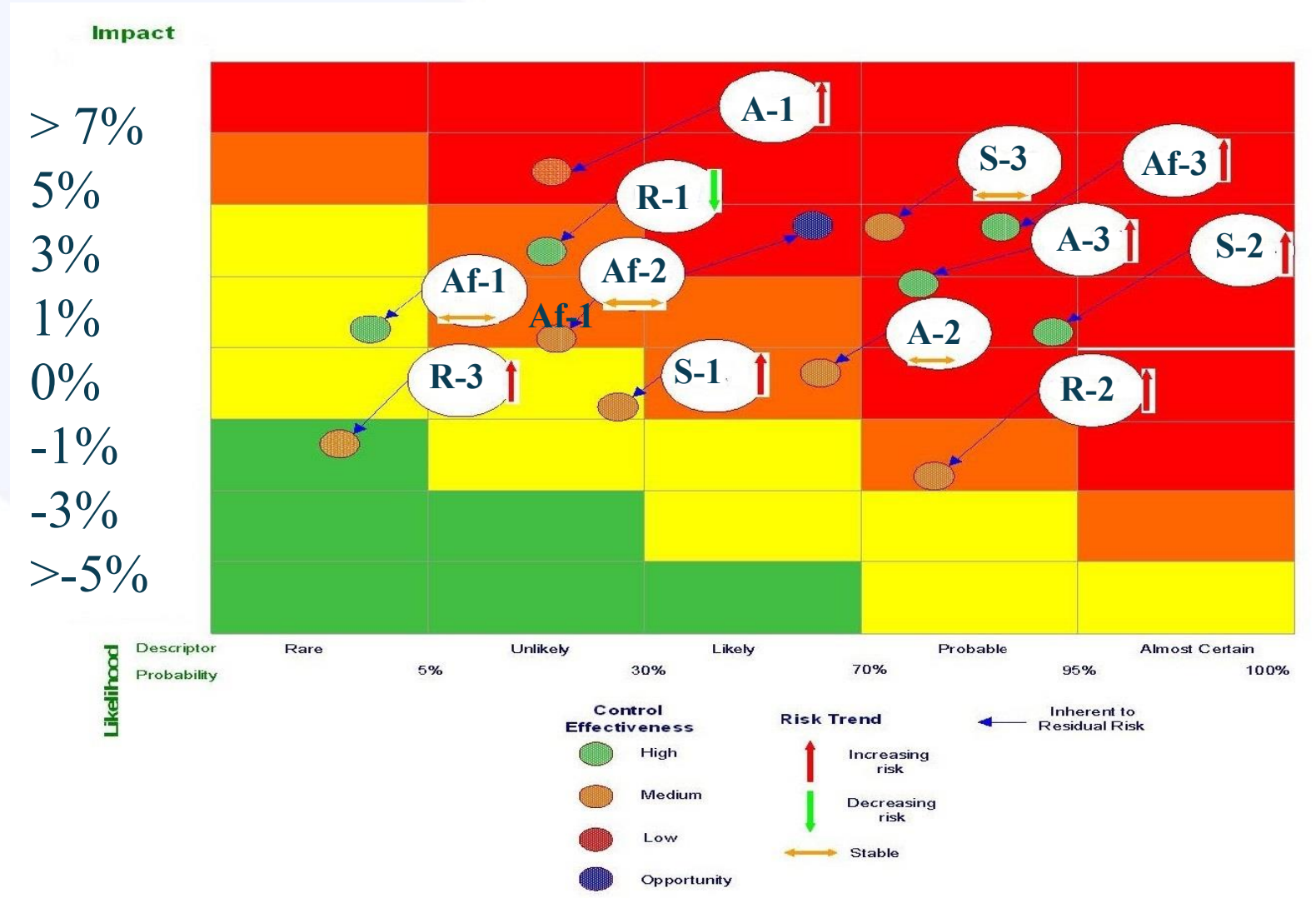
Operations (of the organisation)

- Administrator

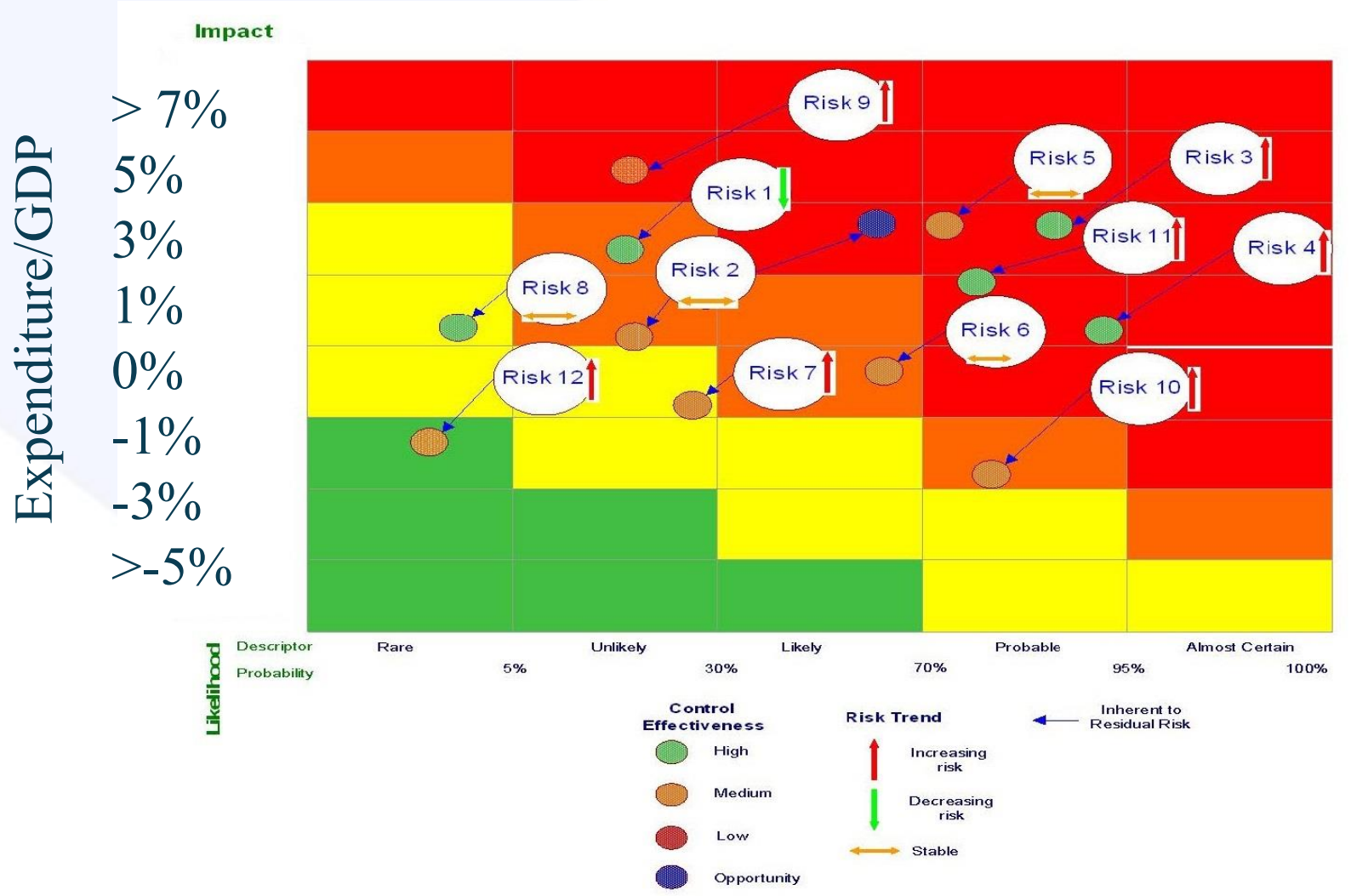
Devising Pension risks inventory/risk universe

Events	Impact	Indicators
<p>What can change pensions? To whom?</p> <p>Events influencing pension occur</p> <ul style="list-style-type: none"> • At Individual and System level • With effects on Socio-economic groups • at age 18, ... 	<p>Events may change objectives</p> <p>Risks with effect on</p> <ul style="list-style-type: none"> • Adequacy • Sustainability • Affordability and • Robustness (volatility) of the retirement income 	<p>Key Risk Indicators</p> <p>Examples</p> <ul style="list-style-type: none"> • PAR: Adequacy indicators • AR: Pension expenditure measures • Required contribution rate • Contribution density • Benefit „volatility“

Example: Risk mapping



Example: Risk mapping – Ageing Report: Sustainability



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Risk Mapping European Social Security Pension Systems