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**Business School** 

Risk and Actuarial Studies

#### Systemic Risk Pools

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## Systemic Risk Pools

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Title: Systemic Risk Pools

Abstract: Tripartite linkages between the industry, government and academia are a valuable way to protect the community against systemic risks. Particularly, systemic risk pools can be partnerships between the general insurance industry and government, supported by related academic research. An example is the new world leading Australian government cyclone reinsurance pool, protecting residents in high-risk locations against the increasing impact of cyclone damage in the face of climate change.



## Agenda



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- OECD Report on Emerging Systemic Risks
- Five Systemic Risk Clusters
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#### 1. Introduction

- Systemic risks are risks that threaten the stability of an entire system or market
- Systemic risks can have far-reaching consequences
- In the context of finance, systemic risks refer to risks that could potentially trigger a financial crisis
- A systemic risk pool is a mechanism used to pool resources from multiple sources
- Systemic risk pools are typically established by governments or international organisations



#### Foreword by the Secretary-General

Large-scale disasters of the past few years – such as the terrorist attack of September 11, 2001, the appearance of previously unknown infectious diseases, unusually extensive flooding in large parts of Europe, devastating bushfires in Australia and violent ice storms in Canada – have brought home to OECD governments the realisation that something new is happening. Such "mega-risks" have the potential for inflicting considerable damage on the vital systems and infrastructures upon which our societies and economies depend, and create serious difficulties for traditional risk management and risk-sharing actors, such as the insurance industry. Preparing to deal effectively with the hugely complex threats of the 21st century is a major challenge for decision makers in government and the private sector alike, and one that needs to be addressed as a matter of urgency. This report on emerging systemic risks is an important contribution by the OECD to a better understanding of the changing nature of risks and to identifying the kind of policy actions that will need to be taken.



## Why Risks become Systemic

- Interconnectedness of risks
- Contagion & spillover effects
- Lack of resilience
- Feedback loops
- Complex financial instruments
- Regulatory & governance failures

Pursuant to Article 1 of the Convention signed in Paris on 14th December 1960, and which came into force on 30th September 1961, the Organisation for Economic Co-Operation and Development (OECD) shall promote policies designed:

- to achieve the highest sustainable economic growth and employment and standard of living in member countries
- to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.





### Difficulties in assessing Systemic Risks scientifically

- Existing assessments are based on models, which are sometimes far from reproducing real-world conditions accurately
- Equally, most models assume a more or less linear relationship linking a hazard from a well-identified source to a single endpoint
- Long-term consequences and impacts outside the system studied are usually neglected
- Human behaviour is a prevailing risk factor in most cases, but is difficult to evaluate





## Five Systemic Risk Clusters

- 1. Natural disasters
- 2. Terrorism-related risks
- 3. Cyber attacks
- 4. Financial market crashes
- 5. Infectious diseases



### 2. Systemic Risk Pools

- By pooling resources, the impact of a potential loss can be spread more broadly
- Systemic risk pools can take many different forms with various:
  - 1. Funding sources
  - 2. Risk sharing mechanisms
  - 3. Governance structures



## PPPs - Public Private Partnerships

In managing systemic risks, public-private partnerships (PPPs) can bring several advantages:

- Access to additional resources
- Improved efficiency and effectiveness
- Shared risk and responsibility
- Innovation and creativity
- Improved transparency and accountability

#### But there are also disadvantages:

- Complexity
- Political interference





#### Case Study 1:

# Terrorism Reinsurance Pools

Sara K. Schwittek/Reuters

- On September 11, 2001, members of the Islamic extremist group al Qaeda coordinated four attacks, using hijacked commercial airliners in the United States.
- Two iconic towers fell. The Pentagon sustained major damage. Nearly 3,000 victims lost their lives. Countless more suffered immediate injuries and long-term health issues that are still being felt to this day.
- The 9/11 attacks changed America, and the world, forever.







#### International Forum of Terrorism Risk (Re)Insurance Pools

The following institutions are Members of IFTRIP:

• Australia (ARPC) – Presidency

- Austria (GRAWE)
- Belgium (TRIP)
  Denmark (FINANSTILSYNET)
  France (GAREAT, CCR)
- Germany (Extremus) India (GIC)
- Israel (INCD)
- Nambia (NASRIA)
- Netherlands (NHT)
- South Africa (SASŔIA)
- Spain (CCS)
- UK (Pool Re) Secretariat
- USA (Treasury)





#### Case Study 2:

## Global Financial Crisis

Oli Scarff/Getty Images

- The GFC was primarily caused by a combination of factors related to the subprime mortgage crisis, securitisation, and risky lending practices.
- These factors led to a widespread collapse in the financial system, including the collapse of the investment bank Lehman Brothers, resulting in a severe credit crunch and a global economic recession.





#### Case Study 3:

## COVID-19 Pandemic

John Moore/Getty Images

- COVID-19 is short for "coronavirus infectious disease of 2019." The World Health Organization (WHO) named the virus that causes COVID-19 "severe acute respiratory syndrome 2," or SARS-CoV-2.
- The virus causing COVID-19 is termed "novel coronavirus" because it had never been seen before 2019.



#### Case Study 4:

#### **Cyber Attack**

Matejmo/Getty Images

- Australian private health insurer Medibank, which was hacked in October 2022 with the personal information of up to 9.7 million customers released onto the dark web
- In what became the largest breach of its kind to date in Australia, the hack on Medibank resulted in the personal details of 9.7 million current and former customers being leaked
- A Medibank username and password used by a third-party IT service provider was stolen and the hackers were then able to access its network through a misconfigured firewall





#### Case Study 5:

# Cyclone Reinsurance Pool

Carl & Ann Purcell/Getty Image

- In March 2022, the Australian Reinsurance Pool Corporation (ARPC) welcomed the passing of the Terrorism and Cyclone Insurance Act 2003 (TCI Act), which amended and renamed the Terrorism Insurance Act 2003 to also cover cyclones and cyclone-related flood damage.
- This new legislation extended ARPC's responsibilities from terrorism to also include cyclone
- The cyclone reinsurance pool commenced operations on 1 July 2022.





#### Conclusion

- Systemic Risk Pools are becoming more important
- As Systemic Risk Pools evolve, there will likely be:
  - ✓ Increasing importance of systemic risk management
  - ✓ Evolving regulatory frameworks
  - Emerging technologies and data analytics





### Questions?







# Thank you



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