



Catalysing change for a climate-resilient tomorrow

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Introduction

- Organization: GAIP and NTU
- Research background

A **tripartite** public-private partnership with the vision to build long-term risk resilience in Asia, via narrowing Asia's protection gaps

Anchor Partners



Supporting Partners



Regulators



Academic Partner



International Bodies



Insurance associations and professional bodies



GAIP's work on Climate Change so far...

Policy research:

- **"Too Hot to Insure"** emphasises that inaction on climate change is not an option, urging for a collective effort to tackle the increasing risks posed by climate change to maintain the availability and affordability of insurance.
- **"Beyond Protection"** calls on the insurance industry to go beyond financial protection and play a key role in driving the transition to a net-zero economy, which is essential for managing climate risks and ensuring industry resilience.





“保险业的实践与展望报告”发布，聚焦适应气候变化和灾害风险治理

人民日报客户端上海频道 谢卫群
2024年7月14日 20:34 浏览量3.5万

由中国平安与南方科技大学、清华大学联合编写的《适应气候变化和灾害风险治理：保

Climate Change Adaptation and Disaster Risk Management : Insurance Industry Practices and Prospects

- Discussed the impact of climate change on the insurance industry
- Reviewed practices of the insurance industry in response to climate change,
- Summarized the roles of the insurance industry
- Explored innovative paths to enhance climate risk resilience
- Provided policy recommendations for industry participation in climate change adaptation (with a focus on China)

Current states

- Setting the context - Climate Change and Climate Risks
- Collection of case studies of insurers' current response to climate change

Climate Risks Principles



It is a Financial Risk

Realization that Climate Risk leads to Financial Risk



It is both a Micro and a Macro problem

It impacts individual firms AND threatens overall macro financial stability



Duty to Act

Boards need to incorporate into strategy; Asset Owners and Managers must deal with it; Regulators must take action



Disclosure is a key focus

You can't deal with it if you don't measure it. Once you disclose, a response / plan is required



Analytical tools and solutions can then follow

Risk Frameworks: Physical, Transition; Scenarios as a tool

01

02

03

04

05

Climate Risk – A financial risks

- Climate Risk is used here to mean Climate-related financial risks, which are the financial risks linked to climate change.
- It can affect the balance sheet, and lead to losses (e.g. stranded assets or loan defaults)



Risk Viewpoint

- Viewing climate through a risk lens means zeroing in specifically on the ways in which climate change (1) affects assets; (2) how they transmit into the economy; and (3) how different sectors are differentially affected

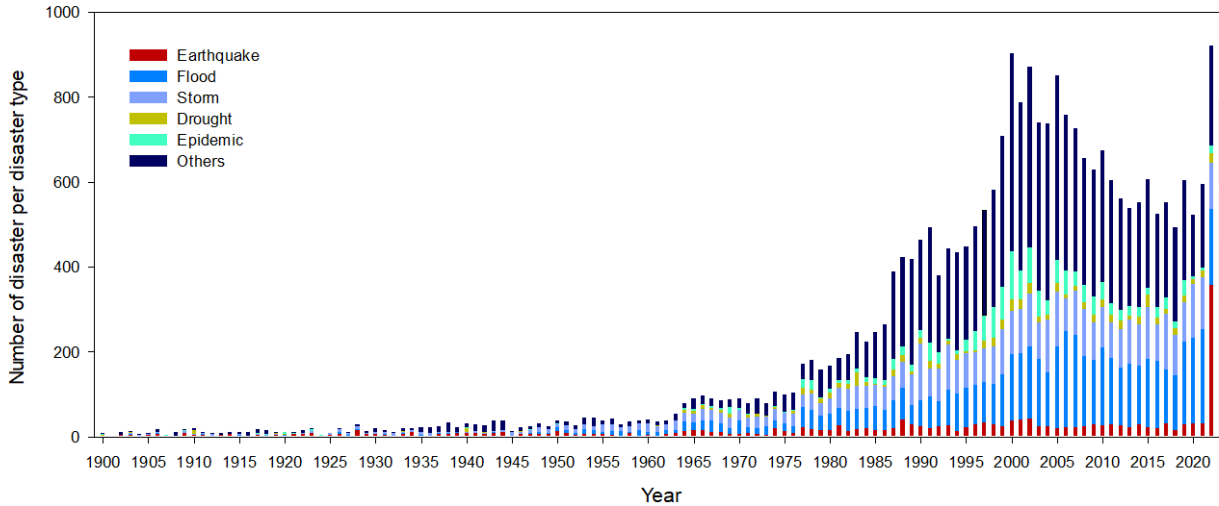
Physical Risk

- Physical Risk arise from the physical climate (and weather) impacts that result from the changing climate
- E.g. Floods, Cyclones, Sea Level rise, Heat, Water Stress

Transition Risk

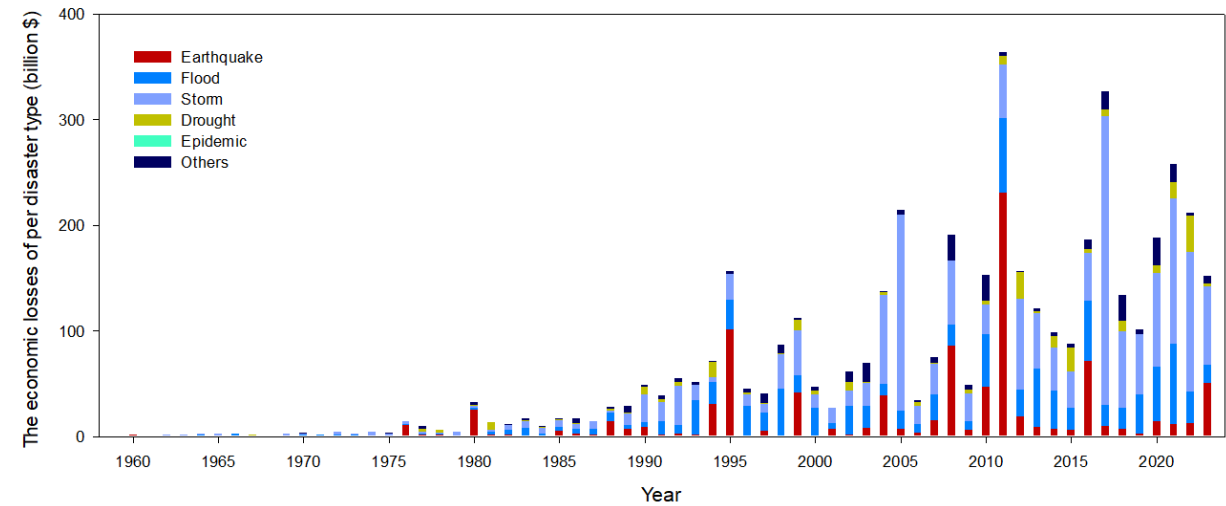
- Transition Risks arise from the economic transformation and any dislocation needed to reduce, and eliminate GHGs
- E.g. Policy changes, Consumer Pressure

More disasters and higher economic losses from 1900 to 2023



The economic losses increases sharply too

The frequencies of natural disasters increases significantly in recent decades



A collection of cases about climate change responses

1

Scientific research on climate risk

Direct hiring of the teams
Foundations support
Research Awards

2

Climate change into disaster loss models

Started as early as the 1990s
More advanced applications
in recent years

3

Climate Risk Reduction

Public Policy Settings
Project Financing
Risk reduction as a service

A collection of cases about climate change responses

4

Insurance product innovation to change consumers' behaviour

PAYD Insurance
EV friendly insurance
Green upgrades

5

Insurance innovation to carbon markets

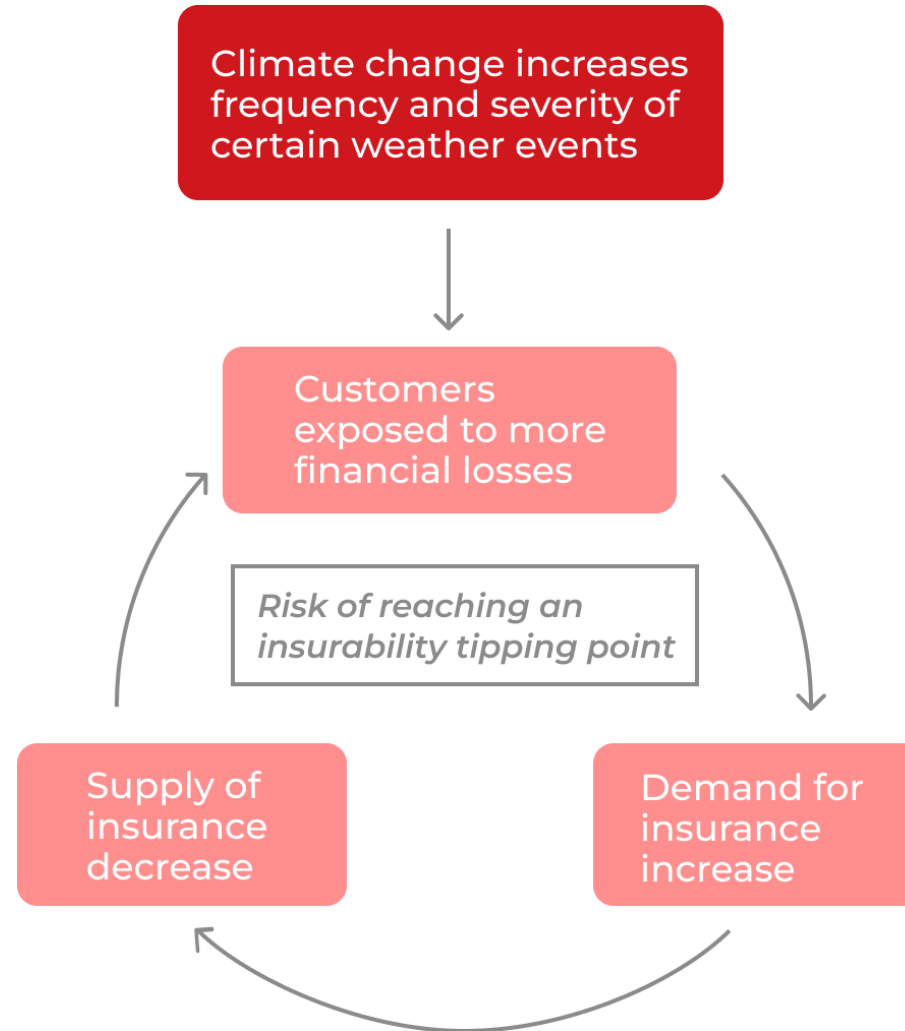
NatCat cover on carbon projects
Political risks and Policy risks
Credit risks
Carbon promise

6

Direct and indirect investment in Climate impact projects

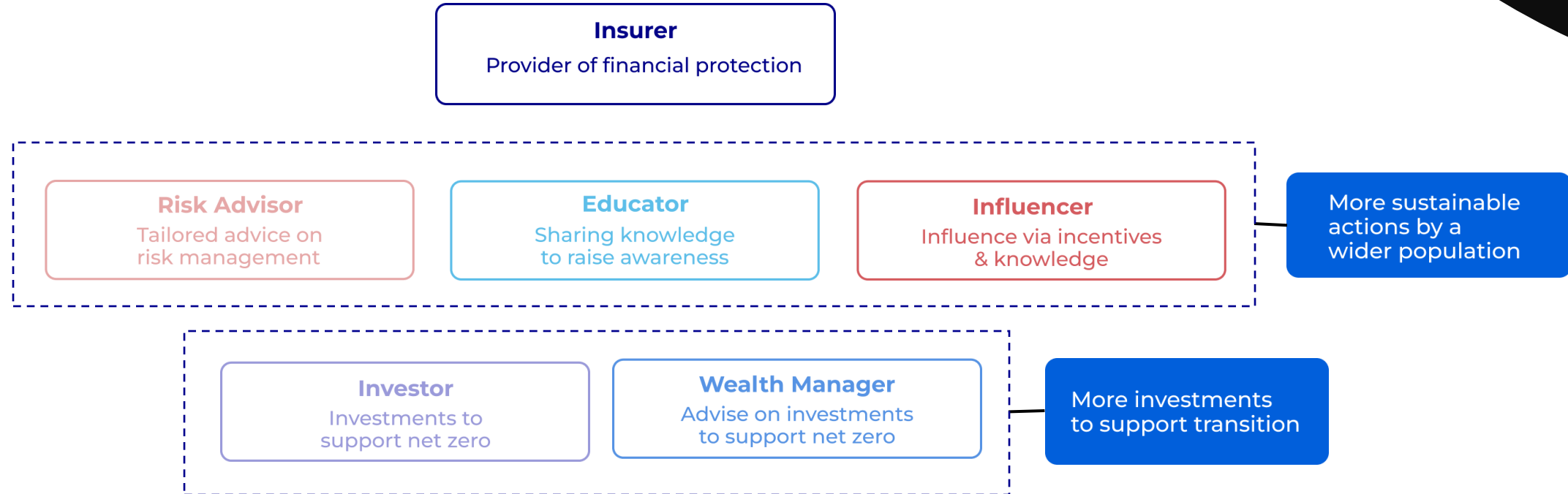
Direct participation in Carbon markets
Discussion on infrastructure that has climate impacts

The insurability tipping point

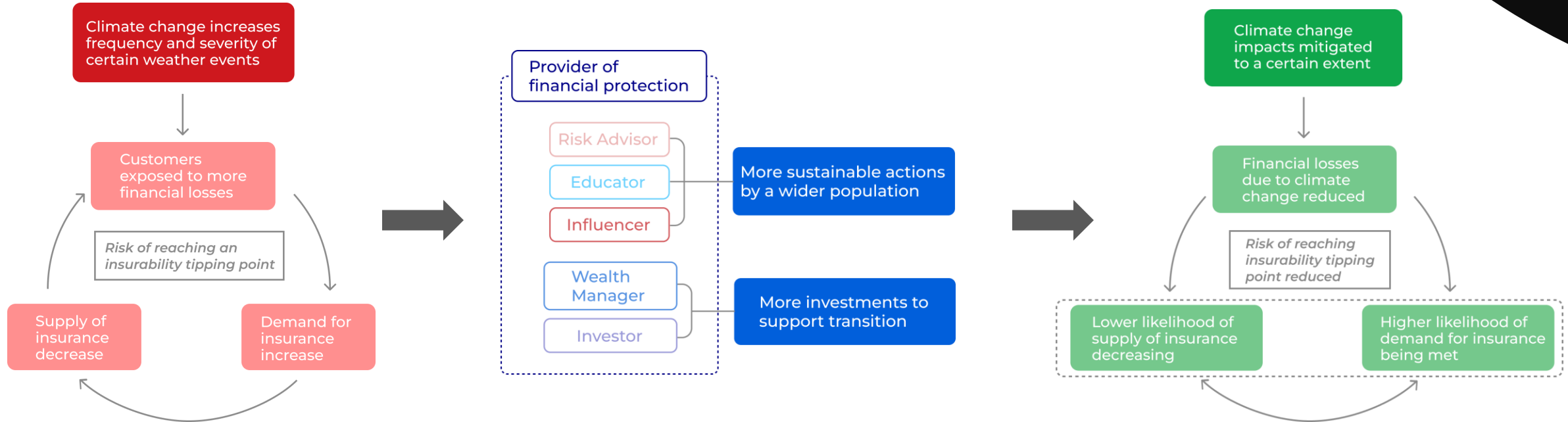



Insurers' roles

Catalysing Change – Going Beyond Protection



Catalysing Change – Going Beyond Protection





It's not so easy...
So what can we, as the actuarial
community do?

Challenge 1 – Data and risk models

Challenge

Climate change introduces new variables and uncertainties

Data and risk understanding (models) are scarce

What can actuarial community do?

- Continue advocating for data democratization
- Collaborate beyond our community to enhance risk understanding and hence, enhance risk data and risk models

Support

- GAIP-NTU study with EOS and IRFRC on the impact of rising sea levels
- GAIP-NTU study on the impact of climate change on mortality projections

Challenge 2 – Alignment of pricing and product design in terms of time horizon and climate risk reduction efforts

Challenge

The benefits of climate risk reduction measures need to be modelled

Climate change impacts and risk reduction benefits are long term

What can actuarial community do?

- Quantify the benefits of risk reduction measures
- Take into account the longer-term implications of climate change in product design and risk measurement

Support

- Fostering the use of public/private partnerships to make effective use of insurance mechanisms^{1,2}
- Ensuring climate-related risks are considered holistically, including the benefits of climate risk mitigation measures^{1,3}

1. "Aisling Kennedy, et. al, 2023, "The Climate Change Adaptation Gap: An Actuarial Perspective", IAA

2. Shaun Wang and Andreas Bollmann, 2024, "A Strategy for Rolling out Climate De-Risk Insurance through Regional Collaboration," Asia-Pacific Journal of Risk and Insurance"

3. FEMA and Natural Hazard Mitigation Saves: 2019 Report, National Institute of Building Science, US

Challenge 3 – Climate literacy

Challenge

Two levels:

- Low climate literacy among the masses
- Climate literacy within the insurance sector

What can actuarial community do?

- Upskill with regards to climate change knowledge and importantly, the broader ecosystem implications

Support

- NTU Executive Education courses
 - Plan to launch an insurance-dedicated program in 1H2025
 - Register for interests
- IFoA course

Climate risks and sustainability education

Revisit: 2023 March SAS AGM Presentation


Where to learn?

With minimal costs

- [Intergovernmental Panel on Climate Change \(IPCC\) reports](#)
- [IAA's papers on climate change](#)
- [IFoA's Sustainable Finance](#)
- [IFoA's Climate Change library](#)
- [SOA's Catastrophe & Climate](#)
- [Australian Actuaries Institute Centre](#)
- [CAS' Climate Change Resources](#)
- [United Nations System Staff](#)
- Sustainability/ climate-related companies' reports
- [Singapore Green Pulse Podcast](#)

certifications/ executive education/ postgraduate studies

- [IFoA's Climate Risk and Sustainability Course](#)
- [GARP's Sustainability and Climate Risk Certificate](#)
- [CFA's Certificate in ESG investing](#)
- [Certificate in Climate and](#)
- [Climate Risk](#)
- [Executive Education program on](#)
- [and Investment](#)
- [Management & Finance](#)
- [Business School](#)



Today More Options from NTU



- Trained 800 professionals across various sectors
- Launch an insurance centric version in 1H 2025



Q&A

The End