



# EMERGING RISK AREAS IN INSURANCE

10<sup>th</sup> anniversary of TGIF  
2019 IFIGS Asian Conference  
16 May 2019



# OECD Insurance and Private Pensions Committee (IPPC): Objectives

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Enhance the long-term efficiency, resilience and stability of insurance markets and private pensions systems;

Promote risk awareness, financial education and adequate consumer protection in insurance and private pensions;

Support the contribution of insurers and private pensions to well-diversified financing of long-term investment and inclusive growth through prudent investment strategies

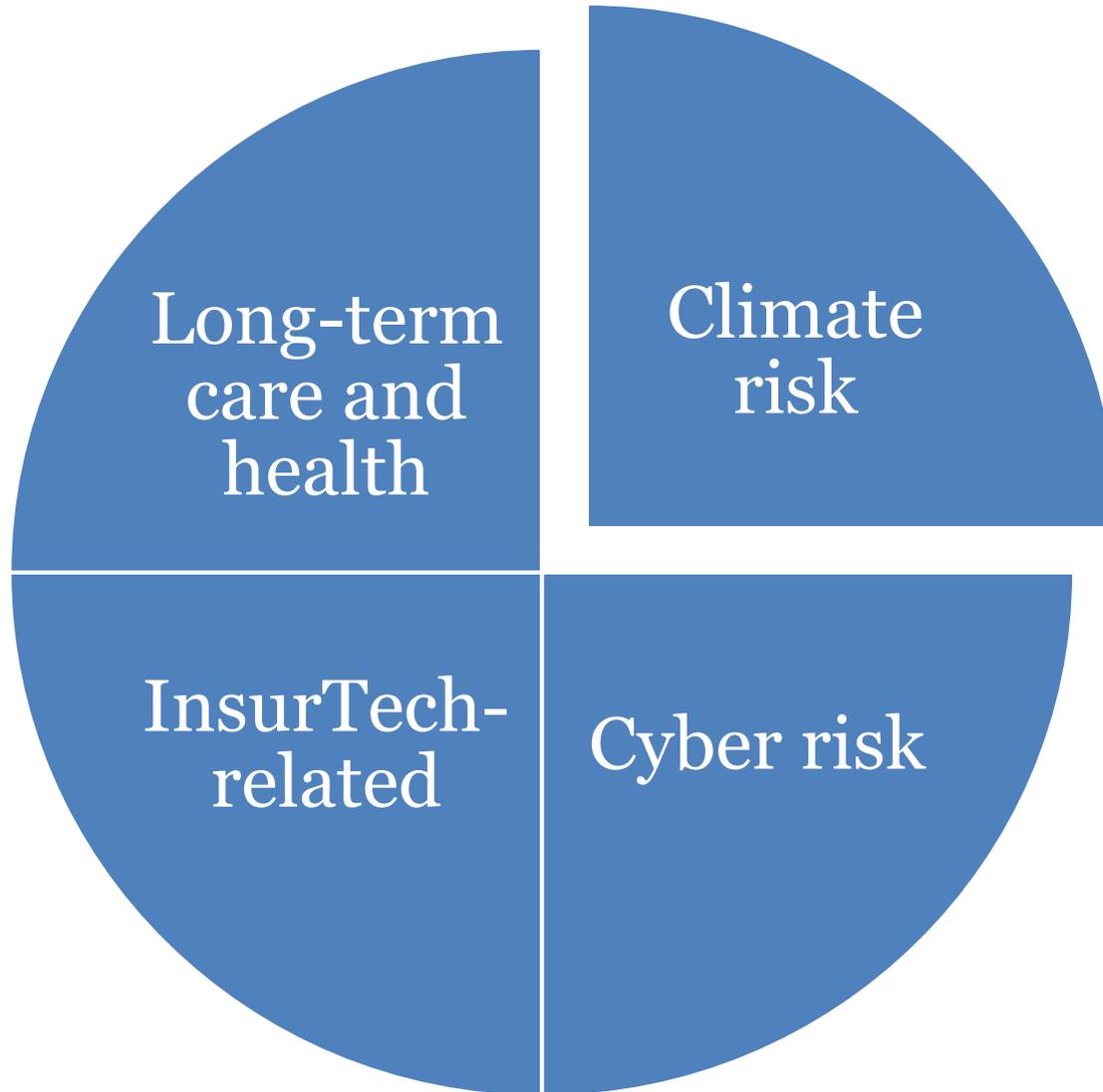
Strengthen the capacity of private pensions systems to ensure adequate retirement income within overall pensions systems and address the challenges of ageing;

Strengthen the capacity of individuals, businesses, and governments to address financial and other risks, including disaster risks, through enhanced insurance and private pension systems.



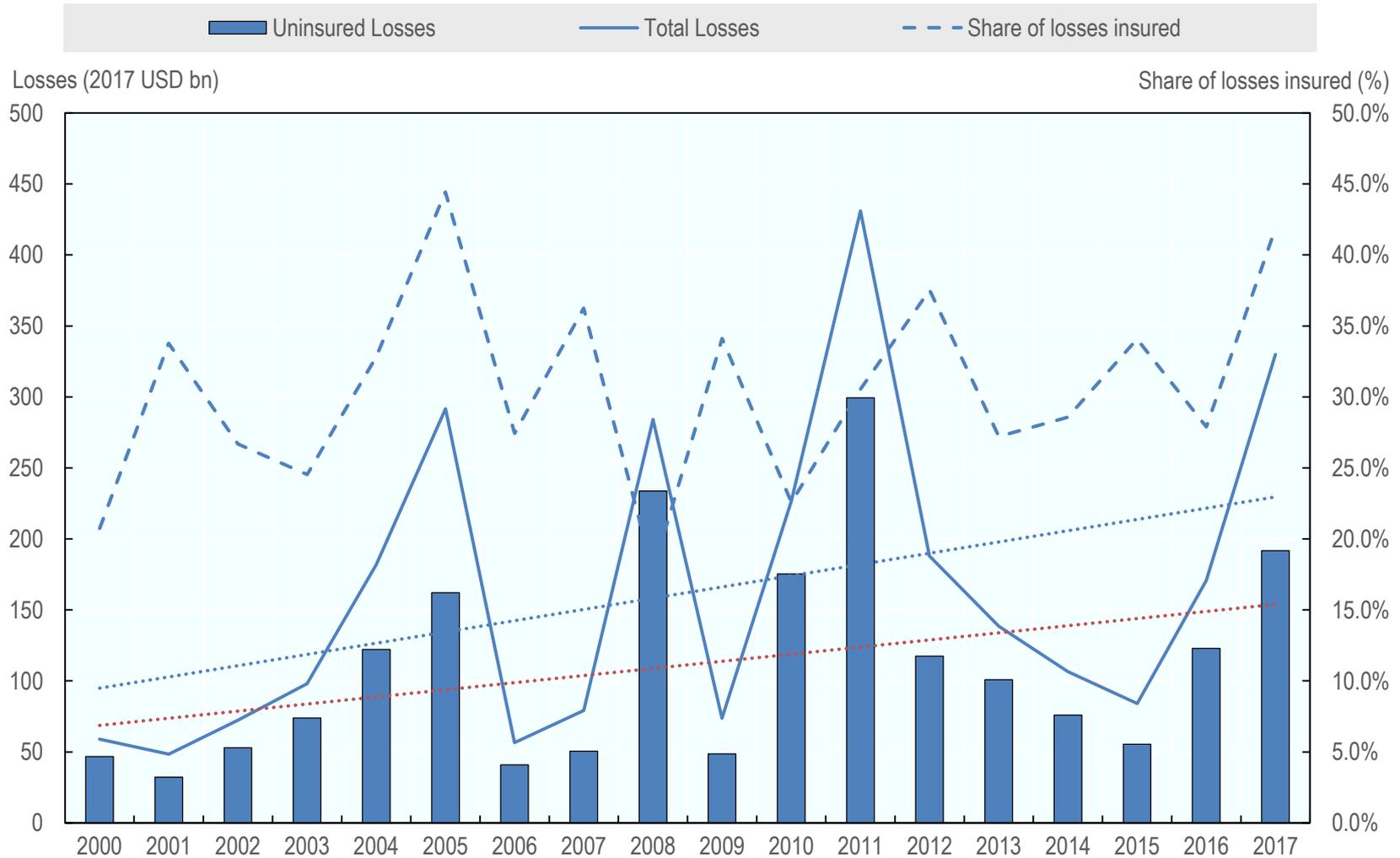
# Areas of concern or uncertainty (and opportunity)

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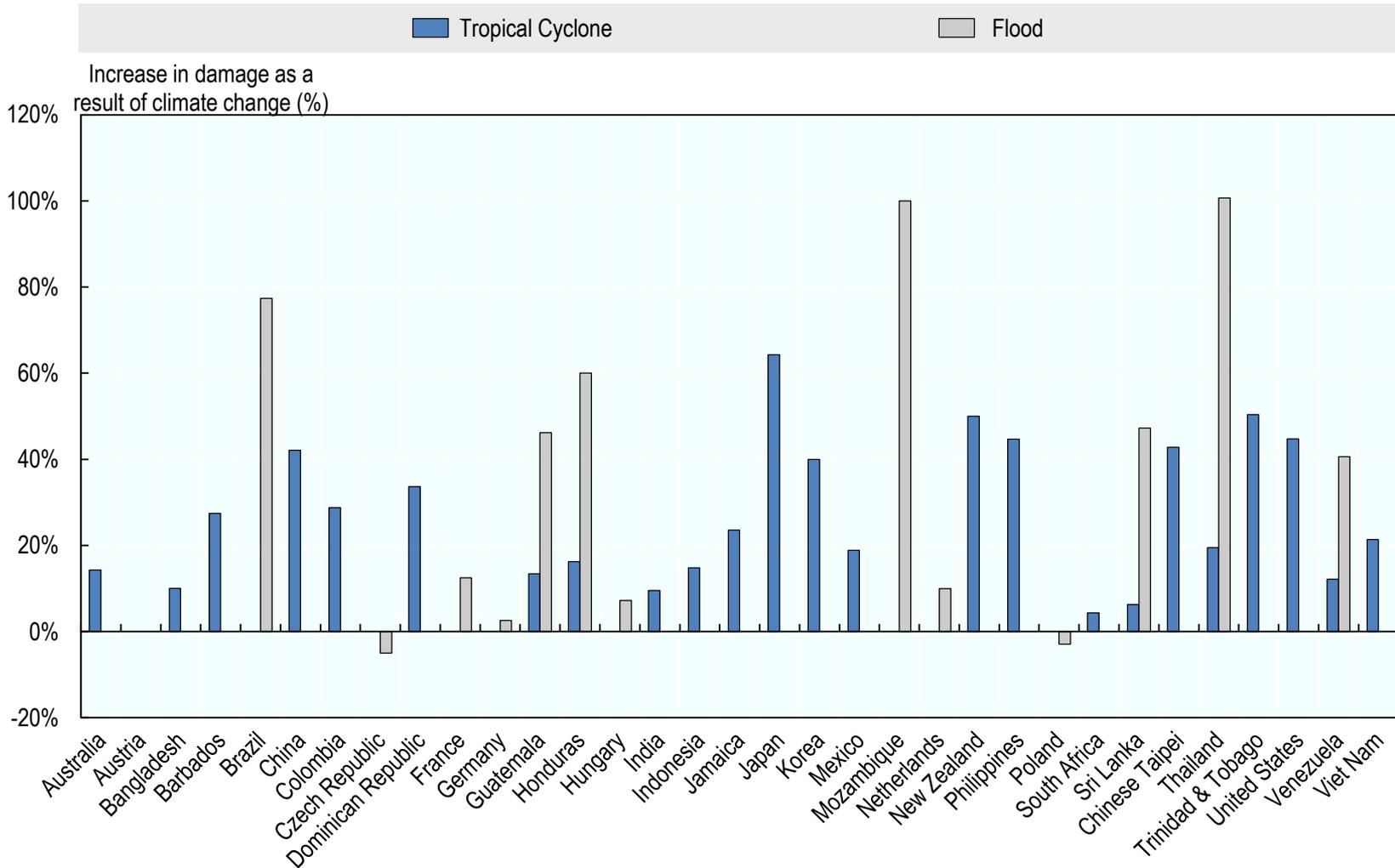
# Nat Cat losses – and “protection gap” – are increasing...



Source: OECD calculations based on Swiss Re *sigma* data on natural catastrophes



# ...climate change will make it more difficult to achieve high levels of insurance coverage

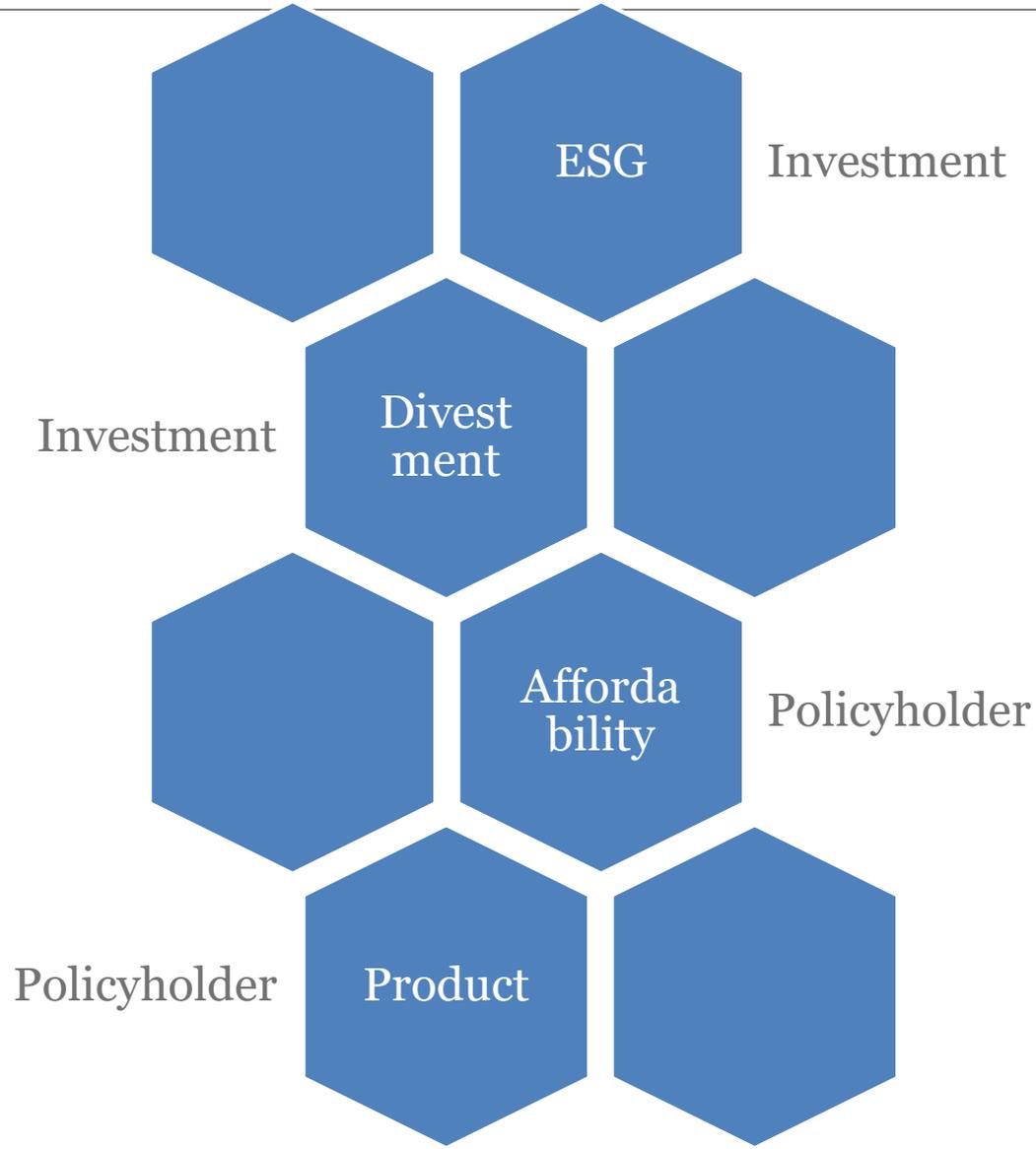


Source: OECD calculations based on Standard & Poor's (2015). Estimated damages are for a 1-in-250 year event with and without climate change.



# Climate change impacts

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# Cyber governance

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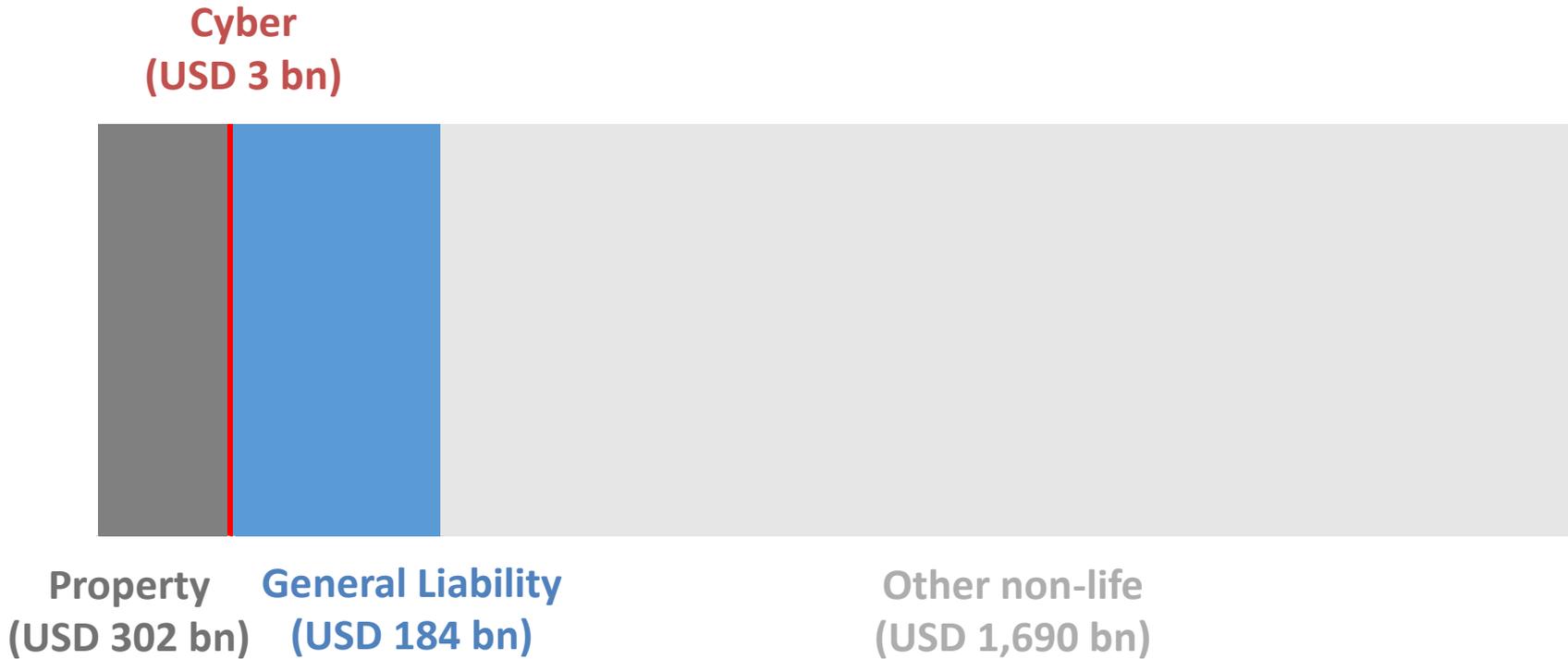
Deciding whether to investment in:

- Security
- Insurance

Or both...

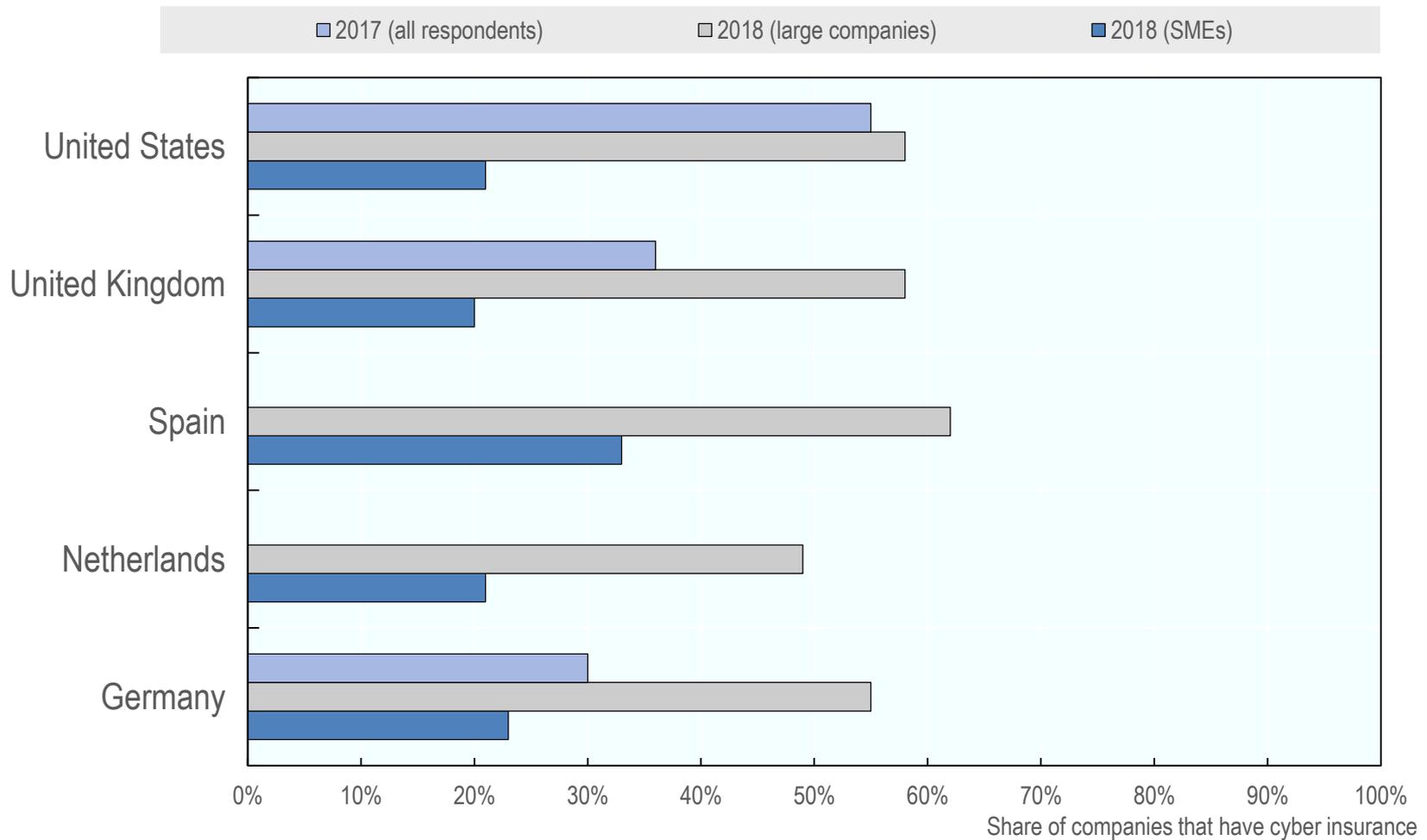


# Cyber insurance market remains relatively small...





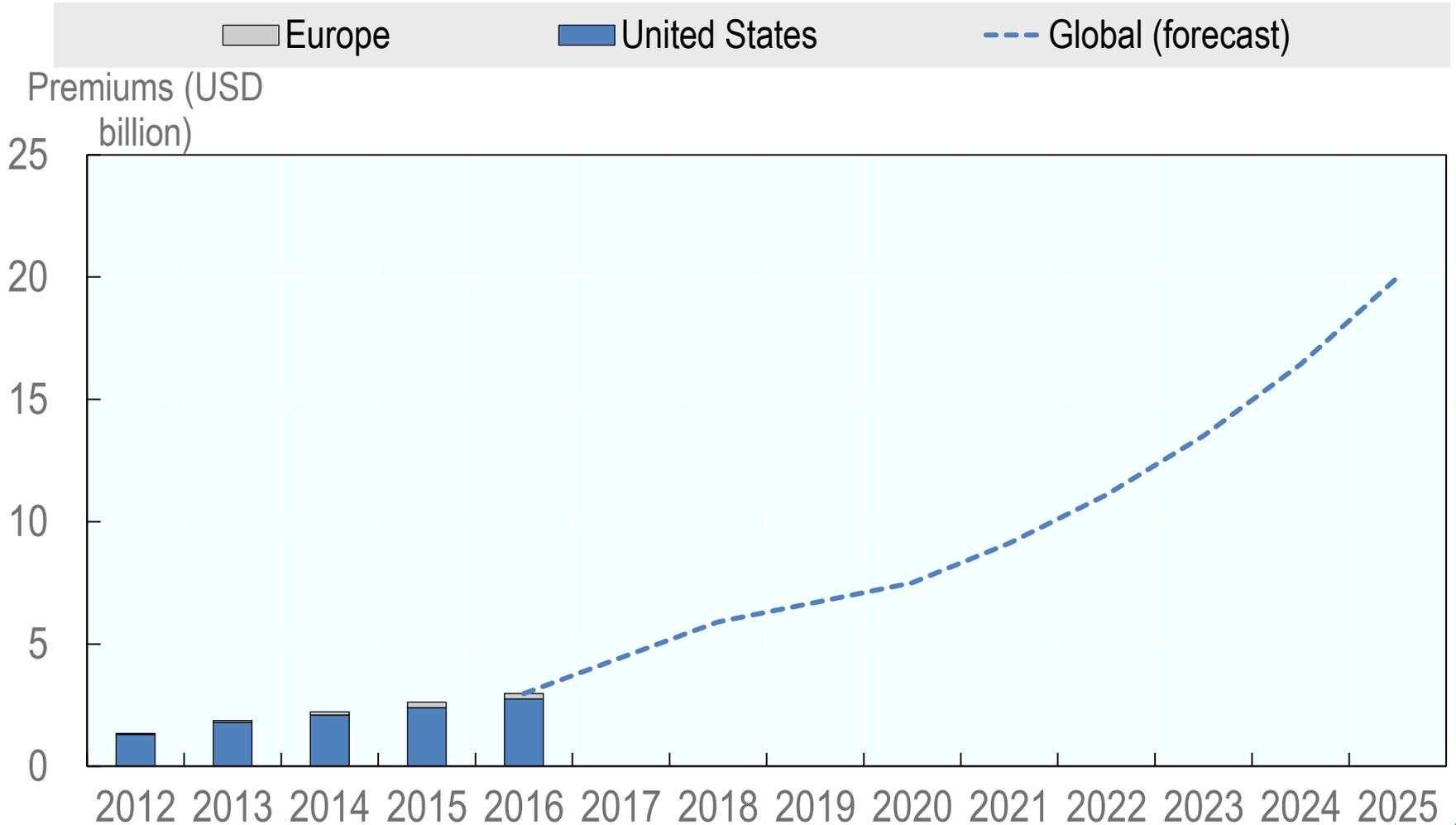
# ...with low levels of penetration



Source: Hiscox (2017) and Hiscox (2018). The question asked was: “Do you currently have cyber insurance”



# Outlook for premium growth





# Evolving risk landscape of cyber..

## In 2016, worse case scenarios

## Realised now..

The disruption of a major cloud service provider – interrupting operations at its hundreds of companies dependent on that provider;

In March 2017, Amazon's cloud service was disrupted for 3.5 hours as a result of human error

The disruption of a major domain name system service provider – i.e. the service providers that companies rely on to direct internet traffic to their sites

In October 2016, a major provider of DNS services faced a DDoS that led to disruptions at major websites that rely on that service provider – although not for long enough to trigger insurance payments for business interruption

The exploitation of a vulnerability in a commonly-used software or application

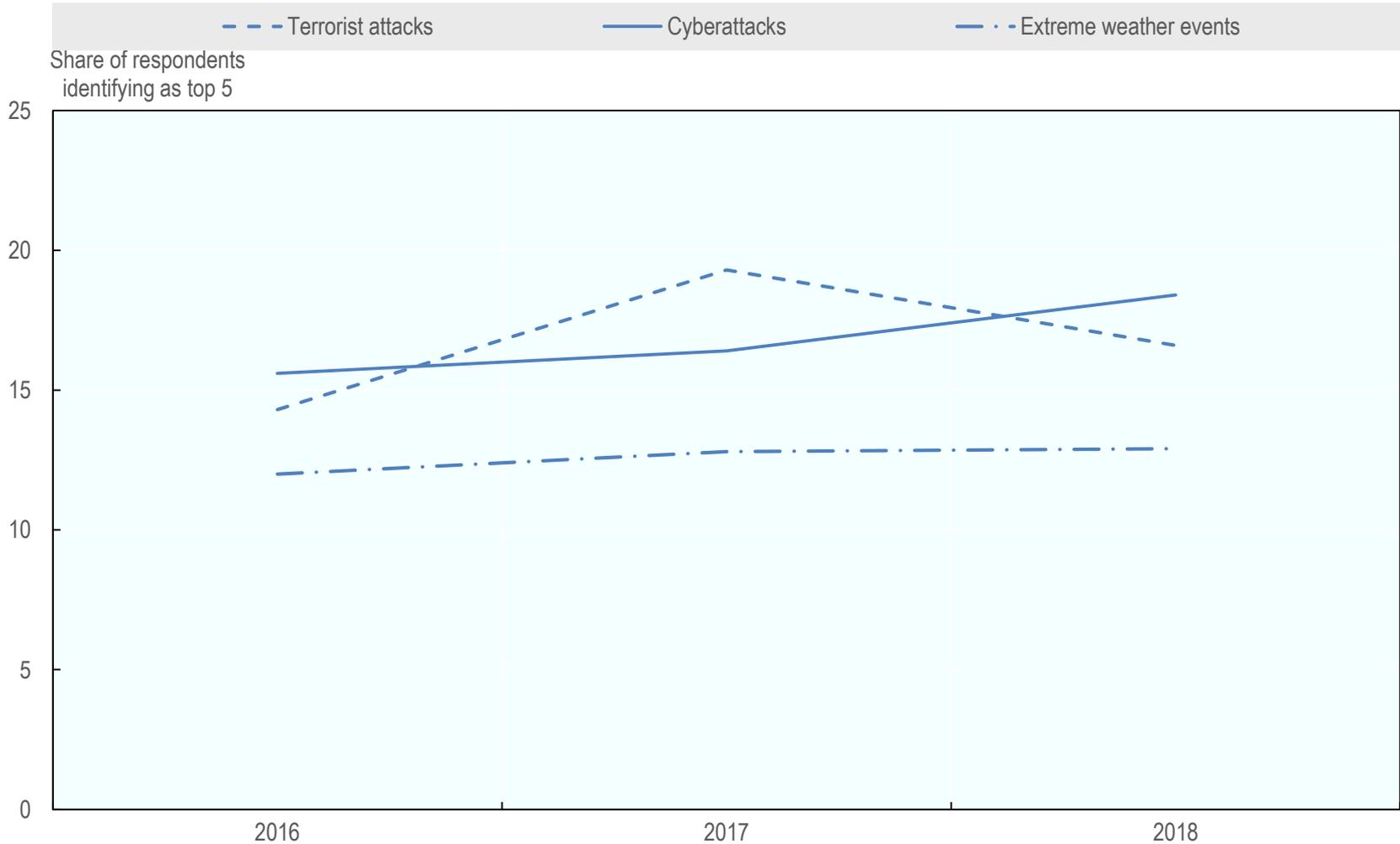
In May 2017, a common vulnerability on Microsoft Windows – as ubiquitous a system as you can get – allowed for the spread of the WannaCry ransomware

Physical damage to the critical infrastructure, including communication infra which could have intercontinental impact

In March 2018, it has been reported that Russia hacked critical infrastructure, including US power grid, by targeting with malware small commercial third party networks.....

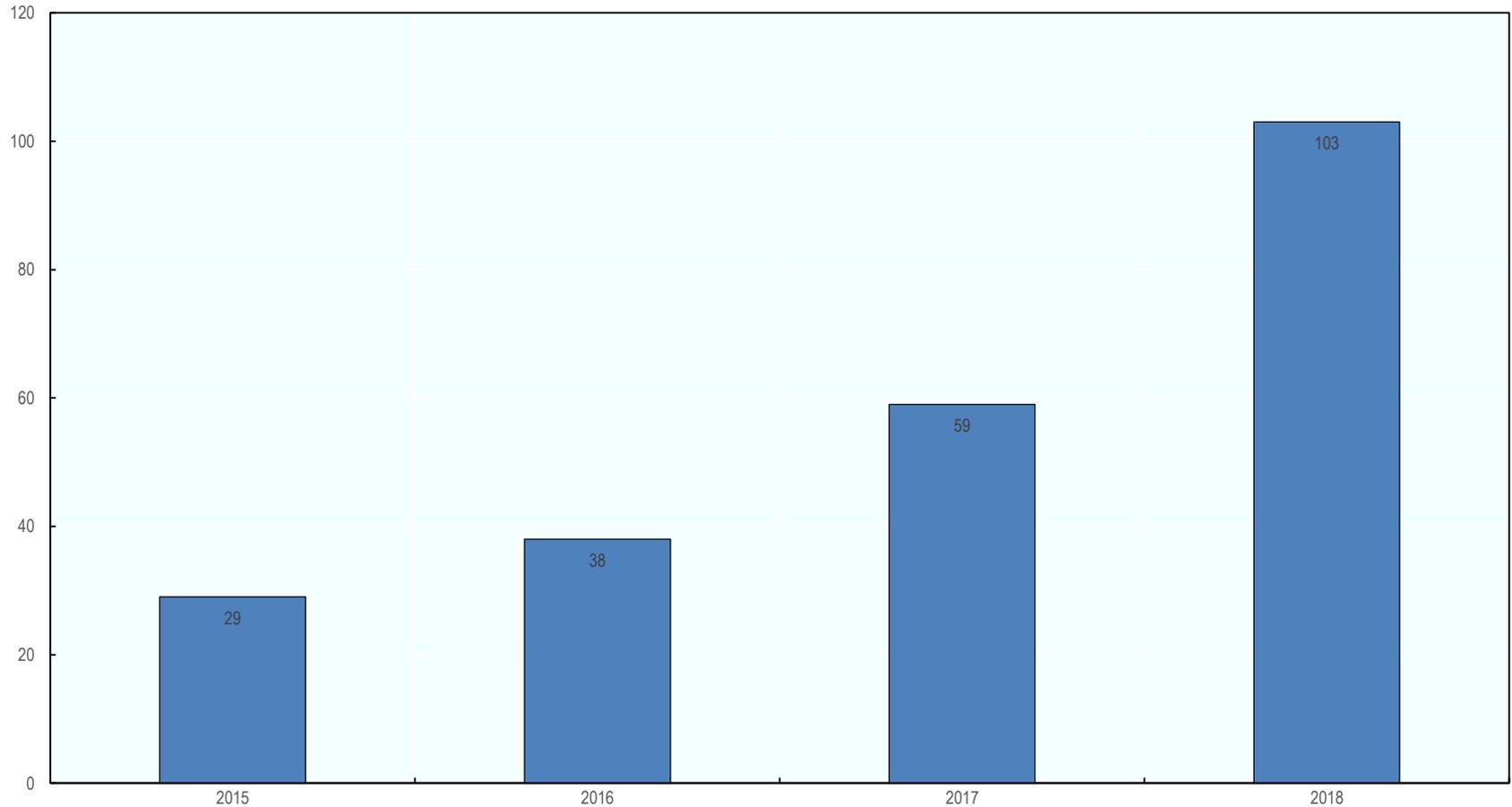


# Large-scale cyber attacks are an increasing concern for global business





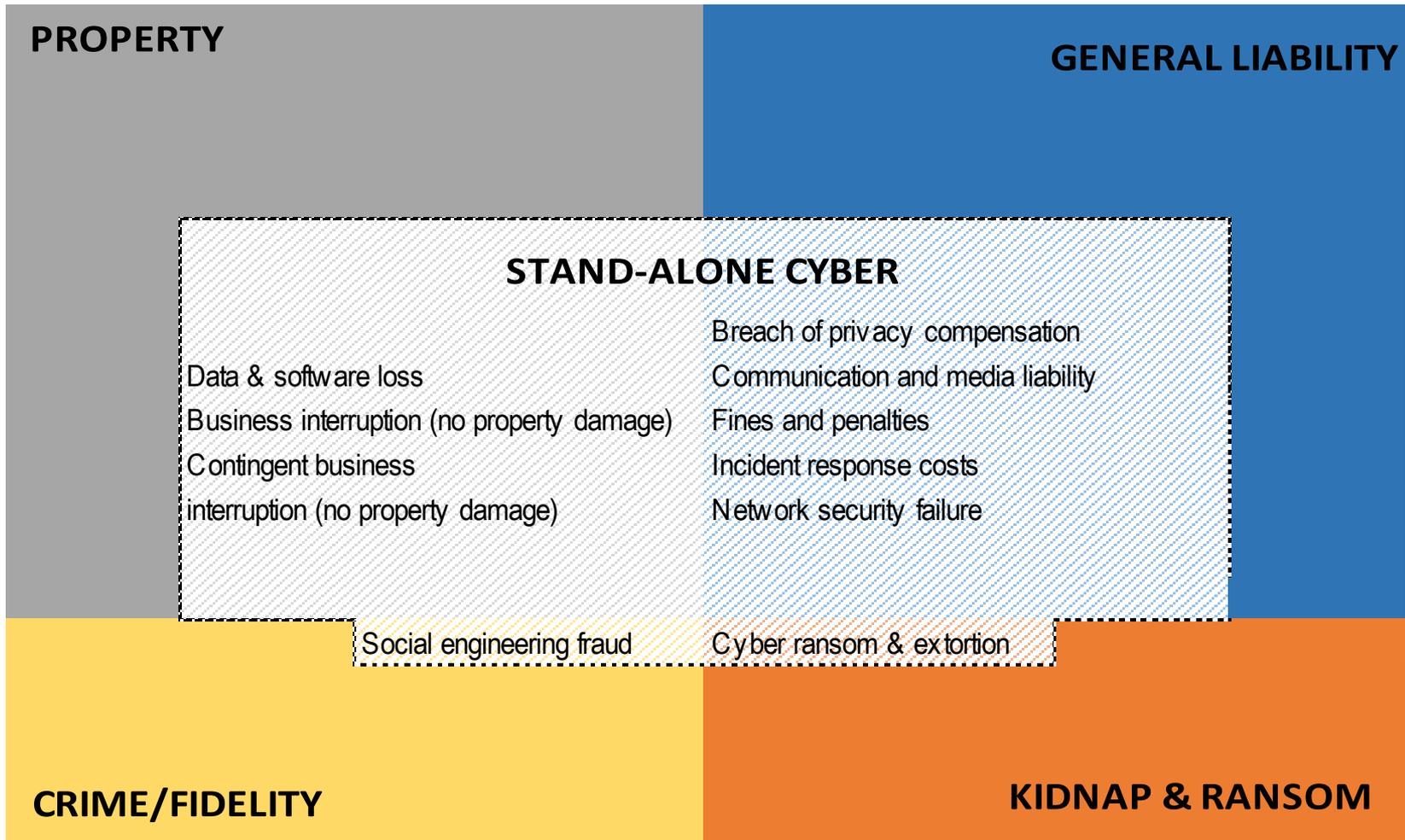
# Increasing geopolitical tensions might also lead to further nation-state backed cyber attacks...



Source: OECD calculations based on CSIS reporting on significant cyber espionage and cyber warfare incidents

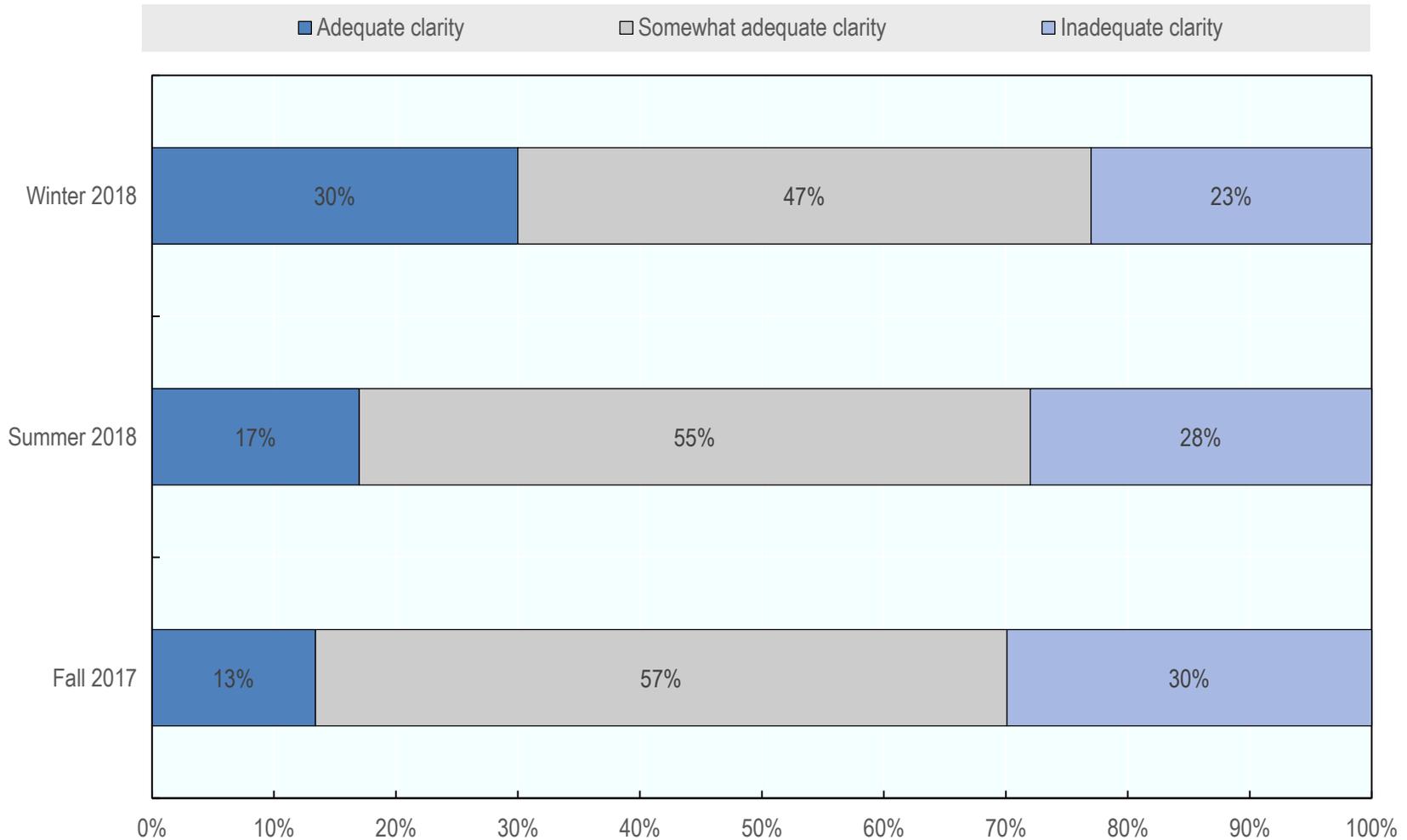


# Cyber coverage is complex - overlap with traditional lines...





# ...exacerbating the challenges in a market already facing high levels of policyholder distrust...

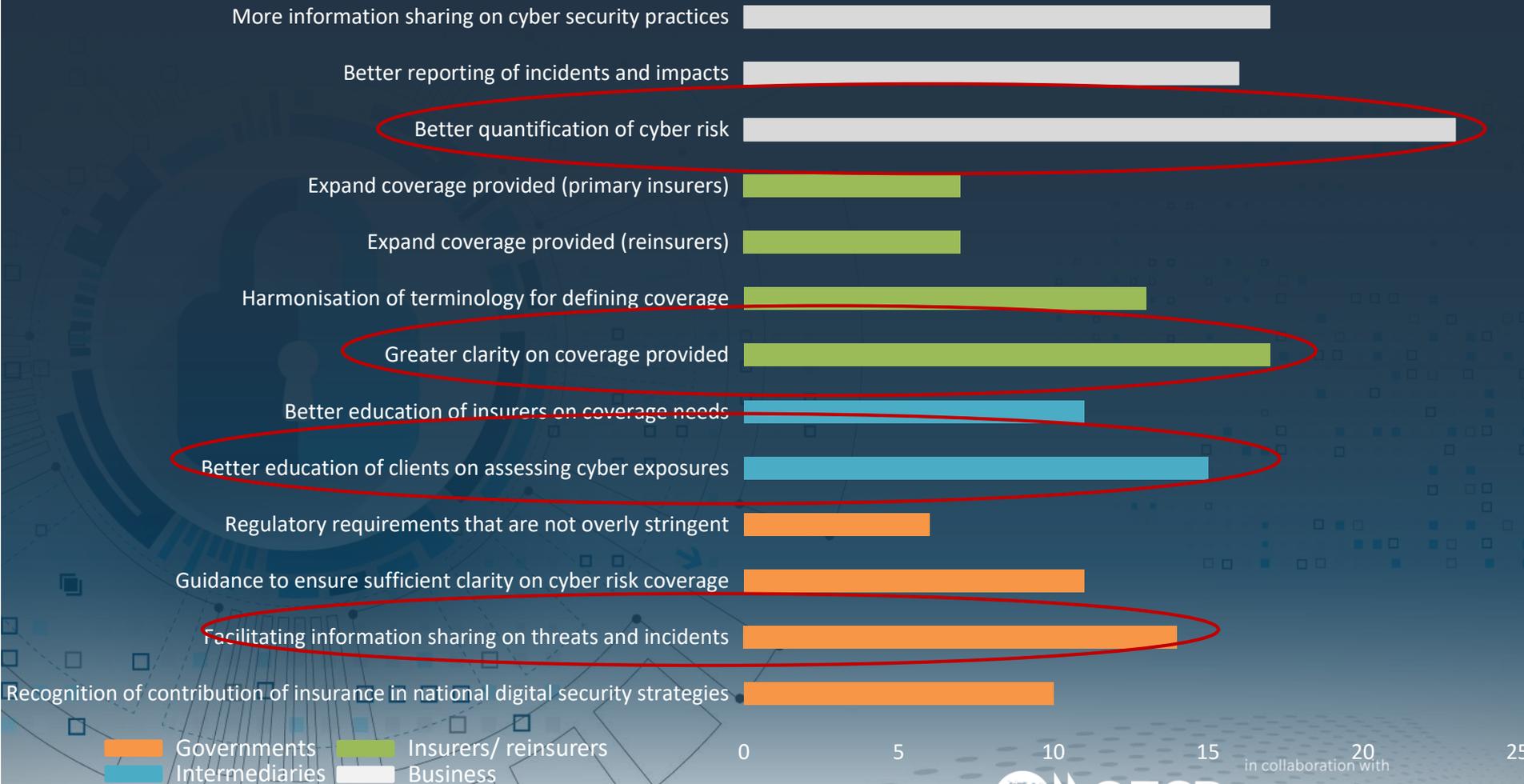


Source: CIAB (2017-2019), *Cyber Market Watch Surveys* (“Do you feel there is adequate clarity from carriers as to what is covered and what is excluded in a cyber policy?”)



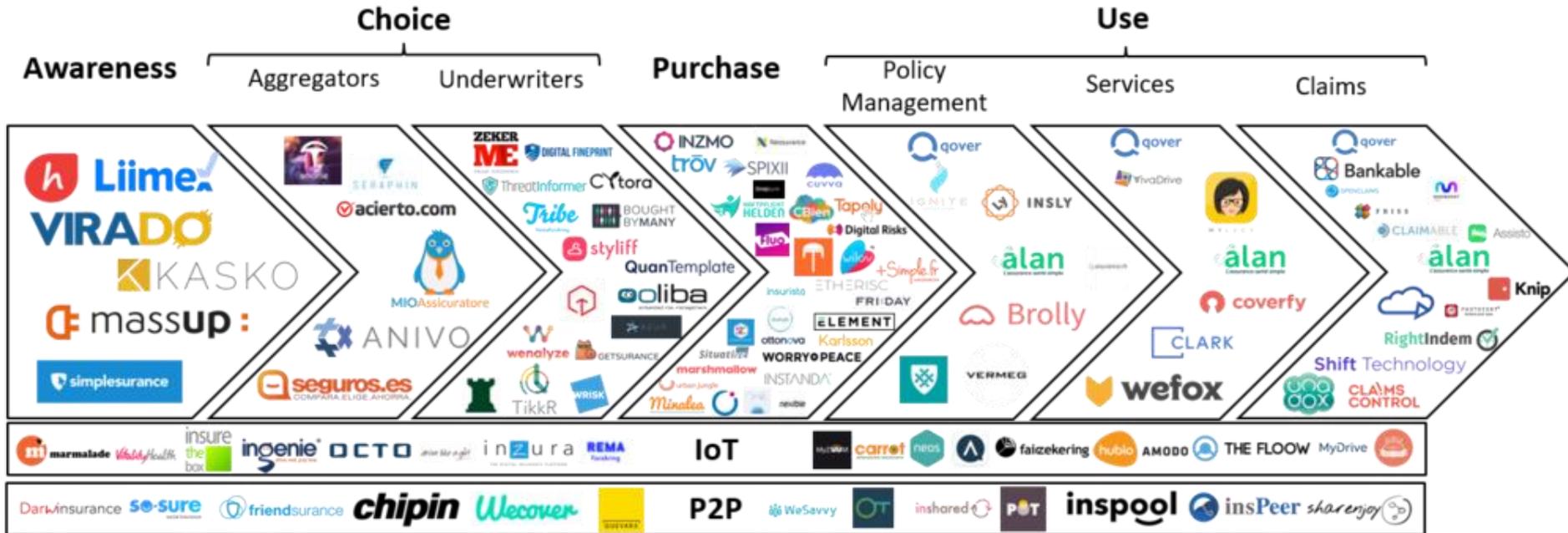
# Actions that would be most important

What actions would make the most important contribution to developing a vibrant cyber insurance market?





# InsurTech



Technology and innovation: all parts of the insurance production chain  
 .. And these are just start ups



But...

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- Concept of InsurTech is different in different countries
  - Robo-advisory
  - Parametric index insurance
  - Mobile technology based intermediation
  - Drone monitoring of damages
  - Etc.



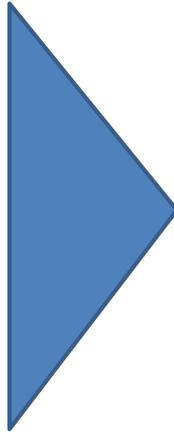
Joint project with ADB establishing a taxonomy on tech and innovation in insurance



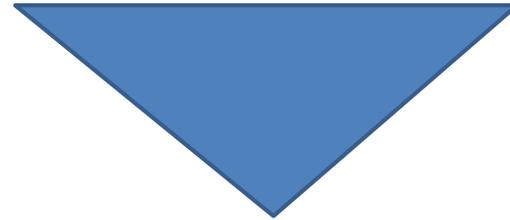
## Regulatory responses..

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- Sandboxes
- Innovation hubs
- Cross-border cooperation



- Regulatory neutrality
- Allowing market entry in a limited marketplace
- Foreseeing cross-border expansion



Lightening regulatory burden for new tech solutions



# Do we have the right regulatory response?

Real regulatory neutrality?

Exiting sandboxes?

Licensing regime: underwriting or intermediation?

Insurance-like businesses?



- Consumer protection concerns
- Uncertainty of regulatory approach
- Level playing field



# Innovations in insurance

## AI

- Explainability
- Unintended bias
- Privacy
- Systemic risk

## Big data

- Consent on use of data
- Life style data

## Autonomous cars

- Product liability

## Telematics

- Product specific: auto, wearables

## IoT

- Risk mitigation or risk expansion

→ Risk classification & ethical/social: better or worse?



## Long-term and health care

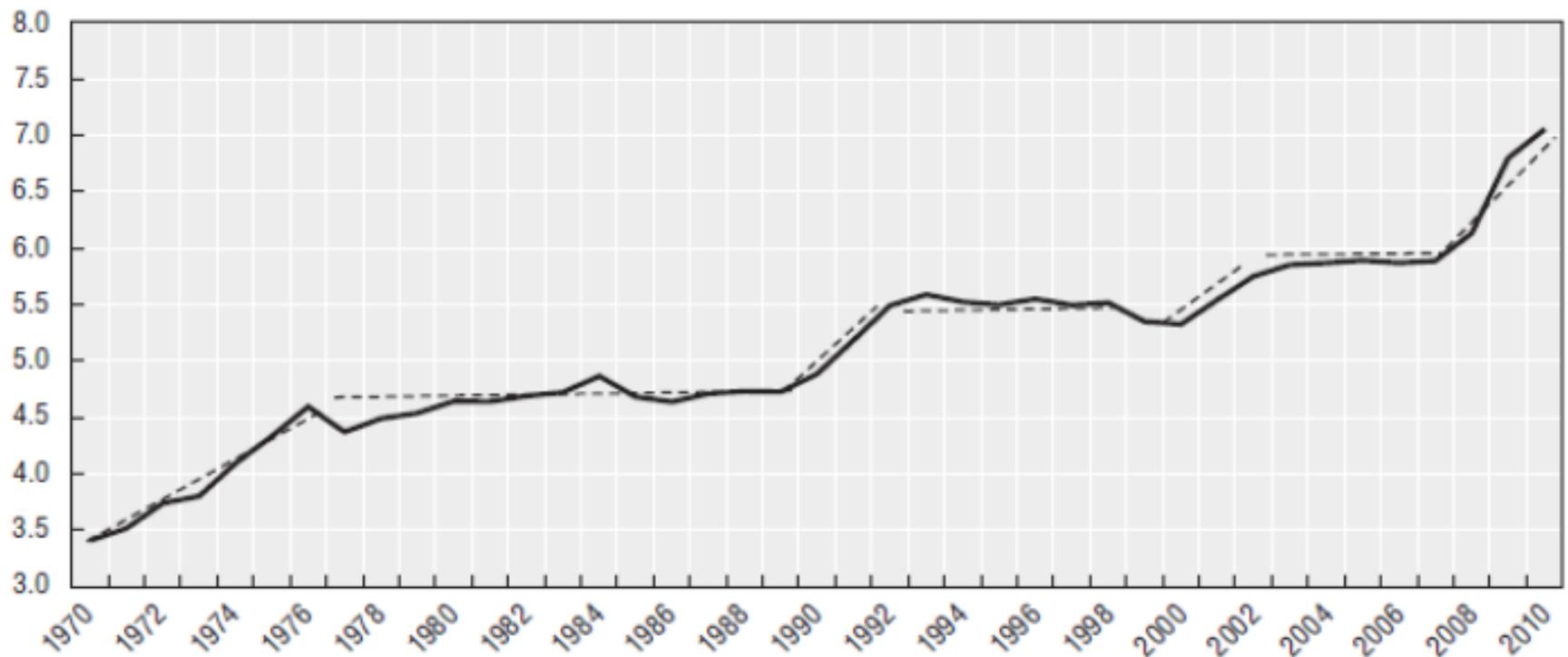
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- Ageing society
- Fiscal challenges
- Using private solutions for social security purposes

Need to examine how insurance can better contribute and complement the social security network



**Figure 1. Evolution of public health and long-term care expenditure<sup>1</sup>**  
As a % of GDP



1. Unweighted average of available OECD countries.

Source: OECD Health Database (2012).



# THANK YOU

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