



International Actuarial Association  
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**21<sup>st</sup> Global  
Conference  
of Actuaries**

17<sup>th</sup> - 19<sup>th</sup> February 2020 | Mumbai, India

# Sustainability of Premium Rates for Term Insurance

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Date: 19<sup>th</sup> February 2020

## Swati Gupta



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### Prior Work Experience

- IDBI Federal Life Insurance
- Ernst & Young
- Reliance Life
- ICICI Prudential
- Paternoster

### Background / Professional summary

Swati is a **Director in Deloitte Touche Tohmatsu India, LLP**, assurance practice and currently, leads and **manages IFRS 17 and other actuarial engagements**. Swati was managing **Product Pricing team** and has worked on product pricing, regulatory filing, risk analysis and impact on profitability review. She was also a **member of Product Management Committee** and took active part in determining product philosophy for the organization, in her previous organization.

Swati has played instrumental role in **performing actuarial audit** of a Swiss company covering Index linked pricing, MCEV and IFRS activity of the organization. Swati has also performed **cost benefit analysis in determining reinsurance strategy** for a major life company which led to more coverage at lower cost.

She has also worked on calculating **mortality improvements** for annuity product and created **stochastic models** for computation of cost of guarantee to enable **appropriate valuation for such guarantees**. Swati has worked on monthly **valuation** for an Indian life insurance company and has performed peer review of liabilities valuation as a part of her previous consultancy experience

**Years of experience** – 10 + years

### Academic Qualifications

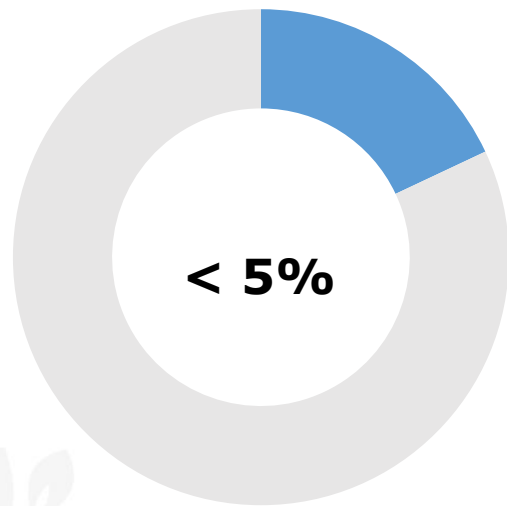
- **FIAI** with specialization in life insurance.
- **MBA** from NMIMS, Mumbai.
- **Corporate Finance, IIM - Calcutta.**

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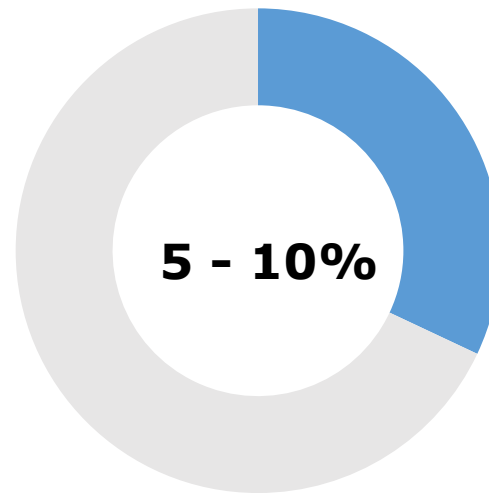
## Sustainability of Premium Rates for Term Insurance

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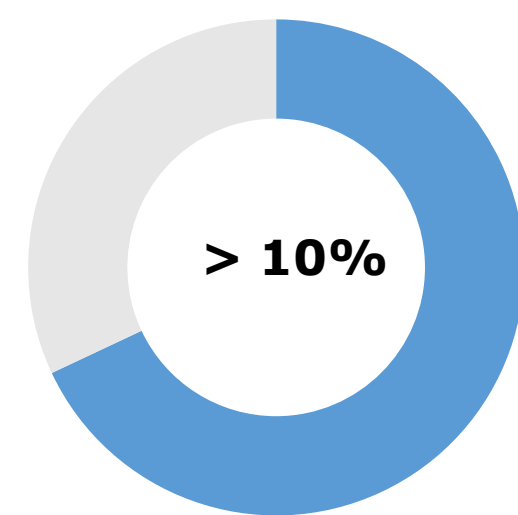
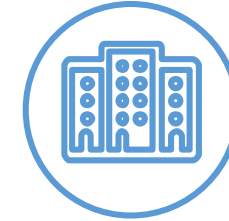
# Global Life Insurance Penetration



Brazil, India, China, Russia



Japan, Germany, Australia, USA



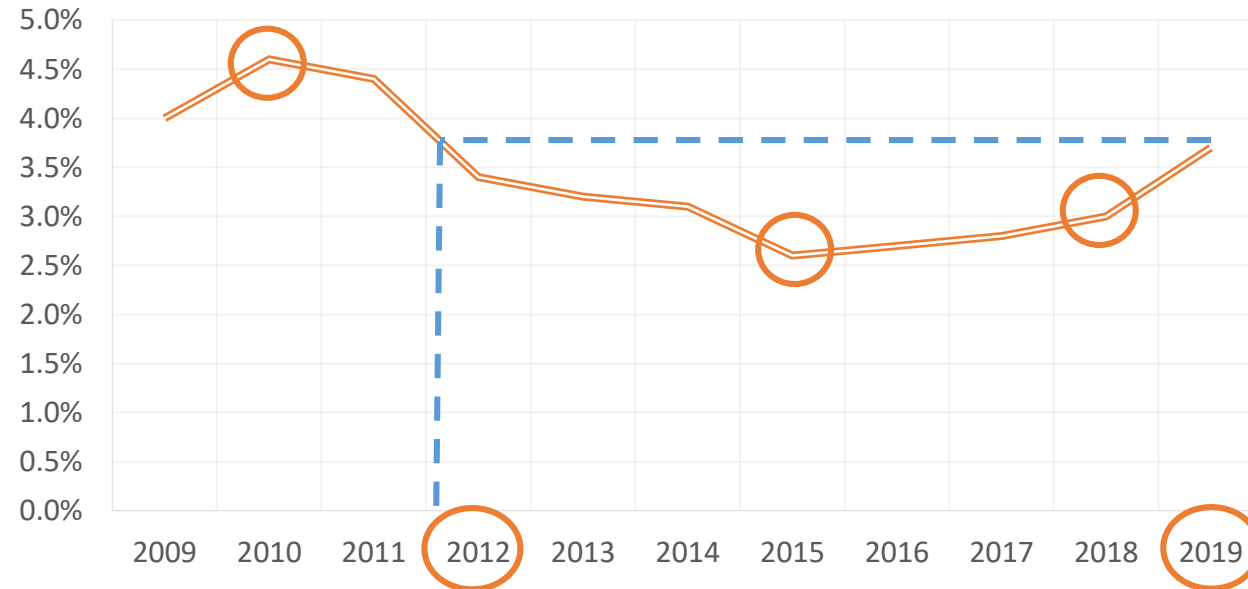
Hong Kong, UK, South Africa, Taiwan

**Where should the Indian Insurance sector target to reach?**

# Study of Life Insurance Penetration

Basis life expectancy and premium

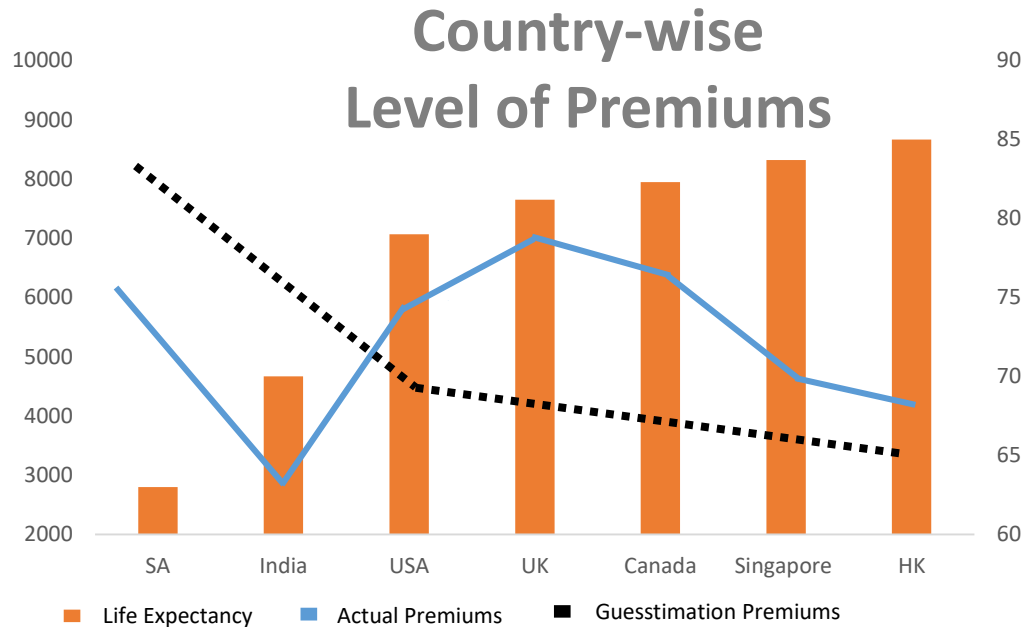
## INDIA LIFE INSURANCE PENETRATION



**Is the India Insurance sector really growing?**

# Study of Life Insurance Penetration

Basis life expectancy and premium



**Can India sustain such low term insurance premium?**

# Sustainability Analysis

## The Game of Price...

The price wars should lead to increase in life insurance penetration due to competitive premium rates.

**Is it really serving the above purpose?**



## Product Design

To make products more marketable, insurers provide various innovative features and options to cover needs and risks of customers.

**Can the insurer price such long & complex risks correctly?**



## Sufficiency Of Capital

The current factor based capital requirement does not consider the specific level of riskiness that each company takes.

**Is the current capital sufficient to meet the uncertainties?**



# The Game of Price...

Are we becoming the next airline/ telecom sector?



## *The Game of Price...*



Variation in Premium Charged



Adequacy of Premium



Failure of Drake Insurance



## *The Way Forward*



Peer review of pricing



Governance of reinsurance premium



Adapt Learnings from other industries i.e. Telecom & airlines.

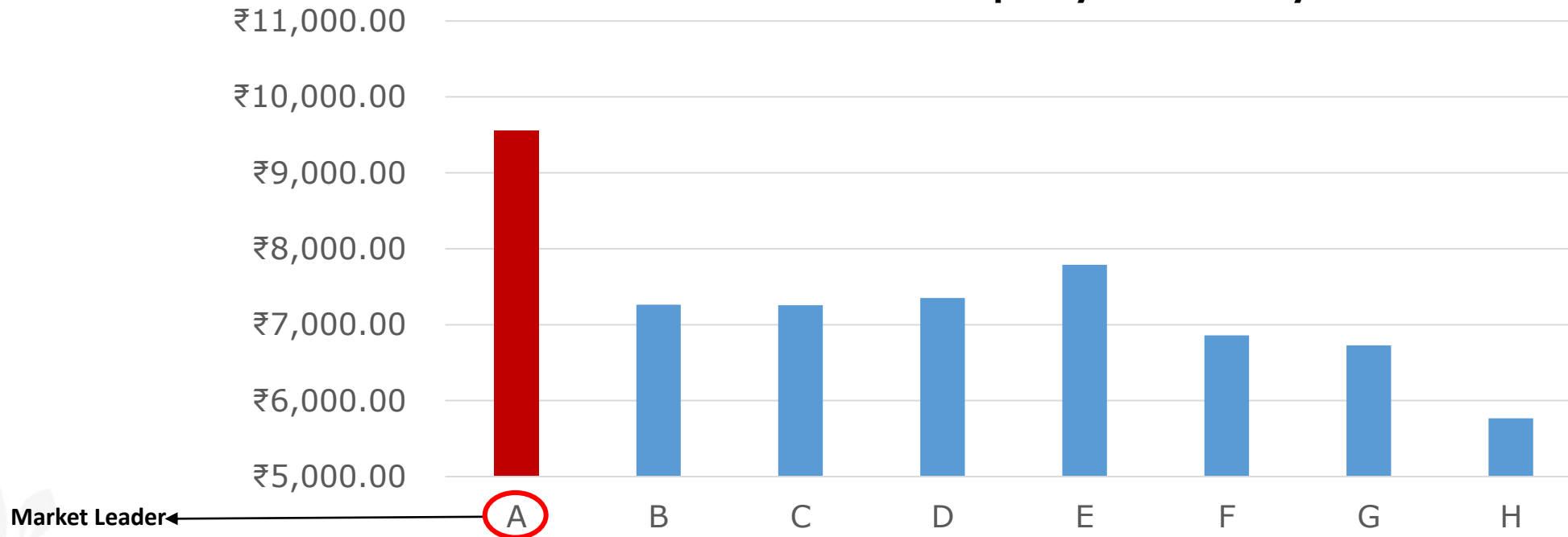




# The Game of Price...

Variation in Premium Charged

**Term Insurance Premium Rates for a Male aged 30 years with non-smoker status and policy term of 40 years**

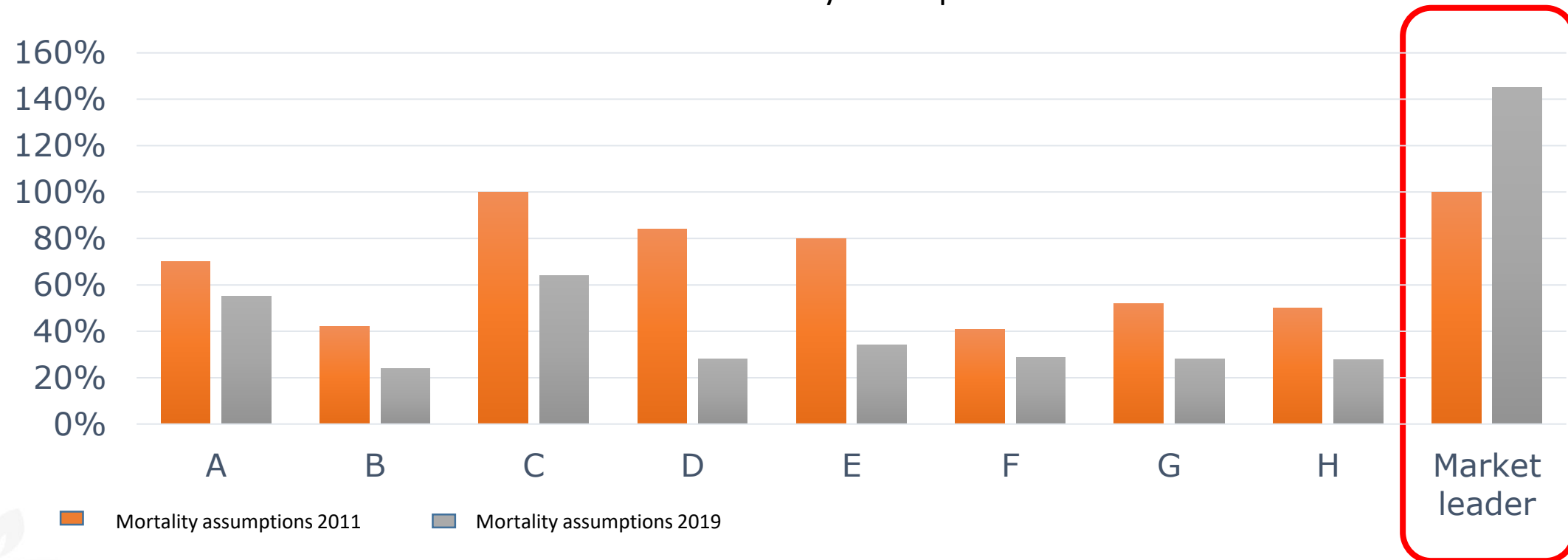


**Such variation for term insurance premium between various players, does it tell us something?**

# The Game of Price...

## Variation in Premium Charged

Trend of valuation mortality assumptions in India

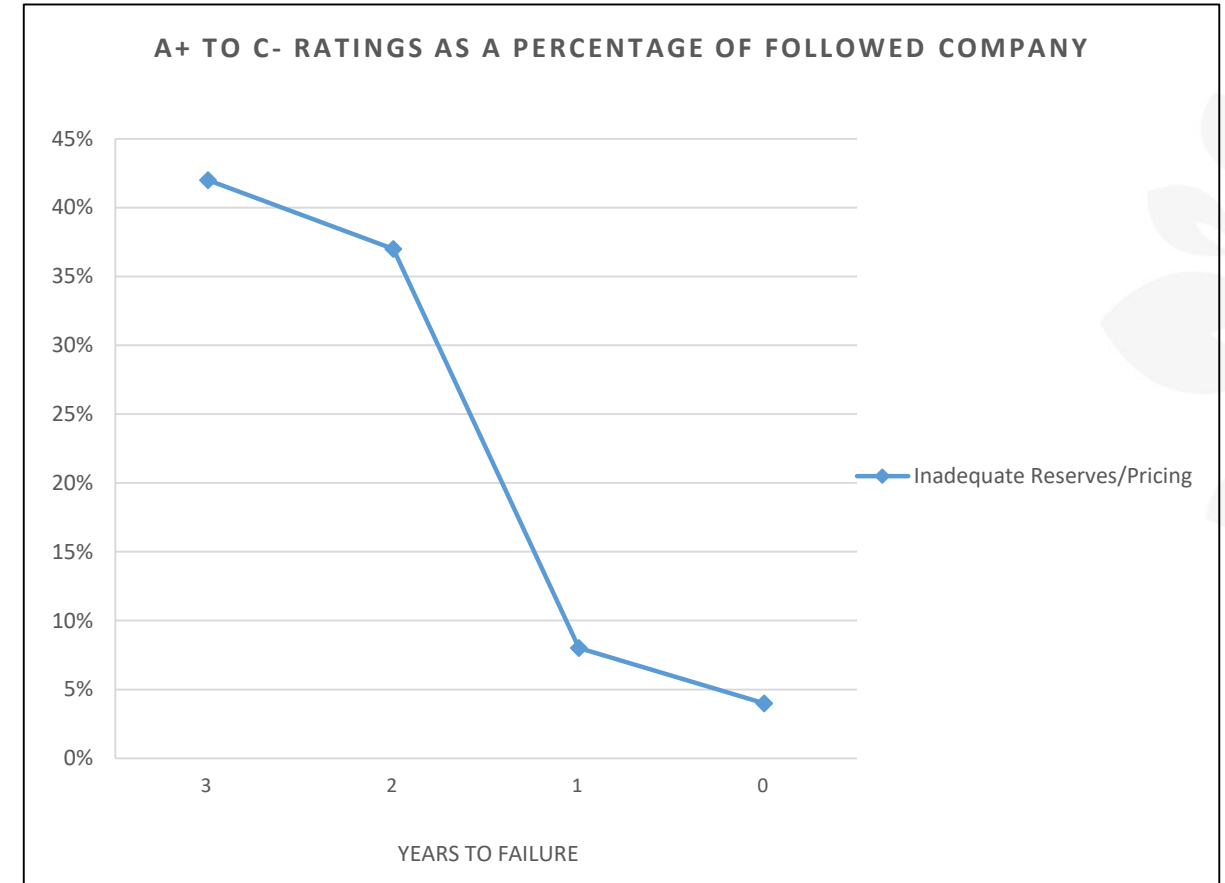


**In the same market, the market leader has increased the mortality assumptions over the period of 8 years; while the others have followed the opposite trend.**

# The Game of Price...

## Adequacy of Premium

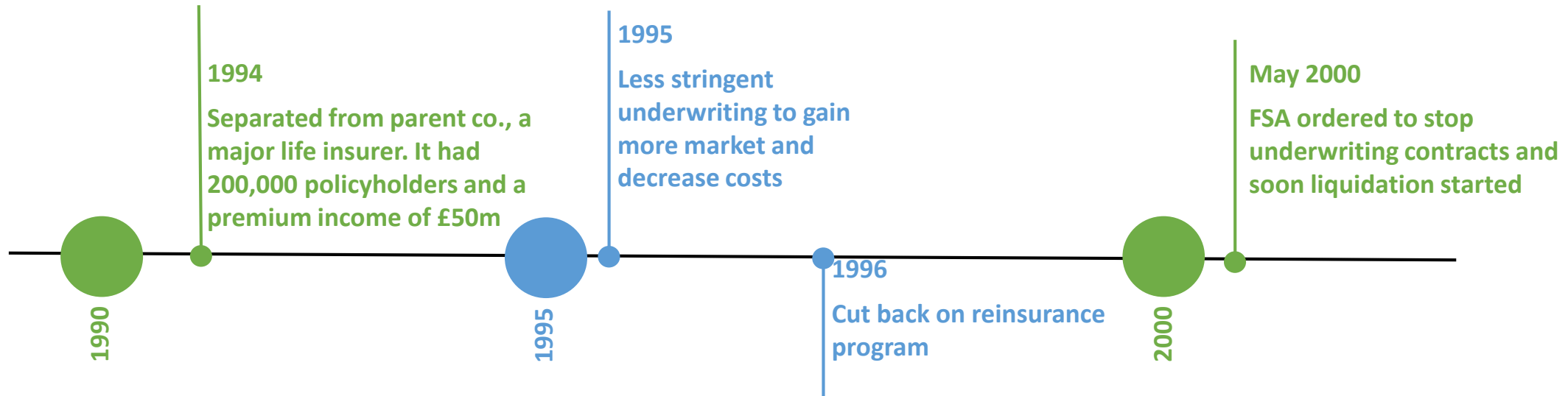
Primary Causes	Number of Companies	% of Total Identified
<b>Insufficient Reserves</b>	145	34%
<b>Rapid Growth (Under pricing)</b>	86	20%
<b>Alleged Fraud</b>	44	10%
<b>Overstated Assets</b>	39	9%
<b>Catastrophe Losses</b>	36	8%
<b>Significant Change in Business</b>	28	7%
<b>Impaired Affiliate</b>	26	6%
<b>Reinsurance Failure</b>	22	5%
<b>Total Identified</b>	426	100%



Based on the research carried in the period 1969-1998 for US insurance companies

# The Game of Price...

## Failure of Drake Insurance Company




**If prices would be governed with reinsurance premium, then there could be a spiral impact of inadequate reinsurance or rate revision of RI! (which is the current trend)**

# Product Design

Complex products may lead to complexities in sustainability ...

## Designing Challenges


 Level coverage for long policy terms

 Level of underwriting

 Level of claims rejection

## Recommendations

 Encourage lower ppt options

 Stronger underwriting

 Predictive analysis to detect frauds

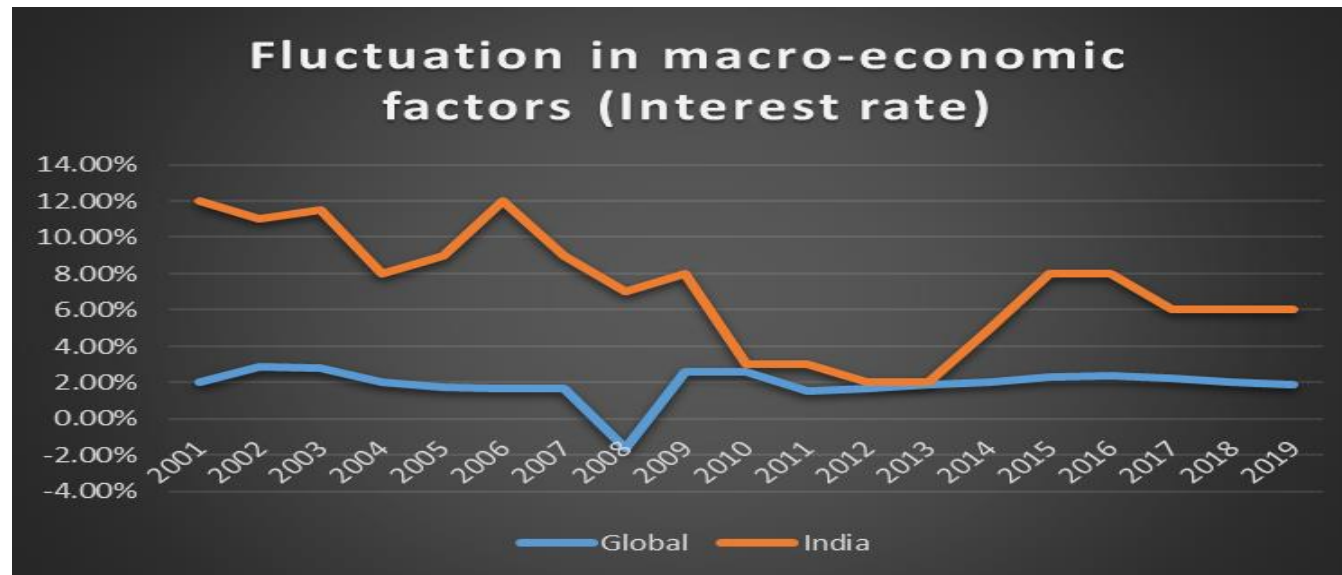


# Product Design

Level cover for long policy terms

Major investment risk- Major fluctuations of India's interest rates :

India, being a developing country has many economic and macro-level fluctuations in the economy due to geographical, cultural and occupational diversity. Setting inflation, interest rate assumptions in such a varied economy is very difficult.



**Can the insurers correctly price such high movements in risk parameters?**

# Product Design

Level of underwriting

## Highly sensitive profit margins:

Term insurance have high profit margin, but it is very sensitive to parameters like interest rate, mortality, reinsurance premiums etc.

- **Interest rate:** A 10 bps fall in pricing interest rates.
- **Mortality:** A 10% increase in mortality experience.
- **Reinsurance premiums:** A 5% increase in RI premiums.

**VNB becomes negative.**

**The company should decide on the appropriate type/term of underwriting and duration of cover basis holistic risk assessment.**

# Product Design

Level of claims rejection

## Claims rejection ratio

Company	Death Claims repudiated for polices issued within 3 years	Proportion of fraud claims as proportion of total claims
Company X	158	1.2%
Company Y	182	1.01%
Company Z	260	0.83%

**As per Section 45, Indian Insurance company can not reject a claim after 3 policy years.**

**Has the company priced for such claims risks arising from frauds?**

\*Company X, Y and Z are real data obtained from 3 life insurance companies. The companies have not been disclosed for any disputable reasons.



# Sufficiency Of Capital

Are we pricing for mega- catastrophes and man-made mega-cats?



## Avoid Surprises!



Consideration of catastrophic risks



Internal framework to keep risk based capital



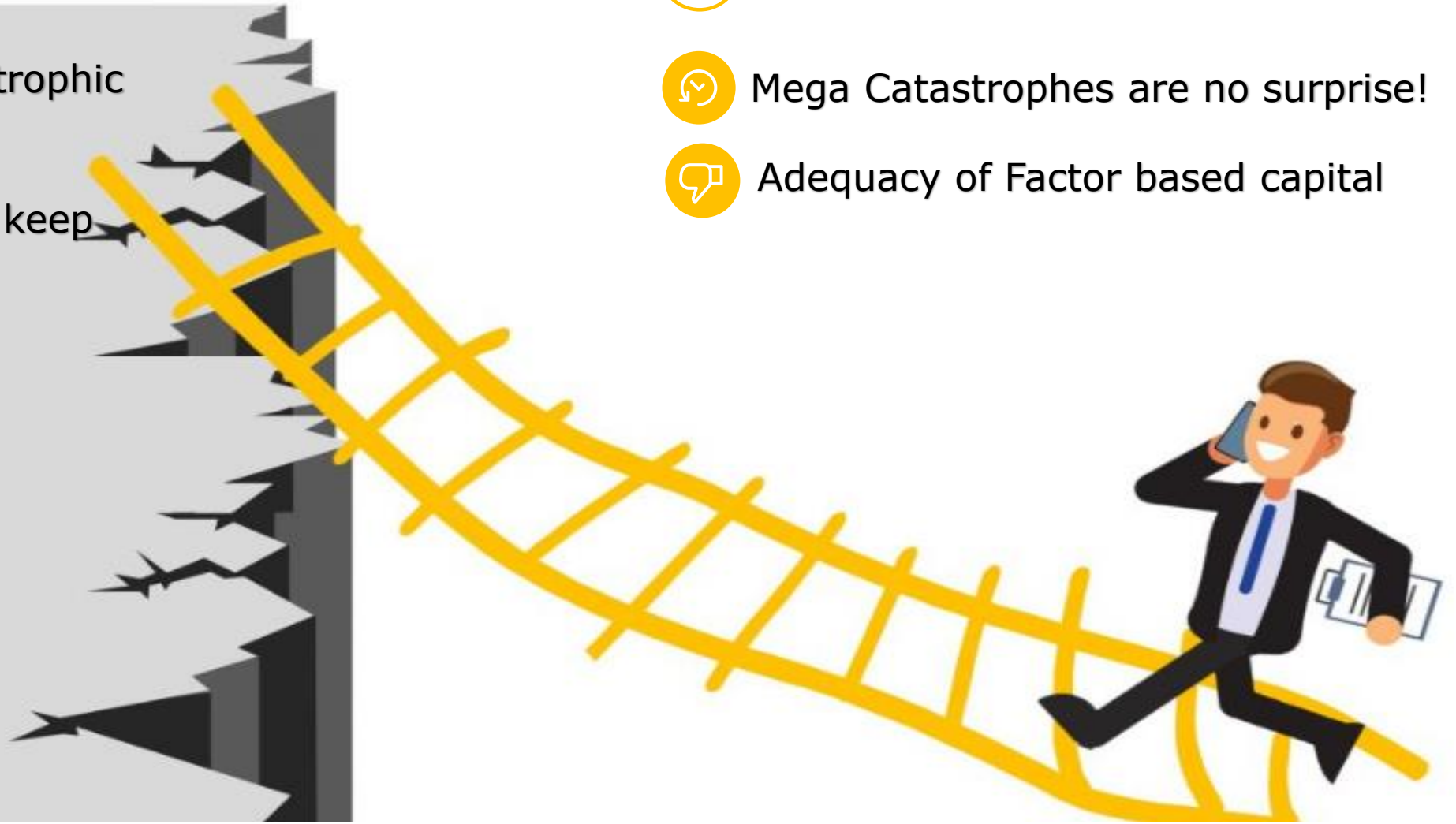
## Certainty of uncertainties



Mega Catastrophes are no surprise!



Adequacy of Factor based capital

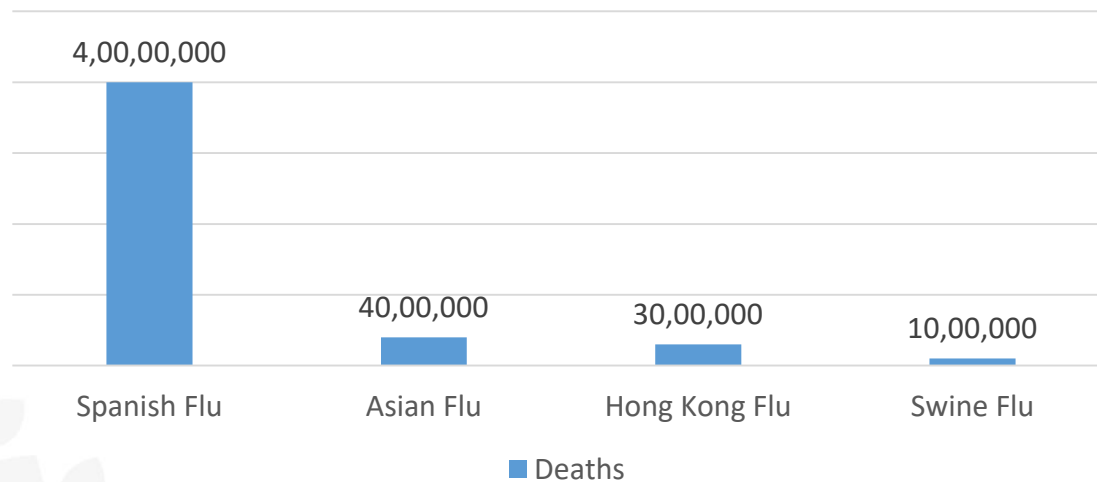


# Sufficiency Of Capital

Mega Catastrophes are no surprise!

Catastrophic Reserves needs to be maintain in case of widespread of epidemic of infectious disease and terrorism attacks. The world has seen some major ecological & natural disasters which has heavily setback the global economy.

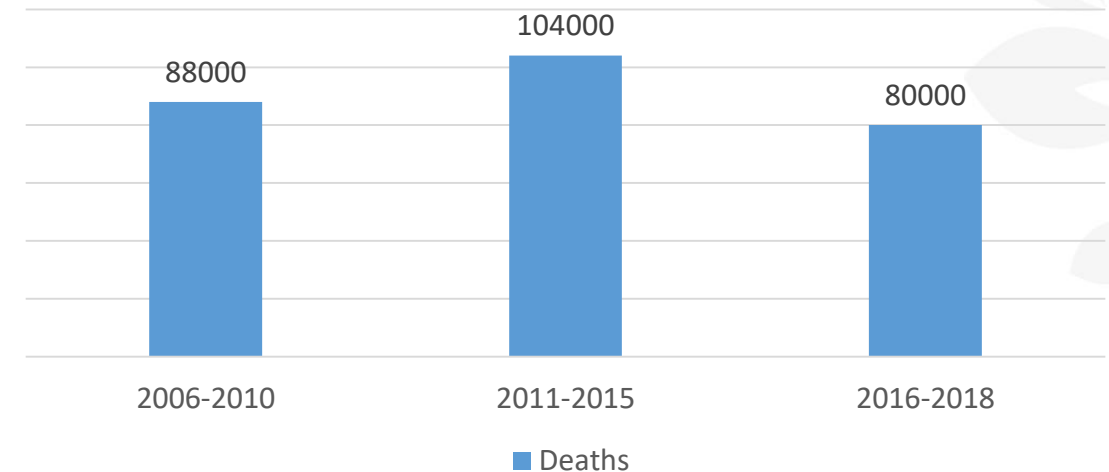
### Deaths because of Pandemic Disease



The current toll of deaths caused by Coronavirus are not even 5% of deaths caused by other pandemics.

Despite this, the Chinese insurers are worried about the claims due to deaths by Coronavirus.

### Deaths because of terrorist attacks



Claims of over Rs. 376 crore were settled after the unfortunate Mumbai terror attacks of 2008.

Company A → Rs. 137 crores claims paid in a year  
Company B → Rs. 204 crores claims paid in a year  
Company C → Rs. 154 crores claims paid in a year

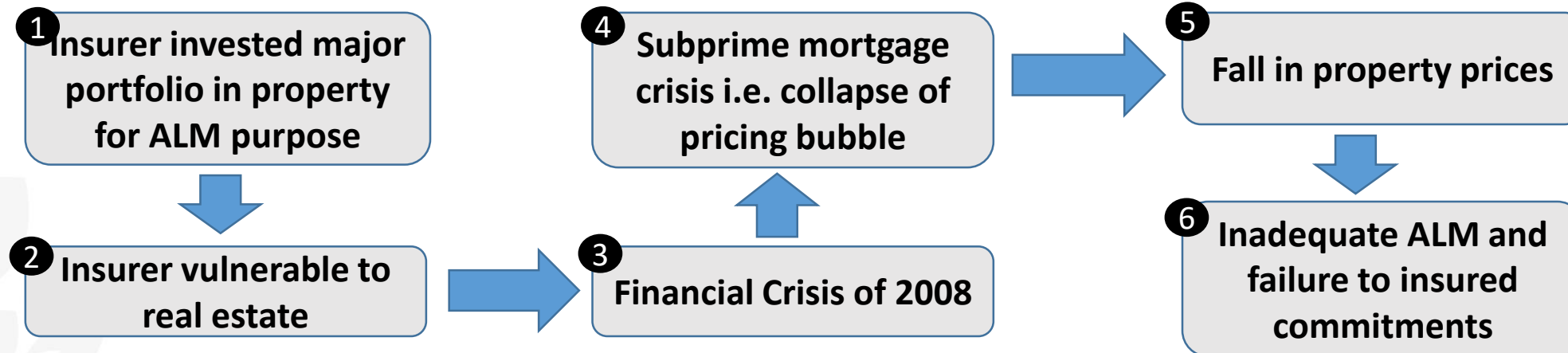
# Sufficiency Of Capital

Adequacy of Factor based capital

## Investment Risk

Failure during 2009 global crisis :

- As at the third quarter of 2008, the financial crisis triggered by the inability of millions of Americans to refund their mortgages affected one of the major global insurer in USA . The group was vulnerable to **the real estate market through some by-products.**
- On September 16, 2008, the insurer was faced with a problem of liquidity following the downgrade of its credit rating from AAA to A- by Standard & Poor's (A2 by Moody's).
- On September 16, 2008, **the American State** decided to come to the rescue of the group.



# Summary

Thinking Points for our industry...



## Sustainable product design

The product should be designed to have sustainable features and 'terms & conditions'



## Sustainable pricing

The products should be priced in a way where all the risks have been correctly evaluated.



## Sustainable capital basis risk

The capital requirements should be sustainable by considering all the risk involved.



## Coordinated efforts by all industry participants

All the industry participants should come together to suggest and make the business more sustainable in the long-run.



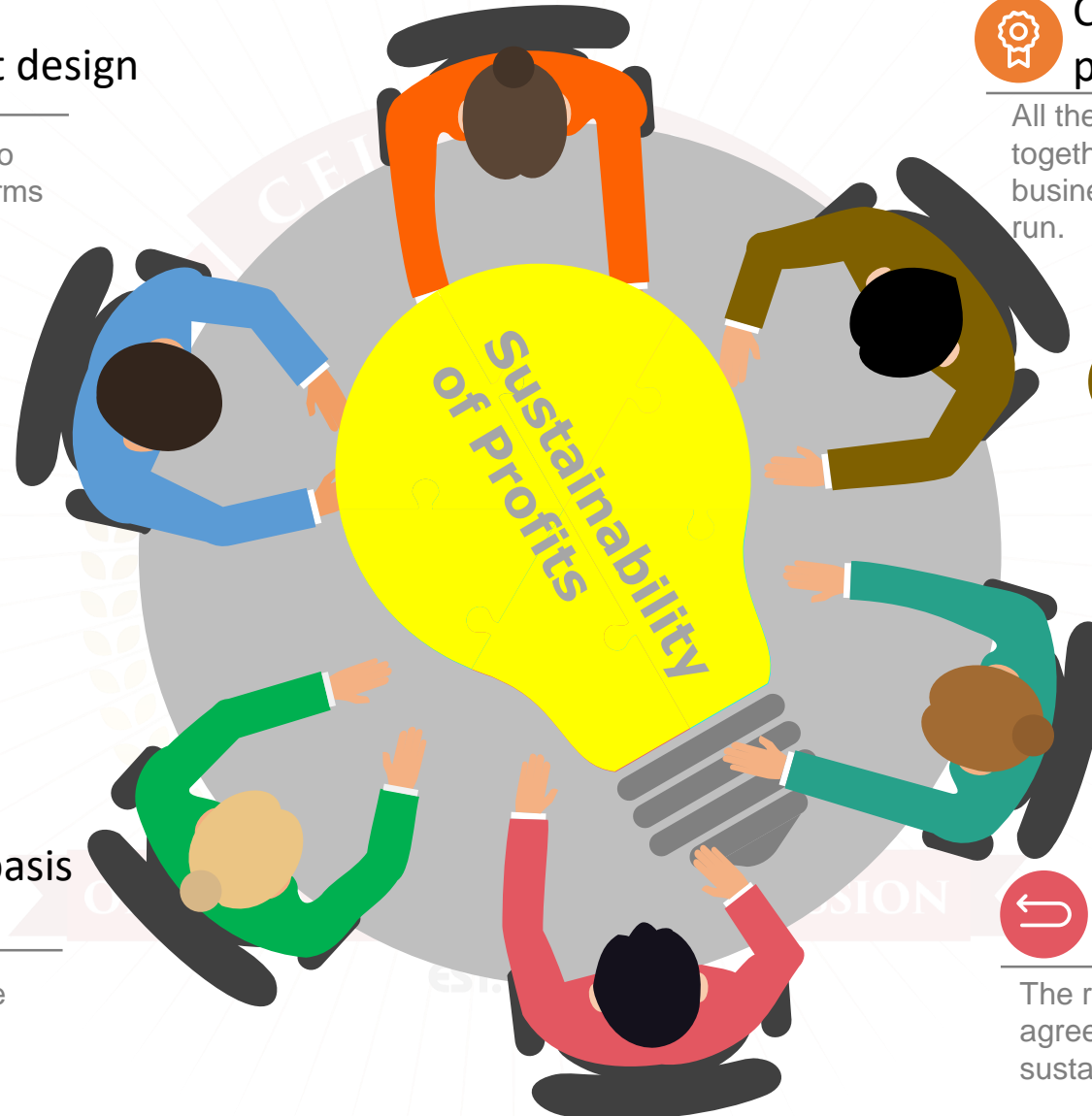
## Regulatory Framework

The regulator may take steps to control the business which may make the insurance sector more sustainable.



## Sustainable RI arrangements

The reinsurance terms and conditions agreed with the reinsurer should be sustainable.





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# Thank You!