



Institute of Actuaries of India
Statutory body established under an Act of Parliament



International Actuarial Association
Association Actuarielle Internationale



**21st Global
Conference
of Actuaries**

17th - 19th February 2020 | Mumbai, India

Global Actuarial Career – A Perspective

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**Senior Director - International, Society of
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Wednesday, February 19, 2020

A changing landscape...

globalization
professionalism
insurtech
PBR
data science
IFRS17
solvency II
predictive analytics
climate change
financial literacy
artificial intelligence
low interest rates
longevity
machine learning



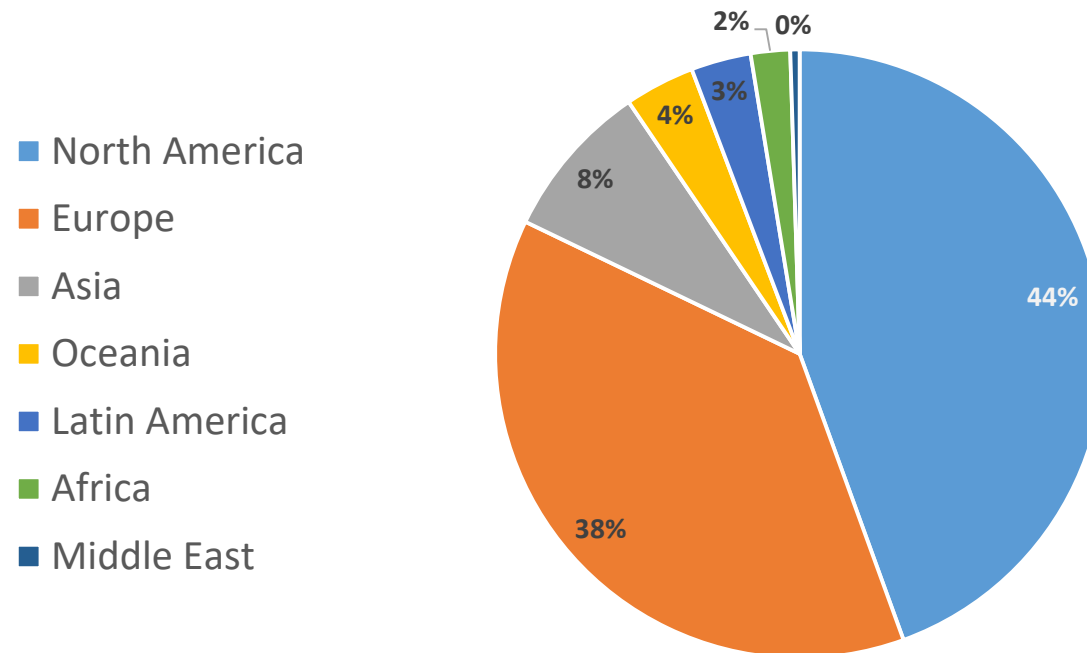
Overview

- Global context
- Global credentials
- Stages of market development
- SOA perspective on the evolving profession



Actuarial profession around the globe

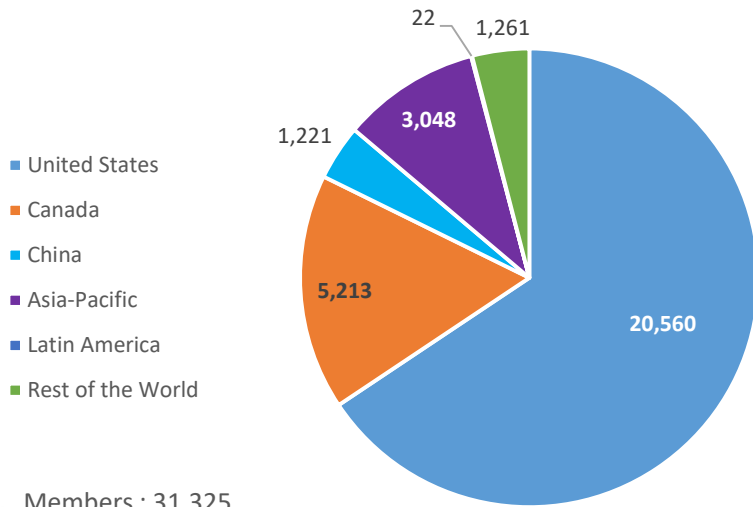
Global Actuarial Profession
(Total ~80,000)



Estimated results based on 2018 Intl. Actuarial Association (IAA) data; distributions are approximate due to potential overlap in membership in different regions.

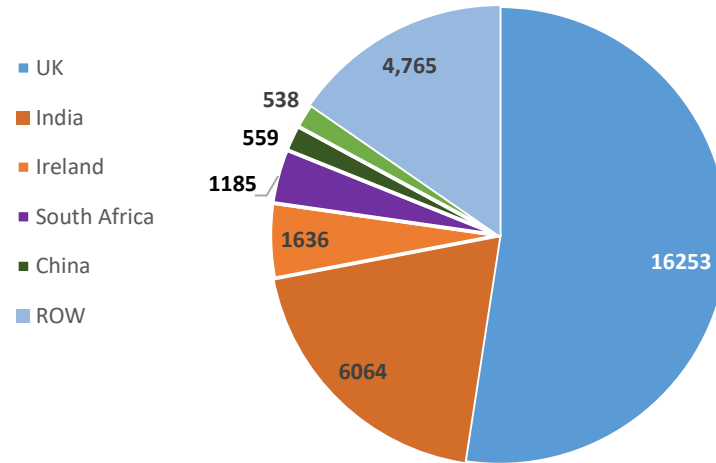
Actuarial profession around the globe

SOA Global Footprint (2018)



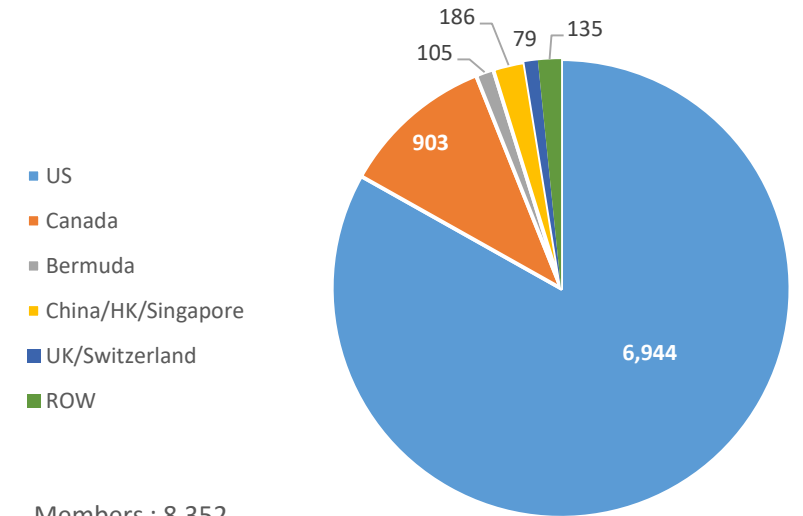
Members : 31,325

IFoA Global Footprint (2017/18)



Includes both Actuaries (~15,000) + Students (~16,000) = ~31,000

CAS Global Footprint (2018)



Members : 8,352

Comparing global credentials

	SOA	IFoA	CAS	AI (Aust)
Credentials Offered	ASA, FSA CAA	AIA, FIA CAA	ACAS, FCAS	AIAA, FIAA
Practice Areas Covered	All	All	P&C	ERM, GI, Life & Wealth Mgmt
Approach	Exam-based w/ online modules	Exam-based, some university exemptions	Exam-based, w/ online modules, some university exemptions	Exam-based, some university exemptions
Work-based requirement	N/A	Yes	N/A	Yes

Becoming an actuary in Asia

- Most markets recognize global credentials
 - Some markets require passing local actuarial exam(s)
 - Some differences, for illustration:
 - India requires local designation to practice domestically
 - South Korea & Indonesia—must belong to local association and pass local exam(s)
 - Malaysia requires work experience at a local company before becoming a Qualified Actuary
 - Hong Kong & Singapore fully derivative
- 
- 

Stages of market development

Developing

- Bangladesh, Chile, Saudi Arabia

Mature

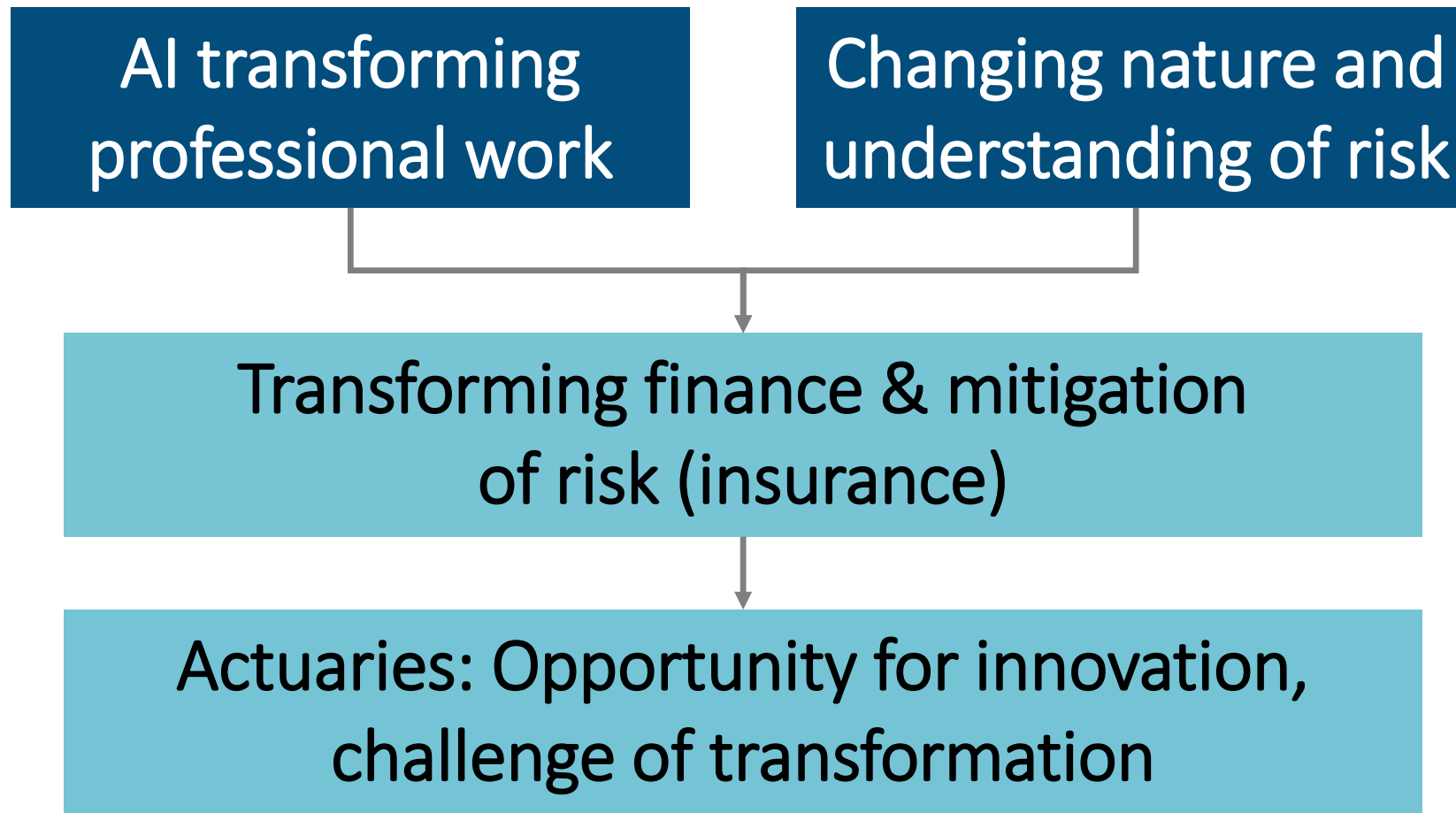
- US, Europe, Japan

Growing

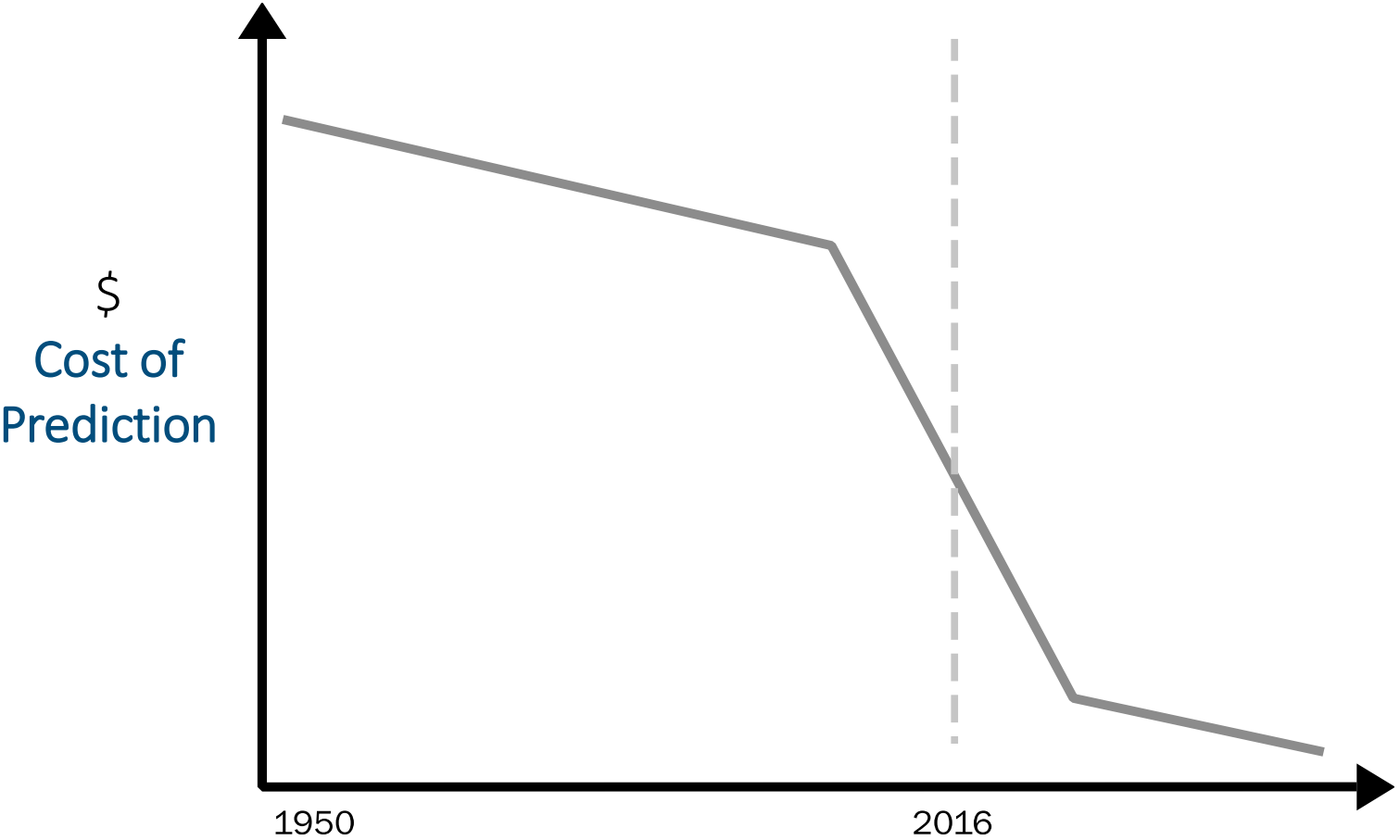
- India, China, Brazil

** Characterization of developing, growing and mature based on traditional actuarial services.*

SOA Perspective: AI, Analytics & Actuaries



Artificial Intelligence reduces the cost of prediction



SOURCE: Ajay Agrawal, Joshua Gans, Avi Goldfarb, *Prediction Machines: The Simple Economics of Artificial Intelligence*, 2018.

Global risk landscape is evolving quickly...
which may change how risks are
quantified. Some risks will be more
difficult to insure, while other new
insurable risks will emerge.

New Risk Skills Needed

High Frequency/ Low Severity Risks	Low Frequency/ High Severity Risks
<ul style="list-style-type: none">• Aggregating & synthesizing big data• Measure & manage the risk, instead of “predicting”• Incorporate insurance in other products	<ul style="list-style-type: none">• Models that consider changing conditions• Integrated solutions that go beyond risk transfer• Create better ecosystems

Actuaries must understand the risk ecosystem and create solutions beyond measurement to manage and mitigate that risk in the age of AI/big data

Opportunity for innovation

- AI/automation will transform how insurance is sold & administered
 - Underwriting/measuring risk
 - On-line sales environment
 - “Automated” claims processing
- AI (understanding of risk) and changing nature of risk will change what insurance needs to accomplish: understand, prevent & finance
- What will insurance look like 5, 10, 20 years from today?

Evolving for the Future - It's more about skill sets

- Education that **focuses** on the new skills employers want, e.g. data science, solving business problems, EQ/AQ
- Education delivery that focuses on new ways to **demonstrate skills**, e.g. certificates & micro-credentials
- Expanded **reach** internationally to focus on the fastest growing insurance markets around the world
- **Leverage** research to create new value for members and the profession
- **Broaden** the array of PD offerings to provide new skills in a form that fits with busy professional lives



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Thank You

A Good Actuary Has...

- Strong analytical problem solving skills
- Math & numeracy skills
- Advanced computer (beyond Excel & Access) such as SQL, Python, or R.
- Strong soft skills (in high demand)
- Ability to communicate complex concepts
- Good business acumen
- Project management skills
- Strong code of ethics