



Institute of Actuaries of India

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INDIAN ACTUARIAL PROFESSION
Serving the Cause of Public Interest





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The team's skill sets and competencies span multiple fields that demand an in-depth knowledge of quantitative methods across risk analytics, predictive and decision modelling, advanced analytics like ML/AI, actuary, capital estimations, pricing of financial instruments including derivatives and regulatory remediation

- D. Job Title: Consultant / Sr. Consultant - Risk & Regulatory Consulting**
- E. Function: Financial Risk & Regulations**
- F. Location: Mumbai**
- G. Requirements**

I. Qualifications & Experience

1. Student actuary professionals in Life/ Non-Life areas- with minimum two to five years of relevant experience with Insurance Companies, Consulting Firms, Analytical Firms
2. Modelling experience in "Prophet" or in similar tools

II. Expertise

1. New accounting/ regulatory norms like - IFRS 17 / Solvency II (RBC)
2. Economic capital modelling and provisioning requirements
3. Integrated approach to Enterprise Risk Management (ERM)

III. Individual Attributes

1. Strong communication skills
2. Ability to be part of a analytics driven, multi-cultural team
3. Strong ability to map client regulatory and actuary requirements and convert the same to a viable business proposition
4. Ability to interact and make presentations to internal and external parties

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"A noble man's thoughts will never go in vain. -Mahatma Gandhi."

"I hold every person a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavour themselves by way of amends to help and ornament thereunto - Francis Bacon"

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It's my pleasure to connect with you post 20th Global Conference of Actuaries. By the time you read this message all actuaries would have already completed the year end closing work for the respective Board meetings.

Well, 20th GCA event lived to its theme of **"Expanding the horizon, strengthening the core"**. There were many topics covered from

the world of wider areas where actuaries are adding value and serving the cause of public interest. We had delegates attending the conference from all across the world.

I must take this opportunity to thank **Dr. Khuntia**, Chairman IRDAI who inaugurated the conference and gave his key note address. Further, I would like to convey my sincere thanks to **Mr. R K Sood**, Executive Director, LIC of India, **Mr. Masaaki Yoshiruma**, Immediate Past President, IAA, **Ms. Marjorie Ngwenya**, Immediate Past President, IFoA, UK, and **Mr. Dave Sandberg**, Member, Board of Directors, SOA.

I would like to formally thank **Mr. Sanjeev Pujari**, Chairman GCAOG and entire GCAOG team members for meticulous planning and execution of the event. Further, I would like to thank **Mr. Liyaquat Khan**, Chairman PSG and other team members of PSG for all their hard work that they put in selection of the papers and speakers and truly making the event live to its theme. IAI staff has been top of all aspects of event management and have left no flaws in executing the decisions and ensured a successful 20th GCA event.

The event would not have been successful without the support of 34 partners this year from different industries like insurers, reinsurers, KPOs, consultants, brokers and Fintech cos. I would like to sincerely convey my thanks to all of them and look forward to their continued support for this mega event of IAI.

The AGFA, for the first time has been enjoyed with different energy levels and enthusiasm, thanks for the decision taken by GCAOG to separate the event from days of serious discussions. The idea of awarding the volunteers was greatly appreciated by all members of the profession.

Out of 12 plenary sessions, emerging topics like Actuaries in Banking, Actuarial Science in Banking, Data Science & Analytics and IFRS 17 were prominently placed and widely accepted by the audience. Other topics in plenary sessions have shown diversity and renewed roles of an actuary in serving the public interest which include health, climate and

old age. The AGFA conducted in the evening of 4th March have turned as an event of pre-GCA cheers and celebration. This change of model of conducting AGFA on the previous day have proved to be very useful and effective.

One of the biggest turning point on the occasion of GCA is the participation of senior members from Actuarial Society of South Africa (ASSA) and also from International Actuarial Association (IAA) which has brought in many opportunities to the Indian Actuarial profession in terms of Banking as a practice area for members. A letter of intent from ASSA broadly covering syllabus, strategic alliance and timelines have been considered by IAI by letter and spirit and have taken immediate steps to take it forward. The President and the Executive Director of IAI have travelled to Cape Town for further discussions with Authorities of ASSA and have signed the letter of intent. Formal agreements for implementation of the program to be signed in next couple of months.

The visit to South Africa extended opportunity to meet President, IAA and President, ASSA and discussions on working in collaboration with SOA and ASSA in the area of Banking, Data Science and Analytics were also explored. The strategic movement in the direction of non-traditional areas will lead actuarial professionals penetrating into new and emerging areas of the job market in the days to come.

Different from the past, the 6th Capacity building on Retirement Benefits successfully held on 14th March at Gurugram within few days of the 20th GCA. Seminars for the year 2019-20 have already been finalised for all Advisory Groups and lined up, starting from the month of May, few of which are published under the "Upcoming Seminars within India" menu of IAI website. Registrations open for 3rd Capacity Building seminar on IFRS 17, 8th Young Actuaries Connect, 2nd Seminar on Banking, Finance and Investment and 31st India Fellowship seminar which are scheduled on 10th May, 17th May, 22nd May and 4th - 5th July respectively. Please hurry up for your seats.

The online registration for June 2019 examination already open on 3rd April, 2019 and last date of application is 9th May. The Institute is doing everything possible in order to guide and support their students at a time of transition of examination curriculum. The online coaching program for new subjects have been announced in the month of March itself, which always been widely appreciated and found to be very useful. The R-training, which is critical for many students appearing for CS1 and CS2 is conducted during 23rd - 27th April. A 3 day excel training for CM1 and CM2 has also been scheduled on 23rd - 25th May 2019. Students may make use of these training programs to ensure success in the coming examination. Any transition is easier if you believe in yourself and your talent. This is the need of the hour and let's all do that. With this I would like to sign off for now and will connect with you again next month.

Welcome to the post GCA issue of the Actuary India magazine!

For actuaries and students working on the valuation side, year-end closure is the busiest and most interesting time of the year. For everyone, this is also the perfect time to plan for activities around new implementations, product developments, process improvements and innovations and examinations. The Institute has been announcing additional guidance and relevant trainings for examinations under the new curriculum which should be made good use of by actuarial students in the run up to the 2019 examination diets.

For those of you who missed attending the **20th Global Conference of Actuaries** or certain sessions, this issue includes comprehensive reportage of the various sessions and events. The event also received extensive media coverage some of which is included in the magazine.

Even though the insurance industry in India is now entering the 20s, some of the fundamental concerns such as low insurance penetration in the economy, cost management and distributor efficiency remain to be fully addressed. Alongside, customer needs and preferences are steadily evolving towards the digital medium and expectations of the highest quality service standards. This possibly brings about a need for actuaries to play a larger role in product innovation and the entire product cycle to provide optimal 'solutions' with minimal risk. Another big area of opportunity is the retirement segment; pension penetration in India is estimated to be very low at under 30% of the population above retirement age, compared to over 70% for other Asian peers like Japan, China and Republic of Korea. Designing



appropriate products and encouraging early adoption of pension products has gained urgency in view of the rising proportion of the elderly in India's population.

The ongoing events in the economy such as the IL&FS default pose some critical questions to actuaries to relook at the adequacy of risk allowances and provisioning. A key question to address then is whether actuaries have a larger role to play in all financial institutions to ensure sound formulation as well as implementation of Enterprise Risk Management?

As I write this on the day of General Elections in Mumbai, I look forward to a time when actuaries play an active role in public policy and governance, in addition to casting our votes of course like all good citizens!

With this message, I'd like to sign off.

Letter to the Editor

We invite readers to respond briefly to our articles and to suggest new features with letters to the editor. Kindly mail your responses on library@actuariesindia.org with your name & contact details. Appropriate responses will be published in Actuary India magazine with the approval of competent authority.

20th GCA Actuarial Gala Function and Awards

Organised by: 20th GCA Organizing Committee, IAI

Venue: Renaissance Mumbai Convention Centre Hotel, Powai, Mumbai Date: 4th March, 2019

This year's GCA is was quite different from earlier GCAs, as this time GCA was organised for two half day, where Actuarial Gala Function and Awards night was enjoyed on opening day on 4th March, 2019. Event was organized successfully by IAI in sponsorship of M/s K. A. Pandit and ICICI Lombard General Insurance Company Limited. This night was special as compare to earlier years as this year GCA organisation committee have tried to taste earlier tradition to have our own Dance groups of Actuarial Students and IAI staff rather than professional dance teams to give them chance to show case their talent and enjoy their passion.

Emcee for the evening Was **RJ Rani** and the program started with lightening of lamp by IAI President **Mr. Sunil Sharma**, **Mr. Hemant Bhargava**, Chairmen LIC of India and other dignitaries.

Mr. Liyaquat Khan, Chairperson, Paper Selection Group & Program Advisory Group addressed the gathering and refreshed memories of his early years, when how IAI use to make videos of family and friends of immediate passing fellow members. Now we are happy to have more members qualifying every year so it may not be practically possible to create those videos.

This was followed by welcoming address from **Mr. Sunil Sharma**, who spoke about increasing number of Fellow members, various opportunities for actuaries in wider areas and how India will become global hub for IFRS 17 consultancy. He also announced that, this year there is a special category of awards to recognise contribution of volunteers for their immense service to profession.

Post the welcome address **Mr. D. K. Pandit**, Partner M/s K. A. Pandit, AGFA 2019 Partner Thanked the responsible President & Team for remarkable work for institute. He also remembered that last year we all celebrated our 1st Actuaries day (on 21st August) & 75th Annual day of M/s. K. A. Pandit (on 1st February). He introduced his granddaughter in law Ms. Jinal Pandit who is a fellow member of IAI and IFOA and represents 4th generation of K A Pandit. **Ms. Jinal Pandit** than explained How this theme transform journey of KAP & integrity is important for sustainable growth. Mr. Pandit ended the note with Sanskrit Shloka of Mahamrityunjay.

Mr. Sanjay Datta, Chief (Underwriting, Reinsurance & Claims), ICICI Lombard General Insurance Company Limited, AGFA 2019 Partner Explained nil deep concept of motor insurance and recalled instrumental role played at that time by Mr. Liyaquat

Khan. He also spoke on war risk, cyber risk & data risk and how important these are in today's world of insurance.

Now the time came for 1st grand **dance performance** and this was performed by none other than our dear '**IAI staff group**', who continuously engaged in all activities of IAI. Team Lead Mr. Dinesh Khansili introduced there Bollywood Tadka group '**Dancing Divas**' which includes various songs and journey of super star Deepika Padukone. Dance was performed by **Gauri Kothari, Reena Bhalerao, Milan Ghosalkar, Balaswathi Chaganti, Jyoti Dubey** from IAI team.

It was time to announce award for 20th GCA Theme Contest, and award goes to

- **Mr. Nikhil Kamdar** entry titled "Strengthen the Core....Look Beyond"
- **Mr. Prasham Rambhia** entry titled "Broadening Horizons, Deepening Expertise"

Mr. Sanjeev Pujari, Chairperson GCA Organising Group presented the award to both awardees.

This was followed by Best Article award which was presented by **Mr. K Subrahmanyam**, Council Member

- **1st Prize** goes to **Ms. Joanne Buckle** and **Ms. Neha Taneja** for article titled "Genetic disorders can no longer be excluded. What does that mean for insurers?"
- **2nd Prize** goes to **Mr. Ajay Gupta**, **Mr. Nirav Mehta** & **Ms. Vinayeta Gaba** for his article titled "Living Better (↓qx), Living Longer (↑ex)"

In Best reportage category,

- **1st Prize** goes to **Mr. Abhishek Chadha** & **Mr. Ashik Salecha** for reportage on "**1st Capacity building seminar on IFRS17**"
- **2nd Prize** goes to **Ms. Jasika Singh** for reportage titled "**19th GCA Concurrent Sessions on Data-driven decision frontiers**"

During the year, IAI had come up with Essay competition on the occasion of 1st Actuaries day to commemorate birth anniversary of **Late Shri L S Vaidyanathan**, the first Actuary of India. In this completion out of 31 entries following members won the prizes:

- **1st Prize** - **Mr. Pawan Kumar**
- **2nd Prize** - **Mr. Ritesh Jain**
- **3rd Prize** - **Mr. Somroop Mukherjee**

This was followed by **Awards for GCA theme contest, Best article and best reportage awards, Essay competition award for Actuaries day, ACET exam best performance** by scoring highest marks.

20th GEA Awards Ceremony



Best Article and Best Reportage awards is being awarded during 20th GCA at the hands of Mr. K. Subrahmanyam, Ex editor of the Actuary India



Abhishek Chadha



Ajay Gupta



Jasika Singh



Joanne Buckle



Neha Taneja



Nirav Mehta



Vinayeta Gaba

Associateship is being awarded during 20th GCA at the hands of Mr. Subhendu Bal, Honorary Secretary of IAI



Akshada Madhav Joshi



Amit Khurana



Anshul Mittal



Arpita Jetha



Mayank Saurabh



Nidhi Pandey



Niraj Kumar Atreya



Pavan Kumar Venkata Devarakonda



Prathamesh Mahesh Ghanekar



Sandip Bhowmick



Sanjay Kumar Arora



Seema Prashant Mali



Shilpan Ashish Shah



Sujeet Sanjeev Shetty



Surinder Singh Saluja



Tanay Chandra



Yash Gopal Ratanpal



Yukti Belani

Fellowship is being awarded during 20th GCA at the hands of Mr. Sunil Sharma, President of IAI



Aditya Mall



Anand Prakash



Ankit Arora



Ashik Salecha



Ashish Hasija



Charul Kumar



Chetan Goswami



Gopalen Varadarajan Subhasree Nigenna



Heena Bhatt



Hemant Mundhra



Joanne Louise Buckle



Johannes Gilliam Van Helsdingen



Lakshmi Ramaswamy



Mansi Kukreja



Nandan Suresh Nadkarni



Neelasree Deb



Neha Taneja



Nikhil Kamdar



Piyush Jain



Prasham Mahendra Rambhia



Prateek Kathuria



Pratik Agarwal



Radhika Bijlani



Rajeshwarie V S



Ramnath Radhakrishna Alewoor Sheroy



Ritu Kotnala



Rushabh Abhinav Shah



S Sabareesh



Safder Ahmed Ali Jaffer



Sandhya Kudumulukunta



Sanya Gupta



Sateesh Narasimha Bhat



Shivanjali Mittal



Shreya Rakesh Bagrodia



Shristy Agarwal



Shubhanjali Gupta



Siddesh Ramasubramanian



Suruchi Bhargava



Swati Anil Umre



Tanmeet Kaur

Math Star Awards



Academic Excellence Awards



Academic Excellence Awards

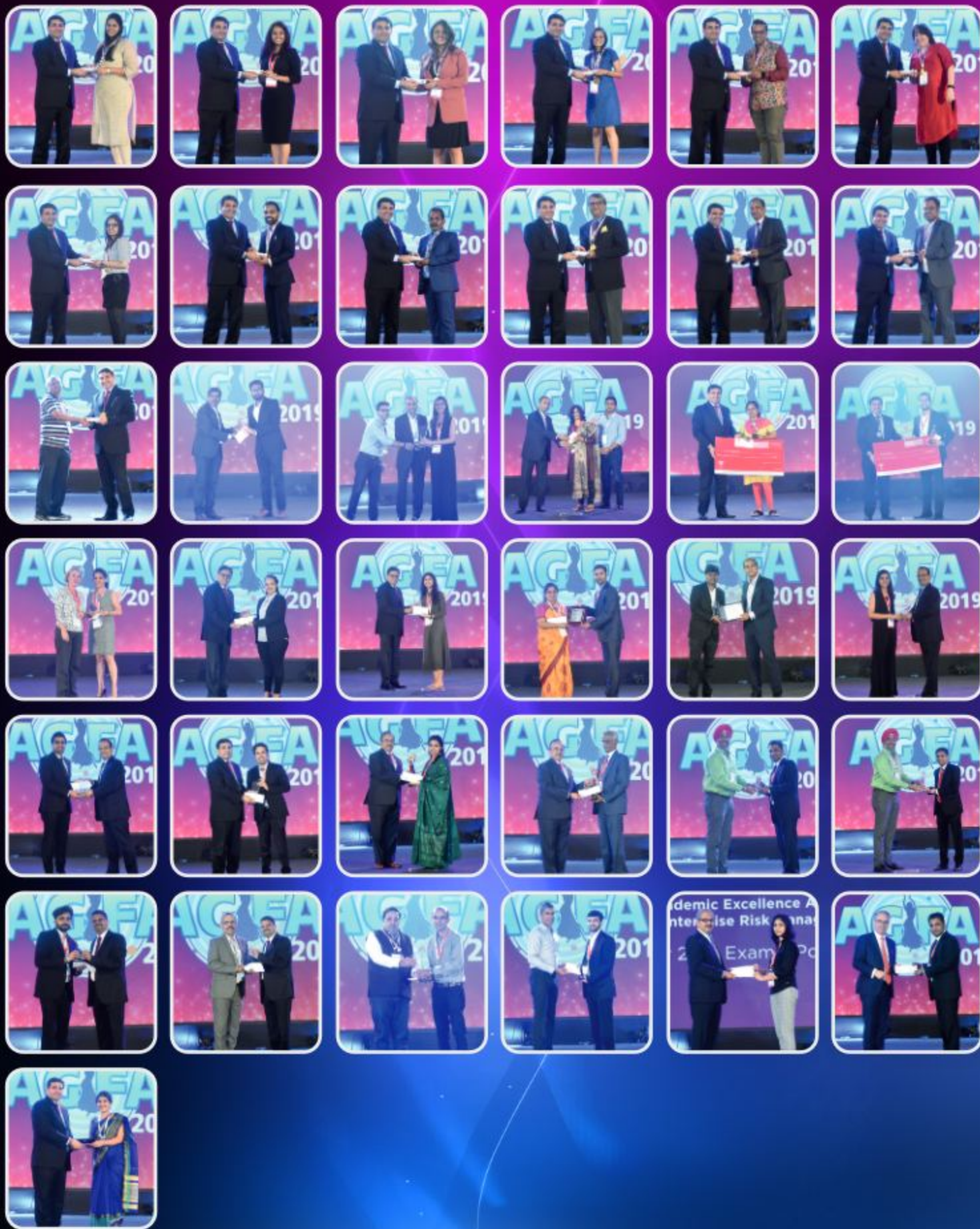


Photo Features of 20th GCA Performances



Photo Features of 20th GCA Performances



Photo Features of 20th GCA Math Star Performances

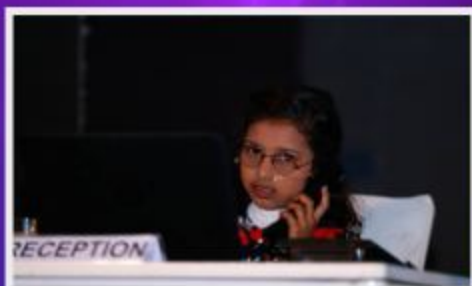


Photo Features of 20th GCA Singing Performances



Photo Features of 20th GCA Singing Performances



From Math Star group **Ms. Ruchira Pingulkar** spoke about her journey of school, college and how Salam Balak trust had helped her to throughout her journey. Math star group played a stage drama to Display insurance office working and claim settlement process. They displayed there Fraud prevention measure system with live example, how technology and fitness/ smart bands can be used to detect fraud claim, this was well appreciated by all Actuaries as this one latest technology which can be helpful in pricing as well as fraud detection.

Mr. Sunil Sharma presented awards to **70 plus Volunteers** of IAI who are representing IAI by various committees, council members and advisory groups. **Mr. K Subrahmanyam** also presented volunteer award to **Mr. Sunil Sharma**.

Now time come for one more energetic Dance performance from 'Actuaries Bangalore group' named 'Actuary Being Can Dance (ABCD)' group leader **Dr. K Sriram** introduced team members Mahidhara Davangere V, Naina Gupta, Aarushi Chandna, Anuja Agarwal, Chintan Deokule. He explained how well their team have prepared for this performance of Bollywood & hip hop fusion dance. Their lead dancer **Mr. Mahidhara Davangere** also played Signature Step of **Michael Jackson**.

Dance performance was followed by **Academic Excellence Award** to **30 plus Actuarial star performers** for their outstanding performance during the year in respective subjects by scoring highest marks.

Here come one more dance performance from 'Actuaries Delhi NCR group' on Bollywood music. Their team leader **Mr. Asif Khan** introduced their team members **Trishala Malik, Devika Sharma, Chhavi Kumar, Rajat, Kriti Gupta, Ankur Jain**. This was a group of independent and identical random variables, distributed abnormally throughout Delhi NCR who have integrated to give you a glimpse of the life of aspiring Actuaries. At the end concluded their dance by showing 'To be F IAI'.

Mr. Subhendu Bal, Honorary Secretary of IAI represented Certificates to **20 plus Associates** who were admitted during the year.

If we are having a program in Mumbai and till the time Mumbai team doesn't come for dance, program is incomplete, with this here we go. 'Mumbai Actuaries Group' named 'Mumbai Avenger' had a grand entry at stage. Their team leader **Ms. Peuli Das** introduced their team members **Kartikey Kandoi, Tanvi Kini, Mittal Modi, Nupur Rathi, Veeru Agrawal, Chintan Shah, Anmol Singh, Pashmina, Manali**. She explained about the Theme of group which is 'Save the Girl Child'. It was concluded with the message that power of Goddess Durga lies in every woman and she deserves the utmost respect.

Math stars were felicitated by **Ms. Marjorie Ngwenya**, immediate Past President of IFOA.

After a long wait results of dance performances were out and here we go, though all performances were great but award goes as follows:

- ✶ **Consolation Prize** - IAI staff group, awarded by **Ms. Sriram**
- ✶ **3rd Prize** - Delhi Actuaries group, awarded by **Ms. Sangita Bal**

- ✶ **2nd Prize** - Bangalore Actuaries group, awarded by **Ms. Poonam Sharma**
- ✶ **1st Prize** - Mumbai Actuaries group, awarded by **Mr. Dave Sandberg**

Here we come to the most awaited stage of the event for felicitation of Fellow Actuaries who were admitted during 28th February 2018 to 1st March 2019, by **Mr. Sunil Sharma**, President IAI. This year was more special as IAI introduced concept of using Academic Regalia while getting fellowship degree. During the said period **65 members qualified as fellow** which is a remarkable number in the history of Institute of Actuaries of India.

Meena Sidhwani Award was presented by **Mr. Sunil Sharma**, President IAI to **Ms. G V S Nigamma**, reportedly she was the first one to receive such award from IAI in last more than 5-6 years history.

R J Rani thanked all participants and floor is open for Beverages & Dinner.

Welcome Reception, 5th March 2019

This year GCA is conducted in new style where we celebrated AGFA as pre GCA day on 4th March. On 1st Day of GCA, 5th March 2019 we held welcome reception where group of sound studio were called for giving track and DJ to live music by our members. Music performance of IAI is incomplete if we don't have **Ms. Peuli Das**, so anchor **Ms. Bhavna Verma** called upon **Ms. Peuli Das** for opening up night with her melodic voice. This was followed by Music performance by our loved president, **Mr. Sunil Sharma** who have a passion of singing.

During the reception night we had so many solo and duet songs from our star members **Ms. Peuli Das, Mr. Balakrishna Iyer, Mr. Sunil Sharma, Ms. Jinsha Nanu, Mr. Dinesh Pant, Mr. Sanket Kawatkar**.

We can say this was a hidden treasure of our institute and this was the place where they got chance to show case there talent by way of dancing in AGFA night and by way of lovely singing in Welcome reception dinner.

Singing is incomplete with dancing when we have so nice DJ sound, so all actuaries gathered for group dance, it all started with **Mr. Mayur Ankolekar** and **Mr. Kartikey Kandoi** calling all for dance and soon many of our members joined the dance floor with no age bar as we can see our senior veteran actuaries to also enjoy the night.

Ms. Bhavna Verma thanked all rock stars and floor is open for Beverages & Dinner.

Written by



Mr. Kartikey Kandoi

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“Mr. Kartikey Kandoi is fellow member of IAI.”

20th GCA Inaugural and Opening Ceremony

Organised by: 20th GCA Organizing Committee, IAI

Venue: Renaissance Mumbai Convention Centre Hotel, Powai, Mumbai Date: 5th March, 2019

Chairperson : Dr. Subhash Chandra Khuntia

Speakers : Mr. Sunil Sharma, Mr. R.K. Sood, Mr. Masaaki Yoshimura, Ms. Marjorie Ngwenya, Mr. Dave Sandberg, Mr. Sanjeev Pujari



Mr. Sunil Sharma, after the warm welcome, launched the short movie that showcased the growth story of the Indian economy, emphasized on the roles of actuaries and took the audience down the memory lane giving them a glimpse of the history of GCA. In his opening address, Sunil established how well-placed India is to be a Centre of Excellence (CoE) for actuarial services across the globe. At the same time, he encouraged the members of the profession to foray in wider areas. The President then invited the esteemed speakers to light the lamp and formally open the 20th GCA.

Session Highlights

The inaugural session of the 20th Global Conference of Actuaries (GCA) was hosted by Ms. Shobhna Sharma.



The President welcomed the delegates from the profession and highlighted that the flagship event of IAI is being attended by 750 delegates spanning across 15 countries.



Mr. R. K. Sood, acknowledged the role of actuaries in shaping up the largest life insurance company of the country. He also added that in past actuaries have also donned the role of Chairman at LIC and thanked the members of the profession for the immense contribution in building the organization.



Mr. Masaaki Yoshimura, congratulated the organizing committee of GCA. He talked about the theme of the conference, **"Expanding the horizon, strengthening the core"** and related it to Enterprise Risk Management. In an interesting revelation he mentioned that while this is his first experience of GCA, he has been following the progress of the conference since 2004 when 6th GCA was conducted. He also appreciated the foresight of the Indian actuarial profession to aim for global presence since the very early days.

Ms. Marjorie Ngwenya and Mr. Dave Sandberg congratulated the Institute of Actuaries (IAI) for the event and expressed their willingness to further increase

the engagement with their Indian counterpart. The latter beautifully summarized the role of actuaries and opined that actuaries are paid for providing answers but they add value by asking the right set of questions!



The audience welcomed the Chief Guest of the session Dr. Shbhash Chandra Khuntia, for his keynote address. Dr. Khuntia emphasized that the role of Appointed Actuaries is crucial and acknowledged the key roles actuaries are playing in the insurance industry and other financial sectors.



The IRDAI Chairman propounded that the industry needs more qualified actuaries especially in a country as big as ours and in an industry, which has seen double-digit growth in insurance premiums for several years. He also emphasized that the role of actuaries would evolve and increase with the technology revolution and regulatory changes like Risk-Based Capital and Risk-Based Supervision Framework. He also highlighted the role of actuaries for implementation of IFRS17. Dr. Khuntia concluded his address by expressing his intent to work along with IAI to develop CoEs offering courses on actuarial science and data analytics.

The session was culminated by a vote of thanks by Mr. Sanjeev Pujari. He thanked the eminent speakers for support and best wishes. He also expressed his gratitude towards the sponsors, the IAI staff for their planning and hard work and the delegates for turning up in large numbers.

Summary of Session

The speakers together emphasized the importance of the actuarial profession and shared their vision on the evolution of roles of actuaries in the current environment of technology revolution, innovations and regulatory changes. The inaugural session set the tone for 20th GCA and motivated delegates to learn most from the collective knowledge of speakers.

Written by



Mr. Sumit Ramani

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“Mr. Sumit Ramani is fellow member of IAI.”

Photo Features of 20th GCA Inauguration and Opening Ceremony



Organised by: 20th GCA Organizing Committee, IAI

Venue: Renaissance Mumbai Convention Centre Hotel, Powai, Mumbai

Date: 5th March, 2019**Session 1 : Unlocking Asia's Insurance Potential for Financing a Sustainable Future****Chairperson : Mr. Masaki Yoshimura****Speaker : Mr. Arup Chatterjee**

The Chairperson **Mr. Masaki Yoshimura** introduced the topic and the speaker.

Session Highlights

Mr. Chatterjee highlighted the reason for choosing this topic and using 'Financing' instead of 'protection' was mainly due to his view that insurance is not 'the solution' but only a part of the solution for risk management. The key messages of this session were

- Roles of insurance
 - Protection - which is the traditional role
 - Accessing finance - as a mechanism of sovereign risk transfer to create fiscal space
 - Long term investment to develop infrastructure being used as a de-risking instrument
- Economists looking for alternative sources of capital are now looking to insurance as infrastructure investment, especially at how
 - wages are expected to increase and consequently wage gaps decrease
 - investment opportunities increase
 - protection gap could be closed
 - Insurance could become more relevant to the 'real' sector

- Actuaries are well placed to develop sustainable financial solutions.

Change Unknowns to Knowns for better Risk management

Mr. Chatterjee stressed the importance of stable relationships between human activity and the natural world and in this context quoted American environmentalist Lester Brown who said "We do not inherit the earth from our ancestors, we borrow it from our children". We need to achieve a Pareto optimal solution to ensure that we let the future generation enjoy a similar lifestyle as us. Quoting the former US Secretary of State Donald Rumsfeld from his famous 2002 statement 'There are known knowns. There are things we know that we know. There are known unknowns. That is to say, there are things that we now know we don't know. But there are also unknown unknowns. There are things we do not know we don't know.' In the risk management framework he gave an example of bad data being an unknown unknown. Since the absence of evidence is not the evidence of absence, he highlighted the general tendency of people not buying insurance because nothing 'terrible' has happened yet and hence their confidence that nothing will happen.

As insurance professionals we should aim to convert unknown unknowns to known unknowns or known knowns for better understanding of risks.

Data from an ADB study

The speaker highlighted statistics from various published reports. According to a United Nations report, the economic cost of disasters would be \$160 billion by 2030 and out of this only 8% would be covered by insurance. The protection gap for health sector would be \$1.8 trillion as estimated by Swiss Re in October 2018. An Asian Development Bank study found that social security expenses should be doubled in the next ten years to bridge the gap which is about 4.4% in Asia (that is half the global average!). This translates to an investment requirement of \$1.7 trillion in a year including cost of climate change in Asia. Mobility and interconnectivity of international labour results in

ripple effects across geographies. Therefore governments are encouraging insurers to bridge the protection gap.

Actuaries and sustainable finance

Mr. Chatterjee ended his talk with the role actuaries could play in risk management by being involved with insurers, mutuals and policy making bodies to encourage sustainable development. This also provides actuaries the opportunity to branch out into risk management

from traditional areas such as pensions and insurance. In response to one of questions posed at the end of the session on how to encourage private insurers to invest in sustainable development, Mr. Chatterjee further suggested that actuaries don't support investments that don't count for solvency and that this mind-set should change.

The session concluded with Mr. Yoshimura felicitating the speaker and Mr. K. Subhramanyam felicitating Mr. Yoshimura.



Session 2 : Unlocking Asia's Insurance Potential for Financing a Sustainable Future

Chairperson : Ms. Pournima Gupte

Speaker : Mr. John Ferguson



Session Highlights

In the early 1990s in South Africa the need for developing a sound pricing basis for reinsurance for critical illness products prompted an extensive survey of critical illnesses. The latest survey by Gen Re was conducted in four large markets - China, Singapore, Hong Kong and Malaysia, including only the bigger companies that had good quality and quantity of data. The speaker presented the results of the survey conducted between years 2012-2015.

Key results of the Survey:

Mr. Ferguson began with a comparison of the various types of policies that dominated the markets in each of the four countries and proceeded to discuss declinature rates by duration and benefit type and the most common diseases in each market by gender.

- Traditional acceleration products were the most significant proportion - between 73% in Singapore to 85% in Malaysia.
- The average sum insured per year was higher in Hong Kong and Singapore which are more developed countries. The growth in sum insured per year in China has seen an almost 6-fold increase in this period.
- Claims declinature data from Malaysia was not found to be reliable. Claims declinature rates were found to be highest in the first year due to investigation on early claims. This was a trend to be found in all three other countries.
- Death claims had lowest declinature rates while minor disease claims had the highest. The possible reasons for this being a lack of awareness or misselling and late reporting.
- Most Common diseases in the four countries were
 - Cancer (higher for females than among males)
 - Heart attack - rates lower than males, the likely reason being entry age is between 33-35 years and heart attack risk increases post menopause
 - Strokes- higher for females than males
 - Angioplasty and related procedures (highest in

Hong Kong where it has been covered for many years)

- Accidental death
- Incidence rates for Alzheimer's and dementia are likely to increase because of the current low exposure at higher ages
- Among the cancers
 - Lung cancer was the most common among males and breast cancer among females
 - China had the highest incidence of liver cancer probably because of high prevalence of Hepatitis B
 - Thyroid cancer rates in China were also found to be very high

Actual vs Expected Ratios:

Mr. Ferguson explained the methodology adopted in the survey and went on to discuss the actual vs expected rates. Clear increasing trends were observed in China for males and females. Increased incidence of breast and thyroid cancer maybe attributed to increased awareness and widespread screening. A positive selection effect was observed - lower claims in the first few years, in all countries except China. Anti-selection in China could be due to small sum insured policies and difficulty to prove non-disclosure. Higher BMI was found to lead to increased risk of heart disease, stroke and cancer. The best and

worst companies were compared and rates were 60% higher for worst companies for males and 30% higher for females as compared to the best companies.

He dealt in detail on thyroid cancer and attributed increased rates to more screening and over diagnosis. Regional analysis results for China were also presented.

Conclusion

He summarised the findings as follows

- Critical illness rates are affected by behaviour and improving technology - increased awareness and screening.
- Rates are not guaranteed to remain the same in the next 20 or so years.
- Different companies have different experience
- Risk of anti-selection is high especially for small claims
- Even in homogeneous populations regional differences cause differences in rates

After one question from the audience on over diagnosis and anti-selection, the chairperson thanked and felicitated the speaker and Mr. Subhendu Kumar Bal felicitated the chairperson Ms. Gupte.



Session 3 : Actuaries in Banking

Topic : Volatility modelling to identify & forewarn an asset bubble (Vijay Gautam)

Application of Econometric Models in Banking (Yash Ratanpal)

Setting the context : Mr. Kailash Mittal

Lead speaker & Moderator : Mr. Michael Tichareva

Panel : Mr. Yash Gopal Ratanpal, Mr. Vijay Gautam

Mr. Kailash Mittal set the context for the session. He spoke how actuaries are venturing into Banking sector, (expanding the horizon) and at the same time strengthening the core (advanced skillsets). He later explained the various banking fields where actuaries

have been contributing from the last few years. Few of which are, Credit risk, Market risk, Operational risk, Asset-Liability management, Stress testing & Scenario analysis and Liquidity risk. The session was then handed over to other speakers.



Mr. Michael Tichareva welcomed everyone present for the session. Michael highlighted that actuaries in South Africa have been working in the banking industry from the last 10 years. Currently there are over 350 actuarial professionals in South Africa, with more than 60 working in banking profession. He explained how this trend would see an uptick. He explained that the purpose of this session is to encourage individual actuaries into banking profession.

Michael spoke about the skillsets an actuary would require in banking industry; quantitative skills, understanding of business in financial sector, communication, are few amongst the lot. Michael presented the different areas where actuaries can contribute to in the banking industry. He explained how Credit risk is the biggest aspect of banking world and actuaries from general insurance are already a part of this domain. Actuaries build innovative models for monitoring and providing customer analytics and value management using the data available in retail banking. Application of big data analytics, to understand customer behaviour, how/what/when they buy banking products, allows understanding of a client. This can help the banks serve their customers efficiently. IFRS 9 introduced on 1st Jan'2018 is also adding value to the banking industry. He also explained the similarity between insurance and banking with the help of few examples.

IAA had carried out a survey for 810 respondents from 37 actuarial associations to understand how actuaries think about working in banking sector, results of which are quite interesting. 56% of the respondents would consider qualifying as a banking fellow, 75% respondents asked to include them in future correspondence on actuaries in banking. Among the 810 respondents, 54% are currently working in the banking sector. Among the other 46% who are working in non-banking areas, 76% of them would like to consider a move into the banking industry because of self-interest.

Michael highlighted that in South Africa banking is no more considered a wider field, it is a practice area, with a dedicated committee to overlook its progress. A banking subject has been introduced to assist actuaries in qualifying as fellows in banking. The subjects covered under the curriculum are: market understanding, regulations framed, risk mitigation, balance sheet & asset-liability management, etc.

He later handed over the session to Vijay Gautam.

Topic: Volatility modelling to identify & forewarn an asset bubble

Mr. Vijay Gautam presented a methodology to identify and forewarn an asset bubble which is a part of his PhD.

Thesis at Oklahoma State University. The methodology has derived insights from all the three facets of quant finance - financial engineering, investments and risk management. Vijay explained what an asset/financial bubble means- "Quick rise in asset price due to sustained mispricing and abnormally high investors' expectations". He later explained how a financial bubble is built up, the reasons contributing to it. Vijay has developed a statistical model using stochastic calculus to understand and analyse financial bubbles. He later explained various applications of the developed statistical test which could be used to identify financial bubbles in other asset classes.

Vijay presented an example of back testing the developed model on Bitcoin price behaviour in 2017. His results proved that for certain period in 2017 financial bubble was observed for the bitcoin price. This was validated with the trends available for Bitcoin behaviour from reliable sources.

The session was later handed over to Yash Ratanpal.

Topic: Application of Econometric Models in Banking

Mr. Yash Ratanpal presented application of econometric models in Banking. Yash explained that econometrics is a blend of economic theory, mathematics and statistics. A combination of the three elements- business judgement, macro-economic intuition using macro-economic variables & robust statistical frameworks, would give us an intuitive model while retaining its accuracy and predictive power. This model can be defined as an econometric model. He spoke about the four key drivers that have increased the usage of econometric models:

New regulatory frameworks, the need for an intuitive model output, data availability and access to compute power & desire for efficient capital planning.

Yash later presented a walkthrough of his case-study. An overview of the case-study: to forecast the losses from an equity portfolio of a US based investment bank using econometric model. His goal is to forecast losses over the next 13 quarters under various macro-economic scenarios. The regulation adopted in the case-study is called CCAR: Comprehensive Capital Analysis and Review. It is a regulation in US by Federal Reserve which states there should be enough capital in reserves in case of any adverse scenarios. The model development lifecycle was explained in brief, it involves 1) data collection, cleansing & transformation, 2) defining the dependent variable, 3) variable selection, 4) model calibration, 5) statistical testing, 6) forecasting and stress testing. Key takeaways from this session were: intuitive risk analysis to ease communication to senior management, regulatory compliance to meet new-

forward looking frameworks, actuarial skillset in econometric model building and lastly efficient budgeting, stress testing and capital planning.

Session 4 : Climate Change, Sustainable development & Actuaries

Topic : Risks from Climate Change and their impact on work of Insurance Practitioners

Lead speaker & Moderator : Dr. Frank Ashe

Panel speakers : Ms. Marjan Qazvini, Mr. Alasdair Smith, Ms. Shradha Shroff, Mr. Ravi Shankar Lal



The session was led by **Dr. Frank Ashe**, he set the theme for the day. Dr. Frank Ashe explained the immense importance of 'Climate Change and Sustainability' and how actuaries can contribute to it. Dr. Ashe had first read an article in the 1970's TIME magazine about 'Global cooling' which inspired his interest in 'Climate Change'. He spoke how 'Climate Change' is yet to get its due importance in all the nations.

He described how the actuaries from Society of Actuaries (SOA), Casualty Actuarial Society (CAS), American Academy of Actuaries, Canadian Society of Actuaries and Institute of Actuaries of Australia (IAA) have developed an 'actuarial climate index', which is useful for insurers to plan risks. Also, few regulators are taking these indices into account in insurance and banking industry. He later handed over the session to the other speakers.

Ms. Shradha Shroff highlighted the current scenario in India- India is the second largest consumer of coal after China, India's 'agrarian economy' supports 17% of the world's population with 4% fresh-water resource, and the economic survey of 2018 featured that climate change is taking a toll on India's agricultural productivity and on the income of farmers. The underlying message is that climate change is one of the major sources of uncertainty to the insurers. The world is going through a phase of weather-related disasters risks. Climate risks

Climate change has a holistic effect, it affects both people & companies. The insurability is becoming a huge problem. Due to increase in coastal erosion, insuring infrastructures will be expensive. Affordability will be a topic of debate, the low risk areas have become high risk areas due to coastal belt erosion, this will lead to increase in premium. Companies will face reputational issues due to this. Data underwriting rules need to be changed to consider climate risks, new products are quite essential for today's scenario. Pricing and Reserving teams need revamp with inputs from catastrophe models.

Mr. Alasdair Smith gave an overview on climate risks and its types. He is a part of Resource & Environment board that supports actuaries in climate change, helps to understand its consequences to plan better. He further explained his nature of work which involves peer review of actuarial climate index developed by 'SOA'. He stressed on developing regulatory frameworks that would help to drive in the global economy to meet the challenges of climate change in the decades to come. According to the Paris agreement in 2015, every country in the world has agreed to reduce their nation's global average temperature by 2deg Celsius, or at least by 1.5deg Celsius. Paris agreement involves multiple facets, one of which is a limit to emissions. Under this framework, it is first essential to recognise developed economies who have capped the extent of greenhouse gas emissions. Such developed countries will support the developing countries, financially to build a better country but maintaining the greenhouse gas emissions to their current index and not exceeding it. In 2023, all the countries under the Paris agreement will provide a report detailing the gas emission index for the past five years. He later described the three key risks areas: physical, transition & liability.

Mr. Ravi Shankar Lal spoke about three important aspects: reinsurance, investment management, risk & capital management. He spoke how reinsurance would be affected by the volatile environment. With rise in sea level, warming of earth's surface, over the last three years the world has seen an increase in the number of hurricanes. Damage caused by these amounts to USD 35 million. Insurers need to bring in more innovative products by analysing past data, predicting future claims, developing advanced catastrophe models & performing stress testing. And reinsurance companies need to buy the right reinsurance product that would cover all uncertain climate risks. He later explained how Investment strategies can be improvised. Companies would need to focus more on physical risks which are a threat to infrastructure & real estate. With rising sea levels,

risks of tsunami have increased, resulting in mass migration away from coastal locations. This will have a consequential economic impact. Transitional risk- there is a possibility in fall in value to assets which are related to high carbon intensive investments. Further a decrease in investments is observed due to various new legislations involving climate change framework. He explained a wise decision would be to move from carbon bonds to new kinds of investment strategies that involve hybrid cars, electric cars etc. Social & government strategies has a key impact on investment planning of most of the companies. Ravi later suggested how companies should set proper approach to define climate risks by, try arranging for carbon audit and provide inputs on managing investments in environment friendly domains. Lastly, risk & capital management requires integration of climate change with the risk portfolio.

Ms. Marjan Qazvini currently works in research related to impact of climate change on Life Insurance companies. In LI, two risks namely investment risk & mortality risk are of much importance. Climate change can physically affect properties, coastline, hence mortgages on real estate. She spoke on how insurance company must transit from investing in carbon bonds to more environment friendly company. She later stressed why actuaries need to involve all aspects related to climate change to develop innovative life insurance products. One of the major problems with climate change is that its impact is unknown, the timing is unknown, and the risk is irreversible. She later concluded her session by stating that ERM and financial planning of companies need to integrate the risk portfolio for better analysis and insights.

Session 5 : Student's Forum - Expanding the horizon: Actuarial Science in Banking

Chairperson : Mr. Sunil Sharma

Speaker : Mr. Michael Tichareva



Mr. Michael Tichareva started his speech by

highlighting the main objective of the session- creating awareness and encouraging members across all actuarial associations to accelerate their involvement in banking institutions.

He further highlighted how The Actuarial Society of South Africa has become one of the global leader of actuaries in banking sector. Where they developed a banking fellowship subject for actuaries of the South African region. He spoke how there is still a need to understand core banking practice for actuaries. Unlike investment banking where many entrepreneurial actuaries are involved in complex modelling work, core banking practice is of major importance. Michael spoke on how actuaries can use their skills in managing systematic risks in the whole financial system, deal with strategic issues, risk management issues, governance issues, and sound management of the institution and its regulatory framework.

He explained what actuaries in life, general or healthcare insurance are mainly involved in- innovating, designing and pricing a product, setting assumptions, developing models, valuing asset and liability using those models, analysing & interpreting results, suggesting recommendations, thereby influencing strategic decisions taken by stakeholders.

He further explained, that the business of a bank is predominantly risk management, product design, pricing, credit risk management, market risk management, operational risk management, liquidity risk management, funding risk management, sound governance of banking institutions and setting strategy for overall management of banking institutions. All these are complex activities and are interrelated.

Actuaries are world trained to deal with complex modelling & problem solving, so they are a natural fit to contribute in the management of banking institutions. Actuaries are trained risk managers & problem solvers, they innovate and design solutions within a problem-solving framework.

Michael says that he believes actuaries can emerge as one of the dominant professions in banking sector.

Actuaries would need to learn from other professions, by working closely with them, integrating insights & experience into their skill set.

Mr. Sunil Sharma thanked Michael for the presenting a wonderful session and sharing thought provoking insights.

Session 6 : Down the Memory Lane

Chairperson : Mr. Ashvin Parekh

Speaker : Mr. Gaurang Shah



The second day began with an address by the President, **Mr. Sunil Sharma**, who introduced the Speaker, Mr. Gaurang Shah and invited him to share his thoughts on the topic.



Mr. Gaurang Shah thanked the President and shared his fond memories during his career. He mentioned about his early days discussion with his boss about the reasons that could threaten his job: Regulation, Guarantees and Expenses of Management, and further about the high remuneration of Actuaries in the market during early years as well.

He was delighted in acknowledging that from a count of 60 actuaries during early 2000's, the count of qualified Fellows in India has increased beyond 400; with a lot of aspiring students already lined up for the qualification. He also mentioned that today the scope of actuaries remains no more limited to insurance sector only, and big opportunities are arising in **banking, investments and data analytics**. His presentation largely revolved around life insurance.

ULIP Era

Mr. Shah spoke about the period of falling interest rates

during 1998 to 2004 when 10 year G-Sec fell from 14% p.a to 4.9% p.a, providing good returns in debt. This was followed by a period of increasing equity returns which made ULIP an attractive proposition for both the customers and insurance companies. This period witnessed a boom in the sale of ULIP. The insurance model essentially was turning to sell mutual fund business at the cost of life insurance. It was then when intervention by SEBI happened, where it asked insurance companies selling ULIP products to be regulated under SEBI rules. This created a turf between IRDAI and SEBI, and resulted in 2010 ULIP regulations being coming into effect, where charges were capped and spread across a longer period. This changed the landscape for ULIP products which were sold over a decade then and turned the attention back towards traditional plans.

Rise of Bancassurance

Till 2001, agency was the main distributor of insurance products. LIC had a well-established base of a strong agency force. The rise of bancassurance channel took off post 2001. He backed up his statement with the IRDAI reports' statistics which showed that **between the periods of FY 2007 to FY 2018, contribution of agency channel has dropped significantly from 66% to 28%, while on the other side, bancassurance channel has expanded from 17% to 54%.**

However, he expressed his worries about this prevailing business structure where insurance companies are heavily reliant on banks for selling their products and it is a one-way dependency. It is clearly an unsustainable way of doing business. The inability of private companies to develop a cost-efficient agency distribution system is one of the main reasons for this dependency. He suggested a plausible solution for this situation could be making banks sell ULIP or pure risk and keeping traditional products to be sold through agents.

Protection Growth: A Good story

The speaker mentioned about the growth of protection business during 2006 to 2017 where Sum at Risk to GDP ratio in India grew from 45% to 70%. The **cost of insuring the risk has also come down by 70-75% resulting in a better affordable pricing**. The Group Term and Credit Term products have expanded. Many Government protection schemes have been introduced, providing an accidental cover of 2 lakh at a rate as low as ₹12/- (Pradhan Mantri Suraksha Bima Yojana) and a normal death cover at ₹330/- (Pradhan Mantri Jeevan Jyoti Bima Yojana). He said that this growth shows a very positive aspect of insurance penetration in India and should be highlighted in media and other forums.

Challenges faced during the 20 years and Opportunities ahead

As per **Mr. Shah**, the questions faced by the life insurance

companies remains:

What to Sell? - Traditional or ULIP

Whom to Sell through? - Agency or Bancassurance

He emphasized that we should think about making Insurance Savings products more attractive. The average industry return in Par fund during 10 years was 8.94% p.a.; however post the deduction due to cost of capital, insurance and other fees, the return reduced by 3% p.a. According to him, the fundamental issues with insurance products are that Traditional savings products can't provide good returns; ULIPs are unsustainable in terms of expenses; and with more of Non-participating business, the difficulties with Solvency II regime may arise.

He concluded his presentation with the fact that today analysts are not able to understand the insurance industry. We, as Actuaries, need to work with the regulator to solve the **prevailing issues** of slow growth, rising costs, deteriorating distribution structure and stalled reforms. He posed a question to the audience that whether we should adopt the **European model**, where all three businesses (pensions, insurance and asset management) are sold as a package, and if yes, will it solve our problems. He also mentioned that there is plethora of opportunities in front of the industry. With digital transformation and changing demographics, the cost can be reduced and customer experience can be improved.



Next, **Mr. Liyaquat Khan** introduced the chair Mr. Ashvin Parekh, who is associated with the industry for over 24 years now.



Mr. Parekh described the last two decades as a combination of five eras namely, the Era of Development, Era of Consolidation, Era of disruption, Digitalisation Era and the current Era.

He explained that during the first **era of development**, insurance sector was opened for private players and honest efforts were made by industry, regulator and policymakers to create level break-field for all the constituents. The advent of foreign investors with initial 26% participation and the experience of the business they brought with them assisted the industry. Post the liberalisation of Indian insurance industry, the focus shifted towards having more accounting and disclosures.

The next phase of **consolidation** witnessed private players acquiring over 5% market share during the first four years of the set up itself. Combined ratios for general insurers started getting attention. GI struggled with underwriting losses, while health insurance faced high claims ratio and inefficiencies in policy administration.

Following it was the **era of disruption** in the industry which also brought rationalisation. **Digitalisation era** opened the aspect of new channels where products being sold through digital platforms.

During the **current era**, **Mr. Parekh** mentioned that a lot of push is given to Crop insurance by the government. With major reinsurance regulations revamped, effort is to retain maximum reinsurance business within the country. He also asked if the industry is equipped for the reforms like IFRS-17 and Risk Based Capital in this period, which may see many mergers. He was hopeful that in the coming years, private sector GI companies will grab more market share from the public sector and see tremendous growth, with more IPOs for life and general insurers.

He concluded that the Actuaries need to come out of their traditional approaches and start thinking of different aspects of business as well. The industry needs to offer appropriate product designs, which enable customized solutions for evolving customer needs in a

professional and transparent manner, build and maintain trust among existing and potential customers, effectively deliver the product benefits to the customers and adopt a professional code of conduct.

Session 7 : Actuaries and Human Dignity in Older Ages

Chairperson : Mr. Shaun Leviton

Speakers : Mr. Jens Perch Nielson, Mr. Gautam Bhardwaj, Ms. Preeti Chandrashekhar, Mr. Kulin Patel

"Living with dignity" means different things to different people in different countries, with different cultures, and different socio-economic backgrounds



Mr. Shaun Leviton, kicked off the session discussing about an interesting paper published in Harvard Business Review in 2014 which explained the reason of transition of pension plans from Defined Benefit (DB) to Defined Contribution (DC) structure globally. He then introduced each of the speakers and briefed about their discussion areas.

He mentioned about the concept of **"Important vs. Meaningful information"** emphasizing on the point that today the members of DC schemes are expected to understand their cumulative balances, volatility, past performance, and benchmark returns. With DB schemes earlier, members had an idea about the money they might be receiving at the retirement. They understood the concept of **"Replacement ratio"** (Pension amount as a percentage of salary at time of retirement). However, DC schemes' members may only know about their account balances, which give no information about the level of income they would have after retiring.

He further added that we, as actuaries, who can understand such complicated areas, need to communicate better with the customers and assist them in their retirement planning. He acknowledged that when various industries across the world are making the best use of data and new technologies, retirement provisions are still lagging behind. **"Mass customization" of retirement plans can be a cost effective solution to**

individuals, both in formal and informal sectors.



Mr. Jens Nielson, started with saying that pension plans need not to be so complicated. He hails from Denmark where DC schemes have always remained prevalent. **Denmark was voted number one for the last five years in Pensions in the world by Mercer.**

He stressed on the importance of having a short conversation with the customers, understanding their future needs and then back-calculating the financial plan. He is currently a part of a research being conducted by Institute and Faculty of Actuaries to find solutions for Defined Contribution schemes and making them simpler. He asserted that the role of outside intermediaries providing guarantees, mortality risk covers should be avoided and expenses be cut to create a low cost internal arrangement among the contributors and hence optimising the pension plans.

Minimising longevity and investment risk while optimising future pension plans.



Mr. Gautam Bhardwaj, started his presentation by pointing out an alarming fact that out of 1.9 billion working age individuals around Africa, Asia and Latin America, about 1.75 billion individuals are not covered under any pension plan schemes. He mentioned that many countries do not have any retirement system in place which can be expanded beyond the formal

employer. However, by leveraging and harnessing the existing digital and financial inclusion infrastructure, most countries can extend the benefits of pension to the informal sector as well.

He also showed an interesting animation about how by spending our ten minutes with our domestic aides today, educating them about the importance of savings and hence bringing them under “Micro-pension” architecture, we can help them securing their twenty years post retirement and have them live with dignity.



Ms. Preeti Chandrashekhar, shared a broader perspective. She started by mentioning about an example of a healthy old couple in India who requested the President for a doctor assisted death in order to have a dignified death and avoid the hardships of unhealthy older years.

The speaker felt that living with dignity is beyond the financial aspect, and extends to the social aspect, physical wellness and mental well-being of an individual, and these are all inter-related with each other. She specified the four dimensions about India Inc as, **Multi-generational workforce, greater personalisation, managing the money, and caring for health**. Today's generation wants flexible and personalised solution for their retirement needs and the existing system of gratuity, provident fund and super-annuation may not fit for all. However, flexibility comes with responsibility and earlier access to fund erodes the accumulation of retirement funds. The efficacy of different retirement solutions for India Inc should be assessed based on parameters of Adequacy, Sustainability and Integrity.

Currently Indian market does not have any products related to **Long Term Care** for elderly needs, which can serve as a great tool for helping individuals live with dignity at older ages. At last, she concluded that retirement solutions need to be re-defined today. We cannot do away by only copying the existing systems in

other countries and must design as per the needs of our own population, by active engagement and utilising the existing infrastructure.



Mr. Kulin Patel, shared a holistic view and mentioned that “living with dignity” means different things to different people in different countries, with different cultures, and different socio-economic backgrounds. He gave the examples of other countries like UK, Singapore, and Malaysia which have a well-established structure for serving the elderly needs, like having assisted old-age homes, having mandatory allocation of funds for retirements, medical and home care system for the organised sector.

He mentioned that dignity for elderly also refers to the aspects of **participation in meaningful activities**, having good relationships, physical health, avoiding poverty, and **not facing discrimination in the society due to their age**. In a study done by WTW, individuals were asked; if they think that they will be worse off than their parents in the older ages. More than half of the respondents have responded affirmative. The main contributors to this may be due to falling trends of savings, ability to afford housing, financial security, future of labour mobility and consumerism.

He suggested how actuaries can contribute to the scenario: by helping to set goals, educate and communicate to professionals as well as lay-man; designing financial products that deliver services, expanding their role across different segments, and being “future” ready. **The projection of people over age 65 by 2050 is about 1.5 billion globally, which provides actuaries abundant opportunity to make a difference.**

The session was concluded by a vote of thanks by **Mr. Shaun Leviton**, who thanked the elite panel of speakers for their views and the diverse discussion on the topic.

Session 8 : Analytics, Data Science and Actuaries

Chairperson : Mr. Dave K Sandberg

Speakers : Mr. John Taylor, Mr. Sumit Ramani, Mr. Shailesh Dhuri, Mr. Hemant Kumar, Mr. Abhijit Kulkarni



Mr. Dave Sandberg initiated the session by introducing the presenters to the audience and gave a brief on the session to be covered.



Mr. John Taylor started with talking about the compelling combination of Commercial, Statistics and IT with an ethical "wrapper" of Public Interest. He talked about democratisation of risk and quoted a saying by Susskind and Susskind. He concluded by speaking on erosion of pooling and human oversight.



Mr. Sumit Ramani spoke at length on the meaning of

InsurTech and the role of actuaries in InsurTech. He mentioned that InsurTech is a portmanteau of "insurance" and "technology" and is inspired by Fintech. He depicted with the help of a graph the quarterly InsurTech funding volume and highlighted that over \$10bn have already been invested. He also presented the private technology investments by (re)insurers. He then shared his views on why actuaries should be amongst the first hires for InsurTech and concluded by discussing the professional considerations for actuaries.



Mr. Shailesh Dhuri spoke on the new credit risk management framework and the current paradigms such as credit spread. He explained the real factors of credit risk - strategic business decisions, exchange rates, input prices, competitive pressures, regulatory environment, climate, social stability, willingness to honor commitments etc. He also touched upon the decoherence in framework and reality and mentioned that as underlying credit risk process data is unstructured, there is no explicit relationship of input data with the underlying credit risk process. He concluded the session by covering the new risk management framework in which structure can be generated from unstructured data and in which credit models can be built directly from reality.



Mr. Hemant Kumar and **Mr. Abhijit Kulkarni** jointly presented on being transparent about machine learning

predictions. They first covered the need for explainability of predictive models and need to remove barriers to make the use of data analytics more reliable and widespread. They then took the audience through the scope of machine learning. The talk was made more interesting by taking the audience through the estimation of Shapley Value which tells us how to fairly distribute the payout amongst the features. They

mentioned that the model was based on cooperative / coalitional game theory concept.

A case study, modelling process and model explanation for one client was presented in detail by them. They concluded by sharing alternative model explanation methods and their view point on way forward.

Session 9 & 10 : IFRS 17 panel discussion (Life, Health and General Insurance)

Lead speaker & Moderator : Mr. Maurizio Busti

Panel speakers : Mr. Sourav Roy, Mr. Siddharth Mehra, Ms. Neha Taneja, Mr. Philip Jackson, Mr. Pravin Kutumbe, Mr. Kunj Maheshwari, Mr. Sai Srinivas Dhulipala



The session started with a brief presentation by **Mr. Maurizio Busti** on the IFRS 17 journey so far. The International Accounting Standards Board (IASB) published the new standard on insurance contracts in May 2017 after 20 years of extensive work. As per the new proposed timeline it is expected to go live worldwide from financial year beginning on January 2022.

A survey was conducted to assess the level of preparedness of 16 large insurers from various countries. The results of the survey highlighted that most of the insurers were in the initial assessment phase and very small number of insurers had not even started the implementation project. The survey also observed that most of the participants realised that minimum compliance of the standard will not suffice and they will use this as an opportunity to make some investment towards modernisation of their systems.

The top challenges faced by the survey participants included IT/system and time constraints. In Asia, lack of people with required skill set and historical data were found to be prominent issues. The speaker also drew attention towards other areas where companies are likely to face additional challenges such as bringing synergy between group level and local adoption, uncertainty around capital requirements, tax implications and communication with various stakeholders.

The speaker also emphasized the involvement of actuaries under the new regime. The actuaries will play a major role from retrieving the data, cash flow projections, allowing for appropriate levels of risk, calculation of CSM, analysis of change and right up to signing off the results. The opportunity to expand the actuarial presence in financial reporting process comes with great responsibility. The key decisions in terms of operational considerations and presentation of end results will need to be taken at the implementation stage itself. The presentation concluded by mentioning that this is not just an accounting project; even the actuaries can take a leading role in driving the IFRS 17 project and explaining the results.

The presentation was followed by panel discussion with esteemed speakers who shared their thoughts with the audience around the level of readiness and challenges observed in India.

The panel started off with a discussion around the measurement model to be adopted by General Insurance (GI) companies under IFRS 17. It was observed that most of the GI companies assumed that there will not be significant change if the Premium Allocation Approach (PAA) is adopted for the business written by them. **Mr. Sourav Roy** discussed that this view was only partially correct as the long tail contracts written by GI

companies may have to be measured under General measurement model (GMM). Even if they choose to apply PAA to these contracts, in order to prove its eligibility they will still have to generate results as per GMM and demonstrate that the results do not vary significantly from that under PAA.

Mr. Siddharth Mehra also added that the PAA can be applied only if the contracts are non-onerous. If any facts and circumstances suggest that the companies are writing onerous business, then they will still have to measure contracts as per GMM. On the health side, **Ms. Neha Taneja** mentioned that determining contract boundary is one of the key elements to decide the appropriate measurement model and the contract boundary in itself will depend on the ability to re-price the contract.

The next area of panel discussion was around the introduction of Risk Based Capital (RBC) alongside IFRS 17. **Mr. Philip Jackson** expressed that it is definitely a good opportunity to implement RBC and IFRS 17 in parallel as there are elements under both the regimes which can be synergised such as estimation of best estimate liability, choice of yield curve and so on. The insurers can benefit by assessing the impacts simultaneously and take appropriate decisions to bridge the gap. However, operationally it is difficult task to find resources who can work on both the projects at the same time.

The panel continued the discussion around the approach to be taken for system implementation. **Mr. Sai Srinivas Dhulipala** stressed upon the fact that the level of preparedness is at very nascent stage in India, and hence insurers must act well in advance to equip themselves with required resources to take up project of this scale. He also mentioned that the insurers will have bigger decision to take in terms of system enhancements i.e. whether to transform actuarial and finance systems or to add layers on top of existing systems.

Mr. Kunj Maheshwari strongly believed that companies should look at the existing systems, the level of optimisation that can be undertaken and take a more pragmatic approach rather than re-engineering entire systems. Further, in terms of bringing synergy between IFRS 17 and RBC, he cautioned the insurers that one must also keep in mind that both the regimes serve different purpose and hence one must be aware about where the differences lie during the implementation.

The moderator then requested **Mr. Pravin Kutumbe** to share his thoughts from regulatory stand point. Mr Kutumbe started with informing the audience about the on-going debate around deferral of Ind AS implementation for Indian insurers. There were proposals to adopt IFRS 4 as interim standard and defer implementation of IFRS 17 to FY2022 or later. However,

he believed that there are no benefits in taking a dual transition approach and only single standard i.e. IFRS 17 should be applied. Further, he added that IFRS 9 also brings in challenges on asset side of the balance sheet and hence the same may also be deferred and applied alongside IFRS 17.

In terms of providing guidance during implementation of IFRS 17, **Mr. Kutumbe** gave assurance that the regulator along with actuarial and accounting bodies will provide support wherever deemed necessary. The regulator will also engage with industry and other supervisory bodies to investigate the impacts on other areas such as taxation.

The panel also discussed the areas of standards which pose technical challenges such as determining the level of aggregation, accounting of reinsurance contracts, and assessment of measurement model. Another aspect of discussion comprised impact on key performance indicators (KPI). One of the impacts include gross written premiums being replaced by insurance revenue i.e. earned premium under IFRS 17.

The panel concluded with deliberating on the preparedness of the Indian actuarial profession for implementation of IFRS 17. The dignitaries stressed on the need for actuaries to come out of their comfort zone and rise to understand the challenges faced on the business side. At the same time, one must consider this as an opportunity to re-polish their technical as well as communication skills. Lastly, panel highlighted that this is an avenue to get into other areas beyond core actuarial reporting and expand our presence in audit and finance.

Session 11 : Mental health Act, 2017 - Impact on health insurance industry - a research study

Chairperson : Mr. K Subrahmanyam

Speakers : Mr. Safder Jaffer, Ms. Joanne Buckle



Mr. K Subrahmanyam introduced the speakers for the session and handed over to Mr. Safder Jaffer to speak on

the Mental Healthcare Act, 2017 in India and its impact on the healthcare insurance industry.



Mr. Safder Jaffer opened the session by stating key features of the Mental Healthcare Act, 2017. He mentioned that in India, this Act passed on 7 April 2017 and came into force from July 7, 2018. The key features he covered were

- Rights of people with mental illness - rights to advance directive, rights to access mental health care by both public and private services, right to confidentiality
- Insurance provision - insurance company to provide medical insurance on the same basis as those with physical illnesses
- Supply provision - integration of mental health care services at all levels of healthcare, bringing professionals with a postgraduate degree, establishment of central and state mental health authority etc.
- Admissions, discharge and treatment - admission as independent patient in mental health establishment
- Public awareness - wide publicity through public media, including television, radio etc.
- Offences and penalties.

He then moved onto explaining mental illness and its types. He also shared some general statistics such as the incidence of mental illness has increased more rapidly in India than in other countries over the last decade, and as per WHO report on depression, 7.5% of Indian suffer from major or minor disorder requiring expert intervention. With the help of graphs, he then explained the distribution of current weighted prevalence rate by age, gender, marital status, residence, education and income i.e. prevalence rates (%) by socio-economic characteristics. He also covered prevalence rates (%) by types of mental illness.

He then described that the provision of public mental health care in India is a joint responsibility of Center and State governments. He then took the audience

through the mental health activities undertaken at the different levels of health care facilities in India. He shared some statistics on the supply of human resources as per the Ministry of Health and Family Welfare. He emphasized on the difference between number of people who need care and those who receive care and shared the relevant statistics from the NMHS survey report 2015-16.

In his engaging talk, he mentioned that at present, India spends only around 0.06% of its health budget on mental health compared to 4% spend by most developed nations. He also expressed that out of total people suffering from mental illness, 84.5% of them are either not on any treatment or with inadequate treatment facility. At the end, he covered the issues leading to a demand and supply gap and shared availability/need ratios for most mental health professionals.



Ms. Joanne Buckle spoke on mental health coverage in international markets covering UK, USA, Brazil, South Africa, UAE. She shared key insights on the legislation, type of mental illnesses covered and plan benefits, current underwriting and risk assessment, key challenges, risk mitigation strategy and evolution of mental health. She presented industry survey results which was conducted among Indian insurers for the inclusion of "Mental illness" in health policy. The key considerations for insurers she discussed were product design and definition, pricing, underwriting, claim processing and management, data collection, reserving, rights of people with mental illness, insurance provision, supply provision, admissions, discharge and treatment and mental health review board.

She highlighted that no clarity on definition likely to lead to significant variation in the interpretation and hence coverage offered across insurers. Also, given the lack of relevant data, insufficient supply and social stigma, impact on pricing will be difficult to be qualified. She specified the requirement for guidelines

specific to the mental health conditions for the assessment on mental illness along with the impact of co-morbidities. Requirement of higher reserves to cover additional claims due to mental illness and due to retrospective claims was another key consideration for insurers discussed by her. She closed the session by disclosing the caveats and limitations of the survey.

Session 12 : Ayushman Bharat - Game changer in National Health Protection

Chairperson : Mr. Liyaquat Khan

Speakers : Mr. Sanjay Datta, Mr. Vishwanath Mahindra, Mr. Rajagopal Rudraraju



Mr. Liyaquat Khan began the session by introducing the presenters to the audience and talked about the developing interest of the topic in hand.



Mr. Sanjay Datta introduced Ayushman Bharat as a vision for holistic health. He mentioned that Pradhan Mantri Jan Arogya Yojana (PMJAY) intends to provide for free and cashless hospital based secondary and tertiary care. Effectively, Government is moving from provider to payer of health services. Sub-Health Centres (SHCs) & Primary Health Centres (PHCs) will be transformed to Health & Wellness Centres (HWCs) to deliver. He then elaborated the facts that Ayushman Bharat will lead to

- Expanded package of services in place of just reproductive, maternal and child care and selected

communicable diseases

- Enhanced productivity of vast network of currently underutilized primary health care facilities
- Universal screening of 30+ population and management of non communicable diseases such as diabetes
- Posting of a mid-level health provider at SHC-HWC-B.Sc.
- Usage of tele-health and ECHO for continuum of care

He stated that 150000 HWCs are expected to be rolled out by December 2022 and total 21411 have been approved for FY 2018-19. He also explained that under PMJAY, benefits can be availed at all empanelled hospitals across the country, 5 lakh cover per family per year will be provided for serious illnesses and covered the fact that there is no cap on family size, age or gender and it also covers pre-existing diseases. Lastly, he emphasized on the fact that right leakage management will be required to make the scheme successful above all. Fraud analytics based on diagnostics and analytics on consumption patterns of drugs, from a fraud and predictive standpoint is a must do.



Mr. Vishwanath Mahindra took the audience through the pricing considerations of the scheme. He explained the similarities and dissimilarities in the pricing of traditional schemes vs. Ayushman Bharat (AB). He stated that like any other traditional indemnity insurance product pricing, pricing of AB involves estimating frequency and severity of claims along with expenses and profit margin. However, for AB, sufficient experience is not available, and unlike traditional products frequency is the key point and not the severity. He then stressed on the fact that variation in premium is huge for AB. He shared the analysis of some of the winning bids which showed that the premium varies from ₹444 to ₹2020 for pure play insurance schemes and from ₹361 to ₹1,100 for hybrid schemes.

He concluded the session by sharing his thoughts on the future trends in AB pricing. He stated that some of the variables will change which are keeping the pricing low

currently. Awareness will go up with passage of time, pent-up demand for health care will show up, supply of health care infrastructure will develop, package rates will need revision in line with medical inflation and incidence rates will slowly catch-up with the insured population.



Mr. Rajagopal Rudraraju opened the session by sharing the details on the providers - partners in the successful

implementation of the scheme. He highlighted that there is a

- Structured process for empanelment / de-empanelment
- Speciality-wise criteria for empanelment
- Incentivization to providers for structured quality programs such as entry level certification, full accreditation etc.

He stated that 45% of providers are public facilities and more private facilities are likely to join. He then took the audience through the new payment methods and the need to build system / process capabilities. He expressed his thoughts on removing inconsistencies in procedure pricing. He stated that price should drive behaviour and not cover costs, packages of exclusions need to be removed, abuse could be a bigger problem than fraud and also covered the need to build outcome driven incentives. To conclude, he shared a case study covering the new skills for payers to learn and also his thoughts on new skills for payers to master.



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-Plenary Session 3,5



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-Plenary Session 6,7



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-Plenary Session 9,10



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-Plenary Session 1,2



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-Plenary Session 8,11,12

Organised by: 20th GCA Organizing Committee, IAI

Venue: Renaissance Mumbai Convention Centre Hotel, Powai, Mumbai

Date: 5th March, 2019

Session : C1 Reinsurance - Life and Non-Life

Chairperson : Mr. Graham Bancroft

Speakers : Mr. Dokkie Nel, Mr. David Maneval, Mr. Manish Singh



Mr. Graham Bancroft started the session with a presentation on “Using reinsurance to help with Capital Management”. He explained reinsurance can be used for various needs. Reinsurance programmes can be used when there is M&A opportunity, when there is new business strain and few more scenarios as well. citing examples of companies from different companies which have used these RI arrangements. He gave the example of Japanese company's CEO who says that by entering into a reinsurance programme the company was able to improve the capital position by releasing approximately ¥130 billion of regulatory reserves. In his presentation he told that reinsurance is liked by Regulators, Auditors and even rating agencies. The outcome from his presentation was that reinsurance is very flexible, available worldwide and can be customized according to the type of business. He then introduced the audience to the first speaker, Mr Dokkie Nel.

Subject: Uses of Reinsurance for Capital Management

Mr. Dokkie Nel stated the importance of Reinsurance Transaction. He gave various points as to why the



reinsurance is used or what is the motivation behind the reinsurance transaction. He stated that reinsurance transaction helps in strengthening the capital position. Reinsurance transaction provides cash to fund growth - The cash flows become more certain and hence they better manage long term interest rate risk. They also reduce the longevity risk and provide capital to improve the solvency ratio. Concluding his speech he said that the FIN re structures are flexible and tailored to each cedent's specific need.

Subject: Non-life: Reinsurance program design and Optimization



Mr. David Maneval started the topic with a presentation. He explained the Modern portfolio theory which was published by Harry Markowitz. He explained

how expected returns can be optimized or maximized based on a given level of market risk. He further described that the financial statement and risk appetite statements of an insurer are based on three dimensions which are profitability, Volatility and Solvency. He explained that there are a few steps in economic modelling. The first step is gross loss parameterization. David explained the theory behind the reinsurance program design and optimization and after that he handed over the presentation to his colleague, Manish Singh.



Mr. Manish Singh explained the practical approach of reinsurance program design and optimization. In his presentation he gave a few graphical representations of Gross Loss distribution and Gross Loss ratio. He then explained the impact of different models on the different stakeholders. He spoke about how the reinsurance program evolved over the period of time. Then via different case studies he explained different types of reinsurance and how they can be used. These case studies were illustrated by use of numerical examples. He focused on how change in reinsurance program can give a possible higher return on capital. He also mentioned that there can be another level of optimization based on the capital structure after deciding the reinsurance program.

At the end, the moderator opened questions for the audience and thanked the speakers for such insightful presentations. Further it can be concluded from the session that reinsurance programme can be simple/complex, customized/ready to use and has the potential to impact the financial statements in positive way when optimized reinsurance arrangements are used.

Session : C4: Life Insurance

Chairperson : Mr. K Subrahmanyam

Speakers : Mr. Murshid Kuttihassan, Mr. Shubham Jain, Mr. Ashik Salecha

Mr. K Subrahmanyam started the session with a small



introduction and introduced the audience to the first speaker of the session Mr. Kuttihassan.

Subject: Mortality Improvement trends



Mr. Murshid Kuttihassan presented on “Mortality improvement trends”. The presentation was about understanding the trends in mortality - the factors that contribute to mortality trends other than the usual factors like age, gender etc. It started with comparison of mortality trends in different countries. He accentuated his pretention with the mortality trend graphs of different countries - China, Russia and USA. The graphs showed a decrease in mortality trends, ie the mortality projections showed a lower morality rate across time. There are also evidences to prove morality rate is decreasing in the US. India has also doubled its life expectancy in 100 years. Mortality rates hence also depend on time.

Subject: Articulating and quantifying the fair treatment of participating policyholders: A case study

Mr. Ashik Salecha and **Mr. Shubham Jain** shared the staged and presented their views on bonus share and how fair treatment can be possible. Ashik started the presentation with the theoretical view point of the topic. The core of the presentation was bonus share. He explained there are two ways to look at bonus



investigation, one is traditional and other is new/modern. There are two perspectives also, - one is policyholder's perspective and other is management's perspective. Policyholder perspective is also known as top-down approach and management's perspective is also known as bottom-up approach. Via his presentation he was explaining how much money the policyholder will receive or what management has paid back to policy holders. After this, **Mr. Jain** explained the common terms used in the presentation to the audience. He mentioned that there are two important pillars in bonus share. The two important pillars are P.R.E and T.C.F. P.R.E stands for policyholder's reasonable expectation and T.C.F stands for treating customer fairly. And he was explaining how to quantify P.R.E and T.C.F. He explained the practical

approach of bonus share and shared his view for the same via graphs and numerical illustrations. He explained the difference between Asset share and Maturity Benefit using graphs. He explained the mortality cost adjusted-IRR. In one of the slides he explained the uses of mortality cost adjusted-IRR for policyholders' return. He quoted an example that if someone compares two policies with same benefit and same product for different age then the lower age will have higher IRR. Via his presentation he also explained the use of target reduction in yield (RIY). He also explained the possible quantification of TCF and PRE. TCF can be quantified by calculating a **payout goal-seeking** the target return. Illustrated payout or the maturity benefit based in current bonus scales can be taken as a possible quantification of the PRE.

After the session from Ashik and Shubham, questions were invited from the audience. Few people from audience raised questions. Overall a good discussion at the end of session took place.

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Organised by: 20th GCA Organizing Committee, IAI

Venue: Renaissance Mumbai Convention Centre Hotel, Powai, Mumbai

Date: 5th March, 2019**Session C3: Pension & Employee Benefits****Chairperson :** Mr. Sanjeev Pujari**Speakers :** Mr. Vivek Iyer, Mr. Sandeep Chakraborty**Session Highlights**

The theme of the session is to introduce the Enterprise Risk Management within the Actuarial Science and to expand the scope of Actuarial techniques in the Risk Management sector.

The session started with introduction by **Mr. Sandeep Chakraborty**. He said that Credit Bureau is different from a Credit Rating Agency however a bureau can provide analytically driven insights to consumers as a value-added service. One such key insight is the Credit Score of an Individual which aims to showcase the individual's borrowing and bill-paying habits.

As the current credit environment is changing very fast, importance of Credit rating being felt across the length and breadth of the country? 25-30 core credit variables which have a direct correlation to the long term mortality of the person can be used at the Quote / Underwriting stage by the Insurer. Moreover, the Insurance companies has Potential to expand insurance out-reach to larger audience by adopting channel, geographical area agnostic underwriting treatment. For Life Insurance, Credit insights can be

very useful in other parts of the customer lifetime journey - especially in Claims & Fraud Management. Insurers can separately tap into these rich data sources to create holistic view of the potential / existing customer and create tailor made insurance propositions. The credit information insight is easily available to Insurers currently and a legitimate tool for Insurance risk assessment.

Mr. Vivek Iyer, said that the Traditional Risk Management exists from around 1950's and is associated with the use of market insurance to protect individuals and companies from various losses associated with accidents. The journey of ERM started with establishment of ISO in 1950 and at today's stage it is Integrating with Strategy and Performance on the name of COSO (Committee of Sponsored organisation) The first COSO was published in 1992 with reference to internal control to enable Integrated framework within an organisation. This was further enhanced by release of COSO ERM integrated framework & Basel II - The new capital framework and later on introduced as ISO 31000-Risk Management in 2009. In 2010, Basel III norms were introduced and in 2013, COSO Internal control - Integrated framework was made available to companies.

The integration of Strategy and performance to risk management was introduced in 2017 and until now they are in effect to the companies following COSO. The strategic move was taken in order to implement the impact of risk using metrics, fewer of these are linked to the strategic priorities of the business. Vivek told that 58% of Boards do not receive updates at every meeting on the amount of risk the company is taking which was based upon the PwC COSO ERM Survey 2018. Moreover, only 45% of Board meetings discuss Changes to the company's approach to enterprise risk management and that too once a year. PwC COSO Survey 2018 also brought some insights onto what the risk and business professionals were saying. It directly quotes "I need insights that help me understand risks and opportunities and evaluate strategic options" and the other is "When I develop my strategy, I want to have a full picture of the

potential risks and the capabilities I need to create advantage” which clearly explains how the board now a days gives the importance to Risk management of companies.

Mr. Vivek explained that one of the key challenges faced in an ERM implementation, is the tendency to confuse it with an Operational Risk Management (“ORM”) exercise. ORM is a subset of ERM and in some organizations may have a very large attribution, but the objective of an ERM exercise is to have a broader view of the risks in an organization. PwC given its association with COSO over 2 decades, understands the importance of the same.

He explained COSO as the culture, capabilities and practices, integrated with strategy-setting and performance that organizations rely on to manage risk in creating, preserving and realizing value which focuses on managing risk through recognizing culture, applying practices, integrating with strategy setting and performance, managing risk to strategy and business objectives.

He further elaborated on risk management which refers to a coordinated set of activities and methods that is used to direct an organization and to control the many risks that can affect its ability to achieve objectives whereas in ISO 31000 2009, the term risk management also refers to the architecture that is used to manage risk. This architecture includes risk management principles, a risk management framework, and a risk management process. There is clear recognition of the need for risk functions to evolve with the changing risk and business environment. There is increased focus around 1) allocation of adequate resources to new and emerging risks 2) Leveraging the effective technology 3) Availability of risk analysis and information to support key business decision making 4) Linking strategies with objectives 5) Changing risk conversation and building effective risk culture. These all requires significant change in operating model of risk management and to positively handle future scenarios. They have assisted many clients in reviewing the existing ERM framework and implementation of COSO 2017 with phase wise approach i.e. GAP Assessment Revised Governance Framework, KRI Appetite and Risk Register & Risk Assessment and Monitoring.

Mr. Vivek ended the session with describing an 8-week plan which involves Identification, Assessment, Prioritization, Implementation and Development which helps organisation in making decisions and achieving strategy and business Objectives of COSO.

Summary

The Insurance and Actuaries both are widening and the data can be used customising it for the need of betterment of society. Such data techniques are further used to produced specific products and thereafter making it necessary for Insurance company to use this information. Such data helps the customers to get insurance according to their needs. Further, the discussion on COSO framework helped to understand the formulation of company's overall strategy keeping in mind the implementation of risk strategy.

Session C6 : Pension & Employee Benefits

Chairperson : Mr. Andrew Peterson

Subject : Self-selection and risk sharing in a modern world of life-long annuities

Speaker : Mr. Jens Perch Nielsen

Subject : Approaches to DC fund investments and default choices

Speaker : Mr. Shaun Levitan



Session Highlights

Mr. Andrew Peterson starts the session with implementation of Defined Contribution with prospect of research and importance of Pension plans to optimise, enhance and evolve. The Pension Contribution right now is a long process for the individual however Jens Perch Nielson tells and explain the ambitions to change Pension with just a short conversation with customer.

Mr. Shaun Levitan talks about working on evolution of the existing Defined contribution framework. The traditional approach does not involves a specific wealth goal and it is hard to measure the success by looking at Account balance size. The asset allocation in traditional approach further involves generic

proportion which are fixed and sometime based upon age and the risk free asset is cash.

Mr. Jens Perch Nielson presented on "Minimising Longevity and Investment Risk while optimising Future Pension Plans" which is a research programme is being funded by the Actuarial Research Centre. Jens introduced a project where the risk is defined on the basis of risk capability of 4 persons where each of them invests and a Worst Case (WC) scenario and Best Case (BC) scenario is established for each of them with where for every WC there a link to a BC and the BC increases when the WC decreases. He suggest that an approach would be followed where a simple question to those 4 persons will be asked which will tell us what kind of risk they want.

The exercise itself proved that these 4 people self-selected their risk profile through a simple exercise where just some questions were asked and proved to provide a greater median and expected benefit than investment in stocks. This has developed a pension system which is easy to understand and also risk is balanced via selecting a best-case and a worst-case. The pension saver is in control and understands the risk he is taking. In practice, one can develop an interface where the pension saver picks his risk-profile digitally without the need of meeting a financial adviser.

Mr. Jens said that the burns and economy talk is actually not going to help anyone and can actually implement a worst case and best case on a divider with best case and worst case. "It should be simple" is all his take over defined contribution. The evolution for Defined Contribution framework is required in order to arrange "Income as a goal" and manage relevant risks at the same time along with taking Human Capital into account. Changes in industry also impact the fund value significantly and the information should be understandable to all the members with following International best practices to regulate and monitor the Defined Contribution fund.

Mr. Shaun presented "A Goals-Based Investment Approach for DC Funds" which strongly focusses on the crisis in Retirement Planning. He states, "The world is ageing - improvements in life expectancy at age 65 over last 40 years". In the age where people are saving less, expected return on Investment have decreased and Interest rates have fallen, Individual member carries all the risk.

Default Investment strategies were on rise in the US peaked when the Pension Protection Act (2006) designated these strategies as a qualified default investment alternative which almost predicts that

everyone of the same age has the same investment strategy. According to Shaun, it is most important to consider Human Capital in DC. The assets of a plan member doesn't include only the accumulated savings Human capital is the largest single asset most members will have for a significant part of their early working life. He later on states that the monthly income as a percentage should at least be a strategy. Mass customization is available using the data available easily by the customer. Using the model, he projected via example, It is very much possible to calculate the funding level of each member using valuable member information Age, Salary, Contribution Rate, Accumulated Savings, Cost of annuity which he says is a familiar territory for Actuaries.

Mr. Shaun insists that a new approach needs to be followed where there will be desired income goal, defined volatility of funded ratio, a dynamic asset allocation strategy which is individualised based on age, income, funded ratio and focused on improving funded ratio while managing income volatility and Index-linked instruments rather than Cash which is used in most of the conventional approaches. The session ended with question and answers relating to Indian Scenario where Defined Benefits are more preferred than Defined Contributions but the Defined Contribution is overriding and has been adopted vastly in Asian markets as well.

Summary

The quest of the session was to introduce ease in Defined Contribution and evolving it into a product which can be easily understood and can be planned for each respective personnel according to his or her needs. The exercises performed by Jens represent a Best case and worst-case scenario and the risk preference deciding those scenarios. Shaun presentation was focussed on the strategy of monthly income should be more focussed on monthly income percentage basis. The funding can be executive on an individual level by using basic information of the member.

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20th GCA Concurrent Sessions on General Insurance

Organised by: 20th GCA Organizing Committee, IAI

Venue: Renaissance Mumbai Convention Centre Hotel, Powai, Mumbai

Date: 5th March, 2019

Session : General Insurance

Chairperson : Mr. Jatin Arora



Mr. Jatin Arora provided brief introduction to titles of the presentations in this concurrent session and introduced all the four speakers to audience. He highlighted the common underlying theme of all the following three general insurance presentations as “Expanding the horizon and strengthening the core”.

Presentation : Approach to Evaluate Impact of Auto Regulations 2017 - Insights from Invisibles

Speakers : Mr. Sai Aditya Telikicherla, Mr. Satya Sai Mudigonda

This presentation was about approach to evaluate impact of the 2017 Amendment bill to the Motor Vehicle Act which was passed by the Lok Sabha and is due for a nod from the second house of Parliament. The bill tries to bring in various measures in line with India's commitment to reduce accidental deaths by 50% by 2020 as a signatory of the Brasilia Declaration. This bill would have a significant impact on the customer and the insurer, besides many other stakeholders. Significant changes in speed of claims reporting, claims settlement, impact on the underlying burning cost imply that insurers and actuaries need to be aware of how to quantify the potential impact this can have on their portfolios. During the discussion a framework to

assist in quantifying this impact was presented. Considering the wide scope of changes, the framework proposed relies on parallelization of the existing reserving process in combination with scenario testing to arrive at a suitable range of impacts on both reserves and pricing.



The presenters Mr. Sai Aditya and Mr. Satya Sai together coordinated seamlessly and took the audience through industry statistics which included identifying speed as the leading causes of accidental deaths in India. Subsequently, the discussion focused on 2017 Motor Vehicle Act amendments and identified areas of impact to citizens and insurers. Impacted areas for citizens included e-governance, licensing, golden hour, good samaritan, penalties and vehicle recall etc. For insurers, impacted areas were faster reporting, MVA fund, Pecuniary limits etc. The next part of the discussion highlighted the impact of these changes to actuarially related reserving and pricing uncertainties. As part of the reserving uncertainty four important aspects - claim delays, frequency, severity and other expenses - were discussed in detail. Similarly, pricing uncertainty with regards to variable heterogeneity which included tariff variables, reserving variables and explanatory variables were discussed in detail. As an example, heterogeneity with regards to geography was taken and a comparison between Delhi and Karnataka with respect to reporting delay and waiting time distribution was explained with a plotted graph. Other changes such as land mark judgements of Sarla - Verma, Pranay - Sethi and

aspects related to long term TP policies were brought to the notice of the audience.

At this stage, the need for having an impact evaluation approach is highlighted and a five step method was proposed. These steps included - Identify variables impacted, Calculate best estimate reserves, Allocate IBNR and perform pricing analysis, Define boundary conditions for variables and finally run scenarios with boundaries. Mr. Aditya explained details of setting boundary conditions and impact distributions. were discussed with examples. Finally Mr. Satya Sai presented the example of use of High Performance Computing (HPC) for calculating reserves. At the end of the session, there were questions regarding suitability of the approach to real life impact assessment to an insurer. Taking the question, Mr. Aditya demonstrated the suitability of the approach with a practical example.

In summary, a timely presentation for general insurance appointed actuaries and key personnel who are involved in motor insurance business in India.

Presentation : Machine Learning models for Automobile Fraud Detection - A literature Review

Speaker : Mr. Vamsidhar Ambatipudi



This presentation was focussed on literature review related to the use of machine learning for auto mobile fraud detection. **Mr. Vamsidhar** being an expert in insurance data science brought credibility to the floor while explaining various machine learning models. Applying these models to automobile fraud detection is a novel idea and very few researchers explored this idea successfully.

The presenter initiated the discussion with an introduction to various types of automobile insurance frauds and industry statistics available internationally. Review of literature established that on average about 20% of automobile claims were found fraudulent. Further, there was a discussion on common features of

motor insurance fraud, factors that can influence fraud and impact of fraud to various stakeholders. At this point attention of the audience was drawn towards the challenging aspect of detecting this fraud both technically and operationally.

As the prelude to the main topic, traditional approaches to handling the fraud were discussed. Taking cue from the disadvantages of traditional ways, machine learning approaches were introduced to the audience. It was asserted that use of right data collection and pre-processing mechanisms is the key for successful implementation of any of the machine learning methodologies. Four possible methods - supervised learning, unsupervised learning, social network analysis and text mining - were detailed in the rest of the presentation.

In supervised models discussion, fraud indicator is linked to explanatory variables. Feature selection and feature engineering are used to identify best predictors. Relationships between the variables is assessed. Many standalone models such as Logit model & Probit model, Decision Tree (DT) using CART, Support Vector Machine (SVM), Artificial Neural Network, Fuzzy Logic and Genetic Algorithms are used for fraud detection. The weaknesses of these models are requirement of having a labeled data set and they are only suitable for larger and richer data sets. To overcome these weaknesses, advanced methods such as Principal Component Analysis (PCA), Random Forest (RF), and Potential Nearest Neighbours (PNN) are being used by researchers for fraud detection. Other advanced models such as Fuzzy C-Means Clustering and Supervised Classifiers were also explored.

As part of unsupervised learning models - clustering, distance based identification of outliers and spectral ranking for anomaly detection were explored by the presenter.

With regards to Social Network Analysis, it was discussed about how it helps in detecting organized collusion activities, combine intrinsic attributes of entities with their relational attributes, use of iterative assessment algorithm and networks of collisions to assign suspicion score to each entity. Steps involved in Social Network Analysis were also discussed.

For Text Mining - Topic Modelling/Sentiment Analysis, Clustering & Other Pattern identification, combining classification and topic models were discussed. Steps involved in Latent Dirichlet Allocation (LDA) based Text Analytics was also presented to the audience.

In conclusion, the speaker discussed technical

difficulties involved in fraud detection including Skewed Class Distribution, Lack of labeled data sets, Lack of unlabeled data sets and Data cleaning issues. At the end of the presentation, questions regarding the data pre-processing stage of these models were raised by some participants - to which Mr. Vamsidhar provided a detailed response.

In summary, the presentation provided good review of machine learning models available as of date for fraud detection and created interest within actuarial audience to look for some of these technology applications in their day-to-day work.

Presentation : Loss Reserving Using ML Techniques

Speaker : Mr. Rohit Sahni



Use of machine learning techniques for loss reserving is the current trend in some of the developed insurance markets. **Mr. Rohit Sahni** presented end to end process involved in this effort using synthetic data for motor business.

The presenter explained the motivation behind this chosen topic as he found additional advantages of analysing rich claims data using data science techniques. This would help insurance companies in predicting ultimate losses more appropriately in comparison with Chain Ladder method or Bornheutter Ferguson Method. The approach suggested here has four stages - data preparation, feature extraction, training & running the model and providing predictions. Each of these stages were explained in detail as part of the presentation.

Data preparation stage was discussed at length which involved creating synthetic data with hypothetical assumptions at the individual claim level incorporating traditionally mandatory fields e.g. - historical claim payments & incurred amounts along with claim level characteristics such as - driver age, driver gender, vehicle value & vehicle age.

As part of the discussion on the next stages where feature extraction, training & running the model were involved, a detailed application driven steps were discussed. Use of Gradient Boosting Machine (GBM) on training data was highlighted here. The importance of selecting significant Input variables such as - Development Lag, Payments to date at previous development lag & Case Estimates to date at previous development lag - were discussed. The expected outcome of this model is to predict ultimate claim amount for each claim. Results were validated by choosing appropriate validation data, and comparing ultimate predicted with actual ultimate. Root mean square error was used for performance measure. This approach was repeated on multiple validation data sets.

At this point, Mr. Rohit took the audience through an example data set which consisted 10000 sample records. Various aspects of this synthetic data such as data structure, assumptions used, graphical representation of GBM approach, the expected outcome of model run and validation of results were discussed and differences were compared with traditional chain ladder method.

In conclusion, the presenter suggested few next steps such as to extend this analysis to new claim types (Bodily Injury, CAT Claims) within auto line of business and then to other lines of businesses. There was a question from the participants on the use of synthetic data rather than real data. For which Mr. Rohit responded that due to client data privacy issues, he could not use real data for this study.

In summary, the presentation provided a step by step overview of use of the machine learning techniques for loss reserving in motor business with an example. Participants showed great interest in this presentation as these data science tools are becoming integral part of requisite skill to actuarial profession.

Written by



Mr. Satya Sai



satyasaibabamudigonda@sssihl.edu.in

“Mr. Satya Sai Mudigonda is a Senior Tech Actuarial Consultant providing services in USA and India.”



Institute of Actuaries of India

Statutory body established under an Act of Parliament

Unit No. F-206, 2nd Floor, F Wing, Tower II, Seawoods Grand Central,
Plot no R-1, Sector 40, Nerul Road, Navi Mumbai - 400706
+91 22 6243 3333 +91 22 6243 3322

POSITION: EXECUTIVE- EDUCATION & TRAINING

I. **Location:** Navi Mumbai

II. **Company Name & Address:**

Institute of Actuaries of India, Unit no. F-206, 2nd Floor, 'F' Wing in Tower 2, Seawoods Grand Central, Plot no R-1, Sector 40, Seawoods, Near Seawoods Railway Station, Navi Mumbai - 400 706

Website: www.actuariesindia.org

III. **About the Institute:**

- i) An Educational Institution established under the Actuaries Act, 2006 by the Parliament; details available in the website.
- ii) Membership strength growing on year-on-year basis, currently about 9,000 (Nine thousand) members.
- iii) Member Services are paramount in nature and heavily dependent upon robust and up-to-date Information Technology.

IV. **Requirements**

- i) **Qualification:** Any degree with 60% aggregate marks;
- ii) **Compulsory Skills**
 - a) Proficiency in all MS Office applications, particularly MS Excel
 - b) Excellent Communication skills, both verbal and written
- iii) **Desirables:** Participation/ leadership in extracurricular and/or co-curricular activities during their education, participation/ performance in sports and games

V. **Job Description:**

- i) Assist for implementation of all educational programs of IAI;
- ii) Assist for conducting skill development training and other class room sessions
- iii) Single Point of Contact (SPC) for responding to education related and other queries by members of the profession
- iv) Any other work assigned by the reporting officer in time to time

- ✎ **Area:** Actuarial Education & Skill development
- ✎ **Nature of job:** Permanent
- ✎ **Process of selection:** Interview.
- ✎ **Reporting:** Position will report to Head- Education & Training
- ✎ **Contact Person:** Ms. Nilima Kadam, ea@actuariesindia.org

"Photo Features of Training conducted by Institute of Actuaries of India For R- The Statistical Software for CS1 & CS2 On 23rd -27th April 2019."



NOTICE

ANNUAL MEMBERSHIP FEE 2019-20

Annual Membership Fee for the year 2019-20 is due on 1st April 2019 and the last date for payment is 30th June 2019. In case, you have not paid your Annual Membership fees, request you to pay the same on or before 30th June 2019, failing which your membership will lapse.

The current membership fees are as under:

Class of Membership	Fees in Indian Rupees (INRs.)
Fellows and Affiliates	9,000+(18% GST) = 10,620
Associates	3,000+(18% GST) = 3,540
Students	2,000

For payment and other details, visit our website at www.actuariesindia.org or contact **Ms. Prajakta Bhosle** at actsoc@actuariesindia.org or at 022-62433333.

Press Release

Digitisation, Data Analytics, RBC, IFRS to change the landscape of actuarial services globally

Expanding the horizon, strengthening the core - the theme for the 20th Global Conference of Actuaries

Mumbai, March 05, 2019: The Institute of Actuaries of India (IAI) is hosting the 20th Global Conference of Actuaries (GCA). This event is a much-awaited annual event for professionals across the world. This year the theme of the 20th GCA is 'expanding the horizon, strengthening the core'. The theme defines the strategic vantage point of the actuarial profession today. The event is well attended by stalwarts in the finance and insurance industry, not just from India but across the Globe.

The need for actuaries will increase and the profession should aim for larger number of Fellow actuaries up from the current levels of around 400 to cater to a country of our size and economic growth rate. Emphasis was given to the importance of actuaries in the financial services sector and how the IRDAI places a very high level of responsibility and trust on the role of an actuary in insurance companies owing to their established expertise in financial modelling and risk management.

Addressing the inaugural session of the GCA, **Dr. S C Khuntia, Chairman, IRDAI**, said, "Digitisation, data analytics, risk based capital and supervision, IFRS17, would need actuarial approach and skills to optimise the benefits which can be derived from these global initiatives. We believe that with the emergence of technologies like big analytics the role of actuaries will expand manifold. The role of actuaries are more important in innovating insurance product which are transparent and understandable to a common man. IRDAI will extend all co-operation", he said.

Mr. Sunil Sharma, President, Institute of Actuaries of India, said, "It gives me immense pleasure to welcome all delegates from across the globe in the 20th GCA organized by IAI. In the advent of this event, what has come forward is the emergence of Actuaries as a profession in India and adding values to the insurance needs of people. We also take this opportunity to thank the partners without whom this event would not have been complete."

Mr. Massaki Yoshimura, Immediate Past President of the International Actuarial Association appreciated the foresight and effort of the Indian actuarial professional to aim for a footprint in international markets at an early stage.

Ms. Marjorie Ngwenya, Immediate Past President, Institute and Faculty of Actuaries, and Mr. David Sandberg, Board Member, Society of Actuaries both congratulated the Institute of Actuaries of India for the event expressing their intent to increase engagement with the professional body.

About Institute of Actuaries of India (IAI)

IAI is a statutory body established under The Actuaries Act 2006 (35 of 2006) for regulation of profession of Actuaries in India. The provisions of the said Act have come into force from November 10, 2006, in terms of the notification dated November 8, 2006, issued by the Government of India in the Ministry of Finance, Department of Economic Affairs. As a consequence of this, the erstwhile Actuarial Society of India was dissolved and all the Assets and Liabilities of the Actuarial Society of India were transferred to, and vested in, the Institute of Actuaries of India constituted under Section 3 of the Actuaries Act, 2006.

The erstwhile Actuarial Society of India (ASI) was established in September 1944. Since 1979 the ASI has been a Full Member of International Actuarial Association (an umbrella organizations to all actuarial bodies across the world) and is actively involved in its affairs. In 1982, the ASI was registered under Registration of Literary, Scientific and Charitable Societies Act XXI of 1860 and also under Bombay Public Charitable Trust Act, 1950. In 1989, the ASI started examinations upto Associate level, and in 1991, started conducting Fellowship level examination leading to professional qualification of an actuary, till then the accreditation was based on Institute of Actuaries, London examinations (now Institute and Faculty of Actuaries.).

For More Information: Nikhil Mansukhani, Adfactors PR, 9833552171 / / 9820531932 / 7303975422
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Press Release

Expanding the horizon, strengthening the core – the theme for the 20th Global Conference of Actuaries

Mumbai, March 05, 2019: The Institute of Actuaries of India (IAI) is hosting the 20th Global Conference of Actuaries (GCA) which is a much-awaited annual event for professionals across the world. This year the theme of the 20th GCA is '**expanding the horizon, strengthening the core**', which defines the strategic vantage point of the actuarial profession today. The event is well attended by stalwarts in the finance and insurance industry, not just from India but from across the globe.

For more than 200 years, actuaries have enabled future financial wellbeing of people, economies and societies. Since the earliest days of the profession, actuaries have actively estimated risk, whether financial, economic or demographic. Increasingly actuaries are spearheading innovations in data analytics. Their role as gate-keepers of financial security in the banking sector, apart from the traditional insurance and pensions sector, is being widely recognized.

Addressing the inaugural session of the 20th Global Conference of Actuaries, **Dr. S C Khuntia, Chairman, IRDAI**, said, "With the emergence of technologies like big analytics the role of actuaries will expand manifold. The role of actuaries are more important in innovating insurance product which are transparent and understandable to a common man."

Under the direction of the IRDAI, India is emerging as a thought leader in adapting to the evolving accounting and financial risk policies around the globe (like IFRS and risk-based capital and supervision). The IRDAI has taken big digital strides in developing a 'regulatory sandbox', a state-of-the-art concept that aims to promote safe digital growth in the insurance industry.

Mr. Sunil Sharma, President, Institute of Actuaries of India, said, "It gives me immense pleasure to welcome all delegates from across the globe in the 20th GCA organized by IAI. Expanding the horizons, strengthening the core, the theme of the 20th GCA underlined the commitment of the profession to expand into wider areas. Dr. S C Khuntia also extended full support to the aspiration of the Indian actuarial profession to establish global centres of actuarial excellence in India and look beyond traditional areas. We also take this opportunity to thank the partners without whom this event would not have been complete."

Mr. Michael Tichareva, Managing Director & Principal, National Standard Finance Africa, South Africa, said, "Actuaries are making an impact in a range of areas within banks which include credit risk modelling, customer analytics, capital management and pricing of derivatives."

Mr. John Ferguson, Regional Chief Actuary, Gen Re, Hong Kong, said, "Data on Critical illness collected from South East Asia clearly identifies a linkage between unemployment and Critical Illness adverse experience, as well as an increasing intra band trend within what is considered as a relatively safe BMI zone as far as critical illness relativities are concerned." Mr. Ferguson further went on to share data that suggested that critical illness claims are affected not just by underlying incidence rates but also advances in screening and diagnostic technology. The session was chaired by Ms. Pournima Gupte, Member (Actuary), Insurance Regulatory and Development Authority of India.

Mr. Arup Chatterjee, Principal Financial Sector Specialist, Asian Development Bank, Manila, Philippines mentioned various statistics from the studies on protection and social security gaps and investments required to bridge these gaps. He concluded his session emphasizing on the role of insurance and actuaries in risk layering, reduction and risk resilient investing.

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Press Release

Expanding the horizon, strengthening the core – the theme for the 20th Global Conference of Actuaries

Mumbai, March 06, 2019: The Institute of Actuaries of India (IAI) hosted the 20th Global Conference of Actuaries (GCA). The theme of the much awaited annual event was '**expanding the horizon, strengthening the core**', which defines the strategic vantage point of the actuarial profession today. The two day event is well attended by stalwarts in the finance and insurance industry, not just from India but from across the globe.

The first session of the second and final day was a trip down the memory lane, chaired by Ashvin Parekh, Managing Partner, Ashvin Parekh Advisory Services LLP and the speaker was Gaurang Shah, President & Group Chief Risk Officer, Kotak Mahindra Bank. Gaurang discussed the journey of privatization of Insurance Industry since 2000 as well as the rise of Bancassurance channel. He then went on to discuss the way forward, in the form of major reforms like the impending IFRS 17 and Risk Based Capital regime.

The next panel discussion was on Actuaries and Human dignity in older ages chaired by Shaun Levitan, Co-founder and Executive Director, Colourfield Liability Solutions.

Panel Speakers: Jens Perch Nielsen, Cass Business School, UK, Kulin Patel, Willis Towers Watson, India, Preeti Chandrashekhar, Mercer Consulting, India and Gautam Bhardwaj, pinBox Solutions Pvt. Ltd., India. One of the key takeaways from the session was the criticality of understanding the pension annuity as a proportion of the current income as a key consideration on an ongoing basis. The important role of actuaries in designing and pricing Micro pension schemes for low strata income groups was also acknowledged.

The next panel session was on Analytics, Data Science and Actuaries, led by Dave Sandburg, Senior Consultant, Charles River Associates and Panel Speakers: John Taylor, President elect, Institute & Faculty of Actuaries, Sumit Ramani, Actuarial Consultants, Shailesh Dhuri, Decimal Point Analytics Pvt Ltd., Hemant Kumar, Principal, Global Services. It was brought out that, inspired by Fintech, over \$10bn has been invested in Insuretech up until now clearly highlighting its potential in making an impact in the BFSI sector. Actuarial role in Insuretech is crucial both from a skill set perspective, as well as the understanding of the ethical boundaries.

The urgency around IFRS 17 preparedness was discussed in various sessions. Pravin Kutumbe, Member (Finance and Investment), IRDAI spoke about creating further capabilities within the profession for a smooth implementation.

About Institute of Actuaries of India (IAI)

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Press Coverage published in print and online media dated March 2019

PRINT COVERAGE

Publication: PTI

Date: March 5, 2019

Headline: Irdai wants insurers to use own judgement along with rating before investing

Irdai wants insurers to use own judgement along with rating before investing

Mumbai: Regulator Irdai Tuesday asked insurance companies to be careful with their investment decisions saying they should not to just rely on the credit ratings but their own judgement as well.

It could be noted that some of the listed companies of the now crippled IL&FS group were downgraded by Icra and Care to below investment grade following a string defaults since late August last year.

"We have told insurance companies that besides (credit) ratings, they should also apply their own judgement (before investing in any company)," Irdai chairman SC Khuntia told reporters on the sidelines of a global conference of actuaries organised by the Institute of Actuaries of India.

He said insurers are mandated to make investments in highly rated instruments only.

When asked about the investments made by various insurers in debt-ridden IL&FS, which used to have AAA-ratings, Khuntia said in such cases insurers will have to watch and take action on those investments accordingly, and if required make provisions.

"In case there is some change in the rating, they will have to take appropriate action. It will not be possible to tell them exactly what to do...we are making them aware that they will have to be proactive so that policyholders' interest is protected," he said.

He also clarified the regulator has also not asked insurers to pull out their investments in companies whose ratings have been downgraded as it could impact the markets.

He said the Irdai will soon be communicating a timeline to LIC, which has acquired 51 percent stake in IDBI Bank, to reduce its stake to 15 percent.

"LIC is preparing a roadmap and when it is ready, they will communicate to us (the deadline to reduce its stake in IDBI Bank. Accordingly, we will fix the timeline. We have told them that they have to eventually bring it down to 15 percent," Khuntia said.

IDBI Bank also has a life insurance arm--IDBI Federal Life Insurance. As per Irdai norms, one promoter cannot have two insurers.

"This happened temporarily for this (LIC-IDBI Bank) acquisition. But, I think it will get sorted out. There are various methods to sort it out. Suppose IDBI Bank sell its stake in IDBI Federal Life then there will be no conflict of interest. It will take some time to resolve. But it needs to be sorted out. There should not be any conflict of interest," Khuntia added.

IRDAI TO IL&FS-HIT INSURANCE FIRMS

'Use Judgement to Invest, Don't Go by Ratings Alone'

Regulator asks cos not to rely on ratings alone, make provisions

Our Bureau

Mumbai: After insurance companies took a hit by investing in debt-laden Infrastructure Leasing & Financial Services (IL&FS), the sector regulator has asked the insurers to use their judgement and not rely on ratings alone.

When the insurers invested in IL&FS, its papers were rated AAA, but were downgraded to D, or default category, within 45 days. "We have told the companies that besides rating, they should also apply their own judgement," said Insurance Regulatory and Development Authority of India (Irdai) chairman Subhash Chandra Khuntia. "They will have to time their actions accordingly."

Irdai has asked the insurers to make provisions for their exposure to the infra lender. "Now that the rating has changed they (insurance companies) will have to use their own judgement and take actions," Khuntia said. "In case of banks, there is write-



offs, and insurance companies can make provisions."

Many life insurance companies have provided for their exposure to IL&FS in the third quarter when the default started. The company defaulted first in August, followed by several defaults on its inter-corporate deposits and commercial papers in the September-December quarter.

Khuntia, however, said that the insurance companies should not pull out of investments only because the rating has changed. "Insurers have to keep policyholders' interest in mind and not pull out of investments because the rating has changed," he said.

Like mutual funds, insurance companies too had invested in the debt papers of IL&FS. Life Insurance Corporation has 25.6% stake in the group company. For better monitoring of risks, Irdai has suggested companies to come up with a risk registry. Insurers will have to list out the risks and their possible solutions in it.

Irdai cautions on credit ratings

Irdai on Tuesday asked insurance companies to be careful with their investment decisions saying they should not to just rely on the credit ratings but their own judgement as well. It could be noted that some of the listed companies of the now crippled IL&FS group were downgraded by Icra and Care to below investment grade following a string of defaults since late August last year. "We have told insurance companies that besides (credit) ratings, they should also apply their own judgement (before investing in any company)," Irdai chairman SC Khuntia told reporters. He said insurers are mandated to make investments in highly rated instruments only.

Publication: The Hindu Business Line

Edition: All Edition

Date: March 6, 2019

Headline: Rely on credit ratings, own judgement for making sound investment decisions: IRDAI to insurers

Page No.: 7

Rely on credit ratings, own judgment for making sound investment decisions: IRDAI to insurers

Says regulator has not asked insurers to pull out investments in companies whose ratings have been downgraded

PRESS TRUST OF INDIA

Mumbai, March 5

The Insurance Regulatory and Development Authority of India (IRDAI), on Tuesday, asked insurance companies to be careful about their investment decisions, saying they should not only rely on credit ratings but also on their own judgment as well.

IL&FS effect

It could be noted that some of the listed companies of the

now-crippled IL&FS Group were downgraded by ICRA and CARE to below investment grade following a string of defaults since late August last year.

"We have told insurance companies that besides (credit) ratings, they should also apply their own judgment (before investing in any company)," IRDAI Chairman SC Khuntia told reporters on the sidelines of a global conference of actuaries, organised



SC Khuntia, Chairman, IRDAI

by the Institute of Actuaries of India. He said insurers are mandated to make investments only in highly-rated instruments.

When asked about the investments made by various in-

surers in debt-ridden IL&FS, which used to have AAA ratings, Khuntia said in such cases insurers will have to watch and take action on those investments accordingly, and, if required, make provisions.

"In case there is some change in the rating, they will have to take appropriate action. It will not be possible to tell them exactly what to do...we are making them aware that they will have to be proactive so that policyholders' interest is protected," he said.

He also clarified the regulator has also not asked in-

surers to pull out their investments in companies whose ratings have been downgraded as it could impact the markets.

He said the IRDAI will soon be communicating a timeline to the LIC, which has acquired a 51 per cent stake in IDBI Bank, to reduce its stake to 15 per cent.

"LIC is preparing a roadmap and when it is ready, they will communicate to us (the deadline to reduce its stake in IDBI Bank). Accordingly, we will fix the timeline. We have told them that they have to eventually bring it down to 15 per cent," said Khuntia.

Publication: Financial Express

Edition: All Edition

Date: March 6, 2019

Headline: Not just ratings, trust your own judgement too, says Irdai

Page No.: 10

Not just ratings, trust your own judgement too, says Irdai

PRESS TRUST OF INDIA

Mumbai, March 5

REGULATOR IRDAI ON Tuesday asked insurance companies to be careful with their investment decisions, saying that they should not just rely on the credit ratings but their own judgement as well.

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He added that insurers are mandated to make investments in highly rated instruments only.

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"In case there is some change in the rating, they will have to take appropriate action.

It will not be possible to tell them exactly what to do...we are making them aware that they will have to be proactive so that policyholders' interest is protected," Khuntia said.

It also clarified that it has not asked insurers to pull out their investments in firms which have been downgraded as it could impact the markets

He also clarified that the regulator has also not asked insurers to pull out their investments in companies whose ratings have been downgraded as it could impact the markets.

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As per Irdai norms, one promoter cannot have two insurers. "This happened temporarily for this (LIC-IDBI Bank) acquisition. But I think it will be sorted out. There are various methods to sort it out. Suppose IDBI Bank sells its stake in IDBI Federal Life, then there will be no conflict of interest. It will take some time to resolve. But it needs to be sorted out. There should not be any conflict of interest," Khuntia added.

Publication: Financial Express

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● TREADING CAUTIOUSLY

SC Khuntia, Irdai chairman

We have told insurance companies that besides (credit) ratings, they should also apply their own judgement (before investing in any company).

'Insurers must provide for IL&FS hit'

Need To Be Proactive To Protect Policy Holders' Interests: IRDAI Chairman

TIMES NEWS NETWORK

Mumbai: Chairman of the Insurance Regulatory and Development Authority of India (IRDAI), Subhash Chandra Khuntia, has said that insurers must make provisions on their exposure to IL&FS. Although insurance companies were required to make provisions earlier, IRDAI's reiteration comes in the wake of a tribunal order that IL&FS and group companies should not be classified as non-performing assets (NPAs).

Addressing the media on the sidelines of the 20th Global Conference of Actuaries, Khuntia said that insurance companies need to be proactive to protect the interest of policy holders. He said that IRDAI required insurance companies only to invest in better

rated companies. "Now that the IL&FS rating has changed, they will have to keep a watch on what to do with those investments and make required provisions," said Khuntia.

Last month, the National Company Law Appellate Tribunal (NCLAT) had ordered that IL&FS and its group companies will not be classified as NPAs until further orders. Although the order did not give the rationale, many lenders feel that this is because of the moratorium on repayment that prevents IL&FS group companies from repaying. Ensuring that the loans are not classified as NPAs will prevent lenders from initiating hundreds of separate recovery proceedings against the group companies.

The IL&FS group has over Rs 90,000 crore of debt. A large

WHAT INSURANCE REGULATOR SAYS

- Insurers may be required to put money only in investment-grade bonds, but IRDAI expects them use their own judgment too
- Insurers should not go by the views of rating agencies alone
- The comments come in the context of IL&FS being a top-rated paper before it was downgraded to default category

Now that the IL&FS rating has changed, they will have to keep a watch on what to do with those investments and make required provisions

— Subhash Chandra Khuntia | CHAIRMAN, IRDAI

part of this is with banks, insurance companies and mutual funds. A report by audit firm Grant Thornton has identified irregularities in loans worth Rs 13,000 crore disbursed by the parent.

On Tuesday, Khuntia said that the LIC will have to eventually pare its stake in IDBI Bank to 15%. This will be in keeping with IRDAI's investment limit, which prevents an insurer from holding more than 15% in an investee company. "They are preparing a road map and, when it is ready, they will communicate it to us," said Khuntia. Incidentally, the RBI has also said that LIC should divest stake in the bank in keeping with RBI's norms for promoter shareholding.

LIC's investment in IDBI Bank will also force the lender to sell stake in its life insurance company—IDBI Federal Life Insurance. "This is something temporary (IDBI Bank stake in IDBI Federal Insurance). There are various methods to sort this out. Suppose they sell it, there should not be any conflict of interest," said Khuntia. He pointed out that IDBI Bank had already initiated plans to sell the stake in the insurer but they got shelved.

Earlier, addressing the actuaries' conference, Khuntia said the role of actuaries will increase manifold with the emergence of technologies like data analytics. "The role of actuaries is more important in innovating insurance products that are transparent and understandable to a common man," he said.

Insurers must use judgment while investing, says IRDAI

'Have asked companies not to rely only on external ratings'

SPECIAL CORRESPONDENT
MUMBAI

The Insurance Regulatory and Development Authority of India (IRDAI) said that insurance companies should not only rely on external ratings but should use their own judgment while investing.

Interacting with the media on the sidelines of the Global Conference of Actuaries organised by Institute of Actuaries of India, IRDAI chairman Subhash Chandra Khuntia said, "We have told insurance companies that they should not only be looking at the ratings. They also need to apply their own jud-



Subhash Chandra Khuntia

gement." The regulator made the comments while responding to a question regarding insurance companies' exposure to troubled infrastructure conglomerate IL&FS in which Life Insurance Corporation, the biggest shareholder, also has an exposure.

"Each insurer has a separate exposure. For any investment, our requirement is that it should be done in highly-rated investments. Insurers will have to take necessary actions for those investments," he said. IL&FS was AAA rated but after the company started defaulting on debt instruments, its rating was cut to junk.

To a question on LIC's stake in IDBI Bank, he said LIC was yet to give a road-map on the timeline to bring down its stake to 15%, from 51%, as per regulatory norms. LIC had recently acquired stake in the bank from the Centre.

No guidance to insurance firms on IL&FS investments, says IRDAI

ENS ECONOMIC BUREAU @ Mumbai

INSURANCE regulator IRDAI has not given any specific guidance to the insurance companies who have investments in IL&FS and group companies, but have only asked them to be careful with their investments, said IRDAI chairman S C Khuntia.

Insurance firms with exposure to IL&FS group have to watch and make necessary provisions, Khuntia said. "In case of banks they are loans, they can write off, here it is an investment... we are only making them aware that they have to be proactive," he said.

COULD LEAD TO CUT-THROAT COMPETITION, SAYS SC KHUNTIA IRDAI chief rules out dismantling of third party motor tariff system

ENS ECONOMIC BUREAU
MUMBAI, MARCH 6

THE INSURANCE Regulatory and Development Authority of India (IRDAI) has ruled out dismantling the third party motor tariff system, which is still regulated by the insurance regulator in the post-deregulation period.

IRDAI had, way back in 2007, deregulated the pricing of the entire range of insurance products except the third party motor premium. Every year by March 1, the IRDAI unveils the new third party motor pricing for the year.

When asked about any possibility of removing the third party motor segment from tariff regime, S C Khuntia, chairman, IRDAI, said, "Often general insurers complain us that tariff was not adequate and

DEREGULATION SYSTEM IN PLACE SINCE 2007

■ IRDAI had, way back in 2007, deregulated the pricing of the entire range of insurance products except the third party motor premium

■ Few years ago, IRDAI had mooted a proposal to dismantle this system in the motor segment, but called it off after PSU general insurers opposed it

they are bleeding due to the loss making portfolio. However, if it is detariffed, a cut-throat competition will begin." "We are looking at various options on the issue," he said on the sidelines of the 20th Global Conference of Actuaries.

In fact, some years back, IRDAI had mooted a proposal to dismantle the tariff system in the third party motor segment but called it off after PSU general insurers op-

posed the proposal. On the insurers' exposure to the financially battered IL&FS, Khuntia said that each insurer has got different kinds of exposure in the company.

"We have said that insurers should do adequate provisioning and can't write them off," Khuntia said.

Insurers are advised to invest in high rated companies only and in case the rating comes down in

due course of time, then the insurers should apply their own judgment to respond to the situation. "It is not possible for IRDAI to tell them what to do exactly. The only thing that we have to do is protect policyholders' interest," he said.

On the 51 per cent investment by LIC in IDBI Bank, the IRDAI chief said the regulator has to give a timeline to LIC by when it should bring down its stake in the bank to 15 per cent. "But we are yet to do so," he said.

On the possibility of launching a long-term health insurance policy similar to the long-term motor policy, Khuntia said unlike life insurance where there is a life table available, the general insurance industry did not have such facility. "So, we can make long-term health insurance policy for two or three years," Khuntia said.

रेटिंग पर निर्भर न रहें बीमा कंपनियां

सुखान पांडे
मुंबई, 5 मार्च

बीमा निचालक आईएलएफआई ने कंपनियों को बीमा क्षेत्र में कहा है कि बीमा कंपनियों को निवेश पर ही नहीं रेटिंग पर निर्भर रहने के बजाय अपने स्वयं के निवेश का भी इस्तेमाल करना चाहिए।

आईएलएफआई के चेयरमैन सुभाष चंद्र खुंटिया ने कहा, "हमारा मानना है कि निवेश अच्छी रेटिंग वाली योजनाओं में किया जाना चाहिए। यदि रेटिंग में कोई बदलाव आता है तो उन्हें रेटिंग बदलने को जवाब देनी चाहिए।"

उन्होंने कहा, "हमारे बीमा कंपनियों को बताया है कि रेटिंग के अलावा उन्हें अपने स्वयं के निवेश पर भी विचार करना चाहिए। हम उन्हें इससे अवगत करा रहे हैं कि जिससे कि



बीमा निचालक आईएलएफआई के चेयरमैन सुभाष चंद्र खुंटिया का बयान।

आईएलएफआई के तहत आईएलएफआईएफएस समूह में पैसा लगा रहा है। जब निचालक ने यह स्पष्ट कर दिया है कि इन कंपनियों को अपने निवेश के लिए प्रभावशाली करना होगा, क्योंकि इस निवेश को बढ़ेखाले में जालसाज उनके लिए विकल्प नहीं है। आईएलएफआईएफएस समूह अपनी ज्ञान देवदारियां पूरी करने में विफल रहा जिससे पूरे वित्तीय क्षेत्र में नकदी संकट पैदा हो गया।

खुंटिया ने कहा, "हमारे बीमा

कंपनियों से कोई निवेश खयाम लेने को नहीं कहा है क्योंकि रेटिंग में बदलाव को खयाम ले यह प्रभावशाली हो सकता है। इसलिए यह उनके लिए अपने स्वयं के निवेश पर जमा करने का समय है।"

विश्वी शक्ति को जारी रख बीमा कंपनियों में हिस्सेदारी खरीदने के मुद्दे पर खुंटिया ने कहा, "उन्हें खरीदारी को अनुरोध है, लेकिन हमने इसमें लिए सीक्रेट-हल अवधि तय की है जिससे कि बार-बार बदलाव न आए। इसलिए, पहले यह खाल में विचारता अभी रेटिंग और उसके बाद के इस हिस्सेदारी के साथ जुड़े रहने या किसी को बेचने के लिए स्वतंत्र होनी है।"

निचालक ने यह भी स्पष्ट किया है कि सरकार के सहायित्व वाली एलआईसी को आईएलएफआई में अपनी हिस्सेदारी बढ़ाकर 15 प्रतिशत करनी है।

Default onus on insurers

Mumbai: The Insurance Regulatory and Development Authority of India (Irdai) on Tuesday asked insurance companies to be careful with their investment decisions, saying they should not just rely on the credit ratings but their own judgement as well.

It could be noted that some of the listed companies of the now crippled IL&FS group were downgraded by Icra and Care to below investment grade following a string defaults since late August last year.

"We have told insurance companies that besides (credit) ratings, they should also apply their own judgement (before investing in any company)," Irdai chairman S.C. Khuntia told reporters on the sidelines of a global conference of actuaries organised by the Institute of Actuaries of India.

He said insurers are mandated to make investments in highly rated instruments only.

On the investments made by various insurers in debt-ridden IL&FS, which used to have AAA-ratings, Khuntia said in such cases insurers will have to watch and take action on those investments ac-



We have told insurance companies that besides (credit) ratings, they should also apply their own judgement

S.C. KHUNTIA,
Irdai chairman

cordingly, and if required make provisions.

"In case there is some change in the rating, they will have to take appropriate action. It will not be possible to tell them exactly what to do...we are making them aware that they will have to be proactive so that policyholders' interest is protected," he said.

He clarified that the regulator has also not asked insurers to pull out their investments in companies whose ratings have been downgraded as it could impact the markets.

He said Irdai will soon be communicating a timeline to LIC, which has acquired 51 per cent stake in IDBI Bank, to reduce its stake to 15 per cent. PTI

Irdai wants insurers to use own judgement before investing

MUMBAI, Mar 5 (PTI)

REGULATOR Irdai on Tuesday asked insurance companies to be careful with their investment decisions saying they should not to just rely on the credit ratings but their own judgement as well.

It could be noted that some of the listed companies of the now crippled IL&FS Group were downgraded by Icra and Care to below investment grade following a string defaults since late August last year.

"We have told insurance companies that besides (credit) ratings, they should also apply their own judgement (before investing in any company)," Irdai Chairman, S C Khuntia told reporters on the sidelines of a global conference of actuaries organised by the Institute of Actuaries of India.

He said insurers are mandated to make investments in highly rated instruments only. When asked about the investments made by various insurers in debt-



ridden IL&FS, which used to have AAA-ratings, Khuntia said in such cases insurers will have to watch and take action on those investments accordingly, and if required make provisions.

"In case there is some change in rating, they will have to take appropriate action. It will not be possible to tell them exactly what to do... We are making them aware that they will have to be proactive so that policyholders' interest is protected," he said.

He also clarified the regulator has also not asked insurers to pull out their investments in companies whose ratings have been

downgraded as it could impact the markets.

He said the Irdai will soon be communicating a timeline to LIC, which has acquired 51 per cent stake in IDBI Bank, to reduce its stake to 15 per cent.

"LIC is preparing a roadmap and when it is ready, they will communicate to us (the deadline to reduce its stake in IDBI Bank. Accordingly, we will fix the timeline. We have told them that they have to eventually bring it down to 15 per cent," Khuntia said.

IDBI Bank also has a life insurance arm -- IDBI Federal Life Insurance.

नवभारत

बीमा उत्पादों में एक्चुअरीज की अहम भूमिका

20वां वैश्विक सम्मेलन आयोजित

व्यापार प्रतिनिधि

मुंबई. इंस्टीट्यूट ऑफ एक्चुअरीज ऑफ इंडिया (आईएआई) की मेजबानी में यहां 20वीं ग्लोबल कांफ्रेंस ऑफ एक्चुअरीज (जीसीए) का आयोजन किया गया. यह इवेंट दुनिया भर के पेशेवरों के लिए एक ऐसा वार्षिक कार्यक्रम था, जिसका उन्हें पूरे साल इंतजार रहता है. सम्मेलन के उद्घाटन सत्र को संबोधित करते हुए बीमा नियामक 'इरडा' के चेयरमैन डॉ. एस. सी. खुंटिया ने कहा कि बीमा उत्पाद को नवीन बनाने में एक्चुअरीज की भूमिका अधिक महत्वपूर्ण है, ताकि प्रोडक्ट को एक आम व्यक्ति के लिए पारदर्शी और समझने योग्य बनाया जा सके. इस दिशा में 'इरडा' अपनी तरफ से पूरा सहयोग देगा.



बीमा नियामक 'इरडा' के चेयरमैन डॉ. एस. सी. खुंटिया का स्वागत करते हुए 'आईएआई' के अध्यक्ष सुनील शर्मा.

सेवाओं के
परिदृश्य में
बदलाव

डिजिटायजेशन, डेटा एनालिटिक्स, आरबीसी, आईएफआरएस के कारण विश्व स्तर पर एक्चुअरियल सेवाओं के परिदृश्य में बदलाव आ रहा है. बिग एनालिटिक्स जैसी प्रौद्योगिकियों के आने से एक्चुअरीज की भूमिका कई गुना बढ़ जाएगी. 'आईएआई' के अध्यक्ष सुनील शर्मा ने कहा कि इस इवेंट के आयोजन के साथ ही भारत में एक पेशे के रूप में एक्चुअरीज का उदय हुआ है और लोगों की बीमा संबंधी आवश्यकताओं के लिए नए मूल्यों को जोड़ना संभव हुआ है.

इस वर्ष 20वीं ग्लोबल कांफ्रेंस ऑफ एक्चुअरीज का विषय 'क्षितिज का विस्तार, कोर को मजबूत करना' था. यह विषय मौजूदा दौर के बीमाईक पेशे के रणनीतिक सहूलियत बिंदु को परिभाषित करता है. इस आयोजन में न केवल भारत से, बल्कि दुनियाभर से वित्तीय और बीमा उद्योग के दिग्गजों ने भाग लिया.

एक्चुअरीज की बढ़ती मांग

सम्मेलन के दौरान यह राय उभरकर सामने आई कि बीमा उद्योग में एक्चुअरीज की मांग बढ़ने लगी है और इस पेशे को हमारे देश के आकार के बराबर और आर्थिक विकास की दर को पूरा करने के लिए लगभग 400 के वर्तमान स्तर से बड़ी संख्या में फेलो एक्चुअरीज का लक्ष्य रखना चाहिए.

वित्तीय सेवा क्षेत्र में एक्चुअरीज के महत्व पर जोर दिया गया था और यह भी चर्चा की गई कि कैसे 'इरडा' ने वित्तीय कंपनियों में एक्चुअरीज की उच्च स्तर की जिम्मेदारी ठहराते हुए उनके दायित्व को महत्व दिया गया है, क्योंकि वित्तीय मॉडलिंग और जोखिम प्रबंधन में उनकी विशेषज्ञता को सब मानते हैं.

इंटरनेशनल एक्चुअरियल एसोसिएशन के निवर्तमान अध्यक्ष मासाकी योशिमुरा ने प्रारंभिक चरण में अंतरराष्ट्रीय बाजारों में अपनी मौजूदगी कायम करने के उद्देश्य से भारतीय एक्चुअरियल प्रोफेशनल्स की दूरदर्शिता और प्रयासों की सराहना की.

Publication: ET Markets

Link: <https://economictimes.indiatimes.com/markets/stocks/news/irda-fiat-use-judgement-to-invest-dont-go-by-ratings-alone/articleshow/68281616.cms>

Irdai fiat: Use judgement to invest, don't go by ratings alone

Irdai has asked the insurers to make provisions for their exposure to the infra lender.

After insurance companies took a hit by investing in debt-laden Infrastructure Leasing & Financial Services (IL&FS), the sector regulator has asked the insurers to use their judgement and not rely on ratings alone.

When the insurers invested in IL&FS, its papers were rated AAA, but were downgraded to D, or default category, within 45 days. "We have told the companies that besides rating, they should also apply their own judgement," said Insurance Regulatory and Development Authority of India (Irdai) chairman Subhash Chandra Khuntia. "They will have to time their actions accordingly."

Irdai has asked the insurers to make provisions for their exposure to the infra lender. "Now that the rating has changed they (insurance companies) will have to use their own judgement and take actions," Khuntia said. "In case of banks, there is writeoffs, and insurance companies can make provisions."

Many life insurance companies have provided for their exposure to IL&FS in the third quarter when the default started. The company defaulted first in August, followed by several defaults on its inter-corporate deposits and commercial papers in the September-December quarter. Khuntia, however, said that the insurance companies should not pull out of investments only because the rating has changed. "Insurers have to keep policyholders' interest in mind and not pull out of investments because the rating has changed," he said.

Like mutual funds, insurance companies too had invested in the debt papers of IL&FS. Life Insurance Corporation has 25.6% stake in the group company. For better monitoring of risks, Irdai has suggested companies to come up with a risk registry. Insurers will have to list out the risks and their possible solutions in it.

Publication: Money Control

Link: <https://www.moneycontrol.com/news/business/companies/dont-rely-only-on-ratings-apply-own-judgement-while-investing-irdai-chief-subhash-chandra-khuntia-to-insurers-3608871.html>

Don't rely only on ratings, apply own judgement while investing: IRDAI chief to insurers

The insurance regulator wants companies to not just rely on the credit ratings of their investments, but also wants them to apply their own judgement.

Talking to reporters on the sidelines of an event, IRDAI chairman Subhash Chandra Khuntia said that besides the ratings, each insurer should take a decision based on the company.

"We have told insurance companies that they should not only be looking at the ratings. They also need to apply their own judgement," he added.

Khuntia said this in response to a question on insurers' exposure to debt-ridden IL&FS. Insurers, including Life Insurance Corporation of India (LIC), have exposure to IL&FS and its group entities. LIC is also the largest shareholder in IL&FS with a 25.34 percent stake.

Each insurer has a separate exposure. For any investment, our requirement is that it should be done in highly-rated investments. Insurers will have to take necessary actions for those (IL&FS) investments," he added.

Insurance Regulatory and Development Authority of India (IRDAI) has been monitoring the IL&FS situation closely. Insurers have been asked to make adequate provisions in proportion to their exposure to IL&FS.

At the time of investment, the IL&FS instruments were AAA rated. The infrastructure lender has been facing crisis since June 2018 after it defaulted on inter-corporate deposits and commercial papers (borrowings) worth about Rs 450 crore. Over the next three months, rating agencies also downgraded the company's long term ratings.

After that, several group entities have seen a ratings downgrade and have missed a series of debt payments. IL&FS has a cumulative debt of Rs 91,000 crore.

Khuntia said that considering policyholders' interest, insurers have been asked to not pull out of investments once there is a ratings change.

The regulator has also asked insurers to bring out a risk registry. Each insurer will list out the type of risks that they face and the possible solutions for those risks. Khuntia said that this is like a guidance being given to them.

Publication: Business Standard

Link: https://www.business-standard.com/article/companies/do-not-depend-only-on-ratings-use-your-own-judgment-too-irdai-to-insurers-119030600066_1.html

Do not depend only on ratings; use your own judgment too: Irdai to insurers

The insurance companies have to use their own judgment and cannot simply rely on the credit rating assigned to their investment by the rating agencies, the insurance regulator said in an advisory to the insurance companies.

"Our requirements is that investment should be in highly rated instruments. In case there is a change in the ratings, they will have to take appropriate action", Irdai chairman Shubash Chandra Khuntia said.

"We have told insurance companies besides rating they should also apply their own judgment. We are making them aware that they will have to be proactive so that policyholders' interest is protected", he further added.

Many insurance companies have exposures to the beleaguered IL&FS group as part of their investment portfolio. Now, the regulator has made it clear that these companies have to make provisions for their exposures as write-off is not an option for them. IL&FS was rated very highly by the credit rating agencies but it defaulted on its debt obligations that resulted in a liquidity crunch situation in the entire financial sector.

"We have not asked insurance companies to pull out of any investment because of change in ratings as that may damage it further so they have to time their judgment appropriately. There cannot be a cut and paste solution", Khuntia said.

On the issue of insurance companies not disclosing the embedded value of their company, the chairman said, "During listing the companies have to declare. We are encouraging the companies to go for listing. We have not made it compulsory because the industry has to develop more. We have many new companies but we will encourage them to disclose their embedded value".

On private equity firms buying stakes in insurance companies, Khuntia said, "They are permitted to buy but we apply a lock-in period so that there are no frequent changes. So, the first five years there will be stability and after that they are free to either remain or sell it to someone else".

The regulator also made it clear that state owned life insurance behemoth, LIC, has to bring down its stake in IDBI to 15 per cent which is the norm. Although the Irdai has not communicated a timeline to LIC to bring down their stake in the bank but the regulator said that LIC is preparing a road-map in that direction and as soon as it is ready, they will communicate it to the regulator and the regulator will then fix a timeline, accordingly.

LIC has acquired 51 per cent stake in IDBI Bank after it infused ₹21, 624 crore in the bank. Also, as IDBI Bank is the majority shareholder in IDBI Federal Life Insurance, and now that LIC owns 51 per cent stake in IDBI Bank, that makes LIC the indirect owner of IDBI Federal Life Insurance.

Moreover, on the conflict of interest situation of LIC in IDBI Federal Life Insurance, Irdai chairman said, "There are various method to sort it out. Suppose they sell it then there will be no conflict of interest. It will take some time to resolve it. But it needs to be sorted out. There should be any conflict of interest".

Publication: The New Indian Express

Link: <http://www.newindianexpress.com/business/2019/mar/06/no-guidance-to-insurance-firms-on-ilfs-investments-says-irdai-1947367.html>

No guidance to insurance firms on IL&FS investments, says IRDAI

MUMBAI: Insurance regulator IRDAI has not given any specific guidance to the insurance companies who have investments in IL&FS and group companies but have only asked them to be careful with their investments, said IRDAI chairman S C Khuntia.

Insurance firms with exposure to IL&FS group have to watch and make necessary provisions, Khuntia said.

"In case of banks they are loans, they can write off, here it is an investment ... we are only making them aware that they have to be proactive," he said.

'Insurers must provide for IL&FS hit'

WHAT INSURANCE REGULATOR SAYS

> Insurers may be required to put money only in investment-grade bonds, but IRDAI expects them use their own judgment too

> Insurers should not go by the views of rating agencies alone

> The comments come in the context of IL&FS being a top-rated paper before it was downgraded to default category

“Now that the IL&FS rating has changed, they will have to keep a watch on what to do with those investments and make required provisions



— Subhash Chandra Khuntia | CHAIRMAN, IRDAI

(Representative image)

MUMBAI: Chairman of the Insurance Regulatory and Development Authority of India (IRDAI), Subhash Chandra Khuntia, has said that insurers must make provisions on their exposure to IL&FS. Although insurance companies were required to make provisions earlier, IRDAI's reiteration comes in the wake of a tribunal order that IL&FS and group companies should not be classified as non-performing assets (NPAs).

Addressing the media on the sidelines of the 20th Global Conference of Actuaries, Khuntia said that insurance companies need to be proactive to protect the interest of policy holders. He said that IRDAI required insurance companies only to invest in better rated companies. “Now that the IL&FS rating has changed, they will have to keep a watch on what to do with those investments and make required provisions,” said Khuntia.

He added that while insurers are required to ensure that they put money only in investment-grade bonds, the regulator expects them to use their own judgment and not go by the views of rating agencies alone. Khuntia said this in the context of IL&FS being a top-rated paper before it was downgraded to default category.

Last month, the National Company Law Appellate Tribunal (NCLAT) had ordered that IL&FS and its group companies will not be classified as NPAs until further orders. Although the order did not give the rationale, many lenders feel that this is because of the moratorium on repayment that prevents IL&FS group companies from repaying. Ensuring that the loans are not classified as NPAs will prevent lenders from initiating hundreds of separate recovery proceedings against the group companies.

The IL&FS group has over ₹90,000 crore of debt. A large part of this is with banks, insurance companies and mutual funds. A report by audit firm Grant Thornton has identified irregularities in loans worth Rs 13,000 crore disbursed by the parent.

On Tuesday, Khuntia said that the LIC will have to eventually pare its stake in IDBI Bank to 15%. This will be in keeping with IRDAI's investment limit, which prevents an insurer from holding more than 15% in an investee company. “They are preparing a road map and, when it is ready, they will communicate it to us,” said Khuntia. Incidentally, the RBI has also said that LIC should divest stake in the bank in keeping with RBI's norms for promoter shareholding.

LIC's investment in IDBI Bank will also force the lender to sell stake in its life insurance company — IDBI Federal Life Insurance. “This is something temporary (IDBI Bank stake in IDBI Federal Insurance). There are various methods to sort this out. Suppose they sell it, there should not be any conflict of interest,” said Khuntia. He pointed out that IDBI Bank had already initiated plans to sell the stake in the insurer but they got shelved.

Earlier, addressing the actuaries' conference, Khuntia said the role of actuaries will increase manifold with the emergence of technologies like data analytics. “The role of actuaries is more important in innovating insurance products that are transparent and understandable to a common man,” he said.

Publication: Yahoo News

Link: <https://in.news.yahoo.com/irdai-wants-insurers-own-judgement-105700601.html>

Irdai wants insurers to use own judgement along with rating before investing

Regulator Irdai Tuesday asked insurance companies to be careful with their investment decisions saying they should not to just rely on the credit ratings but their own judgement as well.

It could be noted that some of the listed companies of the now crippled IL&FS group were downgraded by Icra and Care to below investment grade following a string defaults since late August last year.

"We have told insurance companies that besides (credit) ratings, they should also apply their own judgement (before investing in any company)," Irdai chairman SC Khuntia told reporters on the sidelines of a global conference of actuaries organised by the Institute of Actuaries of India.

He said insurers are mandated to make investments in highly rated instruments only.

When asked about the investments made by various insurers in debt-ridden IL&FS, which used to have AAA-ratings, Khuntia said in such cases insurers will have to watch and take action on those investments accordingly, and if required make provisions.

"In case there is some change in the rating, they will have to take appropriate action. It will not be possible to tell them exactly what to do...we are making them aware that they will have to be proactive so that policyholders' interest is protected," he said.

He also clarified the regulator has also not asked insurers to pull out their investments in companies whose ratings have been downgraded as it could impact the markets.

He said the Irdai will soon be communicating a timeline to LIC, which has acquired 51 percent stake in IDBI Bank, to reduce its stake to 15 percent.

"LIC is preparing a roadmap and when it is ready, they will communicate to us (the deadline to reduce its stake in IDBI Bank. Accordingly, we will fix the timeline. We have told them that they have to eventually bring it down to 15 percent," Khuntia said.

IDBI Bank also has a life insurance arm--IDBI Federal Life Insurance. As per Irdai norms, one promoter cannot have two insurers.

"This happened temporarily for this (LIC-IDBI Bank) acquisition. But, I think it will get sorted out. There are various methods to sort it out. Suppose IDBI Bank sell its stake in IDBI Federal Life then there will be no conflict of interest. It will take some time to resolve. But it needs to be sorted out. There should not be any conflict of interest," Khuntia added.

Publication: BTVi

Link: <https://www.btv.in/policy/irdai-wants-insurers-to-use-own-judgement-along-with-rating-before-investing/128760>

Irdai Wants Insurers To Use Own Judgement Along With Rating Before Investing

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Publication: Asia Insurance Review

Link: <http://www.asiainsurancereview.com/News/View-NewsLetter-Article/id/45896/Type/eDaily/India-Regulator-calls-for-more-homegrown-actuaries>

Regulator calls for more homegrown actuaries

The Indian insurance regulator, the IRDAI, has called for a collective effort by various stakeholders in India to increase the number of homegrown actuaries from the present 60 to a minimum of 1,000 per annum.

India is seeing high economic growth that is also benefitting the financial services sector and there is increasing demand for actuaries in the country.

"We need to produce many more actuaries every year and for this there needs to be tie-ups with universities and colleges around the country to attract young people to this profession," said Dr Subhash Khuntia, IRDAI chairman.

Speaking at the 20th Global Conference of Actuaries in Mumbai yesterday, he asked the industry to start a campaign to popularise the actuarial profession among young people with a mathematical bent of mind.

"Actuaries play a critical role in the investment, pension fund and insurance segment, and with the advent of digital tech, the role of actuaries will continue to grow," said Dr Khuntia.

Speaking of the role of appointed actuaries in insurance companies, he mentioned that they have a responsibility to be professionally and technically correct, which was an important aspect of the profession. "Actuaries need to maintain a fine balance between policyholders' funds and the company's interests, so that the insurance industry remains sustainable" he said.

India emerging as a global hub for actuarial services

In an earlier address to conference delegates, Mr Sunil Sharma, president of the Institute of Actuaries of India (IAI) spoke of how the actuarial profession in India is undergoing a sea change through improved member services and implementation of professional standards. "India is emerging as a global hub for actuarial services and over 1,000 actuarial professionals provide support across the globe," he said.

Actuaries are today contributing in various fields including data science and analytics. The IAI currently has a mutual recognition agreement with the Institute and Faculty of Actuaries (IfOA) of the UK and most of the existing systems in India are adopted from the UK.

The two-day event, with the theme, "Expanding the horizon, strengthening the core" is being attended by 750 delegates from 15 countries and will conclude today.

IL&FS board charges former directors of money laundering, criminal intent

New Delhi: Tasked with cleaning up of mammoth financial mess at embattled IL&FS, its government-appointed board has charged 14 former directors of group firm IL&FS Financial Services Ltd (IFIN) of facilitating money laundering, sanctioning loans in violation of rules and causing "huge financial stress and losses" to the company.

In show-cause notices issued to the 14 former directors, the new management has charged them of having "sanctioned loans deceptively to external and group companies with the sole objective to infringe RBI guidelines of excessive exposure of IFIN to intra-group companies." They have also been accused of extending loans for "criminal intent of falsification of repayment by a number of borrowers, including some entities associated with large corporate."

The notices, dated February 27, have asked former directors to reply within seven days upon receipt as to why departmental and legal actions should not be taken against them for their "misconduct, dereliction of duties, gross negligence and acts of conspiracy and getting unlawful gains for oneself and others."

Officials said no reply has been received from any of the 14 notices and the board is set to follow up the notices with stern action, which may include the filing of cases. When contacted, IL&FS (Infrastructure Leasing and Financial Services Ltd) spokesperson Sharad Goel declined to comment.

The notices follow an extensive special audit ordered by the new board and conducted by Grant Thornton of crisis-hit IL&FS Group, which identified numerous financial irregularities in deals with financial implications of over ₹13,000 crore.

IL&FS Group, which operates at least 24 direct subsidiaries, 135 indirect subsidiaries, six joint ventures and four associate companies, is sitting on the debt of ₹ 94,000 crore and landed in a major controversy last year following multiple defaults, prompting the government to supersede its board.

The audit report has identified at least 29 instances where loans disbursed to borrowers appeared to have been utilised by their group companies to repay the existing debt obligations with IL&FS Financial Services Limited (IFIN). LIC is the single largest shareholder with over 25 per cent stake in IL&FS and Japan's Orix Corp owns a little over 23 per cent.

IL&FS Employees Welfare Trust holds 12 per cent in the company. The Abu Dhabi Investment Authority, HDFC and Central Bank of India hold 12.56 per cent, 9.02 per cent and 7.67 per cent, respectively, in the cash-strapped company. SBI has the lowest stake, at around 7 per cent, in the company.

In the show-cause notice, former IFIN directors have been accused of sanctioning loans worth thousands of crores to certain entities by "overlooking negative assessment by the credit risk assessment group" and without recording any cogent justification, despite having full knowledge that the assets of the borrower entities were stressed.

Besides, loans given to several entities were written off, the notice said while charging the former directors of being "prima facie responsible for causing financial stress and losses to the company by acting in a malafide manner".

In some cases, the notices have alleged, the former directors were responsible for sanctioning loans without any security or with inadequate collaterals.

The former directors have also been charged with "facilitating money laundering" by some entities who diverted the loan amount to individual accounts of directors of the borrower company, including those from the IL&FS group itself. As such individuals were allowed to go scot-free, it showed "conspiracy in loan sanctioning," the notice said.

The former directors have also been accused of facilitating some external agencies, including contractors of ITNL (IL&FS Transportation Networks Ltd), to become lenders and earn as an intermediary. In some cases, the directors were instrumental in deceptively creating "senior lenders' rights" in favour of such intermediaries after the default of ITNL had already taken place, the notice has said.

Insurers must use judgment while investing, says IRDAI

Have asked companies not to rely only on external ratings'

The Insurance Regulatory and Development Authority of India (IRDAI) said that insurance companies should not only rely on external ratings but should use their own judgment while investing.

Interacting with the media on the sidelines of the Global Conference of Actuaries organised by Institute of Actuaries of India, IRDAI chairman Subhash Chandra Khuntia said, "We have told insurance companies that they should not only be looking at the ratings. They also need to apply their own judgement." The regulator made the comments while responding to a question regarding insurance companies' exposure to troubled infrastructure conglomerate IL&FS in which Life Insurance Corporation, the biggest shareholder, also has an exposure.

"Each insurer has a separate exposure. For any investment, our requirement is that it should be done in highly-rated investments. Insurers will have to take necessary actions for those investments," he said. IL&FS was AAA rated but after the company started defaulting on debt instruments, its rating was cut to junk.

To a question on LIC's stake in IDBI Bank, he said LIC was yet to give a roadmap on the timeline to bring down its stake to 15%, from 51%, as per regulatory norms. LIC had recently acquired stake in the bank from the Centre.

He also highlighted the importance of actuaries and technology while delivering his speech.

"With the emergence of technologies like big analytics, the role of actuaries will expand manifold. The role of actuaries are more important in innovating insurance product which are transparent and understandable to a common man," he said.

The IRDAI has taken big digital strides in developing a 'regulatory sandbox', a state-of-the-art concept that aims to promote safe digital growth in the insurance industry.

IRDAI asks insurance firms to not rely entirely on credit ratings

Regulator Irdai Tuesday asked insurance companies to be careful with their investment decisions saying they should not to just rely on the credit ratings but their own judgement as well. It could be noted that some of the listed companies of the now crippled IL&FS group were downgraded by Icra and Care to below investment grade following a string defaults since late August last year.

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When asked about the investments made by various insurers in debt-ridden IL&FS, which used to have AAA-ratings, Khuntia said in such cases insurers will have to watch and take action on those investments accordingly, and if required make provisions. "In case there is some change in the rating, they will have to take appropriate action. It will not be possible to tell them exactly what to do...we are making them aware that they will have to be proactive so that policyholders' interest is protected," he said.

He also clarified the regulator has also not asked insurers to pull out their investments in companies whose ratings have been downgraded as it could impact the markets. He said the Irdai will soon be communicating a timeline to LIC, which has acquired 51 per cent stake in IDBI Bank, to reduce its stake to 15 per cent.

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Publication: First Post

Link: <https://www.firstpost.com/business/irdai-wants-insurers-to-use-own-judgement-along-with-rating-before-investing-asks-to-make-provisions-for-ilfs-exposure-6205811.html>

IRDAI wants insurers to use own judgement along with rating before investing, asks to make provisions for IL&FS exposure

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Representational image. Reuters.

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IRDA has no plans to dismantle motor 3rd party tariff regime : Khuntia

When asked about any possibility of removing the third party motor segment from tariff regime S C Khuntia, Chairman, IRDAI, on the sidelines of the 20th Global Conference of Actuaries, said, "Often general insurers complain us that tariff was not adequate and they are bleeding due to the loss making portfolio.. However, if it is detariffed, a cut- throat competition will begin. We are looking at various options on the issue."



Sunil Sharma(L), president, Institute of Actuaries of India, offering a bouquet of flowers to SC Khuntia, chairman, IRDA , at the 20th Global Conference of Actuaries held in Mumbai on Tuesday

The insurance regulator IRDAI has ruled out dismantling the third party motor tariff system, which is still regulated by the the insurance regulator in the post detariffication period.

IRDA way back in 2007 had deregulated the pricing of the entire range of insurance products except the third party motor premium.

Every year by March 1, the IRDAI unveils the new third party motor pricing for the year after receiving the feedbacks from the insurers.

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In fact, a few years back, IRDAI had mooted a proposal to dismantle the tariff system in the third party motor segment but called it off after PSU general insurers opposed the proposal.

On the insurers' exposure to the financially battered IL&FS, Khuntia said that each insurer has got different kinds of exposure in the company.

"We have said that insurers should do adequate provisioning and can't write them off," said Khuntia.

Insurers are advised to invest in high rated companies only and in case the rating comes down in due course of time, then the insurers should apply their own judgment to respond to the situation.

"It is not possible for Irda to tell them what to do exactly. The only thing that we have to protect policyholders' interest," he said..

On the 51 per cent investment by the Life Insurance Corporation(LIC) in IDBI Bank, IRDA chief said tat the regulator has to give a timeline to the corporation by when it should bring down its stake in the Bank to 15 per cent.

"But we are yet to do so," he said.

On the possibility of launching a long-term health insurance policy similar to the long term motor policy, Khuntia said. unlike life insurance where there is a life table available, the general insurance industry didn't have such facility.

"So, we can make long-term health insurance policy for two or three years," said Khuntia.

Addressing the inaugural session of the 20th Global Conference of Actuaries, KhuntiaIRDAI, said, "With the emergence of technologies like big analytics the role of actuaries will expand manifold. The role of actuaries are more important in innovating insurance product which are transparent and understandable to a common man."

Under the direction of the IRDAI, India is emerging as a thought leader in adapting to the evolving accounting and financial risk policies around the globe (like IFRS and risk-based capital and supervision). The IRDAI has taken big digital strides in developing a 'regulatory sandbox', a state-of-the-art concept that aims to promote safe digital growth in the insurance industry.

IRDAI chief rules out dismantling of third party motor tariff system

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On the 51 per cent investment by LIC in IDBI Bank, the IRDAI chief said the regulator has to give a timeline to LIC by when it should bring down its stake in the bank to 15 per cent. "But we are yet to do so," he said.

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CALL FOR ARTICLES

We invite articles from the members and non members with subject area being issues related to actuarial field, developments in the field and other related topics which are beneficial for the students of the institute.

The font size of the article ought to be 9.5. Also request you to mark one or two sentences that represents gist of the article. We will place it as 'break-out' box as it will improve readability. Also it will be great help if you can suggest some pictures that can be used with the article, just to make it attractive. Articles should be original and not previously published. All the articles published in the magazine are guided by EDITORIAL POLICY of the Institute. The guidelines and cut-off date for submitting the articles are available at

http://actuariesindia.org.in/subMenu.aspx?id=106&val=submit_article

6th Capacity Building Seminar on Retirement Benefits (CBRB)

Organised by: Advisory Group on Pension, Other Employee Benefits and Social Security (AGPEBSS), IAI

Venue: The Pilazio Hotel, Gurugram

Date: 14th March, 2019

Mrs. Preeti Chandrashekhar, kicked off the 6th Capacity Building Seminar on Retirement Benefits (6th CBRB) by emphasizing the importance of assumptions used in actuarial valuations and our ability to explain experience vs. assumptions. She introduced Mr. Kulin Patel who is a Senior Actuary & Director Client Account Management at Willis Towers Watson and a Chairperson of AGPEBSS. Mr. Patel, in his opening remarks appreciated a good turn around at the seminar and thanked in advance the Institute, the Speakers, the participants, the volunteers and Advisory Group members. He provided an overview of the agenda for the day.

Session : Analysis of actuarial gains/losses

Speaker: Mr. Hemanshu Jain



With auditors and clients requesting more detailed explanations behind change in numbers, the session provided hands on experience around analysing gains/losses through practical examples and case studies.

Mr. Hemanshu Jain explained actuarial gains and losses on the liability side as changes in the present value of the defined benefit obligation (DBO) which

result from experience adjustments and changes in actuarial assumptions (financial and demographic assumptions). Determination of change in DBO due to an assumption change is straight forward. When multiple assumptions need a change, order of assumption change runs materially impact change in DBO amount. This was discussed using a case study where both salary rate and attrition rate were changed. While the order of these assumption changes had different impact on DBO amounts, the final DBO amount under both these scenarios remained the same. The group acknowledged that currently there are no specific guidelines from the Institute of Actuaries of India (IAI) around which order to follow.

Mr. Jain explained gains/losses due to experience as deviation of plan's actual experience vs. assumptions made. The expected liability for each employee is calculated using the formula $PBO_{Exp} = (PBO_{LY} + NC_{LY}) (1 + i) - BP_{LY} (1 + i * 0.5)$, where i is the discount rate used in last valuation. The above liability is then compared with the actual liability which is calculated based on final data and same assumptions as last year. The difference between expected liability and actual liability is gain/loss due to experience. The sources of these gains/losses include salary increases, data changes, leave availment, etc. Mr. Jain discussed two case studies covering gains/losses arising due to salary increases and decrements. Similarly, gains/losses on asset side (investment experience) were explained using another case study which focused on reasons such as actual vs. assumed rate of return on assets, timing and amount of cash flows.

The detailed gain/loss analysis not only uncovers calculations problems and data errors, it also ensures consistency of coding/calculations year over year, indicates reasonableness of assumptions and most importantly assists in providing comprehensive explanation to the clients by building a reasonable confident story around what happened.

Session : Aligning the results to assumptions setting

Speakers: Mr. Khushwant Pahwa



Mr. Khushwant Pahwa demonstrated the framework which one should follow while conducting assumptions review in order to set assumptions which are more realistic and which will eventually result in lower experience gain/loss. Setting up of salary increase assumption and availment rates assumption was primarily discussed.

Mr. Pahwa discussed four indicators to help determine salary increase assumption. First indicator is increase in average salaries over the year which can be a good indicator for a stable company, however not for companies facing high attrition. Second indicator is simple average of salary increases. Third indicator is a weighted average of salary increases with weights as opening salaries. And the fourth indicator is a weighted average of salary increases with weights as opening liabilities. Mr. Pahwa suggested the fourth indicator as the best indicator. Common employees every year are looked into to perform the above analysis.

While explaining availment rates, Mr. Pahwa explained that availment is more of a behavioural issue. He explained the difference between Individual LIFO and Group LIFO and suggested to look at saving rates as well while looking at availment rates.

Session : New Mortality Tables - readiness to implement

Speakers: Mr. Kulin Patel

The aim of the session was to bring awareness and to educate practitioners working in employee benefits domain in India around new mortality table - Indian Assured Lives Mortality (2012-14) Ult. (IALM 2012-14),



as well as to seek thoughts around readiness to implement the above table.

Mr. Kulin Patel explained that the new mortality table was published by IAI in 2018 which is based on the mortality study conducted by the Mortality and Morbidity Investigation Committee (MMIC) within Insurance Information Bureau of India (IIBI) with the guidance of IAI and Life Insurance Council. The new table replaces the earlier IALM 2006-08 Ult. mortality rates. The new rates reflect observed data for 24 life insurance companies covering the investigation period 1 April, 2012 to 31 March, 2014. The new table is effective 1 April, 2019 for the purposes of IRDAI Regulations. The Standard table comprises of graduated ultimate mortality rates of duration 2 & over pertaining to **Male insured lives that are medically underwritten at inception**. This is not a combined table.

Mr. Patel highlighted key differences between IALM 2012-14 and IALM 2006-08 - there has been a worsening in mortality rates around ages 13-21 in IALM 2012-14. Secondly, the new table does not cover lives under annuity policies and group life insurance experience. The new table also does not have comprehensive and reliable enough exposure and experience for post age 70 policies and therefore typically gets used for pre-retirement mortality.

Talking around readiness to implement the new table, Mr. Patel recommended to have deeper discussions with clients and auditors and apply judgement and proportionality before making a decision. The new table may not necessarily be relevant and suitable on its own for our purposes and employee base. The impact of using new table over the old table is expected to be insignificant (approximately +/- 0.02%). Insights were also shared around upcoming 2015-2017 tables (combined table and annuitants table) which are expected to be released towards the

end of 2019 calendar year. There were mixed views around readiness to implement the new table.

A copy of IALM 2012-14 Ult. Mortality rates can be found at

[http://www.actuariesindia.org/publication/Indian_Assured_Lives_Mortality_\(2012-14\)_Ult._\(IALM_2012-14\).pdf](http://www.actuariesindia.org/publication/Indian_Assured_Lives_Mortality_(2012-14)_Ult._(IALM_2012-14).pdf)

Session : Update on NPS/APY/New Mega Pension Yojana

Speakers: Mr. Supratim Bandopadhyay



Mr. Ritobrata Sarkar, opened the session by sharing some interesting findings from a research conducted by Willis Towers Watson in 2018 where 2,000 individuals working primarily in medium and large private sector companies in India were interviewed around the topics of financial importance and general well-being. The three key findings he shared were - a) Retirement savings is considered as one of the financial priorities for people in their 30s and above. B) About 65% of individuals still rely on their employer provided retirement plans. C) About 40%-50% of employees highly value their retirement plans and consider them as a retention incentive. Mr. Sarkar said that the retirement income primarily comes from Gratuity Plan and Provident Fund in the organized sector and that gives about 30% replacement ratio for an individual who starts and leaves a Company at age 60. To enhance this ratio further, Government is taking measures by introducing schemes like National Pension System (NPS). Similarly, the schemes such as Atal Pension Yojana (APY) and New Mega Pension Yojana were introduced for the unorganized sector.



Mr. Sarkar then handed over the session to **Mr. Supratim Bandopadhyay** who talked about PFRDA journey, system architecture and different schemes available. There was a detailed discussion around NPS, its features including costs and fees, online web access, mobile app, tax incentives, recent announcements and policy changes. The session ended with the discussions around APY features, comparison between APY and Pradhan Mantri Shram Yogi Maan-Dhan (PMSYM) and grievance redressal mechanism.

Session : Overview of current strategy on education/syllabus overview etc.

Speakers: Dr. K. Sriram



The session was divided into two parts.

- A) Significant changes from prior education curriculum; and
- B) Aspirational goals of IAI.

Dr. Sriram discussed the following four key differences between new and old education curriculums.

1. Nomenclature

Old Curriculum	2019 (New) Curriculum
Core Technical (CT)	Core Principles (It comprises 3 main modules - Core Statistics (CS), Core Mathematics (CM) and Core Business (CB))
Core Application (CA)	Core Practices
Specialist Technical (ST)	Specialist Principles
Specialist Application (SA)	Specialist Advance

2. Grouping has changed primarily at CT level.

Old Curriculum	2019 (New) Curriculum
CT3	CS1
CT4 & CT6	CS2
CT1 & CT5	CM1
CT8	CM2
CT2	CB1
CT7	CB2
CT9	CB3

3. Content has changed primarily at CT level.

Example: Financial Economics paper now covers both Assets and Liabilities.

4. Testing format. In addition to theory papers, computer-based papers have also been included.

Example: CS1 will be evaluated at 2 levels - a theory paper (CS1A) and a computer-based paper (CS1B).

Dr. Sriram then discussed few aspirational goals of IAI and provided insights into what the Institute is planning to do going forward. He said the Institute is focused more on education and is open to ideas such as adding a module in actuarial program or offering a diploma in a particular module. The Institute may add more programs at Horizontal level such as Predictive Analytics. Broad areas of practice were referred to as Verticals. Dr. Sriram invited volunteers who have a specialization and who are willing to write a module and add a Horizontal. He said that the Institute is open to add more Verticals as well and has already started establishing links with various communities like Banking, Investment Banking, Data Analytics through different seminars. This will help increase visibility of our profession to stakeholders/non-actuarial circles.

Session : Update on Asset Regulations, Asset Liability studies and options for India

Speaker : Dr. K. Sriram

The aim of the session was to discuss the financial risks inherent in the way the asset allocation is done and how to quantify those risks. Interest rate risk and credit risk were primarily covered.

Dr. Sriram started the session by sharing mandatory asset allocation pattern for Gratuity Funds/Superannuation Funds in India. Through a small case study, he discussed the interest rate risk exposure of the Gratuity Plan as well as the overall interest rate risk exposure of the Company. He then focused on the credit risk. Another case study was circulated and the audience was asked to assess the credit risk of the sponsor. Both Structural Models (Merton Model & KMV) as well as Credit Migration Models to assess the credit risk were discussed. The probability of default and the corresponding distance to default were calculated using Structural Models. The probability of default using Rating Migration Matrices under the Credit Migration Models was also calculated. In the end, Dr. Sriram touched upon Interpretation of "Reimbursement Rights" under INDAS19.



In the end, **Jenil Shah**, extended a vote of thanks to everyone who participated in the Seminar, including all Speakers and IAI.

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LIBOR - is it time for a long-serving hero to retire?

Introduction

The London Interbank Offer Rate ("LIBOR") originated in the late 1960s and 1970s in order to facilitate syndicated loan transactions and to increase the transparency of their pricing. Today, it is a ubiquitous number forming the backbone of financial markets across the world. LIBOR has been widely used as the go-to reference rate for valuing financial contracts, including sophisticated derivatives contracts, corporate bonds, residential mortgages, and futures contracts. Produced for five currencies, including CHF, EUR, GBP, JPY, and USD, and for seven tenors, including overnight / spot, 1 week, 1 month, 2 months, 3 months, 6 months, and 12 months, it is a widely used benchmark for short-term interest rates. It is not only used to value financial contracts (especially the ones that include a floating-interest rate leg, such as Interest Rate Swaps ("IRS")), but also used in accounting, discounting, and regulatory cost of capital calculations. Seen by some market-experts as a beacon of estimating short-term liquidity and of potential market risks to follow, LIBOR is used as a reference rate by an estimated USD350 trillion of outstanding contracts

in maturities ranging from overnight to more than 30 years.

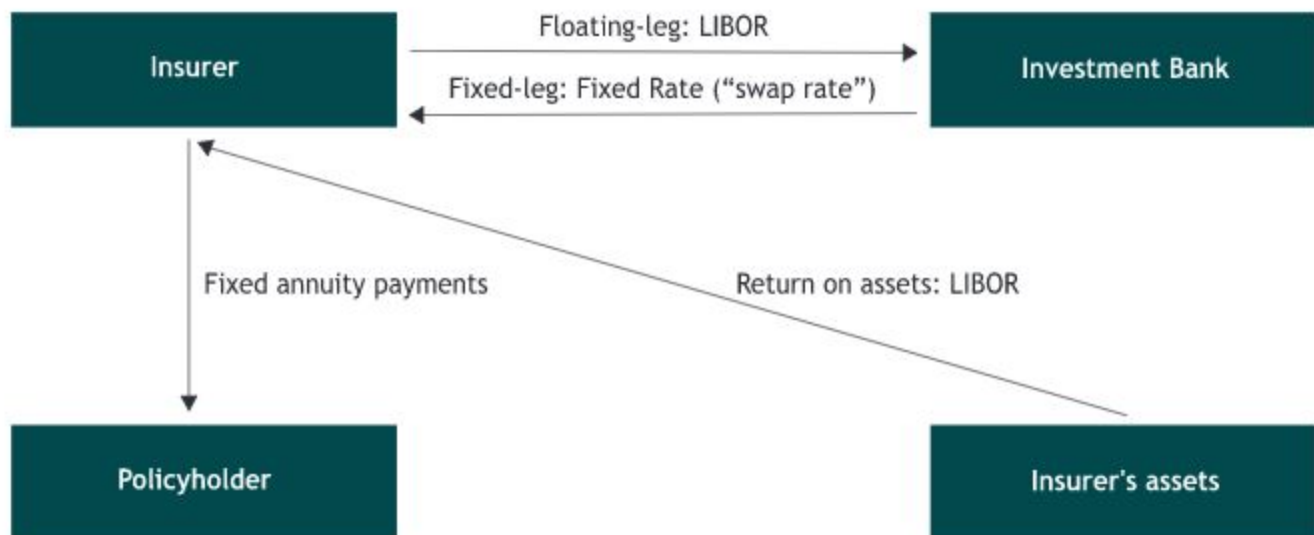
LIBOR in action

LIBOR is a rate that concerns not only financial institutions, including banks, insurers, and hedge funds, but also households, alike. As a rate, it is so deeply embedded in our financial system that contracts as sophisticated as swaptions or IRS transactions, or as traditional as student loans or residential mortgages are effectively hinged on it.

The case of an insurer

As an example, consider the case of an insurer, which is supposed to pay out guaranteed, fixed annuities to the policyholders. To hedge the risk of adverse movements in interest rates, the insurer decides to enter into a long-receiver IRS with an investment bank, a contract under which the insurer receives coupon payments based on a fixed rate and pays out floating rate based on LIBOR.

The agreement can be viewed as a combination of transactions as shown below:



At the time of inception of the IRS, the swap rate is calculated such that the expected present value of payments under fixed-leg less the expected present value of payments under floating-leg is zero, signifying that a swap contract has zero value at the time of its inception. Conventionally, the fixed-leg is paid out semi-annually and the floating-leg is paid out quarterly;

however, the arrangement of exchange of the payments can vary.

Using such an arrangement, the insurer becomes relatively immune to the movement in interest rate and may be able to meet the guarantee, especially under adverse movements in interest rates.

The case of a student

In many countries, the comprehensive interest rate levied by banks for student loans—or any loan, including residential mortgage or credit card loan—would be calculated as LIBOR plus a “spread”. While the spread is usually constant throughout the tenor of the loan, the

total comprehensive interest rate levied by the bank would vary because of changes in the underlying LIBOR.

The agreement can be viewed as a series of transactions shown below:



A similar analogy could be extended to almost all cases where a loan consists of a floating-leg.

The calculation of LIBOR

Calculated as at 11:00 am on each London business day, LIBOR is set by a panel of banks (“Panel Bank”), signifying an average rate at which Panel Banks could obtain a wholesale, unsecured loan for a given period and in a given currency. Each Panel Bank submits its bid, replying to the following LIBOR Submission Question:

“At what rate could you borrow funds, were you to do so by asking for and then accepting interbank offers in a reasonable market size just prior to 11 A.M.?”

Panel Banks then make their submissions in the form of an annualised interest rate in response to the LIBOR Submission Question between 11:05 A.M. and 11:40 A.M. Each Panel Bank must ensure that its submissions are

determined using an effective methodology based on objective criteria and relevant market information, and that it submits the actual rate that it expects to pay or is paying to another bank for an unsecured funding. Bids may utilise qualitative factors such as the “expert judgement” of the submitter. The ICE Benchmark Association (“IBA”), the regulatory body managing LIBOR, then ranks the bids, removing the outliers through omission of upper and lower quartile rates. The IBA then calculates the relevant LIBOR as the arithmetic mean of the remaining submissions, assigning equal weight to each bid submitted by each bank and publishing the rate at 11:55 A.M London time on each applicable London business day.

Below is the composition of Panel Banks.

Bank / Currency	USD	GBP	EUR	CHF	JPY
Bank of America N.A. (London Branch)	✓				
Barclays Bank plc	✓	✓	✓	✓	✓
BNP Paribas SA, London Branch		✓			
Citibank N.A. (London Branch)	✓	✓	✓	✓	
Cooperatieve Rabobank U.A.	✓	✓	✓		
Crédit Agricole Corporate & Investment Bank	✓	✓			
Credit Suisse AG (London Branch)	✓		✓	✓	
Deutsche Bank AG (London Branch)	✓	✓	✓	✓	✓
HSBC Bank plc	✓	✓	✓	✓	✓
JPMorgan Chase Bank, N.A. London Branch	✓	✓	✓	✓	✓
Lloyds Bank plc	✓	✓	✓	✓	✓
Mizuho Bank, Ltd.		✓	✓		✓
MUFG Bank, Ltd	✓	✓	✓	✓	✓
Royal Bank of Canada	✓	✓	✓		
Santander UK Plc		✓	✓		
Société Générale (London Branch)		✓	✓	✓	✓
Sumitomo Mitsui Banking Corporation Europe Limited	✓				✓
The Norinchukin Bank	✓				✓
The Royal Bank of Scotland plc	✓	✓	✓	✓	✓
UBS AG	✓	✓	✓	✓	✓

The infamous episode

The inherent subjectivity in the calculation of LIBOR, including the discretion given to the Panel Banks to use “expert judgement” while calculating it, gave Panel Banks the ability to not only manipulate the rate at their will but also

calculate the rate artificially when the market for unsecured interbank lending dried up.

Market-experts, analysts, and regulators across the world took a particular umbrage against the Panel Banks, accusing them of rigging LIBOR, between 2005 and 2010. Many Panel Banks were accused of not only maintaining LIBOR at the level that was most lucrative and monetarily beneficial for their trading desk, but also colluding with other member banks and persuading them to alter the rates that were favorable for their trader for quid pro quo transactions with other banks, antics that resulted in inflated gains for their traders. During the global financial crisis, these banks resorted to bidding at artificially low rates, portraying a misleading image that they could borrow cheaply, and that the financial health of the bank was better than it actually was.

It was established in a series of statutory enquiries and lawsuits regarding the possible manipulation of the LIBOR and the possible collusion amongst the Panel Banks, that banks were indeed inflating or deflating LIBOR for their benefit. The ramifications of these incidents were not restricted to USD9.0 billion that these Panel Banks cumulatively paid in fines; they extended to exposing the cartel of other banks colluding to benefit their trading desks.

This incident resulted in several traders being indicted, making experts question the intrinsic value of LIBOR as a go-to benchmark rate.

Aftermath of infamy

In the aftermath of a series of unscrupulous events that shook the financial world, rattling confidence of financial investors and households alike, a debate started into whether LIBOR, a number whose sanctity on which pins trillions of dollars' worth financial contracts, is really necessary; and whether the component of "expert judgment" takes precedence over the lessons of morality that should govern the Panel Banks and over the effective methodology that Panel Banks must use. For context, the combined GDP of all the countries in the world was reported in 2018 by International Monetary Fund ("IMF") at approximately USD80 trillion, a meagre 25% of the total value of financial contracts which are hinged on LIBOR!

During and after the global financial crisis, banks were—and are—increasingly hesitant to partake in unsecured short-term lending, resorting to repos, bonds, and other forms of lending instruments. In principle, the underlying on which LIBOR hinges is essentially the unsecured lending transactions amongst Panel Banks. If this market dries up, then while calculating LIBOR, banks are forced to put more weight

on "expert judgement" than on actual transactions. As a result of these actions, LIBOR, as a rate, loses its accuracy and objectivity. Willem Buiter, a former member of Bank of England's Monetary Policy Committee, succinctly described LIBOR as having become, *"the rate at which banks don't lend to each other."*

With a decrease in the number of transactions amongst Panel Banks, the liquidity in the market has declined considerably, leading to increasing reliance on "expert judgement" by the Panel Banks to produce the bids. On 22 July 2014, the Financial Stability Board ("FSB"), the body which comprises all major G20 economies and which makes recommendations regarding the global financial system, published a report titled, "Reforming Major Interest Rate Benchmarks". In this report, the FSB highlighted the need to anchor LIBOR submission and rates to the greatest extent possible to actual transactions, a move made to ensure that LIBOR is a true representation of market conditions.

Speaking on 27 July 2017 at Bloomberg London, Andrew Bailey, the Chief Executive of the Financial Conduct Authority ("FCA"), the regulatory body governing ICE, addressed concerns regarding sustainability of LIBOR in its current form. Referring to FSB's report, he mentioned that endeavors of making LIBOR a true representative of market conditions are difficult to fulfill, for the underlying market that LIBOR seeks to measure, i.e. the market for wholesale-unsecured inter-bank lending, is no longer sufficiently active. Bailey mentioned in his speech,

"One currency-tenor combination, for which a benchmark reference rate is produced every business day using submissions from around a dozen Panel Banks, these banks, between them, executed just fifteen transactions of potentially qualifying size in that currency and tenor in the whole of 2016."

Regarding his and the FCA's constant efforts to persuade Panel Banks to submit their bids, Bailey mentioned,

"Over the past years I, and my predecessors and colleagues at the FCA, have spent a lot of time persuading panel banks to continue submitting to LIBOR. We have been concerned that withdrawal of panel banks would weaken the representativeness and robustness of the rate. And we have been concerned about the risk that if one or more banks leave, other panel banks would want to do the same."

Bailey also mentioned that UK and European legislation provide the FCA the powers to compel banks to contribute to LIBOR when necessary, albeit not indefinitely.

The quest for replacement

Mentioning that the discontinuance of LIBOR should not be considered a “black swan” event, but rather an event that is all but confirmed to happen, Bailey and the FCA have persuaded the Panel Banks that they publish LIBOR until the end of 2021, after which they will no longer persuade Panel Banks to submit their bids.

The pertinent question that stems out Bailey’s speech is:

Currency	ARR	Administrator
USD	Secured Overnight Financing Rate (“SOFR”)	Federal Reserve Bank of New York
GBP	Sterling Overnight Index Average (“SONIA”)	The Bank of England
EUR	Euro Short-Term Rate (“ESTER”)	European Central Bank
CHF	Swiss Average Rate Overnight (“SARON”)	SIX Exchange
JPY	Tokyo Overnight Average Rate (“TONAR”)	The Bank of Tokyo

These ARR’s are not like-for-like replacements for LIBOR:

- Firstly, the ARR’s are intended to be near risk-free in terms of bank credit risk (although derived in different ways). SOFR, for instance, is based on Treasury repo transactions, representing close to a risk-free rate (as treasury repos are secured funding). LIBOR, however, represents the rate for unsecured funding, and therefore intrinsically includes a perceived credit risk premium. The lack of credit risk premium might facilitate for a better pricing of some financial derivatives. For instance, derivatives entered into with a purpose of hedging against level of interest rates in the market need not include credit risk premium for their pricing.
- Secondly, LIBOR is a forward-looking rate made available across seven different maturities; these ARR’s, however, are mostly overnight rates that are backward-looking in nature and are based on actual transactions. The respective working groups are exploring possibilities of publishing these rates for maturities beyond overnight. The FSB posits that the working groups across different countries focus on backward-looking rates rather than on forward-looking rates, as it considers backward-looking rates as more robust.

The transition to ARR’s

New contracts

With the market for ARR’s becoming increasingly liquid, albeit not across longer maturities, firms and insurers can start assessing when to shift from contracts based on LIBOR to those based on other ARR’s and when to begin the process of updating the systems and infrastructure to deal with contracts based on new

how do you replace something that is ubiquitous and forms such an inextricable part of the financial system? Understanding the gravity of the situation, working groups across the E.U., U.S.A., Japan, Switzerland, and U.K., have started seeking and / or developing Alternative Reference Rates (“ARR”) to LIBOR in their respective currency. After several meetings amongst members of working groups across different countries, the following ARR’s were recommended:

ARR’s. On July 26, 2018, Fannie Mae issued USD6 billion in floating-rate notes, in three maturities, each with coupons referenced to SOFR, the first-ever SOFR-based securities issuance.

Legacy contracts

The case for managing legacy contracts is a bit more challenging than that for new contracts, especially for the ones expiring post 2021, the date beyond which LIBOR might not be published. Most of the legacy contracts which hinge on LIBOR have a fall-back clause which was added to the contract at the time of inception of the contract. However, fall-back clauses were added with temporary lapses in the publication of LIBOR in mind. Now that the rate might be permanently unavailable post 2021, a permanent solution needs to be found for contracts maturing after 2021.

The International Swaps and Derivatives Association (“ISDA”), an organisation which comprises several market participants in the market for over-the-counter derivatives and which creates standardised derivatives contract to enter into derivatives transaction, has led an initiative focusing on creating more robust fall-back clauses referencing ARR’s; however, both parties to the contract will have to agree to the new fall-back clauses before there can be any amendments to the existing contracts.

Firms and insurers should start by taking a stock of their inventory of contracts, assessing what amount of contracts matures later than 2021, and by understanding the potential impact and value-at-risk due to the transition. After developing a thorough understanding of the language of fall-back clause, they should assess whether the language ought to be amended, negotiating with the other party to do so.

Intertwined contracts

For a firm or an insurer, several contracts could be interlinked. Consider a scenario in which the insurer buys a swaption straddle to hedge its volatility exposure, simultaneously taking a long position in receiver swaption and in payor swaption. An amendment to just one contract could jeopardise the economic rationale of entering into the contract in the first place, creating a situation of possible losses and gains on the total trade. A large insurer could have myriad financial contracts worth several billion dollars which are interlinked and which were entered into for hedging its liability and exposure to position in other assets. A change of a few basis points to the underlying LIBOR, or a transition to a rate different than that used during the time of valuing the contract, could possibly create a situation of quandary for the insurers. Such a situation calls for robust measures to reduce or possibly mitigate basis risk.

Conclusion

While talks on the transition away from LIBOR may pick up traction soon, financial institutions and insurers cannot dodge the pertinent question for long. The deadline of 2021 is not distant, and it warrants that some major steps be taken to ensure a smooth transition. Firms should start by creating an internal roadmap of the transition, delineating clearly internal deadlines; it is imperative that institutions start assessing their exposure at the earliest, segregating legacy contracts expiring after 2021. Contracts for which the language of fall-back clause needs to be updated should be assessed along with other intertwined contracts of heterogeneous nature, and the language should be updated after negotiating with the other party.

Potential impediments

- Failure in estimating correctly the impact of transition away from LIBOR to ARR's could have profound ramifications for a financial institution and an insurer.

- For an MNC having exposures in multiple currency, which has tried to hedge that exposure using cross-currency swaps, the transition could pose significant challenges, especially if the transition to ARR's were to happen at different times for different currencies.
- Given that these proposed ARR's are not like-for-like replacements for LIBOR, situations in which one party is subject to windfall gain and the other to windfall loss could arise. The differences between LIBOR and ARR's—exemplified by the fact that LIBOR is forward-looking in nature and ARR's are backward-looking, and by the fact that there is an inherent credit risk-premium in LIBOR, a premium that ARR's lack—could pose additional challenges for loan contracts, albeit not for derivatives contract.
- Additionally, households or students paying mortgage or loans might find the transition from LIBOR to a new rate difficult to comprehend. For instance, under the current scenario, a student, for his loan denominated in USD, pays an interest equal to "LIBOR plus 100 BPS"; after transitioning to SOFR, the contract stipulates that interest rate on his existing loan be equal to "SOFR plus 130 BPS". The student might be forced to wonder that he is worse off under the new arrangement than under the old arrangement because of the higher spread that he is paying under the new arrangement; however, in reality SOFR, on an average, could be 40 BPS lower than LIBOR, so the student might actually be better off under the new arrangement than under the old arrangement. Situations such as this are more than likely to arise if there is information asymmetry between both parties to the contract.

We conclude with an extract from Bailey's speech, hoping that his following words will resonate with financial institutions:

"Work must begin in earnest on planning transition to alternative reference rates that are based firmly on transactions."

Written by



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1. Profession & Actuaries: A profession is basically a voluntary organisation whose members commit themselves for the welfare and fruitful development of all in the society through their activities in some chosen field. The profession of Doctors for example arose with such an objective, to alleviate the people from distress caused by disease or injuries. It is because of this commitment to society at large that the profession is supported by the society. All persons who may profess to be a Doctor will not be acceptable to society because some such may be bogus practitioners without having the necessary expertise to indulge in such activity. So an expertise in the field of activity is a sine qua non for one to be a professional. A professional body has to exist with a suitable educational frame work to admit persons as members in that field and such a body is basically beneficial to society because people then know to whom they should go to get dependable and competent expertise they need. In this way a profession at once basically being serviceable to society also equips the members of the profession to cater to the need of the public with the expertise they garner from their education, training and experience. Actuarial Profession evolved basically from the need felt by the masses of the society. We must always bear this in mind that the support of the public is at the root of our success as a Professional Body. Self discipline is synonymous with the consciousness of promoting the public interest through our activities.

2. Actuarial activity and various stakeholders: An actuary's activity as a professional person affects many others connected with that activity - or it impinges on many stake holders. Every stake holder has his own objective which may sometimes contradict the interests of some other stake holder in the game. The basic philosophy of a profession is that we must balance equitably the interests of all stake holders connected with our activity regardless of the fact our services are paid for by one or other stake holder. Sometimes our opinion may not be in the total interest s of a stake holder who pays us. But that should not be a deterrent to come out with our objective well argued opinion that only promotes the interest of the public. For example consider a Life Insurer who is willing to settle only maturity claims on time and do everything possible to defer or deny a death claim with no valid reason. An actuary associated with that insurer when it comes to his knowledge should study the matter and advise the insurer to settle the claim if he has every reason to believe that the denial was solely dictated by profit and not the real circumstances of the demand for claim. Such an advice is not only helping

the customer who purchased the policy but the insurer also. An insurer is acceptable to society as a fair player provided he is prompt and willing to settle claims because that is the best advertisement for him as a reputed entity that honours its promises through insurance. One may perhaps think that by always managing claims to the detriment of policyholders the profit prospects of the owners of the company is promoted whose capital is at stake in the business. On the contrary by denying and delaying claims on specious pleas, the customer's legitimate interests are affected adversely. That the customer has not the monetary means to seek legal remedy does not constitute a justification. By being fair to the customer and not be too legalistic actuaries promote only the company's acceptability among the public.

3. One of my experiences: A poor man was persuaded by the agent of an insurance company to purchase a life insurance policy for his daughter who was employed in an office. The man with his limited earnings had educated his daughter and finally she got a job and they were all hoping for brighter happier days. The girl purchased the policy. Unfortunately, within two years she fell down in her household premises by an accident, got a serious head injury to which she succumbed. A post mortem was done and the cause of death was established as head injury from fall. The family which was hoping to see brighter days was shocked. By that time the father was too old to go for work and he became poorer by this misfortune. One of his friends while discussing many things opined that he should have taken an insurance policy for her daughter. The old man replied that her daughter has a policy and he did not know what to do. He suggested meeting me. I advised him to prefer a claim as he was the nominee in the policy. He did so and I helped him. But to his shock a claim repudiation letter came stating that she had consulted a doctor once for giddiness and that she had not disclosed she had a case history of epilepsy. The fact was, on my own enquiry, that she was not taking treatment for epilepsy but a drug related to such treatment was prescribed for relief.

The policyholder again approached me and I drafted a further appeal for reconsideration to the head quarters Office of the insurer.

But that too was rejected and I also was a little bit shocked that a poor man was being denied the claim amount when facts of the post mortem report is the staring evidence of the proximate cause of death. The

client profusely thanked me for what I did and said he will leave the matter as he is fated that way. But I suggested that he should appeal to the Ombudsman for relief. But he said he has no money to go to a lawyer and helpless.

I consoled him and assured no expenditure is involved for him and I drafted the appeal to the Ombudsman and arranged to send it. The hearing was fixed and he was asked to appear before the Ombudsman with his arguments and that he can seek the assistance of a helper, not necessarily a lawyer. Being an actuary I wanted to avoid my being his helper before the Ombudsman. I requested the friend to appear on his behalf. I briefed him well and advised him put his arguments in simple straight forward language. The insurer's representative vehemently opposed.

But the verdict came shortly from the Ombudsman admitting the claim as genuine and reasonable with a direction to pay the claim and any delay on the part of the insurer will have to be compensated by interest payment.

The claimant policyholder said that the insurer will go to a court on appeal and he has no means to meet the legal expenses. I assured him that his claim will be met as the insurer as aggrieved by the decision of the Ombudsman has no right of further appeal.

He got the claim.

I felt the consolation that I served a public interest without taking a any fee or compensation and remembered the wise words of that late UK Actuary Redington. His quote is famous but is worth repeating:

"An actuary who is only and actuary is not an actuary"

He was a true professional and thought beyond the strict confines of profession and advocated to travel an extra mile to be always ready to serve the interest of the public.

4. Concluding Remarks: An actuary is generally regarded as disinterested. But when it comes to public interest all other things being in favour of the public, narrow limitation must give way to serve the policyholder. Because, without the policyholders' confidence in the philosophy of insurance and his legitimate expectations there is nothing wrong to be a little bit partisan. What is more, the insurance as a business will get greater credibility and acceptability.

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"Mr. S Chidambaram is fellow member of IAI."

The Actuary India wishes many more years of healthy life to the fellow members (above 60) whose Birthday fall in April - May 2019

A BALASUBRAMANIAN
A R PRABHU
M U UPADHYAYA
NICK TAKET
N M GOVARDHAN
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Background

We discuss the implication of the default of a 'financing-cum-project executing' giant- Infrastructure Leasing and Financial Services (IL & FS) on the accounting valuation of the embedded interest rate guarantee of exempt provident funds. Pension actuaries in the Indian actuarial profession should take cognizance of the possible measures of provisioning for the IL&FS default while valuing the embedded interest rate guarantee on exempt provident funds. As some regulators have already provided guidance for loss recognition, this could serve as a reference point for exempt provident funds with an exposure to IL&FS bonds. In particular, we focus within the Institute of Actuaries of India's Guidance Note 29.

IL&FS as a borrowing institution defaulted on its loan repayment of ₹400 crs in September 2018. In its wake, the existing regulatory guidance could be relevant for default provisioning for pension actuary whilst valuing the embedded interest rate guarantee on exempt provident funds (PFs).

Exempt PF funds' Context

The Employee provident funds that are self-managed by companies are granted the 'exempt status, if the rules of the PF set up by the establishment are not less favorable than those specified in section 6 of the EPFMP Act. Besides this, the employees should also enjoy other provident fund benefits that are at par with those under the Act. The exempt PFs have to match the interest rate on contributions as declared by the EPFO in order to retain the 'exempt' status.

Most investment of exempt PFs has historically been in debt securities. 'Debt' - now for many years in India - has always been synonymous with 'secure' returns. Moreover, the quasi- government nature of IL&FS with heavy weight investors like LIC, HDFC and SBI translated into the highest 'AAA' rating. Hence, a significant number of exempt PFs have an exposure to the IL&FS securities. However with a ratings downgrade and actual loan default, the IL&FS default needs to be provided for by adjusting the fair value of assets. It does not absolve the PF trusts to meet their obligation toward their employees. On a related note, many finance experts have remarked that the Public Provident Fund, a refuge of numerous small investors scouting for a secure return has sizeable exposure to IL&FS securities.

Given that the default has happened, it becomes important to determine the provision to be made against the exposure. For pension actuaries, it becomes important to view this default in the context of their responsibility under the relevant accounting standard (AS15/Ind AS 19), Guidance Note 29 and the prescribed market practice by the various regulators.

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The Pension Actuary's mandate

In the actuarial valuation report, the actuary certifies the content of the valuation report, along with the disclosures. In doing so, the actuary is also certifying the value of assets in order to arrive at the net provision/cost of the embedded interest rate guarantee. Therefore, the onus of determining if the provisioning for such a default is commensurate with market



practice (allowing for the client's judgment), partly lies on the actuary. An unusually low provisioning could result in the underestimation of the net obligation in the PF Trust, which would likely amount to professional negligence.

Hence, the actuary may have to sensitize the client about the importance of adequate provisioning. This also represents an opportunity for actuaries to engage more in the asset valuation of exempt PFs by quantifying future credit risk and embedded derivative contracts (as per Ind AS 109 or IFRS 9).

Professional Guidance

The Institute of Actuaries of India's Guidance Note 29 and AS15/Ind AS 19 prescribe the Fair Value of Assets in order to arrive at the net provision to be made in the books. In the strictest sense, the fair value of debt should reflect the current interest rate environment in the measurement of the obligation. However, historically, the assets considered are the ones reflected in the PF Trust's financial statements. Since, the balance sheet is not on a fair value basis, the 'Held-to Maturity' (HTM) approach is often employed in order to arrive at the value of debt securities. Now that a default has happened and the existing IL&FS securities downgraded, even the HTM accounting of debt securities will need to reflect the mark-down.

In this regard, it may be worthwhile to consider the prescribed approach by two regulators in the financial markets viz. the Reserve Bank of India (RBI) and the Securities and Exchange Board of India (SEBI). Establishments in industries other than the financial services are also likely to rely on this regulatory guidance in order to make the appropriate provision for FY 2018-19.

RBI View and Guidelines¹

Banks are exposed to around 60% of the total debt of ₹91,000 crores of the IL&FS group. The RBI has provided guidance that banks must regard IF&LS loans as non-performing assets (NPA) in their books of account and provide according to the RBI norms. Banks will have to make a provision between 15% and 40% on sub-standard non-performing assets whose duration lasts from six months to a year, based on whether it is secured or not. From the second year, the NPA will attract a provisioning of 100% on the unsecured portion and between 25%-40% between second and fourth year on the secured portion.

SEBI Guidelines

Amongst the downgrades by rating agencies of IL&FS debt, of particular note was the downgrade that led to the classification as a "Non-investment" grade security.

This resulted in a NAV decline of at least 25 mutual funds that held around ₹2,700 crores of IL&FS debt. This led to a worsening of NAV for mutual funds that invested in IL&FS debt securities which prompted the Association of Mutual Funds in India (AMFI) to propose to SEBI to allow "side-pocketing or segregating"² of IL&FS debt.

Despite the latitude given for segregating securities, SEBI states that, the valuation should take into account the credit event and the portfolio shall be valued based on the principles of fair valuation.

As per Master Circular for Mutual Funds dated July 10, 2018³ paragraph 9.7.4.2, provision is to be maintained for NPAs (debt securities) as follows:

Time since due date of interest	Total provisioning required for NPA's (debt securities) as % of book value
6 months	10%
9 months	30%
12 months	50%
15 months	75%
18 months	100%

¹<https://www.financialexpress.com/industry/ilfs-classification-rbi-rejects-bankers-plea-for-six-month-moratorium/1438021/>

²Side pocketing involves a fund segregating illiquid securities in default from other securities that are perfectly liquid, thus creating two funds. The fund may segregate the debt papers of IL&FS into a separate fund, while the rest of the good papers remain in the original fund, thus the good portfolio is almost unaffected by the bad papers.

³https://www.sebi.gov.in/legal/master-circulars/jul-2018/master-circular-for-mutual-funds_39491.html

Exempt PF trusts could also consider the nature and duration of their exposure to IL&FS debt and mirror the RBI provisioning norms prescribed for banks. Else a one-time write off regardless of the nature of loans could also be resorted to. The actual write off would also be dependent upon the employer covenant and the proportion of the PF trust's exposure to IL&FS securities.

Ind AS 109 principles

Ind AS 109 is a 'Fair Value' standard and hence is consistent with the fair value requirements for valuing



assets under AS 15/Ind AS 19. Notwithstanding the HTM proxy for fair value of debt securities that an Indian Actuary may consider, Ind AS 109 could be referred for an estimated provision.

Para 5.5.3 of Ind AS 109 requires 'at each reporting date, an entity shall measure the loss allowance for a financial instrument at an amount equal to the lifetime expected credit losses if the credit risk on that financial instrument has increased significantly since initial recognition'. Lifetime expected credit losses is defined as 'the expected credit losses that result from all possible default events over the expected life of a financial instrument' i.e. the expected NPV of credit losses on the financial instrument or the total expected credit loss on the instrument. In the context of IL&FS securities, this would entail anticipating the possible losses on such securities.

Para 5.5.3 of Ind AS 109 requires 'at each reporting date, an entity shall measure the loss allowance for a financial instrument at an amount equal to the lifetime expected credit losses if the credit risk on that financial instrument has increased significantly since initial recognition'.

Ind AS 109 defines credit loss as 'the difference between all contractual cash flows that are due to an entity in accordance with the contract and all the cash flows that the entity expects to receive (i.e. all cash shortfalls), discounted at the original effective interest rate (or credit-adjusted effective interest rate for purchased or originated credit-impaired financial assets)' and Expected Credit Loss (ECL) as 'the weighted average of credit losses with the respective risks of a default occurring as the weights'. These are recognised as a loss allowance as per Ind AS 109 paragraph 5.5.1. Thus, for the IL&FS debt securities, the ECL would need to be evaluated.

ECL can be defined mathematically as $ECL = \text{Exposure at Default (EAD)} \times \text{Probability of Default (PD)} \times \text{Loss Given Default (LGD)} \times \text{Effective Interest Rate}$ ⁴. Although, this is more relevant in the context of a loan portfolio of a

bank, it could possibly be used for loss provisioning for other industries, albeit with reduced rigour.

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Moreover, Ind AS 109 is silent on the methodology to determine PD, LGD or EAD. Hence, the ECL would depend upon factors like the nature of loan (secured, unsecured), the prevalent rating, besides other actors.

For arriving at the ECL of IL&FS securities, one approach could involve the homogeneous grouping of such securities. This grouping could be as per the nature, duration, etc of the debt, each with their own PDs and LGDs. The EAD, PD and the LGD for each group would then be reflective of the group's underlying risk. Example, the LGD for secured debt will be lower than the LGD for unsecured debt, due to the presence of collateral. Also, the PD for NPA could be "1", while for a downgraded security, it could be lesser than 1, depending upon the extent of the downgrade. This method would allow for the relative credit worthiness of each asset and the provision will be reflective of this. Although such an approach would be influenced by considerable management judgment, it could be a tool to gauge the provisioning consistency with the regulatory prescription.

Conclusion

An appropriate allowance for the default in the fair value of plan assets while valuing the Interest Rate guarantee in the Exempt PF funds is necessary. The provision made by the PF Trust in its own books of account may not reflect the true underlying risk. Rather, the mandate for the pension actuary is to arrive at the appropriate provision net of carrying value of assets. Hence, the actuary could approximate the provision that reflects the underlying risk using tested methods. This would ensure that the net obligation in the PF Trust is correctly reflected.

⁴Demystifying Expected Credit Losses, KPMG, July 2017

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Similar to a Reflex angle which is the larger angle more than 180° but less than 360°, this is an attempt to take a look albeit little philosophical, at the broader aspects of life other than professional through an actuarial lens.

IKIGAI

We don't need any lessons in mortality, morbidity and longevity, actuaries are adept in its definition, analysis and modelling. What about Ikigai? A concept that highly influences the above. Ikigai is a Japanese concept that means "a reason for being". We all know that Japan is the country of maximum centenarians and a research shows that it is Ikigai, the philosophy that has contributed to the longevity of the Japanese. Ikigai is a factor that influences the longevity, rather the tail of the mortality curve. However, Ikigai is a personal way of life. It brings satisfaction, happiness and meaning to our lives and help people live longer happier lives. Having a purpose in life is so ingrained in Japanese culture that the concept of retirement doesn't exist there!

A major factor that contributes to the Ikigai is an active mind and youthful body. Actuaries are known for their active mind. Probably we exercise our brain more than our body. Though the term is not quite popular, our profession is our Ikigai. The profession is our passion, mission and vocation. It is what we love doing, what we are good at, what the society needs and of course what we are paid for.

I was working on a pricing model yesterday and before I knew it, several hours have passed. The pricing model was challenging for my mind and I was in a state of 'flow'.



Source : <https://en.wikipedia.org/wiki/Ikigai>

An activity that is too easy might push me to boredom and something that is beyond my abilities causes anxiety. When I was in 'flow', I was in tune with my Ikigai. The state of flow increases productivity, power of retention, increases creativity and reduces the possibility of making mistakes.

Ikigai is not all about work, it is a holistic philosophy that includes food habits, exercise, meditation, attitudes, emotions and much more. In effect a complete philosophy of life. It is hidden deep within us and just require a patient search.

As per a report of the World Economic Forum (www.weforum.org), the life expectancy in India has increased by 11 years since 1990. Which means an average addition of 143 days for each year we lived. I am sure we would have observed this trend and incorporated in our pricing models. Just think of a situation if these 143 increases to 365, i.e. an year added to each year lived, which we can call the ageing's escape velocity, we would achieve biological immortality! Though biologists don't agree to this possibility, that could be the ultimate point in our curve. What the technical advancements in life style or advancements in health cannot do, the philosophy of Ikigai can definitely do.

However the intention is not to just live longer but live happier, healthier lives and Ikigai is all about that. In an age when our profession is planning to leverage our skills in broader areas, it is time we adopt the principles of Ikigai for betterment of the profession and may be one day consider it in our mortality models.

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