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**G**reetings.

Time has come for us to say good bye to year 2014. Let us welcome year 2015.

I would like to appreciate the IAI staff, photographers, printer [and of course my co-editors, country reporters, and others associated with the magazine] for making the magazine not only interesting but also enjoyable in year 2014. Special mention has to be done for Ms. Shilpa for excellent puzzles. Puzzles really sharpen our memory and intellect. I could not solve

many puzzles. I really appreciate her efforts in bringing out 'Puzzles'. Our members watch photos with lot of interest and enthusiasm. Taking photos is a big art. We are thankful to our staff photographers. We do not have details of readership of our magazine, though the magazine reaches every member. Many do not read. We want every member to read and participate for the development of magazine. Give your ideas so that magazine will be more interesting. We can create more activities in the magazine, such as education, jobs, entertainment,

office services, examination issues, etc. Please write to us.

We are all watching for the enactment of insurance bill in the Parliament. This will have effect on our profession, and will also give scope for better employment opportunities. Let us hope for the best.

I wish all our readers

**MERRY CHRISTMAS AND
HAPPY NEW YEAR 2015.**

Best wishes, my dear readers.



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CAREER CORNER

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LEADERSHIP DEVELOPMENT PROGRAMME

- **Organized by** : Institute of Actuaries of India (IAI)
- **Venue** : Hotel Central Blue Stone, Gurgaon
- **Date** : 20th – 21st November 2014
- **Faculty** : Mr. Satish Kakri



Economic environment of business has evolved immensely over the last decade riding largely on globalization. With the global integration of business and economies, world today has become a local workplace, elastic to socio political or economic changes across the geographical boundaries.

In this dynamic economic environment, “Effective Communication” is no longer a matter of choice but is an organizational imperative, forming the basis of understanding customer need, exchange of ideas, knowledge sharing, planning and other aspects of Organization Management. In this context, there is an overwhelming need for skill building in the area of Business communication.

The leadership seminar held in the Gurgaon was an effective step in addressing this need. The seminar was

organized by “Institute of Actuaries”, India and was delivered by Mr. Satish Kakri, who has extensive experience in the area of Management and Education consulting. The seminar was a two day affair. The first day was used to develop the building blocks of effective communication such as “Voice and Speech Management”, “Presentation skills training, Body Language etc. The second day was dedicated to Leadership skill building, leveraging on the learnings from the previous day.

Day 1

The key to a successful communication workshop is greater participation and communication amongst the participants. The initial exercises were aimed at bracing the participant with enthusiasm and excitement for the workshop.

The workshop began with an introductory session, where each participant had to offer a brief introduction of him/her. The introductory session was reflective of the wide participation across different areas of work. There were 17 participants from different work areas such as Life, General, Reinsurance, Consulting, Business processing etc.

The introductory session was followed

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by a voice modulation exercise, where all participants had to speak in chorus as a group. Along with the voice modulation, the exercise helped participants to act like a group and get positively predisposed to the rest of the action.

As the above two exercises got the group prepared and excited for the rest of the activities, it was time for a group exercise. The participants were divided into groups of equal strength and each group was given a project. The topics provided were socially and economically relevant, with a large scope of brainstorming amongst the group members. A member of each group had to present (with assistance of other members) the working & inferences of the project, while other groups were given opportunity to question the group making the presentation.

The activity resulted in a great deal of engagement & participation by each group member. It gave participants an opportunity to assess their communication skills in the light of group interaction and to build on the skill of communication with a group with diverse background.



After the group activity, it was time for an individual exercise, where each participant had to write on a topic of choice and speak for 5 minutes. The activity helped the participants to assess their capacity to make good presentation, providing an opportunity to identify areas of improvement.



Day 1 concluded with great insight into the tools of effective communication and a road map to bring in the learnings and skills acquired in the training, into the mainstream of our communication. Ideas were sought on modifications that could be made to the format followed on Day 1. The suggestions from the feedback discussion were implemented in the Day 2 activities.

Key Learnings from Day 1

- ❖ Importance of Right Voice modulation, emphasis on the key words, pauses at the right place, moderate pace etc.
- ❖ Managing Non Verbal communication, such as facial expressions, body posture, gestures, eye movement.
- ❖ Importance of breathing while speaking, as deep breathing allows you to calm your nerves and enables you to be confident before and during a speech. Air flow from your mouth gives your voice power and resonance
- ❖ Content Management, speaking only when you have the relevant content to make the right impression
- ❖ Importance of listening in the process of communication. Successful communication involves understanding and respecting the point of view of others and allowing others with their communication space.
- ❖ Argumentative style of

communication is to be avoided, there is reasonable merit in understanding that everyone may not agree with your opinion

- ❖ Presentation techniques to ensure that audience comprehends & retains the content easily.

Day 2

If Day 1 was about laying a strong foundation of speech building, Day 2 had activities & exercises aimed at building leadership skills.



Day 2 began on a similar note as Day 1 with some warm-up exercises on voice modulation and revisiting the concept of Voice and Speech training.

It was followed by an exercise where everyone was asked to prepare and deliver a speech on emotional topics like “Happiness”, “Anger” etc. The activity was aimed at making the participants communicate on topics that are relatable and hence easy to articulate. Speeches on such topics were introspective & involved individual assessment of these emotions and experience sharing within the group. Again, after the presentations, feedback was given on areas like voice modulation, use of short sentences, etc.

A very beautiful & memorable quote was made by the faculty Mr. Satish Kakri on the importance of communication and expression **“A good content will remain inside you, like a beautiful flower in a jungle if you cannot present it well”**

It was now time for a role play exercise, aimed at building leadership & communication abilities in the middle of a practical situation. All the participants were divided into 3 groups & each group was given a topic which they had to enact. The Topics ranged from situation like Bus breakdown in middle of a jungle, Plane hijack etc.

The role play activities witnessed a very enthusiastic participation from everyone.

It was a great learning exercise with loads of fun, which provided insights into effective communication in a crisis situation and ability to improvise as the situation unravels. It also helped us understand ways in which we can manage a situation that is not in our control and things that should be avoided.

The final exercise of Day 2 was a group discussion and presentation activity for which the participants were divided into groups. However, the topics, unlike the earlier ones were technical case studies, for eg. A company exploring overseas investment opportunities, Investment composition of a pension fund etc. Each group had to discuss the topic exhaustively within the group and make a small presentation on the key findings. Group discussions on such topics were extremely insightful, as people coming from varying professional backgrounds were able to analyse the case study from diverse point of views and were able to explore many aspects of a given situation. Since the topics were technical, there were often healthy differences of opinion, with members attempting to convince each other, at the same time making efforts to appreciate and understand view offered by other members.

Videos of speeches by the great speakers of the world were played towards the end. It enabled us to learn from the best examples on different aspect of effective speech making, especially voice modulation, including the right pitch, tone, stress on the key words, appropriate pauses etc.

A constructive feedback is the key to identify areas of improvement and to devise a strategy to implement the learnings into action. Seminar concluded with a constructive feedback to each participant, so that the skill built over two days long workshop could be made an integral part of our communication and enable us to build leadership abilities in





our professional and personal pursuits. It was great opportunity to participate in a seminar aimed at skill building in communication and leadership management. The learnings from the workshop were immense and provided a great scope of self improvement on a continuous basis.

Key Learnings from Day 2

- ❖ Time Management, a key to effective management and leadership was the underlying spirit of the workshop. The importance of managing the

available time in the most efficient manner was emphasized throughout the seminar.

- ❖ Effective Leadership arises from a sense of awareness about your strengths and areas of improvement, and ability to be prepared to face any complexity.
- ❖ Continuous investment in your own skill set and capabilities is important to be able to comprehend situations before them and to make better business decisions.

- ❖ Ability to empathize with others and improvise in a practical situation allows us to approach any problem proactively with a positive attitude. The role play exercises were devoted to develop these skills.
- ❖ Staying organized, maintaining a log of activities to be completed, taking notes, and learning from experience is immensely important in building and nurturing a sustainable Leadership character.



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LDP Feedback received from participants

I came to the training with an open mind. I was pleasantly surprised. The content of the material was exhaustive and enriching. It consisted of various exercises that I can practice daily. I also learned about fine techniques of public speaking. This has added to my confidence. Also, the pace of the training was at a comfortable level. The visuals shown were explained with clarity. Personal feedback for everyone was a welcome feature of the training. Overall the training was very good and would recommend it to my peers as well.

It has helped me to remove my fear of coming in front of people and speaking up. The experience is a value addition to my profile. Looking forward to tomorrow's leadership session

This programme helped me in understanding basic area needs to focus upon while delivering presentations. A Roller coaster ride with colorful ideas!

It helped me to make my communication more effective in public/big meetings. It helped to know the importance of using all speech organs. I learnt few good exercises to improve my communication skills. Personal feedback sessions were very beneficial.

It was a good experience taking out time to improve the leadership and soft skills. Being with people who have desire to learn and practice the exercises to improve our speech was enriching. The personal feedback made me aware of the areas that I need to work on. I would like this programme to improve further.

Yes, I certainly felt more confident to interact & walk up & talk. Helpful to enable to hone myself in the direction of becoming a better communicator & leader.

I normally get things in head right, but when it comes to expressing this doesn't go as expected. Given the opportunities to speak in front of an audience & with practice this will improve. I think this was a must to do session for me. I normally struggle coming in front & speaking....

Before coming to any seminar we expect something. I got more than I expected from it. It was well planned and focused towards the purpose. I personally realize a change in my communication skills during the course and hope it will be better in future. It added confidence in my personality and gave a direction how to achieve your long term goal. It was very assertive in nature.

It was a very unique experience. Facilitator was full in command and taught some very good and unknown things about Communication. Regarding leadership skills, he told and explained very well about holding stage, public speaking etc. I would like to thank IAI for conducting this seminar. Looking forward for many more sessions/seminar like this.

I enjoyed the session very much. This kept me engaged throughout the 2 days. I liked the way course was presented. It has been a great experience to stand & speak in front of a group. I sensed a change in myself in the last 2 days. The message the trainer was trying to convey was very clear and i hope i can apply my learning and after regular practice will achieve the objective. The only feedback i had is to have more balanced session between 2 days - I found that day 1 session more hectic whereas higher on the second day...

Attending the training has definitely been fruitful. It gave many opportunities of coming to stage & to address the audience. Besides, I had only superficial understanding of concepts like breathing, modulation. The training programme practically demonstrated the utilities of such concepts. Now I can start working on such areas. This will also improve my observation quality from communication perspective. Main takeaway from this training is my resolve to earmark some time on daily basis for communication practice and writing.

I was looking for such a training. We couldn't find it. The IAI provided an opportunity to improve my communication as well as interpersonal skills. Earlier I fumbled to make a public speech. I think there should be more sessions on communication required because we are Actuaries not from language classes.

Yes, Really appreciable. Reinforcement of the basics of Communication and a framework for rating/ assessing my confidence & improvement.

Benefitted most from identifying gaps in my communication. It was a productive experience and has used me to have my skills further.

I have gained a sense of confidence to speak in front of an audience.





10TH CURRENT ISSUES IN LIFE ASSURANCE (CILA)

- **Organized by** : Advisory Group on Life Insurance, IAI
- **Venue** : Hotel Sea Princess, Mumbai
- **Date** : 28th November 2014

The event began with a welcome speech by **Sanjeev Pujari**, Chairman, Life Insurance Advisory Group. In his opening address,



Sanjeev Pujari

he stated the objective of the seminar to be a discussion about issues of interest and concerns to the life insurance industry of India. He added that the industry had seen a few ups and down during the last 14 years, with some life insurance companies scripting success stories, but there are still issues which need to be addressed.

The sessions through the day involved active participation from the audience and comprised of a number of presentations and panel discussions, which discussed some of these burning issues. **Khushwant Pahwa** introduced the speakers for each session as the day progressed.

Session 1a – Review, challenges and



Khushwant Pahwa

vision of the life insurance industry –

Speaker: Thomas Mathew (Ex Chairman – in – Charge, LIC of India)

The session began with the speaker providing an overview of the last 14 years of the life insurance industry of India. He



Thomas Mathew

mentioned that industry saw tremendous growth and activity between 2002 and 2008 with the performance being largely flat after the global financial crisis of 2008-09. Regulatory developments in the last few years have also affected the functioning of the insurance companies.

Some of the key issues addressed in this session were:

- **Agency channel** which traditionally was the most dominant distribution channel for insurers in India has been on the decline as it is relatively costly and less productive compared to some of the other distributions channels. However, bancassurance has gained in prominence and off-late, focus has also been shifting towards online sales for term assurance products. The emergence of e-term products has led to price wars resulting in insurers passing on more risks to reinsurance companies. The IRDA has now asked for the retention limits for reinsurance contracts to be increased.
- The **tax incentives** for purchasing life insurance products are not as favorable in India as some other countries, including China.
- The **investments of insurance companies** in India follow IRDA guidelines which result in low returns and **less innovation in products**.
- **Increasing regulatory intervention** has resulted in higher compliance costs.

About the Author



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The speaker mentioned that **future outlook for the insurance industry is positive**. He mentioned that India's insurance market is one of the fastest growing insurance markets and the insurance penetration is expected to increase to 5% by 2020 from its current level of 3.17%. The demographics of India are favorable for the life insurance industry to grow. Activity in the market is also expected to increase once FDI limits are increased. He also suggested that there should be a move from prescriptive regulations to more principle based regulations.

Session 1b – The teenaged life insurance industry, Lessons learnt

Speaker: Puneet Nanda (Executive Director, ICICI Prudential Life)



Puneet Nanda

At the start of the session, the speaker highlighted some highs and lows of the life insurance industry since FY2002 with the help of statistics such as new business premium growth, annual premium growth, sum assured as a percentage of GDP.

Some of the positive changes seen in the industry since FY2000 discussed by the speaker are transformation of product portfolios offered by insurance companies from being traditional product centric to now being more varied; emergence of



various distribution channels, technology advancements and importantly, a rise in the perceived benefits of insurance over the years.

Discussing areas of improvement, the speaker began by asking the question “Have we sold the concept of Human Life Value?” He explained that the industry had failed to further the concept of products providing protection. About product design and sales, he also asked if products are being sold right. For example, he mentioned that while products do offer transparency, they have also confused customers by providing them less relevant information such as return as a percentage of sum assured. The untapped potential of the pensions market of India was also pointed out.

Looking ahead, he stated that the insurance industry should focus on products designs being flexible, yet simple and suit the changing demographics of customers. He also emphasized on the need to make better use of technology. For example he mentioned how social media and data analytics can be used to understand customer behavior and needs; and technology could be used to sell products effectively by making processes more digitalized, simpler and by smart identification of prospects.

Session 2 (Panel discussion) - Regulatory changes (Products, Reinsurance) & impact on the industry in terms of pricing, customer value, shareholder value, mis-selling, best practices, simplicity and product innovation.

Panel members: Facilitator – B N Rangarajan; **Panelists** – Heerak Basu (Tata AIA), Sunil Sharma (Kotak), Satyan Jambunathan (ICICI Prudential)

The panel discussion brought forth the views of the panelists all of who hold the position of an Appointed Actuary (AA) of different private life insurance companies in India.

The discussion focused on the exciting time ahead for India and its life insurance industry given the stable government at the Centre; but also highlighted areas of improvement such as current low penetration rates, the need for cheaply priced products, lack of use of data analytics and the need to better market



Satyan Jambunathan, Heerak Basu, B N Rangarajan, Sunil Sharma

life insurance products to showcase how the long term guaranteed returns they offer may be better than what banks can promise. While recent regulatory changes help to address a number of issues there is still a need to act further – for example greater transparency in participating products is required.

There have been significant regulatory changes with most the significant change being around products. The panel also suggested that more needs to be done to increase value to policyholders – for example by finding ways to optimize acquisition costs, and that greater attention is needed to revive the pensions market in India.

The panel had a positive outlook for the role of actuaries in future in the Indian life insurance market. It was mentioned that an increase in FDI limits is expected to bring in more players and will also help in improving the business models. Data analytics is also likely to play a larger role in the operation of insurance companies and a number of student actuaries can look to move into these roles. IPO's in future as well as increased global reporting requirements are also expected to bring more opportunities for actuaries.

Session 3 : Post retirement products: Need for protection when people live longer

Speaker: Daisy Ning, Regional Product Actuary, Swiss Re Asia



Daisy Ning

The session began with the speaker sharing results of a survey according to which the levels of coverage, price and reputation of insurers are the three biggest barriers which would put respondents off purchasing life/protection insurance. The key concerns which would lead the respondents to buy insurance cover are early death, inability to pay medical expenses and getting a serious illness.

The presentation touched upon the topic of **Health Protection Gap** and how this gap varies. For example people that are content with the quality and quantity of public health and medical services would not experience a health protection gap; but those who demand higher levels of health services, which may be beyond their current insurance coverage and their ability to pay will. In Asia-Pacific markets, the health protection gap is expected to rise over time.

Speaking about **morbidity**, the presenter mentioned that products providing critical illness cover, though successful, had their share of issues such as claims being denied or not being sufficient to match the financial needs. She shared examples of some successful product structures from various insurers in the Asia-Pacific markets.

Longevity was discussed as another area of concern. There is a difference in how longevity risk is perceived by customers and actuaries – customers do not think they will live long and are therefore willing to pay less for annuity products; on the other hand insurers have consistently underestimated longevity and therefore, want to charge more. In many markets, there is more needed from regulators and governments to increase awareness and make the annuity products more attractive. The speaker shared ideas of some annuity

products from various markets around the world, such as impaired lives annuities which are popular in the UK.

The last section of the presentation discussed **Long Term Care (LTC) products**. LTC are generally low on priority list for protection for customers. Customers don't see the need to purchase these when they are young and premiums are cheap. In Asia in particular, elderly expect their children to take care of them in old age and so benefit of LTC is under-appreciated. Further, difficulty in matching claims trigger with expenditure pattern acts as a barrier in the sale of these products.

Session 4: Taxation of Life Industry

Speaker: Vinod Kumar, Research Head IAI



Vinod Kumar

In his session, Vinod Kumar shared findings from his research paper which is currently in a draft form, with the audience at the seminar. The paper attempts to consolidate positions and issues related to taxation of life insurance business and also covers taxation aspects of insurance products in India, including service tax elements. In his research, the speaker has studied important sections of tax regulations applicable in India and tax litigations and judgments on major issues.

The presenter spoke about some of the contentious issues such as the definition of life insurance business and actuarial valuation which are used in the acts to define taxation norms, but whose definitions are not clear. He also discussed several other issues including expense allowances, treatment of negative reserves.

Session 5 (Panel Discussion): Review of the distribution strategy and new channels of distribution

Panel members: Facilitator – N M Govardhan; Panelists – Nilesh Sathe (LIC of India), Anand Pejaware (SBI Life),



Anand Pejaware, Nilesh Sathe, N M Govardhan, Peeyush Dalmia

Peeyush Dalmia (McKinsey)

The panel discussion began with the facilitator, N. M. Govardhan, raising questions on the efficiency of various distribution channels in this ever-changing environment. He pointed out that the insurance policies were being “sold” and not “bought” – a remark which was echoed by other panelists during the discussion and also raised several other points on distribution channels which were discussed in this session.

Among the panelists, Anand Pejaware spoke first of the **bancassurance distribution channel** in India. He mentioned that the channel first came into existence in India in 2002 and since then its prominence has been on the rise. He added that it may be advantageous to have distribution channel specific products to target the right set of customers.

Nilesh Sathe spoke next about the **retail agency**. He mentioned that there have been concerns on the productivity and efficiency of the agency channel compared to other distribution channels and questioned the future relevance of this channel. In order to strengthen this channel, he suggested some measures such as the need for proper training of agents, the need to have compensation structures financially viable for agents say by paying commissions in advance or compensation being in form of salary, for example, for the first two years and then shift to earnings through commissions.

Peeyush Dalmia spoke last about **internet as a medium for sales** of life insurance policies in India. He mentioned that there has been a shift towards more insurance policies being bought (rather than sold) compared to before. He stated that data analytics provide a good platform to

understand customer needs and behavior. Partnerships between e-commerce websites and insurance companies have resulted in more focused sales. Internet allows customers to compare different insurance products.

Session 6 (Panel Discussion): Changing role of the AA

Panel members: Facilitator – Vivek Jalan (Towers Watson); Panelists – Rajesh Dalmia (Ernst Young), I S Rao (Mercer), Pradeep Thapliyal and MSVS Phanesh (PNB Metlife)

Vivek Jalan began the session by stating that a number of actuaries have left the position of an AA in the last few months and have moved onto other roles either within or outside their organizations. All panelists were ex-Appointed Actuaries and shared their experiences in this engaging panel discussion.

In his **first question**, Vivek Jalan asked the panelists, what in their opinion could have been done differently by the Appointed Actuaries to avoid **the rise in notices / warnings** that have come their way from IRDA in the last few months?

All panelists responded by saying that not much could have been done to avoid this situation. The views of the panelists suggested that that IRDA now reviews reports in more detail and at times queries related to all departments of the insurance company tend to come to the AA. The reports for submission to the IRDA have become larger making it impractical for an AA to check all tables for consistency. Lack of regular communication between the Appointed Actuaries and the IRDA was also identified as a cause of the current situation.

There was also a general consensus





Vivek Jalan, Rajesh Dalmia, Pradeep Thapliyal, MSVS Phanesh, IS Rao

that **compliance costs** have increased. Responding to a question on whether **actuarial audits** should be introduced or not, the panelists mentioned that current peer reviews are helpful in providing comfort to the AA on the adequacy of reserves. But given that generally all functions of an insurance company are audited except for actuarial, there is no harm in actuarial audits.

A split in the **role of the AA** – for example between AA and a Chief Actuary does not seem unreasonable. Discussing the requirement for an AA to have passed function **specific SA exam**, panel members mentioned that work experience should matter more than requirement to pass the specific SA exam.

Vivek Jalan also quizzed panel members

on the **main reason for leaving the position of an AA**.

Session 7 : Participating Business: Towards better governance and transparency

Speaker: Sanket Kawatkar (Milliman)

Sanket Kawatkar began the presentation by providing an overview of the presentations he made in the 8th and 9th CILA seminars on similar topics. He shared results of a



Sanket Kawatkar

survey conducted by Milliman recently in which 10 life insurance companies participated and used these to highlight areas of concern in the governance of with-profits funds.

As per the results of the survey, 40% of the respondents hold meetings of the with-profits committee (WPC) on an ad-hoc basis. The speaker highlighted the need for these meetings to be held on a more regular basis. Further there was a lack of clarity in the regulations on the role of WPC and a need for expansion of the terms of reference of the WPC.

The survey results indicate that approval of asset share calculations forms part of the term of reference. Approval of bonus rate recommendations and review of compliance of asset shares with GN6 form part of the terms of reference for a majority of the respondents. The survey also highlighted that some companies do not have detailed documentation which specifies how the participating business will be managed.

Conclusion:

The seminar ended with a vote of thanks from Khushwant Pahwa for the organizers, speakers and the attendees of the seminar.

10th CILA Feedback - from Participants

We should have atleast some technical topics. This time all topics were more general or business oriented but less technical/ less complicated

The variety of content was apt

Have it over 1 1/2 to 2 days. Include more technical paper in addition to panel Discussion

Bring non - additional speakers as was done in the current seminar

Excellent Panel Discussion

This seminar had very apt topics, especially distribution. Microinsurance, more specifically, health MI could be considered

I guess the program covers a width of topics, however deeper dive into topics would be useful.

Experience of AAS regarding their technical advise if they can share it will be more useful

More speakers from life with vast experience.

This is the only conference that has true "content", should have more interactive sessions to try & get collaborative solutions to some of the issues

Bigger Venue with more space for tea break

Well arranged, well balanced & content & celebrations good

There should be a speaker from IRDA





This matter is being published in the Actuary India magazine, the in-house publication of the Institute of Actuaries of India, in accordance with the decision of the Executive Committee (now Council) in its meeting held on 4th March, 2003 applicable to all such cases and keeping in view IAI's membership requirements of the International Actuarial Association.

REPORT ON THE SUSPICIOUS ANSWER SCRIPTS FOUND FOR SUBJECTS CT2 AND CT7 GIVEN DURING NOVEMBER 2012 EXAM DIET

Name of the member accused:

Mr. Jiju Mathew (MID: 22233) and Mr. Joju Mathew (MID: 22234) who appeared for the November 2012 Examination diet from Kochi Centre.

The case:

While evaluating the CT2 answer scripts, one of the examiners brought to our notice that some of the answers of the two answer scripts were very identical to each other. The same answer scripts were then sent to another two associate examiners in order to get their opinion, who gave similar remarks as the first associate examiner.

As these candidates had also appeared for CT7 paper, it was decided to review their script. The examiners and the review examiner found that there was marked similarity between the two answer scripts.

Institute had then appointed a member from Examination Advisory Group (EAG) to further study the documents available on the record and provide us with the recommendation on this case. It was confirmed by him that both the cases are clear cases of cheating.

EAG meeting:

The matter was discussed in detail in the EAG meeting dated 17th February 2013. On the basis of feedback received from examiners and concerned EAG member, it was decided to send a show cause letter to both the candidates.

The response received from the candidates on the show cause letters was discussed in the EAG meeting dated 20th September 2013. It was further decided to appoint a panel of Inquiry Group to conduct the personal hearing for both the candidates. The Group was entitled to study all the documents available on record, conduct the personal hearing and provide recommendation on the case. The Personal hearing was scheduled on 9th November, 2013. However, both the candidates had shown their inability to appear on date of hearing. It was decided to give them one more opportunity and accordingly second hearing was scheduled to be held on 14th December 2013. However, as there was no response from the candidate, the Inquiry Group prepared the report on the basis of document available on record and submitted the same to EAG on 3rd April, 2014.

The EAG on reviewing the report agreed that there were enough reasons to conclude that the candidates have used unfair means and are not willing to defeat their case. EAG recommended to suspend the membership of both the candidates for a period of three years

Education Committee Meeting:

The Education Committee in its meeting dated 19th July 2014 reviewed all the documents available on record and agreed with the recommendation of Examination Advisory group.

Council Meeting:

The Council deliberated the matter in its meeting dated 26th July 2014 and reviewed all documents and correspondence available on record. Members agreed with the report of the Education Committee and decided to suspend Jiju Mathew and Joju Mathew from the examinations (for all the subjects) for next three years."

Penalty:

The Council has decided to suspend his IAI membership for a period of three years with immediate effect starting from 26th July, 2014 till 25th July, 2017. ■ ■ ■

"Someone is sitting in the shade today because someone planted a tree a long time ago."

- Warren Buffett





**It is with great pleasure that we announce
Mr. T. S. Vijayan, Chairman, IRDA has agreed to be
Chief Guest and deliver**

**Key Note address at 17th GCA to be held in
Mumbai on 02nd – 03rd February, 2015.**

17th Global Conference of ACTUARIES

Changing Risks, Expecting the Unexpected

2nd – 3rd Feb., 2015

Renaissance. Mumbai Convention Centre Hotel, Powai

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CPD – As per APS9 Fellow members can claim CPD credit of 8 hrs for attending GCA. (Subject to rules, for details refer 17 GCA website)

Accommodation – Please make your hotel reservations without delay to secure your room before our room block is either sold out or any unsold rooms are released on 15th January, 2015. Book a room by 31st December, 2014 and be eligible for lucky draw gift. (Subject to rules, for details refer 17 GCA website <http://actuariesindia.org/gca/Accommodation.htm>)

Hotel	Star Rating	Rack Rates		Rates for 16 th GCA	
		Single	Double	Single	Double
Renaissance	5 Star	13500	13500	9000	9000

- Above mentioned rates are applicable from 29th Jan. 2015 – 06th Feb. 2015 (To extend the bookings prior and post these dates write to gca@actuariesindia.org).

Tours - Two optional sightseeing tours are planned for Sunday, February 1, 2015 & Wednesday, February 4, 2015. Visit 17th GCA website for more details.

STUDENT EVENT

02-02-2015 Monday (16.30 PM – 17.30 PM)

03-02-2015 Tuesday (16.00 PM – 17.00 PM)

Speakers - Fiona Morrison, President-elect & Derek Cribb, Chief Executive, Institute and Faculty of Actuaries.

These sessions during 17th GCA, will look at the so-called 'soft skills' that actuaries are required to demonstrate in their day to day work, with a particular focus on communication. To be a successful actuary, it is vital for you to be accomplished in getting key messages across to non-actuarial audiences so that the impact of your advice is understood. To help you to improve your verbal communication abilities and to recognise good communication when you see it, Derek and Fiona will explain the importance of softer skills and invite members of the audience to impress the room with their presenting skills.

Offering an interactive lesson in good communication and fantastic prizes, this is a session not to be missed!

Visit : <http://actuariesindia.org/gca/registration.htm> for more information



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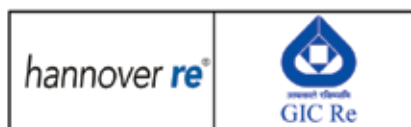
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17th Global Conference of Actuaries (17th GCA) is being organized by the Institute of Actuaries of India (IAI). It is an event where actuaries and non-actuaries will assemble in a global ambience to share thoughts and debate on matters that affect the financial services industry in general and insurance industry in particular. This year GCA will be held in Renaissance Mumbai Convention Centre Hotel in Powai, Mumbai, from 02nd – 03rd Feb, 2015 and the theme is “Changing Risks, Expecting the Unexpected”.





18TH EAST ASIAN ACTUARIAL CONFERENCE

The conference opened formally on October 13 2014 morning with a VIP address from Mr Ming-Chung Tseng, Chairperson of Financial Supervisory Commission of Taiwan.

This was followed by a keynote speech by Dr Li Ling Wang, Vice Chairperson of Financial Supervisory Commission who spoke about the risk, challenges and opportunities of insurance industry in Taiwan. The next keynote speaker was Dr Robert L Brown, President of the International Actuarial Association, who focused on the measures to achieve retirement income security across the globe. This was followed by the last keynote speech of the conference by Dr Dong Sheng Chen, President of the China Association of Actuaries who dwelled upon the challenges and opportunities for the insurance industry.

The rest of the day on October 13 2014 was devoted to four parallel sessions which took place with each session having an option to choose among the four simultaneous sessions on different topics of interest. The key takeaways from the four such sessions are presented below:

Designing and Implementing an Internal Model

The objectives of an internal model are:

- Provide a way to assess the need for capital to cover the risks assumed
- Provide a unified way of communicating about risks within and outside the company
 - Set the framework for taking strategic decisions, balancing risk and return
 - Allow optimization of both asset and liability portfolios

- Measure the economic performance of various lines of business

Models can be loosely grouped into the following categories:

Deterministic models: a number of factors are estimated and applied to volume measures

Distribution-based models: probability distributions for different risks are determined and aggregated

Scenario-based models: a number of scenarios are generated to value the

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company

Most models are a mix of the three approaches. Deterministic models present a danger that the underlying factors have to be regularly updated to take account of changing risk exposures. Other two models are equivalent however the Distribution-based models can be computationally efficient, whereas Scenario-based models can be more intuitive and flexible. Calibration of dependencies is crucial. It is possible to use copulas to model dependencies however there is often not enough liability data to estimate copulas. In the Scenario-based models, risk is modeled at the source hence dependence of random variables is recorded automatically when they are modeled on the same scenarios; however in Distribution-based models the source of risk is not considered hence





dependencies are more difficult to incorporate.

Testing the output of the internal model is important to gain confidence in the results and to understand its limitations. It is impossible to statistically test the model; it can only be stress-tested using the following ways:

Sensitivity analysis: test the sensitivity to parameters

Historical test: test the predictions against real outcomes

Scenario analysis: test the model against scenarios

Reverse stress-test: study the reasonableness of the extreme scenarios

Stresses and scenarios in the context of ORSA

Own Risk and Solvency Assessment (ORSA) is a tool to understand the financial vulnerability and viability of a company which is gradually becoming popular in many countries across the world. Process of scenario analysis is important for a robust ORSA and it includes definition of the scenario, assessment of its impact and communication of the results.

There are two types of approaches that can be used to define scenarios. The first one being a historical approach which is easily understandable and the effects are known. However consideration of changes e.g. population mix, medical advances, globalization, inflation etc. is a key challenge. The second approach is the synthetic approach which can be easily adapted to the company specifics. However it requires extensive assumptions for triggers, effects and correlations.

Global events, regional events and company specific events, all should be considered while defining scenarios.

While evaluating scenarios it is important to consider the dependencies between

different risks as well as the time evolution which may give rise to time-lagged dependencies and phase-shift dependencies. While analyzing consequences of a scenario, one needs to focus on the primary consequences like impact on embedded value, economic balance sheet etc. however at the same time secondary consequences like ratings down-grade, liquidity shortfall etc. should also be considered.

ALM as a risk management tool

ALM is the 'bridge' between the two sides of the insurer's balance sheet. It is a tool that considers dynamic interplay between assets and liabilities. ALM can be used to mitigate downward risk as well as leverage upward risks.

The two primary applications of ALM in risk management are to monitor solvency and to determine the strategic asset allocation. Solvency requirements are no longer straight forward and under a risk based capital framework, has many drivers. It is continuously influenced by the changes in the liability profile and the assets held. Managing the capital adequacy hence requires investigating the likely movement of the surplus of assets over liability requirement.

If management is risk averse, the safest investment policy is that of matching current liabilities wherever possible. However if management accepts that risk represents opportunity, and seeks to maximize returns to shareholders subject to an acceptable level of risk exposure, ALM is a useful tool to investigate the impact of different asset allocation strategies. The strategic asset allocation

can be determined through the following steps:

- Understand the risk profile of different stakeholders
- Formulate fund objectives for the strategic asset allocation
- Build a base asset portfolio to meet non discretionary liabilities
- Run simulations of assets against liabilities for different strategies of combining base portfolio with x % exposure in growth assets
- Compare results against stated objectives to choose candidate portfolios
- Stress test candidate portfolios to ensure a suitable strategic asset allocation is chosen

The ORSA Building Blocks – A Concrete Foundation

The building blocks of ORSA are as follows:

Risk Governance

Risk governance is the framework through which the Board establishes the strategy, risk appetite and manages risks. The three key constituents of this building block are board & senior management, central risk function and internal audit function.

Risk Culture

Risk culture drives the behaviors towards risk in day to day business activities. To develop a positive risk culture focus is required on communication, training, monitoring and accountability.

Risk Appetite & Profile

Risk appetite is the articulation of the risk profile the insurer is willing to accept and which guides in selection of risks. Risk profile is the overview of the current and future risk exposures. The Board and senior management needs to ensure that the risk profile is within an acceptable range of risk appetite at all times.

Stress & Scenario testing

It involves identifying risks and defining risk scenarios, assessing the impact by evaluating all the consequences and communication the results.

Economic Capital

Economic capital is the capital needed by



the insurer to satisfy its risk appetite and support its business plans. The dimensions involved are time horizon, confidence level, key risks and their dependencies, management actions and risk mitigation.

Capital Management

Components of capital management are capital strategy; capital planning and capital allocation. It should assess the cost of capital and define the return on capital target. Economic capital modeling should be a part of the capital management process to provide a way to assess the need for capital to cover the risk assumed.

The second day of the conference started with an introduction to CERA. This was followed with two plenary sessions which had speakers representing the actuarial societies / institutes of Taiwan, China, Hong Kong, Japan, Singapore and Australia. In these sessions they gave insights into the recent developments in the areas of life insurance, general insurance and risk management in their respective countries. Post these sessions delegates were taken to a half day city tour.

On the last day of the conference there were eight parallel sessions which were organized for delegates where they could choose the sessions which were of most interest to them. The key takeaways from these sessions are highlighted below.

The Protection Gap in Malaysia

Protection gap is defined as the difference between the financial resources available to the family of the breadwinner against the amount required to maintain the current standard of living for the dependents, in the event of death or disability of the breadwinner.

The key reasons why protection gap exists are:

- Lack of awareness and knowledge in financial planning
- Perceived lack of funds for most income groups
- Limited financial and tax incentives
- Limited reach in the banca channel
- Limited understanding of how insurance works by consumers
- Preference for saving type products which are more expensive

- Limited sophistication in sales process

Potential strategies to minimize protection gap are:

- Education and awareness
- Developing fair tax incentives
- Developing a more effective agency force and extensive distribution channels
- Simplify products and sales processes
- Developing trust, reputation and transparency
- Industry-wide effort

Inforce value management for life insurance companies in Asia

Inforce value management is the key to preserving economic value and it requires focus on the following three areas: capital optimization, customer value management and strategic asset allocation.

Capital optimization

Key considerations of the capital management process are to align the capital strategy to the risk preferences and the business plan with the intended use of capital. Insurers in Asia are considering a range of options including matching, hedging, optimization against the capital rules, asset admissibility and alternate capital, and reinsurance. Insurance groups are deploying central reinsurance which takes the risks of multiple insurance entities to materialize diversification benefits and reduce capital requirement at the operating entity level.

Customer value management

Customer value management is the key for preserving future profits from non-financial profit drivers. The insurers need to focus upon:

- Developing lapse management strategies
- Identifying cross-selling opportunities
- Segregate high value customers and prioritize commercial strategies
- Managing customers at key stages like maturity
- Adapting agent value propositions

Strategic asset allocation

Optimization of asset portfolio is important to increase embedded value, statutory profits, long term investment return and improve capital efficiency and product competitiveness. Traditional investment strategy does not work well for insurers who focus on long-term insurance liabilities characteristics, earnings and liquidity implications. Current portfolios can be optimized by utilizing a risk budget and diversifying into alternative assets like real estate, private equity, infrastructure debt, CLO etc.

How much risk do you want to take

Traditional risk management aims to optimize management of each risk individually whereas Enterprise Risk Management (ERM) aims to optimize different risks in the context of company's strategic objectives. To define and implement an ERM framework there are two core practices which are most critical and need focus:

Defining and integrating risk appetite

Risk appetite is defined formally by the Board of the company to ensure that it exercises sufficient oversight over the risks being incurred and to communicate its views and expectations on risk to management. A company's risk appetite should be objective, tangible and actionable. The risk appetite framework encompasses the following components:

- *Risk strategy*: Company's overall philosophy towards risk-return trade-off
- *Risk preference*: Risks company wants to take and those it wants to avoid to create value
- *Risk tolerance*: Quantitative expression of the amount / volatility of risks it will tolerate
- *Risk attractiveness*: Tactical assessment of risks in the preference set
- *Risk limits*: Granular and easy to monitor operational limits

Operationalizing risk appetite requires a strong risk culture

Risk culture can be defined as individual and group behavior within an organization



that determines the way in which the company identifies, understands, discusses and acts on the risks the organization confronts and takes. It reflects the degree to which risk and risk management are important considerations in all aspects of corporate decision making. Characteristics of a strong risk culture are:

- Committed leadership
- An effective governance structure
- Management objectives linked to risk management objectives
- Horizontal information sharing
- Vertical escalation of threats and fears
- Active learnings from mistakes
- Continuous and constructive challenging of organization's actions and preconceptions

Practical Guide of Operational Risk Management

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and system or from external events. The risk categories usually defined for operational risk are as follows:

1. *Internal:* Fraud; System failures; Execution, delivery and process management; Clients, products and business practices; Employment practice and workplace safety
2. *External:* Damage to physical assets;; Fraud; Political

To manage operational risk effectively, it is important to put in place an 'Internal Claim System' which will perform the legs of claim reporting, claim recording and claim analysis. Risk quantification is important to assess the exposure to operational risk. Once credible data has been developed for different operational risk categories, the same can be used for quantitative modeling.

Another important aspect of operational risk management is to identify, track and monitor key risk indicators which show the trend of different operational risk events. This helps in allocating management focus in the right direction.

Operational risk reporting is a part of the overall risk reporting framework of the

company. The Board and senior management should look at the operational risk metrics in the same way they look at the financial risks. The starting point to implement operational risk management practices in an organization is to put in place the three lines of defense: Risk owners (line managers) who need to manage risks; Central risk function which facilitates risk management across organization; and the Internal audit function to provide independent assurance to the Board and senior management.

Digitization in Life Insurance

Global internet penetration is at 40% and it is estimated that one in every five people own a smartphone and one in every 17 a tablet. In such a digital age it is imperative for insurance companies to implement an efficient digital strategy. The steps to do that are as follows:

- Consider a first mover advantage as first movers are always rewarded
- Implement it across the value chain: actuarial, marketing, sales, underwriting, investments, policy administration, and servicing
- Establish stakeholder support particularly from senior management and Board
- Recognize the dangers of moving too fast
- Manage customer expectations and attention spans
- Be mindful of the non-digital segment: be in touch
- Train the salesforce to go digital: appropriate harnessing of potential and effective targeting
- Manage the move carefully: sufficient planning, security measures and regular monitoring

Possible hurdles while embarking upon a digital journey could be as follows but they can be overcome:

- Resistance by distributors: Involve them early through trainings and seminars and have them look forward to the change
- Lack of integrated strategy: Consistent drive from the top and

focus on long term value creation

- Culture differences: Identify key influencers and highlight consequences of being a follower
- Large investment: create a war chest

No insurer can afford to ignore a digital strategy because that is the only way to sustain in business and gain proportionately higher benefits.

The Essence of Risk

Risk is the foundation on which businesses are built. To optimize business it is essential to understand the essence of risk. Uncontrolled risks in financial services companies could lead to serious far-reaching economic and social issues.

Effective risk management has the following key components:

Risk Appetite

Risk appetite represents a company's overall tolerance to risk i.e. its willingness and ability to absorb losses in pursuit of its objectives. It depends on the company's objectives and nature of its business.

Risk Policy

Risk appetite needs to be translated into more granular everyday actions that the staff on the ground can relate to and enact upon. Risk policy translates the risk appetite into actionable guidelines and allocates it down to the business segments through risk limits. Risk limits provide a measure against which the company can monitor its exposure to risk.

Risk quantification

Risk quantification is assessing the financial impact of the uncertainty and exposure. Economic capital is one way to quantify risks in an insurance company. To quantify risk using economic capital:

- Choose risk drivers to represent the identified risks
- Use risk models to model uncertainty
- Use asset liability models to model exposure
- Use capital models to aggregate risks

Risk monitoring and reporting

Risks quantified should be monitored regularly in the same way as company performance is monitored. Key risk



indicators (KRI) enable companies to monitor the effectiveness of risk management and serve as an early warning for unfavourable changes in risk levels. Risks monitored should be presented to the senior management and the Board through risk reports and dashboards.

Risk management

Effective risk management can reduce volatility in performance and outcomes and allow companies to create a sustainable competitive advantage over its competitors. Risk management can be achieved through:

- Organizational change: risk committee, central risk function
- Cultivation of a strong risk culture: internal; training, formal risk governance
- Risk based decision making

Customer Lifetime Value: bridging the gap between business analytics and actuarial science

Customer demographics, buying behaviors and needs are changing and evolving. Insurance companies need a 360-degree view of each customer to target the right products, cross-sell and adapt to customer's changing needs.

Traditional actuarial measures of portfolio profitability are Embedded Value (EV), Value of Inforce (VIF) and Value of New Business (VNB). However insurance companies are advancing beyond traditional measures and moving towards

making decisions with Customer Lifetime Value (CLTV).

VIF and CLTV are conceptually the same. VIF is defined as the present value of future profits less the cost of capital. CLTV is defined as the present value of future revenue less the present value of future costs incurred on all the existing customers. CLTV focuses on the customer as the influencer of a company's profitability rather than the products and the service lines. CLTV can be applied to evaluate which new and existing customers to target and how much the company can spend on acquiring and retaining them. CLTV helps in maximizing the profitability by understanding the potential value of the customers, customizing different strategies, offering insights in managing existing customer base and saving acquisition and retention efforts.

ERM Practice of Life Insurers in China

Recent corporate failures, more complex business models and increasing exposure to market volatility are creating evolving demands on ERM in China. In 2007, the regulator issued directive for risk management of insurance companies. In 2010 guidelines on implementation of ERM for Life, Health and Pension insurers came into force. In 2014 Solvency Aligned Risk Management Requirement and Assessment (SARMRA) exposure draft has been issued.

Key challenges of ERM in China are buy-in of senior management, linkage between models and decision making, harsh

market environment, and lack of ERM experience and expertise.

Risk budgeting plays an important role in ERM implementation. Embedded Value at Risk (EVaR) is used as the metric for risk budget. It measures how much value of the business (EV) could potentially be destroyed if particular pessimistic scenarios were to happen in future. The time horizon of EVaR measure is based on the future lifetime of all the policies. It is based on realistic economic assumptions of the future but since future is unknown, stochastic simulation approach is used.

Limitations of EVaR are that it is highly dependent on underlying assumptions in the projection model. Also it represents an economic view, not an accounting view.

The new developments in ERM are China Risk Oriented Solvency System (C-ROSS) which will be implemented in 2015 and is under industry-wide testing. Its first pillar deals with quantifiable risk valuation and the second pillar with qualitative risk valuation. Credit risk modeling and ALM for product development are some of the other new developments.

The conference ended with the closing ceremony and the farewell dinner where it was announced that from the next year the name of the conference is being changed from EAAC to AAC i.e. Asian Actuarial Conference. The chairperson of the organizing committee of the 19th AAC, which will take place next year in Thailand, took the baton from the current incumbent and the conference came to a close.



AN INCONSISTENT AND AVOIDABLE CARVE-OUT

This discussion argues against the seemingly unintended position of Ind AS 19's classifying actuarial gains and losses on other long-term employee benefits under 'Other Comprehensive Income.' Standard drafters are urged to weigh the compliance effort and cost of this IFRS carve-out.

Introduction

Convergence among accounting standards aids comparability and arguably enhances transparency in financial reporting. As the accounting standard setting body, the Institute of Chartered Accountants of India has taken steps toward convergence with IFRS, however with certain carve-outs or exceptions. One such carve-out from IAS19R, and of interest to the Indian actuarial profession, emerges through Ind AS 19's paragraph 129A:

In measuring its liability for other long-term employee benefits in accordance with paragraph 128, an entity shall recognise in other comprehensive income all of the actuarial gains and losses and any adjustments arising from the limit in paragraph 58(b) and apply paragraphs 93B, 93C and 93D.

Paragraph 129A hence envisages that entities should route the 'actuarial gains and losses on Other Long-term Employee Benefits (Other LT EB) through Other Comprehensive Income (OCI).' On the other hand, IAS19R does not recognise actuarial gains and losses of Other LT EB in OCI, but considers them as a charge to

the Statement of Comprehensive Income or Profit and Loss Account.

The OCI classification under IAS19R is restricted to actuarial gains and losses on post-employment benefits only. The Indian standard-drafters are presently holding on to the other end of the stick.

We discuss the implications of this divergence of Ind AS 19 from IAS19R for the compliance effort and the associated cost. We argue against the carve-out from IAS19R. The discussion is structured as follows:

- We examine whether actuarial gains and losses on Other LT EB, relatively smaller in magnitude and short-term in tenure as compared with defined benefit post-employment pension, can contend to be under OCI.
- We evaluate the carve-out with regard to the other provisions of the proposed accounting standard as to whether the proportionality principle is compromised.
- We explain the process of computing actuarial gains and losses, which we feel has not been appreciated by the accounting standard drafters.

About the Authors



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- We have put forth the complexity of different estimates of actuarial gains and losses that can emerge when the employee benefit is not periodic like defined benefit post-employment pension.
- We believe more granular effort in the break-down of the liability movement between current and past service cost and curtailment cost is necessary to quantify the actuarial gains and losses.
- We argue that greater effort toward activities involved in (d) and (e) will lead to higher cost of actuarial services, in effect a higher compliance cost for the carve-out.
- We contend that this Ind AS 19 carve-out is unnecessary and that IAS19R has wisely restricted the classification under OCI to actuarial gains and losses on post-employment defined benefit plans alone.
- We finally urge the accounting standard-setters to dispense with the carve-out based on consideration of accounting impact and cost of compliance.

OCI for large and volatile expense heads

In the normal course, expenses or income could be charged to the Statement of Comprehensive Income or the Profit and Loss Account. Most revenue is a part of the Statement of Comprehensive Income.



Only large, volatile and unrealized revenue is charged to or appropriated from Other Comprehensive Income because it is expected that either the uncertainty will 'even out' over long periods or that the asset or liability variation should not be recognized as reported earnings, unless realized.

An illustrative list of OCI items reads:

1. Unrealized gains and losses on available-for-sale securities [IAS 39/ FAS 115]
2. Gains and losses on derivatives held as cash flow hedges (only for effective portions) [IAS 39/ FAS 133]
3. Gains and losses resulting from translating the financial statements of foreign subsidiaries [IAS 21/ FAS 52]
4. Actuarial gains and losses on post-employment defined benefit plans recognized [IAS 19/ FAS 158]
5. Changes in the revaluation surplus [IAS 16 and IAS 38].

Ind AS 19 has extended the OCI items' list to include

actuarial gains and losses on Other LT EB, which relative to an entity's financial statements are neither likely to be large (as compared with post-employment defined benefit plans) nor volatile (as the time window is not as long as post-employment defined benefit plans). We argue against this carve-out of Ind AS 19 from IAS19R in respect of the treatment of actuarial gains and losses on Other LT EB on grounds of relative insignificance and lower contribution to volatility to the financial statements as well as the higher cost of compliance.

Only one channel, not two

Actuarial gains and losses can emanate

from liabilities as well as assets. Other LT EB is usually unfunded, so the asset side's contribution to actuarial gains and losses is normally obviated. The avenues of actuarial gains and losses hence reduce as compared with the post-employment defined benefit plans that are usually funded.

If only one channel i.e., liabilities accounts for the actuarial gains and losses, the value of actuarial gains and losses would arguably be smaller (for Other LT EB) as compared with that of post-employment defined benefit plans where both liabilities and assets stream into actuarial gains and losses. The one-source contribution of actuarial gains and losses on Other LT EB to OCI is likely to further reduce the impact as compared with the two-source effect of post-employment defined benefit plans.

Is 'Other LT EB' large enough?

Unlike post-employment defined benefit plans like pensions, post-retirement medical benefits and gratuity (a lump sum pension), Other LT EB comprise of Privilege leave, Medical leave, Loyalty bonus, Deferred incentive, Retirement settlement allowance and Long service awards. As Other LT EB is wholly or partly consumed while in employment, the benefit obligation might not be as substantial when compared with lifelong benefits like pensions and post-retirement medical benefits and lump-sum retirement benefits like gratuity. An obverse situation can prevail in entities where carry forward caps of leave balances are higher, but it is just that – an exception.

Hence actuarial gains and losses arising from Other LT EB being small in magnitude are unlikely to contribute much toward current earnings volatility as compared with the contribution of actuarial gains and losses on post employment defined benefit plans.

In view of the shorter payout window, the measurement of Other LT EB is not usually subject to the same degree of uncertainty as the measurement of post-employment benefits (Paragraph 127 of the proposed Ind AS 19). Paragraph 131 validates the argument further as setting the default position of other LT EB as 'insignificant' and 'no specific disclosures.' Its extract reads:

131. Although this Standard does not require specific disclosures about other long-term employee benefits, other Standards may require disclosures, for example, where the expense resulting from such benefits is material and so would require disclosure in accordance with Ind AS 1.

In this backdrop, is it necessary to separately identify and classify the actuarial gains and losses on Other LT EB as OCI? As discussed later, how are the shades of grey addressed in calculating the actuarial gains and losses on Other LT EB as compared with the relatively well-defined practice of actuarial gains and losses on post-employment defined benefit plans? Was enough thought given to the implication on deferred taxation of Other LT EB when classified in OCI?

Proportionality principle

The Ind AS 19 carve-out hence posits the issue of treatment of actuarial gains and losses on other LT EB at the intersection of:

- a. Paragraph 129A: treat actuarial gains and losses as part of OCI, and
- b. Paragraph 131: disregard specific disclosures unless the benefits are material.

If Other LT EB costs are to be bifurcated between the Statement of Comprehensive Income (P&L) and OCI, greater effort is needed to calculate the actuarial gains and losses for the relatively small value benefits. Hence the essence of proportionality is compromised.

On one hand, no specific disclosures are needed (paragraph 131) while on the other, requiring actuarial gains and losses to be taken to OCI (paragraph 129A) needs a breakdown of liability (and if funded, asset) movement and hence an elaborate exercise of capturing all the movement heads viz. current service cost, interest cost, past service cost, curtailment, settlement and actuarial gains and losses.

Understanding the process of Benefit Obligation Computation

Ind AS 19 requires all employee benefit obligations to be computed using the Projected Unit Credit method where the 'projected accrued benefit' is based on the employee benefit accrual formula and upon the service as at the end of the year, but using a member's final compensation and decrements like withdrawal and mortality, projected to the age at which the employee is assumed to receive benefits. Essentially the Benefit Obligation is computed on a prospective basis to arrive at its expected present value or the actuarial value at the valuation date. The 'chicken or egg first' dilemma between the benefit obligation and the

associated actuarial gains and losses does not exist. Actuarial gains and losses are derived from and calculated ONLY AFTER the benefit obligation is ascertained.

Only when utilization and lapse is possible in service as in the case of compensated absences, complexities of calculating actuarial gains and losses increase.

Computing actuarial gains and losses for OCI hence needs breakdown of benefit obligation in one or more of its different components: service cost, interest cost, past service cost, effects of curtailment and settlement, and finally fitting the balancing figure of actuarial gains and losses in order to reconcile the opening and closing benefit obligation.

Different Estimate of Service Cost

This position not only leads to additional efforts but different estimates of actuarial gains and losses of the same accrued benefit. To start, the service cost component of the employer expenses needs to be computed. Service cost is defined as 'the actuarial present value of benefits attributed by the plan's benefit formula to services rendered by employees during the period.'

Consider an employee with 15 days of privilege leave balance at start of year, credit of 24 days and utilization of 20 days. That is, the closing accrued benefit is 19 days which needs to be valued. The entity allows the employee to cash leave at basic salary on date of retirement or resignation, whichever happens earlier. For the same closing benefit obligation in this case, the actuarial gain or loss could be different. We will see how. Assume

salary has increased for this employee in the valuation year. If the last-in-first-out (LIFO) method were applied, the service cost will be lower as the incremental accrual of 4 days alone will be attributed to the current year's credit. On the other hand, if the first-in-first-out method (FIFO) were applied, the service cost will be higher as the entire closing balance of 19 days is from the current year's credit. Hence the actuarial loss (gain) will be higher (lower) and lower (higher) under the LIFO and FIFO methods respectively.

Such complexity does not arise for periodic accrual rate post-retirement defined benefits like gratuity ('15/26 per year of service' factor) and pension (usually '1/66 per year of service' factor). Only when utilization and lapse is possible in service as in the case of compensated absences, complexities of calculating actuarial gains and losses increase.

Entities will also need to share the privilege and medical leave movement during the year to enable the actuary to compute the actuarial gains and losses. Else year-end balances suffice for liability calculation.

Curtailment and Past Service Cost Events

Unlike post-employment pension, Other LT EB is not defined by law. Example, an employer has more flexibility in altering the compensated absences benefit and long-service awards and with greater frequency than post-employment pension. A reduction and increase leads to curtailment and past service cost respectively. If the actuarial gains and losses were to be quantified, curtailment and past service cost calculations would need to be allowed for. Under IAS19R, this effort would be unnecessary for Other LT EB as only the liability (and not the actuarial gains and losses) ought to be disclosed. In contrast, Ind AS 19's requirement to separately compute actuarial gains and losses on Other LT EB would push the valuation process to compute the curtailment and past service cost.

Higher cost proportional to greater effort

The benefits under Other LT EB arise as and when they are utilized. Some part of

the benefit is not even carried forward as it gets availed in the current financial year. Retrieving data from the client will become an additional task as they will be required to provide the movement of such benefits availed during the year. This granular data may or may not be available with the client. These benefits (e.g. loyalty bonus, long service award, privilege leave, medical leave, and resettlement allowance) are not significant when compared with post-retirement benefits like gratuity and pensions. However, if separate calculation of actuarial gains and losses is needed, a higher effort is warranted. This in turn would lead to (an avoidable) increased cost of actuarial valuation on entities, especially small and medium-sized ones.

Why to continue with IAS19R treatment on Other LT EB

If assumptions are set different than experience, actuarial gains and losses arise. Apart from the computational complexities and efforts, the latitude offered to treat 'actuarial gains and losses on Other LT EB' to OCI would mean that the assumption-setting process has no bearing on current profitability. Indeed if assumptions are materially different than experience, the company has no lever to revise them to realistic levels when the resulting actuarial gains and losses are clubbed under OCI. Knowing that actuarial gains and losses do not affect earnings, clients may be tempted to package medium-term incentives in such a way that the costs show actuarial losses in order to reduce volatility – an unhealthy precedent.

Position on Carve-outs

The Indian Ministry of Corporate Affairs and the Indian Accounting Profession has recognized that carve-outs should be indeed exceptional and only if required under a long-term view of the local setting. See Box 1 for relevant excerpts.

Box 1:

"Let me make it very clear that India is a signatory to accept IFRS. By accept, I mean convergence to IFRS by April 2011 and not adoption. We stand by that. There is no reason to change that date or extend the time," Mr. R. Bandyopadhyay, Secretary, Ministry of Corporate Affairs, said at 'IFRS Summit 2009' organised by the Confederation of Indian Industry (CII). [Source: CII IFRS Summit, 2009]



In any debate on convergence or adoption or carve-outs, India must first aspire to uphold the purity of IFRS and be fully IFRS-compliant nation and second it should take a stand that it has full belief in the proposed deviations as being the best practices and then the confidence and conviction to influence the International Accounting Standards Board (IASB) through consensus about what it believes is right and the need to bring the required improvement/amendments in IFRS rather than remaining as a carved-out nation. We cannot just take short-term nationalist and local view rather we need to take long-term global view on IFRS. If carve-outs/deviations are managed with this objective and attitude, then India and Indian entities would benefit in the long term.

[Source: Shailesh Haribhakti (2011); "Is India watering down IFRS?" BCAS Journal January 2011]

Conclusion

- As Other Long-term employee benefits are much smaller in value relative to post-retirement employee benefits like pensions, fewer disclosures are advised (paragraph 131). But in the form envisaged by paragraph 129A, Other LT EB will need more effort and potentially higher disclosure.

- For the relatively insignificant actuarial gains and losses on Other LT EB as compared with post-retirement employee benefits, a separate effort is arguably futile.
- More effort will lead to higher costs, particularly affecting small and medium-sized companies.
- The classification of actuarial gains and losses on Other LT EB also needs a deferred tax adjustment, which could be avoided if these become part of the Profit and Loss Account.
- Actuarial gains and losses could change under different methods applied to non-periodic accrual benefits like privilege and medical leave. This is not a matter of contention with periodic accrual post-employment defined benefits like pension and gratuity.
- Curtailment and settlement costs are more likely for the numerous Other LT EB that are optional and not enacted under the law. These lead to more frequent re-measurement of actuarial gains and losses, which

is not required if actuarial gains and losses were at the outset not to be quantified.

- Moreover, dispensing with this carve-out would lead to closer IFRS convergence.

If separate calculation of actuarial gains and losses is needed, a higher effort is warranted and higher costs are likely. It seems that the aspects of effort, proportionality, disclosure and costs have been inadvertently glossed over when drafting the Ind AS 19 that classifies 'actuarial gains and losses on Other Long-term Employee Benefits as part of Other Comprehensive Income.'

During the Union Budget 2014-15, the Honourable Finance Minister announced that Ind AS would be applicable voluntarily from financial year 2015-16 and mandatorily from financial year 2016-17. As the Ind AS notification gathers momentum amidst voices dissenting carve-outs, we hope that the carve-out of Ind AS 19 on actuarial gains and losses on Other Long-term Employee Benefits is scuppered and put paid to.

■■■





PENSIONS DE-RISKING – ROLE OF LONGEVITY SWAPS

One of the most important assumptions made in calculation of pension liabilities is that related to expected life time of the pension plan members. However, when mortality studies in early 2000 revealed that mortality rates are decreasing and members are expected to live longer than originally expected at the time of setting up these schemes, all stakeholders found it difficult to accept the reality. Unexpected adverse change always causes concern and their reaction is no surprise. Pensioners living longer than expected had caused alarm to all pension schemes - both private and public managed alike.

Consequently, pensions de-risking had assumed priority in the developed



More than 100 UK pension fund trustees were included in the survey of which 44 per cent expressed concerns about their funding position.

The same proportion cited longevity risk as the greatest threat, while 39 per cent highlighted regulation and 38 per cent believed the low-yield environment posed the biggest risk.

markets as a method of combating risk associated with increasing longevity. The need to make additional payments for an unexpected duration - in some cases the need to make unknown payments - also have led to serious concerns to annuity providers and other stakeholders.

According to a survey of trustees in the UK, longevity risk is perceived to be the greatest threat to most UK pension funds.

Pensions de-risking

A number of alternatives are available for pension plans to deal with the longevity risk. Most popular among them are:

Pension buy-outs – a form of de-risking wherein the DB plan sponsor transfers all liabilities (and Assets) of the Plan to an Insurer by paying a fixed amount

Pension Buy-ins – is an alternative to Buy-outs where in pension plans transfer only the risks associated with demographic changes and investment risk to an insurance company

Longevity Swaps – wherein pension plans transfers only longevity risk to an insurance company

Pricing of the above products would be in decreasing order because of the nature and the extent of the cover provided by these contracts as mentioned above.

Our focus here is on longevity swaps and the risks associated with entering into such contracts. A longevity swap is a derivative contract in which the buyer hedges the risk of pensioners living longer than expected. At the outset, it might appear that the longevity risk would be completely hedged in this type of contract. However, there are other risks that would arise out of these contracts. We will return to them shortly.

Longevity swaps market:

The first longevity swap contract was signed by a UK pension fund in mid 2009. In the last 5 years the UK swap market has seen a significant growth with more and more pension schemes (both big and small) opting for such contracts to hedge their longevity risk. Though the market witnessed an exceptional growth in 2013 compared to previous years, with £8.9 billion premium written across five transactions. 2014 had beaten all the previous records with the single largest transaction by BT pension scheme with prudential insurance company of

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America. (refer table below). The total pensions risk transfer and longevity swaps recorded in 2014 till August is a little over £ 29 billion.

The counterparties have been mainly insurance companies, banks, and investment banks who are able to provide trustworthy deals for their clients. However, absence of liquidity still remains a deterrent for many players to enter the market. The ten most popular and the biggest longevity swap deals so far are shown in the table on next page.

Features of a longevity swap

In a typical longevity swap, there is an exchange of a stream of payments between the pension scheme and the insurer or reinsurer. The former makes payments to the insurer based on the expected mortality rates and the latter makes payments based on the actual mortality rates. Thus these contracts claim that the risk of increase in costs of providing pensions due to increase in life expectancy is reduced. As we all know, there will be a price for it. So pension schemes need to do cost-benefit analysis when opting for such contracts.

Types of Longevity Swaps

There are primarily two types of longevity swap contracts – Indemnity based and index based.

Both the contracts are operationally similar except that they differ in the determination of cash flows between the two parties involved. In both the cases, pension plan agrees to make a fixed stream of payments based on agreed mortality assumptions. For fixed payments, both the parties in general agree what seems to be the best estimate of the mortality experience



Pension plan/scheme	Counterparty	Size of the swap deal	Year
BT pension scheme	Prudential Insurance company of America	£16 bn	July 2014
Delta Lloyd	RGA Reinsurance	£9.5 bn	August 2014
Aviva Staff Pension Scheme	Aviva	£5 bn	March 2014
BAE Systems	Legal & General	£3.2 bn	February 2013
Rolls-Royce	Deutsche Bank	£3 bn	November 2011
BMW	Abbey Life	£3 bn	February 2010
AstraZeneca	Deutsche Bank	£2.5 bn	December 2013
RSA Insurance Group	Goldman Sachs	£1.9 bn	July 2009
Royal Ordnance Pension Scheme and Shipbuilding Industries Pension Scheme	Legal & General	£1.7 bn	December 2013
ITV Pension Scheme	Credit Suisse	£1.7 bn	August 2011

Source: Aon Hewitt August 2014

of the covered group of pensioners. As in any contract, there will be a small margin included in the fixed payments which serves as the risk premium for the counterparty for assuming the longevity risk and associated expenses.

However, cash flows from the counterparty differ between the two types of contracts. In an indemnity based contract, cash flows from the counterparty is based on the actual experience of the pension plan. If members of the pension plan live longer than expected, higher payments received from the counterparty would meet the increase in costs for the pension plan. Thus the swap has a positive value for the pension plan. On the other hand, if the pensioners live shorter than expected or assumed, pension plan would receive lower payments. So the overall cost to the pension plan remains unaffected and the pension plan is protected from the risk arising from unexpected changes in the life expectancy of its members.

In an index based contract, payments from the counterparty are based on an agreed upon mortality index and is irrespective of the actual experience of the members of the pension plan. The plan's longevity risk is mitigated so long as changes in the mortality of the pension plan beneficiaries track changes in the index.

It is not roses all around

Like other financial instruments, these contracts have some inherent risks. While longevity swaps help mitigate longevity risk associated with pension plans, there

are other risks that have to be considered while weighing the benefits of such contracts.

Counterparty risk: This is the risk that the counterparty to the contract will not meet the obligations as promised. Similar to other swaps contracts, payments between the parties are generally netted in these contracts. To hedge the risk of default by the counterparty, collateral can be used wherein the counterparty would pledge some assets such as cash or securities. The extent of collateral can depend on the creditworthiness of the counterparty. In addition, pension plan can also evaluate the regulatory protection available in the geography the counterparty is based.

Rollover risk: When the duration of the contract does not match the duration of the liabilities being hedged i.e when the duration of the contract is shorter than that of the liabilities being hedged. In such cases, though there is protection against longevity risk during the period of the contract, the pension plan is exposed to longevity risk between the end of the contract and the renewal of the contract. The pension plan also faces added risk in that the terms of the new contract may be revised based on the past experience by the counterparty and the then existing economic conditions, in which case there may be a possibility of increased costs.

Basis risk: As in a typical interest rate swap, longevity swaps also expose the pension plan to basis risk. Recall that in an index based longevity contracts, cash flows

between the parties are based on an agreed mortality index. If mortality experience of the pension plan differs from the index, then pension plan is exposed to basis risk. Effectiveness of hedging with index based contracts depends on the extent of choice of the index in that the experience of the plan should closely match with that of the index chosen.

Liquidity risk: Pension plans need to be aware that there is no secondary market as on date for such contracts as it exists for other swap contracts like interest rate swaps. So the pension plan should be aware that they are locking in the mortality experience of its members for the duration of the contract. Though, there is a theoretical possibility of entering into an offsetting contract, practical implementation is very expensive and may not be worth the costs involved.

However, careful design of a longevity swap and judicious choice of the counterparty can help mitigate or eliminate some or all of the above risks.

Conclusion

Currently, the reinsurance market may appear to have adequate capacity to absorb pension longevity risks over the next few years. However, a huge potential for development and to ensure competitive pricing, it may be required to look beyond reinsurers to write these contracts. In addition, reinsurers also have to look for avenues to transfer the risk they are exposed to by writing longevity swaps. **Capital Markets would be the natural choice to build up capacity for such contracts and provide more competitive pricing and liquidity. One would agree that capital markets are already exposed to longevity risks indirectly as holders of government debt equity in corporations with pension plan exposure.**

References

- Lane Clark & Peacock LLP: LCP Pension Buy-outs, Buy-ins and Longevity Swaps 2013, available at www.lcp.co.uk
- Gavin Jones: Longevity Risk and Reinsurance, in Reinsurance News July 2013, Issue 76.
- Pensions De-Risking – Longevity Hedging and Buying Out – Deutsche Bank March 2011
- Longevity Swaps- the deal of a life time – Published in Project M
- UK Risk Settlement update 2014 – Aon Hewitt





LIFE INSURANCE INDUSTRY UPDATE

With a revamped product portfolio on offer amid renewed public confidence and positive investor sentiment under the new government, private insurers recorded growth of 7.8% in weighted new premiums in the first half of FY2014-15. Press reports suggest that the rising equity markets have resurrected interest in unit-linked products (ULIPs), which had become a less attractive option post the global financial crisis in 2008 and regulatory changes in 2010. The Life Insurance Corporation (LIC), with no ULIP on offer right now, recorded a contraction of 11.2% in weighted new premium in the first half of FY2014-15. As a whole, industry premium collection was nearly INR229 billion, a year-on-year decline of 4.3%.

At the time of writing, the hike in FDI limit to 49% from 26% still awaits final approval by the Upper House of the Parliament. Mergers and acquisition activity (M&A) could intensify significantly over the next few months if the long awaited legislation does get through since a number of foreign investors operating in the Indian life insurance market have expressed interest in increasing their stakes in the respective life insurance joint ventures. HDFC Limited has reportedly begun negotiations with Standard Life to sell part of its stake in HDFC Life to the UK based insurer. Sanlam Group is also reportedly in talks with Shriram Group and may increase its stake in Shriram Life. Japanese investors Nippon Life and Dai-ichi Life are also looking to hike their stakes in Reliance Life and Star Union Dai-ichi Life respectively.

Given the general buoyancy of the stock markets, the approval of the legislation at this opportune time is also likely to pave the way for the first few Initial Public Offerings (IPOs) in the Indian life insurance industry. Some life insurers are also reportedly looking to undertake some restructuring following the relaxation of the FDI limit before launching an IPO.

Religare Enterprises, which operates in India through its joint venture Aegon Religare, with a 44% stake, is reportedly planning to exit the Indian life insurance market. South African insurer AllLife, which currently provides life insurance cover to people with diabetes and HIV in South Africa, is planning to foray in India with the introduction of insurance products targeting diabetic patients in the country.

Reflecting concern over the rapidly declining number of insurance agents in the last few years, the IRDA is reportedly in support of the proposal under the Insurance Bill that aims at removing the maximum limit on agents' commission and provides freedom to companies to decide their commission structure. According to the current rule, a maximum of 40% of the first-year premium can be paid as commission to agents. As per reports, the regulator is of the opinion that

a flexible commission framework will lead to better agent productivity and will help improve insurance penetration within the country. At the same time, the IRDA has also circulated a discussion paper asking life insurance companies to control the expenses of management within the limits prescribed by law, or charge the excess to the shareholders' account. The limits depend upon the age of the insurance company, volume of business in force and the term of the products sold however life insurers have frequently been seen to be breaching these limits, even beyond the first five years of operations.

The IRDA has also developed an integrated e-filing system, known as Business Analytics Project to facilitate the submission of periodical returns by insurers and intermediaries.

On the distribution front, the decade long bancassurance partnership between Exide Life and ING Vysya Bank ended in November 2014. The termination has come in the backdrop of acquisition of ING Vysya Bank by Kotak Mahindra Bank, which is also the promoter of Kotak Life. Meanwhile, the state-owned LIC has entered into a bancassurance deal with United Bank of India to further strengthen its reach among consumers.

Following complaints of forced selling of insurance products by banks to customers availing other services, the Reserve Bank of India (RBI) is reviewing the bancassurance model for the prevalence of misselling. At the same time, statistics released by the IRDA for FY2013-14 suggest that life insurers with bancassurance as the dominant distribution channel have the lowest average mis-selling rate of 0.4%. However, the average mis-selling rate in case of insurers with a high dependency on agents is as high as 6%. As a result, bancassurance led insurers experience a persistency of 65.4% as compared to a lower 60.2% for the agency-driven insurers. It is also worth noting that bancassurance was the leading distribution channel for individual new business (with 46% share) for private insurers in the first half of FY2014-15.

The online channel continues to remain popular and some insurers have ambitious plans to maximise growth through this channel. HDFC Life, for example, has launched 15 online products in the past few months and plans to introduce a few more online products soon with a target to earn Rs1 billion in premium revenue from the online channel in this financial year.

Although 800 of the nearly 1,000 products filed with the regulator compliant with the new product guidelines released in February 2013 have been approved, there have been frequent complaints regarding the delay in product approvals. In general, the second quarter of FY2014-15 witnessed a limited number of product launches, with the

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primary focus still on traditional products although the interest in launching ULIPs is on a rise given the recent surge in ULIP sales following the upswing in the Indian stock markets. However, given the inherent risks in ULIPs such as high lapsation in declining markets and volatility for the insurer due to being pitched as short-term high return investment products by intermediaries, companies need to position ULIPs in their product portfolio strategically.

Recognizing the large untapped insurance market in India and to increase insurance awareness, the IRDA Chairman has called for a 'Jan Bima Yojana' (Insurance for all) on the lines of the 'Jan Dhan Yojana' targeted at increasing banking penetration. Press reports suggest that under the scheme floated by the new government, banks have opened over 6 crore basic accounts of the targeted 7.5 crore.

Quick facts on life insurance penetration in India (based on FY2013-14 statistics)*

- SBI Life is the leading private life insurer in 17 out of the 29 states in terms of new business premium collections reflecting the balanced spread and dominance of the insurer throughout the country after the LIC. It also leads in two of the seven union territories.
- Out of the 24 life insurers in the country, 17 of them owe their highest new business collections to Maharashtra, followed by Andhra Pradesh for three insurers and Uttar Pradesh for two of them. This clearly points at the importance of Maharashtra in the market as it contributed to around 24% of the total unweighted new business collections.
- Andhra Pradesh, Gujarat, Kerala and Uttar Pradesh feature in the top 10 states in terms of total unweighted new business premium collections, however, their new business premium as a percentage of state Gross Domestic Product is much lower than the national average and lie in the range of 0.70% to 0.86% indicating at the vast untapped potential of these states. With the exception of Kerala, the rest occupy three of the top five positions in terms of state GDP for FY2013-14.
- The LIC sources majority of its business from states with high penetration rates. Private sector insurers on the other hand also focus on low penetration areas. Shriram Life, for example, emerged as the market leader beating the LIC in Mizoram, hinting at the targeted strategy of the insurer.

*Source: TW analysis using public disclosures data, data.gov.in (for GDP figures)





ADVISORY GROUP ON GENERAL INSURANCE

The Advisory Group on General Insurance (AGGI) was set up with objective of providing a forum for actuaries working in the General Insurance (GI) industry in India to address issues that directly affect their day-to-day functioning, as well as provide advice to the General Insurance Council on issues it deems appropriate.

Based on the interaction and feedback from actuaries and the senior management of the GI industry in India, AGGI is of the opinion that though the involvement of actuaries have increased in the GI Industry, the full potential of actuarial offerings is not being currently utilized by the Industry. This is something that AGGI wants to address and improve over the next few years.

The following activities were undertaken with this aim in mind:

In August 2014, AGGI organized the Capacity Building Seminar in General Insurance seminar.

Since, the prior Capacity Building seminars have mostly focussed on theoretical aspects of advanced pricing and reserving, it was decided that the focus of the seminar will be on implementation tools. Therefore, the key topic was a 4-hour long hands-on session on the statistical

package R where the trainers from Deloitte Consulting started with the basics of R and proceeded to demonstrate on the use of R in Generalized Linear Modelling and Reserving. Other topics covered were:

- Building Robust Excel Models, by Mr. Adarsh Agarwal – Bajaj Allianz General Insurance Company
- Commercial Lines Pricing & Rate Adequacy, by Mr. Chris Simmons & Mr. Vipul Goel – AXA Business Services

The Vote of Thanks was offered by Mr Pankaj Tewari, Deputy Director, IRDA. The Seminar's focus on practical aspects of actuarial work and the training in R was much appreciated by the attendants who comprised of actuaries from insurance companies and consulting firms, as well as from IRDA.

Besides this, the AGGI was engaged in the following activities:

- Put in its recommendations on the enhanced requirements for issuing the Certificate of Practice to actuaries working as or planning to work as Appointed Actuaries for Indian GI companies
- Provide its comments on the Exposure Draft on Claims Reserving published by the IRDA

- Draft the objectives for a research project on an Industry-level analysis on Motor Third Party insurance
- Organize a meeting for Appointed Actuaries to work on potentially creating an AA forum within the GI Council.

In the next few months, AGGI plans to undertake the following activities:

- Conduct a detailed seminar with the IRDA and GI actuaries to discuss IRDA's new guidelines on preparing Financial Condition Assessment Reports
- Conduct the GI breakout sessions at the Global Conference of Actuaries
- Conduct the annual seminar on Current Issues in General Insurance
- Create a compliance format for GI actuaries
- Work on the Motor Third Party research project

On a longer term basis, the AGGI strives to work closely with the IRDA, the General Insurance Council and GI actuaries, to enhance the actuarial contribution in the management of GI companies by providing support on robust reserving, pricing & capital modelling techniques, product innovation, compliance, and overall risk management. This will improve the profitability of the GI companies and help increase the penetration levels of the Industry.



CAREER CORNER

Designation	Assistant Manager : Actuarial - Valuation / Reporting (Location: Pune- Head Office)
Job Summary Deliverables:	
Valuation: Part of the team responsible for	
1. Asset Liability Management reporting	
2. With profit management, Assets share, Bonus declaration.	
Share holder Reporting: Part of the team responsible for	
1. MCEV, VNB, Analysis of Movements. Plan & Analysis of variance.	
2. Analysis of Experience.	
Core Competencies (Functional)	
1. Should have knowledge of modeling of Prophet (Essential)	
2. Database valuation management.	
3. Knowledge of SAS programming (Desirable)	
Designation	Assistant Manager : Actuarial-Pricing (Location: Pune Head Office)
Job Summary Deliverables:	
1. Pricing individual/ Group products, both UL and traditional type	
2. Process documentation	
3. Assist in the preparation of IRDA file n Use documents, sales literature, policy bond, etc.	
4. Assist in any system setting of a product	
5. Resolution of IRDA and Allianz queries for product approvals	
6. Handling of internal queries regarding products	
7. Support in any internal investigation/ analysis of key parameters	
Core Competencies (Functional)	
1. Development of deterministic models in excel	
2. Understanding of insurance products as per Indian Insurance market should be Clear.	
3. Prophet modeling skills, Actuarial concept.	
With at least 3-4 years of relevant experience in Actuarial post BSc/ MSc/ Statistics (Maths) with CT series(Minimum 4-5 papers cleared). Kindly send updated CVs to below two mail ids. raja.dacruz@bajajallianz.co.in venkatakrishna.narayana@bajajallianz.co.in	





SUCCESS STORY

Ashish Taneja

CA3 Topper: September 2014

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? Tell us about yourself, your educational background and your hobbies?

Well, I am currently working as a Chief Manager (Product Pricing) at Max Life. Prior to joining Max, I worked with Towers Watson for over three years as an Actuarial Consultant. I completed my Bachelor in Engineering from Netaji Subhas Institute of Technology (Delhi University) in 2008 and since then it has been 6 years for me in the actuarial profession.

From time to time I go out to play Squash /Cricket. I have certain interest in portrait making and playing Guitar, but mostly I can be seen glued to the TV screen playing PlayStation or watching movies.

? How did your parents, family and friends contribute to your success?

Studying for Actuarial exams can be really hard at times as you have to manage a very rigorous study schedule along with managing expectations at work and in your personal life. I think the support of family and friends comes in very handy in these times. I have had plenty of frustrating moments in the last few years, having taken a couple of exams multiple no. of times and I think the family did its part by most importantly not paying a lot of heed to these setbacks – really takes the pressure off!

? How many hours of study on average per day did you put in to top the CA3 result where in only 12 candidates passed?

To be honest, I just did the CA3 pre-course assignment diligently and took the feedback provided during evaluation of my assignment seriously. Working on some of the important aspects highlighted by the evaluators is something which clicked for me. Roughly I think I would have spent 30 odd hours in preparation for the CA3 exam.

? How much time do you think one requires for serious preparation for this examination?

Unlike other actuarial exams, CA3 doesn't require you to study rigorously. The communication skills especially can't be learnt overnight. This is one of those exams where the skills you develop over a period of your professional life are going to come into play. I think as a profession, we do have certain opportunities to help people develop/brush-up these skills but I believe a lot can be done in this regard.

To get a decent understanding of the aspects which get evaluated in the CA3 exam, I think 30-40 hours of preparation time should suffice. Practicing the same using pre-course assignments can be really helpful.

? Did you face any difficulty while studying this subject?

The CA3 pre-course assignment was quite helpful in the preparation. Although unavailability of the previous years' papers or any sample papers makes it difficult for you as a student to assess and know what's going to come but I think that's essential as well. Unlike other actuarial exams which seem to have well-laid ways to crack, CA3 tests you on spontaneity and intelligent communication, something which is quite important in our day-to-day professional setting.

? CA3 is a three day exam where first two days are dedicated to workshop based training sessions taken by communication experts. What all exercises were included in the exam workshop? How they helped you prepare for the exam?

The first day of the exam had a lot of interactive sessions taken up by a communication expert. The expert shared a lot of Dos and Don'ts for good communication which were quite helpful. In addition there were lot of exercises that really helped the candidates ease into

presenting to a decently large audience.

This was followed up by a session taken by one of the examiner to help the candidates to understand the specific details of the exam turned out to be somewhat helpful in understanding what was coming our way.

? This communication based exam tests an individual's presentation and written skills. How this exam has professionally helped you in your day to day communication at work?

The actuarial work deals with complex technical aspects and more often than not the audience you need to put forward this work to don't have an actuarial background. While all other actuarial exams focus on learning and understanding these complex concepts, the CA3 exam deals with the practical aspect of communicating the application of these concepts to a varied type of audiences.

In my professional life, I wouldn't say that it has drastically changed how I operate and perform at work, but definitely it was a very nice brush-up and a much needed workshop.

? How do you think you can add value to the Actuarial Profession?

Actuarial Profession essentially deals with assessing and analysing the financial consequences of different risk events. The use of mathematics, statistics, and financial theory to study uncertain future events (relating to various insurance programs) is something that I find exciting and fulfilling as a career. Added to this is the utmost degree of professionalism it requires to secure the interest of the consumers.

I think Actuarial as a profession is continuously evolving and I see myself dedicating the coming years in developing more sophisticated techniques to ensure financial soundness of the insurers while keeping consumers' interest in the centre.

? What was your purpose while selecting this course – Communications?

CA3 is one of the compulsory actuarial exams and it should be that way as I think that communicating effectively is one of the most important skills which every Actuary must possess. The CA3 exam is just one of the medium highlighting the importance of these skills to budding Actuaries of tomorrow.



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Renaissance Mumbai Convention Centre Hotel, Powai.

Indian Actuarial Profession
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SRI LANKAN LIFE INSURANCE PRODUCTS



In this article we take a look at the main products offered by Sri Lankan life insurers. The various products will be considered in their own right as well as in relation to the impending RBC framework.

Conventional With Profits

These products currently form the bulk of the life insurance market in Sri Lanka. By regulation insurers must distribute 90% of surpluses as policyholder bonuses prior to becoming eligible to transfer the balance 10% to shareholders. Insurers are not obligated to declare the maximum possible bonus based on the actuarial valuations. Further, the absence of local regulations or guidelines on asset shares means that these products become flexible vehicles for insurers in terms of managing financial results.

Currently the unallocated distributable surplus is not reserved as a liability, leading to high reported solvency ratios for companies with large with profits portfolios. Under the RBC framework these portfolios may have lower solvency ratios due to the requirement to reserve for future bonuses.

Universal Life

These products form what is perhaps the second largest product group in the market. Typically each policyholder is assigned an investment account into which their premiums (less any allocation charges) are allocated. This investment account then earns an annual dividend, which tends to be based on a (fixed or minimum) percentage of the yield of the life fund (or backing assets).

Certain companies offer minimum maturity guarantees whereas others offer annual dividend guarantees. In recent

years there has been a trend towards limited pay plans.

The RBC framework is likely to provide a capital advantage to universal life products. While currently the liability is at least equal to the investment account, under the RBC framework the gross premium valuation can result in a lower liability.

The market risk capital requirement can be significant for such contracts, especially those close to maturity with large investment accounts.

Riders

The main offerings are term, accidental death, critical illness and hospital cash.

Under the RBC framework, (adequately priced) riders are likely to have negative reserves, meaning that they will be capital efficient as compared with under the current net premium valuation methodology.

Conventional

These products are usually offered on a limited basis, seemingly with a view to capturing market share. They typically resemble fixed deposits with guarantees above market rates of interest and terms of 3-5 years.

Under the RBC framework the potential guarantee costs of such products could lead to significant capital charges.

Unit Linked

The typical products on offer are similar to the early Indian market offerings, being investment-focused with relatively low sum assured multiples.

Under the RBC framework these products are relatively capital efficient with the market risk capital reduced significantly versus other accumulating plans.

Health Indemnity

These products, which are a relatively new entrant to the market, indemnify the policyholder against medical treatment subject to specified sub-limits.

Under both the current and RBC frameworks it is imperative that insurers are able to appropriately estimate the expected claim rate, allowing for future trends and medical expense inflation.

Traditional Annuities

Recent years have seen the introduction of traditional annuities. These are first generation products resembling the earliest offerings in countries such as the UK.

Under the RBC framework the potential guarantee costs of such products could lead to significant capital charges.

Summary

With the transition to the RBC framework in Q1 2016 it is likely that the industry will re-evaluate its long-term product strategy in light of the new regulations. This may result in more frequent change to what has historically been a fairly stable product market.

About the Author



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Frank Munro is the Chief Actuary at AIA Insurance Lanka PLC and is a Fellow of the Institute and Faculty of Actuaries UK





PUZZLE

Puzzle No 225:

In this alphametic, if you find that one of the letters is equal to nine, then another letter must equal 5 and still another must be 4.

A FIVE
+ A FOUR

IF NINE

Puzzle No 226:

You've just thrown your first two dice in a crap game and your point is 10. This means that you must continue to roll the dice until you roll another 10 to make your point. If you roll a 7 before you roll another 10, you lose.

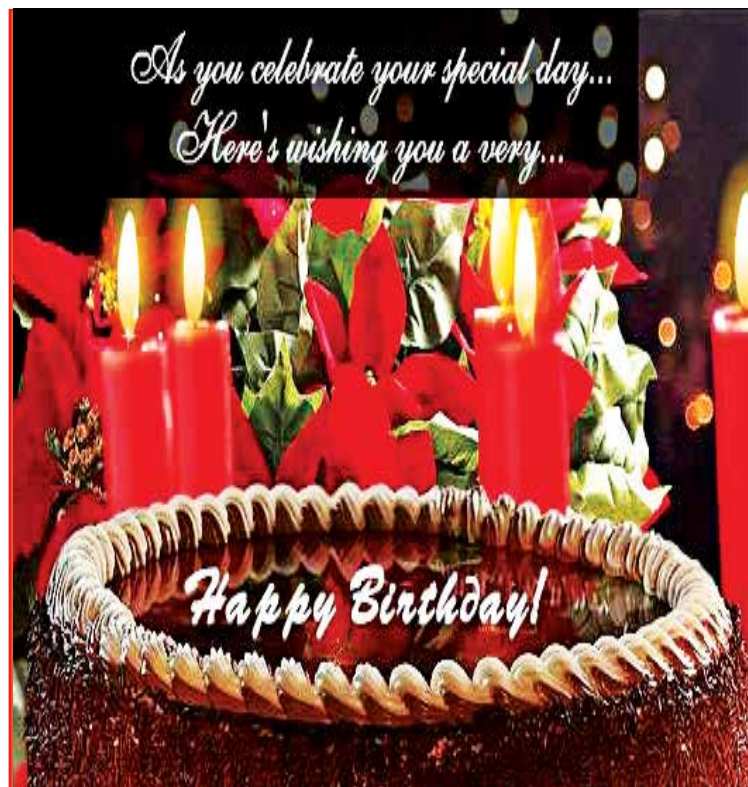
What are your chances of winning with 10 as your point?



shilpa_vm@hotmail.com



It is with regret that we advise that
Mr Minoo Rustomji Batliwalla
FIAA, died on Saturday 13 December
2014 at age 83 years.



(Birthday greetings to fellow members
who have attained 60 years of age)

MANY HAPPY RETURNS OF THE DAY

the Actuary India wishes many
more years of healthy life to
the fellow members whose
Birthday fall in **December 2014**

T. BHARGAVA

N. N. JAMBUSARIA

C. S. MODI

S. P. MULGUND

S. V. NARAYANAN

Y. P. SABHARWAL



SUDOKU

SUDOKU No. 27 for the month of December 2014

SUDOKU

	6			9		8		
						4	2	
1	2	8						
7			1	5				
2	3						1	5
				6	3			9
						1	3	7
	4	7						
		5		8			4	

HOW TO PLAY

Fill in the grid so that every horizontal row, every vertical column and every 3x3 box contains the digits 1-9, without repeating the numbers in the same row, column or box.

You can't change the digits already given in the grid.

- Sudoku Puzzle
by Vinod Kumar

Solution of Sudoku Puzzle No.26
published in the
Month of November 2014

SOLUTION

6	9	8	2	7	3	5	1	4
5	4	7	1	9	6	3	8	2
1	3	2	5	8	4	9	7	6
7	1	5	8	6	9	4	2	3
9	6	4	7	3	2	1	5	8
2	8	3	4	5	1	7	6	9
8	5	9	6	4	7	2	3	1
4	2	6	3	1	5	8	9	7
3	7	1	9	2	8	6	4	5



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Your
in-depth
knowledge

+

Our
risk
assessment

=

His
quality of life



Who will provide the healthcare that our ageing populations need, and the quality of life they expect? You know the issues better than the back of your own, elegantly ageing hand. And so do we. For example, right now in the US we're working with clients to combine their expert market knowledge with our risk assessment capabilities. The result? Affordable private insurance that will not only provide retirees with comprehensive medical cover for the rest of their lives – but peace of mind for everyone concerned. Especially him. **We're smarter together.**

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