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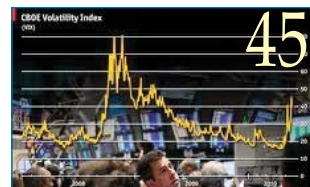
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SUNIL SHARMA

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It gives me immense pleasure to connect with you post 16th GCA. This was the 16th successive global conference successfully conducted in India by the Institute of Actuaries of India. It was a massive event with representation from all across the globe. More than 700 people attended the conference held in Mumbai. There is always scope for improvement; however, I must say this was a grand success event given the challenge of managing such a large number of attendees. There was wide varieties of papers presented by Indian and overseas speakers. The Event was truly a global event.

Over the last few years IAI has made significant progress in enhancing the awareness about the actuarial profession among the general public in India. However, it's just the beginning of a long Journey and the profession has to work more to enhance the communication. In this constantly changing world, the importance of communication with all stakeholders cannot be overemphasized.

I would like to take this opportunity to give an update on some of Initiatives that were taken during the 16th GCA to

highlight the Profession and the Conference in the News and print Media and get attention of the people.

For managing the reporters from Prints and Media, the profession engaged a PR agency Genesis BM which had strong relationship with media reporters reporting in the area of Finance and Insurance. The invitations were sent to the reporters of all major key Print & digital media and TV network. Over 20 reporters came to attend the Global conference of actuaries to cover the 16th GCA on day one and day two. A separate room was set as the Press conference room where media can interact with the Key leaders in financial services from India and overseas. There were various interviews conducted by media during the GCA event.

An exclusive press conference was arranged for reporters from TV and News media to interact with Mr. TS Vijayan, Chairman, IRDA. The reporters felt very pleased with IAI having given them opportunity to interact with IRDA Chairman and other key Business leaders in the financial services Industry.

It was a great effort by the profession by learning from the past experience to contribute a bit towards meeting Vision, Mission and Values of the Actuarial profession in India. I am very pleased to share that today the Indian financial reporters to some extent understand who actuaries are, what they do and how important they are for the management of the Insurance companies. However, a lot more has to be done in this direction.

The current issue of Actuary India has a pretty good coverage of the various plenary and concurrent sessions. It is intention of the report writers is to provide readers a feel of the event, even for those who could not attend the events. I would like to thank all the reporters for putting their efforts to take notes during the seminar and put together the minutes of the proceedings.

The financial year end is coming closer and it's going to be a busy season for actuarial community. Therefore, without taking too much of your time, I would like to sign off to spare you more time to work on new products settings for valuation and reporting.



To laugh often and much; to win the respect of intelligent people and the affection of children; to earn the appreciation of honest critics and endure the betrayal of false friends; to appreciate beauty, to find the best in others; to leave the world a bit better, whether by a healthy child, a garden patch or a redeemed social condition; to know even one life has breathed easier because you have lived. This is to have succeeded.

- Ralph Waldo Emerson



16th GCA 2014 AGFA INTRODUCTORY ADDRESS

by **M. KARUNANIDHI** - IAI, President,
during the Inaugural function on
17th February 2014

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Ladies and Gentleman! Good Morning and Welcome to the 16th GCA.

It gives me great pleasure to be speaking to you this morning and being able to share some of my thoughts. As you are aware, GCA is a major event in the Institute's calendar and is very well attended by various stakeholders besides the members of the Institute. It is running successfully for 16 years, an achievement in itself. The conference has been evolving over time and focuses on contemporary issues of significance in today's context besides offering great networking opportunity for participants. The theme for the conference – Evolving frontiers; Exciting prospects – reflects the fact that changes are happening more than ever, will continue to happen and every change is an opportunity and so it is important to stay optimistic about the prospects that these changes bring about. We have a number of presentations and discussions by eminent speakers lined up.

Let me take this opportunity to thank the members of the GCA organizing group and all those who contributed for putting together such a wonderful program. Lot of hard work has gone into organizing this conference. I would urge everyone to be as participative as you can and make the best out of your time spent over the next couple of days.

When I started thinking about this address, there are three themes that I thought I should reflect upon. Firstly, the current state of the actuarial profession globally and more particularly in India and the aspects for us to pay attention to in order for the

profession to continually remain relevant in the increasingly complex social, commercial and economic environment. Secondly, state of the industries in which actuaries operate and the need to look beyond the traditional areas. And, last but not certainly the least, the importance of actuaries demonstrating highest standards of professionalism and ethics and so the stakeholders gain complete trust in what actuaries do.

We are a small and niche profession of around 50 to 60,000 actuaries around the world. It is not that we have chosen to remain small but any specialist faculty tends to be like that. The establishment of the International actuarial association, an umbrella association of actuarial professional associations, has brought a large number of actuarial bodies together to look at challenges and opportunities for actuaries in a truly global context. We are on the right path of promoting and making the profession more visible to the stakeholders who would stand to benefit from the services of actuaries. I believe the profession globally has got a very strong foundation and reputation of offering a great proposition of applying science to the management risks and thus serving a public interest need. Different local actuarial associations are in different stages of evolution and their ability to contribute and influence policy makings is varied. Given the size and not so obvious but very important value proposition that as actuaries we bring to the table, it is important that we stay united and leverage each other's experience and expertise and take a global approach to addressing public interest issues.

Actuarial science being a science has universal applicability. And so, ensuring that actuaries go through education and training that are globally relevant while being locally compatible both pre and post-qualification is critical. The skill set requirements are changing and so it is important that we have a mechanism to tune our education model to the changing requirements. Behavioral competencies (Soft skills) are becoming more important than ever for successfully executing solutions that are actuarially sound. Our education model will need to continually evolve and embrace this changing need. Embracing technology into our professional thinking and action is another critical element when it comes to actuarial services delivery – an aspect where I would encourage more thinking need to be done globally.

In India, the privatization of insurance industry spurred sudden demand for actuarial resources. Since the privatization followed a pro-longed period of nationalization, the supply had to be built almost from the scratch. The supply reacted reasonably well to the demand. We had significant jump in our student membership. It took us sometime to realize that we need to improve the quality of entrants into the profession and so they acquire the skills fast and start meeting the resource gap quickly. That thinking resulted in the introduction of a system of entry filtering. We see that started yielding results. While there is pressure on supply to meet the sudden demand, we have kept our standards high as we believe quality is fundamental. While producing qualified and experienced actuaries take time, we have been able to attract large number students who

have made significant progress and have the potential to become successful actuaries of the future.

Couple of areas that I see there is more strengthening to be done – one is education delivery and another is professional standards compliance monitoring. There are two schools of thought when it comes to the education delivery model. One approach is to engage with academic institutions – universities – for education delivery. This is suitable for a more focused education delivery and thus potentially reducing the time span for completing the actuarial training. This can however work if we can figure out an effective mechanism to manage and control quality – something we cannot afford to compromise. Another approach is the current system of centralized examination system. It has resource limitations and scalability issues but provides for quality control. There is also an argument that the profession with its limited resources should focus more on setting standards and providing technical guidance targeted towards qualified actuaries rather than expending energy on the pre-qualification education delivery.

While this is debated, encouraging academic institutions to teach students to our professional examinations is, I believe, something that we should facilitate. A reverse exemption system where the universities offer exemption for some part of their degree curriculum to the students passing out the actuarial professional examinations conducted by the institute would be a good start. This would facilitate building actuarial academic capacity in the universities and thus potentially moving towards a system where the academic institutions play much greater role in the pre-qualification education delivery. The aspects around soft skills, technology and research are something perhaps better addressed in such an academic setup.

As regards the compliance with professional standards – there is again this debate on the level of self-regulation vs regulation by the

profession. Compliance with professional standards is of paramount importance to ensure that the users of actuarial services draw the comfort that they are getting the best possible professional advice. I believe, there is greater rigor required and so a tone set by the profession with the bar rising till such a time there is lot of comfort that the standards of actuarial services is a given thing.

Moving on to the industries in which actuaries operate – Life insurance industry, a major employer for actuaries, has gone through significant regulatory intervention over the last few years. While there is a greater level of consensus on the regulatory direction, there have been differences of opinion on the pace with which the changes have been made. There is obviously some merit in the argument that once you decide to get to a place why not get there as well quickly. The regulatory changes resulted in the life insurance industry realigning its business models and starting from what we may call it a new normal. Long term protection is fundamental to life insurance – it is therefore important that that fundamental fabric is not lost in the way products are designed and sold. The trick to success of the life insurance industry, I believe, is in getting an appropriate performance metric in place for the industry participants and that of course should allow for a measure of reasonable return to the shareholders who risk their capital. There needs to be good balance struck between serving a social cause and doing business. In all these, I see a significant role for the actuarial profession to play collaboratively with the regulator.

General insurance industry – relatively a new comer in terms of usage of actuarial science to manage risks – seems to have stuck to a few major product lines. There is need to create more awareness and expand the product menu for greater penetration. Aligning the interests all the stakeholders such as TPAs and health service providers etc is certainly key to the industry's well-being.

UNEP-PI advocates sustainable insurance. What is sustainable insurance? One of the definitions for sustainable insurance is that it is a strategic approach where all activities in the insurance value chain, including interactions with stakeholders, are done in a responsible and forward-looking ways by identifying, assessing, managing and monitoring risks and opportunities in the insurance business associated with Environmental, Social and Governance Issues.

There are number of Environmental, Social and Governance issues such as climate change, natural catastrophes, emerging health risks and pandemics etc. that relate to insurance, particularly, non-life and health insurance. Actuaries thus have a central role to play in promoting sustainable insurance.

Innovation is a key ingredient for success in the insurance industry be it life, non-life or health. There is a sense that the insurance industry is too much into its comfort zone and the out of the box thinking is hard to come by. There is more scope for innovation. Optimization such as use of technology for services is often mistaken for innovation. Optimization is important but there are likely to be diminishing returns from such an activity.

For example, a recent report by IBM global business services says that, from 1955 to 2006, the U.S property and casualty (P&C) insurance industry had a return on equity (ROE) below the average for all U.S. industries more than 87percent of the time. Broadening the market through innovation is therefore not only important but is necessary to create win-win for both providers and the consumers of insurance products.

Collaboration is a key source of Innovation. So, it is important to be able to listen and appreciate perspectives of different stakeholders and be open to learn from other industries. For example, there is a great deal to learn about how to apply predictive analytics to help with product design, distribution and understanding the drivers of experience

results by looking at how it is applied in some of the industries outside insurance.

Pensions and retirement benefits industry – there is plenty of untapped potential for actuaries coupled with the opportunity to serve a very important social need – the old age security with dignity. There is need for promoting life contingent annuities as against return of purchase price type provision that is most commonly sold. Innovative product design along with tax incentives will help promote this important provision. While we are a young country, on average, the size of the retired and retiring population with no access to defined benefit pension is huge and will only increase over time. With people living longer, the pensions industry will likely be faced with challenges of much longer time horizon even longer than that of life insurance and actuarial inputs in addressing the need would therefore be increasingly important.

While actuarial science has historically been at the core of decision making in the insurance and pension domains, its applicability is much wider and it is pretty much up to members of the profession to expand the universe where the science has a role to play. Significant inroads have already been made into other areas such as Finance and Investment and Enterprise Risk

Management. I guess the way to penetrate into the wider fields where actuarial skills add value and complementary to what other professionals may bring to the table is to push ourselves into a situation of excess supply of resources such that the supply then starts to drive demand in the wider fields.

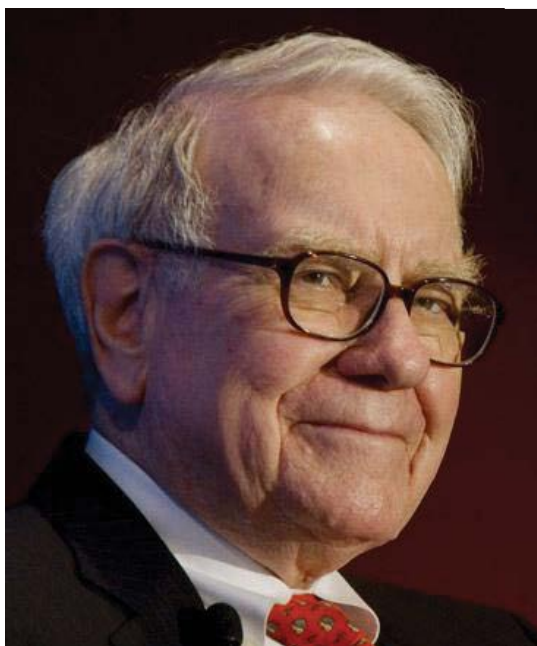
In India, particularly, the outsourcing industry has been very successful in terms the value that it brings to the table for businesses. While outsourcing helps free-up resources for the management to focus their energy on the core business issues, it brings in a whole new dimension to operational efficiency and quality. We have a number of our members working in Global actuarial service delivery units, some of them are outsourced third party units and some are captive units, providing remote actuarial technical support to consultants and actuaries based overseas. It is important that we nurture this industry and create opportunities for our members. Such centralized units is also a source for the insurance and pension industry to learn from as far as operational efficiency and resource optimization is concerned in an increasingly competitive business environment.

Lastly, I want to emphasize on the importance of professionalism and ethics. They are the tickets to the game

and without them no one should be allowed in the field – be it an industry player or an individual member of the profession. When we think of professionalism, the ability and willingness to listen to others views and perspectives are important. For us to be able to appreciate other perspectives, we must keep an open mind. Respecting others' views is one of the core values that we advocate our members to imbibe in. Sustainable success is possible only when it is built on high moral, social, professional and ethical grounds. It is therefore important that we stay true to ourselves and to the profession in whatever we do.

I hope you could relate to some these thoughts and reflect upon. For our profession to grow strong I see couple of behavioral attributes that are important – one, mentally our focus should be more on 'what and how' and not as much on 'who and why', and secondly, the willingness to voluntarily contribute and give something back to the profession that we all belong to and be proud of.

Ladies and Gentlemen, let me thank you for your participation in this conference and wish you a fruitful two days of deliberations, networking and fun. Thank you.



Honesty is a very expensive gift,
Don't expect it from cheap people.

- Warren Buffett



16th GCA Inaugural & Key Note Address by **T. S. VIJAYAN**, Chairman, IRDA

Participation of 720 delegates, with many participants coming from foreign countries also, indicates the importance of the Indian insurance sector in the global system. A country having population of more than 1.2 billion and growing economy offers a good opportunity for professionals from India and abroad. The conference, thus promote and showcase India to attract talent to this industry. The theme, **'Evolving frontiers and exciting prospects'** sounds very interesting and would really catch the imagination of professionals.

Need of Actuaries:

Demand of actuaries in insurance industry is increasing. Also, in non-insurance industries like asset management and project appraisals, the actuarial skill to forecast economic consequences over long term would be very useful in decision making process. There are around 60000 actuaries, across the globe. With more than 1.2 billion population, India should have proportionately, about 10,000 actuaries. As India has got only 4% insurance penetration as against world average of 6%, if 10,000 is too big a number, at least 5000 actuaries? This is the demand before Institute of Actuaries of India. During 2004-2014, the increase is from 209 to 270 actuaries. Though it may be a profession with difficult passing

criteria, there are other professions in India, which may be equally difficult. To become a neuro-surgeon is not very easy, but supply of neuro-surgeons has increased. The situation clearly highlights the gap in the supply and demand. IRDA implemented 'appointed actuary' system to give impetus to the profession and focus the importance of this profession in the insurance industry. Cut off age was set for the same, so that young people are motivated. Efforts of the institute to attract talent had resulted in having 8000 student members. Recognizing the courses offered by reputed Indian institutes of higher learning in the areas of mathematics, statistics and economics which are aligned with the standards of actuaries could play a facilitating role in increasing the supply of actuaries.

Growth in Insurance Sector:

Indian economy is emerging and we are witnessing decent growth. Indian Insurance Industry is growing rapidly. At a penetration level of 4% of GDP, it collected around US\$ 60 billion, i.e. ₹ 3, 50,000 crore. In the given situation, insurance coverage needs of the population increase rapidly every year. Though, lower income group people may not recognize it as a primary need, when income levels rise insurance becomes a need. In the last decade, we observed that the growth of industry is much more than the economic growth. With new lives adding to the working population, new risks like, cars, vehicles, houses increasing, prospects of the industry is good. In this context,

the industry has to think about what type of products should be offered in the market?

Life Products:

One of the primary responsibilities given to IRDA is, to protect the policy holders' interests. In the area of products, the regulator heavily relies on the judgment of Appointed Actuaries, who calculate the premium and allow for expenses under products. In case of any innovation in product design, the questions that would arise are 'Who is benefitted out of this innovation? Is it the policy holder?'. Also, whether reasonable expectations of policy holders are enhanced by that, and whether all the stakeholders are also more or less equally benefitted out of it? Whether it is going to use the efficiency of the system, efficiency of the technology, efficiency of the investment market? The innovation shall not be solely for enhancing profitability.

It is expected that Appointed Actuaries ensure that the products are fairly priced and the interests of policy holders are taken a step further in any innovation. Regulator expects highest level of professionalism from actuaries. Actuaries shall not to be swayed by the

short term goals, of the industry or the CEO. It is a reasonable expectation from a regulator, to see that customers are given a fair deal, better deal. Better means, it is going to be better and better on the way forward, it's not a static goal, a product coming next time, must be better than the previous one. India had different type of products. ULIP products have taken a backseat now and traditional products, particularly with profit products, are coming forward. With profit policies offer relatively low transparency, it is not easy to understand how premium is calculated, how bonus is declared, than some of these products like ULIP. Hence, the regulator has prescribed specific norms for managing with profit products.

In life insurance, huge cost is incurred upfront, for designing a product, getting a product on board, which is only recovered over a period of time. In this context, persistency of the policy is very important. It is felt that persistency levels of life insurance policies in India should be improved. This is the reason behind issuing detailed guidelines on persistency to strengthen internal controls to ensure that the insurer's board addresses areas of concern, relating to persistency experience, in a timely manner.

Non Life Products:

Erstwhile, India had a tariff advisory committee, which used to determine the tariff of each line of non-life business. Now we have a detariffed scenario, where the non life industry is allowed to quote the premium. But, by and large, non-life companies are not making profits. The situation clearly highlights the need for rationalization in the pricing approach and not to chase just the top line. Non Life Product pricing is an area where actuaries have to play an active role along with underwriters. Presence of actuaries is more required today in Indian Non Life Insurance Sector, which is really in short supply. The institute shall focus more on the issue.

Affordability and profitability:

As highlighted by Mr. Burr (previous speaker), "access, affordability, information, ease of claims choice" shall be focus areas for enhancing the role of Insurance Industry. In this context, one choice made recently by the regulator is to advise the banks to distribute products offered by various insurers. In India, government and



T S Vijayan, Vivek Kuruvila, D. C. Chakraborty, M Karunanidhi, Robert Burr and K Subrahmanyam



regulators are focused for providing affordable insurance to all segments of people. Today with the advancement of technology, we are better placed to design such low ticket products, and making them available to across the society and we expect actuaries to contribute a lot to this area. Critical balance between product pricing and profitability shall be maintained by actuaries in such products.

Control on Expenses:

In India, the expense limits for insurance business were set by a law which is more than 70 years old. With rapid advancement in information and communication technology and increase in volume of the business, it may not be appropriate to push the expenses to the statutory upper limits. By the new product regulations, the expenses are expected to come down. Amendment of the Insurance Act is on the parliament's agenda for quite some time and we hope that it will be completed sooner rather than later and there will be rationalization of statutory limits on expense levels.

Investment:

'Investments' is a very critical area for Insurance Industry. 82% of the premium is collected by life insurers, towards long term liabilities. In this

area, the regulator has come out with guidelines in addition to statutory norms on where & how it has to be invested, and exposure in particular companies, group companies, particular sector. Compliance in this area is closely monitored by the regulator. Insurers have to act as trustees of the insurance money placed with them and as it is a long term activity, it should not be subjected to high risk investments. With this approach, maybe returns are not very high and because of lower risk, it may be inherent in it.

Mis-sale:

Many times life insurance sale happens in India, on the basis of IRR comparison with other products or investments etc. But the essential feature; the lower riskiness of the product is not getting highlighted. The other assumption usually made is that the person is going to survive the policy period. The situation clearly warrants focus to bring right perspective during sales process. The communication as to what are the benefits of insurance product and the suggested sales process should be made

clear to the sales personnel.

Health Insurance:

Health Insurance in India is coming into big focus as is also observed in other jurisdictions. For effective delivery of Health Insurance, the persons who are providing the service, the hospitals, the doctors and other related professionals have to be consulted in designing the health insurance product and it's pricing. Hence a need for coordinated effort is more relevant this area. With growing public awareness and transparency laws, involvement of legal experts is required in the area of developing appropriate policy wordings.

Conclusion:

Emerging trends in global regulatory environment is an important consideration and we cannot isolate ourselves and we need to follow them closely and address the emerging issues. The latest example in this regard being US decisions on quantitative easing, IAIS principles, the global solvency norms do impact us and we need to understand what is happening across the globe and align ourselves to them to maintain our place at global level. We need support of actuaries and other professionals in this area, not only from India but abroad also.

I am sure this global conference will serve as a platform, to contribute knowledge, understand topics relevant for India and which can be adopted.

I wish all the success, for this conference, thank you very much.



Always bear in mind that your own resolution to succeed is more important than any other one thing.

- Abraham Lincoln



2014 ACTUARIAL GALA FUNCTION AND AWARDS (AGFA)

- **Organized by** : Institute of Actuaries of India
- **Venue** : Renaissance Mumbai Convention Centre Hotel, Powai
- **Date** : 17th February 2014

Like each year, AFGA event provided much entertainment for the actuarial audience through its way to recognizing academic achievements & qualification milestones in the actuarial arena.



M. Karunanidhi

The best start possible to any Gala function was given by **M. Karunanidhi**, president IAI by completing his introductory speech in just few words.

His speech was immediately followed by a dance composition named "Govind Bolo" which depicted the blissful unison of Radha Krishna and Ram Sitha using a semi-classical style. Started with a tuneful flute sound, the dance had a very good synchronization of both classical and modern style of dance. The podium sparkled as dancers showed their skills to entertain the audience.



N. K. Parikh

The dance was followed by the speech of **N. K. Parikh** of M/s. KA Pandit, Consultants and Actuaries, who revisited the events in Mumbai (near Churchgate) that led to the formation of Actuarial Society of India (ASI) in 1944. He gave credit also to GS Diwan, KA Pandit for the establishment of ASI for

which everyone who has benefitted from Actuarial profession till now should be deeply indebted. He accentuated the difference in approach that Regulator has employed over the years; from giving freedom with publicity earlier to being more prescriptive now. In addition, he emphasized the importance of Actuarial profession in general insurance business which was given less relevance by GI companies over the past 4 centuries.

Math star project, which is in its 4th year of operation, has been successful in providing basic education to children who cannot afford it. New projects include Teacher teaching (teaching mathematics to mothers enabling them to teach their children) and helping 10th & 12th students to prepare for their exams. Math stars this year has covered 5 NGOs & 17 schools thereby touching around 3000 students.

Institute may take up more projects in future to enable children in its own way to pursue their dreams.

Mr. Parikh's Speech was followed by welcoming students of the NGO to the podium. Then, dance choreographed by Rekha choudary was performed by New Shakuntala Arts School.

Main event of recognizing academic excellence started with presentation of Award for 16th GCA "Evolving Frontiers and Exciting prospects" to **Prasenjit Roy**. Actuary India award 1st prize was given



M Karunanidhi awarding Prasenjit Roy

to Mr. Govardhan for article "Current Issues in Life Insurance". Then, awards for best reportages & ACET topper in 2013 were presented.



Vipul Goel

The above was ensued by a standup comedy show by Vipul Goel who ensured thorough entertainment for everyone present in the audience. There was hardly a moment throughout his stay on the podium when people stopped laughing.

This was followed by a short speech by **John Holden**, CEO, Canara HSBC OBC



John Holden

Life Insurance, who urged Actuaries to have long radar to support the CEO in his effort to keep the Company on the right track.

Awards for obtaining highest marks in subjects for the May & Nov 2013 diets were presented to candidates for their achievements.

Later, Presentations of Associate ship to deserving candidates were presented by Vice president, IAI.

About the Author



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Deepak is currently working in LIC of India in its Actuarial Department, Mumbai. He is a student member of IAI.



K S Gopalakrishnan

Video clips of families of few newly qualified fellows were played to describe the efforts that they had had to go through in their journey towards Fellowship before the issuance of Fellowship certificates to deserving candidates by M Karunanidhi, President, IAI.

In addition to the Actuarial awards, Students from NGOs were also given prizes for performing well in puzzles and essay writing.

Dance for a Bollywood number was performed by "Anand Pandav Dance Academy" to conclude the 2014 AGFA.



PHOTO FEATURES - 2014 ACTUARIAL GALA FUNCTION AND AWARDS (AGFA)



PHOTO FEATURES - THE WHIZZING MATH WIZARDS





PLENARY SESSIONS

- **Organized by** : Institute of Actuaries of India
- **Venue** : Renaissance Mumbai Convention Centre Hotel, Powai
- **Date** : 17th and 18th February, 2014

The two-day long sixteenth Global Conference of Actuaries organized on the theme of 'Evolving Frontiers, Exciting Prospects' saw active participation from experts and leading lights from the fields of insurance and related fields of Mathematics, Economics, Accountancy and Statistics.

Session 1: Inaugural Session

Chairperson: Dilip Chakraborty, 16th GCA Organizing Group (India)

Panel Members: Vivek Kuruville, Head of Life and Health Client Markets, Swiss Re (India); M Karunanidhi, President, Institute of Actuaries of India (India); Robert Burr, Head of Life and Health, Swiss Re (Asia); T S Vijayan, Chairman, Insurance Regulatory and Development Authority (India); K Subrahmanyam, Chair, IAI Advisory Group on Peer, Stakeholder and International Relations (India);

Dilip Chakraborty welcomed the elite gathering of around 750 delegates, including around 150 fellow members, 50 associate members and more than 50 delegates from the foreign nations of UK, Singapore, Australia, China, Germany, Indonesia, Ireland and Philippines. He set the stage for upcoming thought-



Dilip Chakraborty

provoking ideas and discussions on the very theme of conference, 'Evolving Frontiers, Exciting Prospects', pointing out that rapid globalisation and expansion has laid bare myriad opportunities and we as actuaries have

an important role to play in tapping the same.

Vivek Kuruville urged the insurance companies, re-insurers and the current regulator to be 'smart together' and work in synchronization in the given rapidly changing environment. He stated that there is a need to look beyond mathematical exactness and



Vivek Kuruville

account of emerging trends in making decisions. He also touched upon the idea of looking beyond traditional insurance distribution channels and exploring the possibility of using social networking sites as insurance distribution mediums.

M Karunanidhi acknowledged that 'changes (economic and industry-wide) are happening and will continue to happen' in India and across the globe and that we should be optimistic about the changes. Innovation, out of the box



M Karunanidhi

About the Author



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Neha Agarwala is an Associate Member of IAI. She is Actuarial Analyst (Life Insurance) at Towers Watson in India.

thinking, embracing technology and optimisation are the need of the hour. He stressed upon the fundamental fabric of insurance products which is offering protection and 'serving the public interest' and the vital role the actuarial profession can play in a move towards 'Sustainable Insurance', encompassing environmental, social and governance issues in its realm. The education system should thus ensure that the skills acquired by actuaries are globally relevant and locally compatible. Also, although there is a dire need to bridge the actuarial industry resource gap, the quality, integrity, independence and professionalism of actuaries should remain intact.

Robert Burr highlighted the challenges that a world-wide ageing population poses, strategic positioning of India in



Robert Burr

this respect due to its relatively younger population and the opportunities presented by the material health protection gap. He stated that a balance should be struck between selling products based on the proposition of wealth creation versus wealth protection. He concluded with a call-to-action for the insurance sector to re-think their products, distribution and marketing strategy and align them with customer needs.

T S Vijayan in his key note address spoke on the increasing demand



T S Vijayan

for actuaries from insurance and other industries given their specialty in areas of risk identification, risk mitigation, long-term forecasting, asset management and portfolio management and the glaring resource crunch in the industry. He stressed that talent development in the actuarial profession needs to keep pace with demand and suggested increased publicity of the profession as one measure to attract talent. He also emphasized on the need for co-ordination between actuaries and other stakeholders and urged the actuaries in the room to stay committed to public interest in insurance product development and sales and not be swayed by short-term profit making goals.

K Subrahmanyam presented the vote of thanks expressing gratitude to the speakers, attendees and sponsors of the conference.

Session 2A: Institute & Faculty of Actuaries (IFoA)

Chairperson: K S Gopalakrishnan, Managing Director (MD) & Chief Executive Officer (CEO) of AEGON Religare Life Insurance Company and Vice-President, IAI (India)



K S Gopalakrishnan

Speaker: David Hare, President, IFoA (United Kingdom)

David Hare focused on the 'Changing Role of the Actuary' and insisted

that actuaries should ramp up their roles to wider facets and build strong communication skills in order to remain relevant in the dynamic business environment. Growing number of professional statisticians, financial engineers and complacency could be potential threats to the actuarial profession. He also gave a brief introduction of the Certified Actuarial



David Hare

Analyst which is a new actuarial qualification and membership category from the IFoA. It would potentially help promote and publicise actuarial science and the value it adds to the society and also help the profession attract diverse and fresh talent.

Session 2B: Insurance and Pension Industry: Hot Topics and Current Problems

Chairperson: K S Gopalakrishnan, MD & CEO of AEGON Religare Life Insurance Company and Vice-President, IAI (India)

Panel Members: John Holden, CEO, Canara HSBC Oriental Bank of Commerce Life Insurance Company (India); **D K Pandit**, Partner, M/s K A Pandit (India); **Asha Nair**, Director & General Manager, United India Insurance Company Ltd. (India); **Torben Thomsen**, Chief Pricing Officer, Life and Health, Swiss Re (India)

John Holden presented his ideas on the changing insurance distribution paradigm and the interactions between greed, fear, complacency, confusion, remorse and pride when an insurance



John Holden

product is offered for sale to a consumer. He also noted that mis-selling results in stricter regulations, increased cost of compliance and weeds out the bottom layer and hence it should be guarded against. He also mentioned that the emergence of self-directed insurance purchases through the online channel and mobile phones medium would catch up with rising income levels of the middle class and increasing young and internet savvy population in India.

D K Pandit stated that the current role of employees in employee benefits mainly consists of valuing various benefits as per the requirements of national and international accounting standards. One exciting prospect for employee



D K Pandit

benefit actuaries is the New Pension Scheme of the Central Government which is mandatory for employees joining the Central Government or State Government and actuaries would be best skilled to advise individuals/ group of individuals/employees on choice of annuity providers. Actuaries will also be required to calculate appropriate and competitive annuity rates for the annuity providers.

Asha Nair spoke at length about the problems in the General Insurance Industry in the current scenario, its large underwriting losses and the difficulty in selling non-life insurance due to its annually renewable nature. She also mentioned that there are myriad products in the market with



Asha Nair

various terms and conditions which the consumer is not aware of until a claim arises. This dearth of public awareness leads to mis-selling and customer trust-deficit issues persist. There is a need to adopt a customer-centric, quick service approach, innovate and ensure rapid alignment with regulations in order to strengthen the Non-Life Insurance Industry.

Torben Thomsen discussed the topic of reinsurance aiding the life insurance companies in India sail through the transition phase they are undergoing currently. The Life Insurance Industry



Torben Thomsen

in India witnessed a range of regulations lately and is currently experiencing slowed growth. The existing life reinsurance regulations in India limits counterparty exposures, requires an annual review of reinsurance programme by the Board and the Regulator and there are prescribed individual surplus limits by risk type. If the reinsurance regulatory framework eases access to market, promotes partnership approach, allows proportional reinsurance (including quota share and original terms), reinsurers can better support direct writers who seek to explore new products and risks, improve efficiency of distribution channels and capital in such challenging times.

Session 3 : Global and Indian Development

Chairperson: Dilip Chakraborty, 16th GCA Organizing Group (India)

Panel Members: Arup Chatterjee, Senior Financial Sector Specialist, Asian Development Bank (Philippines); **Vivek Jalan**, Director, Risk Consulting, Towers Watson (India); **Achintan Bhattacharya** - Director NIBM and Retired Joint Secretary, DFS, Ministry of Finance, Government of India (India)

Arup Chatterjee's views on the 'The role of the Actuary in Financial Sector Development in Asia' were presented to the attendees by **Dilip Chakraborty** due to his unavoidable absence. He mentioned the emerging trends and notable problems in the financial markets in Asia like underdeveloped capital markets and lack of alternative financing mechanisms. He believes that actuaries are part of the solution and can support the design of innovative financial products aided by sound underwriting decisions and ensure the implementation of international financial standards and best practices. They can contribute towards the evolution of a robust and resilient financial system that can effectively preserve financial stability and contribute to balanced growth and development in Asia.

Vivek Jalan presented an update on the current life insurance penetration rates for countries in Asia and indicated a significant uplift in the same as countries move up the value ladder. He stated that gross written premiums would increase impressively and some



Vivek Jalan

of the attractive fundamentals that would drive such growth are increased wealth, continued urbanization, high savings ratio, expanding middle class, new technologies, evolving distribution and Takaful and micro-insurance.

Touching upon Solvency II regime, he said that despite many delays, the general expectation is that Solvency II will be passed (eventually). Firms in Europe are more likely to concentrate on addressing the interim measures based on their local regulators demands.

Dr. Achintan Bhattacharya, being a non-actuary, could bring to the attendees a different perspective on the topic



Dr. Achintan Bhattacharya.

of 'Prospects of Indian Economy & Financial Services Industry -Investment & Banking'. He highlighted the general trends in Indian Economy like slowed growth, current account deficit, rising inflation and fiscal imbalances. He went on to speak of the much-debated Draft Indian Finance Code released in March 2013 and the role it could play in tying up the loose ends in the financial regulatory architecture in India.

Session 4 : Actuaries & Accountant and Business Strategy

Chairperson: Richard Holloway, MD, South East Asia and India, Life, Milliman India Private Limited (Singapore)

Panel Members: M M Chitale, Chairperson, NACAS & Ex-President, Institute of Chartered Accountants of India (India); **Gary Comerford**, Chief Marketing Officer, Re-insurance Group of America Services India Pvt. Ltd. (Canada)



Richard Holloway, Gary Comerford, M M Chitale

M M Chitale discussed the need for co-ordination between actuaries and accountants. In case of financial statements preparation for life and general insurance business, the role of actuaries emerges as a part of certification of insurance liabilities. In case of other businesses, actuaries value gratuity, leave encashment and other post-retirement benefits that are disclosed in the financial statements. Hence, the credibility of financial

statements would be determined by the ethics and value system of both the accountants and actuaries. He stressed upon the need for adequate disclosure of actuarial basis changes from year-to-year and its impact so the accounting principle of consistency is upheld.

Gary Comerford based his session on the five possible game changers of the insurance industry: demographic changes, medical, technological and

lifestyle betterment, disintermediation, dynamic regulatory environment and changing consumer attitudes. He mentioned that demographic changes in terms of ageing population throws open the opportunity of designing products that cater to longevity risk. He also said that balancing the needs of distributors, shareholders and consumers while complying with the regulatory norms is required.



**PHOTO
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PLENARY
SESSIONS**



CONCURRENT SESSIONS ON LIFE INSURANCE

- **Organized By** : Institute of Actuaries of India
- **Venue** : Renaissance Mumbai Convention Centre Hotel, Powai
- **Date** : 17th and 18th Feb 2014

Session 1

Chairperson: G N Agarwal - Director, Future Generali India Life Insurance Company, (India)

Topic: Panel Discussion on Product and Regulation

Speakers: S Madhusudhanan - Actuary, Munich Re, (Singapore); **Dinesh Pant** - Secretary Product Development Actuarial Core Group/ Product Actuary, LIC of India

S Madhusudhan started by discussing the objectives of regulation and how



S Madhusudhanan

these objectives cover the interests of policyholders, shareholders and financial markets at large by ensuring stability of the financial system.

Countries like Japan and Korea operate prescriptive regulation and others such as China are moving from prescriptive based regulation to an increasingly liberalized regime. He moved on to discussing prerequisite for principle based regulations which are stable products that target customer needs, suitable distribution methods and regular monitoring of products by the insurers.

The following parameters to assess regulation were considered -

- What issues do the regulations address?
- What are the impacts of the regulations?

- Who is effected by the regulations?
- How large are the effects of the regulations?

He used surrender value regulation to highlight the importance of the parameters above. Whether the issue of high lapse due to mis-selling and/or low or no money paid on early surrender was addressed? Who is affected by the change? Do continuing policyholders provide subsidy to surrendered policies? What are the implications of an increased reserve due to the increase in guaranteed surrender value?

He concluded by highlighting the need to meet the reasonable expectations of all key stakeholders and a requirement for a strong framework before we move to principle based regulation. Dinesh spoke about the importance of considering marketing concepts when



Dinesh Pant

undertaking product design and pricing. He highlighted the importance of the 4 P's; Price, Product, Promotion and Place.

He highlighted the following reasons for needing prescriptive based regulation rather principle based regulation in India:

- low persistency
- low education level of consumers
- low per capita income
- lapse supported products

He stated that insurance consumption in India is positively correlated with education levels and inflation and

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negatively correlated with interest rates.

According to him the following considerations should be considered during product development:

- Balance between interests of shareholder, policyholder and distribution channels
- Economic and social factors,
- Change in regulation
- Technology and innovation
- Expenses, persistency, mortality, profitability criteria, guarantees, benefit illustration, underwriting, etc.

He concluded by highlighting the importance of innovation, satisfying customer needs, good communication, self-regulation, more market research and learning from experience.

A member of the audience raised a question regarding the implications of change in surrender value regulations. S Madhusudhan discussed the approach to deal with it is by identifying the different stakeholders, splitting the policyholder in different classes, capturing the effect on different classes and other implication like reserving.

Session 2

Chairperson: Heerak Basu - Senior Vice President & Appointed Actuary at TATA AIA Life, (India)

Topic: The Value in "Value for Money" - a Practitioner's view

Speaker: Chirag Rathod - Appointed Actuary and Director - Products & Strategy Canara HSBC Oriental Bank of Commerce Life Insurance Company; (India)

Chirag spoke about the value of life insurance products. He explained that



Chirag Rathod

the price is the amount customer pays for a product or service and value is what the customer derives from product or service.

He spoke about a value for money framework - Identifying target segments and their needs, creating customer propositions, designing products, aligning sales and service models, communicating embedding value proposition and refining through a post execution review.

He said that we should use checklists in the development process to focus on customer needs and not just product features. He compared other saving instruments with life insurance. He said that there are some unique benefits that are available only from life insurance.

Value for money framework offers the following advantages –

- Clear context
- Product suitability
- Expectation setting
- Thinking beyond products
- Align distribution perspective
- Product optimization and long term profits

He concluded by saying value means different things to different people and extend beyond product design and pricing. As actuaries we need to start questioning whether we need to place cost and commission structure or the customer value requirement first.

Session 3

Chairperson: Jyoti Majumdar – Head of Client Markets, Property and Casualty, India, Swiss Re, (India)

Topic: Critical Illness in Asia – a success story



Jyoti Majumdar

Speakers: Karsten de Braaf - Head of Product Development, SCOR Global Life, Singapore and **Kattumuri Raghavrao**, Manager – Pricing & Product Development, SCOR Global Life, Singapore



Karsten de Braaf

Karsten de Braaf started by giving an overview of the international market for Critical Illness insurance. Worldwide CI premium constituted 1% of the total life insurance premium. In Asia, which has significant volume, the CI coverage was 3% of the total life insurance premium.

Raghavrao Kattumuri talked about Japanese and Korean markets. In Japan, cancer care products have had



Raghavrao Kattumuri

high market penetration attributed to mass marketing. Pricing challenges include increased A/E's especially of the insured population which suggests anti selection.

The Korean market is culturally similar to the Japanese market and therefore cancer products are quite significant. However, there is a coexistence of CI products. The first generation of

products were quite generous, however because of the experience on the first generation of products the later products were designed with lower benefits. Another lesson learned was that there was an increase in thyroid cancer cases in women because of the increased detection of tumors of insignificant sizes. This has now resulted in tighter claim definitions for CI claims.

Karsten de Braaf talked about the popularity of CI products in the South East Asian markets. The products offered have features like juvenile covers, female CI, multiple CI and staged CI products. The Chinese market is highly competitive with a fast product cycle. There has been a demand for innovative products such as CI annuity. The major challenge has been the huge demographic diversity due to the large size of the country.

To a question raised by Jyoti Majumdar of what CI products mean to India, K de Braaf replied that there was an increased awareness among the general population that a medical problem could result in loss of income and some coverage is required. This presents a good potential for CI business and the way forward would be standardize CI definitions, probably emphasize CI along with Life Insurance cover and in the beginning have accelerated benefits for increasing penetration of the business.

To another question on whether longevity is the reason for the popularity of Cancer products in Japan, K de Braaf affirmed that as people live longer, they do see an increase in incidence of cancer and this creates an awareness in the general population for the need of such a cover as people would have seen someone in the family suffer from cancer.

To a question on whether the Asian Regulators would be taking a cue from the European Regulators and disallow gender differentiation in underwriting and pricing, Karsten de Braaf, said that while Asian Regulators do look at European Regulations for policyholder protection, discrimination on account of gender is not something that they have thought about.

Session 4

Chairperson: Chandan Khasnobis
Director and Appointed Actuary,
IndiaFirst Life Insurance Company Ltd,
(India)

Topic: Current Issues - Appointed Actuary Session, Life

Speakers: Rajesh Dalmia - Appointed Actuary, Reliance Life Insurance; **Anil Kumar Singh** - Appointed Actuary, Birla Sun Life Insurance, and **P K Arora** - Appointed Actuary, LIC



Chandan Khasnobis

Chandan gave a brief introduction on the duties of the Chief Actuary pre-liberalisation and evolution of the Appointed Actuary (AA). He also said that the Chief Actuary was primarily responsible for Valuation but the AA, in addition, should protect the interests of policyholders. He also spoke on the stringent regulations pertaining to the appointment of AA. He suggested a question and answer format to take the panel discussion forward.

Chandan asked Anil to comment on attributes required for an AA?

Anil Kumar Singh, mentioned that being technically sound is one of the basic qualities required to be an AA. He also highlighted the importance of expectation management of all the stakeholders. He discussed the definitions of fairness, adequacy and market conduct with examples and how those should be carefully interpreted and took us through the challenges of being an AA with some examples. He concluded by saying that the Appointed Actuaries should believe that the Regulator is always right.



Rajesh Dalmia, Anil Kumar Singh

Chandan then asked Rajesh to talk about challenges around with profits business and how can the AA manage these?

Rajesh Dalmia raised questions around asset share calculation and handling high level of expenses, especially when these are not allowed for in the benefit illustration. His next question was related to funding of the cost of guarantee arising from returning premiums paid, whether the shareholder or policyholders belonging to other cohorts would meet it? In continuation, how would one meet the high level of guaranteed surrender values on the current basis? Whether one is expected to change or weaken the reserving basis? Rajesh once again iterated that he did not have the answers to any of these questions but these issues were being faced by an AA.

P. K. Arora shared his experiences of working with the largest life insurer in India. He took us through the complexity of valuing above 300 million policies under 170 products spanning



P. K. Arora

over 50 years. He gave examples of challenges faced by LIC such as bilingual forms mandated for LIC, larger scope and purview under Right to Information Act and being answerable to around 1.2 million agents. He highlighted the

importance of Agency Management and briefly talked about the fact that the Regulatory changes affect LIC more than any other Insurer.

He raised concerns that the AA is responsible for all the activities but has not authority to decide on them. He gave examples to illustrate the same and concluded the discussion on a lighter note sharing his experiences.

Session 5

Chairperson: Avijit Chatterjee - Chief Actuary, ICICI Prudential, (India)

Topic: Summary, interpretation and issues for principles based reserving of life insurance in US

Speaker: Aravind Venugopalan - Senior Consultant Genpact, (India)

Currently, statutory reserving in the US for life insurance is based on net premium reserves which are Zillmerised. The determination of reserves is rules-based and commutation functions are used to compute the reserves.

Principles Based Reserving (PBR) would enable companies to use complex modelling that better reflects reality and enable them to use their own experience for setting assumptions.

PBR is calculated as the maximum of the following:

- Net Premium Reserve (NPR) which is based on prescribed methods and assumptions and acts as the regulatory floor.
- Deterministic reserves which are gross premium reserve based on cash flows with an explicit allowance for provisions for adverse deviations.



Aravind Venugopalan, Avijit Chatterjee, Varun Gupta, Sanket Kawatkar, Sanchit Maini

- Stochastic reserves based on Economic Scenario Generators provided by the regulator. Only interest rate and equity returns need to be stochastically modelled while other assumptions should be as in deterministic reserve calculations.

The impact of PBR was analysed based on results of 2011. The analysis showed that reserves have reduced for term products due to reduction in NPR while there were mixed trends for universal life products. The analysis also showed that exclusion tests may not be effective.

Topic: Strategic Dilemmas and Opportunities

Speaker: Sanchit Maini - Appointed Actuary, Max Life Insurance & **Varun Gupta** - Corporate Vice President, Max Life Insurance, (India)

Sanchit Maini spoke about the evolution of the Indian life insurance industry and how the industry has struggled to grow in the last five years due to regulatory changes and unfavorable economic conditions. This has led to:

- decline in agency and third party channels
- significant decline in ULIPs and increase in participating products

He said that persistency has not improved despite a lot of efforts by companies in this area.

He gave an overview of regulatory developments, in the light of changing Indian demographics and overseas regulations, which will continue to drive changes in our industry.

In the last phase of his session, he shared the following dilemmas faced by Indian life insurers.

- Product risks such as ALM, longevity, etc.
- Expensive distribution channels
- Poor quality of business and flat yield curve impeding the industry from improving customer value proposition on investment products

Varun Gupta outlined various opportunities for life insurers:

- Differentiating based on brand
- Increase protection business given very low insurance coverage to annual income ratio
- Design viable distribution channels
- Optimization by being on efficient frontier
- Consolidation by large players
- Improvement in areas of UW, fraud, longevity, ALM, technology, etc.

Topic: Revival of Indian Life Insurance Sector – How and When?

Speaker: Sanket Kawatkar - Head, Life Insurance Consulting, Milliman, (India)

Sanket spoke about the following changes that will enable the industry to reach a sustainable growth path:

- Macro-economic environment – revival of the Indian economy through GDP and investment growth, restoration of investor confidence in ULIP through stable performance of equity markets.
- Business Practices – changing the promoter’s mindset to a longer term horizon, aligning shareholders interests and cost structure with productivity, enhancing use of

technology, revamping the sales process, creating customer centric programs and focusing on rural business.

- Legislations/Regulations – making distributor compensation flexible, making it mandatory to buy term insurance, revamping pension product regulations, relaxing restrictions on rider premiums, providing greater tax incentives on insurance policies, taking steps to promote annuities, allowing Provident Fund monies to be invested in insurance policies, making distributors more accountable and increasing the FDI limit for investments in insurance companies.

In conclusion, there is significant potential to achieve high growth rates in the long term.

Avijit Chatterjee asked the panel how persistency levels can be improved.

Sanchit’s response (from the perspective of company) was that viability of policy channels with poor persistency should be questioned. Different measures like engaging with customers and linking compensation to persistency need to be taken to encourage policy channels to improve persistency.

Sanket’s response (from the perspective of regulator) was that insurers should not be allowed to write new business if they don’t achieve minimum persistency standards within a specified time. Regulator should let CEOs figure out ways to kill poor persistency.

A member of the audience asked Sanket Kawatkar whether companies need to explore a completely new segment or market. Sanket’s response was that companies could explore new markets and that there is space for many insurance companies in India. However, companies should not focus only on top line but also on other parameters like good service to customers, etc.

This ended the conference, where Heerak Basu thanked the financial partners, speakers, IAI, hotel staff and the audience for making the 16th GCA a great success.



PHOTO FEATURES - CONCURRENT SESSIONS ON LIFE INSURANCE



Happiness cannot be traveled to, owned, earned, or worn. It is the spiritual experience of living every minute with love, grace & gratitude.

- Denis Waitley

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CONCURRENT SESSIONS ON GENERAL INSURANCE

- **Organized by** : Institute of Actuaries of India
- **Venue** : Renaissance Mumbai Convention Centre Hotel, Powai
- **Date** : 17th & 18th February, 2014

The session was organized by the General Insurance Advisory Group of the Institute of Actuaries of India to present the discussion on “**Current Issues in General Insurance**”.

The topic for the sessions of the assembly gave full justice to the ongoing issues in general insurance industry. The sessions provided a platform to exchange general and technical updates involved in General Insurance industry.

Session 1: Panel discussion on Current Issues in General Insurance

Chairperson: M Karunanidhi, President IAI

Panel Members: Anurag Rastogi, VP & Head (Actuarial), Bajaj Allianz General Insurance Company Limited; **Mehul Shah**, Appointed Actuary, L & T General Insurance; **Tania Chakrabarti**, Head - Actuarial Services & Appointed Actuary at Royal Sundaram Alliance Insurance Company Limited; **Gayle Adams**, Appointed Actuary, Raheja QBE

5) Importance of asset liability management in general insurance industry

6) Industry benchmark number (including development pattern)

M Karunanidhi introduced the topics and supervised the proceedings of the session. The session was highly interactive between the panel members along with many interesting questions from the floor.

Beginning with TP liability, Tania discussed the effect of declaration

of 110% ULR for declined risk pool. She also said that the recent exposure draft on TP premium rates is not in line with the industry expectation. Throwing more light into this topic, Anurag said that stand alone

TP business is very small and thus its impact on the GI industry will be small. Agreeing with Tania that the exposure draft on TP premium is not as desired he said that in his opinion it is time to de-tariff the TP and if that happens the way GI market is behaving the TP prices will come down. He also emphasized that pricing adequacy has to be broader and we need to look at two of its components which are correction of historical price adequacy and taking care of increasing inflation. Mehul agreed to what was



Gayle Adams, Anurag Rastogi, M Karunanidhi, Mehul Shah, Tania Chakrabarti,

The discussion was based on six important issues in current general insurance industry which are as follows.

- 1) **Third Party Liability – pricing adequacy (or inadequacy), long tail, uncertainty, segmentation**
- 2) **Financial Health and profitability of the general insurance industry**
- 3) **RSBY – Pricing challenges and brand image of the actuarial profession within General Insurance**
- 4) **Economic Capital and role of capital**

About the Author



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Sourav is currently working as an Actuarial Analyst at Bajaj Allianz General Insurance. He has completed his Masters in Actuarial Statistics and is a student member of IAI.

said and also raised an important point that the rate increase in TP is based on the data of IIB which is always open for challenge. Gayle agreed to what the other speakers said.

Talking about adequate reserves Anurag commented that most of the GI companies are not under reserved. In his view IBNR is like a black box and nobody understands how it comes. According to him it is time we actuaries should educate the non actuarial people about IBNR. Tania disagreed with Anurag and said that there are still under reserving issues in GI in India. She mentioned that stake holders do not understand the implication IBNR has in the company. She suggested that from industry point of view there must be some benchmark level of TP loss ratio which the companies can look for reference. Mehul on the other hand disagreed to both the speakers and brought forward an important fact that from 2007 onwards the IBNR as a percentage of NEP in the industry is going down instead of increase in TP rates.

Talking about profitability in GI Anurag started the discussion stating that the overall GI industry growth last year was around 13%. In his view after de tariff, the profit margin is sinking due to intense competition in the market and to this he gave the example of 99.9% discount in fire insurance. Taking the profitability discussion forward Tania mentioned that we are fortunate as we have not faced many cat losses. She also said that due to competition the market rates are going down as a result of which the reinsurers are also losing money. So in her opinion the companies should

look for long term sustainability rather than just short term profit.

When it came to Economic Capital, Anurag gave a statement that in today's date economic capital is just a number for the company. Agreeing to him Mehul mentioned that economic capital is used just for reporting requirements and now it is time for the actuaries to explain the real importance to the share holders. He also said that IAI has a really important role to play in this. Continuing the discussion Tania said that economic capital is an opportunity for the GI industry and companies should start taking this more seriously. She also added that Economic Capital to be the most important part of FCR.

Due to constrain in time rest of the topics could not be discussed.

Session 2: (Loss Reserving using Bayesian Hierarchical Models)

Chairperson: Frank Ashe, Associate Professor, Macquarie University, Australia

Speaker: James Guszczka, National Predictive Analytics Lead, Deloitte Consulting



Frank Ashe, James Guszczka

James started the session by describing Bayesian Concepts. According to him Statistical methods have been evolving rapidly, and many people think it's time to adopt modern Bayesian data analysis as standard procedure in our scientific practice and in our educational curriculum. Main reasons for which are a) from astronomy to zoology all scientific branches are moving to Bayesian data analysis and we should be leaders of the move. b) Modern Bayesian methods provide richer information, with greater flexibility and broader applicability c) there is little reason to persist with NHST (Null-hypothesis significance testing) now that Bayesian methods are accessible to everyone.

From James's point of view much loss reserving practice are still pre theoretical and the techniques like chain ladder, BF are not performed in a statistical frame work. Adding to this he also said that traditional methods are not optimal from a statistical point of view as they produce only point estimates and reserve variability estimates are often ad-hoc. To overcome the above difficulties he discussed a way towards more realistic loss reserving frame work. For issues like 'repeated measures' & 'multiple time series' we need hierarchical models and to deal with 'non linear' & 'incomplete information' we should use growth curves and the non hierarchical models should be Bayesian.

He threw some light on hierarchical models and its importance but due to time constraint the topic could not be discussed in detail.

Session 3: Heart Disease: A Growing Epidemic

Chairperson: Dr. Suhas Shah, Chief Medical Officer, Kotak Life Insurance Co.

Speaker: Dr. S Prasad, Consultant Cardiologist Royal Brompton Hospital, London



Dr. Suhas Shah, Dr. S Prasad

Dr. Prasad started his presentation by stating that heart disease is the number one killer disease and is a real point of concern/ major challenge for the health industry.

He threw light on how blockages are created in the heart and how that affects the functioning of heart and causes heart attack. He mentioned that in the last few decades there has been a large decline in heart disease for developed countries due to awareness but there has been an alarming increase in Asian countries.

According to him the main reasons are genetic predisposition, poor handling of fats and metabolic syndrome (like

diabetes, high BP, Obesity), urbanization and sudden change in life style. He suggested few things as a control major which are 1. Not smoking, 2. Controlling cholesterol, 3. Lifestyle (diet and exercise), 4. Avoiding diabetes, 5. Alcohol in moderation, 6. Controlling blood pressure.

Session 4: CEO Session: Pricing Issues in GI

Chairperson: N. M. Govardhan, Actuary and Former Chairman of LIC of India, India.

Speakers: G Srinivasan, Chairman cum Managing Director, New India Assurance Co. Ltd.; **Praveen Gupta**, MD & CEO, Raheja QBE General Insurance Co. Ltd.; **K G Krishnamoorthy**, CEO, Future Generali India Life Insurance Company, India



Praveen Gupta, N. M. Govardhan, K G Krishnamoorthy

Praveen Gupta commenced the presentation with very important issues in GI industry.

He believed that the Global GI market is likely to remain challenging over the coming decades. Issues like greater price sensitivity, a lack of differentiation among carriers and record low interest rates have constrained top line growth for most insurers in general insurance. Adding to these, uncertain pricing environment has been squeezing margins and contributing to low equity returns. Various catastrophic events have evaluated loss ratios in recent years.

Also he raised a very important question that whether we have learnt any lessons from the mistakes of HIH insurance (Australia) which had been accused of under pricing policies and pressuring actuaries to reduce the projected level of outstanding claims liability.

G Srinivasan described the evolution of the GI industry from Tariff regime to De-tariff regime. He highlighted that cut

throat competition with a large number of players, increasing complexity of the products, increasing stringency of regulations, increasing exposure requiring robust risk management practices are few of the burning issues in GI.

Talking about the importance of actuaries he highlighted that with the availability of massive amount of data and exponential leap in information technology the role of actuaries have increased significantly. He then briefly described the role actuaries have to play in pricing, reserving, risk & reinsurance, investment, compliance with regulations etc. According to his view, pricing has gone beyond simple frequency severity analysis with methods like GLM gaining prominence. Pricing of new products, developing models for pricing complex products when available data is sparse, identifying unprofitable segments and balancing the interest of various stake holders will be a real challenge. He pointed out an important issue of lack of fully qualified actuaries in GI. In 2004 the total number of actuaries (from IAI website) was 204 and in 2013 it has only increased to 259.

He concluded the presentation by highlighting the growing importance of the actuaries in the general insurance business and saying that "an actuary is a valuable resource for every GI company and they need to tap his expertise to the maximum".

Session 5A : Catastrophe Bonds

Chairperson: Sharad Shrivastva, Secretary General, Insurance Institute of India

Speakers: Ankit Goyal - Student, IAI & Saanya Jain - Student, IAI

Ankit and Sanya began the presentation by defining the structure of catastrophe and how it works through collateral trust.



Sharad Shrivastva, Saanya Jain, Ankit Goyal

They displayed a comparative picture of 'Global CAT Bonds' against equities, corporate bonds, commodities etc. The annual return on CAT bonds is 8.5% as compared to annual return of less than 6% for equities, commodities and corporate bonds. Adding to this, the volatility (p.a.) for CAT bonds is lowest among all the other bonds and equities. Through a graphical comparison they pointed out, how unlike other bonds and equities the return from Swiss Re CAT bond has increased over the last decade instead of various catastrophe events like Katrina, Rita, Lehman collapse etc.

They concluded the presentation by pointing out the need of cat bonds in Indian market as India has suffered from various catastrophe events in last few decades.

Session 5B : Catastrophe Risk: Modelling & Opportunity

Chairperson: Sharad Shrivastva, Secretary General, Insurance Institute of India

Speakers: Aditya Vardhan Tibrewala, Director RSA Actuarial Services (India) Pvt. Ltd.; Tanu Shree, Actuarial Advisor RSA Actuarial Services (India) Pvt. Ltd.

They started the presentation by highlighting catastrophe events in India and its economic & insurance losses.

They emphasized that with increased penetration of Insurance, more frequent



Tanu Shree, Aditya Vardhan Tibrewala, Sharad Shrivastva.

natural CAT events, coupled with growth in Indian economy, CAT exposure of Indian insurance industry is increasing. CAT risk is one of the key risks that a typical P&C insurance company faces today and could potentially destroy the company. This not only impacts the policyholders but creates systematic risk in the market. It is not easily diversifiable because many policyholders are affected at the same time.

They described catastrophe modeling as hazard and exposure based model since it is used to calculate the probability of occurrence of a CAT event and the expected cost of the event if it occurs. The hazard and exposure models enable the calculation of the vulnerability to damage of the properties at risk. (By quantifying the physical impact of the natural hazard phenomenon on the property at risk). Lastly, the financial loss to the portfolio of exposures is evaluated. By presenting a graphical view they divided the Indian map into four earthquake hazard zones and suggested that by combining the hazard zones and its exposure in these zones, an insurance company can understand its susceptibility to CAT loss in the event that an earthquake occurs.

Further this presentation suggested few ideas to manage cat risk which are not to write policies that are exposed to high CAT risk, transfer the risk to reinsurer or capital market, higher prices for cat exposed policies (CAT loading). The use of CAT modeling to project CAT losses and hence evaluate the benefit from different reinsurance covers available in the market was also discussed.

The session was concluded by suggesting that an integrated catastrophe model is only practical way to provide information requested by regulators and rating agencies such as S&P, Fitch and AM Best.

Session 6: Index Insurance For Risk Management In Agriculture Sector

Chairperson: Omer Morshed, Chief Executive, Sidat Hyder Morshed Associates (Pvt) Ltd (Pakistan)

Speakers: Akshay Pandit, Partner, M/S K. A. PANDIT (India); Manish Kumar, Actuarial Analyst at KAP Consultants and Actuaries, India

Akshay and Manish started the presentation by defining WII: 'Weather index insurance is a form of insurance that is linked to weather index such as rainfall rather than a possible consequence of weather, such as crop failure'. They pointed out few important features of WII such as reduce in the high monitoring and administrative costs, more quick and efficient payment & limiting the possibilities of moral



Omer Morshed, Akshay Pandit, Manish Kumar

hazards etc.

With the help of flow chart they described the method of pricing starting from obtaining data to fitting PDF to weather data to making choice between various premium methods. Then they discussed a very important point as far as WII is concerned and that is 'how to fill the missing data using similar data from nearby weather stations?' For this

they suggested methods like station average method, normal ratio method, inverse distance weighting and ranked regression. Their presentation threw light on trend analysis of weather data using 'Mann Kendall' test and also discussed about pricing techniques. They concluded the session by addressing the challenges in WII and solutions.

The concurrent sessions on General Insurance ended with a vote of thanks from Debarshi Chatterjee.



**PHOTO
FEATURES -
CONCURRENT
SESSIONS
ON
GENERAL
INSURANCE**



CONCURRENT SESSION ON HEALTH CARE INSURANCE

- **Organized By** : Institute of Actuaries of India
- **Venue** : Renaissance Mumbai Convention Centre Hotel, Powai
- **Date** : 17th Feb 2014

Session 1: Panel Discussion on current issues in Indian Health Insurance Industry

The first concurrent session on Health Insurance in 16th GCA began with an introductory note by Biresh Giri, appointed Actuary, Max Bupa Health Insurance. Biresh Giri, chaired the panel discussion where Herbert Meister, Chief Actuary, Asia Pacific, Munich Health (Singapore), Alam Singh, Independent Consultant (india) and Shreeraj Deshpande, Head, Health Insurance Future Generali India Insurance Company Ltd. (india) were the panellists.

achieved the level of market penetration that was expected to be reached, but the bancassurance channel has somehow supported the growth in the business.

He further emphasized on the point that Indian Health Insurance Industry is more focused on indemnity based products, wherein it needs to widen its area of business to more innovative products such as OPD Covers, Preventative Health Care, etc. The insurance companies also need to play a vital role in achieving a comprehensive Health Care System. Following the highlights by Mr Deshpande, Alam



Biresh Giri, Shreeraj Deshpande, Alam Singh, Herbert Meister.

Biresh Giri firstly invited Shreeraj Deshpande to present his views on more than 20% CAGR in health for past several years and the opportunities of future growth in this segment. Mr. Deshpande began the discussion, by highlighting that the shareholders see a lot of opportunity in the growth of this segment and that the industry finds it as the fastest growing part of non-life sector. He also mentioned that the competition in this segment is increasing. However, the loss ratios have also been rising in both the retail and group businesses. The losses of group health business can be mainly attributed to under-pricing. For the retail business, conventional agency channel as not

Singh joined the discussion where he talked about the losses that the industry is incurring due to group health underpricing. He stated that the industry is reeling under aggressive competition due to which the industry losses have crossed a mark of 1000 cr. He said that the corporates tend to under-spend on employee health benefits resulting in aggressive negotiation with insurers, and cut throat competition between them, which is ultimately driving down the premium rates.

He suggested that there is need for regulatory intervention to correct under-pricing. Asking the companies to report retail, group and social business

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separately could be one of the steps in this direction. Herbert Meister also added a few points to the discussion, pointing out that the lack of expertise or commercial considerations to achieve top-line might be responsible for underpricing. He suggested that the companies must not quote unless they have an access to a minimum data set to price a group policy. Managing claims size by negotiating rates with providers is also crucial to make premiums competitive.

Herbert Meister was then requested to comment on some product ideas from other countries that india could learn from. He said that the indian insurance industry needs to get comprehensive. it should keep health insurance attractive to healthy people who buy insurance for protection purpose. The benefit might not be new, but it can be packaged innovatively to make the product more marketable.

To this, Mr. Singh added that the Indian Insurance Industry mainly provides inpatient products with some part of outpatient as a rider. it is a challenge to provide only outpatient cover, as the administration of the cover and

identifying anti-selection will be difficult. He recommended that Indian market can expand by providing innovative products, such as health saving account cover, which is a tax-advantaged medical savings account. It can be offered as a high deductible plan (deductible can be increased as the savings fund grows) where the first tranche of expenses can be met from savings fund and any claim amount over and above that will be taken care of by insurance company. Further, he said that young and healthy citizens may be targeted to make this product a success. However, there may be regulatory constraints on designing such a product. Also, the insured might not be able to buy the most appropriate care, when in ill-health.

Mr. Deshpande then suggested that the marketability of the new products can be increased by specifically targeting certain sections of the population, e.g. Certain products can be made more aggressive for younger ages. The product needs to be affordable and take care of needs.

The focus then shifted to RSBY model, and how cut-throat competition in premium rates has pulled down the premiums to a level which may be unsustainable in future. Herbert Meister said that it is true that due to unregulated pricing approach and competition, the premium rates have gone down steeply. He pointed out that RSBY data has discrepancies when downloaded from website. He said that for correct pricing, it is imperative for all companies to work on same data that is accurate and reliable. Also the correct interpretation of data is necessary. Although the data may be same, the outcome can still be different due to no prescribed methodology to arrive at premiums. Streamlining of pricing techniques by introducing guidelines prescribing minimum standards such as, considering trends, could be a step towards curtailing irrational pricing.

In addition to this, Mr. Singh added that another factor that should be considered while RSBY pricing is the competency of state administration, as high awareness can lead to high utilization.



Winnie Ching, Akshay Pandit, Marianne Gilchrist

Session 2: Cancer Insurance- the Road Travelled and Opportunities for India.

Akshay Pandit, Partner, M/S KA Pandit chaired the Second Concurrent Session on Health Insurance where Winnie Ching, FIA, Director, Health Solution Asia, Swiss Re, Singapore and Marianne Gilchrist, Head of Health Solutions, Seinsurance Client Markets, Swiss Re, South Korea, gave a presentation on Cancer Insurance. Winnie Ching commenced her presentation by stating that cancer is one of the most dreaded diseases across the world, accounting for more than 40% of deaths in developed countries like Australia, Canada and Japan. In developing countries too, the cancer incidence rate is expected to show a steep rise, e. g., in India by the year 2035, the number of new cancer cases is expected to increase by 70%.

She then discussed a case study by referring to the insurance cycle of Korean cancer product. The first cancer product in Korea was launched in 1988 that covered cancer deaths, surgery and hospital cash needs. However, the product didn't give lump sum diagnosis benefit until early 1990s when the market grew competitive driving the companies to introduce lump sum diagnosis and out-patient benefits. By the year 2009, the product had become popular amongst the population and made up for a considerable proportion of business. After late 1990s till early 2000s, the claims experience began to worsen leading to erosion of companies' profits. The underlying reasons for the deteriorating experience were identified as:

- Advancement of Medical techniques

- Awareness of the general public/ National Cancer Campaign
- Higher Utilization of The Medical Facilities
- Change in Lifestyle and Dietary habits leading to higher incidence in Colon cancer.

The issues were also due to pricing and product design, such as:

- Windfall claims from Early Thyroid Cancer
- Use of reference rate with little flexibility in setting premium rates or allowing for trends.
- Guaranteed premium levels and coverage up to 80 years of age.

Following the issues faced by the insurers, some repositioned their product offering and some withdrew from the market. As at 2010, there were only 7 companies selling the standalone product and the rest, including the market leading companies, provided only cancer riders.

She stated that in the light of the adverse past experience and expectation of a much higher cancer incidence in future, the companies have redesigned their products by moving away from long term guaranteed products to renewable cancer products. The benefit structure and claim conditions have also been modified by introduction of waiting period and restricting the pay-outs for certain type of cancers. Certain cancers, such as thyroid and skin, have now been excluded from cancer definition.

She further explained the other changes that were made in product design and pricing:

- Shortening the policy term: shorter term renewable with less guarantee
- Reducing per life coverage
- Varying benefit amount by cancer type/site
- Reduced SA/ROP only in initial policy years
- Surgical / Hospitalisation benefits only offered as minor benefits
- Using own experience of recent years to price the product
- Allowing safety loading in the pricing to account for future trends of deterioration in the experience

In addition, the Korean Market has also come up with specialised products for 60 and above age group.

The speaker then switched gears and presented various interesting aspects of Indian insurance market. In 2010, approximately \$64 billion dollars were spent on Healthcare in India, constituting 4% of the GDP of Indian Economy. However, a majority of the \$64 billion healthcare expenditure was in form of out-of-pocket expense. In fact, at 59%, India has the highest portion of out-of-pocket expenses among the Asian Countries. A Regional Consumer Medical Insurance survey conducted in four Metropolitans of India - Bangalore,

Mumbai, New Delhi and Kolkata, led to some interesting findings. Firstly, Indians have good insurance product knowledge, as compared to other Asian countries. However, Indians rely much more on personal and family funds for their medical expenses, compared to their Chinese or Hong Kong counterparts. Only 12% of Indians own some form of medical reimbursement insurance. On the other hand, people in China and Hong Kong rely more on medical/health insurance and government or public funding to pay their medical bills.

The speaker then highlighted that Health Protection Insurance is still in its infancy in India where the largely unmet consumer needs and economic growth are creating a strong potential for increased penetration. However, there are certain factors, from risk management point of view, that a company needs to consider while designing and pricing the cancer products.

Availability of data and the extent to which reference rates can be used are one of the major considerations here. The speaker accentuated this idea by giving an interesting example from Taiwan Cancer Product Market, where the claims experience for the period 2001

to 2005, showed vast deviation from the benchmark, with loss ratios as high as 200% for male insured population in the age group of 35-39.

Proactive Experience Monitoring Process, feeding back to pricing and considering impact of medical advances, are also crucial to pricing exercise.

Other Risk Management Considerations identified by the speaker are as follows:

- Future proof definitions
- Specific, clear and objective claim definitions consistent with clinical/medical practice
- Management of survival period
- Effectiveness of underwriting - considering extent of non-disclosure in market
- Product and life time limits to manage exposure
- Apply lien / waiting period, packaging of benefits to manage incentive to be selected against

The speaker concluded the session by contributing her views on how market penetration of such products can be increased by targeting the right segment through a skilled distribution channel and also, by making the products simple and more understandable to the customer.



PHOTO FEATURES - HEALTH CARE INSURANCE





CONCURRENT SESSIONS ON PENSION, EMPLOYEE BENEFITS AND SOCIAL SECURITY SCHEMES

- **Organized By** : Institute of Actuaries of India
- **Venue** : Renaissance Mumbai Convention Centre Hotel, Powai
- **Date** : 17th and 18th Feb 2014

Session 1

Chairperson: AD Gupta- Consulting Actuary, Charan Gupta Consultants Pvt. Ltd., (India)

Topic: Panel Discussion on Current Issues on Pension

Speakers: Anuradha Sriram - Director Benefits, Towers Watson, (India), Saket Singhal - Consulting Appointed Actuary at Tata AIG General, (India) and K Subrahmanyam - Consultant Actuary, KN Actuaries & Consultants, (India)

Anuradha Sriram presented on the changes & clarifications and additional disclosures of the IAS 19 Revised (2011).



Anuradha Sriram

She spoke in detail about the following topics:-

- Comprehensive Income
- Financing Cost
- Clarifications of Measurement Issues
- Financial Reporting and Disclosures.

In the first section she spoke about the various recognition alternatives, presentation of defined benefit costs and net interest on defined benefit liability/asset.

In the second section on financial reporting she mentioned that the disclosures are more principles based than specific. While on the topic she also

discussed the following

- The characteristics of the plan and associated risks
- Identification and explanation of the amounts in the financial statements
- Amounts, timings and uncertainty of the cash flows
- Other issues such as exchange rate implications, derivation of asset ceiling, settlement recognition and special events.

She concluded the session with summarizing the key changes in the IAS 19 revised 2011.

Saket Singhal presented on the merger and acquisitions and what Actuaries can do to help in such transactions.



Saket Singhal

In particular he discussed the merger and acquisitions in context to acquiring companies and acquired companies.

He mentioned that the actuaries need to concentrate broadly on the following while conducting a Merger and acquisition transaction.

- prevalence of employee benefits and other programmes that need to be considered during business transactions
- Due Diligence
- Practices by both the companies
- Compliance issues

About the Author



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Chitra Jayasimha is a Senior Actuary with Mercer Consulting India's Retirement Benefits practice. At Mercer, She is currently involved in Actuarial Valuations for domestic and multinational companies, retirement benefit consulting, merger and acquisitions and other value added employee benefit services. She is a Fellow member of Institute of Actuaries, UK and Institute of Actuaries, India.

- Executive remuneration

While discussing the due diligence Saket mentioned that, the key activity of due diligence is to determine and mitigate risks and liabilities. Normally this includes such areas as defined benefit retirement plans, retiree medical benefits, change-in-control clauses, severance and executive long-term incentive plans. Understanding talent requirements and determining the integration approach (from standalone to full assimilation) is also important during the due diligence phase.

He concluded the session by mentioning various non-traditional areas where Actuaries can participate and practice.



K Subrahmanyam

K Subrahmanyam spoke about Actuaries Act, Guidance Notes (GN), Actuarial Practice Standards (APS), and

Professional Code of Conduct (PCC) issues.

He mentioned that the Actuaries need to comply with the GNs, APSs, PCC, and Actuaries Act, on a voluntary basis and when they come across any non-compliance by other members, it is their duty to formally complain to the

Disciplinary Committee as per the Professional conduct standard (PCS).

He also mentioned that it is of Concern to the profession, if actuaries taking up new client assignments fail to inform the previous actuary and in such a situation the presence and purpose of GNs, APS, and PCS etc. is defeated.

He stressed on point that many Actuarial Reports being prepared are not in compliance with the Guidance notes and AP's. There is no uniform practice among the actuaries in this area and this may lead to wrong reporting causing damage to the professional image of the actuaries as a whole.

Session 2

Chairperson: D K Pandit -Partner, M/s K A Pandit, (India)

Topic: Developing Investment Strategies for Funded Employee Benefit Plans and Role of Actuaries

Speakers: Dr. K Sriram - Consulting Actuary,



Dr K Sriram

Dr K Sriram in his presentation spoke about key concerns while developing investment strategies , risk profile of defined benefit plans, need to revisit investment strategies , concepts and inputs of liability driven investment strategies (LDI's) , constrained and unconstrained liability driven investment strategies .Key factors and next steps.

He started his presentation asking the question "How can Actuaries help in designing investment strategies with reference to the liability profiles of employee benefit plans?" and followed it up with discussing the risk profile of the defined benefit plans.

He discussed in detail the liability driven investment strategies on concepts of the LDI strategy and what it does. He

also mentioned that economic value of liabilities, choice of discount rate, Interest Rate Duration and Convexity of Liability Related Cash flows and Inflation Duration of the Liability Related Cash flows are the liability related inputs for implementing LDI.

While discussing implementing unconstrained investment strategies he spoke in detail about interest rate and inflation swaps and how it works. On constrained investment strategies, he broadly discussed investment environment and relevance to Indian context.

Dr K Sriram , on the topic of "implementing LDI", the Key Considerations according to him are

- Which liabilities are to be hedged?
- Level of Precision Required
- Short Vs Long Dated Cash flows
- Embedded Liability Options
- Liquidity and Capacity of the Swap Market

He concluded the session by speaking about next steps which were

- Role of Actuarial Profession
- Underscoring the Need for LDI strategy
- ALM Diagnostics
- Creating a Traded Market for Transferring Liability Risks

The question and answer session was very lively with the audience asking multiple questions on the presentation.

Session 3

Chairperson: N M Govardhan, Actuary and Former Chairman of LIC of India, (India)



N M Govardhan

Topic: Pension Fund Industry in India and Scope for the future and a deterministic Model for Actuarial valuation of Long-term Compensatory Absences

Speakers: Anshul Srivastava, Co-Founder, Organisation – Finance Wizards, (India) specializing in Financial Literacy and Investor Awareness and A P Peethambaran , Consulting Actuary in Retirement Benefits, (India)

Anshul Srivastava 's topic was on the pension fund industry in India and its scope for future. He covered a broad canvas of development in the pension area in India.



Anshul Srivastava

He started his presentation by asking a question "what is social security?". He discussed about the issues in Indian context –typically on

- Average Life Expectancy
- Moving away from Traditional Joint Family System
- Inflationary Pressures
- Unorganized Sector
- Organized Sector

Next he spoke about Pension reforms in India mentioning about Migration from defined benefit system to defined contribution system, DC assets vs DB assets, Pension assets comparable to GDP as proportion in major markets across the world and the Indian Context.

He also spoke about the National Pension System (NPS), its introduction, framework, adoption and current status.

Anshul discussed at length the Pension scenario – both global and the Indian Scenario.

He concluded his presentation discussing on the next steps while stressing on -

- India's large elderly population
- Indian Pension assets
- Fund availability for investment in infrastructure
- Stability to Capital Markets

- Role of Insurance and Mutual Fund Companies
- Burgeoning Young working population
- NPS
- Annuities

A P Peethambaran made a presentation on the deterministic model on leave benefit valuations.

He started the session with a brief reference to paragraphs 11 to 16 of the Accounting Standard 15 Revised 2005 on the following:



A P Peethambaran

- Accumulating compensated absences – Vesting and Non Vesting
- Illustration on Liability to be recognized (Para 15)

- Long Term compensated absences
- Accounting standard board's guidance (Para 4)

He then explained the deterministic model including all the mathematical formulae's involved. He also generated several scenarios on certain standard assumptions to illustrate the model working.

He concluded the session making few observations and alternative approaches.



PHOTO FEATURES - PENSION, EMPLOYEE BENEFITS & SOCIAL SECURITY



THE ACTUARY INDIA - EDITORIAL POLICY (VER. 2.00/23RD JAN 2011)

Version history; Ver. 1.00/31 01 2004 Ver. 2.00/23rd Jan. 2011

- A: "the Actuary India" published monthly as a magazine since October, 2002, aims to be a forum for members of the Institute of Actuaries of India (the Institute) for;
- disseminating information,
 - communicating developments affecting the Institute members in particular and the actuarial profession in general,
 - articulating issues of contemporary concern to the members of the profession.
 - cementing and developing relationships across membership by promoting discussion and dialogue on professional issues.
 - Discussing and debating issues particularly of public interest, which could be served by the actuarial profession,
 - student members of the profession to share their views on matters of professional interest by way of articles and write-ups.
- B: The Institute recognizes the fact that;
- there is a growing emphasis on the globalization of the actuarial profession;
 - there is an imminent need to position the profession in a business context which transcends the traditional and specific actuarial applications.
 - The Institute members increasingly will work across the globe and in global context.
- C: Given this background the Institute strongly encourages contributions from the following groups of professionals:
- Members of other international actuarial associations across the globe
 - Regulators and government officials
 - Professionals from allied professions such as banking and other financial services
 - Academia
 - Professionals from other disciplines whose views are of interest to the actuarial profession
 - Business leaders in financial services.
- D: The magazine also seeks to keep members updated on the activities of the Institute including events on the various practice areas and the various professional development programmes on the anvil.
- E: The Institute while encouraging stakeholders as in section C to contribute to the Magazine, it makes it clear that responsibility for authenticity of the contents or opinions expressed in any material published in the Magazine is solely of its author and the Institute, any of its editors, the staff working on it or "the Actuary India" is in no way holds responsibility there for. In respect of the advertisements, the advertisers are solely responsible for contents of such advertisements and implications of the same.
- F: Finally and most importantly the Institute strongly believes that the magazine must play its part in motivating students to grow fast as actuaries of tomorrow to be capable of serving the financial services within ever demanding customer expectations.



PANEL DISCUSSION ON BANCASSURANCE

- **Organized By** : Institute of Actuaries of India
- **Venue** : Renaissance Mumbai Convention Centre Hotel, Powai
- **Date** : 18th Feb 2014

Brief about the Session

The year was 2000. Insurance sector was thrown open to the private sector. Soon enough the industry started growing at a phenomenal pace and before one could realise, Bancassurance had already become the buzz word in the insurance industry in India. Over the years, Bancassurance emerged as the key distribution channel for insurance in India - perhaps the most cost effective and with its wide geographical reach, arguably the only distribution channel that had the potential to boost insurance penetration into rural markets and tier II / tier III cities in a quick and viable way.

Today, almost 13 years later, Bancassurance has again become the buzz word, though for a different reason this time. This time it is the regulatory move to mandate an open architecture for the banks selling insurance products, something which will have major implications for most insurance companies in the industry. The insurance industry, thus, finds itself at the threshold of yet another regulatory change, a change that can easily change the entire industry dynamics.

These developments warranted a discussion on the topic at the Global Conference of Actuaries, which took place in the session - "Panel Discussion on Bancassurance".

Session Highlights

- **Kamalji Sahay (Ex-CEO, SUD Life & Advisor, GIC Re, (India)) set the scene for an exciting discussion by highlighting the potential of Bancassurance and the new regulatory regime**

The session started by the Mr. Sahay giving the introduction and setting the tone for the discussion. He highlighted how Bancassurance had emerged as one of the leading distribution channels for insurance products in India, accounting for more than 40% of new business premium for in FY13 for private life insurers.

He mentioned that when the industry was liberalised at the start of the millennium, there was a promise to allow / develop new channels of distribution and Bancassurance has proved to be one such new channel that contributes significantly to insurance industry sales today.

He also added that banks, with their large branch networks and wide geographical reach, make for a cost effective way of reaching the vast population of India. Such vast potential for Bancassurance has also lead to Banks to enter insurance business in joint venture with established foreign insurance companies.

He then drew attention to the new regulatory regime being envisaged, which includes open architecture (i.e. moving from having one bank tied up to one insurance company to one bank selling products of more than one insurer). He emphasised that various insurance companies viewed such regulatory moves differently, depending upon their circumstances. For example, banks that have floated insurance companies and have exclusivity agreements for distribution were most concerned with these proposed

About the Author



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developments whilst others see this as an opportunity.

Setting the tone for an exciting discussion in light of yet another significant regulatory change facing the industry, Mr Sahay then introduced the speakers for the Panel discussion, requesting them to share insights on Bancassurance (separately for life and non life segments). He requested the speakers to touch upon the role of new regulations given the currently declining insurance penetration, demographic challenges faced in distributing products and potential use of technology.

- **R. Krishnamurthy (Senior Advisor, Towers Watson, India), in his fact based presentation, highlighted the current issues with Bancassurance in India**

Mr. Krishnamurthy said that the importance of Bancassurance has increased both because it has been able to garner higher sales and because of the persistent struggle of agency channel. The same is clearly evident in increasing share of new business premium garnered by Bancassurance channel.

He, however, stressed that the growth of Bancassurance has not been without its own significant issues / challenges, some of which are:

- Concentration on savings / investments products (at the expense of protection / risk oriented products) and concentration on cities and

urban areas (at the expense of distributing insurance in rural markets and lower end cities). Both these aspects are evident from the average ticket size that the banks are able to drive;

- Low share of Bancassurance (only 6%) in general insurance sales, clearly suggesting that Bancassurance has been less exploited to distribute general insurance products.
- Huge persistency gap
- Growing number of insurance complaints from bank customers (with about 50% of the complaints being / relating to 'unfair business complaints')
- Service to clients, which continued to be an issue as policyholders could not get the entire lifecycle of the product serviced from the branch they bought the policy.

is no alternative to developing a competent advice-based sales force at bank branches.

He also, in his closing remarks, cast his vote in favour of product innovation for Bancassurance, with a need to develop 'combi' products.

- **Mohan V Tanksale (Chief Executive, IBA, India), giving the banker's point of view, suggested that Bancassurance is here to stay!**

Mr. Tanksale started by highlighting the vast expanse of banking network across India, which has more than 1 lakh branches and reaches more than 3 lakhs villages. He suggested that banking network is the key to increasing insurance penetration and hence, Bancassurance is here to stay!

Mr. Tanksale accepted the issues and challenges highlighted by Mr. Krishnamurthy but suggested that the amount of fee income banks

On the new regulatory moves, Mr. Tanksale suggested that different banks viewed the developments differently – depending upon whether they are promoter of an insurance company or not. He therefore suggested that there must be a proper roadmap for transition.

On being asked about how banks feel about getting regulated by two regulators (IRDA and RBI), Mr Tanksale suggested that the motive of both regulators is to curb misspelling and increase penetration and the banks had no issue in dealing with two regulators.

- **Deepak Sood (CEO, Avanta ERGO, India), speaking about role of Bancassurance on non life side, suggested that it will take time to evolve**

Mr. Sood started by highlighting that until now, Bancassurance has been more focussed on selling

Policymakers	Banks	Insurance Companies
<ul style="list-style-type: none"> - Banks as corporate agents – a unique set of regulations in FY 2003 - Experience of poor penetration and service in banking network - Sweeping change on any form of sales incentive at banks - Now a tearing hurry to introduce a broking model across banks 	<ul style="list-style-type: none"> - Banks with divergent agenda - Track record of poor cross selling - Humungous issues on the HR front - Poor adaptation and use of technology 	<ul style="list-style-type: none"> - Companies with divergent agenda concerning bank distributors - Focus only on customer acquisition - Keen to tap banks mostly for high tickets; no real interest on the low mass market - Willingness to bend the rules to 'accommodate' bank distributors
Insured bank customers		
<ul style="list-style-type: none"> - Blind faith in banks, often obligated to the branch manager - Absence of independent evaluation or communication before buying insurance - Huge post-sale issues - No reliable grievance redress mechanism 		

- **Mr. Krishnamurthy presented the entire Bancassurance paradigm from various stakeholders' perspective, which is shown in the table below:**

He concluded by saying that Insurers and banks need to realise that the current scenario is far from customer-centric. Relentless product push and exploiting the ignorance of bank customers are not in the long term interest of the Industry. Banks need to realise that poor insurance sales practices may hurt the banking business and that there

generate out of selling insurance products is small compared to their total profits and that the banks offer insurance products as it enables them to offer their customers all financial products under one roof, effectively helping them become financial supermarkets.

In such a circumstance, therefore, the responsibility of selling suitable products and curbing mis-selling (whether intentional or happening due to lack of knowledge) lies with the insurer.

'investment' oriented products rather than 'risk' or 'protection' oriented products and on selling more in cities and metros rather than rural areas and tier II / tier III town. This is clearly evident in the relatively higher ticket sizes that the Bancassurance channel is able to garner.

He suggested that the problem with selling more 'investment' oriented products through Bancassurance is that insurance companies would be competing not just within the industry but outside the industry

also e.g. mutual funds, fixed deposits etc. Consequently, insurance companies get exposed / vulnerable to what the banks are driving. He, therefore, highlighted the need for insurance companies to drive sales of more protection oriented products through Bancassurance channel.

On the new regulatory moved, Mr Sood said ultimately right advice must be given in selling such products, something which hasn't really happened as yet insurance selling through banks.

He also highlighted the needs for "combi" or embedded products, which extend banking products to include protection. He urged the same to be enabled through regulations as such products would result in better advise and value to the customers.

He then concluded by highlighting that service of policies bought through banks is also an issue, the most common being that policyholders buy the products from the bank whereas they have to go somewhere else for the their service / administration needs. He suggested that the entire life - cycle of the insurance products need to be serviced though the banks to enable Bancassurance further thrive in Indian market.

- **Girish Kulkarni (CEO, SUD Life, India), touching upon the recent regulatory developments, suggested that too much too soon seems to be happening**

Mr Kulkarni started by accepted all the points raised by Mr. Krishnamurthy in his presentation. He suggested that managing networks of banks is not an easy tack and if Bancassurance is not evolved and has issues highlighted earlier, then all stakeholders have played a role in reaching where the Bancassurance is. He also suggested that a part of the blame goes to ULIPs as during the boom in the initial few years of the first decade of the millennium, no one really questioned if proper selling was happening.

On the regulatory front, Mr Kulkarni felt that too much too early is being attempted. He suggested that it would be useful to gain more experience before coming out with specific regulations like the ones that are currently on the horizon.

He also suggested that, perhaps, monogamy may be better from the point of post sale service to policyholders and also from knowledge / misspelling perspective.

He also brought to the notice of the audience that for the top Bancassurance players, fee income

(i.e. excluding dividend income) for banks associated with top 5 private insurance companies for has already reached close to 7%, whilst it is only at around 2% for some of the other PSU banks. Thus, he suggested, that there is a merit to learn from the experience of some of such private players.

He suggested that all such models should be well researched and well rehearsed before very specific regulations governing Bancassurance are brought into for.

Summary of the Session

Overall, the common theme that emerged from the discussion was that giving the right advice to customers at the time of sale and ensuring proper delivery of services thereafter are paramount and steps must be taken in that direction.

On the new regulatory moves, the consensus seemed to emerge that they will come with their own share of issues, challenges and opportunities and perhaps there is merit in gathering more experience and having a planned transition over a period of time.

Also, to further the cause of insurance penetration, the panel advocated the need for product innovation and the need to drive more protection / risk oriented products in combination with banking products. ■ ■ ■

PHOTO FEATURES - BANCASSURANCE





FROM THE DESK OF

DILIP, C. CHAKRABORTY

Chair, 16th GCA Organizing Committee

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The 16th Global Conference of Actuaries (GCA) of IAI held on 17th – 18th February 2014 was a wonderful experience for me. The GCA organizing committee in close association with IAI officials led by Mr RBL Vaish, Executive Director, and a large team of volunteers worked relentlessly over past few months to deliver a brilliant event. Thank you friends for the collective good work.

Over 720 participants from 18 countries joined in two days deliberation involving 70 odd speakers from India and abroad. We tried to offer a balanced diet of subjects – actuarial as well as general business related topics, India specific and global subjects, special sessions for students and papers selected from amongst the members. Appointed Actuaries and CEOs of Life, Health and General Insurance industry met for panel discussions. CEOs and industry leaders including IBA CEO deliberated over the impact of recent regulations on Bancassurance.

We had very entertaining recreation on the 17th evening during the AGFA. Student members excelling in actuarial exams were recognized. New Fellows and Associates of IAI were awarded

certificates. In between we had professional troupe offering a variety of dances. The stand-up comedy show was a roaring success.


On 16th February evening dinner meeting jointly sponsored by the IAI and IFoA, we observed Birth Centenary of J T Ranadive, a legendary Actuary and honoured six of our past Presidents for their contributions to the Profession in India.

We thank our partners -28 of them -for their support and contributions. I will make special mention of the Institute and Faculty of Actuaries, Swiss Re (Principal Partner), KA Pandit Consulting, Canara HSBC Life and Hannover Re / GIC Re for supporting the GCA/AGFA generously.

"Evolving Frontiers, Exciting Prospects" – the theme of the 16th GCA captured mood of the conference. The Actuarial universe is expanding and will continue to evolve. There will be exciting opportunities, but so there will be problems and pitfalls. In the recent past, life insurance industry, and by association the Actuarial Profession have been at the center of high profile mis-selling scandal, which adversely affected all stakeholders. We can't

shake off our share of responsibility. The actuarial profession exists to serve public interest, as reiterated by David Hare, IFOA President and IAI entirely agrees. The Regulator and public, explicitly and implicitly, rely on us to ensure protection and wellbeing of stake holders in the industry, to whom we render expert service. Ours is not a Trade body or a lobby group. We are a profession and a learned body, serving public interest. We must have only "wise" actuaries and eliminate any "otherwise" actuaries operating in our profession - as Mr. Chitale, Ex – President ICIA said at the GCA.

In his key note address, Mr. T.S. Vijayan, Chairman IRDA expressed his views on the state of insurance industry and regulations, and his expectations from the actuarial profession. He expressed concern about the long time-span of actuarial examinations, particularly in view of the shortage of actuaries in certain areas. We will have to engage with the regulators to address these issues. The GCA helps us to crystalize our thoughts and seek a way forward in collaboration with Regulators and various stakeholders

MANY HAPPY RETURNS OF THE DAY
the Actuary India wishes many more years of healthy life to the following fellow members whose Birthday fall in

MARCH 2014

G. CHIDAMBAR
K. K. DHARNI
S. KRISHNAN
R. C. CHADHA
H. C. MEHTA

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



THE WHIZZING MATH WIZARDS

- **Organized By** : Institute of Actuaries of India
- **Venue** : Renaissance Mumbai Convention Centre Hotel, Powai
- **Date** : 17th Feb 2014

Knowledge finds unity in the midst of diversity. It is said that Mathematics is the gate and key of the Science and neglect of Mathematics is an injury to all knowledge. This is a subject applied to every field and profession.

With an aim to educate young minds by giving them a glimpse of how math is infused in most aspects of life, we as a group of volunteers along with our lead and mentor, Mayur Ankolekar have reached out to around 3,000 students in the last year. These children study in the municipal schools of Mumbai and

we meet with them through the five non-profit organisations namely Doorstep School, Muktangan, Room to Read, Salaam Balak Trust and Saksham. Our anecdotal teaching and a forty minute interactive session with the open minds and closed books of the children is quite similar to a stand-up comedy act with a target to inculcate their interest towards studying and enjoying Mathematics. We try to supplement their teachers by presenting to them easier ways of tackling math problems by instilling common sense in what we do and by referring to our mundane activities where these problems are dealt with on a daily basis. Our philosophy with the kids is "Good in Mathematics, good in all subjects". We have gone a step further this year with two new projects for the Doorstep School; a structured math training program for the teachers and a ten session model designed to concrete certain fundamental concepts in Algebra and Geometry of the students preparing for the tenth standard board exams.

In line with the last three years, we took this opportunity to felicitate some of the brightest students at the 16th GCA's Actuarial Gala Function and Awards

event (AGFA). We conducted a writing contest where the students had to pen down "A Memorable Episode in my Mathematics Teacher's Class" in 30 words. We received about 150 entries out of which 30 students across 14 schools were shortlisted based on their narration of the incident and math grades.



The kids were brought to the beautiful venue of the 16th GCA, the Renaissance hotel and were introduced to the actuarial world at the start of the AGFA event. They were then ushered into a conference room to enjoy the snacks, interact with the actuaries and play some exciting math games. David Hare, President of the Institute and Faculty of Actuaries (IFoA) and Paul Reynolds addressed the students emphasizing on the importance of Mathematics, education and how one should strike a balance in life between school and play. Anushree Prakash from RSA Analytics, Delhi advised the kids to chase their dreams and find joy in what they choose to do. Antonio Ferreiro, Appointed Actuary at HDFC Ergo General Insurance explained the concept of motor insurance and bad risk to the children with an example of buying insurance for their bicycles and how the policyholders have to pay more when they are exposed to a higher risk with the same instance. Such relevant illustrations strike a chord of familiarity in students, thus helping them absorb the concepts better which they would surely relate to on growing up. These interesting interactions were then followed by another set of math

competition where the students, based on their standards were given five brain whacking teasers to be cracked in a span of twenty minutes. Most of them surpassed our expectations by demonstrating great analytical abilities and one student from each of the three age groups was declared as a winner – Snehal Kamble, Shraddha Gupta and Sohail Ansari. M Karunanidhi, President of IAI felicitated these students with the prizes. In the meanwhile, the shortlisted 30 entries from the writing contest were evaluated by R B L Vaish, Executive Director of IAI and Chetan Toshniwal from Munich Re to decide on the top three writers. The winners of the writing contest - Anjana Salunkhe, Suman Ray and Lalita Waghmare were felicitated by

David Hare. Anjana Salunkhe's winning episode in her math teacher's class was written in Marathi, which on translation reads - "Once our math teacher Mr. Shetty explained to us the hide and seek of Mathematical expressions,

my fear of Mathematics vanished. I became very interested in math. Our teacher also explained how Mathematics is linked to life. We should add our happiness, subtract our sorrows. Multiplication means addition of happy moments and division means neutralising the sorrow by happiness."

The children's presence indeed lightened up the evening for all of us and it was overwhelming to see them all charged up with a positive energy throughout the event. They then enjoyed a sumptuous meal by the lovely lake and headed back to their respective destinations loaded with gifts, newly infused enthusiasm for math and happy memories.

About the Author



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Divya is a student member of the Institute of Actuaries of India and the IFoA since the year 2009. She is currently working with Towers Watson in Mumbai.



INSTITUTE AND FACULTY OF ACTUARIES, UK AWARD PRESENTATION EVENT

- **Organized By** : Institute and Faculty of Actuaries, UK (IFoA)
- **Venue** : Renaissance Mumbai Convention Centre Hotel, Powai
- **Date** : 16th Feb 2014

This year's IFoA (Institute & Faculty of Actuaries) event was held as a part of Pre Conference Dinner function on 16th February 2014 at the same venue as that of GCA.

Awarding new qualified Fellows from India was as much a theme of Pre Conference dinner function as remembering legendary Actuary J T Ranadive who laid out a strong foundation to Actuarial profession in India.

In a short event preceded by a Magic Show by Mangesh Desai, IFoA awarded Fellowship to 4 students from India namely; Bhavna Verma, Neel Chetan, Archana Anoor & Ajay Kumar Tripathi. Congratulations to everyone getting certificates of their fellowships. Obtaining fellowship from any of the Actuarial Institutes in the World, as clichéd as it may sound is the culmination of hard work, perseverance and patience. Reaching the pinnacle of steps leading to Fellowship is more of a test of student's character than of Intelligence as failure is a more common visitor at each step even to sharper students.

After issuing awards to the newly qualified fellows, David Hare, President, IFoA noted that Relevance, Learning and Being right are the 3 most important attributes that an Actuary should possess in the current environment; Being relevant to the people to whom the Actuary is giving advice, being able to update oneself & willing to choose Integrity over career prospects if situations arise.

Thinking of learning, events which lead to IFoA event were equally transpiring and more inspiring than the award function itself. After being

warmly welcomed by Dilip Chakraborty (Chairperson, External Affairs and Research Committee), guests were addressed by Mr. Karunanidhi, President, IAI. In his address Mr. Karunanidhi emphasized the need to leverage the experience of Senior Actuaries by younger Actuaries in this scenario of swift external changes. He explained why "Experience" is an objective parameter to measure maturity and wisdom in a person.

Just after that, David Hare, President, IFoA in his address accepted the fact that IFoA, which could be termed as a parent institute to IAI, was proud to regard IAI as a grown up child now and would look forward to treating IAI as a friend and colleague of IFoA in future.

This was followed by speeches by 2 persons who were closely related to Late J T Ranadive. One was his brother-in-Law who while thanking IAI for the invite told how professional underwriting, Actuarial profession and Risk management were intimately bonded together. Another, M G Diwan (Celebrated Actuary & Former Chairman of LIC of India) who worked under J T Ranadive in LIC of India.

Brief note on the legendary life of Late J T Ranadive:

Born in 1913, J T Ranadive obtained his fellowship in 1948 from UK Institute of Actuaries. He witnessed nationalization of around 240 private companies in 1956. He worked in the Actuarial Department of LIC where he, along with his team determined a methodology to distribute surplus between old policyholders of erstwhile private Insurers and new policyholders of LIC. He created a unique Index system to recognize the

profitability of different merged entities. Even to this day, the concepts followed by his team are referred throughout the world to understand the nuances of mergers. Further, he was one of the chief reasons for the introduction of computers in LIC in 1964. More than that, he ensured in-house development of software expertise in LIC by strongly discouraging outsourcing of software programming. Also, in 1971, he prepared FCR (Financial Condition Report) & Valuation Report for the first time in LIC's history. He retired in 1973.

LIC's self-reliance in handling hundreds of millions of policies today is due to visionary efforts of people like J T Ranadive. In addition, FCR and valuation reports instigated by him in India have become the mainspring of the Actuarial Valuation process today.

Speech of M G Diwan was soon followed by a nostalgic speech by T S Vijayan, Chairman of IRDA who remembered his days in LIC and his interactions with M G Diwan. Mr. Vijayan honored 6 past presidents of Institute of Actuaries Of India who had contributed immensely to the growth of the profession of whom M G Diwan was also one.

Mr. Vijayan's speech was followed by a charming and enthralling magic show performance by Mangesh Desai who succeeded in both entertaining and tricking the guests present.

Finally K. S. Gopalakrishnan, Vice president of IAI thanked K Subramanyam, who was present as a guest, for organizing the very 1st GCA in Delhi 15 years ago in his vote of thanks speech. ■ ■ ■

About the Author



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Deepak is currently working in LIC of India in its Actuarial Department, Mumbai. He is a student member of IAI.



IAI STUDENT EVENT

- **Organized By** : Institute of Actuaries of India
- **Venue** : Renaissance Mumbai Convention Centre Hotel, Powai
- **Date** : 17th February 2014

The event was chaired by G.L.N. Sarma, M.D., Hannover Re Consulting Services India. The agenda of the event was twofold, i.e., to provide information on a new qualification, 'Certified Actuarial Analyst', offered by IFoA, and effective communication skills. After an introduction of the speakers, G.L.N Sarma highlighted the notion about actuaries not being able to communicate effectively and emphasized on the importance of good communication skills. The event then opened with the first session covering the new Certified Actuarial Analyst qualification.

(i) **Certified Actuarial Analyst: A new credential for a changing market**

Speaker: Derek Cribb-CEO, IFoA

The Institute and Faculty of Actuaries (IFoA) is introducing two new membership categories, namely, Certified Actuarial Analyst and Student Actuarial Analyst. Derek initiated the discussion by giving an overview of



Derek Cribb

the new qualification. The qualification developed is not specifically for roles within the actuarial function of a company but rather for those working alongside actuaries and in varied financial services. The CAA (Certified Actuarial Analyst) is clearly differentiated from Associates and Fellows but will still have high quality technical skills and the support of a leading professional body. The qualification does not focus on a specific stream in insurance but it is more focused towards Financial Mathematics, Probability & Modelling.

The IFoA has introduced this qualification after carrying out research and recognizing the market demand for it. As mentioned by Derek, the IFoA has been in discussion with big companies

in the UK who are willing to take on CAAs.

This qualification can be pursued by students looking for a career in the financial sector with a wide range of career options. It can also be pursued by students of the IFoA who have started taking Actuarial exams but are not inclined towards attaining the qualification of a Fellow. Fellowship for some may not be the right choice, but rather the only choice.

From the perspective of an employer, it is an opportunity to invest appropriately in staff development as not all Actuarial students within the Actuarial function of a company would be inclined towards gaining a Fellowship qualification. They can be used for technical and analytical roles alongside Actuaries or otherwise. Hence, actuarial capacity can be built at a manageable cost. This role can support business models which are built around a few high level experts supported by a greater number of technically skilled professionals.

Derek then went on to discuss the structure of the examinations.

Module 0 is an entry test which needs to be taken by non-members. There are then five modules which need to be taken in order to qualify. These are given as follows:

Module 1 : Finance & Financial Mathematics

Module 2 : Statistics & Models

Module 3 : Long Term Actuarial Mathematics

About the Author



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Module 4 : Short Term Actuarial Mathematics

Module 5 : Models & Audit Trails

It will typically take about 2-3 years part time to qualify. However, members already pursuing Actuarial exams will be eligible for exemptions.

The first entrance test is expected to take place later this year.

(ii) **Effective Communication**

Speaker: Sumit Seth - Managing Director, Forum India



Sumit Seth

The session on Effective Communication presented by Sumit Seth was interesting as well as interactive. Actuaries are believed to struggle with their communication skills and hence this session threw light on some important ways of communicating effectively. Sumit covered the following areas:

a) How humans communicate?

Humans communicate using a combination of words, body language and tone. An Italian scientist named Mehrabian put an end to the debate of which of these is most important while communicating. According to him, a message is conveyed 55% through the body language, 38% through the tone and a mere 7% through words. Sumit then illustrated this with the help of examples to emphasize the importance of body language.

b) What comes in the way of effective communication?

Ineffective communication is when the three, i.e., body language, words and tone are not aligned. This was further explained by the structure and evolution of the human brain. Prior to being apes, we were believed to have evolved from reptiles. Our reptilian brain which was then used for only instinct survival evolved to incorporate emotions. This portion of the brain is known as the limbic system. This further developed to incorporate the ability to think and to use words. This segment of the brain is known as neocortex.

When the reptilian brain and the limbic system are very active, they can shut down the neocortex which is essentially responsible for communication. This can happen when one is in a state of anxiety, fear and extreme emotions.

c) What we could do about it?

One can communicate effectively when he/she shuts down the reptilian brain and is in a complete state of happiness or bliss. This makes the neocortex active

which is then responsible for thinking and communicating.

Sumit went on to demonstrate how one can easily deactivate the reptilian brain by bringing him/her into a complete state of happiness. This can be done by releasing a few neurotransmitters in the body. Sumit demonstrated this by involving the whole audience.

He then went on to discuss the three key ingredients for happiness which were discovered by scientists carrying out an experiment in UC Berkeley on a group of depressed people.

The first ingredient is 'Physiology' which is the way one uses his/her body and determines how a person feels. For example, a person smiling can never feel depressed and hence this can deactivate the reptilian brain.

The second ingredient is 'Focus'. Sumit discussed how humans are designed to be negative thinkers. Focusing on happy events in one's life can deactivate the reptilian brain.

The third ingredient is 'Thinking'. The

process of thinking in our brain involves asking questions and answering them. The quality of questions asked is important since it determines how one feels. Positive words play an important role in this process.

Using all three ingredients can lead to extreme happiness and one can completely shut down the reptilian brain and activate the neocortex. The body gets flushed with four best things that we need:

- (i) Opiate
- (ii) Dopamine
- (iii) Adrenaline
- (iv) Endorphins

Antidepressants also release these in the body to fight depression. Using the three ingredients is a natural way to release them in the body.

Besides the use in daily life, this method of shutting down the reptilian brain can be used when one needs to engage in important communication or when one is in a state of anxiety and fear.



What you get by achieving your goals is not as important as what you become by achieving your goals.

- Henry David Thoreau



EFFECT OF CURRENT INDIAN ECONOMIC SCENARIO USE OF DISCOUNTING RATE UNDER AS 15 R (G SEC RATE) FOR THE VALUATION OF EMPLOYEE BENEFITS AS ON 31-3-2014

Employers are mandated to provide for employee benefit liability into their books of account as per provisions of the applicable Accounting Standard in India. Valuation of employee benefit liability and disclosing the same as per the disclosure requirements of Accounting Standard 15 (R).

As per the Indian Income Tax Act 1961 financial year is 1st April to 31st March for calculation of taxable profit. Majority of the companies follow the same as their accounting period and close their books as on 31st March each year.

While making the valuation of retirement benefits, Actuaries use several financial and demographic assumptions, one of the key assumption is the Discount rate which affects the value of estimated liability substantially in any year of volatile interest rates.

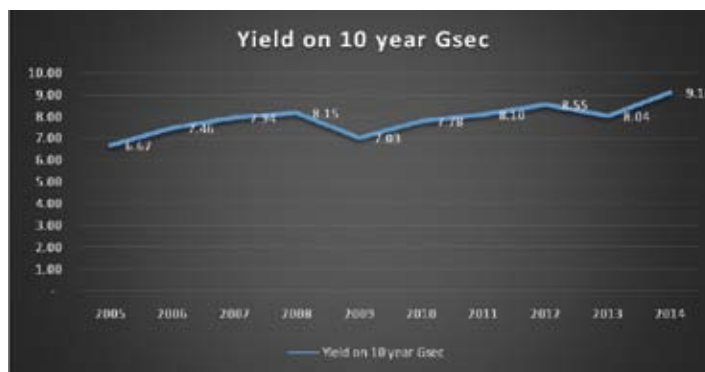
Para 78 of the Accounting Standard states:

"78. The rate used to discount post-employment benefit obligations (both funded and unfunded) should be determined by reference to **market yields at the balance sheet date on government bonds**. The currency and term of the government bonds should be consistent with the currency and estimated term of the settlement of post-employment benefit obligations."

Effect on value of Actuarial Liability:

As stated in accounting standard 15 to use **market yields at the balance sheet date on government bonds** for discounting the liabilities, a close look at the movement on the yield on the government securities will throw up the

impending issue of volatility in the G. Sec yield in the last 10 years. Diagram below, shows movement in rates, it can be noticed that these fluctuation is to the tune of 2.50% in 10 years, though for most period it was around 8.00%.



2014 rate is as on February 2014 all other rates are as of March each years.

One can observe that the yield has gone up from 8.04% to 9.10% from March 2013 to February 2014, this will have an impact on the valuation figures of the liability, and with all other parameters remaining same, there will be substantial reduction in the Liability figures and this will give huge Actuarial Gain.

As Accounting standard 15 mandates routing of Actuarial Gain / Loss through Profit and Loss account, there will be a reduction in the amount charged to the P&L (This is expected to be negative in most of the cases, and may bring reversal in B/S) due to Actuarial Gain on account of higher discount rate. This will distort comparison of employee benefit costs between two years.

Effect on Assets:

Para 100-102 of Accounting Standard 15 deals with the Fair value of Assets:

100. The fair value of any plan assets is deducted in determining the amount recognised in the balance sheet under paragraph 55. When no market price is available, the fair value of plan assets is estimated; for example, by discounting

About the Author



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Akshay Pandit, is a Partner in M/S. K. A. Pandit, he has more than 28 years of experience in Pension and Insurance field working in India and abroad. He is currently heading portfolio of Business Head and Head of General Insurance Division in firm.

expected future cash flows using a discount rate that reflects both the risk associated with the plan assets and the maturity or expected disposal date of those assets (or, if they have no maturity, the expected period until the settlement of the related obligation).

102. Where plan assets include qualifying insurance policies that exactly match the amount and timing of some or all of the benefits payable under the plan, the fair value of those insurance policies is deemed to be the present value of the related obligations, as described in paragraph 55 (subject to any reduction required if the amounts receivable under the insurance policies are not recoverable in full).

As per the Indian Tax Laws, the pattern of Investments for retirement benefit trusts includes major portion of G- Sec. As part of approved investments. With yield on G-Sec. Going up there are fair chances that the fair value of the asset will go down and will result in the substantial Actuarial Loss on the plan Assets and ideally will nullify the impact of Actuarial Gain on the Obligation and there will be a neutral impact on the Profit and Loss of the enterprise.

Indian Scenario

Majority of the funded are funded with Insurance companies, either in their

a) Traditional plan or b) Unit linked plan.

Investment value under the Unit linked plan is a fair value as on the data and will represent the yield movement but,

traditional plans are considered to be a cash plan and the value of Investment do not change with the change in the yields and this will mute the neutralisation effect on P&L and there will be an actuarial gain booked on the liability.

Those companies (with some exceptions) who have their investments outside the insurance companies, prefer to consider their investments as a HTM (held to maturity) category and do not revalue investments and this will also mute the effect of yield change on the investments.

Actuaries will have tough time explaining the reduction in the P&L and Liability values.

Probable solution to this anomalies can be found in Ind As (19) which routes Actuarial gain/loss through other comprehensive Income. Other solution is to use the average rate of past few years , such as average of past 7 years as is adopted in one of the European country, but this unless provided in the standard may not meet accounting requirement.

Probable way of knowing impact of higher yield on the accounts:

As a reader of the accounts of an organisation, one would be able to know the impact by looking at the disclosure of the movement in the assets and liabilities of the retirement benefits in the accounts.

As per accounting standard 15 (R), entities which have to give the reconciliation in the accounts as to the liability and asset movement also shows the Actuarial gain/loss on experience, by comparing the experience actuarial gain/loss with the reported actuarial gain or loss, one will be able to arrive at the impact the effect of the higher yield has on the accounts.

Note : As one of the requirement under Accounting standard is to show Experience adjustment, which requires calculation of liabilities with last year assumptions, this will justify the difference in liabilities, though Actuaries may advise the company of PBO based on Last year's assumption, this will be more simpler for companies to understand the effect. Also Valuation of Assets wherever there is a privately managed fund to be performed by Actuary to arrive at Asset values and minimise the effect on P/L.

Example: Let's consider an Example where previous year valuation liability was worked out using discount rate of 8.25% p.a. and in current year at 9.25% p.a. This will obviously lead to a reduced expense and PBO at end due to reduction in calculated liability value (PBO). Below values are considered based on assumed situation for representation purpose only (but in reality this can be actual situation).

As an example we have also tried to reproduce some tables considering revaluation of assets, which also resulted drop in the value of assets due to assumption.

Comparison of Liability & Assets:	April-13 to Mar 14
Closing Assets	325,182,000
Closing Assets (Mark – To – Mark (MTM) / Re-value)	305,182,000
Closing PBO	338,700,000
Closing PBO on Last year's Assumptions	365,420,000

Though it is not compulsory to disclose the PBO on earlier assumptions, in some situation like this, disclosure of PBO on earlier assumptions also helps client to understand inconsistency in the accounting.

Below are three tables showing comparison of Charge to P & L as Expense, B/S Liability and Experience Adjustment: -

	Before Revaluation / MTM of Assets	After Revaluation / MTM of Assets
EXPENSES RECOGNIZED IN THE INCOME STATEMENT:	April-13 To Mar 14	April-13 to Mar 14
CURRENT SERVICE COST	27,632,000	27,632,000
INTEREST COST	24,646,875	24,646,875
(EXPECTED RETURN ON PLAN ASSETS)	(21,808,875)	(21,808,875)
ACTUARIAL (GAINS)/LOSSES	2,348,000	22,348,000
EXPENSE RECOGNIZED IN THE INCOME STATEMENT	32,818,000	52,818,000

From above table we can see the charge to profit & loss has increased because of re-valuation of assets which is actually true & fair view which needs to be disclosed.

AMOUNT RECOGNIZED IN THE BALANCE SHEET:	April-13 to Mar 14	April-13 to Mar 14
FAIR VALUE OF PLAN ASSETS AT THE END OF THE PERIOD	325,182,000	305,182,000
(PRESENT VALUE OF BENEFIT OBLIGATION AS AT THE END OF THE PERIOD)	(338,700,000)	(338,700,000)
DIFFERENCE	(13,518,000)	(33,518,000)
NET (LIABILITY)/ASSET RECOGNIZED IN THE BALANCE SHEET	(13,518,000)	(33,518,000)

Similarly from above table we can see the balance sheet value shows true & fair view when we consider actual revalued assets.

Lastly below table shows the experience adjustment when we consider actual revalued asset v/s original asset value

	Before Revaluation / MTM of Assets	After Revaluation / MTM of Assets
EXPERIENCE ADJUSTMENT	April-13 to Mar-14	April-13 to Mar-14
ON PLAN LIABILITY (GAINS)/LOSSES	32,108,000	32,108,000
ON PLAN ASSETS (LOSSES)/GAINS	3,040,000	(16,960,000)

So we can say, revaluation of assets would give smooth charge to profit & loss and balance sheet value. This will be consistent with increase in discount rate for liability calculations and vice versa where discount rate reduces similar methodology can be adopted to revalue assets which would again lead to consistent calculations. This is possible if assets durations are matched with durations of the liabilities. This would be an additional work for Actuarial portfolio as the volatile phenomenon of discount rate can be tackled to an extent with valuation of assets.



BUDDING ACTUARY: ON THE LIGHTER SIDE

I am a happily married person (With indeterminate level of significance) and with a square family. Have a good job. I was happy with everything and settled in my life. One fine day I had a chance meeting with a friend, Raju at a bus stop. Raju had become thinner in his build but the hairs on his head were even thinner. As we were meeting almost after a decade I just pulled him for a cup of coffee. A rather reluctant Raju entered the restaurant hesitantly and settled down. After a chat I found him rather agitated. Upon probing he told me that he is giving an examination next month and worried about his preparations.

sumesh@niapune.com

My god! We are out of college almost a decade ago and now again you want to invite same trouble Raju? "I shouted. Raju explained to me that this was not like college, where we rarely studied but for some professional qualification called actuaries." "Actuary? What is this?" I asked. Its "Actuaries" and not "actury" said Raju and enlightened me for next half an hour. One thing stuck me is the rarity of fully qualified actuaries in India which seemed even rarer than the tiger population. The potential salary was attractive and in millions. We parted ways after promising to meet again.

I came home thinking which was probably oozing on my face. Wife looked at my face and gave me a sympathetic look as she felt I got a routine dressing down from the boss. I didn't clear up her on this but went to the web to find more about this actuary business.

I always wanted to be someone and I thought this is my chance to join the elite band. But the more I read more I felt the hurdles. I felt becoming an actuary will be tough for me as I need to cross the first hurdle of the entrance and later on give lot of papers seemingly full of Mathematics which I always dreaded. But the reward was tempting enough for someone stuck up like me to give it a try. I filled up the entrance examination form and purchased some books for study. As I was keeping them on my table at home my wife saw them. "Why have you got this high school mathematics books?, don't you think our beta still has some time to reach there?", she asked. "No No, these are for me" I shouted and

explained the whole idea of mine. She stood speechless for a moment then said "you can't take our beta's study, what study you will do?". I ignored her compliments and immersed myself in to the books I had never fully understood when I was a student with full vigour.

Over the weekend my dad happens to visit us and he saw me reading something rather than dozing on the sofa in front of the Telly as was my usual practice on the weekends. He was concerned and asked me what was wrong. I told him that I want to become an actuary and studying for that. "What's this actuary?" he asked me. "It's something to do with predicting present financial implication of future risk" I explained as I had read it just a day before. Oh! My father said, our family astrologer, Ganesh who is just Matric (Xth Standard) failure can do this and is making a neat bundle with his skills. Why you had to waste my money and your time in getting all those fancy degrees and end up like this, there was lot of sadness in his voice as he said this. He just left me at this.

I removed all depressing thoughts and ploughed along bravely in to word of numbers. A few days later I was coming out of a bookshop after purchasing few more mathematics book. As I was near the door I faced an elderly gentleman. He recognised me and broke in to a smile. It was one of the most dreaded faces in my life and had given me nightmares, the face of my school mathematics teacher. "What are you doing here?" he asked me and as his eyes fell upon the book which I was trying to hide so clumsily there was a wonder on his face. "A book for your son?, don't you

think he is rather young for it?" He asked. He knew this as incidentally my son goes to him for tuition. I managed to explain him in a hoarse voice that it was for me. His eyebrows were raised to the upper possible limit. "What on earth YOU (was there a hint of contempt or was it a genuine concern) are doing with these books?" I somehow croaked a few things about actuary and my Nobel determination. "My god, what the world is coming to?" He shouted. I saw his cheeks red and the visible rise in his excitement level. Fearing he may have a heart attack at his old age I beat a hasty retreat.

I have read somewhere that "when the going gets tough, the tough gets going". So I decided to ignore everyone's scepticism about my abilities and decided to trot along.

Few days later I bumped in to Raju again near a movie theatre. He seemed in a jolly mood and wanted to pull me for a movie. I was worried about my study as examination dates were near. So I asked him about his examination preparation. Raju said " 'Chod de Yaar', I have given up that. I have got a promotion and I may get an overseas assignment. So I do not want to study and anyway it's so tough".

I went in for the movie with him and enjoyed a treat from him.

But in my mind I was saying "grapes are sour for the fox".

Whatever may happen, I am not going to give up my dream of an actuary. After all if you will it, you can do it. YES! I will be an actuary one day.



NOTICE FOR SUBSCRIPTION FEES FOR THE FINANCIAL YEAR 2014-15

March 4, 2014

A) **Due date:** 1st April 2014.

B) **The subscription rates:** with effect from 1st April 2013:

after 30th September) of his ceasing to be a member, he/she has to pay existing annual

Note: These rates are applicable to all

Mode of Payment:

1. **Online Payment :**

The Procedure for online payment is as under:

i) Visit to IAI website at (www.actuariesindia.org) and login in member login with your login id and password. (If you are logging in for the first time, you can login by providing your membership number as login id and your date of birth in DDMMYYYY format as password). For example, if your membership number is 289 and date of birth is 6th May, 1980, then your login id will be 289 and password will be 06051980. If you do not remember your membership id, then please contact Ms. Prajakta Bhosle at actsoc@actuariesindia.org.

ii) If you are an existing member of institute of Actuaries of India and logging in for the first time and your subscription is also due then, the system will prompt to update your address/ contact details and then proceed for subscription payment and afterwards will ask you to change your password and upload your photograph. If you are logging in for the second or subsequent time, it will prompt you to update your address/ contact details and then proceed for payment of subscription and show you details of subscription fees payable.

iii) You can opt to make your payment via Debit Card, Credit Card, Internet Banking or IMPS.

iv) Once the payment is successful, you will get the acknowledgment receipt on your registered email ID and your subscription due date will be updated. You will be

Class of Membership	Fees in Indian Rupees (INRs)
Fellows and Affiliates	5,000
Associates	1,500
Students	750
For Fellows, Affiliates and Associates above age 60 as on 1 st April, 2014, and not gainfully employed in profession or practice or medically unfit to be gainfully employed in profession or practice.	750
Life membership (optional) who are more than 60 years as on 1 st April, 2014	Ten times the normal annual subscription as mentioned above.
Members more than 75 years of age as at 1 st April, 2014	NO annual subscription
Change of Category within a subscription year	Will attract full subscription fees for new category

members regardless of their country of residence.

C) **Failure to make payment:** The payment should be made online on or before 30th June 2014 failing which membership will lapse resulting in to removal of name from the register of the Institute.

D) **Mode of payment :** Please Refer **Annexure 1**

E) **Reinstatement of Membership:** Reinstatement can be requested in accordance with the following terms and conditions.

i) **Members whose subscription is outstanding only for year 2014-15:**

- If the request for reinstatement is received within three months (i.e. on or before 30th September) of his/her ceasing to be a member (after 30th June), the payment of the annual subscription plus a penalty of 25% thereon,
- If the request for reinstatement is received after three months (i.e.

subscription, in addition to penalty of 50% of the annual subscription.

ii) **Members whose subscription is outstanding for more than one year:**

- Where subscription is in arrears for more than one year, reinstatement will be made on payment of 1.5 times of current year applicable subscription fees for the number of years where subscription is in arrears in addition to the current year subscription fee.

Note: Members whose membership is outstanding for more than one year can do reinstatement of membership offline only.

F) **Help:** Kindly contact Ms. Prajakta Bhosle at actsoc@actuariesindia.org or at 022 – 67843302 / 67843333 for further details on reinstatement of membership or any other matter relating to annual subscription.

Annexure 1

able to view the updated due date immediately under your Profile Tab & receipt can be downloaded from transaction detail tab.

- v) In case the payment has failed for some reason, please contact IT team at nitin@actuariesindia.org for resolving the problem.
- vi) In case the transaction fails after the amount is debited to the card/bank account, the amount will be refunded to the card or bank account normally in **8-10 working days**. In case of non refund kindly contact ravi@actuariesindia.org.

Note: It may please be noted that subscription can be paid ONLINE only by active members (i.e. members who had paid subscription for the year 2013-14).

2. DD or Pay Order :

The annual subscription may be paid by Demand Draft / Pay Order drawn in favour of "Institute of Actuaries of India", payable at Mumbai. Please indicate your full name, Class of membership (Fellow, Affiliate, Associate or Student) & "Subscription for the year (mention year)" at the back side of DD/Pay Order and on **Renewal Form**. Please ensure that payment by Demand Draft / Pay Order is honoured by your bank as dishonour may require you to pay penalty charges of Rs.500/-.

We would like to inform you that any payment done by **cash** or **consolidated** payments would not be accepted.

3. Wire-transfer (for members residing outside India)

Procedure for making payment through Wire-transfer in Indian Rupees (INR) is as under:

Please transfer USD _____ to account number 0011407376

of AXIS Bank Limited Mumbai (AXISINBB002) with JP Morgan Chase Bank USA (CHASUS33) for onward credit to account number [911020048384303](#) of [Institute of Actuaries of India](#) maintained with AXIS Bank Limited P.M. Road, Fort Mumbai branch (AXISINBB004)

Please transfer EUR _____ to account number 6231605392 of AXIS Bank Limited Mumbai (AXISINBB002) with JP Morgan Chase Bank FRANKFURT (CHASDEFX) for onward credit to account number [911020048384303](#) of [Institute of Actuaries of India](#) maintained with AXIS Bank Limited P.M. Road, Fort Mumbai branch (AXISINBB004)

Please transfer GBP _____ to account number 11131588 of AXIS Bank Limited Mumbai (AXISINBB002) with JP Morgan Chase Bank London (CHASGB2L) for onward credit to account number [911020048384303](#) of [Institute of Actuaries of India](#) maintained with AXIS Bank Limited P.M. Road, Fort Mumbai branch (AXISINBB004)

Please transfer AED _____ to account number 0195510382 of AXIS Bank Limited Mumbai (AXISINBB002) with MASRQ BANK (BOMLAEAD) for onward credit to account number [911020048384303](#) of [Institute of Actuaries of India](#) maintained with AXIS Bank Limited P.M. Road, Fort

Mumbai branch (AXISINBB004)

Please transfer SGD _____ to account number 501409379001 of AXIS Bank Limited Mumbai (AXISINBB002) with OCBCSGSG for onward credit to account number [911020048384303](#) of [Institute of Actuaries of India](#) maintained with AXIS Bank Limited P.M. Road, Fort Mumbai branch (AXISINBB004)

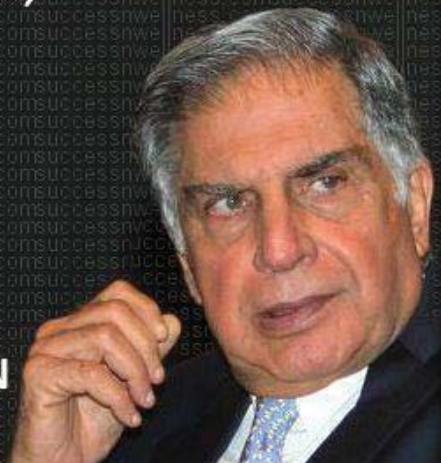
Note:

- 1) For payment made through wire transfer members need to pay additional Rs.500/- as Bank Commission and Wire Transfer charges.
- 2) After the payment has been made through wire transfer, members are requested to inform Mr. Ravi Mastekar (Accounts) at ravi@actuariesindia.org under copy to Ms. Prajakta Bhosle (Subscription) at actsoc@actuariesindia.org for confirming the receipt. In case the members do not send any communication to IAI in this regard, the Institute shall not be responsible for the payment made and amount shall be kept in suspense A/c as a result of which members will remain Inactive in the database.

Gururaj Nayak
Head - Operations

None can destroy iron,
but its own rust can!
Likewise none can
destroy a person ,
but its own
mind set can !

OUR THOUGHTS CAN
CHANGE OUR LIFE...





VOLATILITY INDEX DEMYSTIFIED : FROM MEASURE OF UNCERTAINTY TO AN ASSET CLASS

On 26th February, 2014, National Stock Exchange of India (NSE) launched futures on volatility index, India VIX nearly five year from the dissemination of real time index value. Earlier in the year Securities Exchange Board of India (SEBI) paved the way for trading in new asset class, Volatility. Globally leading option market like US, Europe, Japan, Russia, Australia and Hong Kong have exchange traded volatility derivatives based on their benchmark indices. With this launch India had propelled into this niche class of countries having sophisticated exchange traded products.

So the time is right now to demystify what is volatility and volatility index which I am going to touch base in this article without getting much into the mathematical details.

Let's start with the basic what is volatility?

Volatility is the measure of market fluctuation in layman term. Higher the volatility the more choppy the market would be and during calm period the volatility tends to be low. Volatility of market is an important parameter in any option pricing and risk management model. A regime in which the markets tend to be up one day and down other day would be depicting higher volatility.

What does Volatility indicates?



Short Bull & Bear runs fuels volatility

If the annualised volatility is 10% for Nifty with current level of "S", then this indicates that Nifty index would be in the range of $S*(1 - 2.23*10\%)$ and $S*(1+2.33*10\%)$ at the end of one year with a confidence level of 99%. i.e.

Nifty volatility of 10% with current level of 5000, indicate that Nifty would be in the range of 3835 to 6165 at the end of one year with a confidence level of 99%.

Type of volatility measurement:

Historical (Realised) volatility:

Close to close volatility estimator: Standardised deviation of the daily closing log return value (r_t) of underlying stock with mean rate zero used to get the daily volatility and scaled to arrive at the annualised volatility.

$$\sigma = \sqrt{252 * \frac{1}{n} \sum_{i=1}^n r_i^2}$$

H-L method:

It's an extreme-value estimator of volatility which uses the high (H_t) and (L_t) low value of the stock during the day.

$$\sigma_{HL} = \sqrt{\frac{1}{4ln 2} \frac{252}{n} \sum_{i=1}^n \ln\left(\frac{H_i}{L_i}\right)^2}$$

Parkinson method:

It incorporated not only the high and low historical prices but also the open (O_t) and (C_t) closing historical indicators of stock price movements in estimating variance and hence volatility.

$$\sigma_{HLOC} = \sqrt{\frac{252}{n} \sum_{i=1}^n \left[\frac{1}{2} \ln\left(\frac{H_i}{L_i}\right)^2 - (2ln 2 - 1) \ln\left(\frac{C_i}{O_i}\right)^2 \right]}$$

Implied volatility:

Implied volatility (IV) depends on the type of option pricing model being used.

About the Author



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Chinnaraja currently works with Global Risk team of Nomura. He is a student member of Institute of Actuaries of India and honoured with Gen Re Academic and Paternoster India Academic Excellence Award for his merit performance in Finance and Investment.

It represents the future volatility of the underlying financial asset as determined by today's price of the option. Implied volatility can be implicitly derived by inversion using option pricing models.

Thus Black-Scholes (BS) implied volatility for an option can be considered as the constant volatility in the stock process, $dS = S\mu dt + S\sigma dW$ which when substituted in the Black-Scholes PDE gives the observed market price of the option.

Local volatility:

It's a simplified version of stochastic volatility model. Here we consider volatility to be a function of strike and time to maturity in the diffusion process of stock price. The volatility so extracted by applying the BS PDE to observed market price is known as local volatility.

Stochastic Volatility:

In the stock process if volatility has a randomness of its own—often described by a different Wiener process then volatility in the model is called stochastic volatility.

Why trade volatility?

Just as stock investors think they know something about the direction of the stock market, or bond investors think they can foresee the probable direction of interest rates, so you may think you have insight into the level of future volatility. If you think current volatility is low, for the right price you might want to take a position that profits if volatility increases.

How people used to trade volatility conventionally?

Delta hedging options:

Options are impure they provide exposure to both the direction of the stock price and its volatility. In order to eliminate the sensitivity to stock prices and obtain pure exposure to volatility risk, the amount of stocks held delta, is periodically re-adjusted to ensure the portfolio's sensitivity to the stock price remains null. Delta hedging is done under the assumption of constant implied volatility. Hence P&L not only depends on variance risk but also on a vega risk which itself results from the fact that risk cannot be hedged at the unknown future realized volatility and that volatility may not be constant over time. Indeed, delta-hedging options yields further risk sources of interest rate, transaction cost and liquidity issues.

Straddles and strangles:

Straddles involves buying both ATM call and put options to get exposure on the volatility with no bet on the direction of stock. Strangles involves buying out of money call and put option. But both straddles and strangles do not provide pure exposure to volatility, as once the stock price move away from the initial value the straddle delta is no longer null and becomes sensitive to price movements.

Need for pure volatility measure

Trading practical constrain to get a pure exposure in volatility paved the way for the creation of new derivatives instruments like Variance and volatility swap in OTC market without bearing any other risks.

Volatility/Variance swap

Volatility swaps are forward contracts on future realized stock volatility. Variance swaps are similar contracts on variance, the square of future volatility.

A stock volatility swap is a forward contract on annualized volatility. Its payoff at expiration is equal to $(\sigma_R - K_{vol}) * N$ Where σ_R is the realized stock volatility (quoted in annual terms) over the life of the contract, K_{vol}

is the annualized volatility delivery price, and N is the notional amount of the swap in dollars per annualized volatility point.

Fair value of Variance Swap:

Carr and Madan in 1998 suggested a model-free method for valuing variance swaps that has the advantage of requiring very few assumptions about stock price dynamics. Instead of defining a process for the stock price, Carr and Madan only assume that markets are complete and that trading can take place continuously.

The fair forward value of the variance at time 0 should be equal to:

$$\sigma_{0,T}^2 = \frac{2e^{rT}}{T} \left[\int_0^{F_0} \frac{1}{K^2} P_0(K) dk + \int_{F_0}^{\infty} \frac{1}{K^2} C_0(K) dk \right]$$

Thus variance-swap strike prices (K) can be replicated by a continuum of out-of-money puts ($P_0(K)$) and calls ($C_0(K)$) inversely weighted by the square of their strike price. Note that the above valuation is model-free since we did not have to state a specific process for the dynamic of the stock price in order to derive the formula. It is also worth mentioning that the above formula provides a market-based estimator of future realized volatility.

In discrete form and due to non-availability of option at the exact forward level (F) and strike interval (ΔK_i) variance fair value can be expressed as:

$$\sigma_{0,T}^2 = \frac{2e^{rT}}{T} \left[\sum \frac{\Delta K_i}{K_i^2} e^{RT} Q(K_i) \right] - \frac{1}{T} \left[\frac{F}{K_0} - 1 \right]^2$$

Volatility index



As variance and volatility swap were OTC products CBOE was exploring the opportunity to get this on exchange platform which started off by redefining the volatility index methodology in 2003 based on the strategy of replicating the variance swaps using options.

The fair forward value of the variance was the building block of volatility index. Using the near and mid month options traded in the exchange the near and mid month variance is computed from which the variance over the 30-day is interpolated.

$$VIX = \sqrt{\sigma_{0,30}^2}$$

CBOE started disseminating VIX on real time bases and which was later used as an underlying for the derivative products.

What is CBOE VIX Futures?

Futures on VIX give an exposure to the forward starting volatility of S&P 500 index (SPX) 30 days from the expiry of the futures contract.

India VIX:

India VIX is a volatility index based on the index option prices of NIFTY. India VIX uses the computation methodology of CBOE (fair price of variance swap) with suitable amendments to adapt to the Indian market dynamics.

- Nifty future value used to identify the strip of out-of-the money options rather than determining the forward index from the option book
- Uses "Natural Cubic Spline" to interpolate quote for illiquid option
- 3 trading days left to expiry, India VIX "rolls" to the next and far month

India VIX represents annualized volatility hence to get monthly volatility value, the VIX number need to be divided by square root of 12.

India VIX serves as a barometer to gauge market volatility over the next 30 days. India VIX value of 20% indicates Nifty may move by over the next 30 days.

India VIX vs. Nifty:

In the plot of India VIX against Nifty we can observe low nifty value region coincide with high volatility regime and vice versa. The correlation between the daily return of Nifty and India VIX over the four year period is around -62% which indicates a significant negative



correlation. Hence India VIX could be used as a portfolio diversification and perfect hedge against severe economic

downturn when correlations between other asset classes tend to be nearly positive.

Thus futures contract on India VIX serves as a vehicle to trade on volatility efficiently replacing the conventional costly and inefficient way of using delta hedging and straddle in Indian financial market. Looking at the history, volatility derivatives were more successful in CBOE than in other exchange, hence need to wait and watch how Indian market is going to perceive this new product. Given the fact of high expected volatility regime currently in India, with elections event around the corner to unfold and absence of other developed products to hedge volatility risks, may make India VIX futures a success. ■■■



BEST ARTICLE & BEST REPORTAGE AWARDS IN THE YEAR 2013

BEST ARTICLES



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Current perspective on Life Insurance in India
Sept 13 • Vol. V • Issue 9



KUNJ BEHARI MAHESHWARI

In-force value and optimisation- enhancing value for existing policyholders
Oct 13 • Vol. V • Issue 10



BEST REPORTAGE



NAVIN VISHWANATH

19th India Fellow Seminar
Jul 13 • Vol. V • Issue: 7



SRIKANT VATTURI

15th GCA : Concurrent Sessions on Life Insurance
Mar 13 • Vol. : V • Issue : 3



Shortage of actuaries will go down in 3 years: Irda

PRESS TRUST OF INDIA
Mumbai

Amid acute shortage of actuaries, Irda chairman TS Vijayan has expressed the hope that the country will produce enough number of such professionals in the next three to four years, which will be enable it to fill up the large gap in the insurance industry for such professionals.

"It takes long time to be an actuary. However, you look at the number of students. Now around 8,000 students are there. So, even if 50 per cent come up in three-four years time, we will have enough numbers," Vijayan has said on the sidelines of a global conference on actuaries.

At present, there are demands for around 1,000 actuaries in the domestic industry, only 280 fully-trained professionals are available. It takes around 8-10 years training to become an actuary.

An actuary is a business professional who deals with the financial impact of risk and uncertainty, which is critical for designing any insurance product. An actuary can also contribute in the fields of risk management and investment related sectors.

Interestingly, actuary profession is voted as one of the best professions in the world in various job ratings.

Senior adviser at Towers Watson, Dilip C Chakraverty, said, "Irda

Irda chief sees dearth of actuaries receding

Amid acute shortage of actuaries, Irda chairman TS Vijayan has expressed the hope that the country will produce enough number of such professionals in the next 3-4 years, which will be enable it to fill up the large gap in the insurance industry for such professionals. "It takes long time to be an actuary. However, you look at the number of students. Now around 8,000 students are there. So, even if 50% come up in three-four years time, we will have enough numbers," said Vijayan.

Irda Eases Bancassurance Norms under Present Set-up

MUMBAI The Insurance Regulatory and Development Authority (Irda) has allowed banks to sell products of one company under the present set-up, without putting any timeline for them to compulsorily convert into brokers. "As on Monday, we are renewing corporate agency licence," said TS Vijayan, chairman of Irda at Global Conference of Actuaries. "We have brought out guidelines on bancassurance. We expect the translation to happen in due course of time. It can't be abrupt." He added that some banks were reluctant as they had already entered in exclusive partnership with insurance companies. The finance ministry wants all public sector banks to become an insurance broker and start selling products of multiple insurance companies. It had earlier set a deadline of January 15, which the banks have not met. Also, RBI is yet to come up with the final guidelines on broking.

Vijayan hopeful on actuaries shortage

Amid acute shortage of actuaries, Irda chairman TS Vijayan on Tuesday expressed hope the country will produce enough numbers of such professionals in the next three-four years, which will enable it to fill up the large gap in the insurance industry for such professionals. PTI

Banks can continue as agents of insurers: IRDA

Regulator to renew licences of banks having such tie-ups

OUR BUREAU
Mumbai, February 17

Banks can continue to exclusively sell products of one insurance company as the Insurance Regulatory and Development Authority (IRDA) is renewing the corporate agency licences of banks having such tie-ups with insurers.

IRDA Chairman TS Vijayan said, "As of now, we are giving renewals. We have brought out regulations on banks to become brokers, and we expect the transition to happen in course of time. It cannot be abrupt and the transition will take some time."

No deadline

At present, banks have a corporate agency arrangement with insurance companies to sell insurance products. Under this arrangement, they are allowed to sell products exclusively of

one life insurer, one non-life insurer and a standalone health insurer. Speaking on the sidelines of the Global Institute of Actuaries conference in Mumbai, Vijayan said the insurance regulator is working with the Reserve Bank of India for guidelines on what is best for all stakeholders and policyholders.

He also said that the regulator has not yet set a deadline on when banks should become insurance brokers. In December, the Finance Ministry issued a notification asking banks to become insurance brokers, whereby they will sell policies of multiple insurers.

This move is aimed at creating a level-playing field for non-bank promoted insurance companies vis-à-vis bank-promoted insurance companies.

Major public sector and private sector banks have promoted insurance companies. Most of these banks are not keen to become insurance brokers as they have contractual obligations with joint venture partners of insurance companies.

Bancassurance to gain traction: Irda

Insurance Regulatory and Development Authority (Irda) chairman TS Vijayan said notwithstanding the tepid response by banks to act as brokers for selling products of multiple insurers, sectoral regulator Irda is hopeful this model would pick up in due course even as it said it is renewing the corporate agency licence of banks as of now. "We have brought out the guidelines for banks acting as insurance brokers. We expect this to happen in due course of time. It can't be abrupt. It takes some time..." Vijayan said on the sidelines of a global conference of actuaries here on Monday. Asked about banks's reluctance to act as brokers, the Irda chief said, "Some banks are reluctant as many of them have already entered into tie-ups with insurers," he said. He, however, said no timeline has been fixed for banks to act as insurance brokers. PTI

Irda chief sees shortage of actuaries receding in 3-4 yrs

Currently, while there are demands for around 1,000 actuaries in the domestic industry, only 200 fully-trained professionals are available

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And acute shortage of actuaries, Irda Chairman T S Vijayan has expressed the hope that the country will produce enough number of such professionals in the next 3-4 years, which will enable it to fill up the large gap in the insurance industry for such professionals.

"It takes long time to be an actuary. However, you look at the number of students. Now around 8,000 students are there. So, even if 50% come up in three-four years time, we will have enough number," Vijayan has said on the sidelines of a global conference on actuaries here.

Currently, while there are demands for around 1,000 actuaries in the domestic industry, only 200 fully-trained professionals are available. It takes around 6-30 years training

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IRDA to renew corporate agency licenses of banks

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Mumbai: The Insurance Regulatory and Development Authority will renew the licenses granted to banks to act as corporate agent of insurance firms, Business Line reported.

IRDA announced that a bank can continue to sell products of one insurer exclusively with which it has entered into joint venture following the renewal.

"As of now, we are giving renewals," TS Vijayan, chairman, Insurance Regulatory and Development Authority said on the sidelines of the Global Institute of Actuaries conference in Mumbai.

The Authority has introduced regulations ensuring banks to play the role of brokers. The transition will take place smoothly, he added.

IRDA is working in coordination with the Reserve Bank of India to come out with guidelines on what is best for all stakeholders and policyholders, he said.

IRDA has not yet fixed a deadline on banks to enter into insurance broking business, he added.

In December 2013, the finance ministry had asked the public sector banks to act as insurance brokers with an aim to increase the penetration of insurance sector within the society.

Irda chief sees shortage of actuaries receding in 3-4 years

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At present, while there are demands for around 1,000 actuaries in the domestic industry, only 200 fully-trained professionals are available. It takes training of around 6-10 years to become an actuary.

An actuary is a business professional who deals with the financial impact of risk and uncertainty, which is critical for designing any insurance product. An actuary can also contribute in the fields of risk management and investment-related sectors.

Interestingly, actuary profession is voted as one of the best professions in the world in various job ratings.

ofit.ndtv.com/news/industries/article-banks-insurance-broking-model-to-gain-traction-in-time-

Banks' insurance broking model to gain traction in time: Irda

Press Trust of India | Updated On: February 17, 2014 22:58 (IST)

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Notwithstanding a tepid response by banks to act as brokers for selling products of multiple insurers, the Insurance Regulatory and Development Authority (Irda) is hopeful that this model will pick up in due course even as it said it is renewing the corporate agency licence of banks as of now.

"We have brought out the guidelines for banks acting as insurance brokers. We expect this to happen in due course of time. It will not be abrupt. It takes some time..." Irda chairman T S Vijayan said on the sidelines of a global conference of actuaries here today.

Asked about banks' reluctance to act as brokers, Mr Vijayan said, "Some banks are reluctant as many of them have already entered into tie-ups with insurers."

He wondered when an insurance company owns a bank, a case in many western economies, whether it will do only insurance business.

He, however, said no timeline has been fixed for banks to act as insurance brokers.

Last year, Irda had released final guidelines on bancassurance, which allowed banks to sell insurance products of many companies. However, the new model has not picked up as many banks have

Need actuaries in non-life firms too: Irda chief

By BS Reporter Source: Business Standard

Last Updated: Tue, Feb 18, 2014 02:45 hrs

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T S Vijayan An actuary is the need of the hour, not just in life insurance but in general insurance companies too, according to T S Vijayan, chairman of Insurance Regulatory and Development Authority (Irda). An actuary, in an insurance company, helps assess risks and price an insurance product, accordingly.

Speaking at the Global Conference of Actuaries here on Monday, Vijayan said the demand for actuary professionals had increased not just among insurance companies, but in other sectors as well.

Vijayan said it was imperative that the actuaries in companies not just looked at innovative products, but priced it fairly as well. "We support innovative products. However, the actuary should ensure that the products are fairly priced and the policyholder's interest is protected. It is a reasonable expectation of Irda that the customer gets a fair deal," he said.



Talking about product pricing, the Irda chairman said rationalisation

Actuarial profession to take a leap forward in changing economic landscape: TS Vijayan

India Infoline News Service/ Mumbai 13:38 , Feb 18, 2014

The demand of actuaries is increasing, whether in the life insurance industry, non-life insurance industry or even outside insurance industry said TS Vijayan

The 16th Global Conference of Actuaries (GCA) organised by the Institute of Actuaries of India (IAI) was inaugurated with a key note address by T. S. Vijayan, Chairman IRDA. With the governments across the world introducing reforms to sustain and push growth, the forum provides a platform to discuss the opportunities and challenges that arise due to changing economic and business landscape.

Inaugurating the conference, IRDA Chairman T.S. Vijayan spoke on how insurance industry has benefitted by the actuarial profession as it is able to identify and mitigate the risks, conduct long-term forecast and uphold policy holder's interest. Vijayan shared his thoughts on how Indian insurance market is growing higher than the economic growth and how talent development needs to keep pace with the demand from the industry.

"The demand of actuaries is increasing, whether in the life insurance industry, non-life insurance industry or even outside insurance industry. Because actuaries are able to take a long term view, they understand economic scenario better and participate and support the decision making process," said T.S. Vijayan.

M. Karunanidhi, President of IAI traced the development of the Indian Actuarial Profession in the present and outlined the strategies for shaping the future landscape of

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Banks' insurance broking model to gain traction in time: IRDA

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Mumbai: Notwithstanding the tepid response by banks to act as brokers for selling products of multiple insurers, sectoral regulator IRDA is hopeful that this model will pick up in due course even as it said it is renewing the corporate agency licence of banks as of now.

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16th Global Conference of Actuaries begins ; Delegates deliberate on 'Evolving Frontiers, Exciting Prospects'

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The 16th Global Conference of Actuaries (GCA) organized by the Institute of Actuaries of India (IAI) was inaugurated with a key note address by Mr. T. S. Vijayan, Chairman IRDA, Mumbai, India, who addressed the delegates across the world introducing the Indian insurance market and the challenges that arise due to changing economic and business landscape.

Inaugurating the conference, IRDA Chairman T.S. Vijayan spoke on how insurance industry has benefited by the actuarial profession as it is able to identify and mitigate risks, conduct long-term forecast and uphold policy holder's interest. He shared his thoughts on how Indian insurance market is growing higher than the economic growth and how talent development needs to keep pace with the demand from the industry.

"The demand of actuaries is increasing, whether in the life insurance industry, non-life insurance industry or in the reinsurance industry."

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IRDA: Banks' insurance broking model to gain traction in time

By PTI | 17 Feb, 2014, 04:35PM IST

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MUMBAI: Notwithstanding the tepid response by banks to act as brokers for selling products of multiple insurers, sectoral regulator IRDA is hopeful that this model will pick up in due course even as it said it is renewing the corporate agency licence of banks as of now.

"We have brought out the guidelines for banks acting as insurance brokers. We expect this to happen in due course of time. It can't be abrupt. It takes some time...", Insurance Regulatory and Development Authority (IRDA) chairman TS Vijayan said on the sidelines of a global conference of actuaries here today.

Asked about banks' reluctance to act as brokers, Vijayan said, "Some banks are reluctant.

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"We have brought out the guidelines for banks acting as insurance brokers. We expect this to happen in due course of time. It can't be abrupt. It takes some time..." IRDA chairman T S Vijayan said on the sidelines of a global conference of actuaries here today.

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He wondered when an insurance company owns a bank, a case in many western economies, whether it will do only insurance business.

He, however, said no timeline has been fixed for banks to act as

16th Global Conference of Actuaries (GCA) to be held in Mumbai

T S Vijayan, Chairman, IRDA to inaugurate the event

Mumbai Feb 16th 2014: The 16th Global Conference of Actuaries (GCA), a two-day event of the key insurance sector leaders, top industry players, policy makers and the stakeholders, will be held in Mumbai and will be inaugurated by Chairman of IRDA, Mr. T S Vijayan on Monday 17th February 2014. The event is being organized by the Institute of Actuaries of India (IAI) and will focus on the theme of "Evolving Frontiers, Exciting Prospects".

The event needs to be seen in the backdrop of India being an attractive destination for global actuarial services delivery. Almost all the insurers in India are joint ventures between domestic and global players and there is a strong representation of global players in both the consulting and reinsurance spheres, thus making Indian industry a truly globalised one.

M Karunanidhi, president, IAI said "The 16th GCA holds further in the theme of globalisation in terms of the subjects being discussed and the speakers' participation, in a way contributing to solutions of contemporary issues affecting actuarial profession and the insurance industry."

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Need actuaries in non-life firms too: Irda chief

Vijayan said it was imperative that actuaries in companies not just looked at innovative products, but priced it fairly as well

BS Reporter | Mumbai February 18, 2014 | Last Updated at 00:22:57

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An actuary is the need of the hour, not just in life insurance but in general insurance companies too, according to T S Vijayan, chairman of Insurance Regulatory and Development Authority (Irda). An actuary, in an insurance company, helps assess risks and price an insurance product, accordingly.

Speaking at the Global Conference of Actuaries here on Monday, Vijayan said the demand for actuary professionals has increased not just among insurance companies, but in other sectors as well.

Vijayan said it was imperative that the actuaries in companies not just looked at innovative products, but priced it fairly as well. "We support innovative products. However, the actuary should ensure that the products are fairly priced and the policyholder's interest is protected. It is a reasonable

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16th Global Conference of Actuaries begins in Mumbai

The 16th Global Conference of Actuaries (GCA) organised by the Institute of Actuaries of India (IAI) has inaugurated with a key note address by Mr. T. S. Vijayan, Chairman IRDA. With the global insights across the world introducing reforms to sustain and push growth, the forum provides a platform to address the opportunities and challenges that arise due to changing actuarial and business landscape.

Inaugurating the conference, IRDA Chairman Mr. T.S. Vijayan spoke on how insurance industry has benefited by the actuarial profession as it is able to identify and mitigate the risks, conduct long term forecast and uphold policy holder's interest. Mr. Vijayan shared his thoughts on how Indian insurance market is growing higher than the economic growth and how talent development needs to keep pace with the demand from the industry.

"The demand of actuaries is increasing, whether in the life insurance industry, non-life insurance industry or even outside insurance industry. Because actuaries are able to take a long term view, they understand economic scenario better and participate and support the decision making process," said Mr. T.S. Vijayan.

Mr. M. Karunanidhi, President of IAI trac at the development of the Indian Actuarial Profession to the present and outlined the strategies for shaping the future landscape of the Indian Actuarial Profession and insurance market.

"Since the privatisation followed a prolonged period of nationalization, the supply of talent in actuarial profession had to be built almost from the scratch. The supply side reacted decently well to the

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Need actuaries in non-life firms too: Irda chief

BS ReporterMumbai 18 Feb 14 | 12:22 AM

T S Vijayan

An actuary is the need of the hour, not just in life insurance but in general insurance companies too, according to T S Vijayan, chairman of Insurance Regulatory and Development Authority (Irda). An actuary, in an insurance company, helps assess risks and price an insurance product, accordingly.

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Talking about product pricing, the Irda chairman said rationalisation was needed in pricing of products in non-life industry and companies should not merely chase the top-line.

ALSO READ: Life insurers to have varied rewards mechanism to boost agent persistency

Industry sources said several general insurance companies had been providing aggressive discounts in segments like group health and fire-engineering due to which the loss ratios and underwriting profits would be affected.

On the issue of making broking channel mandatory for banks wishing to sell insurance, Vijayan added they were engaged in a dialogue with banks to ensure a smooth transition. "We do not want to make any abrupt change and would not stop corporate agency renewals that are on the anvil. Our motive is to ensure we do what is best for the policyholder," he explained.

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Irda chief: Shortage of actuaries to recede in 3-4 yrs

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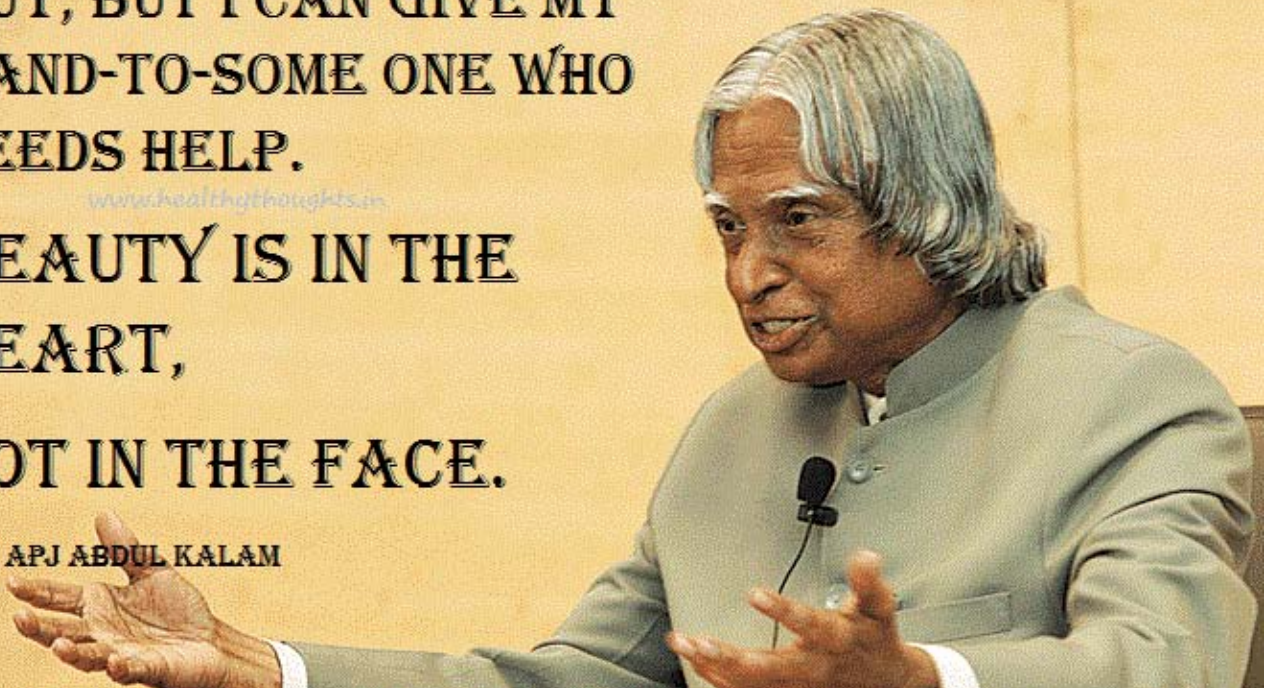
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"It takes long time to be an actuary. However, you look at the number of students. Now around 8,000 students are there.

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Need for actuaries in non-life companies too: Irda chairman

An actuary is the need of the hour, not just in life insurance but in general insurance companies too, according to T S Vijayan, chairman of Insurance Regulatory and Development Authority (IRDA) speaking at the Global Conference of Actuaries here today. ...

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Irda chief T.S. Vijayan said some banks are reluctant to act as brokers as many of them have entered into tie-ups with insurers. Photo: Pradeep Oau/Mint

Mumbai: Notwithstanding the tepid response by banks to act as brokers for selling products of multiple insurers, sectoral regulator Insurance Regulatory and Development Authority (Irda) is hopeful that this model will pick up in due course even as it said it is renewing the corporate agency licence of banks as of now.

"We have brought out the guidelines for banks acting as insurance brokers. We expect this to happen in due course of time. It can't be abrupt. It takes some time...", Irda chairman T.S. Vijayan said on the sidelines of a global conference of actuaries here on Monday.

Quick View: 'Banks' insurance broking model to gain traction in time'

[Updated: Feb 18 2014, 05:43 IST]

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Family Health Insurance - Buy Max Bupa 2yr Family Plan Online Pay 20%less premium with Easy Claim healthcompanion.maxbupa.com/

MUMBAI, FEB 17: Banks can continue to exclusively sell products of one insurance company as the Insurance Regulatory and Development Authority (IRDA) is renewing the corporate agency licences of banks having such tie-ups with insurers.

IRDA Chairman TS Vijayan said, "As of now, we are giving renewals. We have brought out regulations on banks to become brokers, and we expect the transition to happen in course of time. It cannot be abrupt and the transition will take some time."

No deadline

At present, banks have a corporate agency licence with one insurance company to sell insurance products. Under this arrangement, they are allowed to sell products exclusively of one life insurer, one non-life insurer and a standalone health insurer. Speaking on the sidelines of the Global Institute of Actuaries conference in Mumbai, Vijayan said the insurance regulator is working with the Reserve Bank of India for guidelines on what is best for all stakeholders and policyholders.


He also said that the regulator has not yet set a deadline on when banks should become insurance brokers. In December, the Finance Ministry issued a notification asking banks to become insurance brokers, whereby they will sell policies of multiple insurers.

This move is aimed at creating a level-playing field for non-bank promoted insurance companies vis-a-vis bank-promoted insurance companies.

16th Global Conference of Actuaries

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Mumbai: A major relief to banks which are resisting the government's move to become insurance brokers, Insurance Regulatory Development & Authority (IRDA) has said that banks can renew their existing corporate agency licences and can continue to exclusively sell products of one insurance company.

IRDA Chairman TS Vijayan on Monday said, "We do not want to make any abrupt change and would not stop corporate agency renewals that are on the anvil. Our motive is to ensure we do what is best for the policyholder. We have brought out regulations on banks to become brokers, and we expect the transition to happen in course of time."

Speaking on the sidelines of the Global Institute of Actuaries conference in Mumbai, Vijayan said that the regulator has not yet set a deadline on when banks should become insurance brokers. He is working with the Reserve Bank of India (RBI) for guidelines on what is best for all stakeholders and policyholders.

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11	The Financial Express	Mumbai	20,000	11,402	No	T.S. Vijayan	29	Banks' insurance broking model to gain traction in time'
12	The Financial Express	Kolkata	10,000	9,931	No	T.S. Vijayan	76	Banks' insurance broking model to gain traction in time'
13	Business Bhaskar	Delhi	100,000	142,866	Yes	T.S. Vijayan	130	No hurdle for Banks in sale of insurance
14	Financial Chronicle	Delhi	25,000	24,362	Yes	T.S. Vijayan, Dilip C Chakraborty	97	Shortage of actuaries will go down in 3 years: IRDA
15	The Financial Express	Mumbai	20,000	10,737	No	T.S. Vijayan	27	IRDA chief sees dearth of actuaries receding
16	Business Standard	Mumbai	24,055	4,393	No	T.S. Vijayan	15	Vijayan hopeful on actuaries shortage
17	Business Bhaskar	Delhi	100,000	135,681	Yes	T.S. Vijayan	123	Actuaries demand rise besides insurance sector also
				599,374*				

Online Portals	Link	Headline	Institute/ 16th GCA mention
The Economic Times	http://economictimes.indiatimes.com/personal-finance/insurance/insurance-news/irda-banks-insurance-broking-model-to-gain-traction-in-time/articleshow/30567188.cms	IRDA: Banks' insurance broking model to gain traction in time	Yes
Mint	http://www.livemint.com/Industry/FI44MadIIW-guA5OFOc3zVP/Insurance-broking-model-of-banks-to-gain-traction-in-time-I.html	Insurance broking model of banks to gain traction in time: IRDA	Yes
NDTV Profit	http://profit.ndtv.com/news/industries/article-banks-insurance-broking-model-to-gain-traction-in-time-irda-380901	Banks' insurance broking model to gain traction in time: IRDA	Yes
The Hindu Business Line	http://www.thehindubusinessline.com/economy/irda-allows-banks-to-continue-as-corporate-agents-of-insurers/article5698521.ece	IBanks can continue as agents of insurers: IRDA	Yes
Business Standard	http://www.business-standard.com/article/finance/need-for-actuaries-in-non-life-companies-too-irda-chairman-114021700428_1.html	Need actuaries in non-life firms too: IRDA chief	Yes

The Financial Express	http://www.financialexpress.com/news/quick-view-banks-insurance-broking-model-to-gain-traction-in-time-1227003	'Banks' insurance broking model to gain traction in time'	No
Zee News	http://zeenews.india.com/business/personal-finance/analysis-and-opinion/banks-insurance-broking-model-to-gain-traction-in-time-irda_94599.html	Banks' insurance broking model to gain traction in time: IRDA	Yes
Indian News and Times	http://www.indiannewsandtimes.com/2014/02/17/16th-global-conference-actuaries-begins-delegates-deliberate-evolving-frontiers-exciting-prospects/	16th Global Conference of Actuaries begins; Delegates deliberate on 'Evolving Frontiers, Exciting Prospects'	Yes
Asia Insurance Post	http://www.asiainsurancepost.com/NewsFull.aspx?Id=1402000111	16th Global Conference of Actuaries begins; Delegates deliberate on 'Evolving Frontiers, Exciting Prospects'	Yes
Press Release Watch	http://pressreleasewatch.blogspot.in/2014/02/16th-global-conference-of-actuaries.html	16th Global Conference of Actuaries begins in Mumbai	Yes
Rediff.com	http://realtime.rediff.com/news/india/Need-for-actuaries-in-nonlife-companies-too-Irda-chairman/737e855be763f1f?src=interim_alsoreadimage	Need for actuaries in non-life companies too: IRDA chairman	Yes
Rediff.com	http://realtime.rediff.com/news/business/irda-allows-banks-to-continue-as-corporate-agents-of-insurers/75447780b313d3ce	IRDA allows banks to continue as corporate agents of insurers	Yes
News.nom.co	http://www.news.nom.co/banks-insurance-broking-model-to-gain-8074295-news/	Banks' insurance broking model to gain traction in time: IRDA	Yes
Finance Everyday	http://finance.indiaeveryday.in/fullnews-banks-insurance-broking-model-to-gain-traction-in-time-1027-6553835.htm	Banks' insurance broking model to gain traction in time: IRDA	Yes
Instant Publish (Blog)	http://instantpublish.blogspot.in/2014/02/16th-global-conference-of-actuaries-gca.html	16th Global Conference of Actuaries (GCA) to be held in Mumbai	Yes
India Infoline	http://www.indiaonline.com/Markets/News/Actuarial-profession-to-take-a-leap-forward-in-changing-economic-landscape-TS-Vijayan/5870250694	Actuarial profession to take a leap forward in changing economic landscape: TS Vijayan	Yes
Business Standard	http://www.business-standard.com/article/finance/irda-chief-sees-shortage-of-actuaries-receding-in-3-4-yrs-114021800675_1.html	IRDA chief sees shortage of actuaries receding in 3-4 yrs	Yes
NDTV Profit	http://profit.ndtv.com/news/industries/article-irda-chief-sees-shortage-of-actuaries-receding-in-3-4-years-380988	IRDA chief sees shortage of actuaries receding in 3-4 yrs	Yes
Yahoo.com	http://in.finance.yahoo.com/news/irda-renew-corporate-agency-licenses-122450835.html	IRDA to renew corporate agency licenses of banks	Yes
Smartinvestor.in	http://smartinvestor.business-standard.com/market/Econnews-227238-Econnewsdet-Need-actuaries-in-non-life-firms-too-Irda-chief.htm#.UwQyr-WKSyE4	Need actuaries in non-life firms too: IRDA chief	Yes
Press Trust of India	http://www.ptinews.com/news/4418315_Irda-chief-sees-shortage-of-actuaries-receding-in-3-4-yrs-.html	Inda chief: Shortage of actuaries to recede in 3-4 yrs	No
Rediff.com	http://realtime.rediff.com/news/business/Irda-chief-sees-shortage-of-actuaries-receding-in-34-yrs/ed4c1e4ad57827e1?src=interim_alsoreadheadline	IRDA chief sees shortage of actuaries receding in 3-4 yrs	Yes
Sify.com	http://www.sify.com/finance/Need-actuaries-in-non-life-firms-too-Irda-chief-news-Default-ocscJUabfei.html	Need actuaries in non-life firms too: IRDA chief	Yes
Top99news.com	http://in.top99news.com/2014/02/18/irda-chief-sees-shortage-of-actuaries-receding-in-3-4-yrs/	IRDA chief sees shortage of actuaries receding in 3-4 yrs	Yes
iNooz	http://www.inooz.in/article/view/2601793/irda-chief-sees-shortage-of-actuaries-receding-in-3-4-years/022014	IRDA chief sees shortage of actuaries receding in 3-4 yrs	Yes
India Stock Market News	http://promarketnews.com/india/news/irda-chief-sees-shortage-of-actuaries-receding-in-34-years	IRDA chief sees shortage of actuaries receding in 3-4 yrs	Yes

TV	Coverage	Appearance	Content	16th CGA Logo
Zee TV	Done	To be checked	Interview with T.S. Vijayan and Dilip C Chakraborty	Yes
CNBC TV 18	Done	To be checked	Interview with T.S. Vijayan and Dilip C Chakraborty	Yes



MAURITIUS



Major pension reforms are still on the way in the Mauritian landscape over the course of the year 2013. These reforms apply to both the Public Sector (Government employees, Parastatals and Local Authority Employees) and to the Private Sector Occupational Schemes.

Public Sector Pensions goes DC as from 01 January 2013.

As from 01 January 2013, all new entrants to the public sector in Mauritius no longer contribute to the existing Defined Benefit arrangements which were in force. Instead they will contribute to the Public Pensions Defined Contribution Pensions Scheme.

This is another major step in the reform of the Public Sector Pensions, the first one being in 2008, when the retirement age was increased from 60 to 65, and public pensions became contributory, with employees contributing at the rate of 6% of salaries and employers meeting the balance of cost.

The contribution to Defined Contribution scheme is set at 18% of salaries, 12% from the Employer and 6% from Employees.

The Scheme will be governed by the Public Pensions Advisory Committee under the Ministry of Finance, consisting of representatives of the Ministry of Finance, Ministry of Civil Service, Unions representatives and other insurance professionals, under the chairmanship of the Financial Secretary. The administrative and investment management responsibilities have initially been entrusted to the State Insurance Company of Mauritius.

The employees will be allowed Investment Choices and switching facilities under the Scheme.

The maximum lump sum payable at time of retirement is 25% of the Accumulated Fund Balance, and the remaining 75% would be used by the retiree to purchase an annuity on the open market. Death gratuities are also payable on death before retirement, in addition to the Accumulated Fund Balance at time of death.

At the moment the drafting of further regulations is still underway, to define amongst others, the finer elements of the Scheme as guarantees etc, which may be put in place so as to ensure a minimum level of security of benefits.

Private Pension Funds Act 2012

Reforms to the Private Pensions have been embarked upon since November 2012, through the Private Pensions Act 2012 issued by the Financial Services

Commission. The first major impact of the scheme was the significant change in the governance structure of pension schemes; where by under the new Act, pension schemes are to be established either under a trust or a foundation.

The concept of managing a pension scheme under a trust, with a governing body is a relatively very new concept in Mauritius where schemes are mostly managed by insurance companies, which provide the whole range of administration, investment and actuarial services under one roof.

The change in governance structure to manage private pension represents quite a challenge to the industry as pension administrators and insurance companies have to comply with new approval processes, disclosures and reporting requirements both to the FSC, and the governing body, as well as additional compliance to new investment rules and technical funding requirements. The next section focuses on the Technical Funding Rules which came into effect on 31 January 2014.

Technical Funding Rules: Increasing Actuarial involvement

The latest rules published further to the main Act relates to the work and responsibilities of actuaries, namely the Technical Funding Rules. There was a void in the area of actuarial management, which has now been filled. It provides for the financial tools to manage / resolve the deficits in pension schemes due to underfunding or other reasons thus improving the security of the benefits. It also improves the awareness of employers setting pension schemes to the complexities of pension scheme financing.

Actuarial Valuation report:

The Rules firstly makes it mandatory that an actuarial valuation report be produced to the FSC at least once every 3 years for DB Schemes. This is also applicable to DC Schemes (unless it is exempted). This report needs to be submitted within 9 months of the valuation date of the Scheme.

Technical Provisions and Funding Ratio

One of the main outputs required is the

computation of the Technical Provisions (accrued past service liabilities based on projected salaries) and the Funding Ratio, i.e the ratio of the Assets of the Fund to the Technical Provisions.

A DB Scheme is deemed to meet the funding requirement if it has a funding ratio of at least 100% and the rates of contributions are such that it can be expected to be maintained for the period for which the schedule of contributions is in force.

If the ratio is 90% and the Scheme has established a schedule of contributions to meet the target of 100%, it shall be considered as meeting the funding target.

Statement of Funding Policy:

This statement is a document which sets out the method and assumptions used in the computation of the technical provisions and contributions schedules to the scheme. This document also states the deficits in funding level will be financed, as well uses of surpluses by employer.

This document is therefore essential to the governing body as it highlights all the risks and uncertainty pertaining to the scheme contributions, funding levels and especially the possibility of additional funding in the future in case of adverse fluctuations.

Surplus

The surplus of the Scheme cannot be utilised in such a way that funding ratio falls below 105%.

Actuarial Certificates

The Scheme Actuary is required to provide a certification of the calculation of the Technical Provisions and Funding Ratio, and if applicable a certification of the Schedule of Contributions and Contingency Plan to the Financial Services Commission.

About the Author



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Vijay Balgobin is the Group Actuary and Senior Manager (Group Business) at the State Insurance Company of Mauritius .

Actuaries required in Indonesia!

Our globally renowned multinational insurance clients are looking to expand their footprint in Indonesia and are looking for experienced actuaries such as yourself.

Indonesia is the most rapidly growing insurance market in Asia Pacific with a population of over 250 million and a dramatically expanding middle-class with expendable income and a hungry appetite for Life, Health and GI Insurance.

There is a significant shortage of skilled actuarial talent in the Indonesian market with very few local actuaries being educated overseas. Consequently there is a concrete need for international talent to meet the demand of this growing sector.

Having moved three senior actuaries across from India to Indonesia we have found this to be a mutually beneficial arrangement.

The packages tend to be very attractive, the cultural gap easily manageable, the standard of living often an improvement. It also offers an opportunity for actuaries in India to gain international exposure and a route into the more advanced Asian markets (Singapore / Hong Kong).

Please email me at hamza.mush@ojassociates.com for a more detailed discussion.

Chief Actuary – Life Indonesia

Global European insurer seeks a qualified life Actuary to lead and grow a large actuarial function in its quickest growing region. Excellent opportunity on offer though European reporting skills required (EV, EEV, MCEV, or IFRS).

Chief Risk Officer – Life Indonesia

Leading multinational insurer looking for a Chief Risk Officer to operate as a member of their senior leadership team and drive all risk initiatives. You will have the ability to proactively provide strategic oversight, challenge current processes as well have sound technical knowledge in solvency management.

Head of Valuations – Life Indonesia

A top-tier multinational insurer with global presence and number one brand recognition is seeking a Head of Valuations to support, develop, and enhance the capability of local actuarial teams. You will have a minimum of 8 years of relevant experience and excellent communication skills.

Head of Pricing – Life Indonesia

Well-renowned multinational insurer is seeking an experienced and qualified Actuary to revamp their product suite and mentor a team of young actuaries. You will gain excellent exposure throughout the APAC region and you will have the opportunity to take your career to the next level. A qualified Fellow of a recognized institute necessary.



PUZZLE

Puzzle No 209:

Two lists of words have been created. Embedded in one list are the 26 letters of alphabet in their correct order. Embedded in the other list are 26 letters in reverse alphabetical order.

The alphabet (forwards or backwards as appropriate) has been removed from each list, and the spaces between words have been closed. In each case the same string of letters remains, as shown below:

DOSITELEROEUIUSIGUATRESAEST

Can you recreate the original two lists of words, given that all the words have at least three letters and each word includes at least one letter from the above string and at least one letter to be reinserted from the alphabet.

By way of example, suppose part of the string of letters was ITOEAS. By inserting the letters from F to M the following

chain of words could be formed: FIG, HIT, JOKE, ALMS. Alternatively, inserting P to K in reverse order could give POINT, MOLE, ASK.

Puzzle No 210:

In this multiplication, each 'x' represents a different digit (so that each digit appears once and once only) and the three-digit number is prime. What is the multiplication?

$$\begin{array}{r} \times \times \times \\ \times \times \\ \hline \times \times \times \times \end{array}$$

SOLUTIONS TO PUZZLES

Puzzle No 205:

Yes, in the sense that the letters in each word are in alphabetical order.

Puzzle No 206:

There are five other solutions. 1/1, 8/512, 18/5832, 26/17576, 27/19683

Correct solutions were received from:

Puzzle No 205:

1. Shilpi Jain
2. Graham Lyons
3. JagratiChhalani
4. Rakesh Kumar Sharma

Puzzle No 206:

1. Shilpi Jain
2. Vishvesh Kumar
3. Graham Lyons
4. JagratiChhalani
5. SurbhiNarang
6. Rakesh Kumar Sharma
7. Vishnupriya S.
8. Ambikeshwar Kumar



shilpa_vm@hotmail.com



The art of resting the mind and the power of dismissing from it all care and worry is probably one of the secrets of our great men.

- Captain J. A. Hatfield



SUDOKU

SUDOKU No. 20 for the month of MARCH 2014

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.19 published in the Month of February 2014

SOLUTION

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

SUDOKU GENIUS

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



Dharmender Kumar Shrivastava



Abhishek Patodia



Kashvi Jagnani



Saurabh Kochrekar



Suruchi Bhargava



Vikash Kumar Sharma



Himanshu Bhatia



Ashish Ranjan



Nakul Yadav

ASSOCIATESHIP
 being awarded at 2014 AGFA at
 the hands of
K. S. GOPALAKRISHNAN,
 Vice-President, IAI



Gaurav Batra



Prashansa Jain



Krithika Verma



Kavita Singh



Rahul Khandelwal



Vaibhav Tyagi



Ridhi Paliwal



Neha Aggarwal



Sourav Roy



Ramanuj Bhangdiya



Yogita Rawat



Neha Agarwala



Kruti Patel

SWISS RE
150
YEARS

Your
insight

+

Our
ideas

=

Their
world



At Swiss Re, it's our business to enable risk-taking. Why? Because that's how progress happens. That's how societies become better, safer, and more resilient. And that's why we believe in forging equally resilient partnerships with our clients. Because when we work together, share our ideas, and open our minds to the risks facing both today's communities and future generations, that's when we can identify not just the risks that are out there – but the opportunities too. Not just for you, not just for us, but for everyone. **We're smarter together.**

[swissre.com/ai](https://www.swissre.com/ai)