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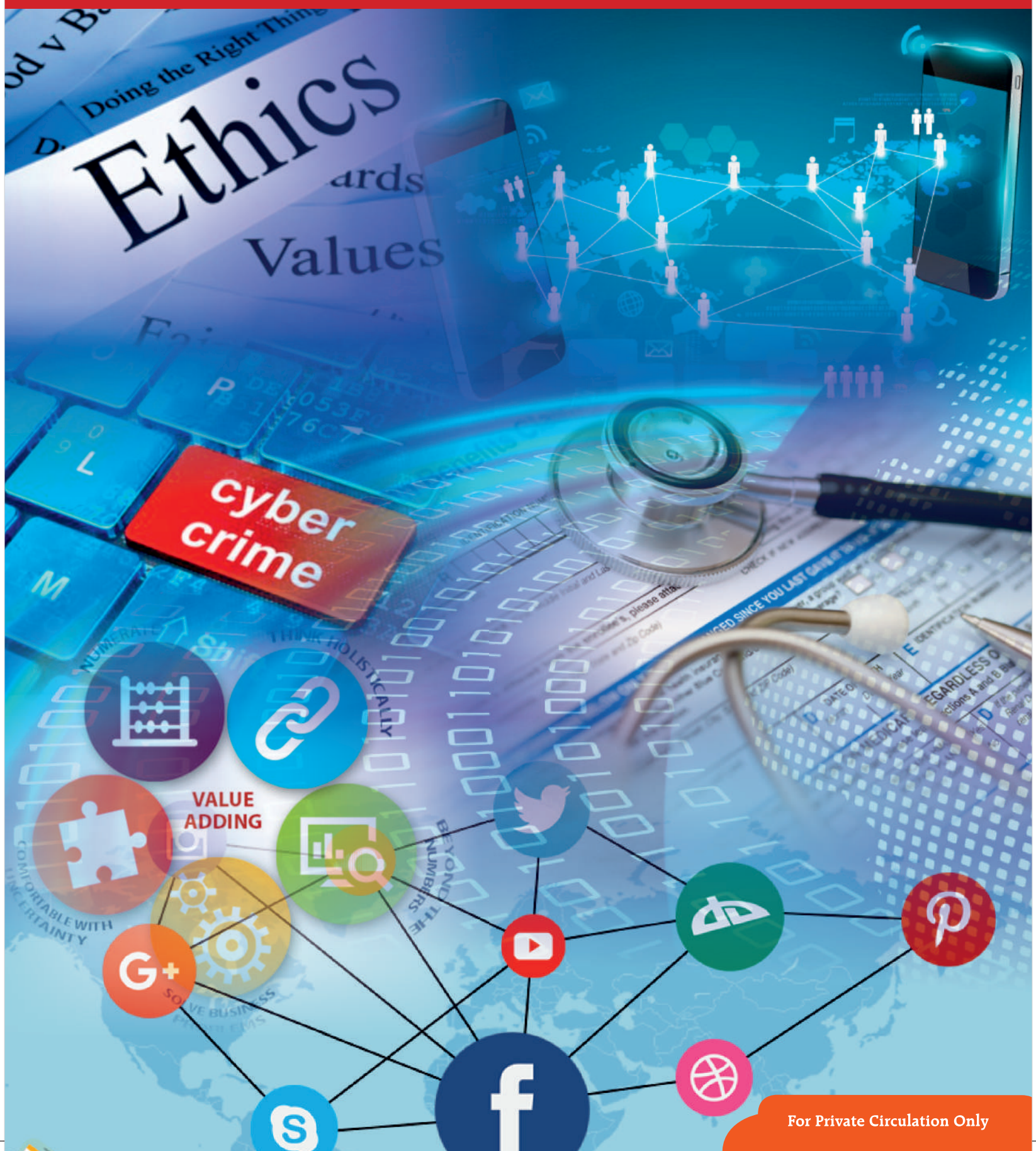
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Serving the Cause of Public Interest

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ANNOUNCEMENT

12th

Seminar on Current Issues in Life Assurance (12th CILA)

Date: 20-21 February, 2017

Venue: Hotel Novotel, Mumbai



Speakers

CEO's, CFO's, Appointed Actuaries, Regulator, Analyst's, Investment Banker's, Interest rate analyst, CRO etc..

Further details to be uploaded soon on IAI website at [http://www.actuariesindia.org/subMenu.aspx?id=391&val=12th_Seminar_on_Current_Issues_in_Life_Assurance_\(CILA\)](http://www.actuariesindia.org/subMenu.aspx?id=391&val=12th_Seminar_on_Current_Issues_in_Life_Assurance_(CILA)).

General Matters

- **Registration Fees for members:** ₹7500/- (+ 15% Service Tax)
- **Registration Fees for Non Members:** ₹9000/- (+ 15% Service Tax)
- **Registration closes on 10th February, 2017**
- **Register Now at:** <http://www.actuariesindia.org.in/seminarRegistration.aspx>
- **CPD Credit for IAI Members:** 12 hours (Technical) (APS 9 – Rev. Ver. 2)
- **Point of Contact for any query:** Quintus Mendonca (quintus@actuariesindia.org)

SEMINAR: STRUCTURE AND TOPICS

The Seminar consists of broad themes where each theme is discussed for about half a day session which consists of a presentation on the topic followed by 2 panel discussions where one focuses on bringing out the issues and the other focusing on the possible solutions.

The 5 sessions are:

- **Session 1 – Falling Interest Rates** - Panel Discussion on the impact on Insurance Industry and what can we learn from other countries followed by Panel Discussion on Investment strategies, product strategies in low interest environment.
- **Session 2 – With-profits management** - Landscape of with-profits in India, Panel discussion on issues related to management of With-profits business, Issues from Policyholder protection perspective, Panel discussion on way forward in terms of management of with-profits
- **Session 3 – Changing strategies in changing external environment** - Overview of the life insurance market in India – changing distribution landscape and operating environment. Panel Discussion on Impact on life insurance industry for implementation of successful business model followed by a Panel discussion on the role that Actuaries can play in formulation of strategies in changing environment.
- **Session 4 – Product Regulations** - Presentation of Survey Results conducted by AGII, Panel discussion on What are we missing in the current products to cover both Shareholder and Policyholder perspectives followed by the way forward and what changes can be brought for creating well balanced product portfolio.
- **Session 5 – IndAS 104** - Presentation on Implementation Issues.

Further, the delegates registering for CILA are also welcome to join us for "Actuarial Awards Evening" to be held in the evening of 20th February, 2017, at the same venue.



10th Seminar on Current Issues in Health Care Insurance (CIHCI)

Date: 15 Feb-17 | Venue: The Club, Mumbai | CPD 6 Hrs

4th Capacity Building Seminar in Health Care Insurance (HCI)

Date: 16 Feb-17 | Venue: The Club, Mumbai | CPD 6 Hrs

4th Capacity Building Seminar in Pension (Pension)

Date: 03 Mar-17 | Venue: The Pllazio Hotel, Gurgaon | CPD 6 Hrs

5th Seminar on Enterprise Risk Management (ERM)

Date: 10 Mar-17 | Venue: Hotel Sea Princes, Mumbai | CPD 6 Hrs



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

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

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From the Desk of

the President

– Mr. Sanjeeb Kumar

Let me welcome you all to the New Year 2017 and wish all successes in your personal and professional life.

Each one makes a resolution for a new year and as President, I too have a resolution to take our profession to new heights leading to the best of global standards. With the new year, we as actuaries will witness new challenges. The world of spontaneous change brings in new risks and uncertainties; which brings in new opportunities to actuaries as well, being the risk managers or risk management advisors. The profession would progress and sustain only when each one of us plays a key role as risk managers in the emerging scenarios. The expansion in the business of risk management globally, we would need more and more actuaries who can bring in innovative thoughts and solutions to the world of risk. Given that the size of fellows in our profession are limited in number, we would need to have more and more qualified actuaries and enhance the skills continuously for our existing professionals. These requirements have been set as our priority for 2017.

There are many students who are close to the fellowship, falling short of only one or two subjects. Couple of months back, a thought came to my mind that why can't we encourage and support them to qualify during this year? If it

happens, the profession will have a quantum jump of qualified actuaries who can take us a long way to the future for meeting our new challenges. We have formed a specialised Working Group comprising of senior actuaries, Mr. Bikash Choudhary, Mr. Kshitij Jain and Mr. Kunj Maheshwari to identify areas where students need help to qualify faster and execute the plan to achieve the above objectives.

We observed that quite a significant proportion of the referred students are working hard to become qualified actuaries as soon as possible but stuck at some of the higher level exams. The data shows that many stuck in CA2, CA3, SA1, SA2 and SA3 exams. An immediate solution to support all these candidates is to arrange coaching and mentoring programs by experts in the respective fields so that they sharpen their skills as to how they could be more effective in their respective exams. Targeting SA2 students, we have organised a four days coaching and guidance program in Mumbai, starting from 30th January 2017. Another two subjects to consider are CA2 and CA3 in Feb and March 2017 where quite a few are stuck. In days to come, we shall extend the same facility to those students in other subjects too who are short of more than one subject to qualify. For any details regarding coaching

classes, contact the Institute office atvinodkumar@actuariesindia.org

As mentioned in the previous column, the Institute has started offering online coaching for all CT level subjects except CT7 with nominal charges to help needy students. The facility of coaching is a unique one amongst all actuarial professions across the globe. More than 325 students have already registered for this facility. I suggest our students to utilise such facilities offered by the Institute effectively and progress in their examinations with greater pace.

We are also in the process of modifying some of the APS and forming new ones in various practice areas. All the advisory groups are working hard to aim to enhance the Institute's professional standard.

On the professional seminars front, the Institute is organising three programs in February – Seminar on CILA (2 day program on 20th and 21st Feb on current issues in Life Insurance), Health & Care Insurance seminar on 15th Feb and Capacity Building Seminar on Health & Care Insurance on 16th Feb. In March, the Institute is conducting one day seminar on Enterprise Risk Management on 10th March. There are many more such programs to follow in the next quarter for our members and senior students for their professional development. ■



From the Desk of

Chief Editor

– Mr. Sunil Sharma

At the outset, let me take the opportunity to wish you and your loved ones a very happy and prosperous year 2017.

India is moving through a critical phase and the whole world is closely watching us. There are number of questions being floating relating to what will be the impact of some of the recent steps taken by the Indian Government on the economy. While all this is being debated, I would like to limit my message to widening the opportunities for actuaries in this changing Indian economy and society.

Currently, there are 24 Life Insurers, 29 General Insurers and 7 reinsurers totaling to 60 companies mainly employing actuaries. Apart from these, actuaries are being employed by Regulator, Consulting Firms and KPOs. These are all traditional areas of opportunities where actuaries are employed. However, there are many other areas where actuaries can add significant value to the business and people.

Apart from the traditional core actuarial areas, some examples of the areas where actuarial resources can be used by the insurers are:

- Risk Management
- Finance and Business Planning other than core actuarial
- In particular managing insurance, health insurance, Gratuity, employee benefits including pension management
- Underwriting

- Marketing
 - Sales
 - Quality and Business Excellence
 - Board of Directors and policyholder's protection committees
- Traditionally older generation of Actuaries have successfully handled roles in some of above areas of Insurers e.g. underwriting, marketing, sales, policy servicing, IT (then Machine Department), etc

I sincerely believe that the businesses and economy is missing the positive contribution that actuaries can potentially make to the lives of people and economy.

Actuaries are mastered in long term projections, risk management and project appraisals. It is really surprising that the actuaries are not employed in government planning, budgeting, social security planning and long term infrastructure projects. I personally urge Government officials / departments to hire actuaries in these areas and take advantage of the skillset available in India to manage and advice on various critical segments of the economy. Given the size of the population and corresponding health sector need of the general population, it is imperative for government to have actuarial teams in the ministry to be part of the planning, targeting and monitoring the experience.

It is important to note that while majority of the Indian actuaries are employed by Insurance companies, consultants and regulator, the actuaries in other parts of the world have been

much more widely employed. Some examples are:

- Investment Management (commercial Banks)
- Investment Banking (advisory and Finance)
- Enterprise Risk Management (insurers, regulators, consultants, Banks and non-Insurance companies)
- Education (Universities and colleges)
- Insurance and Reinsurance Brokers
- And Information technology

Risk management is an area where actuaries can add value in all industries be it financial, manufacturing, FMCG, Service or any other sector.

As an initiative to connect actuarial resources and employees by organizations looking for hiring actuarial resources, IAI has designed an "Employment Portal". Students looking for Jobs can upload updated CV on the Job portal. We at IAI are working with Insurers, reinsurers, actuarial consultants etc. who will be given access to the portal to connect to the candidates directly.

There are many other initiatives in the pipeline which will be shared as we execute them. Eventually, we are making efforts to have opportunities for all members of profession and in this journey look forward to the support from each and every body.

With this message I would like to sign off. ■

26th India Fellowship Seminar



Organized by: Advisory Group on Professionalism, Ethics and Conduct, IAI

Venue: Hotel Sea Princess, Mumbai **Date:** 15th - 16th Dec 2016

Day 1



The seminar began with an address from **Mr. Anil Kumar**, Chairperson of Advisory Group on Professionalism, Ethics and Conduct, who welcomed the attendees of the 26th Indian Fellowship Seminar.

He spoke about the need and importance of professionalism and ethics in actuarial career and wished good luck to the students presenting during the day. He advised them to adhere to the timelines and to ensure that there is enough time for discussions.

He also urged senior actuaries to actively participate in the discussions and provide their inputs wherever needed.

welcomed everyone to the IFS. He highlighted that there is a good blend, in terms of seniority, of actuaries attending the seminar and he hoped that the discussions will be helpful for the young actuaries. He also urged the newly qualified actuaries to proactively contribute towards the profession.

"We have benefitted from the work done by the senior actuaries in the past and it is time to give back to the profession"

Session 1: How to enhance insurance penetration in rural market; opportunity and challenges

Chairperson: Mr. Suresh N Sindhi

Presenters: Ms. Garima Gupta, Ms. Parul Priyam, Mr. Saurabh Agrawal



The group began with discussing about types of rural insurance e.g. people insurance, livestock insurance, agricultural insurance, property insurance etc. They highlighted the poor insurance penetration rate in rural India, presented relevant facts and figures and highlighted main challenges for each type of rural insurance.

The team spoke about various initiatives by government bodies to provide insurance for this sector and highlighted IRDA's regulation for insurance companies' obligation to source business from the rural sector.

They then discussed about the untapped opportunities in the rural market and also highlighted specific challenges to this sector e.g. education levels, preference of expenditure, lack of infrastructure, regional diversity etc.

Finally, they recommended designing simple and flexible products to better match needs of the rural customer. At the same time, improve distribution channels to have proactive agents and

involve local people. They also suggested that insurers need to build their brand and gain trust of their target customers.



Mr. Sanjeeb Kumar, President, IAI,

Session 2: Digitalisation of the Sales and Servicing Process of an Insurance Company – a challenge and opportunity

Chairperson: Ms. Malvika Nath

Presenters: Ms. Harvinder Kaur, Mr. Siddharth Kumar Goel, Mr. Devesh Khatri



The team focussed on the opportunities, challenges and possible solutions of Digital Sales and servicing aspects of insurance business. They discussed in detail how digitalisation can be leveraged in insurance selling process. The team explained that digital mediums can be used for generating new business leads, analysing customer's needs and managing policy issuance aspects like proposal form filling, underwriting etc. the benefits of digitalisation include reduced cost of selling, effective and efficient processes and enhanced customer experience..

The team also highlighted the challenges of digitalisation in selling insurance and suggested possible solutions. For example, one of the challenges is the adoption of new technology by distributors which can be overcome by involving them early in the process of digitalisation.

Opportunities in digital servicing include Premium payments, after sales services like customer grievances handling systems, continuous engagement with customers, claims management and policy administration. The team explained in detail the opportunities available in each of the areas and challenges associated with them.

They also highlighted data security and cyber risks and explained IRDA guidelines and regulations around these areas / issues.

Session 3: Key differences between state pension schemes and occupational pension schemes - Risks, opportunities and challenges.

Chairperson: Mr. Y P Sabarwal

Presenters: Mr. Kailasam Arumugam, Mr. Suranjan Banerjee, Ms. Seema Gupta



The team started with introduction to the Indian pension industry and explained how gradual collapse in the traditional old age support mechanism and skewed coverage of existing pension schemes have created a big gap in the provision of old age security in India. For the existing schemes, they discussed how these systems are inadequate, inflexible and financially unsustainable.

The three pillars of pension provision are:

- **Pillar 1:** State Pensions: Provided by state to citizens; typically means tested
- **Pillar 2:** Occupational Pensions: mandatory savings at employment level; could be Defined Benefit (DB) or Defined Contribution (DC); contribution by employees as well as employers
- **Pillar 3:** Private Pensions: includes voluntary savings vehicle e.g. public provident fund, National Pension scheme for citizens

The team then compared each of the pillars in terms of its

objectives, eligibility, scheme design, funding and risks

They explained the major risks associated with the current pension system ranging from macro-economic risks to investment risks to demographic risks.

Following recommendations were made and discussed by the team:

- Strengthen Pillar I by providing a single means tested pension, inflation linked sponsored by the state
- Carefully review the public and private DB pension liabilities and ensure better governance framework exists to manage key risks
- Consider private placement of some of the risks involved – e.g. longevity
- Provide further incentives for investments geared towards retirement and allow portability between different DC funds (e.g. EPF and NPS)
- Increase coverage for informal sector, particularly self employed

Session 4: The key value drivers of the unit linked business and how to improve it?

Chairperson: Mr. Kailash Mittal

Presenters: Ms. Dhanashree C Ketkar, Ms. Henna Bhatt, Ms. Neha Agarwala



The team started their presentation by defining value, value drivers and key stakeholders for unit linked insurance plans. Value to the policyholders can be measured by IRR and perceived utility value. Shareholder's value can be measured by Return on Embedded Value (EV) which is a ratio of change in opening EV to Opening EV.

The team explained that the value drivers from policyholder's perspective are measured by analysing Flexibility, Transparency, and Investment freedom offered by the product at the same customer service by the insurer.

The return on Operating Embedded value for the shareholder can be measured by measuring Value of New Business and analysing expense, persistency and product structure.

The team then discussed various ways to improve the value. One of the recommendations to improve value to policyholder is to incentivise him to stay invested by offering loyalty additions, reduction in fund management charges and reduction in yield as term progresses.

Similarly, for shareholders, one of the recommendations for improving value is by managing expenses efficiently and increasing policy base by improving persistency.

Session 5: Risk Based Capital - concept, requirement, challenges and impact on product pricing and valuations?

Chairperson: Mr. Souvik Jash

Presenters: Ms. Shristy Agarwal, Mr. Anurag Goyal, Mr. Nitin Kalra



The team started their presentation by defining Risk Based Capital (RBC) and explaining why it is required and described its framework.

The team then described the considerations and key challenges for implementing RBC in India. Some of the considerations are

- Standard approach to every risk
- Capital calculation not to be performed in isolation
- Consistency in asset and liability valuation
- Adapt international principles and practice

While some of the challenges listed were

- Lack of expertise
- Lack of sufficient data
- Lack of risk free curve
- Difficulty in setting the assumptions
- Difficulty in defining the capital threshold levels

The team proposed a framework for moving into the RBC regime and discussed the opportunities that insurers can leverage for the implementation.

RBC's impact on product pricing, valuation of assets and liabilities and capital requirements were also explained by the team.

Finally, they summarised their presentation by describing the opportunities that RBC can bring to

the insurance industry and possible next steps for its implementation

Session 6: Product innovation and Anti selection in health business, adequate pricing and risk control.

Chairperson: Mr. Mayur Ankolekar

Presenters: Mr. Dewi Edryd James, Mr. Gokul Chandrasekaran, Ms. Bhawta K Sharma, Mr. Siddharth Mehra



The team started with giving an overview of the Indian health and care insurance industry. Only 3% of the total health care cost is spent on insurance while a large part (80%) is spent out-of-pocket. The health insurance market is growing at 25%-30% per annum and is one of the fastest growing segment of non-life insurance industry.

The team then explained the technical challenges in the current rating framework and how asymmetry of information between the insured and the insurer leads to selection against the insurer.

The team defined the basics of Anti-selection and moral hazard and explained various ways to identify anti-selection in a health insurance portfolio and assessed its effects on the overall business.

The discussion then moved on to the importance of data (including source, quality and completeness) in pricing of health insurance. The team also discussed different pricing methods, pricing considerations, regulatory

framework and social context for health insurance products.

Then the topic of innovation was discussed from the need of innovation in health insurance to innovative product ideas and the challenges of innovations were discussed.

Finally, the team spoke about risk control and how important it is to have enterprise-wide risk control approach to address issues arising out of anti-selection, pricing and product innovation. The importance of an effective actuarial control cycle in controlling risks was broadly discussed.

Session 7: Where is the interest rate heading and how to manage the interest rate guarantees?

Chairperson: Mr. Sachin Saxena

Presenters: Mr. Navin Ghorawat, Mr. Rakesh Kumar



The team started their presentation by discussing historic interest ranges and showed a graph of historical 10 year G-Sec yield and how it compared against the developed economies like the USA, the UK and Japan.

They provided a best-estimate of future interest rate (4.5% - 5.5%) and explained the rationale in terms of factors e.g. geopolitical reasons, macro-economic policies, target inflation, stable currency, Fiscal deficit etc. The issue of the recent demonetization and its impact on interest rates was also separately discussed.

The team then discussed the impact of interest rate guarantees on various product types i.e. participating, non-participating, annuities and others.

Further, they listed various reasons and strategies for managing interest rate guarantees.

They recommended possible actions, implications and challenges in managing the interest rate guarantee. Some of the possible actions include:

- Revise the premium for without profit products
- Revise the immediate annuity rates on continuous basis
- Matching assets and liabilities etc.

Applicable regulations and professional guidance regarding management of the interest rate guarantee was listed and discussed by the team.

A case study of Japanese life insurance industry and impact of sudden

decrease in interest rates combined with heavy sales of insurance products with high guarantees was presented. This led to 8 out of 27 Japanese life insurance companies defaulting from 1997 to 2008 due to "Negative Yield Spread".

The corrective actions taken by the industry were to:

- Stop selling high-yield saving products
- Reduce guarantee interest rate and commission of saving products
- Increase the policy reserves
- Purchase the longer term bonds to improve yields and reduce duration gap

- Use of interest rate swaps to hedge the interest rate guarantee under annuity portfolio

Session 8: Product line Profitability, claims volatility, peak risks, sustainable product mix and risk management – Discussion

Chairperson: Mr. Jatin Arora

Presenters: Ms. Daniela Fumarola Collis, Ms. Vartika Gupta, Mr. Sateesh Narasimha Bhat



The team began with describing the meaning and importance of product line profitability. It is a diagnostic tool that helps in determining the "true" profitability of each product. It provides an early warning signal that a product or a product is at risk. It is important from the point of view of adequacy of pricing, capital allocation, reinsurance and management decisions.

The team also explained the quantitative as well as qualitative determination of product line profitability and practical challenges around the estimation.

Then they defined claims volatility which is driven by changes in frequency and severity trends that impacts the ultimate cost of claims. Unanticipated increase in frequency and severity of claims can adversely impact the profitability and financial condition of insurance companies by increasing the claims ratio and reducing or eroding profit margins.

They explained how some lines of business are more subject to exceptional large losses i.e. peak risks or catastrophe risks and key drivers

of claims volatility. The role of an actuary in identifying, measuring and managing peak risks and applicable actuarial practice standards were also discussed.

The team then presented on the various features of sustainable products and explained the correlation between products and impact on sustainability. Also, they discussed about how products can be sustainable in the age of rapid innovation and 'disruption'.

Finally, professional guidance and an actuary's duties and responsibilities regarding sustainability were discussed.

Session 9: Emerging need to insure lifestyle diseases - the pricing challenges and solutions

Chairperson: Mr. Srinivasan Nagasubramanian

Presenters: Ms. Ridhi Paliwal, Mr. Shantanu Gaur, Mr. Ankit Arora, Ms. Nancy Gupta

The team then gave facts and figures on the prevalence of lifestyle diseases in India as well as globally. The adverse effect of these diseases on health, household and economy were deliberated to derive the need to insure against these diseases.

The existing health insurance products mainly offer indemnity benefits for in-patient hospitalisation, fixed benefits for critical illnesses, hospital and major surgeries.

The main challenges, as listed by the team, in pricing insurance products for persons with lifestyle diseases are:

- Availability of Data
- Medical Underwriting
- Uncertain Claim Exposure
- Anti-selection, Selective Lapses and Moral Hazard
- Competitive Pressures

The team then deliberated each of the challenges and offered an appropriate range of solutions. They finished their



Mr. Sridharan spoke at length about professionalism and work ethics. He shared real life incidents to explain his points around what makes a good professional. The subtle humour in his narration made it a pleasant experience for the audience.

Day 2



The second day of the seminar began with a joint address by **Ms. Anuradha Lal and Mr. Anil Singh**. They provided an overview of the day's proceedings and a brief of the videos that were to be discussed during the day.

Ms. Lal explained that the videos focus on work ethics and professionalism. The videos provide a situation that gives rise to questions that we may face in our day-to-day work place. Our response to these situations is crucial from the perspective of professionalism and ethics.

The participants were divided into 5 groups and questions were asked by the moderators to each member of the group to ensure equal participation from all the groups.

The first video was titled as "lost in transmission". The video illustrated a situation where a detailed piece of work done, regarding capital required for launching a new product, by a young actuary gets lost in transmission starting from his manager till it reached the board members who were to take a decision. Crucial information got lost in transmission and the board members had very little information (not the full



The team began with defining lifestyle disease and listed some of the major examples like diabetes, hypertension, obesity, chronic obstructive pulmonary diseases etc. The causes of lifestyle diseases can be categorised into controllable (e.g. unhealthy diet, sedentary lifestyle, lack of exercise) and non-controllable (hereditary, ethnicity, age, gender etc.) factors.

presentation by giving a brief overview of the regulatory framework for health insurance in India.

The day was brought to an end with a pre-dinner address by **Shri. V. Sridharan**, Senior Advocate. His areas of practice include indirect taxes such as Customs, Excise and Service tax; Sales tax and Value Added Tax (VAT); International Trade laws.

picture) to take a decision. The product got launched and created a massive capital requirement threatening the solvency of the company. The company also received a letter from the regulator regarding the capital and solvency position which created a major problem for the executives.

The video highlighted the importance of professional conduct and delivery of appropriate (true) information even when there are time constraints. It also highlighted actuary's responsibility towards maintaining a balance between giving too much or too little information to the decision makers.

The second video depicted a situation where a junior employee takes a business decision, which he was not authorised to, in the absence of his boss in order to meet a business deadline that won big revenue for the company. He verbally discussed the matter with his colleague, an actuary, who didn't look seemingly agreeable to him taking the decision but didn't suggest an alternative either. The video highlighted the importance of advice given to a fellow colleague or professional. It also highlighted the importance of strict adherence to the rules and procedures laid down by management.

Post the lunch break, the final video portrayed a situation where an actuary

heading the capital modelling unit is invited by his CFO who congratulates him for getting the internal model approved from the regulator. The CFO thinks that given the approval of the model, the cost burden will now reduce as they need fewer resources. The actuary, on the other hand, says that he needs the same amount of resources as there are many other things to be done post the approval. The CFO is not agreeable to the expenditure. It appeared that the CFO wasn't expecting any changes in the model and requirement of additional resources post the model approval. The video illustrated the importance of communication in order to ensure that all stakeholders are on the same page.



To bring the session to an end **Mr. Sanjeeb Kumar** presented the IAI disciplinary process. He provided detailed information about the Actuaries Act, 2006, and discussed the relevant sections and procedure of disciplinary process regarding complaint of professional misconduct against any fellow actuary.

The seminar was brought to end by a vote of thanks by **Mr. Anil Kumar**, who thanked the participants and the organisers for a meaningful seminar.

About the author

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 Munich Re India Services.



OBITUARY

Mr. Prem Chand Gupta left for heavenly abode on 13th January 2017 at the age of 74. He had qualified as a Fellow of the Institute of Actuaries, London in year 1970 at the age of 28 years. He had joined LIC of India in year 1962 as an Assistant and rose to the position of Executive Director in 1995. He held various important positions during his tenure with LIC of India. In year 2000 vacancies for the position of Chairman/MD fell vacant & he was one of the senior Executive Director eligible for that position. However he sought voluntary retirement in year 2000. Mr. Gupta had also served as a Vice-President of Actuarial Society of India for the period 2001- 2002.

Post retirement, he was consultant to HDFC Standard Life, Appointed Actuary to Oriental Insurance Company & Universal Sompo General Insurance Company. He was also practicing in the field of employee Benefit valuations.

He was very talented, energetic and helpful person. He is survived by his wife Mrs Savitri Gupta and four talented daughters – three are doctors and one is IT professional.



(10.05.1942 to 13.01.2017)

- Mr. K K Wadhwa



Advisory Group On Professionalism, Ethics & Conduct

(As constituted and effective from 04th October, 2016. Updated on 14th October, 2016.)

Chairperson



Anil Kumar Singh

Secretary



Anuradha Lal

Members

- Heerak Basu
- Varun Gupta
- Kunj Behari Maheshwari

Functions.

- Inculcate high level of Professionalism amongst members through delivery mechanism that is effective.
- Develop robust code of conduct, Actuarial Practice Standards and its compliance mechanism.
- Encourage, motivate and incentivise compliance with code of conduct and Actuarial Practice Standards.
- Advise on implementation of Disciplinary provisions within the framework of Actuaries Act 2006, that is just, fair and meets the ends of justice within the requirements of principles of public interest.
- Run Professionalism courses that meet the requirements of the profession on its members to be ethically compliant at all times.

Advisory Group on Examination

(Re-constituted with effect from 18th October, 2016. Updated on 16th November, 2016.)

Chairperson



Subhendu Bal

Secretary



Ranabir Ghosh

Members

- Peuli Das
- Parmod Kumar Arora
- Souvik Jash
- Sapna Malhotra
- Suresh Sindhi
- Ajai Kumar Tripathi

Functions.

- Review examination infrastructure and ensure high level of integrity.
- Explore broad basing, for example CT9 and CA2 examinations, using external alliances and technology, if necessary.
- Out of the box thinking on pool of examiners, creating staff actuary system and oversight of examinations delivery.
- Ensure question papers and marking, are of high standards within the laid down framework of the Education Policy.
- Conduct periodic meets of paper setters, examiners and markers with a view to ensuring that all stakeholders are on the same page with respect to what is expected of them.
- To liaise and work along with UK Actuarial Profession as for as examination governance is concerned.
- Conduction of enquiry into cases related to copying or any other form of malpractice, during or in connection with the examination.
- To work in sync with Task Force on Education Strategy.

Advisory Group on General Insurance

(Re-constituted with effect from 17th November, 2016. Updated on 18th November, 2016.)

Chairperson



Mehul Shah

Secretary



Hiten Kothari

Members

- Adarsh Agarwal
- Anurag Rastogi
- Banashree Satpathy
- K K Wadhwa
- Priscilla Sinha
- Sharad Ramanarayanan
- Sulochana Enjeti
- Vikas Garg

Functions.

- To be responsible for addressing issues in respect of general insurance that are referred to it or the Group considers appropriate to address and advise the Council for appropriate action.
- To be responsible for putting in place and reviewing Actuarial Practice standards (Guidance Notes) that are required for members of the institute who work in general insurance including Appointed Actuaries.
- To design and carry out Continuing Professional Development Programs including seminars and workshops for enhancement of skills of members of the profession in general insurance.
- To be in know of and advise the institute on emerging professional issues affecting general insurance industry within and outside India.
- To be in know of and advise the institute on emerging business and industry issues affecting general insurance industry within and outside India.
- To advise the Council on any regulatory or market issues that potentially may affect the status of the profession.

Advisory Group on Sustainable Development and Microinsurance

(As constituted and effective from 29th November, 2016, Updated on 29th November, 2016.)

Chairperson



Bharat
Venkataramani

Secretary



Mayur
Ankolekar

Members

- Kamlesh Gupta
- Himanshu Garg
- Malvika Nath
- Prasun Sarkar
- A. V. Karthikeyan

Functions.

- To be responsible for addressing issues in respect of Sustainable Development and Microinsurance (SDMI) that are referred to it or the Group considers appropriate to address and advise the President/Council for appropriate action.
- To contribute to knowledge and evidence in the matters of issues around sustainable development e.g., social insurance, climate change adaptation, public policy etc.
- To contribute to knowledge and evidence in the matters of issues around Micro insurance e.g., low ticket insurance, agricultural insurance etc.
- To design and carry out Continuing Professional Development Programs including seminars and workshops for enhancement of skills of members of the profession in SDMI.
- To be in know of and advise the Institute on emerging professional issues affecting SDMI industry within and outside India.
- To be in know of and advise the Institute on emerging business and industry issues affecting SDMI within and outside India.
- To advise the Institute on any regulatory or market issues that potentially may affect the status of the profession.

Control Cycle



We already stepped into the path of the new year 2017. Again a very happy new year to you all.

I am sure the students will take active interest to become actuaries utilizing the opportunities provided by the IAI—good efforts taken by the President.

Let us think of control cycle relevant to all of us.

Define Problem

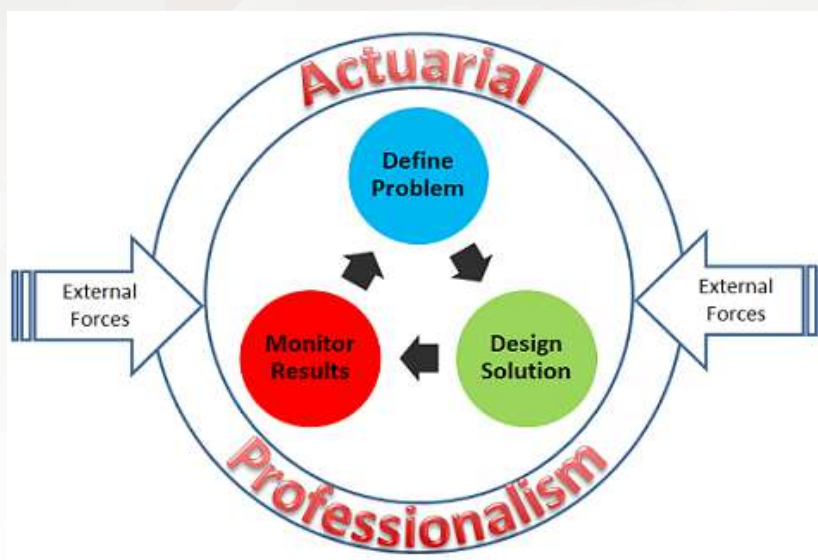
Write down your problem. Examine the inputs (infrastructure—material, guide, books, rules, time and money) that are required. Identify what you do not have. Easy? Concentrate on what you do not have and find out how and where such resources will be available. For instance, your problem is to pass an actuarial exam or complete a new valuation job.

Design the Solution

For those who wish pass an actuarial exam:

Solution will be:

- Practice Exams
- Practice Problems
- Memorization –capable of retrieving answers/points.
- Study Theory This gets translated into:
- Do more than one chapter of theory and practice questions in one day
- Do more than one practice exam in one week
- Record what you memorized. [different people will have different rules on memorizing].



For those who wish to complete a new valuation job:

- Study practice standards, regulations, rules, Acts—note down points.
- Study Client's requirements –to decide assumptions.
- Draft a report and get reviewed with a senior for your satisfaction.

Monitor the Results

For those who wish pass an actuarial exam [or for any other thing]

Monitor your performance. If necessary, take help of a friend or guide of yours who can give comments/suggestions/opinions.

If you are not satisfied, set a schedule to update your inputs.

External forces in this control cycle distract you. These will be, busy periods at work, family obligations. Revise your solutions accordingly.

There is no substitute for hard study, and also discipline.

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Fellow Member

Institute of Actuaries of India





Actuaries: A Key Interface between Cyber Security and Cyber Insurance



In last 6-8 weeks, few news items caught our attention. First, Outgoing Swiss Re chief Michel Liès cautioned on cyber warfare costs - “There is definitely a caution in the sense that we are far away from knowing exactly all the details of what may happen on the cyber front. Cyber-attacks could hit several organizations at once, adding to the costs. I don’t believe that the industry has yet a perfect understanding of the accumulation potential of cyber risks.”

Second, recent analysis of approx. 400 P&C reinsurance contracts underwritten at Lloyd’s of London by three reinsurers has proven that there could be potentially significant vulnerabilities and exposures if a catastrophic cyber-attack was to occur. The survey further found that at least 40 percent did not contain standard cyber exclusion in the wording, where one of the reinsurers examined was not referring to cyber terms at all in 68 percent of cases. The study concluded that in the event of a catastrophic cyber-attack, reinsurers could find themselves open to the full limits on their policies.

Third, UK cell phone network Three Mobile admitted that hackers accessed its customer upgrade database, receiving about two thirds of the company's 9 million customers' names, addresses, telephone numbers and dates of birth (but not financial data). Recently, cyber incidents have also affected TalkTalk and Tesco Bank. “Interestingly these are being reported by UK companies more often now than before,”-observed head of the Cyber at JLT.

Fourth, despite increasing risk at least 4 major companies (Aon, Markel International, WR Berkley and HDI Global) entered this line of business in Europe which is getting ready to embrace upcoming EU GDPR (European Union’s General Data Protection Regulation)

Insights like these, encouraged us to explore Cyber Risk Insurance and invite you all to think, formulate and implement right actions to safeguard Insurers & Reinsurers. In this article, we intend to talk very briefly about the product, market, risks and majorly focus on why we actuaries need to act as an interface between cyber security and insurance and what we can do?

Understanding Cyber Risk Insurance



Product - Cyber insurance covers ‘network user risks’. It protects Insureds (could be Individuals or businesses) from risks relating to usage of information technology by providing (a) first-party coverage against losses such as data destruction, extortion, theft, hacking, denial of service attacks, intrusions of various kinds, eavesdropping, hacking, phishing, worms, viruses, spams, etc.;(b) liability coverage indemnifying companies for losses to others caused, for example, by errors and omissions, failure to safeguard data, or defamation; and (c) other benefits including regular security-audit, post-incident public relations and investigative expenses, and criminal reward funds.

Risks of this nature are typically excluded from or not specifically defined in traditional commercial general liability policies. Cyber insurance is usually structured as a variant of business continuity products (known as Business Interruption) designed to provide cash (i.e. softening the financial impact) to make up for shortfalls in revenue, additional costs of dealing with the incident and possibly customer liabilities (e.g. paying for credit monitoring) incurred due to loss events. Insurers typically also have a panel of incident response providers which can be hugely helpful for smaller businesses.

Given that the cover is about business survival, cyber insurance is generally sold on the basis of business size with less emphasis on individual data sets.

Market Place - The products have been around longer than one can imagine (was there before and during the Y2K threat!), but started getting more attention and media coverage recently, the business being worth approx. \$2bn (90% accounting for US) in premium worldwide in 2014-15. Although at least 50 insurance companies have cyber-insurance product offerings, the actual writing is concentrated within a group of five-seven underwriters. Inadequate disclosure regarding cyber-attacks by affected parties coupled with lack of good actuarial data for the cyber exposure, has made the insurance companies hesitant to enter the market hampering the development of this line of business, still future is promising. As of today, fewer than 10% of companies are thought to purchase cyber insurance, one estimate by Allianz CGS suggests that the cyber market is growing by double-digit figures year-on-year, and could reach \$20bn or more in the next 10 years.



Another survey by PWC infers that the cyber insurance market will triple in size to \$7.5 billion in annual premiums by 2020 but, the high cost of coverage and restrictive conditions on policies may restrict growth. The same study said that there was an average of 200,000 global cyber security incidents a day in 2014. Consequently, businesses across all sectors have started to recognize the importance of cyber insurance, with 61% of corporate leaders now seeing cyber-attacks as a threat to the growth of their business! Thus, these estimates seem dependable.

Understanding risks and liabilities associated with the current and emerging information technologies

Cyber risks and liabilities can be divided into five main groups.

1. **Security and privacy.** Risks are further broken down into breaches and privacy practices.

- a. Breaches involve risk of losing organization's data on its customers or patients. Example, Computer hacking of Anthem, Inc. (one of the largest US health insurer) where data on as many as 80 million customers and employees may have been exposed.
- b. Breaches also involves risk of proprietary business data being made public. The recent hack at a Panamanian law firm (more famously known as Panama Papers case) is an illustration of what can happen when proprietary business information leaks to public galore.



- c. It also includes exposure due to change in prevalent 'Privacy practices' or Personal data whose definition has expanded to include information such as passwords, login IDs and IP addresses. Initially, coverages were sought to protect client data from hackers and malware. Now, coverages are expanding and becoming specialized to handle many other types of emerging privacy violations (e.g. losses due to loss of un-shredded

medical records of Insureds, data loss from an unlocked laptop/desktop, Misleading privacy statement clauses, Improper data-collection practices).

Consequences of these breaches includes (a) Obligation to notify customers/affected people (b) To Inform a regulatory body (c) End up providing mitigation services such as credit monitoring for affected people to reduce the impact of the breach (d) Paying fines (e) Perform crisis management (f) Hiring forensic computer and data firms (g) Being subjected to investigations by regulators (h) Third Party Liability (i) Cost either in actual fees or in time spent away from primary functions.

2. **Business interruption risk.**

Almost all industry/businesses rely on IT to manage transactions, supplier relationships, controlling manufacturing environments etc. thus, very much exposed to cyber risks. Businesses conducting e-commerce are more vulnerable to network attacks. All these run a risk of shut down even if one of its vendors or members of its supply chain suffers a hack. A related peril is 'ransomware attacks', where malware encrypts the victim's software and data and the attacker demands a ransom to decrypt it. Even if ransom is paid to get the encryption key, ensuring that other malware is not there in the network (during the same attack) or any other part is not changed/compromised, adds to business interruption costs

3. **Cyber kinetic attacks.** Attacks carried out to cause damages to tangible property and or bodily injury to humans, rather than use it to gain information or reveal data. It's a kind of industrial warfare often used by nation states, terror groups and others to damage the critical

infrastructure and manufacturing capabilities of target companies or nations. Stuxnet worm that infected the process control systems in Iran's nuclear program is an example. It's believed that the worm caused the systems to speed up the centrifuges beyond their tolerances, causing them to break down at one Iranian nuclear facility.



4. Media coverage risk. Today's companies interact with consumers through many channels and almost instantly. Earlier corporate communications were subjected to editorial review process to ensure it wasn't defamatory or bad for the company's image. Now, employees must self-edit these spontaneous communiqués on all kinds of topics through all kinds of media, including social media.

5. Risk of intellectual property rights infringements.

Organizations must safeguard against infringement of intellectual property rights both ways - someone prying on your IPs or you overstepping on someone else's copyrights unknowingly. Copyright infringement is much easier to commit than ever before at the same time it's also much easier to detect.

Few years back, large organizations were considered more at risk. With the realization that most of these major companies are dependent on their smaller partners and vendors for outsourced services, now smaller companies are equally exposed to cyber risks.

What an Actuary can do in Cyber Insurance space?

A systems analyst, An Underwriter and a keen student of management and business – An actuary needs to don these three hats to unearth complex and evolving interaction between cyber security and insurance and therefore to become a leading thinker and practitioner in the field of data privacy and digital business liability. A cyber/digital/technology risk Actuary should look at technology from two angles:

1. Applying insurance knowledge to digital business development

– Due to the benefits offered by advanced digital communications technologies, Insurers/Reinsurers are adopting them without fully understanding the associated risks. Cyber Insurance Actuary should explore how to manage and mitigate these risks, besides using cyber insurance to address gaps in coverage that conventional insurance products leave exposed.

2. Applying digital business knowledge to insurance products and risk management practices -

To examine advanced information and communications technologies that Actuaries can integrate into Insurer's own business to improve internal operations and customer service in the ambit of ERM and to reduce lapses/withdrawal respectively.



As an Actuary, we can help (1) an Insured (could be an Individuals or a small or medium or large-sized company) to have the right kind of insurance and the proper coverage (2) an Insurer in having right insurance contracts to reflect the exact intent

of the policy i.e. correct exposure, inclusions and exclusions (3) Identify the emerging risk and provisioning for it (4) Achieve fair pricing without being uncompetitive and prohibitively expensive.

Insurance professionals (and in recent times, actuaries too!) are also helping clients in lining up best resources to respond to a cyber breach quickly, vetting any forensic computer and data firm to ensure that the insured gets the services of a knowledgeable company at a fair price in order to reduce Insurer's exposure to loss if and when a cyber breach occurs.

Below, for this qualitative business (where estimation is still more dependent on actuary's experience and gut feeling rather than sparsely populated triangles) we enlist few attributes or behavioral factors of professionals and businesses alike, to help an actuary succeed in this role.

While deciding and advising on right policy/coverage following information should be sought:

- Industry classification of customers and customer structure (including number and quality of customers, Sales volume per customer, Growth rate, Customers with option/possibility to switch to alternative providers Longevity of customer and contractual relationships), Split of B2B (intermediate business) activities and B2C (End Customer) activities
- If the 'Back up' services available? the offered IT solution can cause bodily injury? and definition of liability provisions and contractual sanctions in SLA (Service level Agreement)
- If providers are involved, Sales volume of the provider, Number of employees of the provider, Certification of employees/organization by manufacturers or for specific products, Provider offers a Central Contact Point or Service Desk or fragmented

In order to charge competitive and fair premium as per the coverage offered, a cyber business actuary may consider to reward existence of following security practices:

- (a) Role of a Risk Officer or Security Officer
- (b) Risk management practice in the organization along with continual improvement process (PDCA Cycle)
- (c) Security Policies for employees and Security Manual
- (d) Business Continuity concept and contingency and emergency plans



- (e) Proper IT Risk Reporting
- (f) Confidential information handling policy
- (g) IT Infrastructure documentation
- (h) Password policy
- (i) IT Governance Function
- (j) Physical control and registration of visitors
- (k) Protection Requirement Analysis and periodic audits
- (l) Investment in employee's training on Risk management
- (m) IT security budget
- (n) Policies and Guidelines for and control of external service providers
- (o) International standard IT Service management approach and best practices orientation
- (p) Employees training program for improving risk management process
- (q) Requirement of Acceptance Testing prior to release of new technologies or product versions

- (r) Policies and Guidelines for and control of external service providers
- (s) Employee background check policies
- (t) Quality Management System(s) and Information Security Certification(s)
- (u) Performance metric for the effectiveness of IT processes
- (v) IT management report to Board
- (w) Maintenance, quality assurance and confidentiality of loss database and other information

For more effective 'risk identification, provisioning and pricing', splitting the overall coverage into first party and third party coverage, will facilitate more granular and apt analysis.

For first party exposures, following indicators need to be analysed:

- Age of organization, Industrial sector, Qualification of workforce, Labour turn over, number of IT personnel per overall employees, if separate IT budget available, Centralized IT infrastructure, too many clients and high sales volume/customers
- Industry classification of customers and Customer structure (includes, number, quality and longevity of customers, options and possibility to switch, Sales volume per customer, longevity of contractual relationships etc.)
- How critically the business processes are dependent on IT (Low/high failure tolerance with regard to IT) and high demands on the availability of data systems in the organization which creates a high risk environment.
- Online execution of business processes and/or, processing sensitive data with high confidentiality requirements
- Protecting valuable information (e.g. knowhow of the process, patents),

- Link-ups of external partners to the enterprise IT or outsourcing, geographical distance between day – to day business and IT production and environmental and physical location limitation of data centers are some potential security threats
- High level of automation in the production of goods and services,
- Data recoverability in data loss scenarios and just-in-time supply/delivery relationships with partners, extent of the usage of mobile devices and private internet by employees in an organization should be reviewed periodically.

To evaluate the impact on third parties (e.g. its client and/or customers), considerations change a bit compared to first party, such as:



- Role of outsourcing provider in controlling and coordinating outsourced customer processes/ proportion of internal activities in offered services
- Extent of third party's access to organization's central systems and customer information
- High proportion of employees are involved in further development, innovation or quality of patch management, remote maintenance of system installed at customer sites.
- Quality and standardization of project management, High Service level requirements with clarity and detailing, traceability of provider actions and interventions at customer's sites, extensive test procedures during development and deployment, adoption of standardized methods/practices

and version management in software engineering and availability of qualified workforce at the provider should be given due weightage.

- Third party claim also depends on definition of liability provisions and contractual sanctions in Service Level Agreements.
- If a Central Contact Point or Service Desk is offered? Whether back up services and maintaining long term contractual relationship with customer exists?
- Certification or Training concepts and courses for customers

Current Challenges to a Cyber Insurance Actuary



Unfortunately, cyber risks are somewhat challenging to cover because insurers need to take care of followings:

- **Risk selection and pricing** - This depends on how well one understands the prospective claims volume and sizes. It becomes more difficult if the pool of policies written in past is small and the risk levels and characteristics change rapidly, leaving them less comparable or sometimes non-comparable altogether. This is certainly the case here. At present, Insurers are writing relatively small volumes of business while they are building experience. Parenthetically, for relatively complex commercial insurance the pricing and risk selection is mostly done manually, unlike private auto insurance where rating is done on specific measurable factors. In many cases, commercial insurance is more about gut feel of a risk and information/narrative around

it. And still, there is a paucity of good underwriting skills or broker responsible for advising the end client on product/coverage selection.

- **Claims inflation and fraud** – Being the main cost to any Insurer, 'Claim Cost' has remain always a key focus area. With increasing breach disclosures, rise in civil cases and regulatory fines, average claim cost has remained fast moving target making harder for insurers to understand what the likely liabilities will be in the medium term. Saying that, these things move slowly enough to allow an effective estimation of claim inflation within the average policy life.
- **Aggregation and systemic risk** – Accumulation or aggregation of risk is an active and substantively worrying possibility in cyber insurance as, big events could become truly global and may cut across all divisions of organization very fast. As an insurer that's candidly petrifying, as they can't be sure if they've spread their risks against catastrophes and/or if they wrote a lot of policies and if one bad event could push them out of business. An insurer would normally buy re-insurance against very large/massive individual or aggregated losses. Due to the fear of these reinsurances getting insufficient, there are serious suggestions that the industry will need a government backed reinsurance program for Industry wide pool e.g. 'Pool Re' covering terrorist events.
- **Moral Hazard** – We must ensure the customer are still incentivized to manage their own risks rather than buying cover and letting the insurer pick up the tab. Most of the commercial policies quite

often come with requirements for improvements (e.g., a typical manufacturer might be required to upgrade their fire suppression or do extra health and safety training courses). Such conditions contributes to reduce moral hazard. Similar conditions may be put in case of cyber Insurance. In some cases, cyber Insurance can encourage or facilitate loss control measures. For example, if board of any company approves to buy a cyber policy, it could become the driver for some other key security projects which was previously found it to be hard to persuade for.

- **Missing Actuarial Loss data** - General lack of statistical data about information security incidents are forcing Insurers to put a range of exclusions in cyber policies. This is a hindrance for wider market adoption of cyber Insurance as an instrument for risk transfer.

Future of cyber security and casualty insurance



Threat landscape is continuously changing, in fact, in many cases increasing! In the past, consequences of malware activity, privacy breach or a shutdown of software were contained to economic losses not leading to bodily injury or property damage. In future, a cyber security breach can be more complex with far-reaching effects. For example, it could make an industrial equipment run faster than threshold, stop a furnace from shutting down, or can take control of driverless vehicle or robot. The optimism lies in the fact

that most breaches aren't caused by sophisticated attacks, rather, often because of trifling human errors e.g. not changing default passwords or clicking on a link in an email message with hidden malware or not updating security patches or not shredding confidential files. Thus, most cyber breaches are preventable. Obviously fool proofing human errors not possible and that's exactly where P&C Insurers can bring in value proposition through more guarded, innovative and cost effective cyber Insurance products.

Though, today cyber cover can be bought in the market easily— the overall market is still very young and the amount of capacity available is relatively small. Insurers are exploring the ways to grow their ability to offer it. Clearly, there is a desire for a greater understanding of how cyber risks could and should be managed.

In an emerging Cyber Insurance market, the insurance companies are striving to improve the quality of premium-rating models and quality as well as quantity of actuarial data. In the long run these premium-rating models should converge with the actual security risks, because competition sets an upper and profitability a lower bound to the premiums.

Uncertainty over the economic costs of cyber warfare may require policies to be reworded or exclusions-inclusions to be defined again. Besides, current dominance of behavioral factors or attributes for this class of business

needs to be supplemented/replaced by data driven strategies someday, to reduce the in-built margins.

All these combined, present a huge challenge aka great opportunity for all of us to contribute!

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**MR. SRINIVASAN
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MR. N K PARIKH

**MR. RAJENDRA
PRASAD SHARMA**



Impact of Social Media on the Insurance Industry

FEATURES

Social networking has become very popular today. Maintaining a presence on social media has become essential today and insurance business is no exception to this.

Business enterprises have to maintain touch points through active collaboration with B2B, B2C and B2E contact points. The transactional model is now shifting to an engagement model. The insurance industry has always given lot of stress to strong networking and trusted relationships.

Insurance was always a social business but now it is getting more mileage due to the advent of social media networks. With insurance penetration, still not up to the mark in India, insurers should use social networks to increase demand and retain customers.

Need to Get Close to Customers

Retail and hospitality sectors were the first to realise that getting close to the customer was important. Now, insurance sector has also joined the bandwagon. Linked In, YouTube, Twitter and Facebook are being used by insurance companies to supplement their traditional marketing campaigns.

Customer contacts on social media can generate a wealth of information. Even a negative feedback can provide crucial insights. Customers can give ideas about new product innovational and point out modifications that are required in the service processes.

Underwriting and claims settlement can benefit from customers insights so that service offerings can be improved. The need for customer management has driven the need for internal collaboration within the organization.

Today, insurers do not have the option of whether to be active in social media. Word-of-mouth publicity is the best in terms of promotion-however in case of social media networks, testimonials and feedback on social channels is proving to be even more significant.

Insurers like Progressive Insurance company are deploying digital

marketing through YouTube. Educational videos on safe driving and disaster preparedness are becoming more popular among the online community members. This is one of the means of reducing loss exposure.

In the US, agents have sold insurance policies using Facebook profile. Thus, digital marketing trends are set to drastically change the way insurance products are marketed. In India, there is a need to engage with agents and train them so that they become net savvy and are able to forge social bonds with customers.

Digital marketing can help garner the customer's attention. Therefore, careful observation of the various social conversations can benefit the various links in the insurance value chain. promptness in responding to negative feedback has become so important today.

Insurance agents can look at customer profiles that are visible on social networking sites to understand lifestyle issues and this data can be used to generate suitable leads for the business.

Insurers should choose the right strategies to grow the business. Sentiment analysis is being used to gauge customer-buyer behaviour.

Engaging in the right conversations can help build customer loyalty and trust.

Social Media Analytics

Unstructured data can be used to generate intelligence insights for the brand. Insurers can assess performance of their brands.

Analytics can play an important role in customer-risk segmentation and claims fraud detection. Risk management becomes more fluid with the intervention of analytics. An actuary can use these insights besides additional data to arrive at robust pricing models.

A customer's social profile data can help identify fraudulent claims. Data from social platforms can be fed into a fraud detection engine. This will lead to collation and integration of structured and unstructured data. Predictive models that look at the risk exposure during the life of a policy will become a handy tool in the future.

The insurers have to deal with the information overload and filtering out the noise becomes important, more so when data is collected from different sources.

Regulatory and compliance functions can help in the dissemination of

latest information that can help the underwriting or claims department.

This drives home the point, that internal alignment within an organization is crucial for the success of digital marketing efforts. The collective wisdom of employees, agents, actuaries and surveyors can be exploited to serve the needs of the customer better.

So, what is the Future of Social Business for Insurers?

Insurers are yet to tap the potential of social media fully. They have to slowly move from the linear process-driven mindset to exploit collaborative intelligence in the process value chain. Productivity can be improved as data empowers underwriting, claims settling and actuarial processes in the insurance value chain.

Digital efforts bring various stakeholders on the same platform and this allows preventing duplication of efforts. Operational efficiencies can be vastly improved. Even strategic

issues like innovation management can benefit from increased bandwidth on social networks. This can lead to competitive edge for an organization.

Social analytics and big data can deliver synergistic benefits in the long run by generating crucial business intelligence insights. This paves the way for expansion of the insurance business.

Summary

Insurers are reluctant in adopting social business models because they

fear regulatory, compliance and legal implications. But policy guidelines for social media can be formulated so that risks can be mitigated.

The social strategy must be closely aligned with the overall business objectives. If insurers have the right strategy, then with the right choice of partners and products, insurers can redesign their communication ecosystem and build stronger relationships with customers to sustain in the long run.

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TOP 10

Life Insurance Insights

Trends, news and views

INDUSTRY UPDATE

“The reporting period saw another key stake sale transaction as State Bank of India (SBI) sold a stake of 3.9% in SBI Life for INR 18 billion, giving an implied valuation of INR 460 billion to the company. On the other hand, HDFC Life-Max Life deal witnessed a regulatory hurdle as the IRDAI has expressed concerns over the deal structure citing the Insurance Act, 1938. Statistics released by the regulator indicate another period of healthy growth for the industry as the weighted new business collections increased by 22.1% in first half of FY2016-17, year-on-year. Among new product launches during the reporting period, non-linked, non-participating and online term products remained popular. We summarise below these and the top ten key trends and developments that shaped the life insurance market in India for the period September to November 2016.”

10 Formation of a comprehensive cyber security framework

Following the recent increase in number of cyber-attacks, the Insurance Regulatory and Development Authority of India (IRDAI) has formed two separate working groups, for the life and non-life insurance sector, comprising of Chief Information Officers (CIOs) of each insurer. The CIOs are required to give recommendations for effective cyber security audit related processes, assess the legal risks arising from cyber laws and suggest scope for improvement in measures against cyber fraud, which will help the Authority in developing a cyber security framework to mitigate cyber risks. The regulator intends to issue a comprehensive set of guidelines by March 2017, based on the recommendations put forward by the working groups.

9 New amendments have been introduced in IRDAI (Registration of Insurance Marketing Firm) Regulations, 2015

The Authority has issued IRDAI (Registration of Insurance Marketing Firm) (First Amendment) Regulations, 2016, which comes into effect immediately. The draft prescribes

that at the time of registration or renewal of registration, an insurance marketing firm is required to submit an undertaking stating that no new business will be solicited by tele-calling or internet. It also mentions that the Insurance Marketing Firm training will be conducted online by an approved institution and as per the methodology, as decided by the Authority from time to time.

8 Industry reaction to the recent demonetisation drive

Following the recent demonetisation measure undertaken by the Central Government and the subsequent cash crunch in the economy, the IRDAI has decided to extend the grace period for life insurance policies by 30 days for all policies with premium falling due between 8 November 2016 and 31 December 2016. The Finance Ministry has also announced a discount of 8% on life insurance policies taken from Life Insurance Corporation of India (LIC) using online payment. Further, statistics released by Life Insurance Council indicate that total (unweighted) new business premium collection by life insurers for the month of November 2016 has witnessed a 112.6% year-on-year growth, mainly attributed to a surge in single premium sales following the demonetisation measure.

7 Rise in number of products offered; non-linked non-participating products remain dominant, as online term products gain further popularity

Reports suggest that there is a 12.3% rise, year-on-year, in the number of products offered by life insurers as at October 2016, from 610 products in October 2015 to 685 products in October 2016. Reportedly, this visible surge in number of products on offer is due to the relatively quick regulatory approval process. Further, of the 25 products launched during the reporting period September to November 2016, 20 of them are non-linked, as against five linked products. Of the 20 non-linked products, only seven of them are participating products. There have also been four online term product launches during the said period, indicating at increasing popularity of this proposition.

6 Positive profits reported by 14 private life insurers FY2016-17

As per financial results disclosed by 21 private insurers, 14 have reported profit as at the end of second quarter of FY2016-17, compared to 12 out of 19 insurers making such disclosure in corresponding period in the previous fiscal. Amongst the 14 insurers to have reported profit, 10 have recorded a

positive year-on-year growth when compared with Q2 FY2015-16. The total profit after tax for private insurers has marginally decreased by 0.8% to INR23.71 billion at the end of Q2 FY2016-17 from INR23.53 billion in the corresponding period of FY2015-16

5

The Authority has released guidelines related to 'Point of Sales' for life insurers

In order to provide easy access to life insurance and enhance insurance penetration, the regulator has issued guidelines on 'Point of Sales Person – Life Insurance' and 'Point of Sales – Life Insurance Products'. The draft prescribes the eligibility criteria for a 'Point of Sales Person' who will be authorized to solicit the products. It further specifies the definition of a 'Point of Sales Product' and the broad categories the products are divided into along with the documents (e.g. proposal form, key features document, etc.) required to sell them

4

HDFC Bank is considering adopting open architecture bancassurance model

Media speculations suggest that HDFC Bank is deliberating to opt for the open architecture model, where a bank can partner with up to three life and three non-life insurers each. Reportedly, HDFC Bank has shortlisted four life insurers - Bajaj Allianz Life, Bharti AXA Life, Birla Sun Life and Tata AIA Life for this partnership; along with four general insurers as well. If implemented, HDFC bank will join the likes of Axis Bank, Saraswat Bank and Indian Overseas Bank that also have adopted or are in the process of adopting the same model.

3

Half yearly industry performance: New business collections of life insurers indicate a strong growth of 22.1% in first half of FY2016-17

As per statistics released by IRDAI, life insurance industry collected weighted new business premiums (measured as 100% of regular premium and 10% of single premium) amounting to INR288 billion, leading to a year-on-year growth of 22.1% in the first two quarters of FY2016-17. State-owned insurer LIC continues to exhibit positive growth of 28.7% in its weighted new business premium collections, majorly driven by healthy growth of 59% in its group segment. Private insurers also managed to achieve positive yet comparatively lower growth of 15.2% in the reported period, leading to a fall in their market share from 48.6% to 45.8%, year-on-year.

2

IRDAI expresses concerns over the proposed HDFC Life-Max Life merger

The IRDAI has expressed concerns over the proposed merger between Max Life and HDFC Life owing to its deal structure. As per the proposed structure, Max Life would first merge

with Max Financial Services (MFS) followed by a merger of MFS with HDFC Life leading to its automatic listing. Reportedly, section 35 of the Insurance Act, 1938 has been quoted that prescribes the merger of a life insurance company with another life insurance business. The regulator has expressed reservations about the proposed deal structure since it involves merger of a life insurance business with the holding company, as per press reports.

1

State Bank of India sells stake in SBI Life

State Bank of India (SBI) has approved the sale of 3.9% equity stake in SBI Life to investment firms KKR & Co and Temasek Holdings in a deal reportedly worth INR18 billion, subject to regulatory approvals. The deal involves transfer of 39 million shares of SBI to the said firms at INR460 per share, thereby pegging the valuation of the insurer at INR460 billion - a multiple of 3.54 over the disclosed embedded value of INR130 billion as at 31 March 2016. Post this transaction, SBI's stake in the joint venture will decrease to 70.1% while BNP Paribas will continue to hold 26%. It has also been reported that SBI is looking to come out with an IPO in the next financial year. ■

About the author

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Willis Towers Watson India



INSTITUTE OF ACTUARIES OF INDIA

List of students scoring highest marks in September 2016 Examination

Sr. No	Sub	Subject Name	Prize Fund	Candidate Name	Membership ID	Place
1	CT1	Financial Mathematics	Shri R. Krishnaswamy Memorial Prize Fund	Govind Saran Gautam	32731	Faridabad
2	CT2	Finance and Financial Reporting	Shree Atma Ram, Shri Chhaju Ram and Smt Parvati Devi Memorial Scholarship Endowment	Udit Agarwal	20285	Jaipur
3	CT3	Probability and Mathematical Statistics	Shri H V Krishnamurthy Prize Fund	Kunjesh Piyush Parikh	31612	Bhopal
4	CT4	Models	Shri R. Krishnaswamy Prize Fund	Praveen Sancheti	32075	Kolkata
5	CT5	General Insurance, Life and Health Contingencies	Smt. Vidhya Wati and Smt. Santosh Kumari Memorial Scholarship Endowment	Tanvi Milan Doshi	31940	Mumbai
6	CT7	Business Economics	Prof R M Joshi Prize Fund	Megha Jayesh Shah	31746	Kolkata
7	CT8	Financial Economics	Prof G S Diwan Centenary Commemoration Prize	Tanvi Mimani	33721	Singapore
8	CA1	Actuarial Risk Management	The Future Actuary Prize Fund	Divyam Sankharva	29334	Mumbai
9	ST1	Health & Care Insurance	G S Diwan 100th Birth Anniversary Memorial Education Fund	Kaushal Jhunjhunwala	28178	Mumbai
10	ST2	Life Insurance	Late Shri Janardan Pundalik Nerurkar Prize Fund	Reetika V K Jain	2730	Delhi
11	ST4	Pension & Other Employee Benefits	Shri K A Pandit Memorial Prize Fund	Alok Gupta	20705	Mumbai
12	ST5	Finance and Investment A	Mr. Kamal Kumar Noranglal Podar Prize Fund	Anoop Michael	3955	Bangalore
13	ST6	Finance and Investment B	Late D Basu Prize Fund	None Passed		
14	ST7	General Insurance - Reserving and Capital Modelling	Mr. Peter Akers Prize Fund	Charanraj Sampathirao	10973	Hyderabad
15	SA1	Health & Care Insurance	G S Diwan 100th Birth Anniversary Memorial Education Fund	Kunal Kishore Jha	2837	Pune
16	SA2	Life Insurance	Prof G S Diwan's Memorial Prize Fund	Prabhash Anand Chaubey	1415	Mumbai
17	SA3	General Insurance	Late Shri K P Sarma Memorial Prize for the Meritorious in General Insurance	Sunil Vishnu Savalkar	329	Mumbai
18	SA4	Pension & Other Employee Benefits	Canada Life Scholarship Endowment Fund	Aditya Jain	2633	Mumbai
19	SA6	Investment	Prof G S Diwan Memorial Scholarship Fund	Vartika Gupta	2471	Dubai
				None Passed		
				Prasham Mahendra Rambhia	10439	Mumbai

EXAM UPDATES

Advisory Group on Professionalism, Ethics and Conduct



The AG (Advisory Group) on PEC is formed with an aim to advise the committee Professional, Ethics and Conduct (PEC). AG on PEC constitutes of 5 members and is presently chaired by Mr. Anil Kumar Singh (Chief Actuarial officer and Appointed Actuary of Birla Sun Life Insurance Co. Ltd.)

The group looks after matters relating to professional, ethics and conduct of the members of Institute of Actuaries. For e.g. all the guidance notes and actuarial professional standards once finalized by respective groups like Life Insurance Advisory Group, Pensions Advisory Group, General Insurance Advisory Group etc. are vetted by AG on PEC.

AG on PEC also conducts Indian Fellowship Seminar which is held twice in one year. The group evaluates the students/ associates heading towards Fellowship. The group is also responsible for choosing the topics and presentations done during the Fellowship seminar.

AG on PEC has cleared various APS and Guidance notes in the recent past apart from successfully conducting the Indian Fellowship Seminars in June and December 2016.

GN on "Independent Actuary on WPC"

GN on "Role of Independent Actuary on Transfer of Long Term Business in Life Insurance...."

GN 32 – "Determination of Appraisal value of General Insurance Companies"

APS 4 – "Peer Review of AA's Work in Life Insurance"

APS 33 – "Peer Review of AA's Work in General Insurance"

APS 9 – "CPD and the Actuary"

APS 10 – "Determination of EV for the purpose of IPO (Life Ins)"

APSXX – "APS on Employee Benefit"

While APS9 was discussed and closed by AG on PEC in the month of Jan 2016, the same has been re-opened as the need was felt that APS 9 needs to be simple and effective. The group is discussing the same along with PEC. The revised APS9 will be effective from 1st April 2017.

Need has also been felt to revise the CoP (CERTIFICATE OF PRACTICE) for Appointed Actuaries in line with changes suggested in revised APS9.

The other APS that is being looked into pending is APS5 on sales benefit illustration.

PUZZLE

Mind Exercise



Puzzle No 257

Continue the sequence : 2 4 6 30 32 34 36 40 ?

Solutions to puzzles

Puzzle No 253:

Felice and Nicholas are the murderers.

The numbers correspond to atomic numbers on the periodic table of elements: 'Fe-Li-Ce/Ni-Co-La-S'.

Puzzle No 254:

The next number is: 13112221. Each number describes the previous number. Starting with 1, the second line describes it 11 (one 1). Then the third line describes 11 as 21 (two 1's). Then the fourth line describes 21 as 1211 (one 2, one 1).

(Names of correct solutions submitted; will be published in February Issue of 'the Actuary India'.)

Puzzle No 258

Use the letters given to complete the square so that four other words can be read downwards and across. What are the words?

S	P	O	O	N
P				
O				
O				
N				

A A C C E E E E S S S S T T T T

Ms. Shilpa Mainekar

shilpa_vm@hotmail.com





Developments in South Africa

Economic Overview

Whilst not all the data has been released for 2016, 2016 has proven to be a challenging year for equity returns, with The Johannesburg All Share Index returning some 2% over 2016. The JSE has posted a return of +6.9% p.a. for the last 3 years and +12.2% p.a. for the last 5 years.

The South African economy grew by 0.7% year on year for the quarter ending September 2016. GDP growth rate in South Africa averaged 2.90 percent from 1993 until 2016, reaching an all time high of 7.60 percent in the fourth quarter of 1994 and a record low of -6.10 percent in the first quarter of 2009. In its Medium-Term Budget Policy Statement, the government announced that it expects the economy to expand 0.5% in 2016 and 1.7% in 2017.

CPI accelerated from +6.1% in September to +6.4% in October. The unemployment rate increased from 26.6% in the 2nd quarter to 27.1% in the 3rd quarter of 2016. The expanded definition of unemployment, which includes people who have stopped looking for work was 36.3%. The mining and manufacturing sectors continued to shed jobs.

The Monetary Policy Committee (MPC) of the South African Reserve Bank (SARB) decided to leave the repurchase rate unchanged at 7.00%. In 2016, the Bank increased its benchmark rate twice in 2016 to fight high inflation.

Actuarial Society Activities

The Actuarial Society of South has had a very busy year holding its annual convention in Cape Town on 23 and 24 November 2016. Below are some of the major issues the Society is addressing.

a) Impact of Personal Debt on Individual Wellness

The Actuarial Society of South Africa (ASSA) continues to appreciate its broader appreciation to the wider community. ASSA has advised that research by members indicates that high levels of debt in South Africa pose not only a threat to an individual's financial stability, but also result in substantial health risks. This is according to a study presented by corporate Momentum Multiply at the Actuarial Society of South Africa's 2016 Convention. The paper entitled "Financial wellness and debt as a predictor of physical wellness and claims" by Nico-Louis Minnie, Johann van Tonder and Ina Shaw confirms a link between financial stress and physical wellness through the analysis of the health and debt data of approximately 20 000 consumers.

The paper notes that consumers with abnormal blood pressure were more likely to be 90 days or more behind with debt repayments. Consumers with high glucose measurements were

also found to be more likely to be in arrears with debt repayments. Blood pressure and glucose are indicators used to measure the risk of developing cardiovascular disease like a heart attack or stroke.

b) Tertiary Education Fees.

The President of the Actuarial Society of South Africa (ASSA) Ms. Roseanne Murphy da Silva, has contributed to the public debate on whether Tertiary Education should be free for those students who cannot afford such fees. There have a wide range of activities on the campuses of tertiary institutions calling on Government to increase financial support for students. Addressing the more than 1500 actuarial delegates attending the ASSA 2016 Convention in Cape Town, Murphy da Silva emphasized the need to prioritise spending on Education which would create more opportunities for poor students. She told Convention delegates that while all students should be able to access funding to meet the costs of their tertiary education, a zero fee tertiary education is simply not feasible given South Africa's fiscal and social challenges.

c) Actuaries and Banking

ASSA has made great strides in developing Banking as a sector for the Actuarial community. The

South African banking industry employs some 300 actuaries and student actuaries even though banking is a fairly new area for Actuaries. ASSA has advised that in recognition of the leading role that South African actuaries are playing in establishing banking as a formal actuarial practice area around the globe, the newly established Banking Working Group of the International Actuarial Association (IAA) is to be chaired by South Africa for the next three years. Michael Tichareva will represent South Africa in the position of chair – he also chairs the Actuarial Society of South Africa's Banking Committee.

Tichareva advised that involving actuaries in banking is a relatively new trend sparked mainly by global regulatory reform initiatives. These include the introduction of the Basel II and III banking regulations and the recent changes in international accounting rules that require a forward looking approach to credit loss provisioning. A sound banking system is one of the cornerstones of a stable economy and a country's financial markets. Since risk management is a key component of an actuary's skill set, banks have increasingly

been looking towards the actuarial profession to provide the resources needed to assess risk in banking and implement the necessary controls. Other interventions by ASSA include developing tuition material directed at those specializing in Banking.

d) Medical Aid Premium Increases

About 20% of South Africa's population have access to Private Health Care Provision with the remaining 80% relying on the Public Health Care system or paying privately for care. ASSA President Roseanne Murphy da Silva says escalating claims in 2016 have placed schemes under increasing financial pressure, likely to result in higher than usual contribution increases for

following year. She pointed out that unless scheme members and healthcare providers make a concerted effort to claim and charge more responsibly, there will come a time when only the very wealthy will be able to afford medical cover. The President urged stakeholders to revisit the attitude of getting as much out of medical schemes as possible as the future sustainability of medical cover relies on adopting a more - community based approach. If everyone were to take responsibility for the expense of claims and treatment, it would keep the costs of medical aid more accessible for all.

We look forward to keeping the Indian Actuarial Community updated on all the very exciting events happening in South Africa in 2017.

About the author

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PEOPLE'S MOVE



Mr. G.L.N. Sarma.

A fellow member of IAI has been designated as the Chief Executive Officer of the proposed Hannover RE Indian branch which is going to start operation as soon as the branch receives R3 stage license from IRDAI. Mr. Sarma is currently working as managing director of Hannover RE Consulting Services India Private Limited in Mumbai.



CA3 TOPPER - OCTOBER 2016

**MR. SUDIPTA
BHATTACHARYA**



SUCCESS STORY

Congratulations



Congratulations! Mr. Sudipta Bhattacharya, for being the Topper in CA3 Exam held in October 2016. Tell us about yourself, your educational background and your hobbies?

Thank you very much. I am a Commerce Graduate from University of Calcutta Prior to joining my first job in LIC of India, a Fellow from Insurance Institute of India and holder of Advance Diploma from Chartered Insurance Institute of London. I have been insurance profession for around 23 years, with a break of one year. I have wide experience of working in the different fields of insurance industry. I like to study and research over my professional life as Regulator of Insurance. Apart from my professional life, my passion is Photography and hobby is Hindustani Classical Music.



How did your family and friends contribute to your success?

The greatest contributor to my success has been my reporting officer in my office, who is continuously exploring my actuarial skills and motivating me to take up exams. My team members and family members are also my great inspirations, who encourage me to take up exams, considering my seriousness to my profession.



How many hours of study on an average per day did you put in to top the CA3 result where in only 6 candidates passed out?

Literally, I did not prepare separately for CA3 exam. I always try to put

my best effort into any job entrusted to me in the office. I am in the Actuarial Department involved in core Regulatory actuarial work and as I stated above that I always study and research over the work entrusted to me, all these factors contributed to the success in the exam.



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

The specific hours of study as provided in the coursebook are sufficient to understand the pattern of exam and the expectation of the examiners. What I want to emphasise is continuous thought process at the actuarial and financial work is the key for success in this kind of application science examination. Above all, acceptance of constructive criticism from the superiors and peers at work and using it as a milestone for future performances will automatically improve the actuarial and financial skills.



Did you face any difficulty while studying this subject?

Not at all.



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

In the Regulatory Office, this is the routine performance as preparation of innovative office notes and presentation to the superiors and peers are regular events, as each job is unique

in nature. I believe the improvement in communication is complementary to developing the technical actuarial skill. An individual able to communicate the technical message satisfactorily proves his/her command in the subject, but it does not mean that those unable to communicate appropriately are technically weak. In the present world, perfect communication is the key to every success and solutions to most of the problems.



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

Being in Actuarial department of the Regulatory office, I have been continuously involved in developing this profession. One of my key thoughts is to expand application of this science in other areas of finance and risk management apart from pricing of insurance product and liability valuation of insurance companies. I am also endeavouring to create more recognition of this profession in many other areas of insurance where the skills of the actuaries are underutilised.



What was your purpose while selecting this course – Communications?

Good communications is my passion. Moreover, in the Government Sector, communication and drafting are some of the major skills required. They are essential for many important decision making processes. A combination of all these factors encouraged me to take up the exam



Institute of Actuaries of India

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- A **Management Graduate** or studying for it.
- A **Chartered Accountant, Cost Accountant** or a **Company Secretary** or studying for any of these.
- Have a degree in **Finance** or studying for it, or any other, but you have love for Mathematics and skills in Numeracy.
- With minimum of 10+2 or even a maximum of a PhD in Maths or Stats or any other.

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Email: acet@actuariesindia.org

**DATE OF RESULT:
22nd April 2017**

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04th January 2017**

**REGISTRATIONS CLOSE
28th February 2017**

**EXAMINATION DATE
01st April 2017**

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On successful registration you will get one sample Question Paper and Solution under your login. After passing the ACET you can take admission as student member of IAI and pursue the actuarial course.

The experience stays with you



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