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## FROM THE CHIEF EDITOR

**A**fter much debate, discussion papers, and drafts, it looks like the final guidelines on product design for the life industry will shortly be issued.

From the time that the first unit linked guidelines were issued, it was clear that at some point in time they would be followed by guidelines that encompassed all product types. Perhaps the only surprise is that it has taken nearly 7 years for the guidelines to be so extended.



Since 2000, there has been a lot of new and innovative life products introduced by the private companies as well as the public sector company. Many of these products have benefited the public by increasing the amount of choice available to consumers. However, some of the innovations have taken the products some distance away from the original concepts of what life assurance was all about.

If there is one theme running through the most recent draft of the product guidelines then it is a return to the roots of life assurance, to the provision of financial security through a combination of long term protection and savings. It is of course perfectly proper that the Regulator should ensure that the industry operates in line with the purposes for which it was set up, especially as the industry continues to benefit from significant tax advantages in return for fulfilling those purposes.

However, from a professional stand point there is one element of the draft guidelines that troubles me, and that is the almost total prohibition of the use of market value adjustments (MVAs).

One of the great benefits that life assurance provides both to customers, and to the country as a whole, is long term investment. However, because life companies make long term investments they are exposed to market risks on early surrenders. Traditionally they have managed this risk by the use of discretionary MVAs. In future, the draft guidelines would limit this option to just group participating business.

There is no doubt that the possibility exists for life insurers to misuse MVAs to the detriment of their customers, and the Regulator is completely right to take action to prevent this. But to prevent life companies from using MVAs may expose the companies themselves to large accumulations of market risk, and this also is not in the public interest.

It is a simple fact that on exit there is a market risk, and somebody has to bear that risk. MVAs potentially put the entire market risk on the policyholder, whereas prohibiting MVAs puts it entirely on the life insurer.

It is my personal belief that neither of these extremes is desirable and a compromise should be found that equitably shares the risk between the policyholders and the insurer.

To my mind the problem is not so much the concept of the MVA, rather it is the vague way in which MVAs are frequently defined that gives almost total discretion to the life company. In fairness, I suspect it is we actuaries who are responsible for taking the easy way out and employing this catch all definition.

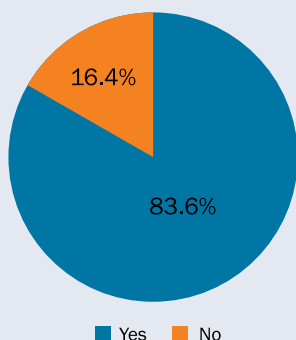
I would suggest that we need to apply our minds and define exactly how the MVA would be calculated and when it would be applied. In this way we can ensure clarity and fairness to all parties involved, and I would hope that the Regulator would then allow companies to use this new clear and equitable MVA for all types of business, and not just for group participating business.

**Nick Taket**

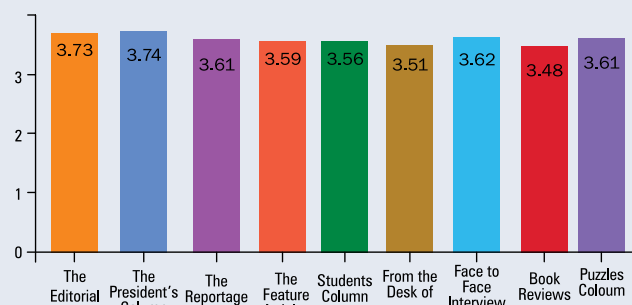
## THE ACTUARY INDIA- YOUR PERSPECTIVE

We had conducted a survey to get your views on “the Actuary India”, the house Magazine of the Institute. Though we have made considerable, though smooth, progress towards making the magazine more and more useful from readers’ perspective, there is always room for improvement. We still have a long way to go. Many members took the survey and the results are below for your consideration:

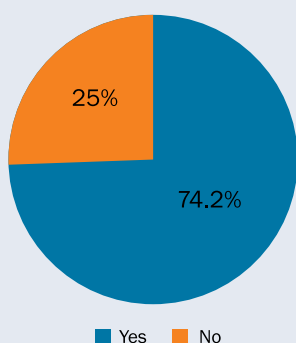
**Q1** Format: Overall design is attractive and engaging ?



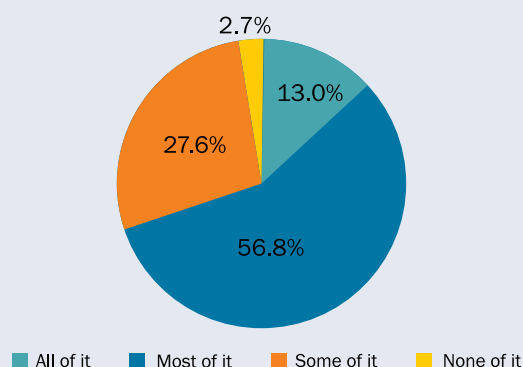
**Q5** The Content (ratings on the scale of 1 to 5, 1 being the lowest and 5 highest)



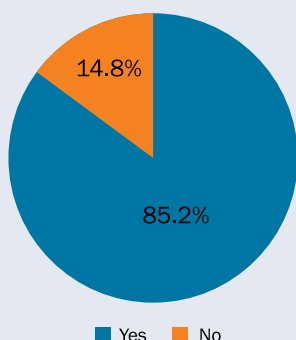
**Q2** The front cover page is attractive and pleasing ?



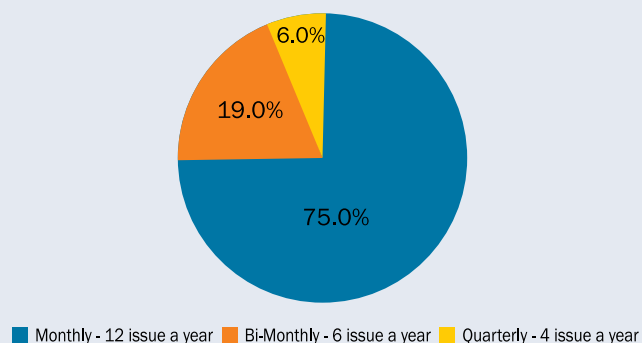
**Q6** How much of the magazine issue do you read?



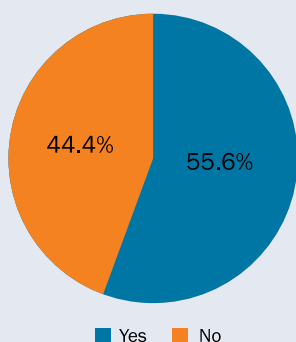
**Q3** The number of pages is just right: neither too large to make it a journal nor few to make it a bulletin?



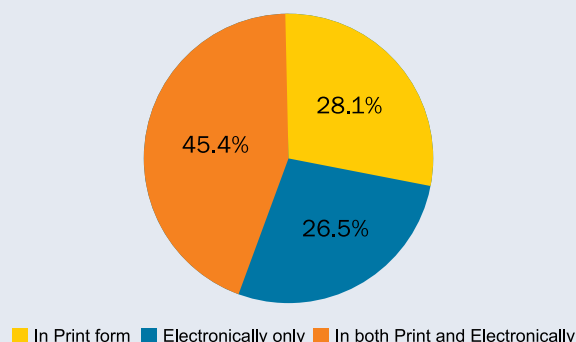
**Q7** I would like to see the magazine published



**Q4** Do you benefit from Job Advertisements?



**Q8** I prefer to receive Actuary India



# 17<sup>TH</sup> INDIA FELLOWSHIP SEMINAR

by Mamata Pandey

**Organized by : Institute of Actuaries of India**

**Venue : Hotel Sea Princess, Mumbai**

**Date : 28th to 30th June, 2012**

The India Fellowship Seminar (IFS) is an attempt of the Institute of Actuaries of India (IAI) to offer professionalism course on a bi-annual basis to its newly and nearly qualified fellow members and affiliate members for fulfilling requirements for their admission as FIAI. Many existing Fellow members also attend the seminar to get credit for CPD. The seminar offers an excellent platform to deliberate on various professional and topical issues relating to actuaries.



Chandan Khasnobis

The 17<sup>th</sup> IFS began with an introductory address by **Chandan Khasnobis**, Chairperson - Advisory Group on Professionalism, Ethics and Conduct. He explained the objectives of the seminar and topics that would be covered. He emphasized on professionalism in actuarial work, moral standards, ethics and behavior and proper management of potential areas of conflicts of interest.



Liyaquat Khan

The seminar was then flagged off by an inaugural address by **Liyaquat Khan**, President - IAI. He elaborated on origin of ASI (now IAI) and IFS, and the mutual recognition arrangements (MRA) with the professions in UK, Australia and

International Actuarial Association (IAA). He focused on needs of high professional standards, how actuarial deliverables affect many lives and involve global expectation. He discussed about various practical concerns affecting independent professional work of IAI. He talked about large size of actuarial students in India and vast choice of examinations and career options for them. He stressed upon exam integrity.



D. Sai Srinivas

Next was a case study on 'New Products' by **Alap Mehra**, **Mamata Pandey** and **Neelam Tripathi** under the guidance of **D. Sai Srinivas**. It was relating to professional issues that a product development actuary in a life office could face while developing a product in a line of business new to the company and the actuary. The group used actuarial control cycle in approaching the problem, discussed underlying issues, various stakeholders and their interests, determination of pricing & valuation basis, monitoring claim experience with specific reference to health products, examining professionalism issues involved at each stage and how to tackle them.

This is followed by a case study on 'Conflicts in Sale and Purchase', by



Nick Taket

## About the Author



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Mamata Pandey is a Fellow member of the Institute & Faculty of Actuaries of UK (FIA).

**Sharad S. Ramnarayanan**, **Chithra Suresh** and **Aparna Mhatre** with **Nick Taket** as the guide. The case study dealt with potential conflicts of interest in association of an investment consultant with two pension trusts involved in a management buyout. The problems were analysed in perspective of relevant PCS of confidentiality, conflicts of interest, standards for advice, professional standards and relations with other members.



Avijit Chatterjee

The next session was 'Lessons from the Disciplinary Case by the then Institute of Actuaries of UK against the Directors of Equitable Life' by **Akshay Dhand**, **Neelam Tripathi** and **G. R. Surya Kumar** under guidance of **Avijit Chatterjee**. They presented facts on functions and achievements of the Equitable Life Assurance Society (ELAS), its management of with-profit pensions business and guarantees, events leading to closure of business and its aftermath. They elaborated on reviews, enquiries held and disciplinary proceedings and action taken against the ELAS directors. The standards of integrity, competence, professional judgement, regulatory compliance and appropriate policyholder communications were not met leading to such a historical debacle.

Next **Yogesh Pandit**, Compliance Officer of IAI presented on 'IAI Disciplinary Process - Positions, Roles and





Yogesh Pandit

Responsibilities'. He gave an overview of misconduct, how to initiate action – complaint or information, The Actuaries (Procedure for Enquiry of Professional and Other Misconduct) Rules, 2008, constitution of Disciplinary Committee (DC), appointment, functions and power of Prosecution Director (PD), procedure of enquiry – presumption, prima facie opinion, dealing with various levels of DC and PD agreement, hearing, report of the DC, action by Council, defective complaint, declinature of complaint, withdrawal of a complaint, appeal and Appellate Tribunal.

Next was a case study on 'Conflicts – Internal Relationships and Pressures' by **Bhakti Gaitonde, Anand Prakash and Pratyay Bhattacharya** with **G. L. N. Sarma** as the guide. It dealt with an actuary in a life office working in directions from Managing Director, Appointed Actuary and Marketing Manager and the related predicaments due to internal relationships, pressures, and conflicting interests and how to deal with these in a professional manner. The jobs were determination of surrender values for traditional products, calculation of reduction in yields for benefit illustration of unit linked products and preparation of bonus recommendation report. They analysed the issues in context of relevant regulations and professional standards on protection of policyholders' interests, treating customers fairly, standards of advice and relations with other members.

The next session was on 'Professionalism course/requirement in UK and recommendation thereof for India' by **G. R. Surya Kumar, Himanshu Chaudhary and Ruchi Goel** under guidance of **M. Karunanidhi**. Areas covered were IAA's interpretation of professionalism, The Actuaries' Code in UK, professionalism requirements of Institute and Faculty of Actuaries, Society of Actuaries, Institute

of Actuaries of Australia, Institute of Chartered Accountants of India and Institute of Actuaries of India. The group recommended IAI to start on-line professional awareness test for CAT, 1 day professionalism course for Associateship, continuance of current IFS for Fellowship, compulsory attendance of IFS by Appointed Actuaries in every 2/3 years, to strengthen CPD requirements for members requiring CoP, CPD with separate minimum requirements for technical and professionalism aspects and to have joint groups on professionalism with members of other professional bodies.

Then there was a Special Address on 'Conflict of Interest and the Professionalism Regulations related to that, specific to the Chartered Accountant Profession' by **Vandana Nagpal** - Additional Secretary and Director (Discipline), ICAI. The session was chaired by **Liyaquat Khan**. She



Vandana Nagpal

talked about conflicts of interest as a threat to fundamental principles of objectivity, integrity and independence, identification of circumstances, ways to mitigate conflicts, types of threats, available safeguards, provisions in Chartered Accountants Act, 1949, Chartered Accountants Regulation, 1988 and Companies Act, 1956. In international context she discussed the Sarbanes-Oxley Act bolstering independence of auditor.

A case study on 'Conflicts of interest' by **Vaibhav Tyagi, Akshay Dhand and Himanshu Chaudhary** with **Vanita Duggal** as the guide, followed. The group discussed conflicts of interest – its implications and types with examples, identification and management of potential conflicts. The issues were discussed in context of the case of accepting job in a competitor firm as an



Vanita Duggal

employee or a consultant with reference to the Actuaries' Code and other existing professional standards.

To further the underlying theme of the



Uttam Prakash Agarwal

seminar, the next session was a Pre - Dinner Address on 'Conflict of Interest and the Professions' by **Uttam Prakash Agarwal**, Govt. Nominee, IAI Disciplinary Committee with **Liyaquat Khan** as the Chairperson. He emphasized on professional integrity, self-discipline and quoted many interesting personal experiences. He discussed on issues of conflicts of interest with reference to information gatekeepers like auditors, accounting firms, lawyers, investment analysts & consultants, rating agencies, etc.

The first session on 29<sup>th</sup> was a case study on 'Chinese Walls' by **Ruchi Goel, Niall O'Hare and Neil Narale** under guidance of **Saket Singhal**. The group discussed the meaning and requirement of Chinese walls in the context of a consulting firm that has accepted offers to advise two potential bidders of an outsourcing requirement for a DB scheme. The group discussed issues of confidentiality, conflicts of interest, transparency and disclosure, need of expertise and peer review and breach of professional guidance.

The next session was 'Lessons from the Disciplinary Case by Institute of Actuaries of Australia against consulting

actuary of HIH' by **Debarshi Chatterjee, Alap Mehra** and **Vaibhav Tyagi** with **Liyaquat Khan** as the guide. They discussed about HIH Insurance, the second largest general insurer of Australia at a time, its background and its failure in 2001, reasons for failure, disciplinary proceedings and actions. The key issues found are - actuaries were not involved in key functions, consulting actuary had made under-reserving, inadequate data checks, unverified optimistic assumptions, lack of documentation, reserves never discussed in Board Meetings, auditors had no actuarial expertise. These realizations brought many changes gradually, viz. introduction of Financial Condition Report, Peer Review Process, whistle blowing policies, increase in actuarial responsibility and areas of functions, increased communication between actuaries and auditors, stress on audit trails, risk based framework, economic capital, etc.

Next was a presentation on 'Assessment Methodology of Global Systematically Important Insurers: Developments within IAIS' by **Pratyay Bhattacharya, Bhakti Gaitonde** and **Aparna Mhatre** under guidance of **S. Rajesh**. This

session threw light on global initiative to identify global systemically important financial institutions (G-SIFIs), under the purview of Financial Stability Board (FSB) and G20, assessment on the basis of size, market importance and global interconnectedness, failure of AIG and lessons learnt, IAIS' focus on global systemically important insurers (G-SIIs), issues in data collection and analysis, indicator based assessment approach, supervisory judgment and validation, policy measures for G-SIIs, and presence of any potential systemic risk in the Indian insurance industry.

The last session was 'Structure of and Issues within Life Insurance Industry in India' by **Mamata Pandey, Anand Prakash** and **Sharad S. Ramnarayanan** with **Sanket Kawatkar** as the guide. They analysed issues faced by life insurance industry in India in the context of the structural framework in which companies are operating. Aspects covered were evolution of the industry in the country, regulatory structure and constraints, governance pattern, Appointed Actuary system, role of other professional and self-regulatory bodies, distribution of business and related issues, other industry specific issues,

taxation, some recent regulatory concerns and issues pertaining to general business environment. Recent problems of de-growth and low profitability attracted much participation of audience. The group also deliberated briefly on some way-outs.

Presentations were quite extensive in content, coverage and standard. Each session was followed by rounds of questions, interesting discussions and active participation through sharing of personal practical experiences by audience.

The seminar ended with closing remarks by **Liyaquat Khan** who spoke on behalf of **Abhay Tewari**, Secretary - Advisory Group on Professionalism, Ethics and Conduct. He talked about the research initiatives of IAI, feedback on 14<sup>th</sup> GCA, financial sector legislation and related concerns.

In the third day there was a Leadership Workshop conducted by **Nimesh Rathod**. The areas covered are negotiating skill, interpersonal relationships and team management. It was an interactive and useful session.



## WELCOME TO IAI COUNCIL

**Shri M. Ramaprasad Margam, Member (Non-Life) – Insurance Regulatory and Development Authority, has been nominated by the Government of India, as a member of the Council of Institute of Actuaries of India.**

### About Mr. Ramaprasad Margam



Mr. Ramaprasad Margam is currently a Board Member looking after Non-Life (General) Insurance in the Insurance Regulatory and Development Authority of India.

Mr. Ramaprasad has an experience of over 29 years in the non-life (General) direct insurance having worked for National Insurance Co Ltd., a Government of India owned general insurance company. During his tenure at National Insurance Company, he had worked in operative offices and then in the last 9 years of service he worked at the Head Office of the company as the In-charge of underwriting and claims of property, marine and accident insurance departments. He then served General Insurance Corporation of India, the Indian Reinsurer for a period of over 3 years in the capacity of General Manager- Reinsurance looking after the domestic and foreign inward reinsurances as well as of protection requirements for the Reinsurer.

During his service, he has served as a member in Tariff Advisory Committee which had overseen terms and conditions and pricing of property insurance in India.

Mr. M Ramaprasad is a Post Graduate in Statistics from the University of Madras and also an Associate of Insurance Institute of India.



## 15<sup>th</sup> GCA

It is with great pleasure that we announce  
**Mr. J. Hari Narayan**, Chairman IRDA,  
has agreed to be Chief Guest and deliver  
Key Note address for 15th GCA to be held in Mumbai on  
17th – 19th February, 2013.



## 15<sup>th</sup> GCA Theme Contest

All IAI members

**It's that time of the year again!!  
The time to mark your calendars for the  
15<sup>th</sup> Global Conference of Actuaries!!**

Dear IAI members,

### **Re: Theme Contest for the 15<sup>th</sup> GCA, 17<sup>th</sup> -19<sup>th</sup> February, 2013**

The Theme for the 13<sup>th</sup> GCA on 20<sup>th</sup> - 22<sup>nd</sup> February, 2011: Emerging Risks...Daring Solutions by K Ganesan had captured the underpinning of the whole event and in line with the same, the Theme for the 14<sup>th</sup> GCA on 19<sup>th</sup> -21<sup>st</sup> February, 2012: Meeting the Challenges of Change by Amrita Kaur caught attention of all. Around the themes the whole program of both the GCA's was structured.


The Theme for the **15<sup>th</sup> GCA to be held over 17<sup>th</sup> -19<sup>th</sup> February, 2013** has to capture not only the reality within India but what is happening around the world, because that affects India as well.

The stability and growth of the Insurance Industry within India is perceived to be on track, except the life insurance which has been struggling for the last about two years and is yet to look up. There are expectations around product structures and regulatory approvals. Besides the attitude and capacity of the Indian population to use mechanism of life, Health and General Insurance for wealth creation and protection appears to be on somewhat shaky grounds.

The theme of the 15<sup>th</sup> GCA, therefore, has to capture essence of the above so that the event revolves around the same. The members are requested to give it a thought and send their submission latest by **30<sup>th</sup> September, 2012** to Gillian Almeida at [Gillian@actuariesindia.org](mailto:Gillian@actuariesindia.org) with subject line: 15<sup>th</sup> GCA Theme Contest.

The winners will be chosen by the 15<sup>th</sup> GCA Organising Group based on laid down principles & procedures and will carry a reward to be presented during the 2013 AGFA on 17<sup>th</sup> February 2013.

With Warm Regards

  
**Liyaquat Khan**  
President



## DR. KRISHNASWAMY SRIRAM

### PGDM (IIM-B), AICWA, F.I.A.I., PH.D, CONSULTING ACTUARY

ksriram1960@gmail.com

**Dr. K. Sriram is a Consulting Actuary Engaged in Employee Benefits Consulting Practice. He is also an Actuarial Consultant to Genpact, India which is the largest BPO [Business Process Outsourcing] company in India. In his role as the Actuarial Consultant to Genpact, Sriram has the over-sight responsibility for life insurance & pensions related actuarial work, which Genpact does for the US life insurance companies.**

**Before setting up his practice, Sriram was the Chief Actuary & Appointed Actuary of MetLife India Insurance Company at Bangalore. Overall he has about 15 years of experience in actuarial engagements related to life insurance and pensions.**

**Sriram is a Fellow Member of the Institute of Actuaries of India and an Associate Member of the Institute of Cost & Works Accountants of India. He has a Masters Degree in Management from the Indian Institute of Management, Bangalore [IIMB] and has a Doctorate Degree in Management from the Bharathidasan University.**

**Sriram is a member of the Pensions & Social Security Advisory Group and a member of the Enterprise Risk Management Group of the Institute of Actuaries of India [IAI]. He is also a Guest Faculty Member at IIM, Bangalore. He has published a number of papers in the areas of Life Insurance, Employee Benefits & Investments. He has authored a book on "Leasing, Hire Purchase & Factoring"**

#### PERSONAL

**What Level of college Education or training did you receive in order to get to this level? What interests you about this position?**

I hold a Post Graduate Degree in management from the Indian institute of Management, Bangalore and a Doctorate degree in Financial Management from the Bharathidasan University. I am also an Associate member of the Institute of Cost and management Accountants of India.

I have always had a strong interest in the Management of Banks and Financial Institutions- particularly in the area Asset-liability Management. This got me interested in the Actuarial Curriculum, which provides a strong understanding of the asset-liability structures and their inter- linkages in the context of insurance companies and pension funds.

The fact that my father [Shri.R.Krishnaswamy] was a Consulting Actuary gave me a flavour of "What Actuaries Do " and that was another primary source of inspiration for me to qualify as an actuary.

After qualifying as an Actuary, I worked with MetLife India Insurance and Genpact India as the Chief Actuary which gave me the insights into the actuarial functions of life insurance companies both in India and abroad. My stint as the Appointed Actuary with Max Bupa Health Insurance Company provided me with an understanding of the actuarial under-pinnings of the health insurance business.

For the last five years I have been practising as a Consulting Actuary in the area of employee benefits. What interests me about my current role is that I can write my own job description. Apart from that, in my current role I get the opportunity of interacting with a number of Finance and HR professionals which provides me with interesting perspectives of how these professionals view the role of actuaries in the whole process.

I have also got the opportunity to work with IRDA on introducing a Risk-Based Capital Framework for the insurance industry which makes me spend more time on researching contemporary developments in my area of interest.

**Please describe for us a typical day at work for you in your current position? In your current position, what are your main tasks?**

Let me answer the two questions in the reverse order.

My main task in my current role as a Consulting Actuary is to perform actuarial valuations of employee benefit plans [examples of such plans are the gratuity and leave encashment plans] for corporate entities in different sectors and provide them with actuarial measurement & disclosure reports which meet the requirements of the Accounting Standard applicable to Employee benefit Plans.

So my day will start with reviewing the valuations that have been done by my staff and communicating the valuations results [in the appropriate formats] to the clients. Most of the clients will want to know the basis on which the valuation results have been churned out and that will involve extensive interactions with these clients in terms of assessing the appropriateness of the assumptions set by them. More often than not, it will involve explaining to the clients why the results of the current valuations are very different from what they expected.

At the end of a typical working day, I will reflect on the valuations which I have done during the day and the interactions I have had with my clients to identify any key learning which need to be incorporated in the valuation process and/or in the process of communicating the results.

On some days, I might be working on initiatives other than my main stream consulting work. This can be in terms of developing some technical papers in my areas of professional interest or doing some work related to the course on Insurance & Pension Funds, which I teach at IIM Bangalore.

**If you had to choose an alternative vocation, which would that be and why?**

Frankly speaking I would not like to think of a vocation other than being an actuary because this vocation has enabled me to more or less fulfil the need for “self-actualisation” [the highest need in the “Maslow’s Hierarchy of Needs”]

If I had been compelled to look out for an alternative vocation, I would prefer to be in academia doing teaching, training and research in Financial Management. I have actually done that for ten years before I entered the Actuarial Profession.

The reason for choosing an academic career as an alternative vocation is the opportunity it provides for advancing your learning and for disseminating your learnings to a group of participants, who will hopefully use them for making better professional contributions.

**How did you balance your job, studying for exams and personal time?**

I was in academia while studying for my actuarial exams. So I had the flexibility of my planning my study time and balancing it with my personal time. Also what I taught [Corporate Finance, Investments and Financial Services] in the business school had linkages with the subjects in the actuarial curriculum. Hence I did not have to put my job and exams into two separate compartments.

## ABOUT ACTUARIAL CONSULTING

**What are the key issues in the actuarial consulting in India and how does the Indian Consulting relates to the actuarial consulting in other countries?**

I think that the key issue in the actuarial consulting arena is the lack of awareness of areas where actuary can add value to the business.

To take an example from my own practice area, a typical client looks at an actuary as someone who will provide the valuation reports for the purpose of complying with an Accounting Standard – nothing more or nothing less.

But in reality a lot more of business value can be derived by using the valuation results as a starting point. For example, by discussing with the actuary, the client may discover that the cost of the offering a particular employee benefit may outweigh the perceived value of the benefit. This might warrant taking a relook at the design of the plan. The client can use the services of the consulting actuary to benchmark the plan against standard practices in that industry.

Likewise where the liability created by a particular employee benefit plan is backed by identified assets, then the client can seek the services of the actuary to do an investment diagnostics in order to determine whether the assets held are appropriate to the term and nature of the liabilities and take corrective measures where required.

Therefore, in short, the Actuarial Consulting Profession in India has the challenge of creating awareness about:

- [a] how the clients can derive a lot more of business value from the current services provided by the consulting actuaries; and
- [b] What are the other areas where actuaries can add “strategic value”?

**What are your views on consulting prospects in Health, ERM and Generalized Actuarial Consulting in India?**

I think that you have picked the three relatively untapped areas where actuaries have a significant role to play.

Let us start with Health related Benefit Plans. Today companies which are offering Post- Retirement Medical Benefits Plans need to have these plans valued by actuaries. In this process, these companies are discovering that the cost of offering such plans is financially more significant than what they thought it would be at the time of offering these plans. Some of these companies have started to engage the services of actuaries to delve deep into the benefit structures of these plans to uncover potential sources of financial risk and suggest ways of mitigating these risks.

ERM is another area where actuaries with relevant expertise can offer their professional services to a wide range of clients. In my view, actuaries have many of the tools needed for dealing with the quantitative aspects of risk management. Actuaries who have the practical experience in implementing risk management framework will have an early mover advantage in this emerging field.

In terms of Generalized Actuarial consulting the opportunities can be far too many and these opportunities can be best uncovered in a forum where consulting actuaries can come together. One area which comes to my mind is valuation of intangible assets where there is considerable scope for applying actuarial methodologies. The other area which comes to mind is advising financial intermediaries on long term asset-allocation strategies using appropriate asset –liability models.

## ACTUARIAL PROFESSION

**What do you consider to be the key areas where actuaries add value to the business?**

I think that ‘Strategic Risk Taking “is a key area where actuaries can add value to a business. Actuaries can use their expertise in Risk Management to enable a business to find out

- where the risks lie
- how to measure these risks
- How to determine which risks to ignore, which to protect against and which to actively exploit.

**What impact do actuaries have on consumers and society and what should they do to connect with them?**

We know that the role played by actuaries in product development, pricing and valuation of liabilities in the context of insurance companies and pension funds, have a significant bearing on the security of benefits of an individual policyholder or pensioner. In that sense the role played by actuaries has a significant impact on “societal welfare”.

The fundamental question is: “What should we do to connect with them?”

From a consulting actuary’s standpoint, I think that one of the ways to achieve a “better connect “ is to pro-actively interface with policy making bodies and get involved in different stages of managing “Social Security Programmes” - particularly in terms of helping these policy- making bodies to run these programmes on a financially viable basis over the long haul.



### What is your advice to young actuarial students?

My suggestions to the young actuarial students are two fold:

[a] To gain a complete handle over some of the emerging developments in the technical space - an example being the increasing importance of stochastic modelling in the financial management of insurance companies and pension funds.

[b] To pro-actively seek for careers outside the traditional actuarial domains of pricing and reserving. Even within insurance companies, I would like to see the young actuaries heading functions like Product Management, Sales and Marketing. Such diverse exposures will eventually pave way for these actuaries to be CEOs of these companies.

### Looking back how you view your contribution to the Indian Actuarial Profession and how do you think you can contribute better in the future?

Till date my limited contribution to the Indian Actuarial Profession has been primarily in terms of being an examiner for some of the subjects in the Actuarial curriculum; contributing technical papers in my areas of professional interest; and participating actively in the initiatives undertaken by the Advisory Group on Pensions, Employee Benefits and Social Security.

Clearly I would like to expand the ambit of my contributions. I think as a starting point that I can contribute better by getting involved more actively in some of the research projects of the Institute.



## The Institute of Actuaries of India announces 2<sup>nd</sup> IAI Connect

**Organised by: Social, Cultural and Youth Affairs advisory group (SC&YA)**

**Date:** 25<sup>th</sup> August 2012 (Saturday) | **Time:** 10 am to 4.30 pm | **Venue:** Gurgaon



### A Platform setup by the institute to help students in their Actuarial aspirations

- Talks by senior Fellow members of the institute
  - Insurance industry and beyond
  - Actuarial Examinations - what is expected & how to deal with them
  - Actuarial Careers
- Round Table Question & Answer session

For more details about the workshop and downloading the registration form, please visit [www.actuariesindia.org](http://www.actuariesindia.org).

There are limited seats for the event, so registration will be done on first come first serve basis. For any other queries, please email [Gillian@actuariesindia.org](mailto:Gillian@actuariesindia.org)



## ADITYA V. TIBREWALA

FIA; FIAI

aditya.tibrewala@gcc.rsagroup.com



**Director and Emerging Market Capital Actuary** of RSA Actuarial Services (I) Pvt Ltd [Subsidiary of RSA Insurance plc UK] - My main role is to oversee the actuarial work that is done for RSA in India on all aspects of work streams such as pricing, reserving and capital management. I am also responsible for the delivery of risk based solvency assessment required by RSA Management and UK FSA for Emerging Market countries in RSA [Asia Middle East, Latin America & Central and Eastern European Countries]. A Qualified Actuary from UK, I have previously worked in London in an actuarial consultancy for 4 years doing reserving for London Market, North America and Ireland including captive insurance, Merger & Acquisitions, Share Option Pricing and risk assessment related projects.

### PERSONAL

#### What jobs and experiences have led you to your present position?

- I have been involved in various kinds of jobs before taking up the position at RSA Actuarial services (I) Pvt. Ltd as a Director. These range from being a math tutor, working at the college cafeteria, postal office and finally an actuarial analyst at Mazars, London where my growth started taking shape. During this time, I learnt and implemented good organizational and people management skills. Most importantly, I have been able to develop the ability to envision, to think widely by assessing the bigger picture and constantly generate new ideas.

#### Describe your current roles and responsibilities?

- Current responsibilities include managing and leading a team of 35 young talented actuarial students working in general insurance. As a qualified actuary, I am also responsible for the technical development, providing support to the team and the completion of projects. As a director of the company, I am responsible for all the Indian statutory and legal compliance along with RSA's internal compliances.

#### What are the key qualities required in your position?

- Self motivation & focus, creative/out of the box thinking, clear communication skills and most importantly proficiency in numbers.

#### Challenges that you faced on the route to becoming an Actuary?

- Passing actuarial exams is one of the major challenges that I faced on my way to becoming an actuary. Staying focused during difficult times is also a key requirement. I also think at that time there was lack of information/awareness with regards to actuarial studies, requirements, job openings etc. which to me was a big challenge, however I am pleased to say that I already see this transitioning for the future.

#### How did you balance your job, studying for exams, and personal time?

- To be very honest, what comes to my mind when you say 'Balance' is the image of a set of weighing scales that have two sides. When you are studying to become an Actuary, a third parameter gets added to the existing two sides of the scale (work and personal life being the first two) - studies! As

such, I don't think you can achieve equilibrium when there is a third dimension. One of the three has to be sacrificed. I did find it very challenging however I had no other option than setting my priorities right:

- My work was first in the list as it generated resources for my education and living.
- Studying for an actuarial exam was next as my aim was always to be a qualified actuary in 3-4 years. This was also in sync with my company's goals.
- Finally, my personal time was slightly compromised at that time. I managed to travel a bit and also had fun times when I was an actuarial student; however, this aspect was limited. Let me say quality was more important than quantity. So I would make the most of every fun occasion that I took time off for rather than taking plenty of time off for travelling or going out.

Now that I am qualified, studies are no longer as much a part of the equation and I can say that I have achieved equilibrium by maintaining the work life balance.

### PROFESSION

#### Please describe a typical day at work?

- As I start my day with a cup of coffee I check my emails and reply to the most important ones immediately. My typical day is full of meetings both internal and external, overseeing all the project work, managing resource and supporting my team. Generally, it is well planned but I always have something new and challenging to deal with, which could be technical or people management related. My day usually ends with making a quick note listing out the tasks for the next day.

#### What can you tell me about the employment outlook in your occupational field?

- The employment outlook is massive. I agree it is not growing fast enough due to various hurdles but I am still very hopeful. Actuaries will play a key role in the finance sector in India and this is not just limited to Insurance.

#### How do you visualize the demand for people in this occupation? How rapidly is it growing?

- Currently, I would say the demand is limited (may be 500 to 600 qualified actuaries in next 3-5 years) and supply is way

more than that, in comparison. In my view, to maintain this demand supply balance, we would need students to be more focused and self motivated. Other than that there are multiple challenges, and with good reasons, in both supply and demand of actuaries, which the IAI is trying to resolve.

**How do you think IAI can support better its members?**

– I think it is very important that IAI engages with younger members who need not necessarily be qualified. The IAI must also engage with employers when making critical decisions. Though there has been a change in how the IAI works, however, I still feel that more needs to be done because there is a vast majority of students who have sufficient talent but are misguided. One suggestion is to have greater regional presence and forming a core strategic committee consisting of students and employers with representation from the IAI. The key responsibility of this team would be to improve engagement with current and aspiring members to be able to create a healthy network.

**You being a fellow member of IFA as well as IAI, what do you see as commonality of approach among these two organizations?**

– Both these organizations are very committed to the development of the profession as a whole. IAI has many more operational and administrative challenges but this is because the profession is still developing in India.

## INSURANCE INDUSTRY IN INDIA

**Are there things that the IRDA or the Government should have or should not have done to assist the industry?**

– Personally, I feel opening up the market would be the key development I want to see. I know this has its own challenges but the development of an economy relies heavily on the insurance sector that provides a cushion during difficult times. Second is to ensure that IRDA maintains a fine balance between too few and too many legislations.

**What market share do you see the private sector players having in ten years time?**

– I don't think I can put a number but it could be anywhere between 50-60% assuming that the market is opened up.

## OFFSHORED ACTUARIAL WORK IN INDIA

**Your current area of responsibility is managing actuarial work that belongs to Insurance Entity of the UK. Can you expand on this?**

– RSA's focus is on building a strong team of qualified actuaries who will be able to support RSA's businesses worldwide. The demand for actuarial talent internally is well defined based on the company's several years of experience in varied markets across the world. India, with its vast pool of untapped talent provides a strategic advantage. An actuarial resource centre or an centre of actuarial excellence in India that provides support to RSA's businesses worldwide started off as an experiment that has proven itself as a success given the demand for work that we have seen grow over the past years. The team itself is young and full of energy and enthusiasm. The work is challenging and almost always stretches our actuarial talent to contribute the best that there is. Such a vibrant work environment coupled with a work culture that is strongly rooted in RSA's Brand Beliefs and driven by the current RSA buzzwords of 'outperformance' and 'brilliant service' is a potent mix that provides a most desirable platform to young aspiring actuaries to showcase their existing talent and to develop newer and more refined actuarial skills. The company is totally dedicated to developing actuarial talent and provides every opportunity to its people.

**What are your views on such work being carried out within India: its volume, spread over countries, its challenges etc?**

– The opportunities are immense, but I think companies that focus on volume looking for cheap labor, might end up being surprised and are potentially more likely to face challenges compared to ones that hire for talent. Cost efficiency will come naturally.

**Suggestions for the IAI which can support better such work in India?**

– One simple thing- IAI must engage with multinational companies.



## Short and Sweet

Neha asked her father, "Dad, tell me why should I focus on things that I do and why should I have goals?" Knowing her father, she further said, "Please give me examples and not a lecture on this subject!" Then this is what her father said,

1. On the best sunny day, the most powerful magnifying glass will not light paper if you keep moving the glass. But if you focus and hold it, the paper will light up. That is the power of focus.
2. A man was traveling and stopped at an intersection. He asked an elderly man, "Where does this road take me?" The elderly person asked, "Where do you want to go?" The man replied, "I don't know." The elderly person said, "Then take any road. What difference does it make?"
3. Suppose we have a football team enthusiastically ready to play the game, all charged up, and then someone took the goal post away. What would happen to the game? There is nothing left. This is the importance of Goal.



**An example or an illustration is better than 'Gyan' in a lecture form. Let's learn the art of being precise and succinct.**





### **Tell us about yourself, your hobbies, future plans.**

I belong to a business family, where all my elders discuss mostly about financial transactions in which everything is circled around mathematics.

I was born and brought up in Hyderabad. I did my 12th from LFJC, Hyderabad. I am currently doing my graduation(BBA) from Narsee Monjee Institute of Management Studies, Mumbai.

I have been a swimmer for years. I love playing tennis and am a huge fan of Roger Federer. I am glad that he won at Wimbledon this year. I also enjoy watching motor sports especially MotoGP and spend my free time watching sitcoms, movies and reading. I keep trying to understand the reason behind economic crises that our country faces. I hope to someday be involved in financial planning and work towards the betterment of the country.

### **How did you come to know about the ACET and why do you want to become an Actuary?**

I came to know about the course and about ACET from a cousin who is an investment banker. Surprisingly, very few people know about this profession. My interest in insurance and banking made me take up this course.

### **How many hours of study on average per day did you put in to top the ACET, where in 2100 candidates appeared?**

I studied for two to three hours a day for a month. More

importantly I made sure that I was perfect with whatever I was doing. I always try to understand every concept to the smallest bit which makes things easier for me.

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

With my capabilities, I can just hope to become a successful Actuary some day.

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

Whenever I needed support of any sort from my parents and family, they have always encouraged me and provided every possible help. My friends have been very helpful as well. Their continuous motivation and support kept me confident about myself.

### **Any comments on your experience with ACET process.**

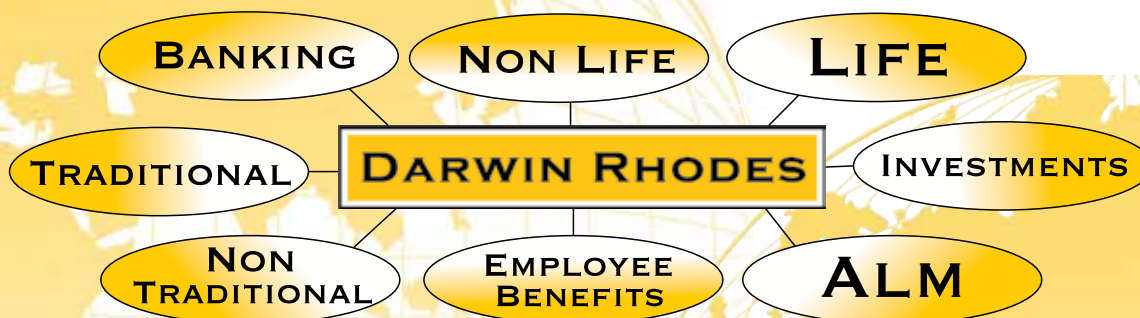
The entire process has been very satisfying. Registration and taking the test was very easy. Help was always available online which even helped me with the subject.

### **Any message for the students wanting to take up the ACET in future?**

I would just like to say that the subject is very interesting and fun. At the same time, commitment and hard work is a must. And I see a very bright future in this profession

## It's a small world...

Darwin Rhodes has been established since 1996 serving the needs of the actuarial profession, on a global basis. Darwin Rhodes carries out executive search assignments at senior level for clients. Our network of regional offices in the UK and worldwide enables us to identify the right individual to meet our clients' needs. Our team of local recruitment consultants are specialists within their fields.



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## FROM THE DESK OF CHAIRPERSON - ADVISORY GROUP ON RESEARCH AND PUBLICATION

**Tania Chakrabarti**

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I am sure all of you will agree that setting up a research unit takes a lot of strategic planning and effort. Happy to share that over the last three months, we have made substantial progress on this front.

Firstly, we have created a research wing of the Institute of Actuaries of India. The research wing now has two members with the recruitment process for the third member of the team in full swing.

To decide on our priorities for the research projects, we reached out to all advisory groups across all the practise areas. We received research ideas from all advisory groups and after careful deliberation at our end, we shortlisted the research topics under each practise area which could be taken up immediately.

The shortlisted research projects are as follows:

Advisory Group	Proposed Subjects
(A) Health Insurance	I. Medical cost index calculation in India-Possibilities and Proxy methods
(B) Pensions & Other Employee benefits	I. Trends in Salary escalation rates in India-Ways and means for Projections
	II. Withdrawal rates for Pension Scheme valuations-Practices and Prudent approaches
(C) Micro Insurance	I. Crop Insurance Product design and Implementation
	II. Co-variance Risk and Capital Modelling in Micro-insurance
(D) General Insurance	I. Building Price Index for Fire, Marine, Engineering, Motor & Individual Health- To Identify Underwriting Cycle
	II. Inflation Indices-Construction costs, Motor spare parts
(E) Life Insurance	I. Economic Scenario Generator-Understanding needs and requirements in Indian Market
	II. Critical Illness- Indian experiences vis-a-vis CIBT 93 rates

Basic concept note has been prepared for each of the shortlisted research topics and sent back to the advisory groups for their feedback. As of today we have received feedback from most of the advisory groups on the concept notes. A text of all concept documents is available hereunder and feedback from our readers on the subjects and documents are invited which may be sent to vinodkumar@actuariesindia.org.

This would enable us to work on developing more detailed research proposals for the selected research topics. The detailed research topic would cover the scope and deliverables of the research project and also the resources needed to deliver it.

The challenges going forward would be to identify resources as who would be able to handle the research projects bringing

them to a successful conclusion. We would be reaching out to our colleagues across the profession to mentor or steer some of these projects. We are counting on your support.

Finally, once we have got the first set of research projects started we would be working towards generation of more ideas of making this function more effective and more useful and responsive to your needs.

Apart from the research activities, as mentioned above, the research wing at IAI, is also involved in the following

- Consolidation of responses from IAI members on IRDA (Health Insurance) Regulations, 2012 in order to submit to IRDA,
- Consolidation of responses from IAI members on Valuation Professionals Bill,
- Co-ordination of advisory groups for responding to FSLRC, consolidation, drafting of submission report by providing all required inputs required by the Advisory Groups

We would love to hear from you, do reach out to us with your ideas. Help us shape the research activity of Institute of Actuaries, India.



## Farewell...



It is with mixed emotions that I write this note. I have accepted a position at another company and have decided to move on.

I wish you all and everyone in the larger IAI family, all the very best.

- Aparajita Mitra

# CONCEPT DOCUMENTS FOR CONDUCTING RESEARCH

THE ADVISORY GROUPS AT IAI ACROSS ALL THE PRACTICE AREAS HAVE SHORTLISTED VARIOUS TOPICS FOR RESEARCH. THE CONCEPT NOTES ARE PREPARED AND PUBLISHED FOR YOUR FEEDBACK.

## (A) ADVISORY GROUP ON HEALTH CARE INSURANCE

### MEDICAL COST INDEX CALCULATION IN INDIA-POSSIBILITIES AND PROXY METHODS.

#### 1. INTRODUCTION

- Medical insurance is an effective mechanism used by Institutions and individuals to meet their unexpected medical treatment/hospitalisation costs.
- Major factors influencing medical care include general price inflation, increase in health hazards, improvement in medical technology, accessibility of information, infrastructure developments, fiscal policy, social structures and mobility
- Considered as a major necessity of the population through any one of the parties referred in (a)
- Affordability, structure and cost are important to ensure value for money
- Precision in pricing of a medical insurance product is important and

#### 2. Objectives

- To understand the current practises of setting assumptions for pricing and reserving of health products in Indian health insurance market.
- To identify and understand important factors affecting medical cost in India.
- To understand reliable sources of information to calculate medical cost index in India and its regular and long term effectiveness.
- Proxy methods / models for estimating medical cost escalations.
- To understand influence of utilisation of service factor on medical cost escalation- average risk premium to average claim, cost ratios, claim frequencies etc.,

#### 3. Components for calculation of Medical cost index in actual terms

Components of medical cost can be broadly put into the following baskets.

- Hospital charges- include room rent, board expenses
- Doctors/ technicians fees
- Drugs

incurred/ claims ratio for years 2009-10 and 2010-11 by government schemes and others under all public and private insurers.

- Table 75- Third Party administrators- number of claims received & duration wise settlement of claims
- Data under part 3 above is available with hospital records, third party administrators, Insurers and re-insurers.
- Collecting relevant information/ data to meet the objectives of the paper is limited to the extent of availability of clean data and its sharing from all referred in item 4(b) above.
- Most of items under part 3 are directly related to economic factors like price inflation, GDP growth etc., need to find out the correlation factors.
- To establish any correlation between historical data and economic factors also require claim experience information from the service providers.
- The utilisation of service factor is inherent in the data of all service providers in different proportions

Items	Hospital charges	Physicians/ technicians fee	Drugs	Equipments	Others	Medical cost index
Proportion to total cost-Base year (A)	30%	40%	15%	10%	5%	100%
Increase in cost during First year (B)	10%	20%	7%	35%	10%	=sum[A*(1+B)] =116%
Increase in cost during second year (C)	13%	15%	7%	28%	12%	=sum[A*(1+B)*(1+C)]/ sum[A*(1+B)] =115%
Cost inflation for 2 years	24%	38%	14%	73%	23%	=sum[A*(1+B)*(1+C)] =133%

requires update on the cost escalations of components of medical benefit.

- Generally, the claim expenses increase year by year owing to some/ all of the factors in (b) above.
- Medical cost escalations can be viewed as increase in average claims/ increased utilisation of services.
- Increase in average claims as a result of CPI/ WPI or changes in government policies on taxation or demand/ supply gap or all of these.
- Increased utilisation of services due to changing product features, anti-selection, lapsation or all of these.

- Equipments.

- Others-include nursing, ambulance etc.

#### 4. Data sources and limitations

- Table 43, Table 49 and Table 75 published on 1<sup>st</sup> Jun'12 in IRDA web site as a part of Hand book on Indian Insurance statistics 2010-11 full report provide:
  - Table 43- No. Of schemes/ No. Of policies/premium amount under health insurance for years 2009-10 and 2010-11 by government schemes and others under all public and private insurers.
  - Table 49- Net earned premium/ claims

depending on product features/ lapse experiences.

#### 5. Measuring medical cost inflation

- Different components in item (3) take different proportions in the total cost.
- Increase in cost of each of the component is caused by any combination of factors referred in 1 (b)
- The base index and inflation index can be arrived by broadly identifying the contributions from all components to the total cost and cost escalations applicable for each of them during the years under observation.



- d. The following table is an illustration of calculation of medical cost index:

**(B) ADVISORY GROUP ON PENSION, OTHER EMPLOYEE BENEFITS AND SOCIAL SECURITY**

**I. TRENDS IN SALARY ESCALATION RATES IN INDIA-WAYS AND MEANS FOR PROJECTIONS TO FUTURE**

**1. Introduction**

- The salary rate index measures/ refers the changes in price of labour
- This varies by employee category/ industry/ market and by year to year
- Average wages are pulled up/ down by factors within the group/ category of employees by way of promotions/ new employments
- Within each group are also influenced by performers categories
- General economic performance indicator/ GDP growth/ market performance/ consumer price inflation also influence wages/ salary indicators

**2. Data Sources and limitations**

- Micro level data in respect of average salary of employees of any company/ industry is normally locked into the individual company's records
- Industry wise general indicators available from media/ economic publications of different periods
- No reliable repository for salary/ wage related data maintained by any business organisation/ government bodies.
- There are number of institutions who conduct salary survey/ salary analysis in the market, viz., www.kellyservices.co.in, Aon-Hewit – www.aon.com/india
- There are information sharing sites like citeHR – www.citeHR.com where valuable inputs can be available by interacting with HR consultants/ professionals
- Reports and analysis available from media.

**3. Methods of understanding trends in salary escalations**

- Published reports related to salary increases/ projections is a source to understand trends/ actual increases across industries/ levels of employments
- Data published by Ministry of Statistics & policy implementation and Ministry of labour in respect of consumer price index/ wholesale price index/ inflation are economic indicators having influence on salary increases.
- Performances of the market/ industry/

companies in respect of GDP growth/ business growth/ dividends and/ or bonus are other economic / performance indicators having influence to salary escalations.

- Understand correlation factor/s referred in items 3 (b) and (c) above to the salary escalation.
- Nature and measurement of correlation factors can be used as input parameters to model and project salary increases in markets/ industries/ segments/ companies.

**4. Method of estimation – actual basis**

- As referred in Item 1 above, salary escalation rates are influenced by different factors.
- Government/ Non-government/ Corporate sectors to be the first separation
- Under each of the sectors, industry wise separation is the next step.
- For each of the industry and further into company wise classification, employees to be broadly classified into Junior/ Middle/ Senior levels
- Average salary for each of the employee levels for a selected year to be the base (=100) for the index.
- Average salary data for each of the subsequent years for the employee levels consistently over the year shall be used for the years index in relation to the base year salary as:  
Salary index for the year = Average salary for the year / average salary for the base year
- New recruitments / exits during the year in large numbers need to be considered for appropriate corrections
- Alternatively, long term geometric mean of the increase in salary can be a proxy to the year to year salary index for projection to the future.

**II. WITHDRAWAL RATES FOR PENSION SCHEME VALUATIONS-PRACTICES AND PRUDENT APPROACHES**

**1. Introduction**

- Withdrawal rate is one of the important demographic factor required for valuation of pension schemes
- Withdrawal refers decrement other than normal retirement, ill-health retirement and death
- Factors influencing withdrawal rate include:
  - The pension scheme structure- rights and eligibilities
  - Salary scale/ salary escalations of employee/s

- Interest rates in the market
  - Retirement age
  - Social security schemes
  - Pension/ annuity products in the market
  - Statutory and other pension regulations
  - Scheme type- Defined benefit/ defined contribution
  - Employment opportunities
  - Economic growth
- Not many investigations undertaken by any agency/ investigator in the past owing to the non-availability of historical data maintained/ managed by the pension providers.
  - Data sources include:
    - National statistics and economic sources, including government/ non-government bodies.
    - Industry/ Industrial bodies offering pension schemes.
    - Firms/ consultants doing pension fund valuations for the market.
    - International organisations conducting investigations on withdrawal rates.

**2. Current scenarios and approach**

- The most prudent approach to evaluate a pension scheme is to consider no withdrawal rates.
- A notional/ arbitrary rate consistently used on year-to -year basis for the same pension scheme estimated from past experience of the scheme/ industry.
- Follow market practises and adopt appropriate age wise withdrawal rates conventionally.

**3. Data source/s and limitations**

- As referred in Item 1 (c), withdrawal rates influenced by a number of factors and differ by Industry/ pension scheme for ages
- For each industry, data might be available with
  - Trustees
  - Pension fund managers
  - Actuaries doing valuation
  - Business organisations.
- Sharing of data and information regarding the pension scheme are restricted and limited due to reasons such as confidentiality agreements, statutory controls, regulations and self-restrictive practices

**4. Methods and Practices -Overseas**

- Owing to a number of influencing factors under items in 1 (c) above, calculation

and projection of withdrawal rates in a realistic and regular way is a challenge.

- b) Approaches adopted in different countries take pragmatic and prudent views for setting withdrawal assumptions for pension scheme valuations.
- c) In many countries, withdrawal rates are set to zero and considered as the most prudent approach.

## 5. How to arrive at withdrawal rates-actual

- a) Year to year data of withdrawal for each of the ages/ age groups.
- b) Changing economic conditions/ market forces influence withdrawals from the scheme.
- c) Historical data required to be collected over a reasonable period of time in order to smoothen out the influencing factors.
- d) Data required for years starting from year 2005 showing age/ age band wise
  - i. Total count of members in the scheme split by salary bands.
  - ii. Total count of members withdrawn during the year split by salary bands.
  - iii. Attrition counts of employees by age/ age group.
  - iv. New entrants of the scheme by age/ average age.
  - v. Eligibility age/ waiting period to entry into the scheme.
  - vi. Surrender/ partial withdrawal provisions, eligibilities.
  - vii. Average number of years benefit earned by each age/ age group
- e) Data to be merged for years / yearly intervals depending on the influencing factors- both economic and political.
- f) In case of insufficient data for an industry, data to be merged for all similar industries to manage fluctuations in withdrawal counts
- g) Data may have to be grouped into different age groups from the same industry/ group of industries
- h) For each age/ age group, estimate crude rates by using total withdrawal counts divided by total eligible members applicable for salary bands.
- i) Withdrawal rates to forecast as per observed trends in historical rates.

## (C) ADVISORY GROUP ON MICROINSURANCE

### I. CROP INSURANCE PRODUCT DESIGN AND IMPLEMENTATION

#### 1. What is crop insurance?

- a. It is a mechanism/ tool / arrangement through which farmers can protect

themselves/ get compensation for loss or destruction of their crop due to events like flood, drought, pests, diseases or as a result of other natural disasters.

#### 2. Who can provide insurance?

- a. Central Government
- b. Local governments
- c. Local administration
- d. Insurers
- e. Non-governmental organisations
- f. Community groups

#### 3. Influencing factors of crop insurance

Some of the important factors influencing crop insurance are as follows:

- a. Climate and weather conditions
- b. Importance of the crop in the national economy
- c. Political stability, system and leadership
- d. Prevalent Disaster and event management systems
- e. Banks, financial institutions and insurers
- f. Agriculture establishments, crop monitoring systems and controls
- g. Cultural, social and economic set up of the country
- h. Administrative systems
- i. Network, data management, weather forecasting and information systems
- j. Literacy and poverty levels

#### 4. Models of crop insurance/ pricing – criteria, methods & challenges

- a. Successful designs should satisfy a minimum criteria of no profit, no loss
- b. Premiums collected from the farmers to be sufficient to meet the expenses and liabilities
- c. Effective and consistent evaluation process of loss; minimize basis risk.
- d. Payment criteria on the basis of real cause of loss.
- e. Affordability by the parties
- f. Minimal reviews of model and re-pricing
- g. Models/ product designs of crop insurance to consider major influencing factors in item (3) above
- h. Exposures to risk differ between crops which makes modelling and pricing of crop insurance difficult.
- i. For any natural calamity and other disasters, historical data and evaluation of loss of crops might not be captured.
- j. Different evaluation methods/ incorrect estimation of historical loss might result in inappropriate inputs for designing and choosing appropriate methods of insurance for the country/ region.
- k. Models proven to be successful during a regime/ period might not be successful over another period due to changes in influencing factors

- l. New designs or modified designs to be undertaken after re-evaluation of all influencing factors from time to time
- m. A pre-assessment of suitability of any model is not practically possible.
- n. Model design and implementation would vary with the type of crop and region
- o. The design should be able to capture all complexities of the environment and dynamics of the past, present and possibilities of future.

#### 5. Implementation of crop insurance-methods & challenges

- a. Implementation of crop insurance involve parties like,
  - i. Government
  - ii. Banks, financial institutions
  - iii. Surveyors
  - iv. Local administration
  - v. Farmers
- a. The crop insurance can be made compulsory, need based or value based
- b. The process of implementation needs to be simple enough,
- c. Implementation can be through a central agency, local bodies, banks or social network organisation
- d. Assessment of the need, extent of coverage, conditions of claim payments is complex and involves high costs
- e. Methodology of evaluation of loss and reasons thereof, could be different and can become complex
- f. Maintaining trust and confidence among the parties for reasonable settlements is challenging

#### 6. What is required for preparing a suitable model and effective implementation?

- a. Study the prevailing status of all influencing factors in item (3)
- b. Analysis of the historical and other sources of data on crops, seasons, natural calamities, other relevant risk factors of the market.
- c. Government support, subsidy and/ or regulations on crops and security systems should be in place
- d. Weather conditions and vulnerabilities of natural calamities for regions, crops to be considered
- e. Social set up of the society
- f. Levels of affordability of crop insurance premiums
- g. Systems of assessment of loss, its consistency and required cost
- h. Terms and conditions for admitting claims and ceiling of liabilities need to be decided upon.
- i. Expenses required for implementation ought to be estimated.

- j. Regular monitoring mechanisms for crops, weather parameters to be implemented.

### 7. Types of Crop Insurance: Index-based and Indemnity-based Insurance

Crop insurance can be offered on an indexed basis, where claims are a function of a defined index chosen to be a good proxy for incurred crop loss or on an indemnity basis, where claims are based on actual crop losses. There is not yet a consensus amongst academics or practitioners as to the best form for crop microinsurance but leading contenders include weather index insurance, area yield index insurance and group stop loss indemnity insurance.

**Weather Index Insurance:** Claims payments from weather index insurance are a defined function of recorded weather at a contractual weather station and are triggered when the recorded weather breaches the pre-defined critical levels.

**Area Yield Loss Index Insurance:** Area yield loss index insurance claims are a function of average local yields for a specific crop, estimated through crop cutting experiments in a sample of local farms. Losses arising from yields falling below the average local yields are paid by the insurer. In a way, the area yield loss index insurance administered as a group policy combines the benefits of reduction of basis risks (discussed below) as actual losses are paid by insurer and also reduces moral hazard as individual farmers do not have an incentive to report lower or reduce crop output.

**Group Stop Loss Indemnity Insurance:** Here, claims are a function of the total crop loss incurred by a large group of farmers, who are joint policyholders.

### 8. Challenges of Covariate Risks

It is certain that one natural catastrophe would affect all areas where the crop/ livestock insurance cover is offered. The absence of diversification due to contiguous geography and similarity in crop/ livestock type and sowing/ disease pattern further exacerbates the potential risks facing crop/ livestock insurance. The high probability of one event resulting in multiple claims at the same time leads to covariate risks, which are endemic in agricultural insurance.

To cover these covariate risks, insurers and underwriters would hence need a secondary level of cover from another risk carrier who has a larger dispersion of business e.g. greater array of crops preferably in different sowing periods, agricultural insurance in different countries and continents, other large lines of business, etc.

### 9. Handling Basis Risks

Basis risk arises when claim payments are greater or lesser than the actual losses suffered. A product should hence minimise the difference between insurance payouts and losses suffered by farmers.

Weather-index insurance, which does not physically verify the crop losses caused, but estimates them on the basis of one or more triggers (rainfall and temperature being commonly used to compute the trigger level) is prone to basis risk. On the other hand, area-yield loss index insurance does not set a trigger dependent on weather data, but the insurer or a nominated entity physically verifies the yield losses to compensate the insured.

Weather-index insurance has advantages of: a) lower moral hazard i.e. a farmer's action of making the claim event happen or report a higher claim is reduced, and b) lower anti-selection risk i.e. a farmer's electing to purchase an insurance policy knowing well that the event is likely to affect the farm output/ livestock losses.

Area-yield loss index insurance is likely to address basis risks through commune's governance of equitable distribution of claims. However, area-yield loss index insurance entails higher claim assessment and administration costs, which can be

prohibitive in smallholder farms and low value payouts. An approach to aggregate the smallholder farms for the purpose of insurance coverage (e.g. through a group approach wherein the commune/ group is the insured entity and claims payout are managed by the group) can bring down claims assessment and administration costs.

## II. CO-VARIANCE RISK OF MICRO INSURANCE AND CAPITAL MODELING

### 1. Introduction to co-variance risk

- Risk under micro insurance is a constituent of many inter-dependent and non-dependent factors of the environment in which it operates
- The overall risk profile can be assessed by a risk matrix which can capture the relativity, dependency, non-dependency and complexity of these constituents.
- An incidence of risk can affect all such constituents of risk and/ or any combination of constituents irrespective of its mutual relationships.
- Events of risk can lead to loss/ damage of insured in isolation or can lead to collateral and compounding effect leading to overall damage/ loss in all walks of life.

Events/Constituents	Crops	Livestock/ cattle	Theft/ fire	Health	Term/ Life	Disability	Natural disaster
<b>(1) Geographical</b>							
(a) Earth quake							
(b) Volcanic eruptions							
(c) Avalanches							
<b>(2) Meteorological</b>							
(a) Cyclic storms							
(b) Droughts							
(c) Blizzards							
(d) Tornadoes							
(e) Heat wave/cold wave							
(f) Hail storms							
<b>(3) Hydrological</b>							
(a) Floods							
(b) Tsunamis							
(c) Limnic eruptions							
<b>(4) Health</b>							
(a) Epidemics							
<b>(5) Space disasters</b>							
(a) Solar flames							
(b) Impact events							
(c) Gamma ray burst							
<b>(6) Fire</b>							
<b>(7) Others</b>							
(a) Civil war							
(b) Sanctions							
(c) War							
(d) Ruling regime							



- e. Any risk of micro insurance need to be evaluated on the basis of such compounding impacts
- f. The risk of such multiple and compounded levels of risk leads to the terminology of co-variance risk.
- g. An aggregate risk emerging as a result of events resulting into compound impact/ loss can be referred as covariance risk.
- h. A claim incidence with an element of co-variance risk can lead to multiple claims and unlimited liabilities.

## 2. How to identify and model covariate risk?

- a. Identification of events, measurements/ possibilities of incidence of those events, severities and assessment of financial impacts.
- b. Preparation of risk matrix with events, all constituents of risk/ damage in isolation and in combination.
- c. Each constituent further split into

the product/ product category as applicable.

- d. For eg., crops to be split into Wheat, Rice, Soybean, cotton etc.,
- e. The risk matrix format differs depending on the insurance offered.
- f. Assign probabilities for each of the events, viz., natural calamities, epidemics, civil war, etc., it's probable risk constituents and covariate factors of any two or all of constituents of risks.
- g. Evaluation of risk matrix for potential risks related to events in isolation and in combination and constituents of risks leading to loss/ damage in relation to the type of insurance.
- h. Understanding of the most significant factors/ events in relation to the environment in which the system operates, viz., geography, region, culture, etc.,
- i. A simple model of risk matrix is as under:

## 3. Risk mitigation and capital modelling

- a. Risk mitigation and capital modelling of covariate risk is based on the environment in which the society lives in and all players in the scene.
- b. The success of mitigation depends on how best the pooling of risks by way of diversification and re-insurance
- c. This also based on social needs of the society and duration for which the solutions to be implemented.
- d. The capital management is based on a number of factors of the society and systems in place.
- e. The interaction of society, systems and needs can also be viewed in a matrix and can be a basis of capital management.
- f. A matrix on which the risk mitigation and capital modelling can be built is as under:

Items	Social Policy Approach	Social Risk Management	Basic Social security	Social Insurance	Social Assistance	Safety nets	Social Security Legislation
<b>Actors</b>							
(a) Public Action	X	X	X	X	X	X	X
(b) Collective Private Action	X	X	X	X	X	X	
(c) Market-based		X		X			
(d) Individual Private Action		X			X	X	
<b>Risk focus</b>							
(a) Risk prevention and mitigation	X	X		X			X
(b) Risk Coping	X	X		X	X	X	
(c) Non-risk management policies that may affect risk management	X	X					X
<b>Duration of Action</b>							
(a) Short term measure	X	X				X	
(b) Long term measure	X	X	X	X	X		X
<b>Type of capacity deficit</b>							
(a) Measures to support those who cannot help themselves	X		X		X		
(b) Focus on the able-bodied	X	X	X	X		X	X
(c) Measures to provide basic food, health, housing and education security for all	X		X				X
<b>Key function</b>							
(a) Insurance	X	X		X			X
(b) Assistance	X	X	X		X	X	X
(c) Enabling/empowering social services & infrastructure	X						
<b>Type of risk addressed</b>							
(a) Co-variant (aggregate)	X	X					
<b>Dimension of well-being addressed</b>							
(a) Income and consumption	X	X	X	X	X	X	X
(b) Non-income dimensions of well-being (social, political etc)	X		X				X
<b>Includes a right focus</b>	X		X				X
<b>Explicit focus on the poor and deprived</b>	X		X		X	X	

## (D) ADVISORY GROUP ON GENERAL INSURANCE

### I. BUILDING PRICE INDEX FOR FIRE, MARINE, ENGINEERING, MOTOR & INDIVIDUAL HEALTH-TO IDENTIFY UNDERWRITING CYCLE

#### 1. What is an Underwriting cycle in Casualty Insurance?

- A recurring pattern of increases and decreases in insurance prices and profits
- In one way, it resembles “economic cycles” of the business activity
- Factors influencing underwriting cycle include number of market players, market shares, nature of the product and sources of supply and demand.
- Every line of business has variable profitability and growth, causes and period of cycle are also different.

#### 2. Theories and hypothesis explaining underwriting cycles

- There are number of theories and schools of thought explaining underwriting cycles
- Few major hypotheses include:
  - Market structure fluctuation or competition-driven pricing
  - Irrational forecasting errors or rate making methods
  - Institutional regulatory and reporting lags
  - Capital or capacity constraints
  - Interest rate
  - General business cycle

#### 3. Understanding underwriting cycle in India with evolution of insurance market- limitations for building price index

- Mainly four stages of evolution of insurance market in India
  - Emergence
  - Control
  - Breakdown
  - Reorganisation
- Characteristics of each of the evolution stages:

**i. Emergence**-emerging insurance markets are typically unstable, rapid growth in demands, erratic premium and prices, scope for unlimited growth and profits, every line of business began with fights over market share, more sellers rush in, supply exceed demand leading to price wars. Lack of experience, information and statistics lead to un-scientific pricing and careless underwriting. Higher loading in premiums leading product uncompetitive and lower loading in premiums leading claims exceed

premiums. Both scenarios are disastrous.

**ii. Control**- disruptive effects of emergence stage leads to agreement on prices, necessity of control of supply and standardisation of product/s. Regulator's intervention and common strategies

**iii. Breakdown**-Change in the market is spontaneous and control mechanisms tend to breakdown or find alternatives to achieve competitive edge.

**iv. Reorganisation**-Realisation of the potential of the market, pricing re-structuring with more information, experience, research and data leading to pricing more on the basis of scientific methods and competitive line of business.

#### 4. Methodology to identify, understand and model underwriting cycles

There is no unique methodology to model underwriting cycles as it is not a result of unique factors. One of the effective methods which can be used is to use the Gross premium as a **proxy to the price index** and using gross written premium as a proportion of market share. The concepts in this write up are based on this method. On the other side, methodology to develop suitable price indices for each LoB from gross written premiums is desirable. The model development is based on:

- Analyse historical underwriting cycle/s for each LoB and project for the future.
- Analyse volatility of ultimate loss ratios by LoB
- Study of volatility of changes to reserve estimates, by analysing how the ultimate loss changes from its estimation at succeeding 12 months from the year of claims/ accident to 120 months development
- Estimation of correlation between LoB's of the ultimate loss ratio and reserve development

#### 5. Identifying Historical underwriting cycle for each LoB

- Identifying underwriting cycle requires understanding historical cycles for each LoB, this involves representations from premium and claims data:
  - Gross and net payments made in respect and IBNR triangles during past years of operation under each of LoB
  - Gross and net premium triangles during all past years
  - Plot graph with year and year wise ratios of Gross loss/ gross earned premium
- Many theories about the causes and mechanics of the cycle. One of

the important theories is “Capacity constraint theory” focussing the dynamic relationship between pricing and surplus.

- Useful indicators/ trends can be derived by plotting proportionate net written premium to proportionate policy holder surplus. Proportionate means, premium / surplus as a percentage total premium/ surplus of the market.
- Each year represented as (surplus%, Net premium%) in the curve.
- This identifies the year to year movements of proportionate premium and surplus.

#### 6. Data source/s and limitations

- Table 41, Table 42, Table 44, Table 45, Table 46 and other tables published on 1st Jun'12 in IRDA web site as a part of Hand book on Indian Insurance statistics 2010-11 full report provide:
  - Table 41- Segment wise gross direct premium of Non-life insurers (Within India) providing data starting from year 2000-'01 to year 2010-'11 showing Fire, Marine, Motor and other premiums
  - Table 42- Segment wise net premium income in India (earned) under all general insurance categories starting from year 200-'01 to year 2010-'11
  - Table 44- Channel wise gross direct premium of Non-life insurers (Within India) providing data starting from year 2000-'01 to year 2010-'11 showing Fire, Marine, Motor and other premiums
  - Table 45- State wise gross direct premium of Non-life insurers (Within India) providing data starting from year 2000-'01 to year 2010-'11 showing Fire, Marine, Motor and other premiums
  - Table 46- Number of new business policies issued by Non-life insurers starting from year 2002-'03 to year 2010-'11

#### 7. Modelling underwriting cycle

- The key to the state of the cycle is Total premium share
- Define two regimes as “DOWN” and “UP”
  - “DOWN” regime/ Softening regime is an year in which the total premium share is less than previous year
  - “UP” regime / hardening regime is an year in which the total premium share is more than the previous year

- c. Plotting total premium share (TPS) against years
- d. The direction of change of total premium share to be a function of TPS
- e. Observe statistical behaviour in different regimes, duration, volatilities
- f. This can be identified by plotting  $\log(\text{TPS})$  values against years
- g. The sign of difference in  $\log(\text{TPS})$  values establishes the regimes, -ve means down regime +ve means up regime.
- h. Find suitable functions for UP and DOWN regimes as:
  - i.  $Y_{t+1} - Y_t = \text{FUP}(t) + \epsilon \text{UP}(t)$
  - ii.  $Y_{t+1} - Y_t = \text{FDOWN}(t) + \epsilon \text{DOWN}(t)$
  - iii. Fit the curves with appropriate values of the functions, noting the linear, non-linear or any other features of the  $\log(\text{TPS})$
  - iv. Conduct simulations using the appropriate fit for "UP" and "DOWN" regimes.
  - v. Leading to identifying durations of future underwriting cycles and volatilities.

## II. INFLATION INDICES- BUILDING RE-CONSTRUCTION COSTS/ MOTOR SPARE PARTS

### 1. Components of construction industry costs/ prices

Costs/ index can be measured from

- a. Supply side
- b. demand side

### 2. Measurement from supply side

Constituted from the following:

- i. Direct inputs mainly covers cost of
    - a. Materials
    - b. Labour
    - c. Energy
  - ii. Indirect inputs or overheads covering
    - a. Depreciation
    - b. Administrative expenses
  - iii. Productivity- refers to the efficiency with which inputs are converted into outputs through
    - a. Improved technology
    - b. Increased labour productivity
    - c. Effective organisational work
  - iv. Profit
- a. A component decided by items (i) to (iii) above.
  - b. Variations over periods, regions and wide fluctuations possible.

### 3. Measurement from demand side

Considers the final price paid by the purchaser for which along with items 2(i) to 2(iv) also include

- a. Price of the land
- b. Cost of obtaining approval of plans
- c. Taxes, water and electricity connection fees
- d. Insurance
- e. Professional fees in respect of legal, architects and engineers
- f. Registration charges
- g. Brokerages

### 4. Factors affecting output price of a construction project

- a. Changes in market conditions leading to widening/ shortening of profit margins- mainly related to demand and supply gaps
- b. Increases/ decreases in prices of direct inputs as referred in item 2(i)
- c. Economies of scale of direct inputs

### 5. Types of construction cost indices

Three main types of construction price indices are possible as:

- a. Input price indices
- b. Output price indices
- c. Seller's price indices
  - i. Input price indices are measured by compiling weighted index of the wages and materials

land preparation costs, bathroom/ kitchen fittings, overheads, profits and trade margins.

- iii. Sellers price indices include Taxes, Land, Architects fees, other costs, clients profit margin in addition to the output price indices

The table below consolidate information under item (5) above:

### 6. Items under the above table broadly split into the following category

For calculation of indices for different locations/ regions/periods, a detailed split up of the items in the above table is required. To evaluate the escalation of costs or change in index, there should also be a base year, value of the item during the base year, current cost and weightage/ contribution of item used. A further split up of items in the table may be essential depending on components used to create the item and price difference of those components,

### 7. Major elements of construction cost indices

Following are the major elements of construction of cost indices which are subject to analysis and judgments

- a. Construction type/ activity coverage
- b. Geographic/ regional coverage
- c. Items in the index
- d. Weights applied for each items
- e. Basis of prices

Items	Input price	Output price	Seller's price
	Elements paid by Contractor	Elements paid by Clients	Elements paid by final owner
Materials	Y	Y	Y
Labour	Y	Y	Y
Plant & Equipments	Y	Y	Y
Transport	Y	Y	Y
Energy	Y	Y	Y
Other costs	Y	Y	Y
Contractor's profit margins	N	Y	Y
Productivity overheads	N	N	Y
VAT	N	N	Y
Land	N	N	Y
Architect's fees	N	N	Y
Client's profit margins	N	N	Y

Y-refers included in calculation, else N

- ii. Output price indices measure changes in the prices of what is produced by entities engaged in construction industry. From the input price indices, this includes additional items equipment costs,
- f. Price collection and availability of published figures
- g. Index review
- h. Index formulae, if any
- i. Frequency of compilation/ calculation



Items	Unit price_ current (A)	Base price _Year_ xxx / unit (B)	No.of units used* (A) or Total cost of item (C)	No.of units used* (B) or total cost of item_base (D)	Weight of item= item cost: total cost (E)	Index (E) *(C) / (D)
APPLIANCES						
ARCHITECT						
CABINETS						
CARPET						
DRY WALL						
ENGINEERING						
FINISH CARPENTRY						
FLOORS						
FOUNDATION						
FRAMING						
GUTTERS						
HEATING/COOLING						
LANDSCAPING						
LIGHT FIXTURES						
MIRRORS						
MISCELLANEOUS						
PAINTING						
PERMITS						
PLANS						
PLUMBING						
ROOF						
SECURITY						
STUCCO						
TILE						
VINYL						
WALLPAPER						
OTHERS (SPECIFY)						
TOTAL						

### 8. Classification of data on quality and size

Items representing components/contributors for construction vary by its quality and cost. The above index need to be classified into Low, Medium and High according to the product range and standard of items used/applied for construction. However, on a time to time basis, change in values of index might show similar trends in escalation of costs.

### 9. Other factors to consider

Keeping in view of the complexity and variability of methods and operations of construction, calculation of construction indices to be based on the need/ purpose of application. The following characteristics may have to be kept in mind for creating an index and its use

- The range of construction activities conducted in different locations/ regions or in the country

- Construction techniques commonly used for each type of construction activity together with an idea of change of techniques/ rate of change in techniques used

- Types and nature of entities undertaking construction activities and their characteristics

- Administrative arrangements for the maintenance of building/ construction standards

- Administrative arrangements for government authorisation of individual construction projects

### 10. Developing Process

The major processes in the development and compilation of construction price indices using the “model price” methodology adopted by many developed nations take the following steps:

- Selection of a small, representative group of recently constructed buildings,

civil engineering projects, etc. as models. The number of models required depends on the range of construction activity to be included in the index, diversity of the specifications for each type of activity, and regional diversity.

- Specification of the hundreds of detailed tasks or component trades in the construction of these model projects. These are prepared using architectural drawings and specifications. Also involves the development of components for the general requirements (overheads and profit margins) of the main construction contractor.
- Selection of a sample of components. The selection of components within each trade area is based on both money value and the coverage of significant materials and/or products involved. A goal might be to select components which cover at least 70 per cent of the total value of the trade.
- Development of specifications for each component to include quantities involved and base-weight unit prices. Specifications must be exact to avoid the risk of varying interpretation by different respondents.
- Selection of a sub-sample of subcontractors and general contractors in the appropriate geographic areas from whom prices are collected. An important goal is to select contractors who are actively engaged in building sample components and can report price quotes based on recent experience. Some respondents might be able to supply quotes on components included in more than one model.
- Collection of periodic reports for a sample of these components from subcontractors. These should be based on current prices they charge (including overheads and profit) for the component they supply. Price collection may be done by telephone or mail, generally after an initial personal visit to gain co-operation and discuss reporting problems. The prices of electrical and mechanical equipment can be obtained from manufacturers of the equipment.
- Calculation of a price index for the construction as a weighted combination of these component prices. This is done by multiplying new price quotations by base period weights, and comparing the result to base period model prices.
- Development and implementation of an ongoing process of index review to revise the list of model projects, weights, component items, respondents, etc.

## 11. Motor Spare parts index

- a. The methodology of calculation of construction cost index can equally be applied to calculate motor spare parts index as well. The classification of vehicles and manufacturers of all listed spare parts need to be considered. This would be a Producer price index related to respective producers of spare parts.

## (E) ADVISORY GROUP ON LIFE INSURANCE

### I. ECONOMIC SCENARIO GENERATOR- UNDERSTANDING NEEDS AND REQUIREMENTS IN INDIAN MARKET.

#### 1. What is an Economic Scenario Generator (ESG)?

- a. An economic scenario generator refers a model which can project economic values.
- b. Used for
  - i. Different asset classes
  - ii. Different product areas
  - iii. Different sectors
- c. Asset classes include
  - i. Equities
  - ii. interest rates
  - iii. inflation
  - iv. Derivatives
  - v. Exchange rate/ currency
  - vi. Property
- d. Product areas include
  - i. Capital measurement
  - ii. Product communications & advice
  - iii. Product design & governance
  - iv. Risk & Capital Management
- e. Sectors include
  - i. Asset and wealth management
  - ii. Insurance
  - iii. Pension fund
  - iv. Retail distribution
  - v. Consultancy
- f. The economy move in relation with many parameters.
- g. Which lead to many possible values on projection, it could be a single value as well in certain circumstances.
- h. The model which take care of the scenarios or distribution of values turn out to be a stochastic model.
- i. In case of single scenario, the model would be deterministic.
- j. A single set of scenarios may not suit for different needs.
- k. The process of creating ESG involves the stages of actuarial control cycle as specify the problem, develop the solution and monitoring experience.

#### 2. Why do we require ESG

- a. The market is ever changing, uncertain and unpredictable.
- b. Factors influencing the financial market

can be modelled, as it exhibits structure and shape over short and long term.

- c. Predicting uncertain events of the financial market require creating/ replicating possible scenarios
  - i. By forecasting future
  - ii. By projecting past
  - iii. By observing present
- d. Helps to reduce uncertainty for key financial decision making and reduce risk.
- e. For pricing a financial product with optimum accuracy level
- f. Evaluating contingent cash flows of all future times

#### 3. Approaches for generating economic scenarios

- i. real world scenario
- ii. market consistent scenario
- a. Real world scenario generators
  - i. Calibrated to historical economic data
  - ii. Reflect real world volatility
  - iii. Preferred for longer term capital management
- b. Market consistent scenario generators
  - i. Replicate market option prices
  - ii. Provide arbitrage free scenarios
  - iii. Preferred for pricing of complex financial instruments
- c. Market consistent scenarios show greater volatility than real world scenarios.

#### 4. Inputs and models

- a. Inputs leading to generation of real world scenarios include initial conditions, normative assumptions, calibration parameters and economic data, including interest rates, GDP, inflation, earnings yield, dividend yield and equity risk premium of the economy
- b. Input market prices for market consistent scenarios
- c. Number of models available in the market developed by organisations/ companies specialised in risk management and/or economic scenario generation based on different requirements of users.

## II. CRITICAL ILLNESS- INDIAN EXPERIENCES VIS-A-VIS CIBT 93 RATES

- a. Critical illness has been a profitable business for the insurers of India in general. This might be mainly due to reasons as under;
  - i. The pricing basis uses CIBT 93 incidence rates with suitable adjustment, adjustment being more in arbitrary and cautious manner.
  - ii. The claim admission process is stringent and low level of admission of claims.

- iii. The CI rider might have sold to more healthy lives and not reaching to the needy with a reasonable cost.

- b. However, the Indian insurance market has unlimited potential to buy a critical illness benefit, which the insurers could not exploit so far. One of the possibilities for this non-acceptability of the CI rider benefit by a wider group of population could be the perception of customers regarding the value for money in comparison with alternative options.
- c. We need to agree that an upfront increase in all age ranges of the CIBT 93 rates is unrealistic. On the other side, any adjusted rates by re-insurers also not based on experiences in the market. In different periods, the incidence rates might show different trends for the same age/s. It would become a gambling rather than a measurement when we continue to adopt the technique of enhancing the old rates either for pricing or reserving.
- d. We have data available with all insurers and re-insurers in small volumes, possibly could become reasonably large if pooled from all of us and by clubbing data from linked and non-linked business. A possibility of re-looking into the rates in use by understanding the pulse of Indian lives might help us to identify the level and length of under-pricing/ over-pricing done in the products offered. It may be possible to relax the rigidity of definition and acceptance of claims to the expectations of the policy holders and penetrating into the market deeper.
- e. An investigation into the current practises adopted in the Indian Market for pricing and reserving CI benefits would be a beginning to understand the adequacy of the incidence rates applied by the Insurers in India. Any proxy methods currently adopted may also be evaluated on the basis of any outcome of such investigation. An attempt to identify major diseases in respect of its severity and incidence also might help to develop products with more flexibility.
- f. After CIBT 93, CMI of Institute of Actuaries of UK has captured CI experiences of the market for different periods starting from year 1999 to 2006 in its working papers and referred rates in CIBT 02, WP 43 and AC 04. The size of claims data used for all these working papers could also be achieved from all our sources as well and a possibility to re-look into the adopted rates arise.



# SHAPING ENDURING THOUGHT LEADERS OF INSTITUTE OF ACTUARIES OF INDIA

by Nimesh Rathod, Faculty IAI's Leadership Development Initiative

## Changing face of the Indian Actuarial Profession:

As the world moves towards greater integration in all aspects of life including commerce, all businesses do get influenced by global best practices. Along with these arrive a natural set of expectations from today's professional. No longer it is acceptable that a specialist professional may have some discomfort on managerial science.

Increasingly evidence proves that the senior most people in an organisation, may it be the CEO, COO, Chief Actuary or CFO must possess acute sensitivity to risk and must have the ability to manage those risks in a globally volatile business environment.

For a company a choice by default for very senior position could be an actuarial professional mainly because of high intellect, and immense capacity to estimate and hence manage risks. However given the current skill sets, some gaps have been identified time and again, thro' feedbacks at various forums.

IAI has initiated a specially designed leadership program to fillup some of these skill gaps to enable its members to stake their rightful claim in their company to be eligible for some of the highest leadership levels. This is in consonance with IAI's Vision, Mission and Value statement;

## IAI VMV doc\_draft ver1.00/10th July, 2011

**The Vision:** IAI to be globally well recognised professional organisation, developing enduring thought leadership to manage uncertainty of future financial outcomes.

## The Mission/Objectives:

- To educate/train risk professionals
- To enhance and maintain high professional standards
- To shape Public Policy and Awareness
- To engage with other professional/regulatory/government bodies
- To promote/build IAI as a respected Brand of risk management globally
- To promote Research, to advance actuarial science/application

## The Values:

- Integrity
- Respect for others' views
- Accountability
- Continuing learning/Research oriented learning
- Transparency
- Be responsive/ sensitive
- Enduring Thought Leadership is the key element in attributes that IAI expects from its members.

## The first step in the right direction to develop Enduring Thought Leadership:



## Workshop in progress Participants



As a part of the Strategy Initiative and to test the first step, a one day workshop in leadership development was introduced as part of the 15th India Fellowship Seminar (IFS), 17th June, 2011. Along with it a dedicated communications workshop was introduced as a part of CA3: Communication pre-exam preparation. Post event feedback survey was carried out to get the feel of what the participants experienced, besides comments during the workshops.

Given below are some comments made by participants in Leadership Development Programmes held on 30th June, 2012 on the sides of the 17th IFS;

1. Senior Manager at Aegon Religare Life Ins. Co. Ltd. says post the workshop "I have had a great day and excellent experience...with fun"
2. Investment Advisor, Tactica Capital Mgmt. Pvt. Ltd says, "Role plays and

## About the Author



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Nimesh is a visiting faculty at SP Jain Institute of management and research and has also trained more than 6000 Chartered Accountants as a part of their qualification program, GMCS at ICAI.

Nimesh currently, aside from his normal other activities is Faculty for IAI's Leadership Development Initiative.

cases were very illustrative".

3. AVP, DLF Pramerica Life Ins. Co says, "Open discussions very helpful in bringing out many aspects of a situation."
4. Senior VP, Canara HSBC life Ltd. Says "Good practical solutions and well structured workshop"
5. "This workshop is very different with few slides and focused on experiences, would like to know more about the other programs being conducted"...as said by AVP Swiss Re shared services p. Ltd.
6. Says AAO, LIC of India, "Very Useful. Covering the solutions of day to day problems of personal and official life..."
7. Sr. manager of IDBI federal says, "The workshop was very good. It helped me understand myself"

Given the experience of three programmes conducted on the sides of the IFS and one on the sides of the CA3: Communication examination, IAI has decided to provide this opportunity to wider membership at various cities. Two days leadership programmes are lined up:

**Bangalore** - 11 & 12 August, 2012 and  
**Gurgaon** - 18 & 19 August, 2012.





# A BIRD'S EYE VIEW OF THE LIFE INSURANCE INDUSTRY

by Vivek Jalan

The growth rate of the Indian economy moderated to 6.9 per cent of Gross Domestic Product (GDP) in FY2011-12 (April 2011 to March 2012), following a healthy growth rate of 8.4 per cent per annum over the preceding two financial years as per Asian Development Bank estimates. This, together with the structural challenges confronting the investment climate and slow pace of economic reforms have prompted credit rating agencies such as Standard and Poor's and Fitch to downgrade the economy's credit outlook to 'negative' from 'stable'. In another development, Moody's has downgraded the credit rating of public-sector insurer Life Insurance Corporation (LIC) from Baa3 to Baa2 on account of its high exposure to Indian sovereign debt, lack of strong foreign ownership, increasing investment in public sector entities and lack of revenue and earnings diversification. Industry and government bodies, on the other hand, argue that India's slowdown is largely due to negative external conditions and that high levels of net foreign institutional investment have been maintained in the first few months of 2012. It has been a volatile period for the Indian economy, which in the past decade had been viewed very favourably both internally and externally.

In addition to these economic challenges, significant changes in the regulatory environment saw the Indian life insurance sector register a fall in new business premium sales in FY2011-12. According to data released by the Insurance Regulatory and Development Authority (IRDA), the life insurance industry collected weighted new business premium of Rs677.7 billion in FY2011-12, 2.9 per cent lower than the collections for the previous financial year. Market leader LIC recorded a 7.6 per cent growth in weighted new business premiums, which was much lower than the growth rate of over 30 per cent per annum recorded in the previous two financial years. On the other hand, private life insurers endured a 17.9 per cent decline in weighted new business premium collections, thus resulting in a contraction of nearly 3 per cent in the weighted new business premiums for the industry. Even on an unweighted basis, new business premium collections of the industry dipped by 9.2 per cent in FY2011-12. Trends for the first two

months of FY2012-13 are somewhat encouraging with a 1.4 per cent increase in unweighted new premium in the period April to May 2012 compared to the corresponding period in the previous financial year.

The industry has been working towards shifting their product mix in favour of non-linked business since September 2010, when the unit linked guidelines became effective. This trend has continued unabated in FY2011-12. In terms of weighted new business premium, non-linked life business registered a growth of 20.8 per cent, and accounted for 65.2 per cent of the total weighted new business premium collected by the life insurance industry in FY2011-12. At the same time, weighted new business premium from linked life business and pensions business fell sharply by 41 per cent and 14.7 per cent respectively on a year-on-year basis.

At a time when new business premium levels are low, insurers have continued their internal focus on controlling their expenses and improving productivity and efficiencies, which has resulted in a number of life insurers reporting profits for FY2011-12, signalling that the industry may now be entering a lower growth but profit generating stage of its development.

Life insurers continue to launch products for sale through the internet to increase reach and cut costs. A recent study by the Financial Chronicle Research Bureau covering 12 large life insurers indicated a positive growth in renewal income indicating that insurers are increasing focus on ensuring higher persistency. Some other press reports say that companies are increasing emphasis on up-selling and cross-selling additional insurance to their existing customer base.

The life insurance market is abuzz with reports of some major foreign players deliberating on an exit from India as part of their global restructuring and other internal considerations, which could lead to potential shareholding changes. Global banking and wealth management group HSBC and Dutch group ING reportedly plan to divest their stakes in Canara HSBC OBC Life and ING Vysya Life respectively. Most recently, reports suggest that Belgian company Ageas

## About the Author



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Vivek Jalan is Director - Risk Consulting at Towers Watson in India and leads the life insurance consulting practice"

may also be looking to exit the Indian life insurance market by selling its 26 per cent stake in IDBI Federal Life Insurance. New York Life has announced its exit from its joint venture Max New York Life, with Mitsui Sumitomo Insurance of Japan effectively acquiring its 26 per cent stake.

The regulatory front continued to witness heightened activity in the past few months. The rising interest in mergers and acquisitions (M&As) in the industry saw the regulator come out with draft guidelines governing M&As in life insurance business. Furthermore, in an attempt to control policy buyer costs and limit the sales of policies with limited tenure, the IRDA is reportedly considering a change in commission structures such that commission rates vary by premium payment term, offering higher payoffs to agents on longer duration policies. Additionally, the regulator is planning to impose a minimum retention limit with respect to the risk that must be retained by insurance companies and not ceded to reinsurers.

In May 2012, a committee of representatives from various Indian life insurers and the IRDA gathered together to discuss the issue of product approvals. Key issues discussed included inclusion of products with index-linked benefits within variable insurance plans, revision to the calculation of minimum guaranteed surrender values for products and proposals for higher minimum sums assured on products, in compliance with the revised taxation rules which have increased the minimum death cover requirement (as a multiple of premium) for tax benefit. It is indicated that all products will need to comply with new product guidelines by 30 September 2012. However, discussions on drafts are underway and final product guidelines have not been released at the time of writing this update.



# THE FRAMEWORK OF INTEGRITY AND PROFESSIONALISM AMONG ACTUARIES IN THE UNITED STATES

by Rajendra P Sharma



**T**he Council on Professionalism of the American Academy of Actuaries (Academy) encourages actuaries to achieve and maintain a high level of professionalism in their practice. It coordinates its activities with two boards that operate independently and serve the U.S. profession: the Actuarial Standards Board (ASB) and the Actuarial Board for Counseling and Discipline (ABCD).

## Code of Professional Conduct

The code identifies the professional and ethical standards required of actuaries who belong to the Academy. It sets forth what it means for an actuary to act as a professional. It identifies the responsibilities that actuaries have to the public, to their clients and employers, and to the actuarial profession. Identical codes have been adopted by the Society of Actuaries, the American Society of Pension Professionals and Actuaries, the Casualty Actuarial Society, and the Conference of Consulting Actuaries.

The purpose of this Code is to require Actuaries to adhere to the high standards of conduct, practice, and qualifications of the actuarial profession, thereby supporting the actuarial profession in fulfilling its responsibility to the public. An Actuary shall comply with the Code. An Actuary who commits a material violation of the provisions of the Code shall be subject to the profession's counseling and discipline procedures.

The Precepts of the Code identify the professional and ethical standards with which an Actuary must comply in order to fulfill the Actuary's responsibility to the public and to the actuarial profession. The Annotations provide additional explanatory, educational, and advisory material on how the Precepts are to be interpreted and applied. Where requirements of Law conflict with the

Code, the requirements of Law shall take precedence.

## Actuarial Standards of Practice (ASOPs)

ASOPs provide guidance on the techniques, applications, procedures, and methods that reflect appropriate actuarial practices in the United States.

## The Actuarial Standards Board (ASB)

establishes and improves standards of actuarial practice. These Actuarial Standards of Practice (ASOPs) identify what the actuary should consider, document, and disclose when performing an actuarial assignment. When creating or revising an ASOP, the ASB reviews and evaluates current and emerging practices; determines appropriate guidance; publishes an exposure draft to obtain input from actuaries and other interested parties; considers all comments received; and publishes a final standard or another exposure draft.

The ASB comprises nine persons representing a broad range of backgrounds and areas of actuarial practice. Each ASB member is appointed to a three-year term, with staggered terms. No board member is permitted to serve more than two consecutive terms. Members of the ASB are appointed by the Council of U.S. Presidents composed of the presidents and presidents-elect of the American Academy of Actuaries, the American Society of Pension Professionals and Actuaries, the Casualty Actuarial Society, and the Society of Actuaries.

The comment period in most cases is a minimum of 60 days. Some exposure drafts are so complex or controversial or portend a sufficiently major impact on the actuarial profession as to require a public hearing, which is open to anyone,

including the media. In these cases, the ASB chairperson authorizes hearings. When all exposure steps are completed, the ASB considers all submitted comments and revises the draft as it sees fit. In order to adopt a proposed standard six members of the board must vote in favor. Once standards are approved by the ASB, they are posted on the ASB website and all US actuaries and other interested parties are notified by e-mail.

ASOPs serve to assure the public that actuaries are professionally accountable. Standards protect the public by:

- Indicating for various areas of actuarial practice the appropriate procedures, techniques, and approaches, thereby enhancing the public's trust in the credibility and completeness of the actuarial work product.
- Providing a means by which the many separate elements that make up actuarial practice can be reviewed and updated on a regular basis, so that practice remains current.
- Furnishing criteria for evaluating actuarial work products.
- Providing a basis for discipline in those instances in which standards are not adhered to.

For individual actuaries, standards confer major benefits as well, by:

- Providing guidance, particularly in practice areas that may be somewhat unfamiliar.
- Giving strong evidence to any interested observer that the profession serves the public in an effective and responsible way.
- Offering evidence of appropriate professional performance, which

constitutes a defense in any civil or professional disciplinary action.

Standards of practice also serve to further assure regulatory authorities that they can depend on the actuarial profession to act effectively in the public interest. A written standard of practice, coupled with written provisions for disciplining members, show that a profession governs itself and takes an active interest in protecting the public.

### The Actuarial Board for Counseling and Discipline (ABCD)

ABCD was established by the U.S. actuarial organizations in 1991 to strengthen members' adherence to the recognized standards of ethical and professional conduct. The Board has two primary functions: it responds to actuaries' request for guidance on professional issues and it considers complaints about possible violations of the actuarial codes of professional conduct.

The ABCD's nine members represent all main areas of actuarial practice and the five main U.S. actuarial organizations—the American Academy of Actuaries, the American Society of Pension Professionals and Actuaries, the Casualty Actuarial Society, the Conference of Consulting Actuaries, and the Society of Actuaries. Each of the four primary areas of actuarial practice (casualty, health, life, and pension) is represented by at least two members of the ABCD. The ABCD's members are appointed by the Council of U.S. Presidents, an Academy committee composed of the presidents and presidents-elect of the five organizations.

### Guidance for actuaries

In addition to considering cases involving possible violations of the Code of Professional Conduct, the ABCD provides guidance to actuaries who ask for help in interpreting the Code and/or ASOPs. In some cases, the requests are informal. Generally, an individual ABCD member answers an informal inquiry. These responses represent the individual ABCD member's considered opinion, not necessarily the views of the ABCD as a whole. In other cases, more formal responses are requested. The ABCD as a whole considers such

matters, and, if appropriate, provides written formal guidance. The ABCD also responds to requests for guidance from actuarial students and to requests for information from others, such as users of actuarial services.

### Complaints

The ABCD, within its jurisdiction, is authorized:

- To consider all complaints concerning alleged violations or information suggesting possible violations of the applicable Code(s) of Professional Conduct and all questions that may arise as to the conduct of a member of a participating actuarial organization in the member's relationship to the organization or its members, in the member's professional practice, or affecting the interests of the actuarial profession.
- To counsel actuaries concerning their professional activities related to the applicable Code(s) of Professional Conduct in situations where the ABCD deems counseling appropriate.
- To recommend a disciplinary action with respect to an actuary to any participating organization of which the actuary is a member.
- To mediate issues between members of participating actuarial

organizations, or between such members and the public, for the purpose of informally resolving issues concerning the professional conduct of such members.

### Conclusion

There are two independent boards that serve to maintain the integrity and professional conduct of actuaries in the U.S.: the Actuarial Standards Board (ASB) and the Actuarial Board of Counseling and Discipline (ABCD). The ASB works to set standards for appropriate practice by establishing ASOPs that highlight what the actuary should consider, document, and disclose when performing an actuarial assignment. The ABCD responds to actuaries' request for guidance on professional issues and considers complaints about possible violations of the actuarial Code(s) of Professional Conduct. Though independent, the ASB and ABCD work to strengthen actuaries' adherence to standards set for exemplary professional and ethical conduct in the U.S.

### About the Author



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**MANY  
HAPPY RETURNS  
OF THE DAY**

the Actuary India wishes many  
more years of healthy life to  
the following fellow members  
whose Birthday fall in  
**July 2012**

<b>K. V. Y. SASTRY</b>
<b>R. SRINIVASAN</b>
<b>A. K. GARG</b>
<b>M. U. UPADHYAYA</b>
<b>K. K. WADHWA</b>
<b>P. C. MOHANTY</b>
<b>H. L. JAIN</b>
<b>JAGADISH S. SALUNKHE</b>
<b>K. N. VISHWANATHAN</b>
<b>A. D. GUPTA</b>
<b>A. V. GANAPATHY</b>

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



## NON-LIFE INSURERS POST 18 PERCENT GROWTH IN MAY 2012

IANS- 27th June, 2012

**T**he Indian non-life insurance sector logged an overall premium growth of 18.27 percent in May 2012 as compared to the same period of 2011, as per figures released by Insurance Regulatory and Development Authority (IRDA) Wednesday.

In May, the 24 non-life insurers posted a total premium of Rs.4,880.81 crore up from Rs.4,005.96 crore earned in May 2011.

However the premium growth was higher in the case of government-owned insurers as compared to private players.

The six public sector non-life insurers

(New India Assurance Company, National Insurance Company, Oriental Insurance Company, United India Insurance Company, Export Credit Guarantee Corporation and Agricultural Insurance Company) together wrote a premium of around Rs.2,836 crore as against the remaining 18 private players who had booked around Rs.2,044 crore.

City based United India leads the industry earning a premium of around Rs.773 crore and is followed by New India with Rs.707 crore in May.

The private sector club is led by ICICI Lombard with a premium of around

Rs.358 crore followed by Bajaj Allianz that earned around Rs.309 crore last month.

Among the city based non-life insurers, while United India maintained its lead, private player Cholamandalam MS General Insurance overtook Royal Sundaram Alliance last month.

Cholamandalam MS earned a premium of Rs.132 crore as against Royal Sundaram's Rs.121 crore.

**Source:** <http://in.news.yahoo.com/non-life-insurers-post-18-percent-growth-may-181232562-finance.html>

### WE WILL BE PUBLISHING PROFILE OF COMPANIES INVOLVED IN OFFSHORE ACTUARIAL WORK IN INDIA.

India has a fast growing actuarial talent pool and a matured outsourcing industry, and is thus increasingly recognized as a force to reckon in the actuarial outsourcing arena. With regulatory environments changing, and greater focus on driving costs down around the world, India can emerge a preferred destination for actuarial services off-shoring besides location of Actuarial Consulting a la Hong Kong and Singapore.

Keeping this in mind we have planned to publish profiles of some companies involved in Off-shored Actuarial work, in the forthcoming issues of magazine. **To start with a brief profile of R.R. Donnelly is published herewith.**

RR DONNELLEY

RR Donnelley is a full service provider of outsourcing resources and its offering includes actuarial support

RR Donnelley has substantial experience in providing clients with judgment-based actuarial processes such as catastrophe modeling, high-end analytics (including predictive modeling), reserving, global loss triangle calculations, capital modeling and pricing. Analysts continue to pursue additional actuarial studies in order to deliver enhanced value to clients



RR Donnelley is a publicly traded corporation (NASDAQ symbol RRD), with approximately 58,000 employees worldwide and revenues in 2011 of \$10.6 billion. RR Donnelley's global headquarters is located at 111 South Wacker Drive, 35th Floor, Chicago, IL 60606

Company Name	RR Donnelley
Head Office Address	Global Headquarters: 111 South Wacker Drive, 35th Floor Chicago, IL 60606
Number of employees	Approximately 58,000 employees worldwide
Sales Figure	\$10,611 (in millions) in 2011

## MAKE PENSION MEMBERSHIP COMPULSORY, SAYS OECD

The Actuary Newsdesk, 12th Jun 2012

**G**overnments should consider making private pension membership compulsory and linking retirement ages to increasing life expectancy to make national pension systems sustainable, the Organisation for Economic Co-operation and Development said yesterday.

Over the next 50 years life expectancy at birth in developed economies is expected to increase by more than seven years and increases in retirement ages are underway or planned in 28 out of the 34 OECD countries.

But the organisation's Pensions Outlook 2012 found that these increases were only expected to keep pace with improved life expectancy in six countries for men and in 10 countries for women.

A formal link between retirement ages and life expectancy would help to ensure pension systems are both affordable and adequate, the OECD said.

These links already exist in Denmark and Italy, and the UK government announced plans earlier this year to automatically review the state pension age in line with longevity increases.

With many people in countries where private pensions are voluntary facing a major fall in income when they retire, the OECD said countries should also consider making pension membership compulsory to help close the 'pension gap'.

'Making private pensions compulsory would be the ideal solution to eliminate the pension gap and ensure benefit adequacy,' the report said

Auto-enrolment is a 'second-best' option, which had seen mixed results to date. In New Zealand, it had created a major expansion in private pensions, but had only a small effect in Italy, the report noted. The UK begins introducing auto-enrolment for workplace pensions this autumn.

Angel Gurría, the OECD's secretary general, said: 'Bold action is needed. Breaking down the barriers that stop older people from working beyond traditional retirement ages will be a necessity to ensure that our children and grandchildren can enjoy an adequate pension at the end of their working life.'

'Though these reforms can sometimes be unpopular and painful, at this time of tight public finances and limited scope for fiscal and monetary policy, these reforms can also serve to boost much needed growth in ageing economies.'



## NUMBER OF OLD PEOPLE WORKING 'ALMOST DOUBLED SINCE 1993'

The Actuary Newsdesk - 13th Jun 2012

**T**he number of people working beyond the state pension age almost doubled between 1993 and 2011, according to figures published today by the Office for National Statistics.



Photo: iSTOCK

In 1993, the number of 'older workers' was 753,000 but by 2011 this had increased to 1.4 million, with a particularly steep rise after 2000. The increase was largely mirrored by a rise in the proportion of the older population in employment – up from 7.6% in 1993 to 12% in 2011.

Two thirds (66%) of those working past the state pension age in the last quarter of 2011 were working part-time, compared

to just 25% of those under state pension age. Older workers were also more likely to be self-employed – 32% of the older workforce was registered self-employed, compared to 13% of those under the state pension age.

According to the ONS, this shows that those remaining in the labour market work fewer hours, possibly helped by money from the state and other pensions allowing them to fit work around other engagements.

Over half (61%) of the older workforce during the last quarter of 2011 were women, who were most commonly employed as cleaners. Two-thirds of the older women workforce were employed in jobs classed as lower skilled, whereas among men, two-thirds were in 'higher skilled' roles. The two most common jobs carried out by men were farmers and taxi drivers.

Darren Philp, policy director at the National Association of Pension Funds, said the figures showed that having an increased number of older people in the

workforce was becoming the norm.

'Many are choosing to ease into their retirement for social and financial reasons, and part-time work is a popular option. Employers also value the skills and experience of older staff,' he said.

He warned, however, that there were increasing numbers of people who wanted to retire but couldn't afford to do so.

'With half the workforce not saving into a pension, this is going to become a painful reality for millions. It is vital that we get more people planning and saving for their old age and that they start as early as possible,' he said.

Tom McPhail, head of pensions research at Hargreaves Lansdown, said the trend was likely to accelerate over the next few years. 'It presents a significant challenge to individuals and employers who will need to find ways to accommodate more flexible working patterns and later retirement ages,' he added.



# FINANCIAL STABILITY BOARD REPORTS TO G20 LEADERS ON FINANCIAL REGULATORY REFORM PROGRESS

BIS - 19 June 2012

**A**t the Los Cabos Summit today, G20 Leaders endorsed recommendations to put the Financial Stability Board (FSB) on an enduring organisational footing, with legal personality and greater financial autonomy. They also endorsed the FSB's amended Charter, which strengthens the FSB's role in coordinating international standard setting and in monitoring implementation of agreed policies and international standards at the national level. Leaders called for full implementation of the recommendations by the next G20 Summit in September 2013.

The Chairman of the FSB, Mark Carney, welcomed the Leaders' endorsement, noting that "These steps will enable the FSB to play a more continuous and visible role in crisis prevention, coordination of international standard setting, review of regulatory policies, and comprehensive monitoring of members' implementation of agreed policies. As it institutionalises, the FSB intends to maintain its lean structure, its member-driven character, and its tight connection to the G20".

In his remarks to the Summit, Mr Carney reported on the progress made by the FSB and its members in developing and implementing the broad programme of financial reforms mandated by the G20. He stressed the importance of timely, full and consistent implementation of agreed reforms in order to restore confidence and trust in the financial system and preserve the advantages of an open and globally integrated financial system. "Recent experience demonstrates that when market participants and authorities lose confidence in the strength of financial institutions and markets in other countries, the retreat from an open and integrated system can occur rapidly."

In a letter to the G20 Leaders prior to the meeting the Chair set out the key elements of recent progress on the reform programme and next steps.

The FSB is publishing today the following reports delivered to G20 Leaders:

- an overview report on progress in the implementation of the G20 recommendations for strengthening financial stability;

- a "scoreboard" status report prepared by the FSB Secretariat, in consultation with FSB members, that assesses the current state of progress made in global policy development and implementation of financial regulatory reforms;

- recommendations for strengthening the FSB's capacity, governance and resources, including a revised Charter for the FSB;

- a report, identifying the effects of regulatory reforms on emerging market and developing economies and reviewing potential unintended consequences, prepared in coordination with the staff of the International Monetary Fund and the World Bank (on which a separate press release has been issued today).

In their Los Cabos communiqué, the G20 Leaders welcomed the FSB's progress report, including enhanced monitoring of implementation of reforms at the national level. They committed to implement financial reform to agreed timelines and expressed support for the ongoing policy work of the FSB and its members:

- to strengthen national resolution regimes and recovery and resolution planning for global systemically important financial institutions (global SIFIs);
- to strengthen the oversight and regulation of the shadow banking system;
- to extend the framework for SIFIs to domestic systemically important banks, and to global systemically important insurers and other non-bank financial entities;
- to implement over-the-counter (OTC) derivatives reforms (report published on 15 June);
- to implement the FSB Principles and Standards for Sound Compensation Practices (report published on 13 June);
- to identify potential unintended consequences of agreed financial regulatory reforms for emerging market and developing economies (report published today). Leaders encouraged continued monitoring, analysis and reporting on the subject;

- to end mechanical reliance on credit rating agency ratings. Leaders called for accelerated progress by national authorities in this respect;
- to improve adherence to supervisory and regulatory cooperation and information exchange standards.

G20 Leaders also endorsed the FSB recommendations regarding the development of a global legal entity identifier (LEI) for parties to financial transactions, with a global governance framework representing the public interest. The FSB report to the G20 with recommendations on the LEI was published on 8 June.

They pledged to take all necessary actions to make progress in the areas where difficulties in policy development or implementation have been identified. The FSB overview progress report on implementation of reforms provides more detail on these and other financial regulatory reform initiatives.

## Notes to editors

The reports are available on the FSB's website, [www.financialstabilityboard.org](http://www.financialstabilityboard.org).

The FSB has been established to coordinate at the international level the work of national financial authorities and international standard setting bodies and to develop and promote the implementation of effective regulatory, supervisory and other financial sector policies in the interest of financial stability. It brings together national authorities responsible for financial stability in 24 countries and jurisdictions, international financial institutions, sector-specific international groupings of regulators and supervisors, and committees of central bank experts.

The FSB is chaired by Mark Carney, Governor of the Bank of Canada. The FSB Secretariat is located in Basel, Switzerland, and hosted by the Bank for International Settlements.

For further information on the FSB, visit the FSB website, [www.financialstabilityboard.org](http://www.financialstabilityboard.org).





## S.E.C. WARY ON GLOBAL ACCOUNTING STANDARD

New York Times - 14th July 2012

**A**merican enthusiasm for international accounting standards appears to have waned.

Without any fanfare, the staff of the Securities and Exchange Commission released a long-delayed study about use of international accounting standards in the United States on Friday afternoon, several weeks after it had been finished. The report was prepared by James Kroeker, the chief accountant of the commission, and released on the last day before his resignation took effect.

As expected, the report contained no recommendations, but its general tone was far more cautious than proponents of the use of international standards had hoped.

After studying the issue for more than two years, the staff reported that while international standards "are generally perceived to be of high quality by the global financial reporting community," adopting them as authoritative in the United States was "not supported by the vast majority of participants in the U.S. capital markets."

Four years ago, the commission seemed to be much more enthusiastic when it announced plans to accept filings using international rules from foreign companies whose securities trade in the United States and set out a schedule that it said could lead to adoption of the rules for American companies.

The commission asked for public comment on the report but gave no indication of when, or whether, it would consider taking action.

International standards, which are written by the London-based International Accounting Standards Board, have been adopted by many countries. American companies must use rules established by the Financial Accounting Standards Board, a group chosen by the S.E.C., and foreign companies that do not use international standards must reconcile their statements with the American rules before their securities can trade in American markets.

It appears that whatever happens, international rules will not be adopted automatically in the United States when they are enunciated by the international board. That board, the staff report stated, "does not have a mandate to consider the establishment of standards with the focus of any single capital market," and added that "it may be necessary to put in place mechanisms specifically to consider and to protect the U.S. capital markets."

One way to do that, it said, would be "maintaining an active F.A.S.B. to endorse" each international standard before it was incorporated into United States rules.

Some large American-based

multinational companies pushed for allowing American companies to use the standards, but many domestic companies voiced fears about the cost of making changes. The large accounting firms have generally pushed for adoption of the international rules, and the American Institute of Certified Public Accountants said Friday that it hoped the commission would at least allow United States companies to use the standards if they wished to do so.

The goal of a single set of high-quality accounting standards used around the world has been endorsed by many countries, but in practice it has not happened even when international standards have been accepted. Some jurisdictions, including the European Union, adopted international rules with carve-outs and exceptions desired by local companies. In addition, the S.E.C. staff report said that there was diversity in the way the standards were applied in different countries even when the rules were identical.

If the United States does not adopt international rules — or at least the bulk of them — that could slow the adoption process in other countries, particularly Japan. And it could lead to pressure from Europeans to reduce the number of American members on the international board, on the ground that only those who agree to accept the rules should have a voice in making them.

IAA Listserv Instructions : <http://www.actuaries.org/Listserv/> /html>





## Shilpa's Puzzles

### Puzzle No 173:

Each empty square in the grid below is to be filled with a single letter. When read consecutively (inserting spaces where appropriate), the 18 letters spell out a well known object. The numbers in the grid represent the difference in the value between adjacent letters, when each letter is given a numerical value equal to its position in the alphabet (that is, A = 1, B = 2, C = 3, and so on up to Z = 26). So, the digit 4 in the grid could separate the letters A and E, B and F, C and G, and so on. What is the object?

	7		4		13		5		5	
5		15		14		9		4		4
	13		5		8		18		13	
8		14		1		14		14		17
	9		10		7		10		18	

### Puzzle No 174:

What is the next number?

0 0 0 1 0 1 0 1 1 1 \_



shilpa\_vm@hotmail.com



# SUDOKU

## Sudoku puzzle No. 2

for the month of July 2012



Medium

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

Hard

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

### HOW TO PLAY

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

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

- Sudoku Puzzle by Vinod Kumar

Solutions to SUDOKU PUZZLE published in June 2012:

Simple

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

Medium

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

Solution

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

## Opportunity in Actuarial Services

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### Job specification:

- ▶ You will be tackling a variety of challenges with consulting projects such as Mergers & Acquisitions, Asset Liability Management, Model Validation and Financial Modeling for Pricing, Reporting, Business Planning, MCEV, Product Pricing and Development, Regulatory Compliance and more

### Eligibility criteria:

- ▶ Atleast **2 to 7 years** of experience in Life/General Insurance industry or Consulting and should have cleared **at least 4 Actuarial papers**





To see whether a risk poses a threat,  
don't we have to see the big picture?

The future is like an iceberg. Most of the time what we can see before our eyes is only half the story. So how do we know the unknowable? Only those with relentless drive, expertise and foresight can see the whole picture — the risk that lies beyond. At Munich Re, seeing more is what we do. We work in interdisciplinary teams, each pair of eyes viewing something from a different perspective, all focusing on the best solution. With our worldwide network we can pinpoint complex global patterns when they arise. When it comes to grasping our future, we are never satisfied with half the story.

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