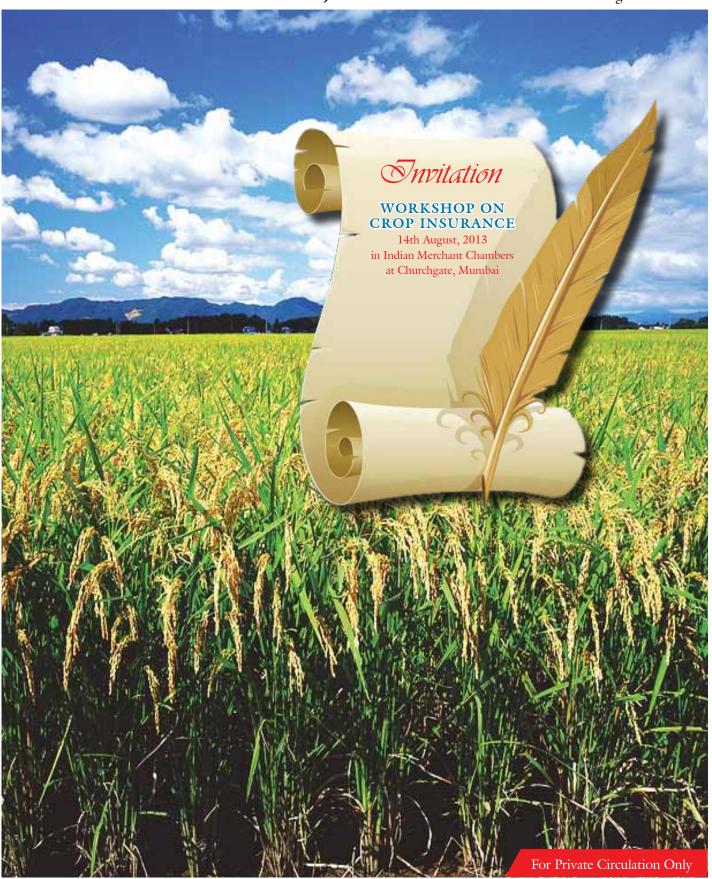


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INVITATION FOR WORKSHOP ON CROP INSURANCE 14th August 2013 Indian Merchant Chambers at Churchgate, Mumbai.

The Advisory Group on Micro insurance and Microfinance (AG MIMF) has scheduled a workshop on "CROP INSURANCE."

Although a short-tail insurance product, crop insurance has substantial complexities arising from climate change, geographical and temporal aspects, cropping practices and behavioral nuances of farmers. These dynamics lead to great pricing challenges for a product that holds high potential in a still dominantly agrarian India. With most governments treating crop insurance as a part of social protection, it continues to be subsidized in most markets. Crop insurance would be of topical interest in the Indian as well as international market to members of the Indian actuarial profession.

The sessions would focus around the pricing problem. Drawing from existing trends in at least three countries (including India) and statistical modeling, the workshop altogether would be helpful to understand the issues around crop insurance.

The seminar this year will include coverage of the following:

- Pricing Weather Products in India
- Crop Insurance Past, Present and Future
- Overcoming Actuarial Hurdles in Index Insurance
- Pricing of Weather Index Insurance Contracts: A Technical Perspective
- Pricing for rice crop a Vietnamese example

Who should attend: Whilst the programme is aimed at actuaries and actuarial students in the general insurance industry, it also holds promise to those interested in agricultural insurance and students with an interest in crop insurance.

SPEAKERS/CHAIR:

K. N Rao - AIC of India

Mayur Ankolekar - Ankolekar & Co.

Harshvardhan Bhonsale - KA Pandit

Manalur Sandilya - ICICI Lombard

Sonu Agrawal - Weather Risk Management Services

M. Karunanidhi

President, IAI

- Registration Fees: Rs 2,000
- Register at: http://www. actuariesindia.org/subMenu. aspx?id=33&val=Upcoming_ Events within India
- Dress Code: Business Casual
- CPD Credit for IAI Members: 2 hrs (As per APS 9)
- Point of Contact for any query: Quintus Mendonca (quintus@ actuariesindia.org)



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19TH IFS REPORTAGE

Venue: Hotel Sea Princess, Mumbai • Date: 13-14 June 2013 • Organized By: Institute of Actuaries of India

The aim of the India Fellowship Seminar (IFS) of the Institute of Actuaries of India is to create awareness into Professionalism and Ethical issues concerning its members in the course of discharge of their duties as an actuary. This applies to both actuaries in practice and also actuaries in service. The main focus of discussions are to highlight potential conflicts or difficulties that may arise in a practical context and deliberate on possible courses of actions that may be adopted along with the consequences thereof.

The case studies that are selected cover different areas in which actuaries work or practice. The case studies encourage healthy deliberations in the area of Professionalism and Ethics. The presenters are both newly qualified actuaries and also actuaries who are close to qualification. They present to a jury that assesses whether or not the they have the requisite understanding from a Professionalism standpoint in order to gain admission as a Fellow member of the Institute. Apart from the presenters, there are other qualified actuaries who attend the event and get CPD credit for the same.

he first day of the Seminar began with a welcome note from **Chandan Khasnosbis** on behalf



Chandan Khasnosbis

of Sanjeev Pujari Chairperson, Advisory Group on Professionalism, Ethics and Conduct. He set out the overall theme of the IFS stating that the main focus of the discussions revolve around creating/ increasing around awareness Professionalism and Ethical issues surrounding actuarial work in different areas. He mentioned that Guidance Notes that the Institute has published serves a similar purpose. He concluded his brief address by welcoming one and all to participate and deliberate on the issues in order to enhance understanding of one and all in the matter of Professionalism and Ethics.

The first case study was presented by **Himanshu Garg** and **Patrick Curtin** guided by Mayur Ankolekar. The case study explored the identities and conflicts that could occur between Trustees and Sponsors of a Pension Scheme in the backdrop of



Himanshu Garg

an inadequately documented Audit trail concerning the decision of recommended equity allocation of the Pension Fund. The members deliberated on the issues revolving around the importance of an Audit Trail, the roles and responsibilities of the various parties and the Professional Standards that need to be adopted by them in the given context. The deliberations also touched upon the nuances of how the client's response may be documented in the report - and the differences that may arise if the actuary were carrying out an attest function as opposed to a pure consulting assignment. The session concluded that generally maintaining a good audit trail is representative of good Professional conduct and that



Patrick Curtin

the adequacy would need to be judged based on the individual case concerned.

This was followed by a presentation on Reserving Challenges for Actuaries post dismantling of the Indian Motor Third Party Insurance Pool (IMTPIP). The presentations were done by



Shilvant Shivdani

Balakrishnan Iyer, Shivdani Shilwant and Hiten Kothari and were guided by Saket Singhal. The presentation started off giving a background to the creation

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Navin heads the Actuarial Product development and Pricing team and work as Senior Vice President at Canara HSBC OBC Life Insurance.



Saket Singhal, Hiten Kothari and Balakrishnan Iyer

of the IMTPIP and the reasons behind why it was dismantled in April 2012. It then covered the features of the current Declined Risk Pool. The presentation touched upon several professionalism issues, namely how Motor Commercial Vehicle Third-Party liability business has continued to be loss making for insurers and has threatened the solvency of the insurers, the possible conflicts of interests that could arise due to reporting higher reserves than what could be acceptable to management, issues around maintenance of an adequate audit trail, data methodology and assumptions used for reserving and compliance with guidance notes. The key conclusions were that with the introduction of the Declined Risk Pool there is more dependence on the actuary's experience and judgment in order to choose the data, methodology and assumptions appropriately while determining reserves and that the results need to be correlated with the market knowledge prevalent. The need to monitor claims experience and adjust the reserves in the light of experience was also highlighted.

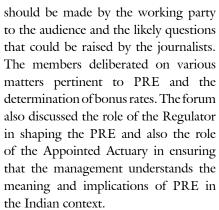


V. Rajagopalan, Ashish Ranjan, Philip Jackson

This was followed by a case study on With Profits Guarantees presented by Philip Jackson and Ashish Ranjan. The guide for this case study was V.

Rajagopalan. The background was that a Court ruling declares that the Bonus Philosophy of a mutual life office has not covered Policyholders R e a s o n a b l e Expectations (PRE). The Institute has set up a working party to examine the causes /

implications and one of the invitees to this party is an actuary who worked in the Company previously. The case study focused on the professionalism and ethics issued involved in accepting the appointment, the statements that



The next presentation covered the Bancassurance Dilemma – whether Banks should act like Brokers or continue

to act like Corporate Agents. The context of this presentation was the recent IRDA regulations Bancassurance. The presenters were Bhavna Verma and Shivank Chandra. The guide was **Varun Gupta**. The presentation covered the history of Bancasurance so far, including success

factors etc. Thereafter the various types of Bancassurance models prevalent were touched upon. The roles and responsibilities of the various parties under each category was also

highlighted. The presentation thereafter covered the views of the Government, Industry and Regulators especially in the context of mis-selling. The presentation was concluded giving the pros and cons of alternate models in the Indian Bancassurance space. Some of the issues deliberated upon by the members present was around persistency of Bancassurance and related mis-selling aspects.



Sunil Sharma, Devadeep Gupta and Balaji Ravi.

The next case study was presented by Devadeep Gupta and Balaji Ravi. The guide was Sunil Sharma. A life insurance Company wants to increase the charges under its policies, in spite of the increased charges being well above market norms, in order to meet its internal profit criteria. As the forecasting actuary to this Company, the presenters elaborated on the various issues to consider in evaluating this proposal including the points discussions with the Actuarial Function Holder/Appointed Actuary (AFH/AA). The roles and responsibilities of the Forecasting actuary and the AFH/AA were touched upon first. Thereafter the case study discussed the key issues to consider in the context of Policyholder protection, Regulatory, Legal,



Varun Gupta, Bhavna Verma and Shivank Chandra

Financial and lastly from the point of Competitiveness. The members present had deliberated on the Policyholder Reasonable Expectation(PRE) issues from the point of consistency between illustrated charges/benefits and the actual and the issues to consider while making changes to the charges. The case study then touched upon alternate strategies to meet the profit targets and finally went on to conclude that if full increase is not implemented then alternate strategies should be considered to achieve the shortfall in the internal profit targets . The members present deliberated on the issues of increasing charges generally, especially in an Indian context.

The next presentation covered the most topical subject - Product Designs, Impact of new regulations on the traditional products of Life Insurers. The presenters were Ashish Ranjan and Philip Jackson and the guide was B. N. Rangarajan. The presentation started with the overall responsibility of the AA to ensure that premium rates and other terms are workable and fair. Reference was also drawn to the Actuarial Practice Standards that govern this area. Next detailed discussions of the various types of Product Structures that have been proposed by the new Regulations were discussed. The issues around With

of Higher Surrender values – whether it was indeed good for customers. The presentation concluded stating that although there are advantages to policyholders in terms of consistency of product features in the market, increased guaranteed and liquidity - these pose higher challenges to actuaries in the areas of product design and pricing due to the increased risks that have arisen due to the proposed changes.

The next case study was around Reserve Ranges. Presented by Shilvant Shivdani, Hiten Kothari and Balakrishnan Iyer. The guide was S.Chidambaram. The case study had an interesting scenario where the Finance Director of a general Insurance Company suggests that the reserve numbers produced by the Company Actuary be changed

lowship 8 June, 2013

S. Chidambaram, Shilvant Shivdani, Hiten Kothari and Balakrishnan Iyer.

in order to manage profitability

expectations and reactions market on declared profits. The presentation covered the main areas of responsibilities for the Actuary . It highlighted was that although the reserving exercise was not a perfect

science - it is based on assumptions and methodology underlying the calculations - it is not a speculative exercise that can be changed to please the management/employer. Alternate actions such as getting a peer-review conducted or explaining to the Finance Director why a higher reserve need not necessarily translate into a rating downgrade were touched upon.

Thereafter, the pros and cons that

may arise under both scenarios were deliberated in detail. It was broadly agreed that the attest function of the Actuary requires him to look beyond the pressures of Management and the aim should be to strike a balance between interests of the various.

The next presentation that followed was on the topic of offering whole life Fixed Rate annuities. The presenters were Patrick Curtin and Himanshu Garg with Rajesh Dalmia being the Guide. The opportunities in an Indian context from a customer need perspective and lack of providers for this product was stressed upon at the very beginning. Next the challenges in the context of Regulations, data availability, lack of reinsurance support, tax inefficiencies, Pricing risks, lack of hedging options

> (futures, derivatives and options), ALM risks etc were briefly touched upon. The presentation concluded that although there is a huge opportunity, the challenges that need to be would overcome require a joint approach from the

Insurers, Regulators and tax Authorities in order to create healthy environment for this business to grow.

The last presentation for the first day was by Mr. Huzeifa I. Unwala, FCA, CISA. The topic he presented was on Growing Importance of Professionalism and Ethics. He set the theme of the session with a lively example, clearly demonstrating that decision making under a potential 'conflict of interest' situation can prove to be very difficult. He went on to highlight the factors that have led to growing Corruption.



B. N. Rangarajan, Ashish Ranjan and Philip Jackson.

Profit fund management, especially around Asset Shares calculations, were presented and were also deliberated at length by the members present. The challenges around higher Death Benefits, higher Surrender Benefits, requirement to illustrate at 4% gross return etc. proposed by the Regulations and its impact on the various stakeholders were highlighted. The forum actively debated on the points



Huzeifa I.Unwala

He drew specific attention to published reports that pointed out that increased stress/pressure leads to misconduct and that management remuneration linked to financial performance of Companies also led to misconduct generally. Some winning examples of Companies that have adopted a high standard in the area of Professional and Ethical behavior were highlighted (HP, Cisco, Berkshire Hathaway). The presentation then discussed with the reasons behind growing importance of professionalism and ethics, especially due to an overly active media (including social networking) and growing awareness amongst consumers and public in general.

Day 2 of the IFS kicked off with a case study on Distribution of Profits. The presenters were **Shivank Chandra**



Sanjeeb Kumar, Shivank Chandra, Bhavna Verma

and Bhavna Verma and the guide was Sanjeeb Kumar. The case study was regarding a Company that had a past practice of distributing all surpluses in the ratio of 90:10 between Policyholders and Shareholders which it now wants to change this practice. The change proposed was to transfer 100% of the profits on the non-participating business to the Shareholders, especially in the wake of a large proportion of Unit Linked Business being written by the Company in recent years. The issues around Regulatory requirements, bonus impact and Policyholder reasonable Expectations (PRE) was explored in the presentation. The UK context and the Indian context were described, especially from a Regulatory perspective. The key issues were that the contribution of surplus from the non-participating business will now be stopped for declaration of bonuses to the

with-profits policyholders. The impact of this was analysed in the context of customer illustrations, business plans, future bonus earning capacity, impact on investment strategy , competition and bad press etc. The presentation concluded with the remarks that the impact on the bonuses due to the proposed change has to be seen in the light of PRE and PPFM .

The next presentation was on the



Devadeep Gupta and Balaji Ravi

impact of reinsurance regulations on the risks prevalent in Indian Life Insurance. It was presented by Balaji Ravi and Devadeep Gupta guided by S.Rajesh.The presentation started with highlighting the Need for reinsurance and the prevailing reinsurance scenarios. Next the key features of the 2013 Regulations was explored mainly higher retention levels proposed by the Regulations and the restriction on certain types of reinsurance like quota share etc. The impact of these on Product Design, especially in products where reinsurance support is high like Online Term, Group Risk Business, Health Insurance etc. was discussed elaborately. The discussions amongst the members broached the financial strength of the foreign reinsuers and the stringent regulations that they are exposed to internationally. Overall, the impact of the Regulations appear to reduce capacity to underwrite risks for smaller Companies, especially on profucts like Group term Life and long term Health. This is likely to change the product propositions on offer for the customers since absence of reinsurance support is likely to adversely impact the company's Risk Appetite.

The next case study of the day was around

'Conflict of Interest'. The presenters were Balakrishnan Iyer, Shilvant Shivdani and Hiten Kothari guided by Priscilla Sinha. The case revolved around accepting a role in a new Company with regard to work performed at a previous Company under three different situtaions. In all situations, the matters that were explored in the presentation and discussions revolved around Professional Guidance, terms

of the previous contract, what can be construed 'confidential/ Insider Information' etc. The overall conclusion that was presented was that as long as the previous terms of engagement, in all three situations, don't expressly

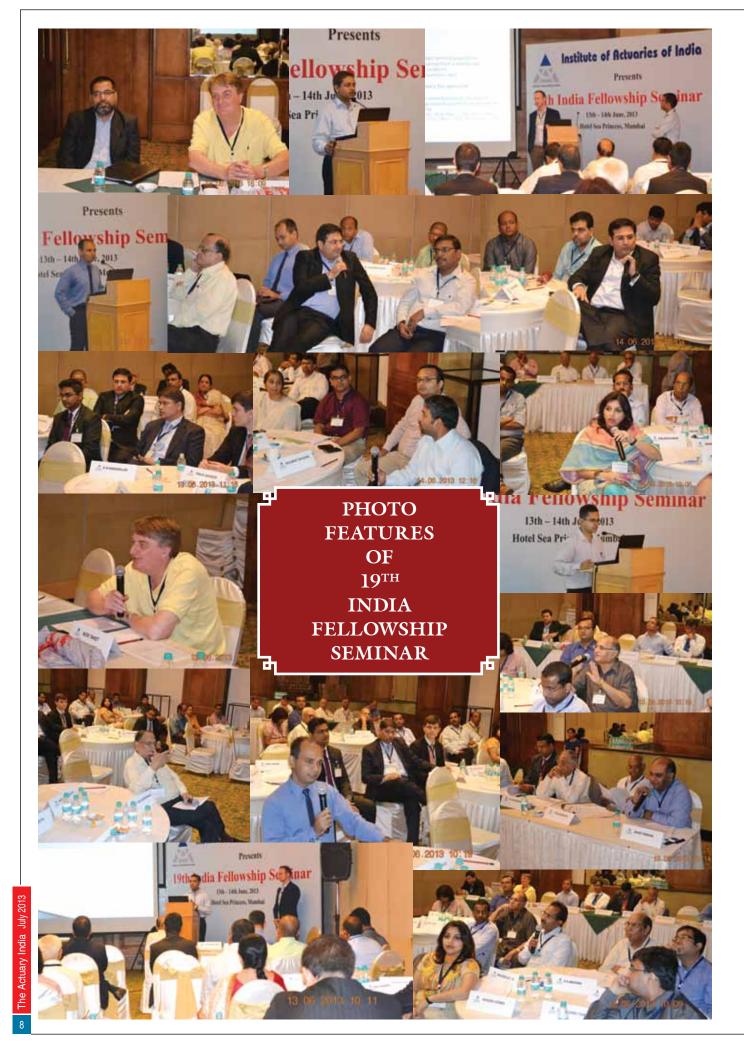
prohibit taking up the new role then the actuary can begin to consider taking up the new role. However, he must make it abundantly clear wherever conflicts may arise so that the users of his reports are made aware of the exact nature of conflict. Also any professional guidance in any of the concerned areas in the current context would have to be given due regard.

The last presentation of the day was in relation to the IAI Disciplinary process – the entire governance framework was shared for the knowledge of the members.



Abhay Tewari

Lastly, **Abhay Tewari**, Secretary – advisory group on professionalism, ethics and conduct gave the Closing Remarks to end the 2 day session of healthy discussions and deliberations on Professionalism and Ethics issues surrounding actuarial work.





LEADERSHIP DEVELOPMENT PROGRAMME

Venue: Hotel Sea Princess, Mumbai • Date: 15th June 2013 • Organized By: Institute of Actuaries of India

ne major part of a successful business is negotiation. As such, the art of negotiating is an essential skill of the modern business professional and Actuaries are not exception to it. But negotiating isn't always so easy, as it is generally a trait that has to be developed rather than inherit.

Thus, with this objective, a full day module was planned by Mr. Nimesh Rathod, a known trainer, for 11 aspiring Fellows of the Institute.

This team of "11" was no easy challenge for Nimesh. The diversity was huge in terms of background and work experience. Moreover it was Saturday with a wonderful monsoon day in Mumbai. However, neither the Team nor Nimesh was ready to give up so easily.

The session started off with Introductions and raising the fundamental question as to why negotiation is required.

Though different viewpoints emerged however the common theme was that human beings want satisfaction of "win." Negotiations provide that. It is rightly said "Place a higher priority on discovering what a win looks like for the other person."

Nimesh emphasized the importance of listening and asking open ended questions during the negotiation. It helps in knowing more about the other side. He also explained the key traits of a good negotiator.

About the Author



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Himanshu Garg is a Chartered Accountant and Associate Actuary.

The most important of all is to know the "position" and the "interest" of the other side.

This "position/interest" concept was found very interesting by the Special "11." The thought that "interest" is mostly different from the "position" of the other party and the key skill is to find

out the interest, excited the audience.

The day was full of activities for the audience. The first activity involved finding out questions like favorite food from the other person through negotiations and without asking it directly, all in 10 and then 8 minutes!

It was learning and fun both. The activity also gave the audience a live situation on how tricky the negotiations could be.

Next activity involved a role play between a "boss" and "subordinate." The case study provided for this role play involved sensitive issues like how to communicate "bad news" to your vintage employee. The role play gave the audience a live example on traits like accountability, assertiveness, clarity of a good negotiator.

Last activity involved a group role play in which two teams were created. One team was designated as "vendor" and the other was the Company's management. "Vendor" was tasked to renew its contract with the Company's management without much loss in the profitability and not giving too many promises on quality. Whereas Company management was given the



The role play lasted for more than half hour. It was intense, exciting and full of learning. Every member displayed some interesting behaviors during the role play. The role play also highlighted the importance of body language and knowing the other's party "interest." A very apt saying to this situation will be "You must never try to make all the money that's in a deal. Let the other fellow make some money too, because if you have a reputation for always making all the money, you won't have many deals."

Here's what the participants had to say post the workshop;

Very relevant for actuaries as these soft skills training is not easily available

The workshop was very productive, it allowed me to introspect on my negotiating & management skills from various perspectives – manager/subordinate, Buyer/Seller

Well run and interactive. Role-play made very real and applicable to real life. Good presenting style

All this was new to me and very helpful

Really helpful, the day flew by

Excellent. Thoroughly enjoyed

Very Interactive

Good Insights

At 6 pm, the day came to end but not the spirits and energy of "Special 11", Nimesh and Mumbai Rains. The takeaway from the session can be best described in John F. Kennedy, the famous US President, words "Let us never negotiate out of fear. But let us never fear to negotiate."

with a light heart

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Dress Code:

- You are advised to come to work dressed according to your salary.
- If we see you wearing Prada shoes and carrying a Gucci bag, we will assume you are doing well financially and therefore do not need a raise.
- If you dress poorly, you need to learn to manage your money better, so that you may buy nicer clothes, and therefore you do not need a raise.

4) If you dress just right, you are right where you need to be and therefore you do not need a raise.

Sick Leave: We will no longer accept a doctor's statement as proof of sickness. If you are able to go to the doctor, you are able to come to work.

Casual leave: Each employee will receive 104 personal days a year. They are called Saturdays & Sundays.

Bathroom Breaks: Entirely too much time is being spent in the toilet. There is now a strict three-minute time limit in the stalls. At the end of three minutes, an alarm will sound, the toilet paper roll will retract, the stall door will open, and a picture will be taken. After your

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be posted on the company bulletin
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category. Anyone caught smiling in
the picture will be sectioned under
the company's mental health
policy.



Lunch Break:

- * Skinny people get 30 minutes for lunch, as they need to eat more, so that they can look healthy.
- * Normal size people get 15 minutes for lunch to get a balanced meal to maintain their average figure.
- * Chubby people get 5 minutes for lunch, because that's all the time needed to drink a Slim-Fast.

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DESIGNING THE PRODUCT THAT WOULD BE THE APPLE OF THE EYES OF CUSTOMERS & PARTNERS

Abstract: Product design is all about knowing what the customers as well as distribution partners want and at times what the customers want versus what the partners want maybe in conflict. The attempt is to elucidate statistical techniques that ensure a product design process creates products that, while maintaining the profitability of general insurance companies, gains immediate acceptance from both customers and partners.

he first aspect of this process is designing the appropriate product that is adequately & attractively

priced. One of the more well-known techniques on how we can do this is via Conjoint

Satisfaction and Levalty

Cammon Sense Research Acumen

Analysis.

Conjoint analysis attempts to determine the relative importance consumers attach to salient attributes and the utilities they attach to the levels of attributes. The respondents are presented with stimuli that consist of combinations of attribute levels and asked to evaluate these stimuli in terms of their desirability. Conjoint procedures attempt to assign values to the levels of each attribute, so that the resulting values or utilities attached to the stimuli match, as closely as possible, the input evaluations provided by the respondents. An Example on where

Conjoin Analysis could be used is to

take a decision on whether consumers would like a deductible or voluntary excess in their Motor policy.

The second aspect that needs to be looked at is the Price-Revenue tradeoff as depending on the elasticity for a particular product an increase or decrease in price would lead to a corresponding increase or decrease in revenue. We would to estimate the elasticity basis data or design of experiments to see if the elasticity is less than one or not so that we can figure out whether a price increase would increase revenue or not. From an insurance company's perspective it would be beneficial if the elasticity would be less than one. A good example of an insurance product where this would be true is the mandatory Third Party motor insurance.



The next aspect would be to understand the partner's reaction as lower pricing for a product with elasticity greater than one could translate into higher overall

About the Author



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Amarnath Ananthanarayanan (Amar) is the Chief Executive Officer and Managing Director of Bharti AXA General Insurance. Prior to joining Bharti AXA General Insurance, Amar worked with GE in various capacities. At the Asian level, GE Money Asia was awarded "One of Top Three Service Providers of the Year for Asia" Award in 2007 by the Asia Insurance Review. He was recognized as one of "India's Hottest Young Executives" by Business Today in 2010 and was one of the 10 head honchos chosen as role models by The Economic Times for "Young Leaders" in 2011. He likes listening to Carnatic & Hindustani Music.

remuneration to the partner though per policy remuneration could go down. And vice versa would be the case in case the pricing is increased. This also needs reflection on the possible tradeoff between acquisition cost & loss ratios. The concept of profit share which is prevalent even on direct insurance outside India in a few countries is a good example of who insurance companies promote the right behavior from their intermediaries by rewarding them higher for businesses that result in lower loss ratios.

Having looked at the aspects of product design, pricing, stimulus to pricing change from both the customer and partner remuneration perspective we would now need to move to understand how the profitability of the insurance company gets affected by their decisions with regards to product, pricing and remuneration structures. This is when we need to look at other operating expenses apart from loss ratios & acquisition costs. If we are able to increase revenue significantly without corresponding increase in operating costs despite a price drop we could end

up with a much lower overall combined operating ratio. A good example of this probably being tested out or even happening is on large ticket commercial lines pricing with limited increase in operational costs.

One of the key and the largest drivers to profitability is the ability to assess & take the r i g h t

risks. This is an area that is more developed in India as opposed to other areas in terms of statistical analysis. A lot of organizations have

started using the Generalize Linear Model for pricing decisions which is a step in the right direction. However even in this area the use of Hazard models to develop Survival functions and deep diving into the available data to look at different ways to mitigate the long tailed risks. The challenge in India continues to be the availability of reliable long run customer data to create this analysis as well as apply this in a productive manner.

So far we have been focused on the insurance company, its partners and its customers but not looked at what or how the competitors would view or react to the decisions of the insurance company. If we assume the competition is also profit driven the decisions are much simpler to make from a profitability perspective though this would probably result in the customers losing out in the bargain. However if competition is being driven by market share, this would create a completely opposite scenario where making profits will become extremely difficult though the customers will benefit immensely. The market share grabbing is a well explained by what is happening in the Indian general insurance industry now with more & more players wanting to enter the industry as well as the existing players also wanting to consolidate their market position.

So where does this leave with the APPLE that we wanted to create? This is not an easy answer and will require a few iterations. The process of Test & Learn and learning more will be critical as there is no simple answer. This will also require us to get to know our customers, partners & competition in a systematic manner. The best way to do this would be for the CEO of the organization to create a separate expert team & drive this organization wide with their buy in on the same. This in the Indian general insurance context will also mean a move away from selling price to selling value.

Last but not the least having an analytics mindset & executing on this initiative in the Indian Insurance industry will be very critical to the success of the Indian Insurance industry.

Please send feedback on the article to library@actuariesindia.org



EXAMPLE

AN OPEN INVITATION TO ALL FELLOW AND ASSOCIATE MEMBERS OF THE INSTITUTE FOR DOING A RESEARCH PAPER

We, the Advisory Group on Research and Publications (AGRP) realise the immense potential with all our senior and experienced members of the profession for doing a research work in their area of expertise. There is every reason to believe that each of our qualified members, both fellows and associates should be nourishing and cherishing at least one favourite subject which should also be worth for doing a research work. We expect each member identifying such a subject as his/ her own and completing at least a research paper in a year which would definitely help to take the Indian Actuarial Profession a big leap forward.

It's a time to do something great from your side by accepting this invitation and take part. The choice of participation and choice of subject is yours. Suitable entries would find a place in the 16th Global Conference of Actuaries for announcement and publication.

How to take part:

- 1. Identify your subject of expertise
- 2. Assessment of time required, time of completion
- 3. Register your details with the research team by sending an entry to: vinodkumar@actuariesindia.org (the co-ordinator)/ call to :022 6784 3319
- 4. Ensure from the co-ordinator that the subject chosen by you is not duplicated by anyone else
- 5. Start your work and make your valuable contribution to the actuarial profession.

Tania Chakrabarti,

Chair Person,

Advisory Group on Research & Publications, Institute of Actuaries of India



STRUCTURAL CHANGE IN THE INDIAN NON-LIFE INSURANCE

he Indian insurance industry has witnessed significant changes since its privatization in year 2000. While the life insurance sector has grown faster than the Indian economy resulting in an increasing

has a CAGR of 14.60 per cent, less than the growth of Indian economy (Table 1). The high CAGR of health segment has led to a noticeable rise in its share in the non-life premium, and in fact, got doubled in the period of 6 years. Its

resulting in a lackluster CAGR growth of 6.25 per cent, lowest in the various segments of non-life insurance. Thus, the Health and Fire segment of insurance has witnessed significant change in its share of premium underwritten to the

Table 1: Share and CAGR of various LOBs of Non-life Insurance*

Market Share								CAGR
LOB	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	
FIRE	18.54	16.59	12.43	11.15	11.18	10.70	10.27	6.25
MARINE	6.31	6.54	6.47	6.44	6.26	5.92	5.44	14.37
MOTOR	42.90	42.95	45.59	43.94	43.46	42.70	45.84	18.55
HEALTH	10.91	13.33	17.59	20.06	21.12	23.36	22.27	32.06
OTHERS	21.35	20.60	17.92	18.41	17.98	17.33	16.18	11.95
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	17.24
Non-life less Health								14.60
GDP @ current price (market price)**								15.69

Source:

- * is derived from Handbook on Indian Insurance Statistics 2011-12 of IRDA
- ** is derived from the Handbook of Statistics on Indian Economy 2011-12 of RBI. It may be mentioned that the CAGR of GDP @ Constant Price (Market Price) for this period is only 7.91 per cent, which is commonly used. However, as the premium figures are on nominal (not real) basis, its growth comparison with GDP growth is compatible for comparison at current price (not constant price).

insurance penetration (except for recent two years), the non-life insurance has grown almost with an equal rate of Indian economy, reflecting a steady insurance penetration hovering in narrow range of 0.60-0.70 per cent over the past decade.

It is interesting to note that while the insurance penetration of non-life insurance has remained steady over the past years, its structure has undergone with significant changes during this period. One change is the emergence of health insurance, which has been growing consistently on a different path unlike other lines of business of nonlife insurance. This segment has grown with a Compound Annual Growth Rate (CAGR) of 32.06 per cent during the past 6 years, which is substantially higher than the CAGR (15.69 per cent) of the GDP growth for the same period. Accordingly, the insurance penetration of health insurance has witnessed a sharp growth, which is in contrast with the rest viz. non-life (less health), which

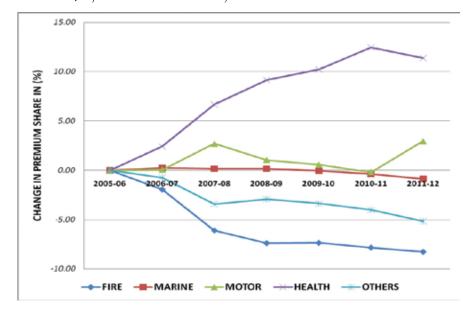
share stood at 22.27 per cent in 2011-12 from 10.91 per cent in 2005-06.

It is equally interesting although a concern to note that the fire insurance has witnessed a meagre growth in its premium underwritten in this 6 years period. The premium underwritten in fire insurance stood at ₹5,430 crore in 2011-12 (₹3,774 crore in 2005-06)

total non-life insurance. Chart 1 exhibits the pattern of change in the shares of respective lines of business.

Chart 1: Change in Share in Premium of LOBs during 2005-06 to 2011-12

From the chart, it is observed that the structure of non-life insurance has not changed significantly due to the Marine



 $MLI = Square root \left[\sum x_{ir} * x_{is} * (ln x_{ir}) \right]$ $(x_{is})^2$], t > s

and Motor segments, in contrast to the segments "Fire" and "Health". It is interesting to assess the extent of change in the structure of non-life insurance sector in the past period of 6 years. To measure the structural change, the Structural Change Indices (SCI) are commonly used. The SCIs are important indicators, which are computed to assess the quantum of structural change in an industry or sector over time.

The MLI overcomes the limitations of NAV Index. Further, the influence of a particular component is a function of its weight as well as its relative growth. The computed values of MLI are provided in Table 3.

The simplest form of SCI is known as the Norm of Absolute Values (NAV) and is defined as:

It is interesting to conclude that the Fire and Health segments have influenced the structure of non-life insurance significantly in period of only 6 years. The high growth in the Health insurance premium, so far, has largely been demand-driven and the segment may continue to dictate the structure of non-life insurance industry in India.

$$NAV = (\frac{1}{2}) \sum Mod(x_{it} - x_{is}),$$

Where, the terms x_{ir} and x_{is} are the share

it there might be similar impact due to huge movements in a few components and due to light movement in many components. We propose another index namely, the modified Lilien Index

of ith line of business at points of time

t and s. The absolute (modulus) values

of the difference of the two is taken and

summed over all lines of business. This

index is also known as the Michaely index

or Stoikov Index. It varies from 0 to 100

(if shares are expressed in per cent) or

from 0 to 1 (if shares are expressed in

proportions). Table 2 provides the NAV

The advantage of NAV index is that it is

very simple to compute and understand.

One of the disadvantages of NAV is that

for various components of non-life.

(MLI), which is defined as:

Table 2: Norm of Absolute Values (NAV) Index for the period 2005-06 to 2011-12

LOB	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
FIRE	0.00	0.97	3.05	3.69	3.68	3.92	4.14
MARINE	0.00	0.11	0.08	0.07	0.02	0.20	0.44
MOTOR	0.00	0.03	1.35	0.52	0.28	0.10	1.47
HEALTH	0.00	1.21	3.34	4.58	5.11	6.22	5.68
OTHERS	0.00	0.38	1.72	1.47	1.68	2.01	2.59
TOTAL	0.00	2.70	9.54	10.33	10.78	12.45	14.31

Table 3: Modified Lilien Index (MLI) for the period 2005-06 to 2011-12

LOB	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
FIRE	0.00	3.79	36.80	53.42	53.07	59.95	66.44
MARINE	0.00	0.05	0.02	0.02	0.00	0.15	0.76
MOTOR	0.00	0.00	7.27	1.09	0.32	0.04	8.67
HEALTH	0.00	5.84	43.83	81.19	100.55	147.68	123.83
OTHERS	0.00	0.57	11.74	8.65	11.33	16.12	26.56
TOTAL	0.00	3.20	9.98	12.02	12.86	14.96	15.04

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activity-

FEATURES

India a country in the race of development with the rest of the countries in this world. We have claimed a very good GDP growth rate as well. As per the economic theories any activity should only be continued till the point marginal benefit of carrying that activity is greater than its marginal cost. Uttarakhand is an example of a growth which resulted in greater costs as compared to the benefits derived. At this point when we have seen such a huge catastrophe in Uttarakhand, this is time that

 Are the benefit derived from development activity really greater than the costs we are facing?

we ask a few stern / dispassionate questions

before talking about growth or development

- Are we considering expected future costs of development?
- Are we considering all the nonfinancial costs?
- Who should bear the costs of the development?

In most of the sectors an initial and detailed project appraisal is done before starting a venture. It considers all the expected future cash-flows. After considering the results of various alternatives, decision is taken to go ahead or to scrap the project. No doubt government spends lots of money and time in such analysis too but these analyses need to consider some missing elements or some extra care needs to be provided especially in the following areas:-

- Identification, analysis of various risks involved, expected frequencies, expected loss due to these risks, correlation between different risks.
 Considerable time needs to be given to the risk management and enough time and resources should be engaged in development of risk matrix and risk registers.
- Identification and analysis of various alternatives for particular development activity.
- A thorough analysis and incorporation of non-financial costs.
- development activity might resolve the issue today, but care needs to be

LET ACTUARIES HELP

taken if greater costs will have to be incurred in future.

 If project is proposed due to some political reason such as to gain popularity then there are chances that there will be parties who would like it to pass the appraisal test. So there is need for an independent body to carry this analysis.

Now let's look in to the case of Uttarakhand, it got devastated, who should be blamed for this... nature? ... Government? Or,is it the – you guessed it right – faulty unorganized and unplanned Growth?

Uttarakhand has had huge development in past 15 years. This development has been mainly sighted as short

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Ritu is currently working towards the promotion of actuarial profession in unconventional areas and she was previously working in WNS as Sr. Analyst- Actuarial. She has experience in handling product governance projects, estimated maturity value (EMV) reviews, bonus and rate review work.

term performance figures at the cost of the long term benefits. The key stakeholders try to focus predominently on the growth which could be shown immediately to outperform others.

The growth of Uttarakhand is an example of development which hardly focused on long run outcomes. Environment and nature has been tampered too much. Nature has been covered everywhere with the jungle of concrete. More over local community and the tourists also act irresponsible by throwing garbage everywhere.

Everyone is the stakeholder in the natural environment. Benefits and costs will also be shared by all. The current catastrophe is the result or the human act. The exact reason for the flash floods was the breaking of the Kedar Dome that led to the rapture of Charbari Lake, less than 6 km form the shrine after the cloud burst. Cloud burst was the result of the global warming whereas breaking of Dome is an example of not properly planned growth, inappropriate risk analysis and inadequate risk mitigation options for potential destructions.

Everyone had to share the loss:-

Government- (loss of infrastructure) expected cost 5000 Cr., possible political instability

Local residents-Lost lives, physical loss of personal and commercial property.

Other tourists- Loss of lives and physical possession, got stuck without food and basic necessity for several days.

Un official figures say that the count of human casualty could be above 5000.

Hence government should think about long run while making development plans. Local people should act rational and not harm nature. And tourist should not think that they are here only for a few days so they can damage whatever they want, they can throw waste wherever they want.

So far, an inquisitive reader, like you, must be thinking about what is there in for you in this article... where is the mathematics or actuarial science??? Showing sympathy towards the victims is not enough. As a responsible profession, we can also make difference. Monetary help is always beneficial but this is time that we contribute with our skills.

For example let me show how our profession can help Uttarakhand from overcoming this disaster-

Immediate help:-

Help can be provided in various fields but the areas which require immediate actuarial professional attention are:

- Suggesting alternative ways of raising funds in most cost effective way for initial support that needs to be allocated to the affected population.
- Optimum allocation of the raised fund, including the one which is received from various sources like charity, from different state governments or central government.

Reestablishment:-

Once initial work is complete next stage will be to help a state come back to its pace. So a **detailed long term plan** will be required. A **detailed Actuarial control cycle can be used for the same-**

- STAGE ONE: Analysis of General economic and commercial environment. >This new development plan should be specific to the special characteristics of this state. Time has come to recognize the fact that Uttarakhand is situated in a special geographical area, which is exposed to the perils of natural disaster. This stage will cover following areas-
- Identification of various stakeholders of this plan, their interests and needs
- Providers of benefits- who can provide and contribute for this apart from the government. How institutional investors can be encouraged to be part of this. It can be done by taking advantage of the **regulation** and the **external environment.** As these affect how institutions will take their financial and investment decisions.
- Identification of insurance products and Asset classes which can be used as a tool for the contribution from different investment classes.
- Economic influences of these changes and decisions.

-STAGE TWO: Specify the problem:

- Risk and risk management Identification of various risks involved and interdependency between them, quantifying the financial and non-financial impact of the risk and suggesting mitigation options. No doubt this is the strength of the profession and each member is academically shaped well to handle this area.
- -Designing Development plan considering research done so far.
- Once plan is ready next thing we can

help with is capital project appraisal through various appraisal techniques considering the long term risk element involved in it.

- Project management at various stages by coordinating with the various professional involved in it.
- Assessing capital requirements a various stages.
- **STAGE THREE:**Developing the Solution:
- Analyzing and suggesting data required for setting assumptions for creation of the Model for various purposes in various stages of this plan.
- Developing products which could link institutional ethical investment to the help that needs to be provided to this state.
- Helping restructuring regulation to increase overall insurance panetration and insurance density in India.
- Helping regulation in designing allowances and subsidies in cost effective way for the various parties interested in providing fund.
- Catastrophic modeling to study the risk exposure and estimating the potential impact, should a natural catastrophe like this happen again in future
- **-STAGE FOUR:** Monitoring the Experience:
- Monitoring experience during all the stages to ensure that-
- Plan moves at an appropriate pace.
- Correction could be done to the initial plan if required in light of the actual experience.
- This stage is very important as it can save the community form the huge monetary loss which results from corruption.
- -STAGE FIVE: Professionalism: One of the best services of the profession that all the tasks are done in very professional way under the guidelines of the Actuarial profession.
- Also skill of effective communication through reports and habit of record keeping will help bringing transparency in the process. It will result in the increased faith of all the stakeholders involved in this Development plan

Contribution of the actuarial profession to government and society are not new. In developed countries like US actuaries are already involved in various activities for example the federal government offers a variety of interesting and challenging positions in the Social Security Administration (SSA), Centers for Medicare & Medicaid Services, the Treasury Department (Internal Revenue Service), Pension Benefit Guaranty Corporation, Department of Veterans' Affairs, Labor Department, Office of Personnel Management, Public Health Service, General Accounting Office, Department of Housing and Urban development, Department of Energy, Railroad Retirement Board and Department of Defense.

Actuaries are making valuable contribution to sustainability of projects in the UK and trying to make sustainable sense of the future

Interesting fact- John Finlaison (1783-1860) was the first president of the Institute of Actuaries and before that the first actuary employed by government. In an age of the Napoleonic wars his work highlighted the great advantage of full accessible information to naval strategy and the value of firm financial assumptions upon which to raise government revenue. He was part of the government public planning in the era when actuarial science was not even introduced for the solvency related affairs of the insurance companies.

Same trend can be started in India as well. This is time that profession also takes action to promote the brand IAI and the expertise it can deliver to the society. The ability to project future and taking decision for uncertain future is the strength of our profession and I believe this ability can bring bigger challenge to the society.

Profession has huge potential, the need of the hour is to take an initiative so that this skill can make a big difference to facilitate the TRUE Development.

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RESOLVABILITY: THE LATEST THINKING IN THE SYSTEMIC RISK DEBATE TO IMPACT INSURERS

he IAIS is participating in a global initiative along with other standard setters under the auspices of the Financial Stability Board (FSB) and G20, to identify global systemically important financial institutions (G-SIFI s) and for insurers specifically, Global Systemically Important Insurers (G-SIIs).

The FSB has reviewed the assessment methodology and policy measures for G-SIIs, developed by the International Association of Insurance Supervisors (IAIS). The FSB and national authorities, in consultation with the IAIS, will designate an initial list of G-SIIs this month, although the G-SII status of, and appropriate risk mitigating measures for, major reinsurers will be made in July 2014.

The policy measures that will apply to G-SIIs include the recovery and resolution planning requirements under the FSB's Key Attributes: enhanced group-wide supervision and higher loss absorbency requirements. As a foundation for higher loss absorbency requirements, the IAIS will develop straightforward backstop requirements to apply to all group activities to be finalised by the time of the G20 Summit in the summer of 2014. Over time, regulators may wish to extend such requirements to those insurance groups whom they consider domestically significant for particular jurisdiction.

Effective Resolution

The FSB's 'Key Attributes for Effective Resolution Regimes' would be the basis for improved resolvability and would help reduce the impact of a G-SII failing.

For G-SIIs, effective resolution will take

account of the specificities of insurance including:

 Plans required to separate nontraditional, non-insurance (NTNI) activities from traditional insurance activities;

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- Possible use of portfolio transfers and run off arrangements as part of the resolution of entities conducting traditional insurance activities; and
- The existence of policyholder protection and guarantee schemes in many jurisdictions.

What are the implications for insurers?

Insurers will likely be expected to:

• Develop a map of critical functions to legal entities to ascertain which

- business critical processes and operations are essential in the event that the insurer experiences a systemic event;
- Assess their ability to maintain and fund operations of critical functions and the resultant implications to conserve or restore the firm's own funds;
- Examine the sufficiency of funding arrangements and ensure adequate access to contingency funding sources;
- Have the relevant information on group structure, intra-group exposures and exposures to counterparties, other intra-group interdependencies and service level agreements;
- If necessary, reduce risk and leverage, (for example, the extent of engaging in stock lending to invest proceeds in higher yielding paper);
- Explore whether they need to restructure liabilities, business lines and asset transformation activities;
- Maintain access and continued functioning of IT services and other firm infrastructure;
- Determine trigger and stress scenarios; and
- Ensure they have adequate and robust risk management systems, capable of measuring the impact that severe stresses may have on their business model.

It will be interesting how the PRA develops its own approach to this over the coming months and how it then applies it to the domestically significant UK insurers.

Please send feedback on the article to library@actuariesindia.org

The Actuary India July 2013

ADVISORY GROUP ON GENERAL INSURANCE

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

In FY 2012-13, AGGI organized three Capacity Building Seminars in General Insurance. The topics covered included:

- Technical Discussions on the leading practices for different sections of the Financial Condition Assessment Report (FCR)
- Discussions on Asset Liability Management
- Stochastic Reserving Techniques

AGGI was also involved in organizing the GI Breakout sessions at the Global Conference of Actuaries. Besides this, AGGI worked on drafting APS 31 "Actuarial Practice Standard on the Financial Condition Assessment Report" and GN 32 "Determination of Appraisal Value of a General Insurance Company" and modifications to GN 21 "Appointed Actuary and General Insurance Business".

One of the objectives of the group is to help IAI form views and recommendation on various draft exposure circulated by IRDA to the extent they are relevant to actuarial practice in general insurance. The group has been constantly providing such feedback and more recent feedback on matters related to claim reserving, ALM and appointed actuary regulations/ circulars.

For FY 2013-14, AGGI has the following plans:

 Conduct a combined seminar with one part concentrating on the Current Issues in General Insurance and the other on Actuarial Capacity

- Building; invite speakers from a wider spectrum of insurance professionals, like Regulators, Underwriters and Claims Leaders.
- Work on updating the CPD requirements required for obtaining the Certificate of Practice to work as Appointed Actuaries for GI companies.
- Design a Compliance Mechanism for Appointed Actuaries of GI companies
- Work with the R&D group on research projects relevant to GI

On a longer term basis, the AGGI strives to work closely with the IRDA, General Insurance Council and the wider GI Actuarial community in growing the GI industry and increasing its penetration levels, by providing support on robust reserving, pricing & capital modelling techniques, product innovation, compliance, and overall risk management.



CAREER OPPORTUNITY



A leading life insurance company (part of 70,000 crore Shriram Group, Chennai) in partnership with Sanlam (a leading financial services group from South Africa)

ACTUARY(

Require a qualified and well Experienced Life Actuary (FIA and/or FIAI) with demonstrated competence for the head office, Hyderabad. Candidate would be involved in various aspects of the actuarial function including:

- Embedded value reporting
- Valuation
- Product pricing
- Regulatory reporting
- Asset-liability management

- Experience analysis
- Business planning
- Special projects & support
- Analytical support for various business segments



Responsibilities of the role will also include developing and evolving actuarial strategy in line with company objective & development of risk management function.

Interested candidates may email their CV's by **31st July 2013** to <u>ceo@shriramlife.in</u> with subject line ACTUARY

www.shriramlife.com

The Actuary India July 2013

ADVISORY GROUP ON PENSION, OTHER EMPLOYEE BENEFITS & SOCIAL SECURITY

he Advisory group during the year had two outgoing members – Saket Singhal and Dr K Sriram and two new members were inducted –K Ganesan and A D Gupta. As at June 2013, the list of members mentioned below.

1	K. Subramaniyam	Chairperson
2	Chitra Jayasimha	Secretary
3	Kulin Patel	Member
4	R. Hemamalini	Member
5	Simon Methis Herborn	Member
6	R. Arunachalam	Member
7	K Ganesan	Member
8	A D Gupta	Member

1) Current Issues in Retirement Benefit Seminar: - Seminars on Current Issues in Retirement Benefits was held in Bangalore and Mumbai on the 11th of May 2012 and 28th of May 2012 respectively. The number of participants was a total of 51 with 32 attending the seminar at Mumbai and 19 at Bangalore. The topics in the seminar was wide ranging with the speakers addressing Exempt Provident funds - Implied Guarantee, Schedule VI provisions with respect to current/ Non-current Liability,AS 15-R: Employee Benefits - a journey through determination of values ,Sale- Purchase-Mergers and Acquisitions: Issues around

employee benefit liabilities and treatment thereof "Insurance products for employee benefits: Structure and compatibility with self-funding etc. The speakers at the seminar were not only from the industry but from other companies such as Deloitte, Essar Group. Active participation from the then President Mr L Khan was a highlight.

The next CIRB seminar is proposed to be held on the 20th of September 2013 at Mumbai. [Kindly Check the Institute of Actuaries, India website (http://www.actuariesindia.org/index.aspx) in this Regard.]

- 2) Research Paper by the Institute of Actuaries Research Team: the Institute of Actuaries, India's inhouse research team has completed and submitted a detailed report onthe "Understanding Salary Escalation Trends in India". This paper is currently under discussion with the member of the Advisory Group.
- 3) 15th Global Conference for Actuaries CONCURRENT SESSION ON PENSION, EMPLOYEE BENEFITS AND SOCIAL SECURITY The concurrent session on Pension, Employee Benefits & Social Security was conducted on first day, 18th February 2013 at the 15th Global Conference of Actuaries. The

theme of the session was to cover the issues faced in Expensing the Employee Benefit Costs, Financial Security in Retirement: Longevity Defined Contribution Investment Decisions, Professional Conduct issues faced by Actuaries & the global scenario of Employee Benefits. The session provided a platform to exchange general and technical updates involved in the designing, management, accounting and evaluation of all types of employee benefit schemes. All the topics experienced full house & attended by a mixture of senior professionals and junior students with active audience participation.

4) Recommendations from the Advisory Group on various issues concerning consulting Actuaries were made to the Institute President. The issues include Compulsory registration for all actuarial consultancy firms wherein a partner/employee signs the report on behalf of the firm and individual actuaries who issue actuarial certificates for the purposes of Indian GAAP, compliance with the Actuarial Practice standard and professional code of conduct, Certificate of Practice for the Actuaries for the actuaries who sign off reports for the purposes of AS15-R reports. Etc. IAI may come up with a notification in due course.

A LOT OF TIMES PEOPLE LOOK AT THE NEGATIVE SIDE OF WHAT THEY FEEL THEY CAN'T DO.

I ALWAYS LOOK ON THE POSITIVE SIDE OF WHAT I CAN DO.

-Chuck Norris



ADVISORY GROUP ON MICROINSURANCE

he Advisory Group on Microinsurance and Microfinance (AG MIMF) has scheduled a workshop on "Crop Insurance." Whilst the programme is aimed at actuaries and actuarial students in the general insurance industry, it also holds promise to those interested in agricultural insurance.

Although a short-tail insurance product, crop insurance has substantial complexities arising from climate change, geographical and temporal aspects, cropping practices and behavioural nuances of farmers. These dynamics lead to great challenges in pricing in a product that holds high potential in a still dominantly agrarian India. Thus the programme would be

of interest to members of the Indian actuarial profession.

The AG MIMF has put together five speakers who would contribute diverse perspectives ranging from index insurance pricing, challenges of meteorological data, reading into cropping practices and trends, current products and experience with their development, techniques for assessing climate change, and experience monitoring.

A couple of speakers come with solid experience with Indian crop insurance pricing. Some speakers have worked in other developing countries on projects aided by multilateral agencies. One of the speakers leads a company which is engaged in climate risk management. The workshop altogether would be helpful to understand the issues around crop insurance.

The AG MIMF expects that actuaries and actuarial students with an interest in crop insurance would benefit from participating in the workshop on August 14, 2013. The Institute of Actuaries of India has negotiated a facility with the Indian Merchants' Chamber, Mumbai in order to offer a valuable proposition.

The AG MIMF has already conducted a 2-day workshop on micro-health insurance last year and plans to continue the focus on actuarial interventions on products and services that reach the larger population.

THE ACTUARY INDIA - EDITORIAL POLICY

(VER. 2.00/23RD JAN 2011)

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

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

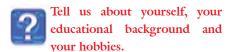


CONGRATULATIONS! MS. VAISHALI SABHERWAL TOPPER ACET, JUNE 2013

vaishalisabherwal@gmail.com

hat were the basic mantras of your success?

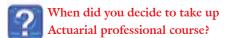
I would say that the basic mantra of my success was a clear and in-depth understanding of all the concepts involved in the subjects. Also I had a goal in my mind that I have to do well in the exam.



I am currently studying Economics at St. Xavier's College, Kolkata. I have just completed the first year of college. I passed Higher Secondary in 2012.

I really like mathematics a lot and I have participated in many maths and science Olympiads in school.

In my free time, I like watching TV, listening to music and playing games on my phone.



Around 10 months back, I came to know about this profession. Then I looked up on the internet about it. After gaining enough knowledge related to it, I finally decided to take up this professional course around 6 months back.

How did you come to know about the ACET?

I came to know about ACET from some of my friends who had already appeared for the exam.

How much time do you think one require for serious preparation of this exam?

According to me, the time required for the preparation of exam varies from one individual to another. But I think if one studies consistently with clear understanding of the topics, the required time won't be much. The quality of studies and regular studies matter a lot.

How did you start preparation for the ACET?

I studied the study material provided by the institute carefully and thoroughly. It is designed in a very student-friendly and interesting manner. I really enjoyed studying all the topics.

Which is the most difficult part of this examination and why? What was your strategy to tackle this difficult part?

Frankly speaking, I was familiar with most of the topics and the study material was so well designed that I did not face any problem at all.

Did you prepare notes? How helpful are the notes? What is your advice on notes-making?

Yes, I did prepare notes. Notes are really very helpful as they improve one's understanding of the topics and also facilitate quick revision.

My advice is that all students must prepare notes, as it will help them to understand the subject better and the retention capacity when one writes something is much higher than only reading it.

How do you visualize your success?

I am very happy with my success. I had already decided to take up this course but being a topper of ACET has given me a boost and strengthened my selfconfidence. I will now work very hard for all the exams I will be giving. Also while studying Economics; I feel that taking up this course could be a great addition to my educational qualification.

What were your strong points which enabled you to achieve success in ACET?

My strong points were my focus and my familiarity with the subject because of my college course. Though I'm generally not very hard working yet I gave time to the preparation of this exam. And Mathematics being my favourite subject was an added bonus. A huge interest in the subject really helped as it made the preparation interesting and fun-filled. On top of it, constant motivation to do well and achieve something great is the hallmark of my success.

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

The Actuarial Profession requires the application of mathematical and statistical methods to assess risk in the insurance and financial industries. With a huge interest in mathematics and clear understanding of it, I believe I will be able to assess the complexity and mechanisms of critical problems. I can bring in new ideas to the profession and add a lot to it.

Are you working somewhere? Describe a typical work week?

No, I'm not. I teach some students though. But I'm studying myself, so a typical week would be swimming class in the morning, then college from 9.30 to 4.30. Then my studies and teaching.

What are you passionate about?
I am passionate about mathematics.

The Actuary India July 2013



Behind one topper are many people who stood by him/her during those uncertain times when he/she was merely an 'aspirant'. Who were those people in your case? Any specific incidence that you would like to share with us?

In my case those people were my friends, my family and my teachers. Many friends were very supportive, boosting my morale, giving me confidence and helping me out. And my parents were always there for me, so was my brother. They love me so much and keep me grounded, telling me to study as much as I can. My family

and friends believe in me, and this belief has manifested in this outcome.

What are some of the mistakes that an average aspirant can avoid for better time management? What is your message for them?

The most common mistake is not utilizing every minute with efficiency. People generally study a lot, but without putting their hearts in it, thus putting themselves on a back foot. I'd like to advise them to ensure that whenever they study, to do so with proper focus and planning. And they should enjoy what they are studying. Also after the completion of every topic, they

must revise and assess themselves with the help of the question bank provided. This will prove to be very useful.



Any comments on your experience with the ACET process?

My experience with ACET has been wonderful. I really enjoyed studying for the exam. Along with understanding of the concepts, it required proper time management also. All the topics involved were very interesting. I appreciate the fact that the results were displayed within 12 days. The entire process was straightforward and easy.

OPPORTUNITY TO UNDERTAKE A RESEARCH PROJECT



The Advisory Group on Research and Publications, as a part of its research initiatives invites

EXPRESSION OF INTEREST

from Members / Member lead groups/ Member lead
Institutions as
volunteers/ non-volunteers to take part/undertake
the following research projects:

I. Global Product Design of Annuities and its Taxation

II. Health Insurance-Incidence rates and costs in the Indian market

Allotment of projects would be based on the evaluation of the project deliverables, timings, budget requirements and other details as furnished by the interested parties in a prescribed format which can be downloaded from the following link:

http://actuariesindia.org/downloads/Expression%20of%20Interest_Form.docx

Please visit our website www.actuariesindia.org to find Guidelines and details at: Research and Publications tab>>> Research>>> Projects

Please furnish your details in the format (form available at the above mentioned link) and mail to: vinodkumar@actuariesindia.org or call Vinod Kumar, Head-Research at +91 22 6784 3319 to start with.

Last date to submit the proposal: 15th August, 2013.

Tania Chakrabarti.

Chair Person, Advisory Group on Research & Publications, Institute of Actuaries of India. eneral and Economic

Developments

The local news has been dominated by two major events, namely the visit by US President Barack Obama and the ill-health of former President, Nelson Mandela. President Obama visited the country for two days and focussed mainly on strengthening economic ties with South Africa and Africa in general. According to the Economist, seven of the world's ten fastest growing economies are in Africa. The countries with the ten fastest GDP growth rates from 2011 to 2015 are as follows:

China	Vietnam
India	Congo *
Ethiopia *	Ghana *
Mozambique *	Zambia *
Tanzania *	Nigeria *

* African country

African economies have traditionally lagged behind the rest of the world in terms of growth rates. Although Africa accounts for some 16% of the world's population, it accounts for only 2.4% of the world's GDP. A combination of factors including economic and political instability as well as wars, famine and disease have traditionally hampered the continent's progress. Statistics over the last decade have however become more encouraging.

Africa's relatively higher growth rate when compared with the rest of the world is expected to see its share of GDP increase from 2.4% in 2012 to about 5% in 2034. According to OECD, in 2009 Agriculture accounted for some 13% of GDP for Sub Saharan Africa, Industry (including Mining and Manufacture) accounted for 31% of GDP and Services accounted for 56% of GDP. Agriculture does however account for 60% of the workforce. Africa has numerous mineral resources and there have also been substantial new discoveries of oil and gas

Some of the major obstacles of doing business in Africa include unstable economic or political environment, lack of infrastructure, foreign exchange control, corruption, local regulatory requirements and lack of skilled resources.

Key Social Security Developments

Africa lags behind the rest of the world ito economic ad human development. Recent trends indicate increased economic activity and higher growth rates. Africa is the youngest region of the world. The average oldage dependency ratio has been and remains the lowest and far below the world average. Africa's labour force is expanding rapidly.

There is a long history of Retirement Fund provision on the African continent. Many countries have either reformed or are in the process of reforming retirement funding provision. Coverage of population and adequacy of benefits are critical challenges for effective retirement funding provision. State benefits are

limited and more emphasis will need to be made on individual savings to ensure adequate pension provision at retirement.

Many countries in Africa set up their current national pension schemes in the 1970s, and no major changes or reforms have been introduced since then. There are six general problems with pension systems in Africa:

- the pension promise is large and unaffordable;
- schemes are financially unsustainable;
- badly designed rules introduce unnecessary distortions in labour supply and savings decisions;
- the schemes are fragmented and administration is weak and costly;
- coverage rates are modest, with important gaps among the selfemployed and in rural areas; and
- governance structures are not designed to ensure that the funds are managed in the best interests of plan members.

A small number of countries in Africa have a developed a Road Accident Fund. Actuaries are involved in loss of earnings and financial support calculations, valuation of outstanding claims provisions, valuations of benefits offered to the employees of RAF, risk management process and procedures and additional ad hoc calculations/valuations.

The provision of Health Care remains a distinct challenge on the African

continent. Various Funding models have been analysed but out of pocket expenses remains a major funding method. The continent has made some strides in attaining the Millenium Development Goals but much remains to be done. Affordability and sound and efficient management of existing resources remain a challenge.

The challenges of providing effective Unemployment Insurance in Africa include the administrative burden, access to payments, limited coverage, availability of information, corruption, fraud and eligibility enforcement, varying financial performance and lack of co-ordination. The areas that require further attention also include hidden employment, reemployment incentives, payments, severance workfare programs, hiring subsidies, Individual Unemployment Insurance Savings effective Account, administration systems and continuous evaluation.

The proportion of people living below the poverty line in Sub-Saharan Africa reduced from 51% in 1981 to 47% in 2008. By contrast China reduced the proportion living below the poverty line from 84% in 1981 to 13% in 2008. This was mainly due to robust economic growth between 2001 and 2010 whilst the population growth rate was only 2.5%. Other factors contributing to the decrease in the population below the poverty line include improvements in education and health care. Conversely hikes in fuel and food price and the global economic crisis have worsened matters.

Key Actuarial Developments

The Actuarial Society of South Africa's Governance Board has amended the society's disciplinary procedure. The main changes include the following:

- The Disciplinary Committee has the power to dismiss a complaint, without having to appoint an investigator. Until now, the Committee had to appoint an investigator, even for frivolous complaints;
- An appeal process is written into the procedure; and
- An upper limit of R5 million is set



NELSON MANDELA

Finally South Africa's iconic hero, Nelson Mandela is in a stable but critical condition in a Pretoria Hospital.

Mandela is one of the most respected leaders of our time and is revered internationally as a champion of peace and reconciliation. We wish Tata Mandela well.

for fines that may be imposed.

The Society has issued a draft Explanatory Note on the peer review process. This includes:

- To define under what circumstances an actuary may or may not accept to review the work of another actuary;
- To clarify the basis of engagement between the reviewing actuary and the actuary whose actuarial advice is being Peer Reviewed, the conduct expected by the Profession of each party, and the dispute resolution procedures where the actuaries concerned do not agree with each other's findings; and
- This Explanatory Note does NOT define under what circumstances a Peer Review is required.

The Society has also issued an explanatory note that provides guidance and information on principles of the actuarial code with respect to Whistleblowing. The note includes guidance on:

 The expectations and obligations in respect of speaking up and reporting suspected professional misconduct placed on an actuary by their professional body, the

- Actuarial Society of South Africa (the Society);
- Speaking up in a situation where someone else is involved.; for example an employer or a client;
- The relevant law; and
- Some questions for actuaries to consider to help them ensure they can handle any such situations of concern confidently and constructively.

About the Author



Krishen.Sukdev@iac.co.za

Krishen Sukdev is an Actuary and Director of IAC in Johannesburg, South Africa. He has 19 years experience in Pensions, Health Care and Investment Consulting. He has worked throughout Africa including South Africa, Zimbabwe, Mozambique, Botswana, Namibia, Zambia, Kenya and Sudan

PUZZLE

Puzzle No 195:

John's mother told him to go to the river and bring back exactly 9 gallons of water in one trip. She gave him a six – gallon bucket and a five – gallon bucket to complete his task. Of course, John's mother told him she'd bake his favorite cake if he came back with the 9 gallons.

John had his cake and ate it, too. How?

Puzzle No 196:

Tyres on Catherine's car last 36,000 km on the front or 44,000 km on the back. She has a new set of five tyres (including the spare) which she intends to interchange with one another so that they can all be replaced at the same time. Which tyres will need to be changed and at what distances if the number of wheel changes she makes are to be kept to a minimum? Be optimistic and assume there will be no punctures or blowout.

Solutions to the puzzles:

Puzzle No 191:

True. A tube designed to hold four tennis balls will be half full with two tennis balls and still half full with three tennis balls. This is because the volume of three tennis balls of unit radius is $3 \times 4\pi/3 = 4\pi$, which is half the volume of a cylinder of unit radius and eight units (four tennis balls) high.

Puzzle No 192: TOBACCO

Correct solutions were received from:

Puzzle No 191: Prasham Rambhia

Puzzle No 192: Mercy Amalraj A. Shyam Prasham Rambhia



shilpa_vm@hotmail.com



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 2013

A V GANAPATHY	R SRINIVASAN
A K GARG	K N VISHWANATHAN
A D GUPTA	K K WADHWA
H L JAIN	K. V. Y SASTRY
JAGADISH S SALUNKHE	P C MOHANTY

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



SUDOKU

SUDOKU No. 12 for the month of July 2013

HARD

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

HOW TO PLAY

Fill in the grid so that every horizontal row, every vertical column and every 3x3 box contains the digits 1-9, without repeating the numbers in the same row, column or box. You can't change the digits already given in the grid.

- Sudoku Puzzle by Vinod Kumar

Solution of Sudoku Puzzle No.11 published in the Month of June 2013

SOLUTION

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



ACHIEVE YOUR GOAL... RIDING ON INTELLECT... POWERED BY VALUES

Exam will take place on 6th & 7th December, 2013 in 41 cities across India.

http://actuariesindia.org/subMenu.aspx?id=4&val=ACET

TakeACET Actuarial Common Entrance Test

Gateway to the W orld of Actuary

We are interested in you, the brightest and the best. Your love for Mathematics or more generally skills in numeracy, can lead you to a rewarding and satisfying career as an Actuary.

What? An Actuary is a business professional who analyzes the financial consequences of risk. This is a niche profession with strict standards for qualifying and is also a global profession as it is recognized in most countries. The actuaries attract competitive salaries globally. It has consistently been rated as one of the best jobs in America, US News and World Report, the jobs Rated Almanac, CNN Money, and many others.

Who? • Have a degree in or are studying for Mathematical Sciences: Maths, Statistics, Econometrics or any other • An Engineer or studying for it • A Management Graduate or studying for it • A Chartered Accountant, Cost Accountant or a Company Secretary OR studying for any of these • Have a degree in Finance or studying for it, OR any other, but you have love for Mathematics and skills in Numeracy. With minimum of 10+2 or even a maximum of a Phd in Maths or Stats or any other.

How? Statistics Pack, Actuarial Mathematics Pack and Online Tutorial for ACET would be made available on registration. Once successful, you can take admission as a student member and pursue the actuarial course.

Where List of Cities for Examination: Agra, Ahmedabad, Bareilly, Bengaluru, Bhopal, Bhubaneswar, Chandigarh, Chennai, Coimbatore, Dehradun, Delhi, Faridabad, Goa, Gurgaon, Guwahati, Hyderabad, Indore, Jaipur, Jalandhar, Jammu, Jamshedpur, Kanpur, Kochi, Kolkata, Lucknow, Ludhiana, Mumbai, Nagpur, Nasik, Patna, Pune, Raipur, Ranchi, Secunderabad, Srinagar, Surat, Thiruvananthapuram, Udaipur, Vadodara, Varanasi, Vizag.

Registration Starts from 14th Aug 2013

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ACET AD. July 7-13





WNS — A Leading Global Solutions Provider in the Actuarial Domain

The Insurance industry is increasingly focusing on operational excellence and effective cost management to counter the challenges posed by volatile economic conditions and growing competition pressures. Within insurance, Actuarial services have grown tremendously, and firms are increasingly looking at partnering actuarial service specialist to realize gains.

Besides the traditional actuarial exposure areas of product designing, rating, product pricing, reserving, re-insurance among others, actuaries provide professional services in a wide range of core business areas, including commercial businesses, corporate strategy, marketing, underwriting, claims management, planning finance, accounting and budgeting.

WNS is a global business process outsourcing company and a leading player in the market providing a wide range of offshore actuarial services utilizing a cost-efficient delivery model and enabling its customers to effectively deploy their valuable actuarial resources to strategic tasks. With demonstrated capabilities in the BPO arena coupled with a strong focus on quality, WNS's processes and governance are well-suited to create an attractive value proposition for clients.

Experience: 3 - 10 Years | Domain - Life | Roles: - Sr. Analyst / Deputy Manager / Group Manager

- Experience preferably in Life insurance Company's Actuarial department.
- Working experience in Prophet, MS Access, MS Excel with VBA coding, SAS /Programming skills would be plus.
- Min 4+ actuarial exams from institute of Actuaries of India / Faculty and Institute of Actuaries. UK / Society of Actuaries / Institute of Actuaries of Australia.
- Strong modeling background in Prophet or other actuarial projection systems like MG Alfa, MoSeS etc.
- Ability to think creatively to generate solutions to tough problems.
- Ability to manage a small team along with doing hands on technical work.

Experience: 3 – 10 Years | Domain – GI | Roles: - Sr. Analyst / Deputy Manager / Group Manager

- Experience preferably in General insurance Company's Actuarial department.
- Min 4+ actuarial exams from institute of Actuaries of India / Faculty and Institute of Actuaries. UK / Society of Actuaries / Institute of Actuaries of Australia.
- Proficiency in MS Access and VBA coding along with SAS programming skill are essential.
- Working experience on pricing, reserving or capital modeling proprietary software would be plus.
- Ability to think creatively to generate solutions to tough problems.
- Ability to manage a small team along with doing hands on technical work.

WNS's Actuarial Team

- · We have unparalleled domain capabilities in the actuarial space
- We have the largest team in India in the Life and General Insurance space with over 150+ actuarial professionals catering to U.S., U.K. and European markets
- · Our actuarial team consists of a good mix of professionals sourced from reputed institutes (IIT, ISI, top universities), and with diverse background like (CA / CFA / MBA / Project management)
- We provide best-in-class Actuarial Study Support Program as well as the opportunity to work in different geographical location
- Current actuarial domain in WNS:
 - Life Insurance
 - General Insurance
- Currently, our actuarial processes operate from Chennai and Gurgaon in India

WNS's Actuarial Practice

- Reporting:
 MCEV, IFRS & FSA Reporting
 - Stochastic Reporting Basis Development
- Advanced Prophet Modeling &
- Management Solvency-II Model Development
- - Experience Analysis
 - ICA Reporting
 - Existing Business Fund Value.
 - Surrender Value & Bonus
- Calculation, Pricing Support Other Project-based Tasks

General Insurance Domain

- Data Management
- Actuarial Valuation
- Reserve Modeling on Actuarial Software
- Reserve Uncertainty Modeling (Cat Re)
- Claims Analysis & Capital Modeling

For more information, please contact: Caleb Andrews | E-mail: caleb.andrews@wns.com | Phone: +91 44 43848069 WNS Global Services (P) Ltd

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