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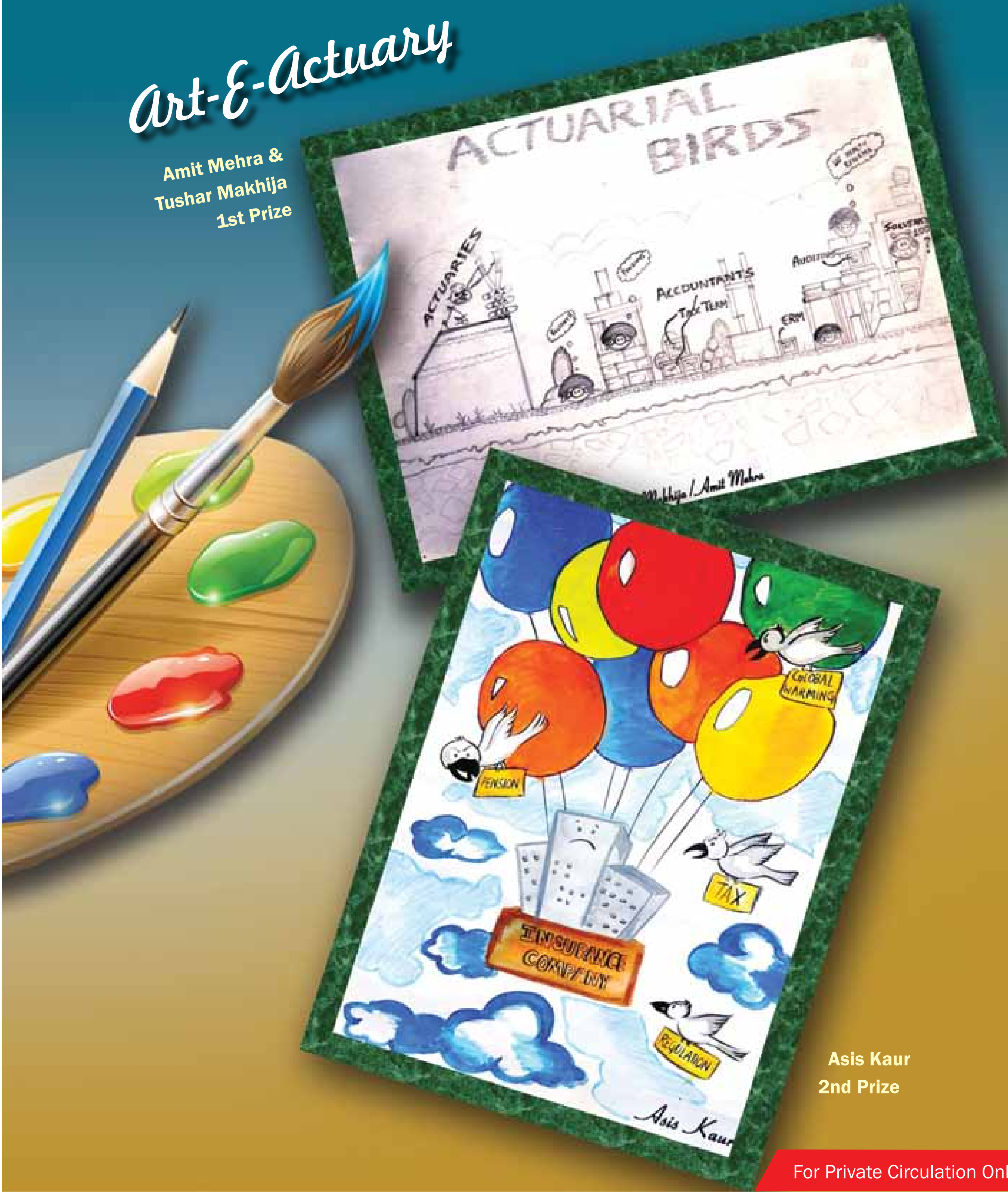
Celebrations 2012 Actuarial Gala Function and Awards (2012 AGFA)

Art-E-Actuary

Amit Mehra &
Tushar Makhija
1st Prize



Asis Kaur
2nd Prize

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FROM THE PRESIDENT

2013 AGFA and 15th GCA:

I ended my column for the May 2012 issue with a desire to share with you more feed-backs resulting from the survey that we carried out amongst participants of the 2012 AGFA and the 14th GCA. Out of 677 participants at the events, 148 (22%) responded to the Survey call. Not a large number but I believe statistically significant to make some conclusions or at least get a feel of the "mood". Some of those who have responded have been around for as long as the GCA has been, and some display views that were held "then" – the days when Indian actuarial work space was so very different. I have consistently been talking about this reality right from the beginning of current term as President which started on 4th September, 2010. The Indian actuarial workspace is global, it's not uniquely Indian, but uniquely global.

Here is one comment: *"The GCA seems to provide very little tangible benefit to the Indian actuaries. The IAI should move away from holding a "global" conference that has very little practical value for Indian profession. It should not permit sponsors to sell their products and services. There is a great need to indianize the conference. Formatting it as a "global" conference provides a photo op to a handful of people. It produces very little value to the Indian profession for the vast amount of money spent."* This is from someone who has lived out of India for ages (was born in India, though) has been coming for most, if not all the GCAs, has been a paper presenter in many of the GCAs – always found a place for himself, but for the previous two. Not sure if he represents "Indian actuaries". The Indian actuarial workspace is global, not only the workspace but the route to qualifying as actuary too. The actuarial education/examination space is multi-route: besides IAI, the examinations are conducted by the Institute and Faculty of Actuaries, UK (IFA), The Casualty Actuarial Society, US (CAS) and the Society of Actuaries, US (SoA). Those who pass these examinations are employed by the actuarial employers in India and find their way to the global actuarial workspace as they move along the examination path. The GCA event more now than earlier is an umbrella facilitating celebrations through AGFA, dialogue, discussions, deliberations through the two days conference and above all networking – sheer pleasure of being together.

All the comments and statistical analysis of the feedback survey are being studied and I am sure it will show itself in the 2013 AGFA and 15th GCA taking these two events on to a higher pedestal.

ACET 1 to ACET 2:

ACET 2 registrations closed on 28th May, 2012 and the exams will be held over 29th and 30th June across some 41 centres in India. 2,531 as against 1,960 in ACET 1, an increase of about 29%. There are subtle and interesting differences though: more females and more young members in ACET 2. Some shift from larger centres towards smaller cities. Five hundred and twenty four candidates of ACET 1 appeared in the May 2012 exam diet (524 out of 4,338). It would be interesting to watch the pass rate of ACET candidates vis-a-vis others. We expect a story to emerge.

The FSLRC:

The Financial Sector Legislative Reforms Commission (FSLRC) has been constituted by the Government of India under the Chairmanship of Justice (Retd.) B. N. Srikrishna with the mandate of rewriting and streamlining the existing financial sector laws. Out of a number of working groups, the Working Group on Insurance, Pensions and Small Savings, chaired by Shri Dhirendra Swarup, former Secretary, Dept of Expenditure, Ministry of Finance & Chairman, PFRDA, has been entrusted with the task of evaluating the legislative and regulatory framework governing these sectors. We have been given an opportunity to respond with reference to a questionnaire drawn by the Working Group which is very comprehensive. My meeting on 13th June, 2012 with Mr. Swarup and his officials was very fruitful and illuminating. The consultation process amongst us has started so as to enable us to come up with an appropriate response which may have the effect of shaping up the actuarial profession in a better structure than now.

Let's hope for the best.

Liyaquat Khan

7th SEMINAR ON CURRENT ISSUES IN EMPLOYEE BENEFITS

by Uday Sadana

Organized by : Institute of Actuaries of India
Venue : The Chancery Hotel, Bangalore
Date : 11th May, 2012.

About the Author

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Uday Singh Sadana works in the Benefits practice at Towers Watson. Uday is involved in offering actuarial advice with respect to accounting for the cost of long term benefits and general consulting including benefits.

The 7th Seminar on Current Issues in Employee Benefits was held in Bangalore on 11th May 2012 as a part of the initiative from the IAI to hold seminars across various locations in India to gain the perspective of leaders and professionals from different industries on the nuances of employee benefit valuations. The session brought together actuaries, financial managers, auditors and HR officials across various industries. Speakers and panelists shared their views on the following topics - Valuation methodology, assumptions setting, need for AS15 (Rev) disclosures, factoring employee benefit cost into the overall compensation package of employee, management of Exempt Provident Fund investments and the roles of and relationship between the actuary and the auditor in context of employee benefit valuations.

Preeti Chandrashekhar

Preeti Chandrashekhar, Consulting Leader, Benefits India (South), Towers Watson set the tone for the day by giving the opening remarks. She spoke about how the significance of the valuations and AS15 disclosures has evolved over time. With employee benefits contributing significantly to a company's liability, it has become essential for companies to control its volatility.

This was followed by the inaugural address by **Liyaquat Khan**, President, IAI. He highlighted the importance of organizing such sessions as they bring together professionals with varied expertise on one platform. He also stressed on the importance of clearly

Liyaquat Khan

defining the roles and responsibilities of each expert.

The commencing of the **1st session** saw a presentation by Preeti Chandrashekhar who highlighted various aspects of employee benefit valuation. She spoke about the key dimensions that need to be considered for valuation. She emphasized on the difference between funding and accounting valuations serving two different purposes. Preeti discussed the reasons for actuarial gains and losses in the context of actuarial valuations. She concluded her session with a brief update on the latest topics- PF valuation and Revised Schedule VI.

Panel Discussion

The session was followed by a **panel discussion** on "Setting Assumptions for Employee Benefits Valuations" with panel members- Ramanujan, Head M&A, PWC, Ganesh Murthy, Executive VP & CFO, Mphasis, R Hemamalini, Consulting Actuary and Narayanan Balakrishnan, Partner-Audit, KPMG. Ramanujan moderated the discussions. Ramanujan gave the opening remarks expressing his views on work of an "Actuary". This was followed by a debate on the significance of disclosures and formats as prescribed under the AS15 (Rev). The session covered the guiding principles that are to be adopted while setting assumptions for valuations. Panelists gave their insights on actuarial assumptions being unbiased and long term in nature. Besides salary escalation and attrition rates they even spoke about the basis of discount rate and the expected return on plan assets. Emphasis was laid on the need for stable actuarial assumptions and how a variation in the actual vs expected experience can lead to gains or losses. While assumptions should be based on the future expectations of a firm and thus are to be set at the discretion of the company, it is the responsibility of the actuary and the auditor to review them. The interest the session generated was evident in the questions addressed to the panelistsThe post lunch session was the **second panel**

Second Panel Discussion

discussion with the following speakers- Ganesh Murthy, Naga Kumari, Senior Manager, Comp & Ben, Metro Cash and Carry and Preeti Chandrashekhar, with Liyaquat Khan as the moderator. The panelists discussed the concerns of

"Factoring Employee Benefit costs into the overall Compensation Package of an Employee". Ganesh set the context by mentioning various benefits that employees are typically entitled to and the rationale behind their inclusion in the employee's cost to company. Panelists recapitulated and emphasized on the importance of communication between the HR and the employee. It is important that employees are aware of the benefits they are entitled to – both in terms of cost as well as the value. There was an interesting debate on the current practice of factoring gratuity into the Cost to company. In


Prasanna Deokar

the **4th session Prasanna Deokar**, Investment Head, India Life Capital discussed Exempt Provident Fund Investment Management. He covered investment regulations and challenges in optimizing Returns. He mentioned that due to the absence of external fund management for PF high historic PF Rates itself, there is an absence of


K. Sriram


Rushank Muthreja

representative benchmarks for PF's return and risk. Prasanna then gave his insights on the significant structural reforms that are needed in the long run and much needed immediate actions to expand the scope of research for PF investment management, performance benchmarking and governance structures.

The **5th session** was on "Rules & Responsibilities of Actuaries and Auditors in context of Employee benefit valuations" by Dr. K. Sriram, consulting actuary and Rushank Muthreja, Director, Audit Practice of BSR. Dr. Sriram in his presentation briefly described the responsibilities of an actuary and an auditor. He spoke about how lack of communication between the two professions can lead to conflicting discussions on the approach towards valuation. The speakers also talked about how auditors evaluate an actuary's report. Rushank gave an auditors perspective on the checks on materiality of assumptions. The speakers reiterated the need for communication on assumptions and other aspects of valuation before commencing with it. This need for communication also plays a significant role in nontraditional valuations with limited existence in companies, like EPF, Long Service awards and Post Retirement Medical Benefits.

There was an interesting Question and Answer Session. Company representatives showed their keenness to understand materiality checks that auditors apply to valuation results from the actuary.

The event concluded with the closing remarks and a vote of thanks by Liyaquat Khan.


Ganesh Murthy


Ramanujan


R Hemamalini


Narayanan Balakrishnan

FAREWELL

It is with a heavy heart that I must say goodbye to all of my friends and colleagues here. I would like to take this opportunity to thank everyone for the support and co-operation I received here at IAI and to let you all know that I have appreciated the friendly atmosphere in which I have worked.

Once again I want to thank you and wish you success in future.
I can be reached at my personal email krmanoj_manu@rediffmail.com.
Best Wishes
Manoj Kumar

CONSIDERATIONS OF INDEPENDENCE & CONFLICT OF INTEREST IN ACTUARIAL WORK

by Sanjeev Pujari

Two pieces of IRDA regulations, the 'Issuance of Capital by Life Insurance Companies, 2011' and the recently issued draft regulation on the 'Scheme of Amalgamation and transfer of Life Insurance Business 2012' require among other things, a report to be prepared by an independent actuary. The essential requirement of independence as brought out in the latter draft regulation is that 'the actuary is not professionally connected with any of the parties involved for a certain period of years before the signing of the report'. He would be independent in this context to the company, its promoters, its advisors, employees etc. The former regulation however, is silent on the meaning of independence.

Independence

The considerations of independence are similar to the Institute of Chartered Accountants of India requiring the Auditors to be independent while performing their duties as Auditors. The 'Guidance Note on Independence of Auditors' issued by the ICAI defines independence as implying that the judgment of a person concerned is not subordinate to

- the wishes or direction of another person or entity who might have engaged him or
- to his own self interest

While we as a profession are awake to the requirement of 'independence of mind' in the various professional actuarial works, specifically while performing Statutory Roles; 'independence' as an expression does not get reflected in our Professional Conduct Standard. The PCS rather takes care of these issues with the standards covering 'conflict of interest' and 'Financial Interest'.

While being 'external' to the client is an essential requirement of independence, actuaries as a professionals work in situations where conflict of interest situations arising out of 'non-independence' is reconciled. For example, an Appointed Actuary is employed by the life insurance company and which also is his client. His advice relates to the protection of policyholder's interest which may conflict with the commercial interest of the company and hence the personal interest of the Appointed Actuary. However, we should keep in mind that being external in itself does not necessarily eliminate or reconcile the conflict of interest that may arise in the course of actuarial work.

> THE RECENT IPO REGULATION AND THE DRAFT REGULATION ON AMALGAMATION AND TRANSFER OF LIFE INSURANCE BUSINESS REQUIRE AN INDEPENDENT ACTUARY TO PREPARE A REPORT ON THE SCHEME. IN THE LIGHT OF THIS, THERE IS A NEED TO UNDERSTAND THE CONCEPT OF INDEPENDENCE, AND TO PUT IT IN THE CONTEXT OF CONFLICT OF INTEREST AND FINANCIAL INTEREST AS STATED IN OUR PROFESSIONAL CONDUCT STANDARD.

This brings us two interlinked perspectives on independence as enumerated in the Guidance Note of ICAI on the Independence of Auditors.

'Independence of mind', is the qualitative aspect of independence which allows the actuary not to be affected by such influences as to compromise professional judgment, ensures that he acts with professional integrity and objectivity. 'Independence in appearance' is the avoidance of certain circumstances so significant or obvious that an informed third party, otherwise, based on relevant information, would reasonably conclude that integrity and objectivity has been compromised. The former would mean avoidance of conflict of interest and financial interest and the latter to such aspects as being external and not being connected to any of the involved parties. However, we need to understand that the latter does not necessarily ensure that former aspect is in place but helps strengthen adherence to the former.

About the Author

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Sanjeev Pujari is FIA & FIAI and also serving as Member, Advisory Group on Professionalism, Ethics & Conduct of Institute of Actuaries of India.

Conflict of Interest

Conflict of interest arises when the actuary's duty to act in the best interest of the client is in conflict with

- member's own interest or interest of his firm
- interest of other clients

Essence of independence

The key propositions are -

- Act honestly with high standard of integrity
- Ability to provide objective advice should not be seen to be compromised
- Avoid bias, prejudice and partiality
- Respect confidentiality unless disclosure is permitted by law and justified in public interest

Threats to Independence

Following are a few sample instances or circumstances which would be considered as threats to, or undermine independence if adequate safeguards are not taken.

- Self Interest: This occurs when an actuary / actuarial firm, its partner, or associate could benefit from a financial interest in the client. For example, close business relationship, contingent fees are examples of having financial interest in one's client.
- Self Review: This occurs when a judgment or decision taken in any previous engagement is being reviewed by a person who was a Director or Sr. employee with the same client when the earlier decision was taken.
- Familiarity: An actuary may form a relationship with the client whereby he ends up being too sympathetic to the client. For example, a close relation of his works in a senior position in the client company.
- Intimidation: There could be threats of replacement or disengagement over certain disagreements.
- Gifts, hospitality, rewards: The timing of these may shift sympathy in a manner which may compromise independence.
- Differing roles: An actuary's differing roles within the firm may give rise to conflicts; e.g. Appointed Actuary and Head of actuarial; With Profit Actuary and Actuarial Function holder.

Safeguards

Making sure that conflicts and conflict situations are properly understood, identified easily and reconciled or eliminated, is the key to better quality of actuarial work. However, conflicts of interest are not etched in black and white, and hence handling them involves great deal of professional judgment. While, any guidance or standard on this matter cannot be prescriptive, it would be useful to provide to actuaries the necessary understanding on the matter so that they can, when the requirement arises, assess whether conflict exists, if so, what is to be done to handle it in a professional manner. A few questions that one can ask oneself in this context are –

- The essential purpose for which the proposed work will be used?
- Existence of financial interest?
- Self or any of one's associates, relatives connected to the relevant parties?
- How commercially significant to one or to one's firm is each client relationship?
- Different roles within the firm/ company give rise to conflicts?
- Fee contingent on the results of one's work?
- Indebted to the company or holding share options?
- Advice sought by one client that might be detrimental to the other client?
- Under undue pressure to produce certain outcomes from one's work?

There needs to be appropriate measures in place for effective conflict management:

Training: Regular training so as to create awareness of professionalism issues through case studies etc.

Purpose of the actuarial work: It is important to take account of the purpose for which the proposed work will be used. In this context, one would need to consider the interest of the other parties and potential conflicts e.g. policyholders & shareholders.

Remuneration: Incentive pattern should be such that it encourages the most suitable and best advice to be provided to the client.

Conflict Register: One way to handle conflict situations is by logging in all actual and potential conflicts of interest and all decisions and correspondence on the matter.

Disclosure: It would be a good practice to document a conflict handling plan and highlight the same in the client engagement letter. Any actual conflict of interest if it exists or a potential conflict that would arise would be disclosed in writing. Details on how such situations or potential situations would be handled would also be stated. Conflicts when they arise are more easily dealt with if this is done in advance before such situations arise.

Separation of teams: Where a firm has agreements with two or more different clients with conflicting interest, it would be appropriate to ensure they are serviced by two separate firewalled teams or by setting information barriers between two parts of the firm.

Peer Review: External Peer Review is a good means of ensuring transparency and objectivity of work being carried out and ensuring that conflicts, if any, have been appropriately reconciled.

Rotate responsibility: Rotate responsibility across personnel for certain roles so that objectivity is ensured.

Consult: Consult with other members of the profession or other professions with regard to conflict situations so as to seek advice or a second opinion, without of course, breaching confidentiality obligation. Such consultation would be logged in the conflicts register.

Gift / Hospitality Policy: Such policy could

- Record gifts received
- Require approval for high value gifts
- Nature / timing of the gift – whether routine Diwali gift or is timed to a report submission or a critical decision

Ceasing to act: If a conflict situation cannot be resolved, it may not be appropriate for the actuary to continue to act for the client any longer.

Conclusion

Independence is a state of mind which is borne out by the absence of any conflict of interest or conflicts when having arisen, having been reconciled. The presence of a relationship or connection with interested parties or the lack of it may or may not affect independence in the true sense.

It is however essential for any professional actuary to act or initiate such measures so that it instills the necessary confidence in the mind of the client that the advice provided is objective and not constrained by consideration other than the interest of the client.

Acknowledgement:

1. Guidance Note on Independence of Auditors, ICAI, New Delhi
2. Conflict of Interest, a guide for actuaries, Institute and Faculty of Actuaries, UK

FINANCIAL SECTOR LEGISLATIVE REFORMS COMMISSION-REWRITING AND CLEANING UP THE FINANCIAL SECTOR LAWS

by Vinod Kumar; Head – Research, Institute of Actuaries of India

Background : Most of the institutional framework governing India's financial sector is almost a century old and many legislations, rules and regulations may not be relevant or dynamic to the current times. There are over 60 Acts and multiple Rules/Regulations in the financial sector and many of them date back decades when the financial landscape was very different from what is obtaining today. Large number of amendments made in these Acts over time has increased the ambiguity and complexity of the system.

About the Author

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Vinod Kumar is Associate member of Institute of Actuaries of India and is currently heading Research team at IAI.

The Finance Minister announced the formation of the Financial Sector Legislative Reforms Commission (FSLRC) during his Budget speech of 2011-2012 to rewrite and harmonize financial sector legislations, rules and regulations. Accordingly, the Government of India under the Ministry of Finance (Department of Economic Affairs) has constituted a Commission under the Chairperson Justice (Retd.) B N Srikrishna and other 9 members. (http://www.fslrc.org.in).

The Commission has constituted number of Working Groups to study different sectors/aspects.

Working group on Insurance, Pensions, PFs and Small savings have the below composition:

Sri. Dhirendra Swarup, Member Convener, FSLRC , Chairman

Sri. C S Rao, former Chairman, IRDA, Senior Advisor

Sri. Tarun Bajaj, former Joint Secretary (Insurance), Member

Ms. Anuradha Prasad, Chief Controller of Defense Accounts, Member

Sri. V S Chauhan, Director, DEA, Ministry of Finance, Member

Terms of Reference of the working group:

Important terms of reference under the Working Group on Insurance, Pensions, PF's and Small savings and relevant to Insurance and Pensions include:

- Review the consumer protection aspects of insurance and recommend principles of legal framework for the same.
- Examine the role of the regulator in pursuing the goal of "development" and the manner in which the development of products in various areas , including rural and social sector, micro insurance , agriculture insurance, health insurance, should be specified in laws and regulations
- Examine whether information should be treated as a public good that can be shared through appropriate data warehousing and data mining infrastructure, subject to customer privacy and confidentiality requirements.
- Identify the prudential regulation and supervision aspects of insurance regulation and recommend a model legal framework for the same.
- Review the legal framework relating to re-insurance and examine the changes that might be required to promote more robust participation in the sector
- Review the systemic risks that can arise from the failure of insurance firms, and the legal framework for dealing with such risks.
- Examine the appropriate resolution mechanisms that need to be adopted to deal with the failure of any insurance firm, keeping in view of the interests of policyholders and financial stability. Also review whether this process should differ in any manner for life and non-life insurance firms
- Review the design and implementation of the Employees State Insurance Act, 1948 and examine the possibility of allowing employers covered by that legislation to opt for group medical insurance offered by the private insurance industry.
- Review the regulation and structure of state owned insurers, in particular the special status of Life Insurance Corporation of India

Institute of Actuaries of India as a stakeholder

The Working group on Insurance, Pensions, PFs and Small savings has asked The Institute of Actuaries of India to provide inputs on 20 questions specifically and on other relevant points that the IAI may like to.

President, Liyaquat Khan has consequently asked all the Advisory Groups for their inputs and constituted three Working Groups to work on some specific points. All the IAI members have also been requested by mail to all the members to give their comments/ inputs.

The deadline for submission to the FSLRC Working Group is 30th June and consequently IAI's internal deadline is latest by 25th June 2012.

The FSLRC questions to the IAI for response are;

1. To what extent should the insurance regulator be involved in the appointment and regulation of actuaries appointed by insurance companies? What provisions should be there in the primary insurance regulation in respect of the role of actuaries?
2. What should be the means of coordination and interaction between the insurance regulator and the Institute of Actuaries?
3. What are the core aspects of consumer protection and market conduct relevant for the insurance industry? In what manner should these aspects be covered in the primary legislation?
4. Are there any features of the present legislative structure governing the insurance sector (which includes the Insurance Act, 1938, Life Insurance Corporation Act, 1956 and the General Insurance Business (Nationalisation) Act, 1972) that can be perceived to have an adverse impact on competition in the industry?
5. Should the regulator be entrusted with the goal of pursuing the development and growth of insurance business? If so, in what manner should the development of specific areas, including, rural and social sector, micro insurance, agriculture insurance, health insurance, etc.,be provided for in the primary laws?
6. What should be the model legal framework to govern prudential regulation aspects (licensing, capital adequacy, risk management, governance, etc.) of insurance firms? To what extent should these aspects be addressed in the primary legislation?
7. Is there a need to revisit the investment norms for insurance companies envisaged in the Insurance Act, 1938 in order to empower the regulator greater flexibility in adjusting the regulatory framework with time?
8. What are the pros and cons of adopting the prudent man approach to investments by insurance companies versus the prescription of detailed investment guidelines?
9. Is there a case for allowing insurance companies to invest a part of their funds in overseas investments?
10. What changes are required to be made to the legal framework to promote more robust participation in the re-insurance sector?
11. What are the systemic risks that can arise from the failure of insurance arms and what should be the legal framework for dealing with such risks?
12. What are the resolution mechanisms that need to be adopted to deal with the failure of an insurance firm, keeping in view the interests of policyholders and financial stability? Is there a rationale for this process being different for life and non life insurance firms?
13. Should there be some form of deposit insurance/ compensation scheme to protect the consumers of failed insurance firms?
14. Are there any issues that arise on account of Government ownership of certain insurance and reinsurance companies? In what manner can these issues be addressed?
15. What should be the role of self regulatory organizations and industry associations in the insurance sector? Is there scope for some regulatory functions being divided between these bodies and the statutory regulator?
16. Are there any specific changes required to be made to the present legal framework to ensure more robust growth in the health insurance sector? To what extent are these developments dependent on broader changes required in the health industry and the health delivery systems?
17. Are there any changes required to the present legal regime governing motor vehicle third party insurance?
18. In order to carry out its functions, what specific supervisory, monitoring, sanction and enforcement powers need to be conferred upon the regulator?
19. Are there any specific provisions in the present insurance laws which might need to be moved to the level of subordinate legislation to allow the regulator greater flexibility in carrying out its functions?
20. Are there any other issues that you would like to bring to the attention of the Working Group for its consideration?

The IAI Coordination: The Coordination for putting in place the responses has been given to the Advisory Group on Peer, Stakeholder and International Relations under the leadership of Heerak Basu and Vinod Kumar Head – Research as coordinating nodal person.

Though the time is limited, the opportunity for the Indian actuarial profession to make its points cannot be overemphasized. Irrespective of the sectoral responsibilities for response as assigned by the President, response from members in general is important.

> THERE IS NEVER ENOUGH TIME TO DO EVERYTHING, BUT THERE IS ALWAYS ENOUGH TIME TO DO THE MOST IMPORTANT THING
>
> BRIAN TRACY

SETTING AN EXAMINATION PAPER

...And you thought only students are anxious about examinations!

by Rajeev Kumar

Yet another set of examinations have gone by and a lot of the student members may have estimated their marks for the hundredth time by now. The wait between the exams and the declaration of results is a long one. I don't think that I can reduce the anxiety of seeing the results but I can attempt to bring some clarity on what goes on in an examiner's mind while setting the paper.

As an examiner of one of the Specialist Technical (ST) subjects I want to take this opportunity to pen down my thoughts on what it takes to set a reasonable paper. The word reasonable is important here because the most challenging aspect is to ensure that the paper is neither too difficult and yet has enough in it to separate out deserving candidates from the unprepared ones. More importantly 'difficulty' needs to be measured from the student's point of view and not from the examiner's!

The actuarial examinations are divided into four set of papers with each one testing a different set or a combination of skills. The ST subjects test the technical aspects of the subject the student wishes to specialize in whereas SA subjects focus more on application. There is always a debate on whether a question is apt for a student appearing for the ST subject or the SA subject. My view is that it does not matter! What is more important is whether the answer provided is apt for a student appearing for a ST subject or a SA subject.

Reasonableness:

Most students form an opinion of the paper in the first five minutes and therefore it is important that the paper is reasonable. A paper which looks very difficult can have a negative impact on the brightest of minds and only students in best frame of mind stand a chance to pass.

It is difficult to know what a reasonable paper is and therefore I follow a very simple principle which works most of the time. I divide the paper into three categories. The first category consists of the questions worth 15-20 marks which require basic knowledge about the subject. The second category consists of questions worth 50 marks which can be attempted by students who have completed the course but cannot say that their preparation is sufficient. The third and final category consists of questions worth 30-35 marks which can be attempted only by students who have prepared well for the subject.

In my mind there are four principles of setting a balanced paper and if followed properly can iron out most of the concerns involved in the examination process. The four principles are reasonableness, consistency, avoiding predictability and innovation.

This approach distinguishes the students who are ready to progress to the next level and at the same time gives hope to the under prepared that they would have had a chance of passing if their preparation was a little better.

Consistency:

Examiners need to check for consistencies across different examination diets. The paper should be consistent in terms of difficulty and allocation of marks between knowledge, application and higher order skills. Ensuring consistency also avoids the unnecessary comparisons of one paper being easier than the other.

Avoiding Predictability:

One of the key trades of a good examiner is to avoid being predictable. As an examiner, one should always try not to follow a particular pattern, for example ask a numerical question in every alternate paper. Students are very smart and bound to pick this up. We want to build expertise in actuarial science and not gambling. The best way to avoid being predictable is to try to cover as much from the syllabus as possible and oscillate between numerical and theory, short and long questions, etc from the same sub topic.

Innovation:

Like every other assignment, being an examiner also demands an innovative mind. As per my experience it is comparatively easier to innovate in the ST and SA series than the other subjects. Since most of us examiners work either in the life, general, health or the pension industry, it is easy to pick up real life situations and turn them into interesting questions. In majority of the cases the innovative questions will have simple answers but the key criterion put to test is for the students to figure that out and not beat around the bush. I guess that is also one of the key criterions for becoming an actuary, which is to provide simple solutions to complex real life challenges.

All of these are input measures that go into making a good paper and result time is a testing time not only for the students but for me as well! As an examiner I continuously benchmark myself against results of the students. Nothing pleases me more as an examiner to see healthy pass percentages that are consistent across examination diets.

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Rajeev is Fellow of IAI and is serving as Vice President – Product & Pricing at Bharti AXA Life Insurance Co. Ltd.

BREAKING THE MINDSETS

by Varun Gupta

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Varun Gupta, a fellow member of Institute of Actuaries of India, is working with Max New York Life and chairs Advisory Group on Examination.

Picking a tab from the CA3 communications module I realized that as the examination group we have not been communicating enough with the student community at large.There are a lot of issues all of which cannot be addressed at once. There are a lot of emails all of which cannot be replied. As a start I am putting together some common mindsets that are prevalent in the student community and I have made an effort to address some of those in as transparent manner as I can.

Mindset 1: My script went to a marker who was stricter than other markers and hence I failed

This one amuses me the most and perhaps that's the reason I have put it first. In fact during my student life (and I am talking about life beyond actuarial education as well) me and my friends had an even more amusing variation on this. During our 12th Board exams this used to take form of a mass hysteria where the entire school felt it has been short changed against its fiercest rival

Let me clarify the process so that some of the apprehensions of students get addressed. At the IAI, each exam script goes to at least 2 independent markers who are referred to as associate examiners ("AEs"). There are extensive rules in place wherein if the difference in marks between the 2 AEs are more than a certain set threshold, or marks by both AEs are similar but somewhat less than the passing grade, or if one AE reckons it is a pass and other deems the script fail, then the script goes to a third pair of eyes - the review marker - who does an independent evaluation of the script and provides his recommendations

Mindset 2: Markers do not give marks for interim steps

AEs at IAI are provided with Indicative (in IFA called 'model') solutions and are specifically encouraged to give marks for interim steps. I cannot deny that there are human tendencies involved in the process and different markers may look at things differently but our effort is always to make sure that we drive as much harmony as possible.

The way we address this issue is that once the exam gets over the model solution is circulated to all markers (or AEs whose number could go up to as high as 30 in some of the earlier CT examinations!). The AEs and main examiners are also given 5 sample scripts chosen randomly from the exam just concluded. All markers including the main examiners independently look at the same 5 scripts and then discuss their marking approach. In event of discrepancies AEs are given appropriate feedback. This is a critical process through which we try to drive homogeneity in the marking process. This is also a stage where we attempt to address issues like alternate acceptable approaches to a question that were not thought of by the paper setters at the outset. In such circumstances, after due discussions, a revised Indicative solution is prepared giving credence to the alternate approaches before AEs get down to mark all other exam scripts

Mindset 3: IAI tires to 'manage' the number of students passing by constantly shifting the pass mark criterion from one diet to another

As matters stand I must clarify categorically, for at least the time that I have been having this responsibility, that IAI does not indulge in this and the pass mark rules are set well in advance. No examiner, examination administration team, examination advisory group have the authority to change the pass mark rules. In fact the rules have been the same for number of years.

My personal opinion is that this would also be imprudent because we do not have a uniform batch to 'choose' from. The percentile approach to passing or grading that is commonplace in IITs and IIMs works well because their entry criterion is set in a way that ensures that only candidates of a certain minimum caliber make it to the course and post admissions, depending upon standard of papers, they grade students on a percentile approach popularly known as RG ("Relative Grading")

This approach if adopted in any other context has its pitfalls. For example if the input population is all very weak then the percentile approach would end up passing some non- deserving candidates. Reverse phenomenon is true as well where strong candidates would invariably fail.

We do not follow this approach and any student who scores above the pass mark rule is awarded a PASS.

Mindset 4: UK pass rates are much higher that IAI's pass rates

Whilst as much as we would all want to see IAI's pass rates at UK levels unfortunately that is not the reality. Borrowing from the point made above, suitable entry barriers not only serve to drive homogeneity of results across exam diets they also serve to make sure that the absolute pass rates are respectable. A very stylized example would be that of an Olympics 100 meter dash event. Participants go through several rounds of qualifiers and heats to reach the finals. The result being that if one were to set a 'pass mark' criterion of '12 seconds' then perhaps everyone would be a PASS. Imagine the same race being participated in by people like me and the pass rate is sure to take a pounding. [Note I am nowhere suggesting that IAI exams are as tough or as competitive as the Olympics. I am just trying to be more **illustrative**]

Continuing on the point made above, entry barriers are not always academic; they could take other subtle shapes or forms such as monetary incentives/ disincentives, number of attempt restrictions that force the students to be doubly sure before they decide to enroll for an examination. My belief is that UK exam fee is definitely in a range that it serves to act as one such barrier. This results in a self selection effect resulting in better pass rates. We have gone back and checked extensive IAI exam data and even we were pretty amazed to realize that across last 5- 6 IAI exam diets and across all CT examinations almost 50% to 70% of the registered candidates either do not end up appearing in the exam or score an FC or a FD. Those familiar with working of life insurance companies would do good to associate this with the phenomenon of markedly higher lapse rates of low premium size policies compared to the higher case sized ones.

A good comparison point would be to compare results of same students who appeared in UK as well as India in the same diet and frankly I do not know what the answer is. What I am more concerned is the apparent variation in pass rates in India across exam diets and we are trying our best to address these issues in a structural manner.

Mindset 5: If the question is not from Acted Study material then the paper is out of syllabus

It is an honest admission that till almost half way through my actuarial examinations I used to believe this myself. To clarify matters - core reading prescribed by the profession can be found in **BOLD** sections of your Acted notes. Acted notes explain the core reading and other related aspects in detail and act as very good and relevant reference material for actuarial examination preparation. However that does not imply that questions are to be expected from these notes. The paper setters are expected to put in a few book work type questions but a lot of application based original questions. For example - Students should expect to encounter questions on specific production functions (provided appropriate background is given) basis references made to general concept of production functions in CT 7 core reading

Apart from these there are other very interesting observations! One such is that – "**IAI passes more students in summers than in winters".** I appreciate the penchant of members towards the use of statistical tools but one overriding condition for a hypothesis to be proven is existence of a causal relationship which does not appear to be the case here

I may have not touched all issues because the list is long and for some I do not have any immediate answers. The reason for writing this piece was to communicate to student members that there are verifiable processes in place. They may not be all ideal and sometime we do see some outliers. We are trying our best to address those outliers. But we cannot take the focus away from some of the structural reforms we have embarked upon to address some long standing issues. As the cliché goes "well begun is well done " and believe me evidence shows we have really well begun. Remember the (draft) IAI VISION, "IAI to be globally well recognized professional organization developing enduring thought leadership in managing uncertainty of future financial outcomes." We are on the right path towards this vision.

ECONOMIC CAPITAL: INDIVIDUAL CAPITAL ASSESSMENT (ICA) PART 1

by Saket Vasisth

Financial Services Authority (FSA) is the regulator of all providers of financial services (including insurance and banking) in the UK. FSA has prescribed guidelines for computing capital requirements for insurance companies in its handbook INSPRU. INSPRU is also called Prudential source book for insurers. This article covers the capital requirement prescription provided under chapter 7 of INSPRU. This article on Individual capital assessment is divided in two parts. Second part will be covered in next month's magazine.

About the Author

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Saket Vasisth is involved in Solvency II and ICA reporting. He works at WNS and is a student member of IAI and IoA.

FSA handbook requires a firm:

a) to *identify* and assess risks to its being able to meet its liabilities as they fall due

b) to assess how it intends to *deal* with those risks and

c) to *quantify* the financial resources it considers necessary to mitigate those risks

To meet these requirements, a firm should consider:

(i) The extent to which capital is an appropriate mitigant for the risks identified and

(ii) assess the amount and quality of capital required

The adequacy of a firm's capital resources needs to be assessed both by (i) the firm and (ii) the FSA.

With time, capital requirement in the insurance industry has evolved from being simple formula dependent approach to more sophisticated stochastic approach. The formula dependent approach is not completely reflective of the various risks faced the company. Risks faced by each insurer are different depending on various management decisions which are different for different insurers. For example a simple approach of calculating solvency as a percentage of statutory reserves is not dependent on the various risks taken by the insurer. And when a company is prudent in calculating reserves, then capital required is also higher and vice versa. This has lead to the evolution of risk based capital or economic capital. Economic capital allows for specific risks faced by each insurer. Economic capital also provides regulators with better information to regulate the insurance companies.

What is ICA?

<u>Definition 1:</u> The Individual Capital Assessment (ICA) is firm's own assessment of its capital requirements, given its risk exposures. The ICA is a test on how much capital needs to be held to cover an extreme event.

<u>Definition 2:</u> Guidance Note 46 on Individual Capital Assessment defines ICA as the regular assessment, required by the FSA in its Handbook, by a firm of the adequacy of its financial resources.

GENPRU 2.1.6 (a particular section of the FSA Handbook) from 31/12/2004 introduced self-assessment. Once a firm determines its ICA capital, it submits its computation methodology and its results to the FSA for review. Individual Capital Guidance (ICG) is any guidance provided by the FSA on the amount or nature of capital resources to be held by the firm (as a result of review of the ICA). ICG is not published by the insurer. It remains private between the insurer and FSA. ICG prescribed capital by the FSA can be higher than the ICA capital computed by the firm or it can be same as ICA capital. Most of times the reasons of the FSA providing ICG as top up on ICA capital are:

- Computation of (i) effect of risk diversification, (ii) correlation between risks or (iii) computation of non-linearity impact (explained later in this article) are complex processes. FSA's view can differ from insurer's view on them.
- Capital requirement for *operational risk* is tough to quantify and hence FSA's opinion on its quantification can be different from the firm's opinion.
- Lack of support data: Because of data issues FSA may prescribe ICG higher than ICA capital. It happens when insurer lacks evidence to support ICA assumptions.

ICA assessment should consider all major risks explicitly:

- Market
- Credit
- Insurance (mortality / longevity, morbidity, persistency, expense, pandemic / epidemic risk)
- Liquidity
- Group
- Operational

Structure of this article:

<u>First part</u> of this article covers the following discussion on ICA:

- How ICA can be helpful for the insurer and for the regulator
- Who all are involved in the ICA exercise
- Role of Board of Directors and Actuarial Function Holder
- Regulations and guidance available on ICA
- Structure of ICA capital computation
- Significance of 99.5 percentile in ICA computation and Monte Carlo model
- Diversification benefits: How risk diversification reduces capital requirements – with mathematical example

<u>Second part</u> of the article covers the following discussion on ICA:

- Significance of correlation between risks and different types of correlations
- How limitation of correlation can be reduced by non linearity analysis. Particularly (i) Medium bang and (ii) Killer scenario approach – with mathematical example
- Valuation basis: Whether to use (a) best estimate assumptions *or* (b) prudent assumptions for ICA base?

- Measurement of (i) Investment risk, (ii) Insurance risk, (iii) Persistency risk, (iv) Expense risk, (v) Operational risk, (vi) Market risk
- Documentation of ICA and FSA submission
- FSA's arrow visit
- FSA assessment process – Individual capital guidance (ICG)
- Challenges involved in ICA calculation
- ICA's link with Solvency II and conclusion

How ICA helps the insurer and the regulator?

1. It provides firms an incentive to improve risk management. ICA calculation is an opportunity to focus on risks which were not managed or measured accurately in past by the insurer
2. ICA process reinforces responsibility of senior management to manage capital resources of the firm in line with the risks to which it is exposed to
3. ICA helps FSA in forming its own view of overall capital adequacy of the firm

Who all are involved in the ICA exercise?

Major involvement: (i) Board of directors, (ii) Senior management, (iii) Finance team, (iv) Actuarial team, (v) Underwriters, (vi) Treasury team, (vii) Reinsurance team and (viii) Claims department

Partial involvement: (i) Accountants, (ii) IT team, (iii) Tax consultants, (iv) Sales and marketing team and (v) Internal audit tea,

External involvement: (i) FSA, (ii) Consultants, (iii) Reinsurers and (iv) Rating agencies

Role of Board of Directors and Actuarial Function holder

Board of directors of the insurer are responsible for ICA.

Actuarial Function Holder (AFH) advises Board on ICA computation. It is AFH's responsibility to notify FSA if ICA has fallen, or is expected to fall, below ICG. GN 46 provides that when carrying out an ICA, it is not necessarily appropriate for firms only to seek the advice of the actuarial function holder. In some risk areas, for example operational risk, it may be more appropriate to take the advice of a non-actuary expert.

Regulations and guidance for ICA:

FSA has prescribed Principles Based Regulation for ICA computations i.e. there are no detailed rules. Chapter 7 of INSPRU contains FSA prescribed regulations on ICA. Guidance note 46 prescribed by Financial Reporting Council (FRC) provides guidance to insurers on how to meet ICA requirements.

Structure of ICA capital computation

ICA capital requirement = Capital requirement from each individual risk to which the firm is exposed to Less Diversification benefits and benefits because of management actions.

<table>
<tr><td rowspan="2">Operational risk capital requirement</td><td>Diversification benefits</td></tr>
<tr><td>Management actions benefits</td></tr>
<tr><td>Insurance risk - Longevity / Mortality / Morbidity / Persistency (Policy Lapses) / Expense capital requirement</td><td rowspan="3">ICA</td></tr>
<tr><td>Credit risk capital requirement</td></tr>
<tr><td>Market risk capital requirement</td></tr>
</table>

Total capital requirement = Liability on realistic assumptions + ICA + ICG

99.5%:

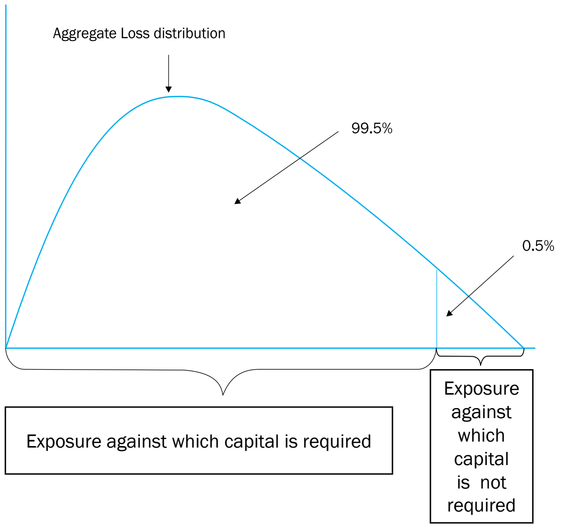
INSPRU 7.1.42R requires that where the FSA requests a firm to submit to it a written record of the firm's assessment of the adequacy of its capital resources, those assessment must include an assessment comparable to a 99.5% confidence level over one year time frame that the value of assets exceed the value of liabilities. Reporting on 99.5 percentile is required even when the firm's own assessment is at different confidence interval. ICA is computed using Value at Risk (VaR) approach at 99.5% confidence level over 1 year time horizon.

For adopting VaR approach steps involved are:

(i) Identification of key risk drivers. E.g. (a) Default risk, (b) Mortality assurance risk, (c) Expense risk etc.

(ii) Data collection

(iii) Creation of loss distributions



(iv) Building Monte Carlo model and

(v) Computation of required capital at 99.5 percentile

Monte Carlo model:

1. Inputs for the model are (a) loss (difference between assets and liabilities) distributions for each risk and (b)correlation between each risk
2. Simulate aggregate loss for all risks based on each risk's distribution
3. Run large number of (e.g. 10,000) simulations of aggregate loss
4. From that determine aggregate loss distribution
5. ICA Capital requirement = 99.5th percentile loss or aggregate loss function

Guidance Note 47 on Stochastic Modelling of Economic Risks in Life Insurance suggests that above model should be:

- Real World
- Arbitrage free

Diversification benefits:

INSPRU 7.1.46 provides that in determining the strength of the ICA, a firm should consider all risks in aggregate making appropriate allowance for diversification such that the assessment meets the required confidence overall. The firm should be able to describe and explain each of the main diversification benefits allowed for. GN 46 provides that a key assumption in the calculation of the ICA is the method of aggregating the results of the effects of different risks for which the capital should be provided for. Where statistical distributions are fitted to different risks, forming the joint distribution (either in closed form or by Monte Carlo simulation) is an appropriate method of aggregation.

(i) Correlations, positive or negative, or

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(ii) dynamic deterministic relationships should be allowed for between variables.

These should be allowed for in either:

- by the magnitude justified by relevant historical observations or
- in accordance with any underlying economic or demographic model

If statistical distributions are not fitted, or if the determination of a joint distribution is not possible, then more approximate methods of combination must be used. Where it is reasonable to assume that risks are largely independent and approximately normally distributed, then it may be appropriate to take the square root of the sum of the squares of the capital requirements for each individual risk as the aggregate capital requirement.

GN 46 provides that where risks are considered to be materially correlated or deterministically linked via a dynamic relationship, it is important not simply to add (or subtract) individually calculated capital requirements for each risk. Rather, the cumulative effect of the related stresses should be considered, which may be either more or less than the simple sum of the capital requirements. Careful justification should be given to the appropriate *correlations* to assume between variables in the more extreme stresses relevant to ICAs. In some cases, it may be appropriate to assume a higher correlation than that historically observed to reflect relationships which only come into play in more extreme stresses.

ICA Capital

$= \sqrt{[\, \Sigma\rho_{i,j} * K_i * K_j \,]}$

$= \sqrt{[\, \Sigma K_i^{\,2} + \Sigma\rho_{i,j} * K_i * K_j]}$

$\rho_{i,j}$ are correlations between risk factors i and j

K_i is the capital requirement for risk i

K_j is the capital requirement for risk j

Example:

Let us assume that there are five risks. And capital required for these risks individually is as follows:

Credit Risk	£700
Operational Risk	£800
Market risk	£1,200
Mortality Risk	£1,800
Mismatch risk	£500
Total	£5,000

Correlation matrix	Credit Risk	Operational Risk	Market risk	Mortality Risk	Mismatch Risk
Credit Risk	1	0.5	0.5	0.25	0.25
Operational Risk	0.5	1	0	0	0
Market risk	0.5	0	1	0.25	0.25
Mortality Risk	0.25	0	0.25	1	0
Mismatch risk	0.25	0	0.25	0	1

*Correlation numbers between different risks above are taken just for example and may not hold true in real world.

These are computed using 99.5% VaR method described earlier.

Let us assume that above five risks are correlated in the manner prescribed below:

ICA capital required

= √ [(700*700*1 + 800*800*1+1200 *1200*1+1800*1800*1+500*500*1)

+ (700*800*.5) + (700*800*.5) + (700*1200*.5) + (700*1200*.5) + (700*1800*.25) + (700*1800*.25) + (700*500*.25) + (700*500*.25)

+ (1200*1800*.25) + (1200*1800*.25) + (1200*500*.25) + (1200*500*.25)]

= √ [60, 60,000 + 22, 05,000 + 13, 80,000]

= √96, 45,000 = £3,106

Capital required when correlation effect is ignored

= £ 700 + £ 800 + £ 1,200 + £ 1,800 + £ 500 = £ 5,000

= Sum total of capital required for individual risks

Capital required when correlation effect is included in capital computation

= £ 3,106

Benefits because of correlation between risks = £ 1,894 (= £5,000 - £3,106)

<u>In practice above calculation is done in three steps:</u>

Step 1: Matrix multiplication of 1 column individual risk capital required matrix and correlation matrix

Step 2: Sum of products of resulting one column matrix from above and individual risk capital required matrix

Step 3: Taking square root of above gives capital required post diversification benefits

Explanation:

Step 1: Individual risk capital required matrix (Matrix A) is 1 column matrix i.e. matrix of 1*n. Correlation matrix (matrix B) is n*n matrix. If Matrix A is multiplied by Matrix B then resulting matrix (Matrix C) will be of 1*n.

From above example, resulting matrix of 1*5 is as below:

2,275
1,150
2,125
2,275
975

Each value above can be computed by using =mmult (Respective row of correlation matrix, capital required matrix) function in MS-Excel.

Step 2: This step does not involves matrix multiplication. This simply involves summing up products of individual capital required matrix and matrix C. Therefore answer at step 2

= (2275 * 700) + (1150 * 800) + (2125 * 1200) + (2275 * 1800) + (975 * 500)

= 96, 45,000

Step 3: Square root of 96, 45,000 = £ 3,106 = Capital required when correlation effect is included in capital computation

To be continued......

References:

Chapter 7 of INSPRU - ICA: http://fsahandbook.info/FSA/html/handbook/INSPRU/7/1

Guidance Note 46 - ICA: http://www.frc.org.uk/documents/pagemanager/frc/gn46%20individual%20capital%20assessment%20v2.0%20(bas%20amendment%201).pdf

My sincere thanks to Rajiv Mukherjee and Manoj Bhudholia for their inputs.

AN UPDATE ON RETIREMENT FUND REFORMS IN SOUTH AFRICA

by Krishen Sukdev

This article provides a brief update on Retirement Fund Reforms in South Africa. With an unemployment rate of about 25% and with almost fifty percent of the population living below the poverty line as well as one of the most inequitable distribution of income in the world, social security safety nets are critical when alleviating poverty. Reforms of these safety nets are on the cards to ensure that they are more affordable and in line with Government's long term objectives.

Broad Framework

The Government has announced plans for the establishment of a National Social Security Fund to provide retirement as well as death, disability and funeral benefits. The Fund will be established on the principles of compulsory participation, compulsory preservation on leaving work during one's working lifetime and compulsory annuitisation at retirement where one would need to take a substantial portion on one's savings through the purchase of an annuity rather than by cash.

Currently the most common types of annuities are Life Annuities and Living Annuities.Life Annuities pay pensions for Life and the pensions could be level, increase at a fixed rate or could be based on a with-profits basis, whereby the increase each year would be based on the investment performance in that year. An alternative to a Life Annuity is a Living Annuity that allows a retiree the opportunity to draw between 2.5% and 17.5% of the account each year with no longevity protection. A retiree may thus run out of money as this is effectively a savings account.

Government Concerns

Government has expressed concerns about the conduct of the Private Sector where there have been examples of scandals, theft of Pension Fund surpluses and other unethical or dishonest conduct. Government's concern is that the Private Sector is concerned about short-term profits rather than the long-term national interests.

The other major concern is the high costs of savings in South Africa which are regarded as being the highest in the world. A useful measure is the reduction in yield which the measures the extent to which the investment yield is reduced each year for expenses. The reduction in yield on South African Individual Life Products can be as much as 2.5% per annum and for occupational schemes this about 1% per annum.

Government Proposals

Government has recently released proposals that set out some major policy objectives, including:

a) Reducing the costs of Retirement Funds;

b) Reforming the Annuities Market;

c) Requiring preservation and portability;

d) A uniform approach to the tax treatment of retirement fund contribution;

e) Improving fund governance and the role of Trustees and

f) Tax treatment to promote retirement and other investment products.

Whilst Government views are regarded as being somewhat sound, there is concern that it has not adequately consulted important stakeholders like Labour and the Private Sector in drawing up the reform blueprints. The Private Sector is concerned about being crowded out by what could be an effective nationalisation of the Retirement Funding industry. Labour has expressed concerns about a lack of consultation and in particular about compulsory preservation which they regard as being impractical unless there are meaningful unemployment benefits.

Conclusion

The South African Retirement Fund industry faces an uncertain future in the light of Government proposals which could effectively crowd out Private Sector participation. Government objectives are to increase savings whilst introducing prudential financial management and reducing costs.

Afurther measure by Government to promote prudent management of finances at an individual level was the enactment of the National Credit Act which limits one's ability to access credit and makes it compulsory for financial institutions to carefully access an individual's ability to repay a loan prior to granting the loan. Excessive debt and the servicing thereof are seen as major obstacles to enhancing long-term savings.

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CAPITALIZATION REPRIEVE FOR INSURANCE FIRMS

Business world online : May 27, 2012

Philippines: A two-year deferment of the P1-billion capitalization requirement for insurance firms has been approved by the Finance department, regulators claimed.

"The initial proposal of the Insurance Commission (IC) is to extend the compliance period of insurance companies for the P1-billion capitalization to 2018," commissioner Emmanuel F. Dooc said in a telephone interview last week.

Deputy Commissioner Vida T. Chiong, in a separate phone interview, said: "We had a meeting with Finance department officials last [May 18] and the Finance department decided to further extend the implementation of the P1 billion capitalization from 2018".

She said a Finance department order formally adopting the IC proposal could be issued this week or next week.

Confirmation was not immediately available from the Finance department.

Under the existing Department Order 27-2006, all insurers must hike their minimum paid-up capital to P1 billion by 2016 as part of a schedule starting with an increase to P175 million as of end-2011, P250 million by the end of this year, P450 million in 2013, P625 million in 2014 and P800 million by end-2015.

Under the IC proposal, this year's P250 million paid-up capital requirement will be retained. Subsequent increases will be reduced, to P300 million by end-2013, P400 million by 2014, P500 million by 2015, P600 million by 2016, P800 million by 2017 and the P1-billion final requirement by end-2018.

"We also included some incentives in our proposal," Mr. Dooc said. "For instance, insurance companies who plan to merge to meet the P1 billion paid-up capital would have to submit a plan of merger to the IC. The applicable paid-up capital requirement for the year they apply of the merger will be suspended as an incentive," he said.

"But they would have to comply with the required paid-up capital requirement for the following year."

Ms. Chiong said two non-life insurance firms had already submitted a merger plan, identifying these as Stronghold Insurance Company, Inc. and Utility Assurance Corp.

"The two companies will be exempted from the P175 million paid-up capital requirement for 2011, they will be given a temporary certificate of authority to operate for the July [2012] to June [2013] period as they undergo the process of the merger. But they should be compliant with the P250-million capital requirement by the end of this year," she said.

Representatives of the two firms were not available for comment.

Another proposed incentive, said Mr. Dooc, is the adoption of a risk-based capital framework.

Ms. Chiong explained: "The fixed capitalization requirement for a given year may be suspended for insurers who are able to comply with the required risk-based capital hurdle rate for that year... [they will] be given a certificate of authority to operate."

Source: http://www.bworldonline.com/content.php?section=TopStory&title=Capitalization-reprieve-for-insurance-firms&id=52456&goback=%2Egde_1985380_member_119132194

IAA AND IASB SIGN MEMORANDUM OF UNDERSTANDING

IAA Press Release; March 20, 2012

The International Actuarial Association (IAA) and the International Accounting Standards Board (IASB), an Institutional Member of the IAA, have executed a formal Memorandum of Understanding (MoU). The MoU was signed by the IASB Vice-Chairman on March 2 and by the IAA President on May 7.

The IASB was established in 2001 and is the standard-setting body of the International Financial Reporting Standards (IFRS) Foundation, which is an independent, private sector, not-for-profit organization

The purpose of this MoU is to set out the terms of an agreement between IAA and IASB that creates the framework for cooperation between the parties in order to benefit from common areas of activity in their respective strategies and operations. Pensions, insurance contracts, financial instruments and health care have been identified as areas of common interest. Key elements of the joint programme of cooperation include the creation of structures appropriate to joint activities based on:

- A mutual awareness of the nature of each organization's activities in the topics of common interest above, which will be achieved principally through attending committee or board meetings, as appropriate, and through meetings between the organizations at the technical staff level.
- Developing appropriate output or publications which may be produced either jointly or with an agreed form of support by one organization for the work of the other.

This MoU represents a continuation of outreach activities arising from the key objectives of the IAA Strategic Plan that include establishing, maintaining and extending cooperative relationships with major supranational organizations, with a particular emphasis on those areas where actuarial input is a significant factor influencing decisions on important social and economic issues with a global impact. This memorandum of understanding formalizes the mutual cooperation between the IAA and IASB in a way that transcends the tenure of particular individuals involved in the relationship from time to time, and will ensure a continuation of the relationship independent of the tenure of key individuals.

IAA AND OECD SIGN MEMORANDUM OF UNDERSTANDING

IAA press release, June 13, 2012

The International Actuarial Association (IAA) and the Organisation for Economic Co-operation and Development (OECD), an organization that promotes policies to improve the economic and social well-being of people around the world, have executed a formal Memorandum of Understanding (MoU). It was signed by the OECD Deputy Secretary-General, Rintaro Tamaki and IAA President-elect, Kurt Wolfsdorf, on June 8.

The purpose of this MoU is to set out the terms of an agreement between the IAA and OECD that creates the framework for cooperation between the parties to benefit from common areas of activity in their respective strategies and operations. Pensions, insurance, statistics, and financial risk have been identified as areas of common interest. Key expected elements of cooperation include:

The exchange of information on respective activities and outputs, with regular dialogue on respective programs of work and the outcomes of cooperation activities;

Consultation on the development of principles and standards in the insurance and private pensions sectors; and

The establishment of joint discussion groups or task forces on specific issues of interest.

This MoU represents a continuation of outreach activities arising from the key objectives of the IAA Strategic Plan, which include establishing, maintaining, and extending cooperative relationships with major supranational organizations, with a particular emphasis on those areas where actuarial input is a significant factor influencing decisions on important social and economic issues with a global impact. This memorandum of understanding formalizes the mutual cooperation between the IAA and OECD in a way that transcends the tenure of particular individuals involved in the relationship from time to time, and will ensure a continuation of the relationship independent of the tenure of key individuals.

To learn more about the work of the IAA in this area, contact its Secretariat, care of the Chairperson of the Supranational Relations Subcommittee.

HEERAK BASU, Secretary IAI Advisory Group on Peer, Stakeholder & International Relations and Appointed Actuary at Tata AIG Life Insurance co., India

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Heerak Basu is the Appointed Actuary of Tata AIG Life Insurance Company Limited. He is responsible for the actuarial function overseeing statutory valuation, shareholder reporting, product development and pricing and reinsurance. Heerak had worked previously with a consulting firm in Singapore and with a life office in the United Kingdom.

Heerak has served the IAI in various capacities including being a former member of the Institute's Council. He currently serves as Secretary to the Advisory Group on Peer, Stakeholder and International Relations.

Heerak is a Mathematics graduate from Cambridge University and holds an MBA from Strathclyde Graduate Business School. As well as being a Fellow of the IAI, Heerak is a Fellow of the Institute and Faculty of Actuaries, UK and a Fellow of the Singapore Actuarial Society.

PERSONAL

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

A good mathematical/statistical training was important for me personally being a Mathematics Graduate from Cambridge. When I look back on my career to date I feel my stint at a global actuarial consulting firm looking at South East Asia prepared me very well for my current role as it was filled with challenges, exposure to various people at the senior level in the corporate world and a wide variety of assignments. I also had the opportunity to work with and learn from very talented individuals.

What prompted you to enter the actuarial profession?

It was quite a usual thing to do for people doing mathematics/ statistics in the UK. In fact several of my batch mates from university are members of the profession.

What are the key qualities that a Head of Actuarial Function of a Life Ins Company should possess?

It really depends on the specific role as this varies from employer to employer. Having said that I think the overriding quality is the ability to effectively communicate actuarial ideas and concepts to key stakeholders including shareholders and Board members and also across a wide variety of functions within the organization.

We should be aware that ideas that seem so familiar to us are really quite alien to the business community as a whole so it is important to express them in non-actuarial terms so that the ideas can be popularized and gain greater acceptability .

Another key quality and I think this applies to actuarial roles more generally is a “questioning” attitude and also openness to new ideas and concepts. Actuarial thinking has evolved a tremendous amount since the time I qualified way back in 1993 and I do think it is important to stay up-to-date with the latest developments and trends. As a profession for example we are paying much more attention to fair or market values than we did two decades ago.

What has been your greatest challenge to date?

It would be difficult to cite any particular challenge. I have been fortunate in my career to have had a very large number of relishing challenges ranging from mediating between both sides in a transaction to carrying out high-level strategic assignments for various clients.

What and where has been your experience in working life so far?

I have worked both in a life office in the United Kingdom and India as well as with a consulting firm in Singapore. Working in different roles across different jurisdictions has given me various insights which I would not have got otherwise.

PROFESSION

Please describe a typical day at work as an actuary?

I think the beauty of our work is that there is no typical day. Dealing with ambiguity is a key skill in any senior actuarial role. Some days can be filled with reviewing numbers while other days can be spent in strategic discussions or advising on distribution deals. **Life as an actuary is extremely exciting!**

What do you consider to be the key areas where actuaries add value to the business of life insurance?

I think actuaries perform an important function in advising company’s management and shareholders on shareholder value creation. I feel, we uniquely understand the key value drivers in a life insurance company and are extremely well equipped to perform this role.

We can also add value in the growing area of risk management where globally actuaries are foraying into.

Given the recent global financial crisis our more traditional role of regulatory solvency assessment continues to be very important.

Given the recent regulatory developments in this market I suspect the whole area of mortality/morbidity pricing and assessment will become increasingly important.

Which other actuarial professional body you are member of and at a high level how do you compare that body with IAI.

I am also a member of the UK and Singapore actuarial professions. I feel that the IAI has taken great strides and can hold its head high within the global actuarial fraternity. We have mutual recognition agreements with the UK and Australian profession and are a member of the East Asian Actuarial Congress. Given our large membership base I feel that IAI’s influence globally can only grow.

SUNIL SHARMA, Chairperson IAI Advisory Group on Communication and Chief Actuary at Kotak Life Insurance Co.

sunil.sharma@kotak.com

Sunil Sharma is the Chief Actuary of the Kotak Mahindra Old mutual Life insurance Co., a JV between Kotak Mahindra Bank and Old Mutual of South Africa.

Sunil has been working in Life Insurance Industry for more than two decades across various markets. He has worked in Life Insurance and Reinsurance practice areas in India, USA, UK and South East Asia. Sunil is a Fellow of Institute of Actuaries, UK (FIA) and Institute of Actuaries of India (FIAI). He is currently chairperson of the advisory group on communication in IAI.

PERSONAL

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

It's really been a long journey of over two decades to reach the current position. I am a post graduate in Physics with Specialization in electronics. It surprises many people how I transformed myself to become an actuary after studying significantly different subjects during my post-graduation. I was born and brought up in Delhi and started my career in Life Insurance Corporation (LIC) of India about 22 years back Northern Zone. Prior to joining my current role as Chief Actuary, I worked with various premier organizations like LIC of India, GE Financial Assurance, Swiss Re and ICICI Prudential in varying roles. My experience includes working in direct Life and health Insurance and Reinsurance in India, USA, UK and Singapore. I am married with one son and daughter.

What prompted you to enter the insurance sector?

To be honest, I am from a generation when there was a huge unemployment problem in India. Moving from Physics to Actuarial was not a matter of choice but was the outcome of circumstances. No one in my family was familiar with Life Insurance. The only Insurance that we knew was the Motor third party Insurance that my father used to buy from New India Assurance for his two wheeler. So it was Insurance sector that gave me employment rather than me choosing insurance as a career.

What are the key qualities that a Chief Actuary should possess?

The management of the Insurance companies rely on the Chief Actuary/Appointed Actuary to help manage the business on a day to day basis besides the regulatory aspects and strategies. I consider this as a hot seat that requires the Chief Actuary to have experience in all areas of insurance business, be it operations, risks, pricing, underwriting, valuation, reporting or reinsurance. The Chief Actuary is expected to be an all-rounder. The world has now changed and rather than using the commutation functions, i.e. the earlier mathematical tools for actuarial concepts and scientific calculators, the chief actuary of the current generation needs to use high tech super-fast technology. The chief actuary is expected to be quality and process oriented to ensure design of processes, to make sure that valuation, specially of policyholder liabilities or reporting produce accurate, repeatable and reliable results. The need of written and verbal communication skills cannot be overemphasised. He needs to be an actuary first and then Chief Actuary in his/her orientation marketing. Interpersonal skills come in very handy in fulfilling the role of a Chief Actuary.

What are your interests outside the actuarial world?

I like watching comedies, travelling, playing Table Tennis, swimming and trekking. Recently, after moving to the western suburbs, I have taken the opportunity to trek the hills of the Arrey Colony.

What has been your greatest challenge to date?

To be honest, the greatest challenge to date for me was to fight competition while I was a reinsurer. It becomes rather difficult for an Actuary to technically justify the significantly lower premiums quoted by your competitor when you have credible experience as compared to your competitors, who may not have the relevant portfolio experience. The biggest challenge was to explain to the client why the rates quoted by my company were more appropriate, given the portfolio experience.

The only thing that worked was to be rationale, explain the portfolio experience to the client and use of interpersonal skills to justify your pricing to the customer. Well, at the end the outcome was satisfactory.

What and where has been your experience in working life so far?

I have been in Life insurance and Reinsurance business for over two decades now. During this period I have worked in India, USA, Singapore and United Kingdom. I am very grateful to LIC of India since it helped me gain experience in all areas of Life insurance business at the grass root level. In LIC, I got the opportunity to dirty my hands on all aspects of Life business including, New Business, Finance and accounting, policy servicing, Group business management and in the Actuarial department of the Insurance division of the Ministry of Finance, on deputation from LIC.

Working in GE Financial Assurance Inc., Virginia, USA was my first experience outside India. I started there as Associate Actuary and was managing the product development. Well, I must say, this was a major milestone in my life that probably put me ahead of my peers in the Insurance Industry in India. I also had a short stint as Associate Actuary and Director Operations in Phoenix Life and Annuity.

This was followed by working for Swiss Re for about 7 years. Working with Swiss Re was an amazing experience especially at a time when insurance Industry in India was at its nascent stage and insurance companies needed help in Product development and particularly in pricing and risk management framework. In Swiss Re, I got the opportunity to work in the area of Product pricing, Treaty management, Business Planning, risk management and experience analysis in various positions in India, Singapore and UK.

Prior to my current position as Chief Actuary of Kotak Life, I was working with ICICI Prudential as Head of Actuarial. The responsibilities included managing the Indian Statutory Reporting, USGAAP, Shareholder's Reporting, Modeling and Business Planning.

PROFESSION

Please describe a typical day at work as an actuary?

Well, for an actuary each day at work is not the same. Typically, the day starts with ensuring that you do not have unread emails in your box, ensure reply to quick solution mails and noting down mails that require planning, thinking and lot of work before they can be replied. Given the high volume of communication in the corporate world it's important that these key project type emails do not get buried. This will be followed by a series of meetings with Products team on new and existing products, any new initiatives, Meeting with reinsurers, Underwriters, Finance, Investments.

The days preceding the Board meeting are the busiest days since one has to ensure that all the papers like valuation report, risk report, ALM bonus recommendations or any other reports due from Actuarial are ready and are sent to the secretariat in time.

Often a part of the Chief Actuary's time goes in sorting out product related issues and ensure that the requirements and the opinion of regulator is considered for the product, and to explain the rationale to the regulator, why certain features in the product are the way they have been presented.

The Period from March to June is the busiest period for a Chief Actuary since it goes in helping actuarial team to prepare, review and sign off AAAR and AAR as such that they are ready in time to be submitted to IRDA.

What do you consider to be the key areas where actuaries add value to the business of life insurance?

Traditionally actuaries played a vital role in the area of Product development, Product management, Risk management, Valuation of policyholder liabilities and regulatory/ shareholder's reporting.

In past, Actuaries in India had limited roles given that we had short supply of actuaries, however, the recent surge in the IAI membership, we have sufficient number of buddying actuaries who can work on all aspects of insurance business, be it Sales, underwriting, marketing, Finance or compliance.

A Product development Actuary can play a critical role in ensuring that the needs of the policyholders are met. Different policyholders have different needs depending on, at what stage of the life cycle they are. Actuaries need to ensure that their company has products that could meet the needs of these customers. They need to ensure that the information provided to policyholders is in simple English as far as possible so that financially sophisticated policyholders can understand the benefits that he/she is entitled to. It's the information which is provided to proponent at the time of sale that sets the policyholder's reasonable expectation (PRE). To draw a parallel, when we change the Job it's the offer letter and the discussion with HR manager that sets the employee's reasonable expectation (ERE) and imagine how we feel when the reality is different than we had thought of.

The actuaries are trained to play a significant role in the area of risk management and a lot of progress has been made in US and UK in this area. IAI is taking initiatives to ensure that Indian actuaries get certification in risk management and this will enable them to not only manage the risk in Insurance business but also in the other financial services.

What are your views on involvement of IAI members in the voluntary work to strengthen IAI including specific areas where it is needed most?

I firmly believe in giving back to society. I have reached my current position because some of my senior actuaries in the past made efforts to start Indian actuarial examinations, set the examination papers, provided guidance to us when needed, got the Indian actuarial qualification recognized worldwide. We now need to ask ourselves and commit ourselves to take it to the next level and it's not possible to do this without the commitment of the individual members for the betterment of the profession. I still remember days when our salaries were not sufficient for us to pay the study material fee and other cost of education. It was only the outcome of voluntary efforts made by our actuaries of previous generation who had shown courage to conduct the Indian actuarial examinations.

The profession needs contribution from members in the area of examinations, marketing the profession to increase the awareness about the profession and generate more employment opportunities, support social cause and contribute to the corporate social responsibility by contribution towards Micro insurance. Active participation is required in the area of new guidance notes and exposure drafts issued by the regulators and ministries relating to insurance sector. Most of the professional bodies such as ours are governed and managed through voluntary (and non-remunerated) efforts of the members and specifically the IAI in its current structure of governance has involvement of more than eighty senior members working through various Advisory Groups and Working Groups/Task Forces.

What has been your voluntary professional contribution to the IAI in the recent past? Did you have any specific challenges in performing the same?

The first small contribution that I made was to the design the profession's website in the year 2003 by sponsoring the website design by GE integrated business solutions.

I have been associated with the Actuary India magazine since 2003 with varied responsibilities. Currently I am chairing the

Advisory group on Communication of IAI. In this role, I interact with the media and make efforts to ensure that the actuarial profession remains in limelight.

I am an examiner for the IAI examinations since 2003 for one or the other subjects. I am currently Editor of Actuary India along with Nick Taket as Chief Editor. Efforts have been made in the last year and a half to present Actuary India in an evolving shape which is "current" and relevant to the interest of members.

The challenge is to find out time for these activities despite many other responsibilities at office. Most of these professional activities take up some of the weekend time, but overall it's very satisfying keeping the motto in mind of giving something back to society and helping the profession to achieve its vision and mission.

Which other actuarial professional body you are member of and at a higher level how do you compare that body with IAI.

Apart from being a Fellow of Indian Actuarial profession, I am also a fellow member of Institute and Faculty of Actuaries (IFA) in the United Kingdom. During my tenure in UK, I was a member of the future leader's forum of the Association of British Insurers (ABI). I can proudly mention that we are not anymore behind other institutes. The only issue is the availability of resources in India to support IAI initiatives. We still have lesser number of actuaries at fully qualified level to support various objectives. However, I am optimistic that soon we will have sufficient number of actuaries from the new generation who will help us take the Indian actuarial profession to newer heights.

LIFE INSURANCE INDUSTRY

What trends from the perspective of growth in reaching out to the masses, do you see for this industry in the next 3 to 5 years?

The Life Insurance industry had been growing at an amazing pace until end of FY 2011. Last year, the top lines have been down due to various factors, including market performance leading to the reduction in demand for the Unit Linked products. Given the low level of penetration in India, there is huge untapped potential to grow the business. If I were to believe the analysis of one of the reinsurers, in India we have untapped potential of writing to the tune of a Sum Assured of about USD 3 trillion. I firmly believe that Insurance Industry is a gold mine for all stakeholders i.e. policyholders, Shareholders and employees. It's just a question of time. At the moment we just have 24 Life Insurance companies. To target and provide reasonable coverage to such a large Indian population we need three times the current number of companies.

What are the key issues facing the life insurance industry today?

In a nutshell, the major issues that the Industry is facing are:

- Lack of efficient and professionally tied agency distribution channel
- Mis-selling
- Poor persistency
- Higher Initial sales Costs

The last three bullets are the result of the first. Unfortunately there is no quick fix solution to this. Companies will have to find, train and retain the dedicated sales force. It has to evolve but nothing gets evolved on its own. A joint effort by the Life Insurance industry and the IRDA would appear to be a desirable step.

What do you think of the opportunities for life insurance in the rural areas?

There are enormous Life Insurance opportunities in rural India. The rural population badly needs insurance coverage; however, unfortunately they are not aware of this need. Usually in rural India, there is one bread earner, head of the family, and the entire family is dependent on the income from this individual. In the unfortunate event of the death, the family is suddenly left with no income.

A significant proportion of the GDP contribution comes from rural India. The purchasing power of the rural Indian farmers is increasing year on year and hence they need avenues to invest this money and need insurance coverage to protect income. The rural business model can be self-sustainable if priced and managed in an appropriate manner. We as actuaries have a major role to play to grow this business and give something back to society.

WELCOME

Yogesh W. Pandit has joined on 05/06/2012 as Compliance Officer. He is M.A. LL.B and carries 2 years of experience. His hobbies include playing chess and Listening to music.

We welcome Yogesh to the family of Institute of Actuaries of India. He can be reached at compliance@actuariesindia.org , Phone: 67843318.

IAI Management

FROM THE DESK OF CHAIRPERSON - ADVISORY GROUP ON EXAMINATION

Varun Gupta

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EXAMINATION UPDATE

THE ACET

"Collateral" benefits of any action by definition are the indirect and secondary benefits derived from pursuing that course of action and such byproducts are often tardy and most often than not intangible.It is, therefore, ironic but heartening to observe that collateral benefits of Actuarial Common Entrance Test ("ACET") are beginning to show even before a conclusive proof of success of the primary objective of ACET is available. Notable amongst these benefits are the broad basing of actuarial exam centers across geographies and online fee payment facility for actuarial examinations.

Coming to the primary objectives of ACET, a conclusive proof would only be available once we get statistics of exam pass rates divided into homogenous groups of 'ACET' and 'non ACET' candidates. This will take some time to come by and in the mean time we have to rely on input measures to draw some early conclusions.

Number of ACET 2 aspirants has increased by 25% to a figure of over 2,500 compared to ACET 1. Out of the circa 2,500 candidates who have registered for ACET 2, only 377 are repeaters (i.e. those who registered for ACET 1but are taking the exam in ACET 2). There were around 1,000 candidates who did not secure a pass in ACET 1 and therefore it is interesting to observe that only a percentage of those candidates chose to sit the exam again. There can be several explanations for this but recall that one of the objectives of ACET was to give a platform to potential students to see whether actuarial science is the right career choice for them. Even allowing for multiple other factors, it appears that a material number of students did exercise this option.

Another objective of ACET was to take the actuarial profession beyond the confines of bigger cities in India. To this effect the exam is being offered in multiple centers across India, however we must admit that the number of candidates remain concentrated in accordance with the 20:80 rule i.e. 20% of the top centers contribute almost 80% of the candidates. This is definitely an area where we need to work upon more.

OTHER EXAMS

CA2 and CA 3

Although it is an administrative nightmare to manage practical exams of this nature, I take personal pride in such exams because these exams reflect the profession's commitment in overseeing that the candidates who pass are ready to face practical realities of business world viz. modeling, drawing relevant conclusions, presentation of results, writing reports etc.

Recently declared results for the CA 2 exam was however not encouraging with only 8 out of 61 candidates passing. There is no pride in this pass percentage and I want to reiterate that the IAI is committed to equip its members with whatever training or support required in passing this examination. In fact we did arrange for a counseling session before this examination, however, the response was far from enthusiastic with only three candidates opting for it. We can only help candidates who are ready to help themselves and it is my humble request that candidates opt for such counseling sessions when they are conducted in future. Additionally we are planning write-ups/columns from candidates who have recently passed this exam so that they can share their mantras of success with others

CA 3 communications exam is likely to be conducted in September 2012 and exact dates would be announced soon.

CT 9

We are aware that there is a backlog of candidates who are waiting to take CT 9 exam and candidates would have noticed that CT 9 practical exam has not been conducted for a period of more than a year now. This was deliberate because we realized that not all was perfect with the erstwhile practical CT 9 module. Without going into specifics let me say that the situation was akin to a busy chaotic crossing with lot of adhocism built in. We are now planning to smoothen out the flow by going the online route which is also expected to standardize the course delivery. We have been working on it for quite some time which is proceeding at a healthy pace to stitch up the back end arrangements. The first such revised online module is expected to get conducted towards later part of this year. From then on CT 9 would be conducted at a pre-specified frequency. You may expect the exam to be offered approx 6 – 12 times a year from then on and this would help lot of backlog to be cleared.

There are other areas in which we are continually making to improve the service delivery of examinations. I mention some of them below;

- Online payment for exams and broad basing of exam centers
- Formulation of Exam fee refund policy
- Publishing of exam dates one year in advance. This is already in place for conventional actuarial examinations and we are going to put a similar calendar in place for practical exams – CT9, CA 2 and CA 3 soon.
- After extensive discussions with IFA we managed to get CA series exams out of the block exemption rule. A notification to this effect is already in place on IAI and IFA websites
- Conducted examiner's seminar with a view to induct potential examiners and provide tools to examiners to help set a fair examination paper

By no means is this an exhaustive list and there are several other smaller projects we are working on to make structural improvements to the system as well as provide hygiene items to candidates that they would expect from a modern examination system.

The efforts that me and my team in the Examination Advisory Group have put in and are on the path of doing more is, in a small way, aimed to contribute to the "VISION: IAI to be globally well recognized professional organization developing enduring thought leadership in managing uncertainty of future financial outcomes."

BOOK REVIEW

The book "Stochastic Modeling – Theory and Reality from an Actuarial Perspective" is available for $75 CAD (including shipping and handling) for individuals in India. It is available for order on the IAA website at the following link: https://www.actuaries.org/orderbooks/bookorderform.cfm

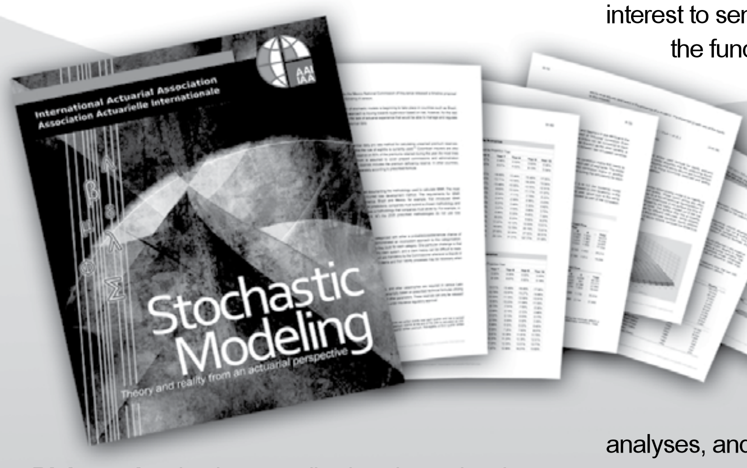
Stochastic Modeling

Theory and Reality from an Actuarial Perspective

A guide for practitioners interested in understanding this important emerging field, *Stochastic Modeling — Theory and Reality from an Actuarial Perspective* presents the mathematical and statistical framework necessary to develop stochastic models in any setting (insurance or otherwise).

You will find:

Techniques – such as Monte Carlo simulation and lattice models – commonly used in various applications of stochastic modeling.



Risk metrics that have applications in stochastic modeling, such as Value at Risk (VaR) and Conditional Tail Expectation (CTE).

Stochastic scenario generation for key risk factors affecting life insurance products, including interest rates, credit defaults, exchange rates,

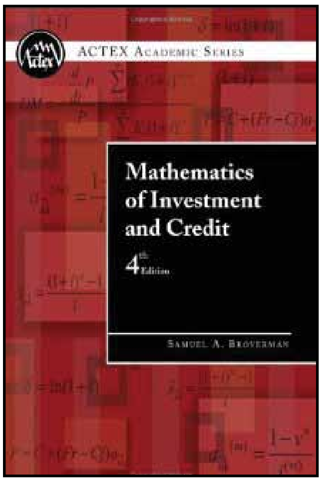
Practical considerations of stochastic modeling, including model calibration and validation.

Model review and communication of results, of interest to senior practitioners already familiar with the fundamentals of stochastic modeling.

Case studies of life and non-life insurance companies, covering a range of topics relevant to capital and surplus modeling of life and non-life insurance companies, including Economic Capital calculations, stochastic reserve and capital calculations, embedded value analyses, and stochastic product pricing and risk management. Taken together, these case studies cover most of the widely-used insurance applications of stochastic modeling to date, and provide an illustrative framework from which future applications can be developed.

"This book gives actuaries state-of-the-art tools to characterize degrees of risks in ways that significantly reduce the shadow of uncertainty over the analysis of strategic policy options."
Yves Guérard, former Secretary General

This publication was produced by a team of talented writers and researchers at Milliman, Inc., and made possible through the generous support of the **Actuarial Foundation (United States); Canadian Institute of Actuaries; Casualty Actuarial Society (United States); Financial Reporting Section of the Society of Actuaries; Het Actuarieel Genootschap (Dutch Actuarial Association); and the Actuaries Institute Australia.** In addition to their financial assistance, representatives from these actuarial associations provided technical guidance and support throughout the project. The IAA is grateful for their contribution to this publication which forms an important part of our research and educational objectives.



MATHEMATICS OF INVESTMENT AND CREDIT (4TH EDITION),

by Samuel A. Broverman

Book Number : B11013
Status : Available at IAI Library

Reviewed by Kailash Mittal
kailash.mittal@iciciprulife.com

This book is a refreshing basic level guide to various actuarial concepts and techniques deployed in the bond valuation and immunisation, project evaluation and term structure of interest rates. This book also briefly touches up on investment instruments and financial derivatives.

Each topic starts from basic concepts, defining and explaining terms along the way, to move on to their practical application with numerical illustrations. The focus of the book is primarily on calculations related to 'time value of money', interest rates and related themes. The concepts discussed would be quite useful to all actuarial students, especially those studying the related CT series of subjects.

The book is divided into nine chapters:

The first chapter 'Interest rate measurement' discusses various forms of interest rates, e.g. simple, compound, nominal, force of interest, etc. It also introduces equation of value using simple examples. The second chapter 'Valuation of Annuities' discussed all aspects related to annuities and their financial equivalence in detail. It builds on from a basic annuity to valuing a security using a discounted cash flow model. This chapter also talks about the various methods used in depreciation of assets. The third chapter 'Loan Repayment' discusses ammortisation method of loan repayment. It introduces the basic ammortisation schedule discusses variations based on outstanding balance and non-level interest rates.

Chapter four 'Bond Valuation' introduces computation of the fair price for a bond. Clean and dirty prices, book value of a bond and ammortisation of a bond for taxation and accounting purposes are discussed. This chapter also illustrates the functioning of callable bonds using examples. Chapter five 'Measuring the Rate of Return of an Investment' discusses project evaluation techniques using net present values and internal rate of returns. Alternative methods of project evaluation e.g. payback period, modified rate of return, time weighted rate of return are also discussed.

Introduction of 'The Term structure of Interest rates' in chapter six, after having discussed all relevant aspects assuming level interest rates, is helpful for developing a good understanding of this difficult subject. This chapter also touches up on forward rate agreements and interest rate swaps and their advantages and usefulness. Chapter seven 'Cashflow Duration and Immunisation' introduces duration and asset liability matching for immunisation. Sensitivities of the present value a generic series of cashflows to changes in interest rates and shifts in yield curves is discussed from first principles. 'Redington immunisation' and its effectiveness are also discussed with some realistic examples.

Chapter eight 'Additional topics in Finance and Investment' briefly talks about both equity related investments and fixed income investments. Chapter nine 'Financial Derivatives: Forwards and Options' discusses forwards and options in detail. Prices for forwards on different asset types are elaborated and formulated for ease. Starting with basic call and put options, this chapter also discusses put call parity and some complex construction of options.

The good thing about this book is that is starts with a simple discussion and builds up on the complexity step by step. There are umpteen examples and illustrations to help students understand the topics better and put things in perspective.

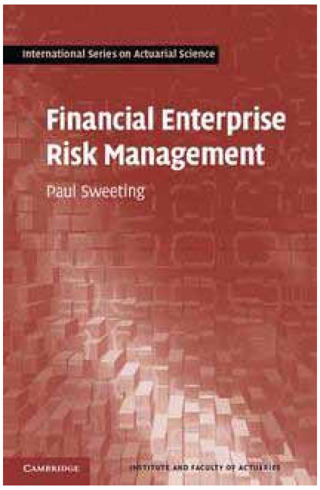
The book would be a helpful reading for all actuarial students seeking to gain a basic level understanding of financial valuations, particularly for students not from a strong mathematical background. Some of the chapters are quite relevant to be covered and referred to as a part of CT series subjects. It also contains exercises at the end of each chapter, which should be attempted by actuarial students over and above the assignments prescribed in the course material.

WELCOME

Arpi Jagdish Bhavsar has joined on 28/04/2012 as Actuarial Research Executive. She is M.Sc. (Statistics) and carries 1 year of experience.
Her hobbies include Sketching, Dancing, trekking, reading novels and studying.

We welcome Arpi to the family of Institute of Actuaries of India.
She can be reached at arpi@actuariesindia.org, Phone: 67843334

IAI Management



FINANCIAL ENTERPRISE RISK MANAGEMENT

by Paul Sweeting

Book Number : B11152
Status : Available at IAI Library

Reviewed by R. Arunachalam
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Financial Enterprise Risk Management (FERM) is one of the seven books in International Series on Actuarial Science published by Cambridge University Press. Enterprise Risk Management (ERM) is the area which we need to focus in the future years in expanding the reach of our profession. This book dwells into this important contextual topic and provides the readers with a very solid foundation of the ERM framework.

The author Paul Sweeting is a revered Actuary, Academician and a Research Scholar. He is a Fellow of the Institute of Actuaries, a Fellow of the Royal Statistical Society, a Member of the Securities and Investment Institute and a CFA Charter holder. He has a long standing involvement with the UK Actuarial Profession as an elected council member, as chair / member of number of committees. He ***is currently the Professor of Actuarial Science at the University of Kent.***

A comprehensive ERM framework is the hallmark of success for any dynamic and successful enterprise. ***In my opinion, this book covers and explains all the tools needed to build and maintain such a comprehensive ERM framework.*** As well as outlining the construction of such comprehensive frameworks, the book importantly discusses the internal and external contexts within which risk management must be carried out.

The book also covers a wide range of qualitative and quantitative techniques that can be used to identify, model and measure risks, and also describes a range of risk mitigation strategies. ***A number of proprietary, advisory and mandatory risk management frameworks are also discussed: Solvency II, Basel III and ISO 31000:2009***.

The book is divided into twenty chapters apart from the Preface and the Index. The book also contains worked examples which illustrate how to implement the techniques described which is very useful for the students and the practitioners. ***The highlights of the books are the diagrams and the case studies***: Over 100 diagrams are used to help describe the range of approaches available. The risk management issues are further highlighted by various case studies. ***The case studies covers quite a range: 2007-2011 global financial crisis; Equitable Life; Bernard Madoff; Space Shuttle Challenger*** to name a few.

The first five chapters provide an overview of ERM, the external and internal environment, the nature of financial institutions and the types of stakeholders. The author describes in a lucid way the various definitions and concepts of risk and enterprise frameworks. He also discusses how corporate governance and the models of risk management fit into the overall scheme of things. He proceeds to explain the nature of financial institutions: banks; insurance companies; pension schemes and foundations and endowments which are followed by the discussion about various stakeholders and their relationships with these financial institutions. He then touches upon the internal environment including culture, capabilities and structure and the external environment including political, regulatory and competition.

The chapters from six to ten provide an overview of risk definitions, risk identification and statistical distributions. This starts with an explanation of the ERM control cycle which is followed by the definitions of various risks: market and economic risk, interest rate risk, foreign exchange risk, credit risk, liquidity risk, systemic risk, demographic risk, non-life insurance risk, operational risks and residual risks. The next is an extensive chapter on risk identification covering tools that can be used, ways in which the tools are employed, initial assessment of the nature of the risk and the way in which the risk is recorded. This is followed by a useful introductory chapter on statistics and statistical distributions including multivariate distributions and copulas.

The chapters from eleven to fifteen provide us with modeling techniques in assessing the various risks and form the core of the book. This begins with fitting the data to a distribution / model using various methods followed by smoothing, classification and credibility of data. The author then proceeds to explain extreme value theory using generalized extreme value distribution and generalized pareto distribution. Modelling through time series is explained in the next chapter as many risks that are measured develop over time. This is followed by the important chapter on quantifying the various risks. This chapter covers capital asset pricing model, black scholes model, interest rate models, credit models, structural models, migration models, common shock models, other demographic models, experience rating, credibility and ladder methods. This is then followed by a chapter on risk assessment covering risk capacity, appetite and measures. This chapter covers probabilistic approaches including Value at Risk and Probability of Ruin. It also deals with the various risk return measures and optimization approaches.

Finally the last five chapters provides with responses, continuous considerations, economic capital, various frameworks and case studies. This begins with an important chapter on the four categories of risk responses for the various risks: reduce, remove, transfer or accept. The author then stresses the importance of continuous considerations including: documentation, communication and audit. This is then followed by a brief on economic capital and the three broad types of risk frameworks: mandatory, advisory and proprietary including Solvency II and Basel III. The case studies are a highlight and cover quite a range. They deal with the previous failures – from development to consequences and finally lessons – to help the reader identify and avoid the same errors in the future.

As mentioned earlier, FERM is one of the seven books in the International Series on Actuarial Science, published by Cambridge University Press in conjunction with the Institute and Faculty of Actuaries. This series contains textbooks for students taking course in or related to actuarial science, as well as more advanced works designed for continuing professional development or for research in areas relating to long term financial risk.

The book is an excellent resource for actuarial students studying for examinations, for risk management practitioners and for any academic looking for an up to date reference to current techniques. ***The book is also part of the core reading for the UK Actuarial Profession's Specialist Technical examination: ST9 Enterprise Risk Management.*** I am sure the students and practitioners will gain extensively by going through the techniques, examples and case studies.

I suggest you don't risk – miss reading this important book on the topic – which considers all the risks together and provides a holistic approach which is fundamental to enterprise risk management.

Happy Reading!

Shilpa's Puzzles

Puzzle No 171:

See if you can deduce the logic of the letters and find out the missing letter in the last box?

	W	
A	T	I
	H	

	S	
H	E	A
	T	

	N	
W	E	?
	S	

Puzzle No 172:

Fill in the empty squares in the grid below according to the following rules:

- Each square must contain one of the digits from 1 to 7
- In each of the four rows and four columns, each of the digits from 1 to 7 must appear exactly once
- Each of the numbers in the colored cells already contained within the grid must equal the sum of the eight digits surrounding it

	34		36		30	
	35		32		28	
	28		25		35	

SOLUTIONS TO PUZZLES

Puzzle No 167:

The next one is 46656.

Disregarding the number 1, these are the four consecutive lowest numbers that are both cubes and squares.

Puzzle No 168:

21.

Each letter of the name is equivalent to three of "them", whatever "them" may be. Mary Les has seven letters in her name, therefore she has twenty-one of "them".

Puzzle No 169:

Thomas started with 251 sugar cubes and made a 6 × 6 × 6 cube, a 3 × 3 × 3 cube, and a 2 × 2 × 2 cube. Once the dog ate one sugar cube, Thomas then made two cubes, each 5 × 5 × 5.

Puzzle No 170:

Metallica

Correct solutions were received from:

Puzzle No 167 and 168 both:

1. Shilpi Jain
2. D. Shyama S. Prasad
3. Ritika Khirwadkar
4. Padmaja R.
5. Sourav Mahapatra
6. Swanand Joglekar
7. Venkatasubramanian S
8. Pettina D'souza
9. Ekta Katyayana
10. Ayushi Rastogi
11. Dhrumil Sangharajka
12. Sushant Jain
13. R. Mythili
14. C. Praveen Kumar
15. Utkarsh Gupta
16. Titiksha Jain
17. Vivek Aggarwal
18. Vandana Agarwal
19. Anupama Katariya
20. Ganesh Sridhara
21. Swati Patil
22. Saraswathi S.
23. Jitesh Borkar
24. Sucheta Dutta
25. Sudhanshu Kalsotra
26. Mahima Kundu
27. Vaibhav Unhelkar
28. Ridhima Agarwal
29. Vandana Sharma
30. Madhumita Paul
31. Shalki Shetye
32. Sanya Kurseja
33. Koushik Dasgupta
34. Manoj Barbhaya
35. Prasham Rambhia
36. Narendra Kulkarni
37. S. Raghu
38. Omkar Kulkarni
39. P. R. Bhagirathi
40. Rajeev Giri
41. Abhinav Peshawaria
42. C T Narayanan
43. Ayushi Agarwal
44. Vishvesh Kumar
45. K. S. Pujari
46. Rini Patel
47. Vasudha Ramachandran

Puzzle No 167 only:

1. Vibha Agarwal
2. Vikas Garg
3. Meenakshi Tewari
4. Ankit Shastri
5. Amit Garg
6. Shweta Soin
7. Deepak Trivedi
8. Subramaniam
9. Rajeev Garg
10. Krishma Aggarwal
11. Binita Bhimani
12. Jigisha Visa
13. Vikas Rathi
14. Sarthak Mahajan
15. Roop Chand
16. R. Umamaheswari
17. Sumit Chhajer

Puzzle No 168 only:

1. Kailash Mittal
2. Aruna Arutselvan
3. Shruti Shirhatti

Puzzle No 169:

1. Abhinav Peshawaria
2. Vasudha Ramachandran

Puzzle No 170:

None

shilpa_vm@hotmail.com

SUDOKU

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

SIMPLE:

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

MEDIUM:

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

Hard

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

FUNNY ONE LINERS

A clean desk is a sign of a cluttered drawer.

A journey of a thousand miles begins with a cash advance.

Treat each day as your last; one day you will be right.

All I ask is a chance to prove money can't make me happy.

Wear a watch and you'll always know what time it is. Wear two watches and you'll never be sure

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 **June 2012**

P. A. Balasubramanian
Dionys Emil Boeke
Liyaquat Khan
R. Kannan
Richard Leiser Banks
K. Subrahmanyam

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

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- **Guy Carpenter** - a global leader in providing risk and reinsurance intermediary services
- **Oliver Wyman** - a global leader in management consulting

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- Strategize with clients to develop or enhance their retirement benefit programs.
- Analyze client data to track historical and future employment trends and their correlation to retirement benefit programs and funding.
- Keep clients up to date on regulated or legislated changes that affect the ongoing administration of their retirement benefit programs.

We are currently looking for the following individuals for our Gurgaon and Noida offices:

- Candidates pursuing Actuarial Studies
- Candidates intending to pursue Actuarial Studies
- Graduates with Mathematics/Statistics or any subject with sizeable mathematical content

Selected candidates would work in a team environment with experienced consultants and avail a *competitive Actuarial Study Program, which includes paid time off for examination studies, financial support and reimbursement, and increments linked to success in actuarial examinations*

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