

October 2012 Issue

Newsletter by the Actuarial Society of Malaysia

# the malaysian actuary



## Featured Articles

*Implementing Stochastic Claims  
Reserving in Spreadsheet*

*My Experience Writing a Paper*

*Diary of an Actuarial Student*

**Up Close & Personal**

*with Liew Yew Chong*

## **About the Malaysian Actuary**

The Malaysian Actuary is a regular newsletter/magazine published by the Actuarial Society of Malaysia.

This publication is for general information purposes only, and intended only for members of the Actuarial Society of Malaysia. While all reasonable efforts are made to provide correct information, the Actuarial Society of Malaysia does not guarantee that the information provided in this newsletter is complete, reliable and accurate in every aspect. The articles in this newsletter are based on the views of the individual authors and do not necessarily represent the views of the Actuarial Society of Malaysia.

The Malaysian Actuary welcomes interested members who would like to contribute to the newsletter in any way, either by submitting articles relevant to the actuarial industry, conducting interviews or contributing puzzles. With regards to submitted articles, the Malaysian Actuary reserve the rights to accept, reject or request changes before publishing the articles. In addition, the editor may amend the article for grammar, punctuation and spelling. For more information on contributions, please contact the Malaysian Actuary editor at [editor@actuaries.org.my](mailto:editor@actuaries.org.my).

Feedback on the Malaysian Actuary can be provided by filling up the form on the last page of each issue and submitting it to [editor@actuaries.org.my](mailto:editor@actuaries.org.my). Nominations for suitable candidates for the "Up Close and Personal" section can also made via the same form.

## **Editor's Note**

So, what's been happening since the last issue?

Firstly, the Stochastic Claims Reserving paper written by Seow Fan Chong and Kelvin Hii won ASM's sponsorship to be presented at the 4<sup>th</sup> General Insurance Conference in Singapore. It was recently also presented in Malaysia in the form of a seminar cum workshop. The response was so great that the authors have kindly decided to share the full paper here with everyone!

And remember how ASM sponsored a paper on Communicating Takaful at the IAA Congress in Hong Kong? Well, Nicholas Yeo, one of the authors, will talk about what he went through while writing, perfecting and presenting the paper. Hopefully this will give everyone out there some encouragement and motivation, so that we get more of such good stuff from our members!

We were also contacted by an aspiring actuarial student currently studying in the US, giving valuable suggestions on the ASM website and agreeing to share her overseas studies experience with everyone. It's really encouraging and heart-warming to see the young ones already so enthusiastic in contributing to ASM!

And speaking of the website, yes that's going through a full revamp. If all goes well, we should have a much more functional website within the next few months. We'll be sure to keep you updated. If you would like to sponsor some artwork for the new ASM website, please feel free to send them to us. Rest assured we will give you due credit 😊

It was also really touching to get positive feedback on the last newsletter issue. I hope everyone will continue to enjoy the Malaysian Actuary.

Cheers,  
Charlene  
Editor, Malaysian Actuary



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## President's Address



Dear Members,

Ever since the International Accounting Standards Boards Exposure Draft on IFRS 4 Phase II (PHASE II) was published in 2010, much have been written and debated on it. As we reach the midpoint of the timeline towards implementation, a question looms overhead – are we ready for it? Some may argue that we have a couple more years' time till implementation, hence perhaps more accurately, I should be saying – *will we be* ready for it?

Certainly, much preparation is needed in order for the transition to PHASE II. This is good news to our actuarial profession. More job opportunities! A key to successful implementation of PHASE II though is in providing the correct education and exposure. In line with this, I hope that ASM's recent IFRS4 Phase II Seminar & Workshop has aided in this.

Being a principles-based approach, the adoption of PHASE II would mean greater emphasis on our role as a professional. As a professional, we rely not only on the mastery of actuarial principles, but also on sound judgments and values. There is a saying that at the heart of every profession, are its people and thus, a high level of professionalism should be a key aspiration for us.

Before I sign off from this issue's address, I'd like to wish Congratulations to all new Fellow members who were granted Fellow of Actuarial Society of Malaysia (FASM) in our recent annual dinner. Well done!

## Out & About...

	Sleep disorders may be considered as another area for insurance
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AIA, Manulife, Prudential, AXA, Sun Life made bids for CIMB Aviva. Aviva selling 49% share, CIMB may sell portion of 51% share.

GI gross written premium expected to increase by 7% to 10%, mainly from medical, fire and motor.

Prudential likely to remain in UK, not moving to HK. Negotiations going well with UK government and FSA.

Zurich Insurance Group interested to venture into Takaful.

ING must sell Asian life insurance operations by end-2013. In discussions with AIA, Manulife for SE Asian operations, with AIA, Manulife, KB Financial Group for South Korea operations.

Voluntary Private Retirement Scheme (PRS) launched in July 2012. RM3,000 tax relief for individuals. Tax deduction for employers contributing above the statutory rate of 19%. SC may give out new licenses once demand increases.

DRB-HICOM's unit Gadek (M) Bhd obtained BNM approval to start negotiations on disposal of equity interest in Uni.Asia Life and General.

Budget 2013 – Insurance coverage for:

- 1) hawkers/small businesses;
- 2) fishermen;
- 3) armed forces & police personnel;
- 4) school children travelling by school buses with permits

General Reinsurance of India (GIC Re) opens branch in KL. GIC Re is the 14<sup>th</sup> largest reinsurer in the world, and already has operations in Labuan since 2010.

Pacific & Orient Bhd obtained BNM approval to begin negotiations for divestment of equity interest in Pacific & Orient Insurance Co. Bhd.

Thanks to Insurance News ([news2.actuaries.com.my](http://news2.actuaries.com.my)) to which reference was made when compiling this section.

# Implementing Stochastic Claims Reserving in Spreadsheet

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*This paper was submitted to the Actuarial Society of Malaysia early 2012, and was approved for sponsorship to be presented during the Singapore Actuarial Society's 4th General Insurance Conference (31st May – 1st June 2012). The authors had also presented to the members of the Actuarial Society of Malaysia on the 7th August 2012 in a form of a presentation followed by workshop sessions. The spreadsheets and presentation materials constructed by the authors was made freely available to the participants of these aforementioned sessions.*

## Background

For the valuation of general insurance liabilities (and Medical products on the life insurance side) at a Best Estimate level, the most common approach is to adopt a variation of the chain ladder based on data in triangle format (i.e. Underwriting/Accident period vs. Development period). Therefore, there are various methodologies that help determine the level of Insurance Liabilities at a higher confidence level which assumes the application of chain ladder methods on a Best Estimate level. With the increasing emphasis on the sufficiency of the 75% Insurance Liabilities, more attention is being paid to the different methodologies determining the insurance liabilities at a higher confidence level.

## Scope and Purpose

The authors have explored three methods, namely Mack Method, Over Dispersed Poisson Model and the Bootstrap method, and specifically how these methods can be applied in spreadsheet to determine Insurance Liabilities at a level of confidence higher than the Best Estimate level. Rather than taking a technical approach to cover these methodologies, the approach undertaken by the authors was a more practical one in the sense that the objective was to briefly introduce the underlying concepts of these three methods at a high level before demonstrating the application of these methodologies in a spreadsheet.

## Data

The data used was the historical losses from the development study (1991) Automatic Facultative General Liability data (excluding asbestos and environmental) as this is a widely used example in various actuarial articles/journals.



## Methodologies

This section describes the fundamental concepts of the Mack Method, Over-Dispersed Poisson Model and the Bootstrapping Method.

### (1) Mack Method

The distribution-free Mean-Squared Error (MSE) of the overall claims reserve is obtained by using the formulae below:

$$MSE(R) = \sum_{i=2}^n \{ MSE(R_i) + covariance \}$$

This formulae states that the MSE of the overall claims reserve ("R") is the sum of the MSE of individual accident year's claims reserve ("R<sub>i</sub>") and the covariance of the claims reserve between accident years.

The MSE for the individual accident years is calculated using the following formulae:

$$MSE(R_i) = C_{i,n}^2 \sum_{k=n+1-i}^{n-1} \left\{ \frac{\alpha_k^2}{f_k^2} \left( \frac{1}{C_{i,k}} + \frac{1}{\sum_{j=1}^{n-k} C_{j,k}} \right) \right\}$$

where

$C_{i,k}$  : accumulated total claims amount for accident year  $i$  and development year  $k$

$f_k$  : age-to-age factor for development year  $k$

$\alpha_k$  is defined as

For  $k=1$  to  $k=n-2$  :

$$\begin{aligned} \alpha_k^2 &= \frac{1}{n-1-k} \sum_{j=1}^{n-k} C_{j,k} \left( \frac{C_{j,k+1}}{C_{j,k}} - f_k \right)^2 \\ &= \frac{1}{n-1-k} \sum_{j=1}^{n-k} D_{j,k} \end{aligned}$$

For  $k=n-1$  :

$$\alpha_{n-1}^2 = \min \left( \frac{\alpha_{n-2}^4}{\alpha_{n-3}^2}, \min(\alpha_{n-3}^2, \alpha_{n-2}^2) \right)$$



The formulae for the covariance between the different accident years' claims reserve is:

$$covariance_i = C_{i,n} \left( \sum_{j=i+1}^n C_{j,n} \right) \sum_{k=n+1-i}^{n-1} \frac{2\alpha_k^2 / f_k^2}{\sum_{n=1}^{n-k} C_{n,k}}$$

Even though the  $R_i$ 's itself are independent across accident years, the estimators  $R_i$  are not since they are influenced by the same age-to-age factors  $f_k$  i.e. positively correlated.

The application of the Mack Method can be divided into three stages:

- i) Estimating the Chain Ladder mean reserve using loss development factors
- ii) Estimating the MSE of each individual accident years' claims reserve
- iii) Estimating the MSE of the overall claims reserve

With the computation of the mean estimator of the overall claims reserve ("R") and the standard error of this estimator, one can assume an underlying distribution with two parameters and solve for these parameters. With the fitted parameters, one can define the underlying distribution of the overall claims reserve, including the level of claims reserve at various confidence levels.

## (2) Over-Dispersed Poisson Model

The Over-Dispersed Poisson (ODP) Model is slightly different from the Poisson model because it assumes that the variance is not equal to the mean, but instead is proportional to the mean.

In claims reserving, we can assume incremental claims (" $C_{i,j}$ ") to be independent ODP random variables.

$$E[C_{i,j}] = m_{i,j}$$

$$Var[C_{i,j}] = \phi m_{i,j}$$

Over dispersion is introduced through the parameter  $\Phi$ , which needs to be estimated from the data.

For estimation purposes, it is often better to re-parameterize the model so the mean has a linear form. Using a log-link function:

$$\eta_{i,j} = \log(m_{i,j}) = c + \alpha_i + \beta_j$$

Using the parameter estimates of the formula above, we can estimate future claims payments: -

$$\hat{C}_{i,j} = \hat{m}_{i,j} = \exp(\hat{\eta}_{i,j}) = \exp(\hat{c} + \hat{\alpha}_i + \hat{\beta}_j)$$

The mean squared error of prediction is given by: -

$$\begin{aligned} MSEP[\hat{C}_{i,j}] &= E[(C_{i,j} - \hat{C}_{i,j})^2] \\ &\approx Var[C_{i,j}] + Var[\hat{C}_{i,j}] \\ &\approx \phi \hat{m}_{i,j} + \hat{m}_{i,j}^2 Var[\hat{\eta}_{i,j}] \end{aligned}$$

$$\begin{aligned} MSEP[\hat{C}_{i+}] &\approx \sum_{j \in \Delta_i} \phi \hat{m}_{i,j} + \sum_{j \in \Delta_i} \hat{m}_{i,j}^2 Var[\hat{\eta}_{i,j}] \\ &\quad + 2 \sum_{\substack{j_1, j_2 \in \Delta_i \\ j_2 > j_1}} \hat{m}_{i,j_1} \hat{m}_{i,j_2} Cov[\hat{\eta}_{i,j_1}, \hat{\eta}_{i,j_2}] \end{aligned}$$

The application of the ODP Method can also be divided into three stages:

- (i) Estimating the Chain Ladder mean reserve through loss development factors

$$\hat{C}_{i,j} = \hat{m}_{i,j} = \exp(\hat{\eta}_{i,j})$$

- (ii) Estimating the linear predictor using Maximum Likelihood method  
(in Excel using Microsoft Solver)

$$\eta_{i,j} = c + \alpha_i + \beta_j$$

- (iii) Estimating the MSE for each accident year (using matrix and GLM concepts)

$$\begin{aligned} MSEP[\hat{C}_{i+}] &\approx \sum_{j \in \Delta_i} \phi \hat{m}_{i,j} + \sum_{j \in \Delta_i} \hat{m}_{i,j}^2 \text{Var}[\hat{\eta}_{i,j}] \\ &\quad + 2 \sum_{\substack{j_1, j_2 \in \Delta_i \\ j_2 > j_1}} \hat{m}_{i,j_1} \hat{m}_{i,j_2} \text{Cov}[\hat{\eta}_{i,j_1}, \hat{\eta}_{i,j_2}] \end{aligned}$$

Again, with the computation of the mean estimator of the overall claims reserve (“R”) and the standard error of this estimator, one can assume an underlying distribution with two parameters and solve for these parameters. With the fitted parameters, one can define the underlying distribution of the overall claims reserve, including the level of claims reserve at various confidence levels.

### (3) Bootstrap Method

The Bootstrap method is essentially a re-sampling of residuals to generate pseudo-triangles. It is based on creating many “what if” triangles and seeing how the overall claims reserves estimate differs.

We have applied the Bootstrapping method to the linear predictor of future claims from our Over-Dispersed Poisson model example to derive the parameter variance of the MSE.

## Results

The methodologies described in the previous section were applied through a spreadsheet example to arrive at the following results:

Methodology	Loading above the Best Estimate (to achieve 75% confidence level)
Mack Method	23%
Over-Dispersed Poisson Model	19%
Bootstrapping on ODP	16%

We have assumed a lognormal distribution for the overall claims reserve in determining the above loadings that need to be applied to the Best Estimate overall claims reserve to achieve a 75% level of confidence. These methods indicate that a loading of around 20% above the Best Estimate is sufficient three times out of four. Please note that these loadings are specific to the data set used and does not necessarily give an indication of appropriate loadings to be applied to the context of Malaysia/Singapore.

*If there are any comments / feedback / queries or if you'd like a copy of the latest presentation slides and spreadsheet examples, please feel free to contact the authors:*

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## **My Experience Writing a Paper**

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It is always a pleasure to be able successfully communicate to people, to be able to successfully convey your message as intended. For most of the time this is trivial. As an example clearly specifying to the restaurant crew about my distaste for spring onions would spare me of the displeasure of having to laboriously nit-pick them out of my food later (which costs me a few minutes and some nosy onlooks). For other times this is critical. An example would be your loved ones thinking that you do not love them because you did not profess your love clearly enough.

In my opinion, communication could be ineffective and unsuccessful if the means of communication is not ideal for the specific circumstance. In a busy restaurant, the crew might have to be reminded more than once about the spring onions. In other words, the circumstance has rendered an otherwise simple message which does not merit a repeat, less effective. Hence subsequent communications, through reminders, can increase the effectiveness of the communication. Likewise, saying “I love you” in isolation, and saying it whilst concurrently presenting a diamond ring gift, could yield very different results.

As a Malaysian actuary that is in regular contact with actuaries from other countries, the question of “what is takaful” is often posed to me, be it out of professional interest or personal curiosity. Unfortunately most of the time, face to face, over a short timeframe, I found it difficult to satisfactorily convey my answers to this simple question. These circumstances, further exacerbated by limitations of my communication abilities, resulted in the enquirer probably more confused than clear. At the back of my head, this became something that I felt I need to improve, to rectify.

One day I found myself staring at the call for paper for the IAA Mini Congress in Hong Kong. Would the audience be interested to know more about takaful? Can I find a suitable means of communication that could be more effective in communicating takaful to the audience?

Quickly, I found a willing collaborator in Chang Yueh and we took up the challenge. We agreed we have a good chance of achieving this objective by telling a story, or a series of small stories, in a structured, comprehensive way which the audience could and should understand and appreciate. It would need to be different from other papers on takaful presented (otherwise we would be just copying, and as we all know, in the context of intellectual capital, copying does not add value but merely wastes time). It would need to be a simple concise narrative, perusing examples and analogies but not embellishments, a story about takaful that the audience can effectively relate to.

One of my biggest challenges when working on this paper was the need to recognize the difference between “what is takaful” and “what is takaful to us”. I unknowingly set out to do the former and was fortunate to eventually recognize that what I was in fact doing should be the latter.

This is critical because takaful is perceived differently by different people, as different people assign different meanings to different things. Takaful to a form 2 student would probably mean a mark or otherwise in a multiple choice question exam. Takaful to my university lecturer was an “exotic insurance product” in one of his lectures. For some people takaful is a job, for others takaful is a source of national pride. By recognizing this I was able to focus on sharing what takaful means to us with the audience, rather than imposing on the audience what takaful should mean to them.

Whilst I set out this paper with the optimism that it would benefit the actuarial profession as a whole, an enormous level of personal satisfaction came as an unexpected bonus. The process of gathering of my scattered thoughts on the subject matter, connecting, expanding and refining them, and eventually penning them down in a way that I perceive to be logical, structured and comprehensive, and easily understandable by the audience, was an immense yet rewarding one. In the end, it was challenge completed.

Obviously, as a newbie presenting a paper, a horrible mistake was inevitable. As the whole undertaking was focused on writing the paper, the actual presentation became an afterthought. Whilst I was reasonably satisfied with the read of the paper, I felt worse and worse whilst I prepared the PowerPoint slides. As its name implies, PowerPoint is a useful tool to present powerful ideas in a succinct bullet point form, but not necessarily so to tell a story. I simply could not convince myself that I was able to fully engage the audience, and I was back to square one – an ineffective means of communication. What I felt was a good means of communication, i.e. to read the paper, when transposed onto PowerPoint slides, turned out to be an entirely different animal. I secretly thought to myself that the audience would probably be better off just reading the paper without coming to the presentation. Fortunately, Chang Yueh’s suggestion of a question and answer session throughout the presentation, with small gifts to participants, did manage to alter the dynamics of the communication and negate the aspects which I perceive a combination of myself, the classroom setting and those PowerPoint slides are out of place with. In the end, the audience did seem to listen to the story, and even provided interesting, constructive feedback.

Overall, the journey of writing and presenting the paper has been an enjoyable one. I would certainly jump at the chance should a similar opportunity arise again, and would recommend you put this down in your list of things to do before you retire as an actuary.

## Diary of an Actuarial Student

Jessica Lee  
Student  
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‘What are you majoring in?’—is probably the most common question on a liberal arts University’s campus, but my answer is definitely not common at all. ‘What science?’ is the response I usually get when I tell them that my emphasis is in actuarial science. After a few more questions most people want to know how I came upon this unusual decision. Again, my answer was probably what they least expected.

A few years ago, upon completion of my A-Level examinations in Malaysia, I knew that I had to find a way to be able to study out of the country. To me, university life overseas is an opportunity that once forgone could not be recovered. It is the experience of studying in another culture and being able to see and learn things that cannot be contained or expressed by words in a textbook. I knew I would do whatever it takes to get it.

Finally, the country that I would spend the next four years in was decided on – the US. I was going to leave on February 2010 to start pursuing a bachelor of science in Mathematics in a liberal arts institution in the United States of America.

Word got out about this, and when my grandmother heard that mathematics was the field I chose to venture into, she immediately encouraged me to look into actuarial science. This is when I first heard about this profession. It sounded interesting but since I did not know much about it, I just kept it in mind.

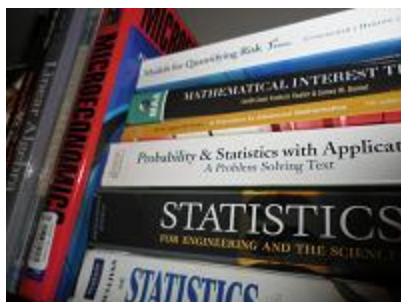
I arrived in the United States in the middle of the first week of school and dove straight into the school year. There was a whole new education system to get familiar with, a new culture, new food, new weather, and so much more. My first day in the US still remains fresh on my mind. Everyone was already in classes, but I still had not registered or had any orientation whatsoever. I



I talked to several people and ran up and down the hallway trying to figure out what a credit hour meant, which classes I should enroll for, how to register for classes and other logistics of university life. After what seemed like forever, I finally sat down in my first class at 12:00pm of the same day – Calculus 2.



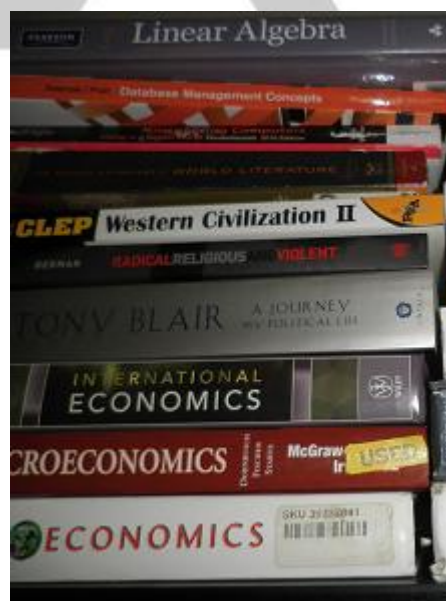
The teacher who taught me Calculus 2 was the same professor that allowed me to skip the first two calculus classes, and coincidentally, he was also the advisor for the actuarial science programme. He had suggested that I look into it and let him know if I was interested. For the first few weeks in University I spent the little spare time that I had reading up on this specific concentration, the path to studying actuarial science and on the life of an actuary. I realized then that this was something that really interested me, and that it sounded like something I would enjoy continually learning about. My minor was then officially actuarial science.



After I knew for sure that this was what I wanted to do, I registered to take Calculus 3 and Statistics in the next semester to get a head start. I realized that I enjoyed these classes and did not find them too much of a struggle. It was in this next semester that I found out more about the actuarial exams for both the CAS and the SOA. So, as soon as the exam preparation course was offered in the following year, I enrolled in that and a second statistics

class. Many previous students had forewarned me of this actuarial class, saying that it was a pretty challenging one, but I think the strong understanding of probability that I had gained from my A-levels math course helped me in that class. After a summer of self-study and preparation for the first exam, I registered to take the exam P/1. In a University with not a very big actuarial class, we had to register and take the test on our own. I learned that this was a good preparation for the actuarial profession, because much of the actuarial exams involved self-study. Hence if the university had spoon-fed me through the first few exams like most universities do, I would probably find it more of a struggle when I got to the working world to take on those exams on my own. Apart from the motivation to study on my own with the limited resources available, there were other challenges I faced as an international student. But despite all odds, I managed to get to the test center that was 8 hours away from campus and passed the exam. This was a really big encouragement to me and also a double confirmation on this path I have chosen to take.

Passing the P/1 Exam seemed like a really big step at first, but I realized that this was only one of the many steps into the actuarial career. I have to admit this thought did scare me a little, but I think it excited and motivated me more. I was enrolled in the next actuarial class that talked about life tables, annuities and such for the next semester which covered some of what would be in the second exam. This was in-line with a financial management class that is required of actuarial science majors, and understanding the math behind finance definitely made it more enjoyable.



The actuarial department in my University had started small when I first got here, and is slowly growing and improving. Overall, I would say that I'm glad that I entered the program when I did, because it required many economics, accounting, finance, and statistic classes that got me started on the right track. Although the program was small and did not provide



*Mardi Gras*

much information about being an actuary, this actually helped me because it encouraged me to learn more about the actuarial profession myself. Through articles and write-ups on the internet, I learned that some electives would benefit me and hence took the initiative to fit those into my schedule. Some of these classes included database management systems, international economics, and interpersonal communication. I also appreciate the education from a liberal arts college that requires us to take classes like psychology, intercultural studies, and literature in order for their students to have an all rounded education. This is so much more valuable in today's generation.

It is interesting also, how in university, many skills that we learn in classes like psychology and interpersonal communication play out in our lives here. As my fellow international students on campus and I seek to adapt to American culture, we had much to learn and explore. Along the way, more than a few mishaps have happened that have made us embarrassed, but now brings back funny memories.



*CNY Party*

This all has brought the international community much closer to each other and helped us learn more about our own cultures and each other's cultures. This year I am hoping to start an International Student Organization, with the hopes of integrating our international community into American society and also helping the new internationals feel more at home while they are here. Other fun events that have happened on campus recently include the variety show, in which we form several big dance groups, audition, and then perform for about 2000 members of the university and of the community.

Though life and friendship are a big part of University, it's not all fun and games there. I have had the privilege of being a member in the Lyceum committee and in two honors societies. The Lyceum committee is responsible for planning and recommending events of cultural enrichment, arranging approved events and hosting guests. The two honors societies are Alpha Chi and Kappa Mu Epsilon which are both national honor societies. Alpha Chi is an honor society that is open to the top ranking 10% of the junior and senior class. Being a part of these societies constantly remind me about the real world that we face after college and the importance of really learning in college instead of just aiming for good grades.



*Alpha Chi & KME certs + Student Worker badge*

Lately, I have been thinking about the next big decision I will have to make and probably the last one as a college student – ‘What do I do after graduation?’ I am really aiming to go into the actuarial field, but am not yet sure if I want to gain more experience and skills in graduate school or start working to gain that sort of experience. If I start working,



another decision I would have to make is where I would work. Whether I would stay here in the US or go back to Malaysia and look for internships or jobs. I recently have developed a desire to see Malaysia grow in the actuarial area and thus have been looking into how the actuarial field is over there and the opportunities they have there. I think many actuarial science graduates that have graduated from a university out of Malaysia do not see the actuarial work environment in



Malaysia as appealing or as an opportunity. This causes many of them to try their best to find a job overseas and stay where they are. Hence lays the problem in Malaysia's lack of growth. Many bright young students choose to invest their talent and skills elsewhere to help the development of other countries because the reward, pay, and working environment are better.



Even though the actuarial field is not where students find it appealing yet, the growth of the actuarial world in Malaysia is encouraging as seen through its website and newsletter. There is still much more that could be done to improve the appeal this area has to recent graduates. Some of the facilities for recent actuarial graduates in the US are training programs, recent graduate programs and readily available internships that seek out final school students or students that have passed some exams. Also people already in the actuarial field seek to make it more appealing and more competitive by sharing with students what it is like and taking the initiative to network and ease recent graduates into the working world. This retains the actuarial graduates here so much more than Malaysia retains their bright students.

Another big factor in the actuarial field in Malaysia and in the US is the availability of information on the internet. A lot of effort is put in by people in the actuarial field here to facilitate students or adults at any stage of pursuing a career in actuarial science. Whether you are beginning to look into actuary as an option, a final year actuarial student, even a recent graduate, or someone already practicing actuary in the workplace, you would be able to easily access websites that have information about anything you could possibly need to know. These websites tell you things ranging from what classes to take in high-school, what exams you need to take, and information on continuing development opportunities.



Merdeka celebration

Malaysia is actually producing many great up-and-coming actuaries that are highly demanded in many other countries because of their multicultural and multi-language skills. These students are deemed very valuable by many other countries. Many countries specifically request Malaysian actuarial graduates for this reason itself. This is another big reason that Malaysia is losing its talent to other developing or developed countries.

I can see Malaysia attaining a high standard in the field of actuary like the US, and it is my desire to see this happen. It is my vision to see Malaysia attain all that I have mentioned above and go beyond that, into a country that not only produces but also retains high quality actuarial graduates and a highly respected actuarial working class. So that one day when one asks the typical question, 'what are you majoring in', and a response like actuarial science is heard, there will be a deep respect and recognition for the student.



*Jessica is a student of Union University, Jackson, TN in the USA. She is in her final year of the Bachelor of Science course, with a major in Mathematics (with Honors) and her minor being Actuarial Science. In her 3 years at Union University, she has received the International Student Scholarship, Academic Scholarship and Multi-Student Scholarship. Jessica is also a member of two honor societies – Alpha Chi and Kappa Mu Epsilon.*

## Up Close and Personal...

with *Liew Yew Chong*

From a short survey carried out, it appears that Yew Chong is currently the youngest Fellow of ASM, at only a tender 26 years of age. The Malaysian Actuary catches up with the baby of our FASMs to find out a little more about him...

Q: So, if you don't mind revealing a little more about yourself – where you're from, what you remember most about your school days and what was the path that led you down the road of actuarial studies.

A: *I am from a small town in Johor, called Labis. I attended both my primary and secondary school in Labis, before leaving to Melaka for my matriculation course. It was one of my secondary school teachers who told me about Actuarial Science when I was filling in my course selection for local universities' application. Prior to that, I did not know anything about this profession. After I did some reading on this profession, I found that I was quite interested in the nature of this profession. After spending 1 year in Melaka doing matriculation, I was fortunate enough to get an offer to further my studies in UKM Actuarial Science.*

Q: What do you think is the best thing about being part of the actuarial field in Malaysia?

A: *Being part of the Malaysian actuarial field is very exciting. Malaysia's insurance industry has continued to develop for the past few years, and I've managed to gain lots of learning opportunities. Compared to 4 years back when I first stepped into this field, I believe that the need for actuarial staff has increased dramatically. This has shown that the actuarial field in Malaysia has been expanding and developing, and it is always great to be involved in the process.*

Q: Did you find it a lot more difficult to cope with studying and exams while working full time? Please share your secrets on how you managed to juggle work and exams at the same time.

A: *Yes, it was a lot more challenging to take exams while working full time. Study method or study strategy for everyone is different. For me, I tried to consistently study for at least 1 hour every night. I took a rest after getting back from work, and had my study session before I went to bed. For me, consistency is the key, and it is always good to start preparing early.*

*Other than that, I would say having a peer taking the same exam at the same time is great support. We had discussions together and the positive competition can help to motivate both of us.*

Q: At what age did you qualify? When you started out, did you have a “target age” for qualification? If so, did you meet your expectations?

*A: I qualified when I was 24. I didn’t think about a “target age” much. I just focused on the next exam that I was going to sit, one at a time.*

Q: Do you remember what the first thought was that came to mind at the very moment you discovered that you passed your last exam?

*A: Relief. No more studying and more time to enjoy!*

Q: How did your job change after qualification? Bosses have higher expectations? You felt more confident to take on bigger challenges? Any sudden urges to “act more professionally” compared to before qualification?

*A: Yes, expectations did change. However I think this is a normal path for everyone as we continue to progress in our career. More responsibilities are expected, and more exposure on business management will be given as we gain more experience and become more senior. Of course, being equipped with the right qualification helped me feel more confident, and more ready to take on bigger challenges than before.*

*Given that an actuary’s qualification greatly stands on its professional body’s prestige, I agree that I do feel the need to act more professionally in my work after qualification.*

Q: Lastly, do you have any words of encouragement or advice to give to our many aspiring actuaries out there who are still midway through their journey to qualification?

*A: Be confident in yourself. Determination today leads to success tomorrow.*

*Liew Yew Chong is an Assistant Manager in AIA Berhad. He has worked on valuation reporting and is currently in the EV & experience studies team.*

## **Recent and Upcoming Events**

### Recent Events

14 July 2012	ASM Treasure Hunt
7 August 2012	Stochastic Claims Reserving Seminar/Workshop
16 August 2012	Professionalism Seminar
3 September 2012	IFRS Seminar
3 September 2012	ASM Annual Dinner

Details of the recent events are given in the write-ups below.

### Upcoming Events

#### **November 2012: Life Seminar**

The 2012 Life Conference will be held at Double Tree Hotel on 29th November 2012, with the theme "New Realities, New Challenges". Distinguished local and overseas speakers are lined up to share their insights on a wide range of topics that have significant implications to the local insurance industry. The topics to be presented include local regulatory changes, latest risk management development, product trends in Asia, RBC for Takaful, Islamic alternative risk transfer. Participants are entitled to 6.5 CPD hours.

#### **December 2012: Year-End Party**

Celebrate all things great that happened over 2012, and be amongst great company while you mingle over light refreshments and drinks in welcoming the arrival of 2013!



### ASM Treasure Hunt (14 July 2012)

Written by Melissa Ong



ASM organised its very own treasure hunt on 14 July 2012 at Berjaya Times Square. This year's hunt received participation from nine teams, made out of 35 enthusiastic participants from various companies.



Everyone was gathered at the meeting place by 9.45am, all psyched up for the hunt despite the early hour on a non-working day. The teams were flagged off at 10.00am, after a 10-minute briefing session on general rules as well as pointers for the hunt.

The cryptic hunt questions, prepared by ASM member Hsiao Ley and ex-ASM member Eng Siang, took into account varying levels of difficulty to suit both masters and rookies of treasure hunts. Questions ranging from the easy ones such as,

**Q:** The beginning and the end

**A:** A&Z

to questions like...



**Q:** AA, BA and QF are their members offering epicurean journeys

**A:** OneWorld Luxury Holidays



*Teams strategising after flag off*



*...the organisers enjoy Starbucks*



*While the participants hunt...*

Apart from decrypting the 25 hunt questions, participants were also required to look for 5 'treasures'. Treasures included items such as Australian Bundaberg drinks, to G2 pilot pens (specifically colours other than red, blue and black, which can only be found in ONE store in the whole hunting ground).

Submission of answers started from 12.00pm at Papa John's. The submission times for all teams were back to back as teams did not want to lose points for submissions after 12.30pm (There was a penalty of 2 points for every 5 minutes thereafter).



*Submitting hunt answers*

After close to 2.5 hours of walking, participants rested their tired feet and tended to their growling tummies with the buffet spread at Papa John's.



After lunch, the organisers proceeded to crack the cryptic questions for all participants. Team TOYF came up tops with 59 points (out of a maximum of 75 points), followed by Uno Dos Tres Cuatro with a gap of 13 points from the first team. Third team, Black Pearl, followed closely with 40 points. The fourth and fifth place went to teams Running Actuary and LonMGRe with 36 and 35 points respectively.

Kudos to the organisers and especially to participants of ASM Treasure Hunt 2012. Look out for the next hunt!



*1<sup>st</sup>: TOYF*



*2<sup>nd</sup>: Uno Dos Tres Cuatro*



*3<sup>rd</sup>: Black Pearl*



*4<sup>th</sup>: Running Actuary*



*5<sup>th</sup>: LonMGRe*

**Stochastic Claims Reserving Seminar & Workshop (7 August 2012)**

**Written by Kelvin Hii**

On the 7th of August 2012, Mr. Seow Fan Chong and Mr. Kelvin Hii organized a presentation on the topic of “Stochastic Claims Reserving”, which was followed by a workshop session.

Earlier during the year the ASM had chosen to sponsor this paper to be presented at the Singapore Actuarial Society’s 4th General Insurance Conference (31st May – 1st June 2012) in Singapore. The presentation was structured such that the underlying concepts of the Mack Method, Over-Dispersed Poisson Model and the Bootstrapping Method were briefly covered while going through the constructed examples in the spreadsheet. After the presentation, a number of participants asked for a copy of the slides and spreadsheets, from which a handful provided useful feedback on how to enhance the spreadsheet models.

This paper was also presented in Malaysia for the benefit of members who missed out on the conference in Singapore. The presenters were of the opinion that the optimal arrangement would be a short presentation followed by a workshop where the participants could go through the models themselves, with the speakers availing themselves for any Q&A.



*Seow Fan Chong (standing at whiteboard), Kelvin Hii (seated in middle) and the afternoon participants*

To cater for the greater than expected interest in the seminar and workshop, two sessions were held on the same day itself.

On the morning of 7th August 2012, the seminar and workshop was conducted at the Hong Leong Assurance head office, which had about 30 participants attending. The seminar and workshop session was held from 9am to 12pm.

A second session was conducted during the afternoon at Sasana Kijang, Bank Negara Malaysia. It was indeed a lovely venue and the afternoon participants were treated to an introductory presentation by Mr. Yoon Yew Khuen from Bank Negara Malaysia, who talked about “Supervisory Expectations for General Insurance Reserving”. The afternoon session hosted 60 participants from 2pm to 5pm.

For a more detailed write-up of the material covered during the presentation, please refer to the article “Implementing Stochastic Claims Reserving in Spreadsheet”, within this edition of the newsletter.



### Professionalism Seminar (16 August 2012)

Written by Charlene Lee

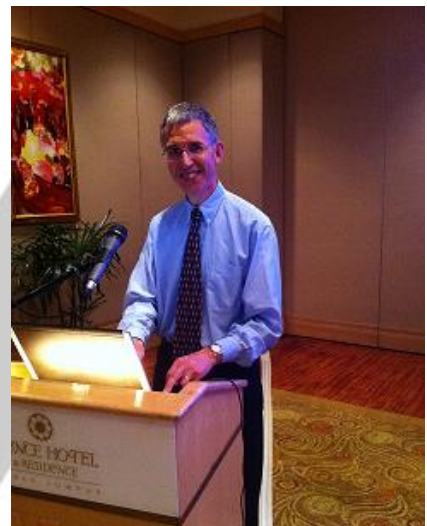


On 16 August 2012, ASM was honoured to have Neil Hilary – staff actuary at the Faculty and Institute of Actuaries, UK – to conduct a professionalism seminar, the first of its kind organised by ASM. More than 30 members from the ASM attended this seminar.

Neil started off by reminding us that while, as actuaries, we struggle through exams and are constantly dealing with our busy work life, we must still take time off once in a while to think about what we do, and why we do it. Losing focus of this may lead to grave mistakes that could potentially ruin what would have been a bright future ahead.

But first, to break the ice, everyone did a short self-introduction. It seems that some fellow actuaries last attended a professionalism course many years ago, and this was proving to be a good refresher course.

Neil then went on to touch on some plans that the UK Actuarial Profession was putting into place in order to engage more with members and enhance communication between the profession and its members, especially those residing outside the UK.



*Speaker: Neil Hilary*



Then came the fun part – a half-hour long movie. The scene was a courtroom, where an auditor was being questioned about an audit review that he and his team worked on. Although not set in an “actuarial” context, it was clear that the auditor did not perform his duties professionally. A brainstorming session led to these key points to take home:

- We must ensure that the team is competent enough to properly carry out the task
- Work planning is crucial to ensure a complete and thorough job done
- Proper documentation must be maintained throughout the process
- We must be fully accountable for our work, even if it has been delegated to another person under our supervision
- We are expected to be familiar with the standards/guidelines relevant to our job
- Critical information that is relevant to the task should not be kept from the team, especially if it will affect the scope and/or result of the review
- Perception is important – the public expects members of a profession to act appropriately in their capacity and perform their duties with due diligence
- Even if there are no “bad” intentions, we can still be judged as guilty in a professional sense, for not carrying out our professional duties as expected of us

Following that, we were all tested on our own abilities to act professionally under certain given circumstances. Seminar attendees were split into 4 groups, each assigned with a case study depicting a difficult situation. Each group was to discuss and come up with an action plan on how they would handle it. Briefly, the four scenarios were:



1) Rumour of your staff being on drugs;

2) Key staff getting into a fight with each other the night before a big client presentation;

3) Your cousin putting down the actuarial profession on reality TV, with specific reference to you as an actuary; and

4) Finding out that a few of your staff may have received leaked exam questions before going for their exam.



As always, there were no right or wrong answers for each of the scenarios. It was interesting to hear all the different views members had on how to handle each situation. But it all pointed towards the general idea that, as actuaries, we always have to think of the bigger picture. How we act does not just reflect on ourselves as individuals, but also affects the public's perception of actuaries as a profession.

The seminar ended with a delightful Japanese lunch buffet for non-Muslims, and dinner vouchers for fellow Muslims observing Ramadan.

### IFRS Seminar (3 September 2012)

Written by Melissa Ong



*Seminar in progress...*

ASM and the Society of Actuaries (SOA) jointly organised a one-day International Financial Reporting Standards (IFRS) Seminar and Workshop in Prince Hotel on 3 September 2012. Originally a three-day seminar, the contents of the seminar were customised and conducted over a day by esteemed speakers Peter Duran and Michael Lockerman, both Fellows of the SOA.

IFRS are recognised and used by many countries around the world, and with IFRS being a topical issue affecting our local financial reporting system, the timing of this seminar is apt.

The one-day seminar drew a crowd of 111 people from various areas in the industry. To ensure effective participation, participants were encouraged to bring laptops as there were practical examples for the workshops conducted in between presentations.

The seminar started off at 9.00am with a presentation on the current IFRS 4 reporting. The one-day seminar touched on various topics pertaining to IFRS such as product classification, unbundling requirements and presentation of the financial statements. Michael Lockerman also presented on the IFRS 4 Phase 2 Insurance Contract Model, providing an overview and background of the model as well as the building blocks. There were four workshops conducted in between presentations, during which participants were encouraged to go through examples relating to product classification, unbundling, residual margins as well as presentations.



*Speakers – Peter Duran and Michael*

The seminar ended at 6.00pm. Many of the participants stayed on for the ASM 34<sup>th</sup> Annual Dinner.

Look forward to the upcoming 2012 Life Conference, themed “*New Realities, New Challenges*” to be held on 29 November 2012.

*Source of photos: [www.facebook.com/TAS.search](http://www.facebook.com/TAS.search)*



### **34<sup>th</sup> ASM Annual Dinner (3 September 2012)**

**Written by Charlene Lee**

We finally got to the most awaited annual ASM event of the year – the ASM Annual Dinner! The dinner was held at Prince Hotel from 6:30pm till about 10:00pm. Approximately 130 members attended the dinner, where a scrumptious 8 course meal was served.



To start things off, Mr Liew Pek Hin, President of the ASM, delivered his opening speech. We then went on to the presentation of certificates to new Fellows of the ASM (FASM). There were 13 new fellows on the list this time round:

- 1) Tung Chee Lim, HSBC Amanah Takaful
- 2) Chin Xiao Wei, Allianz General Insurance Company
- 3) Ang Siau Fung, AIA Bhd
- 4) Lim Soon Mooi, ING Insurance
- 5) Ng Yen Kuan, Prudential BSN Takaful
- 6) Lee Chee Sin, Great Eastern Life
- 7) Lee Nim Tong, Manulife Insurance
- 8) Jim Qin, Towers Watson Risk Consulting
- 9) Alex Wong Chi Kit, Manulife Insurance
- 10) Toi See Jong, Tokio Marine Life Insurance
- 11) Tan Kok How, ING Insurance
- 12) Hussain Ahmad, Towers Watson Risk Consulting
- 13) Jasveen Kaur Marne, Great Eastern Life Assurance





*Congrats to our new Fellows of the Actuarial Society of Malaysia (FASM)!*

And, dinner was served! While members were munching away, the much anticipated table games started. The questions spanned a wide range of topics, and required different skill sets – language, landmark recognition, knowledge of history, memory and even keeping up to date with the latest fads, like knowing who Thor is!

Or perhaps... there is one skill can override the rest – the ability to look things up at lightning fast speed via one's smartphone!



*Seeing the trend here?*



And here's our winning table, with a score of 106 out of a total of 110. Must've been some really awesome googling skills! ☺





Well, the group of special quiz-takers you see below didn't get the chance to use their phones. They stepped up to the challenge of taking a general knowledge quiz old school style – with their knowledge. Real heroes of the evening, probably the only ones who relied on their brain power instead of 3G bandwidth.



*And the winners of the winners: Kelvin and Diana!*

Now, what good is an annual dinner without some lucky draw prizes? This year, the following were up for grabs:

- 1) 10 x RM50 MPH vouchers, sponsored by MLRe
- 2) 3 x RM100 AEON vouchers, sponsored by TAS Actuaries
- 3) 1 x Prince Hotel Dining Voucher for 2, sponsored by ASM



And, right at the end of the night, our emcee decided to finally introduce himself. So, presenting the ever-so-entertaining Ian! ➔

We hope you've enjoyed this year's annual dinner, see you again next year!



## Job Opportunities

Recent job opportunities in the market:

Position	Location	Company	Requirements	Date Posted
General Manager & Chief Pricing Actuary, Life, Greater China	Beijing, China	Munich Re	<ul style="list-style-type: none"> <li>• Degree in Business, Economics, Actuarial, Finance or equivalent</li> <li>• Qualified Actuary</li> <li>• 10 years' relevant experience</li> <li>• 5 years' post qualification experience</li> <li>• Knowledge of Living Benefits, EV, Economic Capital</li> <li>• Analytical, modelling skills</li> <li>• Management, leadership skills</li> <li>• Fluent in spoken &amp; written English and Chinese (Mandarin required)</li> </ul>	14 May 2012
Senior Consultant - Life Insurance/ Takaful Practice	Kuala Lumpur, Malaysia	Actuarial Partners Consulting Sdn Bhd	<ul style="list-style-type: none"> <li>• Degree in Actuarial Science</li> <li>• Progress in examinations</li> <li>• 5 years' relevant experience</li> <li>• Analytical skills</li> <li>• Work independently and in teams</li> <li>• Good English written/ communication skills</li> </ul>	2 July 2012
Consultant - Life Insurance/ Takaful Practice	Kuala Lumpur, Malaysia	Actuarial Partners Consulting Sdn Bhd	<ul style="list-style-type: none"> <li>• Degree in Actuarial Science</li> <li>• Progress in examinations</li> <li>• 3 years' relevant experience</li> <li>• Work independently and in teams</li> <li>• Good English written/ communication skills</li> </ul>	2 July 2012

<b>Position</b>	<b>Location</b>	<b>Company</b>	<b>Requirements</b>	<b>Date Posted</b>
Assistant Manager – Product Development & Pricing	Kuala Lumpur, Malaysia	Syarikat Takaful Malaysia Berhad	<ul style="list-style-type: none"> <li>• 2-5 years' relevant experience</li> <li>• Analytical, problem-solving skills</li> <li>• Results driven, attention to detail, work independently</li> <li>• Good interpersonal, communication skills</li> </ul>	27 August 2012
Assistant Manager – Product Development & Marketing Support	Kuala Lumpur, Malaysia	Syarikat Takaful Malaysia Berhad	<ul style="list-style-type: none"> <li>• Degree in Mass Comm, Marketing, Actuarial, Statistics or Mathematics</li> <li>• 2-4 years' relevant experience</li> <li>• Market research, market intelligence skills</li> <li>• Good interpersonal, communication skills</li> </ul>	27 August 2012
Assistant Manager – Retakaful	Kuala Lumpur, Malaysia	Syarikat Takaful Malaysia Berhad	<ul style="list-style-type: none"> <li>• 1 year's relevant experience</li> <li>• Analytical, problem-solving skills</li> <li>• Results driven, attention to detail, work independently</li> <li>• Good interpersonal, communication skills</li> </ul>	27 August 2012
Senior Actuarial Executive / Assistant Manager – General Takaful	Kuala Lumpur, Malaysia	Syarikat Takaful Malaysia Berhad	<ul style="list-style-type: none"> <li>• Degree in Statistics, Actuarial or Mathematics</li> <li>• 1 year's relevant experience</li> <li>• Analytical, problem-solving skills</li> <li>• Results driven, attention to detail, work independently</li> <li>• Good interpersonal, communication skills</li> </ul>	27 August 2012

Full details of the above positions have been sent out via email to all members.

## Just for Fun!

Answers to last issue's puzzles are here!

1)

**M1Y L1I1F1E**

Once in my life

2)

**JOB IN JOB**

In between jobs

3)

**VA DERS**

Space invaders

4)

**L  
I L  
B Y**

Hill billy

5)

**6397 SAFETY 2398**

Safety in numbers

6)

**C  
d  
e**

Condone

## Just for Fun!

This issue's focus is on **MathemaGrids**.

### Objective:

Using the digits 1 to 9, complete the grid such that the equations on each row and column give the required result.

### Rules:

- 1) The equations are calculated strictly from left to right and top to bottom, i.e.  $3 + 5 \times 2$  is considered to be  $(3 + 5) \times 2 = 16$ .
- 2) There will not be any  $\div 1$  or  $\times 1$  in the puzzle, although there may be a  $1 \times$ .
- 3) At no point will any calculation go below zero.
- 4) Each puzzle has only one solution.

### Example:

8	-	3	+	9	=	14
-		$\times$		$\times$		
5	+	2	+	4	=	11
$\times$		-		-		
7	-	1	$\times$	6	=	36
=		=		=		
21		5		30		

### Now try these!

	$\times$	8	-		=	50
+		+		+		
	$\times$		+		=	13
+		$\times$		+		
	-		-		=	5
=		=		=		
18		36		12		

	+		+		=	15
$\times$		-		$\times$		
	$\times$		-		=	13
-		+		$\div$		
	+	9	-		=	8
=		=		=		
41		11		16		

Answers will be given in the next issue of the Malaysian Actuary.



## Have Your Say...

October 2012 Issue

**How interesting did you find each section of this newsletter?**

Section	Not at all		OK	Very Interesting	
President's Address	1	2	3	4	5
Out & About...	1	2	3	4	5
Implementing Stochastic Claims Reserving in Spreadsheet	1	2	3	4	5
My Experience Writing a Paper	1	2	3	4	5
Diary of an Actuarial Student	1	2	3	4	5
Up Close and Personal...	1	2	3	4	5
Recent and Upcoming Events	1	2	3	4	5
Job Opportunities	1	2	3	4	5
Just for Fun!	1	2	3	4	5

**How did you find the layout of the newsletter?**

1	2	3	4	5
Terrible		OK		Awesome

**What would you like to see in future newsletters?**

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**Who would you like to nominate to be the interviewee for "Up Close and Personal", and why?**

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**Any other comments on the newsletter?**

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Please submit your completed form to [editor@actuaries.org.my](mailto:editor@actuaries.org.my). Thank you for your feedback!