

February 2013 Issue

Newsletter by the Actuarial Society of Malaysia

# the malaysian actuary



## Featured Articles

*Let There Be Light... Struggles of  
a Takaful Actuary*

*Introducing... The All New ASM  
Website!*

**Up Close & Personal**

*with Yap Chee Keong*

## **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**

This is the first issue for 2013, so happy new year! Hope all your new year resolutions are well on track so far. 2012 was a blast, can't wait to see what 2013 has in store for us!

Chinese new year also just passed, so Gong Xi Fa Cai to all those who are celebrating, and for those who aren't, I hope you enjoyed your long weekend!

In this issue, Tobias Frenz, one of the industry's well-known takaful experts, shares his thoughts on some of the struggles faced by takaful and retakaful operators in this realistic world where comparisons are almost always made to the conventional equivalent. In doing so, he challenges the very borders of existing takaful practices and attempts to stretch outside the current "comfort zone". The topic on Alternative Risk Transfer (or ART) under Shariah recently presented at the 2012 Life Insurance and Takaful Conference is also touched on here.

In the second featured article, we will be introducing to you the brand new ASM website. The website was one of the promised items from the committee to the society in 2012, and though a little late due to unforeseen technical issues, we finally pulled through and got it up and running. We have no doubts that the website will be utilised to a greater extent this time round. In fact, even during development stage we've already gotten some excited users who couldn't wait for the official launch!

By the way, this may be the last newsletter issue from me before the 2013 AGM. I personally had a great time working on the newsletters and website. Sincerely hope all of you have enjoyed reading them as much as I have preparing them ☺ I'm sure the next ASM council will continue to tickle your fancy with future issues of the Malaysian Actuary!

Cheers,  
Charlene  
Editor, Malaysian Actuary



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## **President's Address**

Dear Members,

Happy New Year! A new year with new opportunities.

The Financial Services Act (FSA) and Islamic Financial Services Act (IFSA) are expected to be implemented soon, with the aim to strengthen regulations of financial institutions. In particular, under the legislation, requirements for appointed actuary is extended to general insurance business and this will certainly be another direction forward for our general insurance industry in Malaysia. In fact, it is heartening to see that in the past year, there has been a significant increase in ASM members who are taking CAS examinations and I am pleased that ASM members are venturing into fields outside the life insurance industry.



In addition, composite insurers will also be required to split their life and general insurance businesses into separate licences within 5 years. With this in place, it is likely that there will be a need for increase actuarial expertise as companies diverge and set up their respective actuarial departments for each insurance business. This will no doubt have a positive influence on our Malaysian actuarial profession as our scope and opportunities increase.

Our next AGM will be held on 26 February and it would have been 2 years since I was elected as President. By Constitution, I will step down as President and hand over the mantle to our current President-Elect, Yap Chee Keong. I would like to take this opportunity to thank the Council members and also, to you, our ASM members, for the continuous support during my tenure as President. ASM's accomplishments would not have been possible without your valuable input and contributions. The journey does not stop here though, and I wish the very best for the new incoming Council whom I'm confident will continue taking ASM to new heights.

## Out & About...

Takaful RBC:  
Parallel run in  
2013, effective  
2014.

AIA acquisition of ING  
approved by BNM,  
completed in  
December 2012.

Sunlife & Khazanah to buy  
CIMB Aviva Insurance and  
Takaful businesses, with  
49% share each. CIMB will  
retain 2%.

For 2013, OSK projects high single digit  
growth in insurance premium income  
and about 20% growth for takaful.  
LIAM expects 10% growth in life  
insurance new business.

Tune  
Insurance  
listed on Bursa  
main market.

New Financial Services  
Act (FSA) and Islamic  
Financial Services Act  
(IFSA) to replace several  
existing acts.

AmG and Kurnia merger: To  
operate on a single  
(Kurnia's) operating licence.  
Integration expected to be  
completed in Q1, 2014.

In line with Budget 2013,  
1.5million students who take  
school buses will get  
insurance coverage of  
RM100.000 from 1 Jan 2013.

Private Pension Administrator  
(PPA) announces that no new  
PRS licences will be given out for  
now. There are currently 8  
licensed PRS providers.

Insurance scheme to be introduced for  
artistes in the entertainment industry.  
Priority given to actors, entertainers,  
comedians over support staff and film  
production crew.

AmBank Group repurchased Friends  
Life's 30% stake in AmLife and AmFamily  
Takaful, but may sell a stake to a new  
partner.

Pacific & Orient Bhd to sell 49% in Pacific Orient  
Insurance to Sanlam Emerging Markets Proprietary Ltd.

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

# Let There Be Light... Struggles of a Takaful Actuary

Tobias Frenz

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We actuaries can be a boring lot. Whilst others are indulging in E.L. Jame's "50 Shades of Grey" trilogy, many of us are often drawn to science books. One story that I found particularly fascinating is the story behind the quest in solving Fermat's last theorem. Simon Singh's "Fermat's Enigma" and Amir D. Aczel's "Fermat's Last Theorem" provide exciting accounts of the quest to solve the world's greatest mathematical problem, i.e.  $x^n + y^n = z^n$ , has no whole number solution for all  $n > 2$ . Princeton-based Andrew Wiles presented his proof of Fermat's Last Theorem in 1993 at Cambridge University after working seven years in secrecy on it. While he was applauded at first, a hole in the proof was found subsequently. Somewhat demoralised, he withdrew but finally emerged with a corrected proof one year later. That's what you call a happy ending.

Professor Andrew Wiles summed up his seven-year quest as follows: *"Perhaps I could best describe my experience of doing mathematics in terms of entering a dark mansion. You go into the first room and it's dark, completely dark. You stumble around, bumping into the furniture. Gradually, you learn where each piece of furniture is. And finally, after six months or so, you find the light switch and turn it on. Suddenly, it's all illuminated and you can see exactly where you were. Then you enter the next dark room..."*

Many of us can relate to his emotional roller coaster ride. Personally, I bumped into furniture over and again when looking to find a solution for a Shariah compliant form of risk transfer for retakaful. Just the thought of it makes every Shariah scholar shiver as one shall not use the terms "Shariah compliant" and "risk transfer" in one breath (oxymoron comes to my mind). Actuaries involved in takaful might be familiar with this topic but for the benefit of the others let me outline the dilemma in more detail below.

## The retakaful dilemma – dark room #1: to share or to transfer?

Retakaful and takaful are by definition based on cooperative, risk sharing principles, whilst reinsurance and insurance are a risk transfer mechanism. This is clearly laid out in *Resolution No. 9 Concerning Insurance and Reinsurance* of the Fiqh Academy in Jeddah (1985). It states that:



*"First: The Commercial Insurance Contract, with a fixed periodical premium, which is commonly used by commercial insurance companies, is a contract, which contains major element of risk, which voids the contract and, therefore, is prohibited (haram) according to the Shariah.*

*Second: The alternative contract, which conforms to the principles of Islamic dealings, is the contract of co-operative insurance, which is founded on the basis of charity and co-operation. Similarly is the case of re-insurance based on the principles of co-operative insurance."*

The resolution basically states that firstly, conventional insurance is not acceptable and secondly, that Islamic insurance shall instead operate on cooperative (*ta'awun*) principles utilising a contract of charity. All takaful operators to date are basically commercial operations that use the charitable contract of donation (*tabarru'*) to overcome the forbidden elements of excessive uncertainty (*gharar*) and gambling (*maisir*) to ensure Shariah compliance.

The crux of the matter for retakaful (and takaful) operators is the obligation to provide an interest free loan (*qard*) to the retakaful pool if there is an underwriting deficit. The original intention of the *qard* was to overcome temporary cash flow shortfalls in the retakaful fund and was meant to be repaid rather quickly through future surplus arising in the retakaful pool. A dilemma arises when future surplus is not sufficient to recuperate the loan. This is in particular relevant for retakaful as its main purpose is to assume peak risks. Even more so for general retakaful where volatile risks are covered and the contract is yearly renewable. The cedant can just walk away when a large claim has been incurred.

Any outstanding amount would then have to be borne by either the retakaful operator (by writing off the amount as impaired) or the participants of the retakaful pool (by providing funds to pay off the non-recoverable amount). The latter would seem as the most plausible options as the participants are the owners of the retakaful risk pool and the retakaful operator is a mere administrator that is not supposed to carry any risk.

However, in practice this does not seem like a viable option in a commercial environment as ceding takaful operators are hardly willing to make good of any outstanding *qard*. The simple reason being that retakaful is still regarded as risk transfer in the first place by all takaful operators. A commitment to repay a *qard* after the end of a contract term would be a significant financial disadvantage if compared to taking up conventional reinsurance as the cedant would be exposed to potentially material financial *qard* repayments. Such a commitment would also have far-reaching accounting and reporting consequences.

Thus, the current reality is that the shareholders of a retakaful company are bearing the full financial loss of a non-recoverable *qard*. This in essence is nothing but risk transfer and apparently forbidden from a Shariah perspective. However, regulators and scholars have been keeping one eye closed on this topic. While the regulator is driven by his primary



objective to uphold policyholders' security (and rightly so), Shariah scholars have yet to realise the scope of this dilemma as the technical understanding is often lacking. It is the white elephant in the room nobody dares to address. Because there is no easy solution to it<sup>1</sup>. We might just silently accept this as a mere technicality for the time being that is not shaking the foundations of retakaful.

### **The retakaful dilemma – dark room #2: are net rates Shariah compliant?**

The retakaful dilemma doesn't end here as retakaful operators are facing another problem when competing with conventional reinsurers that are quoting net reinsurance rates (aka "non-par rates"). That is, rates with no surplus participation where any underwriting surplus and investment profit goes in full to the reinsurer. Currently, most retakaful operators are using a fee-based agency (*wakala*) model where they have to share the underwriting surplus with the cedants in part or in full, whilst a conventional reinsurer does not. Market competition requires both to quote the same rate for the same risks. It is obvious that retakaful operators charging non-par rates but offering surplus participation is not financially sustainable in the long run.

#### **The question thus is, can retakaful operators apply a different model so as to technically mirror net rates?**

The same question came up when I was working on my research paper titled "*The art of developing Alternative Risk Transfer (ART) solutions under the ambit of the Shariah*" for the *International Shari'ah Research Academy for Islamic Finance (ISRA) Colloquium 2012*<sup>2</sup>. The paper discusses to what extent ART could be viable and desirable in the Islamic finance context.

ART is a somewhat fuzzy term as its scope evolved over time. In the original sense it refers to the transfer of traditional insurance risks to the capital market or other carriers. The most common form in this respect is the transfer of insurance risks to the capital market through securitization, e.g. by issuing so-called catastrophe bonds ("cat-bonds") where the interest coupon and/or principal payment would be contingent on the non-occurrence of a specified catastrophic event, such as an earthquake in Japan or a hurricane in the USA.

A core issue in ART products is the transfer of risk to the capital market at net rates. As we have seen, trying to do this under the umbrella of the Shariah is akin to playing the devil's advocate.

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<sup>1</sup> The Malaysian Accountings Standards Board's (MASB) discussion paper DP-1 (and its subsequent feedback statement) on accounting for takaful under IFRS 4 is a worthwhile read for anybody interested in the many facets around this topic. Available at: [http://www.masb.org.my/index.php?option=com\\_content&view=article&id=1617&Itemid=87](http://www.masb.org.my/index.php?option=com_content&view=article&id=1617&Itemid=87)

<sup>2</sup> The paper won the Best English Research Paper Award and was also presented at the ASM's 2012 Life Conference and Takaful Seminar. The paper and the presentation slides are available on request via email.

I won't go into the details of the research paper but rather share one interesting discussion I had with some scholars that outlines the challenges we takaful actuaries encounter in the development of new products and ideas. Unlike mathematicians that can puzzle together a proof by using existing theorems, takaful actuaries cannot simply apply a set of Islamic contracts and plug them together to achieve the desired results. This is because there is a degree of subjectivity in the sense that it has to be in line with the overall objectives of Shariah.

Coming back to the core question of net rates, I looked at four possible models to mirror net rates; the objective was for the retakaful operator to receive 100% of any underwriting surplus.

- **M1:** Under a pure wakala model, the only way to achieve this is to charge an administration (wakala) fee of (close to) 100%. With (almost) nothing allocated to the retakaful risk pool, no surplus can arise. But M1 is a purely theoretical model as such a high wakala fee would be contentious from a regulatory, Shariah, governance and accounting perspective.
- **M2:** An alternative would be to apply a profit-sharing (mudharaba) model where 100% of any surplus goes to the manager, i.e. the retakaful operator. However, it is unclear if Shariah scholars regard a 100% allocation as fulfilling the requirements of a mudharaba contract. Little is being written about such an extreme profit share in takaful. But a reference could be found in BNM Shariah Standards for the Mudharaba and Musharaka contracts. For instance, BNM's new Mudharaba Standard, page 13 reads:

*"PG 12.21 A party may waive his right to the profits, if any, to the other contracting party on the basis of waiver (tanazul) on the date of distribution of the profit."*

A 100% profit sharing to the thus seems viable but only at the "on the date of distribution". I.e. it is only allowed if it is not pre-agreed. This contractual uncertainty at inception obviously is not an ideal model. But interestingly BNM mentions in its *Musharaka* Standard that it is indeed possible if a unilateral promise (*wa'd*) contract is applied:

*"54. A partner who has agreed to a certain profit sharing ratio may waive the rights to profits to be given to another partner on the basis of tanazul (waiver) at the time of profit realization and distribution as well as at the time of the contract. However, a waiver of profit that takes place at the time of contract shall be by way of unilateral promise (wa'd)."*

According to this, it is thus acceptable to agree at the time of contract on a waiver of surplus if the promise (*wa'd*) is combined with a waiver (*tanazul*).

Eureka! This seemed like a workable solution but as will be seen later, combining Islamic contracts Lego-style to achieve the desired effect is not always possible under the Shariah.

- **M3:** A more acceptable solution to a 100% *mudharaba* could be the following, although it achieves the same financial effect – a *wakala-ju'ala* hybrid model that combines the financial effects of the previous two models by charging both a *wakala* fee as well as a, say, close to 100% share in the underwriting surplus as performance incentive. There is no upper limit for the performance incentive under a *ju'ala* model as long as it is mutually agreed.
- **M4:** Lastly, the concept of a non-refundable claims stabilisation reserve (CSR)<sup>3</sup>, which could be combined with any of the models in M1-M3.

Munich Re Retakaful introduced the concept of a non-refundable claims stabilisation reserve (CSR) for non-proportional general retakaful risks in 2009, where 100% of the total retakaful fund surplus is distributed to a non-refundable CSR. At dissolution of the retakaful pool, any positive balance in the CSR goes to the retakaful operator and not the pool participants or charity. This is to reflect the fact that the retakaful operation is carrying the full downward risk of an obligatory *qard*. This allows pricing on a non-par basis, which is for instance crucial for non-proportional cover. The weakness of this model is that the treatment of a CSR under IFRS4 is uncertain and could be disallowed if the CSR would be seen as being akin to an equalization reserve<sup>4</sup>. However, it could also be treated as retained surplus as practised in Malaysia, which might be subject to deferred tax though.

The above models are stretching the limits of what a Shariah scholar might be comfortable with, although one can argue that this is permissible as long as the terms are mutually agreed upon under the freedom-to-contract principle. However, here is where Shariah scholars have a powerful “joker” card in their hand – the so-called “*Blocking the evil means*” maxim. The Islamic jurisprudence (*fiqh*) maxim *sadd al-dhara'i'* (“blocking the means”) states that where a permissible action might lead to undesirable results it shall be forbidden.

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<sup>3</sup> For details on the idea of a non-refundable CSR kindly refer to section 4.4 (pp. 12) and 2.2.4 (pp. 19) of the Munich Re *General Retakaful Manual*

<sup>4</sup> IFRS 4 requires that any reserve that is not directly related to the obligations of existing contracts cannot be shown as a liability. Certain “reserves” often known as catastrophe or equalization reserves are not related to current obligations from existing policies and IFRS 4 requires they be included with equity rather than shown as liabilities.

In this context it would mean that if the retakaful operator takes 100% of the surplus it will lead to the undesirable result of “permitting conventional insurance” as there is no more (perceived) “difference” between the two.

Personally, I feel this is false logic or a rather emotional argument as surplus sharing is not an intrinsic and essential feature of takaful. Solidarity, charity and Shariah compliance are as per *Resolution No. 9*. Takaful and retakaful shall not be different just for the sake of being different to the conventional insurance system.

But I do recognize the thin line we are walking on when pushing the Shariah limits and we have to be mindful of the credibility of re/takaful that is at stake. A scholar advised that simply more time is needed for the community of scholars, practitioners and actuaries to digest and understand this topic to reach a consensus opinion on risk-transfer and move forward.

The conclusion is that the room remains dark for the time being and maybe we won't ever find a light switch. It took Andrew Wiles seven years to find the first and another year to find the final switch. I'm hopeful that I can report of at least a feeble flame by 2014...



*Tobias Frenz is the Chief Executive Officer of Munich Re Retakaful. He is a Fellow of the German Society of Actuaries (DAV) and the German Society of Insurance and Finance Mathematics (DGVMF). He is also the first graduate worldwide to obtain the CIMA Diploma in Islamic Finance (CDIF) from the Chartered Institute of Management Accountants (CIMA). Tobias has been active in Takaful since 2006 and is a frequent speaker at takaful conferences who has written a comprehensive book on takaful and retakaful.*

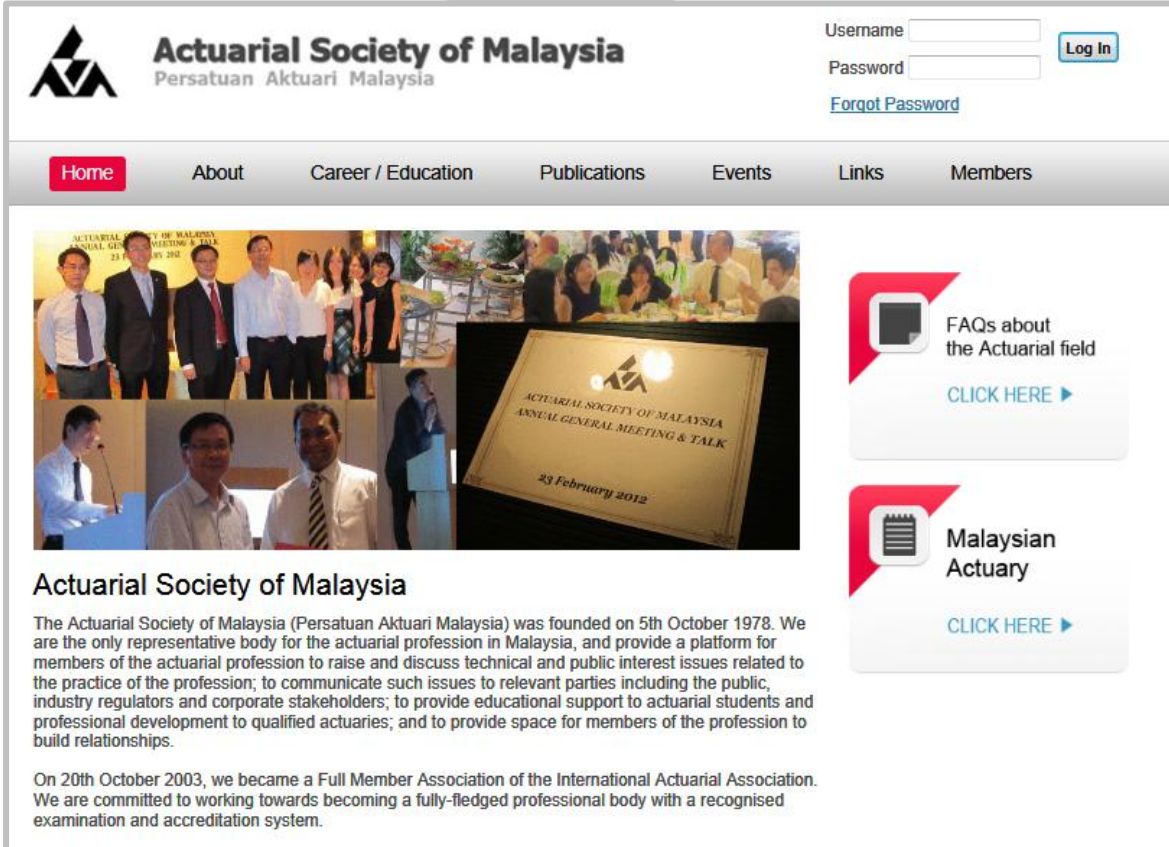
## Introducing... The All New ASM Website!

Charlene Lee  
Communications Committee

### Introduction

After about half a year of design, development and testing, we are proud to finally present to you the all new ASM website!

By the way, if you don't already know, the website address is [www.actuaries.org.my](http://www.actuaries.org.my).



The screenshot shows the homepage of the Actuarial Society of Malaysia (ASM) website. At the top, there is a header with the ASM logo on the left, the text "Actuarial Society of Malaysia" and "Persatuan Aktuari Malaysia" in the center, and a login section on the right with fields for "Username" and "Password", a "Log In" button, and a "Forgot Password" link. Below the header is a navigation menu with links: "Home" (highlighted in red), "About", "Career / Education", "Publications", "Events", "Links", and "Members". The main content area features a large image collage on the left showing various events and people. To the right of the collage are two call-to-action boxes: "FAQs about the Actuarial field" with a "CLICK HERE" link, and "Malaysian Actuary" with a "CLICK HERE" link. Below the collage, the text "Actuarial Society of Malaysia" is followed by a paragraph describing the society's founding in 1978 and its role. A second paragraph mentions its status as a Full Member Association of the International Actuarial Association since 2003.

**Actuarial Society of Malaysia**

The Actuarial Society of Malaysia (Persatuan Aktuari Malaysia) was founded on 5th October 1978. We are the only representative body for the actuarial profession in Malaysia, and provide a platform for members of the actuarial profession to raise and discuss technical and public interest issues related to the practice of the profession; to communicate such issues to relevant parties including the public, industry regulators and corporate stakeholders; to provide educational support to actuarial students and professional development to qualified actuaries; and to provide space for members of the profession to build relationships.

On 20th October 2003, we became a Full Member Association of the International Actuarial Association. We are committed to working towards becoming a fully-fledged professional body with a recognised examination and accreditation system.

### What's in the website?

The bulk of the content is quite similar to the previous website, though the information is now arranged in a manner that is (hopefully) easier to follow and understand. The main difference is that, not only does the website contain all the static information from the previous site, it now also offers a range of functionality in an attempt to consolidate the many processes that we now do via MS Word and emails.

### About

For starters, the public can obtain general information on the society, such as the current Council members, contact information, membership classes, society statistics, Constitution, Code of Conduct and CPD requirements.

### Career/Education

In addition, current or potential future actuarial students can learn more about what it means to be an actuary, and the common paths taken by members in Malaysia to become qualified actuaries.

Details on job opportunities sent to ASM to be published will also be made available, and are split into internship, fresh graduate and experienced positions. Companies who wish to advertise their actuarial vacancy can also submit their request here.

### Publications

All issues of the Malaysian Actuary will be made available on the website, as will any guidance and practice notes issued by the society.

### Events

Events will have a section of its own in the new website. This will include a calendar showing upcoming events, and allowing interested parties to sign up for events. Presentations from events will also be made available on the website, however this area will be strictly for logged in members only.

In addition, any parties who are interested to speak at future events may register their interest. Their details will be kept by the Professional Development committee for use in organizing future ASM events.

### Links

Links to other relevant actuarial sites are given here, mainly to the common actuarial bodies that ASM members belong to.

### Members

Members can update their profile here so that ASM is kept up to date with any changes, e.g. upon moving to a different company. Membership application and renewal can be submitted from this section.

Fellow members who are required to fulfil CPD requirements can submit their activity record through the website. This function is strictly for logged in members, so as to maintain control of the submissions.



**What processes are affected by the launch of this website?**

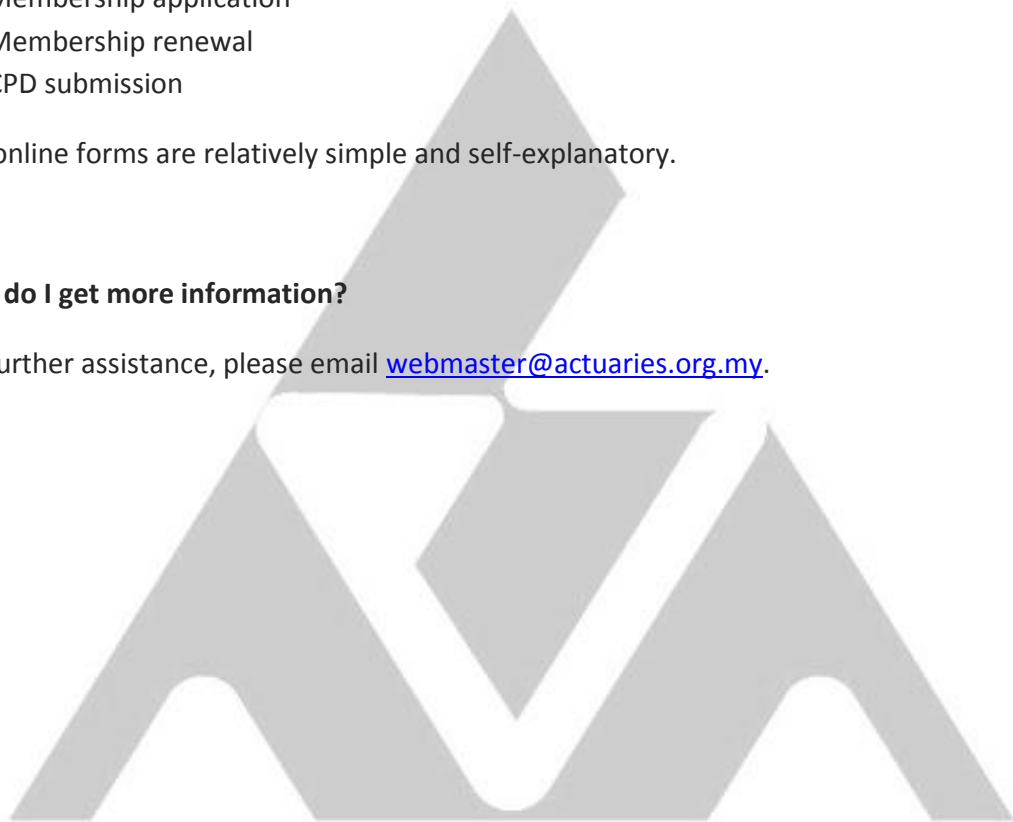
The following main processes which are currently being handled using Word documents and/or email correspondence can now be done directly via online forms on the website:

- 1) Job advertisements
- 2) Signing up for events
- 3) Change of email address/company
- 4) Membership application
- 5) Membership renewal
- 6) CPD submission

The online forms are relatively simple and self-explanatory.

**How do I get more information?**

For further assistance, please email [webmaster@actuaries.org.my](mailto:webmaster@actuaries.org.my).





## Up Close and Personal...

with *Yap Chee Keong*

As the AA of one of Malaysia's major life insurance companies and one of ASM's most eligible bachelors, Chee Keong shares with us his not-so-conventional route to where he is today, and his aspirations for ASM as the upcoming President.

Q: We've heard that unlike most actuaries, you actually didn't start your actuarial career with an actuarial degree. Would you mind sharing your story on how you ended up choosing this path?

*A: Initially my strengths in mathematics and physics led me to choose Civil Engineering as my field of study at University College London (UCL) in UK. While I did well in my engineering course, it also became increasingly clear to me that I would not be a good engineer as I did not enjoy working with nuts and bolts. When I tried to see what other alternatives were out there, I came across this profession called Actuarial at the career office of UCL. It seemed very interesting as it involves a lot of analytical work coupled with business problem solving. I visited the Institute of Actuaries to find out more about the profession and attended an actuarial course talk at another university. I found this career to be a better fit for me as it provides significant intellectual challenges and good career growth opportunities, especially in the Asian region. So I went on to study for a Masters in Actuarial Science at Heriot-Watt University in 1998 right after I completed my engineering degree.*

Q: How do you think life would've been different if you had stayed on in engineering?

*A: Honestly I have not thought about it as I have never regretted joining the actuarial profession. Had I stayed on in engineering then I guess I would probably be a senior engineering consultant or own a small engineering firm by now. Anyway, I enjoy my actuarial career and I believe working as an actuary is rewarding as you tend to work with actuarial colleagues who are generally very talented, hardworking and fun to work with, especially the Gen Y who "Work Hard & Play Hard". I greatly enjoy working with them.*

Q: You joined the actuarial field relatively late, at 27 years old, yet within a span of just 10 years became the Appointed Actuary of a major life insurance company in the country. Care to share your secret?

*A: I think any achievements in life can be attributed to personal and environmental factors. I believe in hard work, discipline and a focus on work. I qualified as FIA in 2004 at a time when there was severe shortage of qualified actuaries in Malaysia which helped a lot in fast tracking my career. I was very fortunate that my supervisors in Malaysia and Singapore were willing to teach me actuarial and management skills and gave me various opportunities to learn and grow. Another fortunate factor is that I am always supported by my very committed and talented staff who constantly display good team spirit.*

Q: Not only have you excelled in your personal career, but are also contributing significantly to the ASM, as council member in the past and President-Elect now. What drives your enthusiasm?

*A: I started involving myself in ASM activities in 2004 as Mr Teh Loo Hai, who oversaw Great Eastern Actuarial Department and who was also the president of ASM, drafted me to help in a few ASM events. Since then I got more and more involved in ASM activities and I enjoyed seeing ASM grow to become more of a professional body. I am fortunate in joining this noble profession which has given me good career growth. I think I should also give back to the profession by involving myself in ASM activities that will help to develop the future generation of actuaries.*

Q: As the next President of the ASM, what are your directions and/or goals for the society in the coming 2 years?

*A: ASM is a professional body and as such we will need to strictly enforce and continually raise the CPD requirements. ASM is also looking into issuing more guidance notes, in consultation with the regulatory authorities, to members. We will also continue lobbying the regulatory authorities for official recognition of the FASM title due to the fact that Malaysia is one of the very few countries that does not recognise its local actuarial title.*

*There are a lot of ongoing developments in the actuarial field in Malaysia as well as abroad. New methods and regulations such as stochastic modelling, Solvency II, Takaful RBC etc. have a significant impact on the actuarial profession. ASM needs to organize more actuarial talks and seminars to help our members increase their professional learning with an aim to contribute to professional growth besides meeting CPD requirements. Takaful and general insurance are the new growth areas for ASM members and we need to devote more attention to these fields.*

*ASM has over 500 members and we need a greater number of them to be more involved in the society's activities. ASM can provide more platforms for members where they are eager to participate, enjoy each other's company and network with other ASM members. Some ideas are networking night, treasure hunt, movie night and outdoor activities which encourage members working in different fields or companies to get to know one another and network.*

*A healthy organization is an organization with a good self-renewal process. We need to encourage new blood to volunteer at ASM activities in order to prepare them for future ASM leadership. We also need to have dialogue with local public and private universities that offer actuarial science courses to see how ASM can help them and their students in their academic studies as well as future actuarial career.*

**Q:** You were also the main organizer of the recent 2012 Life Insurance and Takaful Conference, which received a tremendous response. What was the biggest challenge faced when organizing the event, and how did you handle it?

*A: At that time we were slightly concerned about the number of participants as there were a few other industry conferences being held around the same time in KL. Fortunately we were able to have a line-up of distinguished speakers who are experts in various fields to share their insights and that helped to attract more than 160 participants for the conference.*

**Q:** Apart from technical conferences, you also organized the Actuarial Idol singing competition a few years back, a one-of-a-kind event, or at least not the "normal" kind of event that actuaries would be expected to come up with. What was your experience like organizing that? And with the immense excitement created back then, do you foresee another such event being held anytime soon?

*A: I've always been amazed by the various hidden talents of actuarial professionals so I thought it would be good if we could find new events which would allow ASM members to showcase their other talents and would be an exciting experience for the other members. I guessed that there might be good singers among the ASM members and I was proven right as we had a fantastic Actuarial Idol night. Plans for another Idol session will require discussion with the ASM ExCo but nevertheless I think ASM needs to explore different activities that will draw interest from the members, in particular the younger members who recently joined the profession.*

**Q:** Lastly, with all that time put into your roles as AA and part of the ASM Council, do you still have any time to pursue your own personal interests? Any particular special interest that you would like to share with everyone?

*A: My hobbies are reading as well as thinking and fortunately both of those can be done after work or during the weekends. My new interest for the past 3 years is learning Chinese metaphysics "Zi Wei Duo Shu". It is a very fascinating topic as this metaphysics is rooted in "I-Ching" and involves deep Chinese philosophies. I have already completed the foundation as well as master courses and am probably the first qualified "Zi Wei Duo Shu" actuary in Malaysia.*

*Yap Chee Keong is the Appointed Actuary of Great Eastern Life Assurance Malaysia since 2009. He has worked for more than 13 years in the actuarial field in Malaysia and Singapore. He is a Fellow of the Institute of Actuaries in UK. He also holds the CFA and MBA qualifications.*



## Recent and Upcoming Events

### Recent Events

|                     |  |
|---------------------|--|
| 29 November 2012    | 2012 Life Insurance and Takaful Conference                                       |
| 3 December 2012     | Developing Mortality Improvement Formulas: The Canadian Insured Lives Case Study |
| 10-11 December 2012 | CA2 – Model Documentation, Analysis and Reporting Module                         |
| 5 February 2013     | Insights on Stress and Scenario Testing in the UK – Now and Post-Solvency II     |

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

### Upcoming Events

#### **February 2013: ASM Talk and Annual General Meeting 2013**

In keeping with the tradition, there will first be presentations followed by the AGM, where new members for the ASM Council 2013-2015 will be elected.

#### **March 2013: ASM Talk**

Three actuaries from Milliman with extensive experience in various countries will be sharing their knowledge with ASM on a range of topics.

**2012 Life Insurance and Takaful Conference (29 November 2012)**

**Written by Agnes Kwan**



*Opening remarks by President-Elect of the  
Actuarial Society of Malaysia,  
Mr Yap Chee Keong*

The 2012 Life Insurance and Takaful Conference organised by the Actuarial Society of Malaysia was held successfully on 29th November 2012 at DoubleTree by Hilton, Kuala Lumpur.

The conference themed “New Realities, New Challenges” was an eye opener for many, as the participants were presented with not only the current industry landscape but also challenges faced by the industry as it continues to evolve in the near future. Presenters shared their varied experiences as well as thoughts as to what an actuary is capable of contributing to the life insurance and takaful industry.

Eight renowned speakers from the life insurance and takaful industry contributed remarkable topics that enabled participants to broaden their exposure as well as awareness of the direction of the industry in the near future. The conference topics covered a wide area of interest, from regulatory updates to risk management strategies as well as changes in the insurance industry both locally and internationally.

The conference started off with regulatory updates in Malaysia by Mr Yoon Yew Khuen from Bank Negara Malaysia. His presentation covered key points on new and revised guidelines including highlights on the recent Individual Capital Adequacy Assessment Process (ICAAP) guideline. Mr Yoon also presented on supervisory focus areas, touching on operations in low yield environment, observations and expectations of product submissions etc.



*Conference participants*





*Mr Liew Pek Hin with the conference speakers*

Risk management developments in the region were then shared by the next speaker, Ms Penny Fosker from Towers Watson, who also presented results from Tower Watson's Global ERM survey which involved participation from several local insurers. A short coffee break was followed by an informative session on the evolving environment of standards and professionalism by Mr Cecil Bykerk from International Actuarial Association. Mr Teh from Teh Actuarial Services provided his insight on Private Retirement Schemes (PRS), as well as making a comparison against products from the local insurance industry.

The morning session of the conference ended with a scrumptious lunch at the Makan Kitchen where participants were served with mouth-watering Malaysian delicacies. Immediately after



*Mr Liew Pek Hin with the conference speakers*

lunch, Mr Hassan Scott Odierno from Actuarial Partners Consulting presented an informative and cheerful presentation on RBC for Takaful which lifted up the mood of participants. His presentation covered the various takaful models as well as how RBC is applied in the takaful environment.

Next, Mr Tobias Frenz from Munich Re Retakaful shared his experience and thoughts on Alternative Risk Transfer (ART) solutions under the ambit of Shariah. Mr Frenz's presentation gave perspectives from different angles, with investment considerations from the conventional and Islamic perspective. Ms Jill

Hoffman, President of the Singapore Actuarial Society, gave participants an insight into changes in the industry in Singapore. Ms Hoffman then covered on topics like RBC2 and the Financial Advisory Industry Review (FAIR). Mr Andy Hui from RGA Reinsurance Company gave the final presentation on product development trends and innovation in Asia. Mr Hui talked about the ever changing environment and how product development takes its course.

The conference ended with a cocktail sponsored by Malaysian Life Reinsurance Group Berhad (MLRe).

The organisers would like to thank all speakers for their kind contributions as well as participants who took time to participate in this conference.



*Closing remarks by President of Actuarial Society Malaysia, Mr Liew Pek Hin*



## **Developing Mortality Improvement Formulas: The Canadian Insured Lives Case Study**

**(3 December 2012)**

**Written by Tam Jann Fei**

In the talk hosted by ASM, Professor Tan Ken Seng shared with us on how we can develop a mortality improvement formula by giving an example based on the Canadian experience. This is a joint work of him and his colleagues, Johnny Li and Mary Hardy. Professor Tan is the university research chair professor of Department of Statistic and Actuarial Science in University of Waterloo, Canada.

Their studies show that not only in Canada, the life expectancy at birth around the world has been increasing. This suggested that we are living longer with the advancement of medical technology. As a result the annuity rate has become more expensive. Professor Tan also quoted an excerpt from IMF Global Financial Stability Report (April 2012). It says that if individuals live three years longer than expected, the already large costs of aging could increase by another 50%, representing an additional cost of 50 percent of 2010 GDP in advanced economies and 25% of 2010 GDP in emerging economies.

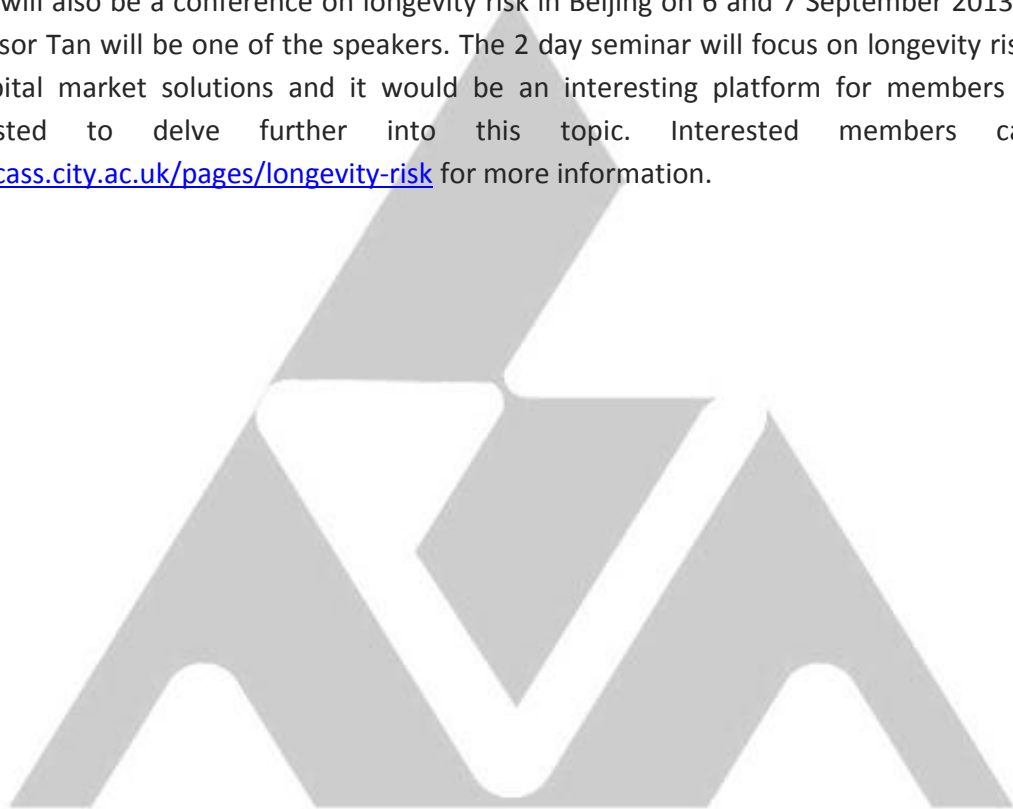
These have prompted the need to develop a mortality improvement formula. Professor Tan then briefed us on how this can be done. There are three simple stages. The individual techniques and steps are, mostly, not new. By carefully selecting and combining a number of techniques and models, they were able to produce a mortality projection formula that is simple, model-based, and gives measures of uncertainty for setting margins.

In the first stage, they projected the population mortality by using the Lee-Carter model. The model is modified and calibrated to cater for the Canadian population. Based on the projection, the population mortality improvement scale is developed. Moving on to the second stage, the team then compares the insured lives and population mortality, and they suggested a relational model with reference on the population mortality. The insured live mortality can be projected by using this model. At the third and final stage, with simple aggregation manipulation on the results from the first two stages, the estimate of the improvement scale for the insured lives is derived.

Then, they applied the improvement scale and the mortality is estimated to improve by another 1-2% for insured lives age 35 and age 45 in estimating their survival rate. They have also compared the forecasted mortality data between 1993 and 2001 with the actual experience. It is observed that the results are closely matched for insured with age below 60. However, for older ages above 90, there is an obvious deviation from the actual experience due to lack of data.

Professor Tan also pointed out that there were a number of recommendations by the Canadian Institute of Actuaries in applying mortality improvement formula such as, no further improvement should be projected after 25 years. Other than that, it is also recommended to perform scenario testing on the increase or decrease in liabilities after the formula is applied.

The talk ended with some food for thought - how do you think we could develop or adopt the mortality improvement formula which will be suitable for the Malaysia mortality experience? There will also be a conference on longevity risk in Beijing on 6 and 7 September 2013 in which Professor Tan will be one of the speakers. The 2 day seminar will focus on longevity risk as well as capital market solutions and it would be an interesting platform for members who are interested to delve further into this topic. Interested members can visit [www.cass.city.ac.uk/pages/longevity-risk](http://www.cass.city.ac.uk/pages/longevity-risk) for more information.



**CA2 Module (10-11 December 2012)**

**Written by Moree Chan and Kelvin Hii**

On the 10<sup>th</sup> to 11<sup>th</sup> December 2012, ASM organized the CA2: Model Documentation, Analysis and Reporting Module under the Institute and Faculty of Actuaries. The module was held at Menara UOA (Bangsar) due to its strategic location accessible by various public transports. The module received good response with total of 19 successful applicants.

We were honoured to have Mr. Colin Pakshong from Singapore, to be the Module Assessor this time round: -

Colin is an independent actuarial consultant and is a Fellow of the Institute of Actuaries. He started his career with the Old Mutual in South Africa, before relocating to Hong Kong to work as a consultant with the Wyatt Company. He moved to Singapore in 1992 and ran the regional operations of the Cologne Re and GE Frankona Re. He then joined Tokio Marine and helped establish Tokio Marine Retakaful before moving to TM Asia Life as CEO.

Colin is a past president of the Actuarial Association of Hong Kong and a Council member of the Singapore Actuarial Society. In 2009 he received the award of Distinguished Financial Industry Certified Professional from the Institute of Banking and Finance of Singapore, and is currently a member of the MAS Appeal Advisory Panel. He has run courses for the Singapore College of Insurance, MAS and the CPF Board, and lectures in various actuarial subjects at Nanyang Technological University.

On the first day, Colin introduced the importance of the module and how proper modelling helps speed up the process of daily operations. The main focus of this module was on the preparation of a spreadsheet which can be followed easily by new users, as well as being able to summarize important key areas to supervisors and colleagues. The module touches on areas such as building appropriate checks within spreadsheets, essential planning during the construction of spreadsheets, the elements of well-designed spreadsheets, leaving audit trails and summarizing results and findings. Of course, Colin also explained how the CA2 examination will be graded.

On the second day, the examination began after a brief introduction by Colin. The examination hall turned silent with furious keystrokes on the keyboard heard all across the room.



*Participants focusing on their examination*

Up till now, ASM organizes the CA2 Module once a year during November or December. However, response from this and previous modules were overwhelming. Hence, moving forward ASM may consider a possible mid-year CA2 Module. We hope that this will provide more opportunities for members to complete the module, and help to speed up members' examination progress.

**ASM Talk – Insights on Stress and Scenario Testing in the UK – Now and Post Solvency II**

**(5 February 2013)**

**Written by Yin Kin Ian**

On 5 February 2013, Jessica Sum, who works at Aviva at their Group head office in London gave a talk to fellow Actuarial Society of Malaysia (ASM) members on Stress and Scenario Testing (SST) in the UK. The talk which was held at Menara Zurich started at 3:30pm after registration was done for 101 members who turned up for the event. Members who attended the talk earned 1.25 CPD hours.

Jessica heads the Stress & Scenario Testing team in London that provides senior management with key insights from risk analytics and management to support their strategic business decisions. She walked the attendees through the SST processes and gave clear and concise explanations on the concepts discussed.

The general process of SST consists of 4 stages - initiation, development, parameterisation and evaluation, management actions and reporting and finally, governance. Key points discussed in her presentation mainly came from the management's perspective which was very refreshing and insightful.

After a brief Q&A session at the end of her presentation, the crowd proceeded to the auditorium foyer for some light refreshments.



*Mr. Liew, President of ASM, presenting a token of appreciation to Ms. Jessica.*

## **Job Opportunities**

No new job opportunities were posted since the last issue of the Malaysian Actuary.



## Just for Fun!

Answers to last issue's puzzles are here!

|    |   |    |   |    |   |    |
|----|---|----|---|----|---|----|
| 7  | × | 8  | - | 6  | = | 50 |
| +  |   | +  |   | +  |   |    |
| 2  | × | 4  | + | 5  | = | 13 |
| +  |   | ×  |   | +  |   |    |
| 9  | - | 3  | - | 1  | = | 5  |
| =  |   | =  |   | =  |   |    |
| 18 |   | 36 |   | 12 |   |    |

|    |   |    |   |    |   |    |
|----|---|----|---|----|---|----|
| 6  | + | 5  | + | 4  | = | 15 |
| ×  |   | -  |   | ×  |   |    |
| 7  | × | 3  | - | 8  | = | 13 |
| -  |   | +  |   | ÷  |   |    |
| 1  | + | 9  | - | 2  | = | 8  |
| =  |   | =  |   | =  |   |    |
| 41 |   | 11 |   | 16 |   |    |



## Just for Fun!

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

### Objective:

For a grid of N by N, fill all the squares such that:

- the numbers 1 to N appear exactly once in each row and column;
- each set of numbers within the bold lines (a.k.a. block) produce the result indicated in the top left corner based on the given math operation (+ / - / × / ÷).

Within a block, the same number may be used more than once as long as they are not in the same row or column.

Puzzles can be "SingleOp" using only 1 math operation, "DualOp" using 2 math operations or "QuadOp" using all 4 math operations.

Hint: Sudoku skills will also come in handy here.

### Examples:

SingleOp, 4x4:

|    |   |   |   |   |
|----|---|---|---|---|
| 4+ | 3 | 1 | 2 | 4 |
| 3+ | 1 | 3 | 4 | 2 |
|    | 2 | 4 | 1 | 3 |
| 6+ | 4 | 2 | 3 | 1 |

DualOp, 5x5:

|     |   |   |   |   |   |
|-----|---|---|---|---|---|
| 1-  | 1 | 2 | 5 | 4 | 3 |
|     | 2 | 4 | 3 | 1 | 5 |
| 12+ | 3 | 1 | 2 | 5 | 4 |
|     | 4 | 5 | 1 | 3 | 2 |
|     | 5 | 3 | 4 | 2 | 1 |

Now try these!

SingleOp, 7x7:

|      |     |      |     |     |      |    |
|------|-----|------|-----|-----|------|----|
| 24x  | 12x | 36x  |     | 70x | 20x  |    |
|      |     |      |     |     | 21x  |    |
|      |     | 210x |     | 84x |      |    |
| 10x  |     |      | 24x | 12x |      | 8x |
| 210x |     |      |     |     |      |    |
| 147x |     | 8x   |     |     | 180x |    |
|      |     |      | 15x |     |      |    |

DualOp, 5x5:

|    |     |    |    |    |
|----|-----|----|----|----|
| 6+ |     |    | 3- | 5+ |
| 8+ | 1-  |    |    |    |
|    | 10+ |    |    | 1- |
| 6+ | 4-  | 3+ | 4  |    |
|    |     |    | 2- |    |

QuadOp, 6x6:

|     |     |    |     |    |     |
|-----|-----|----|-----|----|-----|
| 2÷  | 30x |    | 9+  | 3x |     |
|     | 72x |    |     | 1- | 10x |
| 10+ | 2   |    | 6÷  |    |     |
|     |     | 6x |     | 1- | 4÷  |
| 13+ | 5   |    | 12x |    |     |
|     |     | 1  |     |    | 6   |

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

## Have Your Say...

February 2013 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 |
| Let There Be Light... Struggles of a Takaful Actuary | 1          | 2 | 3  | 4                | 5 |
| Introducing... The All New ASM Website!              | 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!