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**ASNA
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TABLE OF CONTENT

	Pg.
1. <i>Word from the president</i>	1
2. <i>9 questions most frequently asked by actuarial science students</i>	2
3. <i>Sitting on the other side of the interview table</i>	5
4. <i>Continuous Time Surplus Process Perturbed by Diffusion</i>	7
5. <i>Interview with Allen Wu</i>	8
6. <i>Interview with Judy Cheng</i>	10
7. <i>Interview with Peter Luk</i>	12



Word from the president

By Meinna Gwet, President of Actuarial Students' National Association (ASNA)

The year 2005-2006 has been very rewarding for a lot of us, and regarding ASNA's global evolution.

The first novelty has been the refashioning of the website. The committee in charge did an obvious effort on this. The final outcome has been positively criticized, and reflects suitably the professionalism that ASNA has been looking forward to.

The new committees that had been created at the beginning of the year have been quite relevant. On one side, the work of the fundraising committee has been helpful in gathering some financing for the association, and on another side, the western branch of the employer bank committee made the task more competent. More efficiency is expected in the future concerning the task of all committees.

Next, this year's convention which has been an unprecedented success is our great pride in terms of ASNA's accomplishments. Indeed, we have received a lot of compliments and encouraging commentaries about the whole convention. It is the city of Montreal that once again hosted the event, under the supervision of Université de Montreal which did an admirable job as a committee.

The future of ASNA is very promising. The increasing number of participations this year, among which three Americans, brings into light the ineluctable expansion of our Association. A lot of things need to be taken in consideration, because the time has come for us to enlarge. A certain number of ideas have been brought up, like the organization of two annual conventions, or the necessity of maintaining permanent relations with American companies and actuarial institutions from all over the world. The idea that ASNA, so far at a national level, evolves in being a symbolic representation of all North America is more than conceivable. Like Man, our association matures. If a bit more than ten years has been enough to getting where we are, a continental expansion is feasible within the next decade.

Finally, as the president, I have been extremely excited to be in charge of this year's ASNA. Thus it is with honor and pride that I will pass on the torch to the next generation of innovators, with the hope, not to say confidence of belonging with all my partners, to a just emerging chain of immortals...



Nine Questions Most Frequently Asked by Actuarial Science Students

Interview with Bosco Chan, F.C.I.A., F.S.A., F.C.A.

Education

What degrees do most actuaries have? Is it beneficial to have a triple major such as Finance, Business, and Actuarial Science?

Allow me to limit the scope of this question to Canada as different countries have different experiences. The answer of this question varies among generations. In the 80's or earlier, it was common for students graduating with mathematics degrees to pursue the actuarial profession. Actuarial science was not a main stream subject at that time. But the trend had changed.

In the 90's, more students were studying actuarial science and there were more graduates with actuarial science degrees. It was easier for employers in big cities to hire actuarial science graduates. But in some provinces, the new blood continued to have mathematics degrees.

Co-op program also played a key role in here. Co-op program made significant contributions in matching the actuarial students with their potential future employers.

After year 2000, the computer industry had a downturn. I saw some university students changed their major to actuarial science hoping to find a secure job after school. Also, the actuarial profession was getting more well-known. In the 90's, I told people I was in the actuarial profession and people would have their jaw open. Now, people probably answer me it is insurance related. So, they are at least partially correct. These two changes led to a significant increase in the supply of actuarial students.

However, the increase in demand is lower. Thus, we see most graduates joining the profession have actuarial science degrees. Nevertheless, companies hire talents. Students without actuarial science degrees still have chances to enter the industry but it is relatively more difficult.

The second part of the question is related to graduating with a triple major. If you have three majors then you have no major. Where is your true specialized area? Why don't you take an honours program? I agree that business and finance courses can play important roles in the actuarial profession as the industry is changing and the market demands us to think more from the business perspective. Developing business knowledge and skills are extremely important for future actuaries.

However, some of these skills such as interpersonal skills cannot be learnt from university courses. There are things a person needs to learn from outside the school. If you have the passion to study, go for a triple major because it is what you like to do. But that may not make business sense. Nonetheless, taking a few beginner courses in business, psychology, political science, communication, or even programming can help you broaden your knowledge. It may happen that you find your true passion from touching these new subjects.

Finally, I have to mention that each person is different so you should customize your own program of study.

Job

What are the main differences between P&C actuaries, and life actuaries? Please give a brief description of each.

The major difference is that life insurance focuses on coverage related to life, and P&C focuses on non-life issues. Life side includes but not limited to individual life, group life, group benefits, group retirement savings, individual annuity, and group annuity, etc. P&C includes but not limited to automobile, property, and transportation, etc.

I work in pension consulting which does not fall under these two categories. I help corporations to design, register, provide funding



recommendations, prepare financial reporting information, and provide pension-related human resource advises to their pension plans.

Volunteering

Are there any actuaries who work for non-profit organizations? If so, why do actuaries work there? Why do non-profit firms hire actuaries?

The majority of actuaries work in consulting and insurance industries. There are actuaries who work in the government. There are actuaries who work in the non-traditional areas such as investment banking or in management roles. The Canadian Institute of Actuaries is trying to expand our opportunity in the risk management area as it is a fast growing sector, in which are lots of new opportunities.

However, we are often required to change our mind-set to adapt to these changes. It is possible to do something different as long as we are willing to change. Going back to your question, Society of Actuaries is a non-profit organization and it has full-time actuarial staff. So, the answer is yes.

Employment

What programming languages do you recommend actuarial science students to pick up?

In Canada, most life insurance companies use software called AXIS which is designed by GGY Inc. in Toronto. For major consulting firms, each of them has its own system. It is good to have some basic understanding on programming because the fundamentals are similar in many different programming languages. In addition, I would recommend university students to learn Excel and its visual basic function as these tools really help to simplify calculations. Some database knowledge is also good.

Are there any recommended readings for those that are still in school?

This is a broad question. I assume actuarial textbooks are, by default, the recommended readings. On top, a person should spend time on his/her personal growth. Any books and

activities that can help you to become a more mature person are good for you. It is difficult for me to recommend a single book because each of you is different and has your own strengths and weaknesses. But I can suggest you identify your strengths and weaknesses and then further improve the strengths and change your bad habits accordingly.

How many exams should I have before applying for co-op job? How many exams should I have before graduation?

As the job market is quite competitive now-a-day, it is often challenging to find a job without three to four exams. Imagine the HR receives one or two hundreds of applications for two or three openings. There needs to be a simple way to filter out the applicants. So, it is a disadvantage for those with lesser exams. On the other hand, you don't need to be a fully qualified actuary to start your career. Companies hire talents and they look beyond exams. I suggest university students to aim at passing all categories in the score card rather than obtain a 10 in the exam category but fail the rest.

What kind of actuarial students do actuarial employers prefer for entry positions?

This is another broad question as each actuarial employer has its own preference and needs. I cannot answer for every firm. But I can give you some tips. Dedicated individuals who have passion to their work and able to make commitment are attractive. Reliable persons with good ethnics are people that others can always count on. Good attitude is also important in a team environment. One needs to remember that pride and self-confidence are completely different. Hard working is, of course, required by default.

What are the differences between a career ASA, and a FSA in terms of responsibilities? In the job market, are there significant differences in work that they do and their compensation?

In Canada, actuaries are commonly referred to FCIAAs. Certain actuarial valuation reports are required to be signed by a FCIAA. As such, having a higher level credential does make a difference. Salary is usually linked to exams,



experience, and job requirements. As exam is one of the factors, it does make a difference in compensation.

But keep in mind that it is not the single factor used in the formula. Regarding responsibility, it is often driven by experience and skills. If you are a good consultant in the consulting environment but don't have a FCIA, you may ask your FCIA colleague to co-sign the report with you. There is inconvenience using this approach but we need to be creative in problem solving. Nevertheless, there are positions such as chief actuary or signing actuary for which the FCIA designation is part of the job requirement. In such cases, it is a disadvantage not to have the fellowship designation. Although that may be the case, we need to remember different people prefer different career paths.

There is nothing wrong about staying at the ASA level if your preference is to spend more time with your family and (future) kids, to the extent your employer permits that. Each individual needs to choose what is good for them. Career is an important element in life but it is not life.

Now there are so many people that are taking actuarial exams and courses. Are there enough jobs for us?

This is a difficult question. For the best candidates, this is never a concern. A friend of mine received 4 offers last year even though it was a challenge year for fresh graduates. But let's ignore the star performers and talk about the majority. The actuarial industry is not a big industry when we compare it with banking or accounting. There are approximately 2,300 Fellows of the Canadian Institute of Actuaries practicing in Canada. Even if you factor in the headcounts of those who are not yet qualified, it is still a small number. Using simple mathematics, it is not difficult to determine that the number of entry level openings each year is less than the number of actuarial science graduates from all Canadian universities.

To take advantage on the globalization, university students may consider expanding your job search to include the United States and other countries. There are fair amount of demand in U.S. for Canadian new graduates and my

understanding is that it is not difficult for actuarial professionals to obtain U.S. working VISA. The actuarial market in U.S. is bigger than Canada's and U.S. is not far away. Relocation is an option. Changes are not necessary bad things.

The views and opinions expressed in this interview belong to the interviewee and should not be interpreted as those of the interviewee's employer or any other organizations with which the interviewee is associated.

Bosco Chan, FSA, FCIA, FCA, MMath is the President of the Pacific Rim Actuaries' Club of Toronto and has near 10 years of experience in pension consulting. Bosco is a graduate from the University of Toronto with an Honours Bachelor degree and a graduate from the University of Waterloo with a Master degree, both in actuarial science. Bosco was interviewed by OMNI TV about pension issues in December 2004. Bosco has three articles published by the International News of the Society of Actuaries International Section and a research paper published under the Retirement Systems Monographs of the Society of Actuaries. Bosco is also a presenter in the upcoming Canadian Institute of Actuaries Pension Seminar in April 2006. He can be reached at bosco.chan@mercer.com.



Sitting on the Other Side of the Interview Table

By Claire Yang and Bosco Chan

Actuary is ranked one of the best jobs in North America. It is a well-respected and rewarding profession. The travel time to fellowship designation is relatively longer compared to other professions but the examination system provides comprehensive education that evolves over time to match the changing demands in the industry. Given that the actuarial profession demands top students with exceptional mathematical knowledge and strong business sense, it is often a challenge for graduates to find a job in this highly competitive environment.

Many books provide guidelines to draft résumé or teach general interview skills. They are good resources but, in no doubt, one of the key factors that separates the job applicants between winning and falling short is on their understanding of what potential employers are looking for. How can you well present yourself if you do not know what your audience wants to see? Although employers set different requirements, we have listed eight general principles that you may consider before starting your career planning. They may possibly increase your chance to win an offer.

Making yourself a good fit

Employer wants to hire you because you are a good fit, not because you are good in passing exams. Candidates need to be able to show their potential employers what they can offer and how the whole company, or at least the department they are trying to join, can benefit from adding them to the team. Having the abilities and qualifications required by the opening position is important. At a minimum, students should select relevant courses at school, obtain above average grades, and be able to pass a few actuarial exams.

One possible path is to enroll in a co-op or internship program. One of the advantages of enrolling in these programs is that co-op program gives you an opportunity to experience the real actuarial work environment. Your co-op employer may become your permanent employer. It requires the employer less time and resources to train individuals who are already familiar with the

company culture, procedure, and process.

Passion, energy and creative thinking

New hires are expected to bring energy to the team. Eagerness to learn and the ability to adapt to changes are important characteristics as these traits can help you mix with the team. As a result of the significance of the learning curve in junior actuarial positions, commitments to work and willingness to spend personal time to stay on top of industry developments are important to maintain your competitiveness in the company. Passionate and creative thinkers can always bring inspiration to business. When employers hire, they do not consider candidates who received basic trainings only. They hire value. So, be a valuable candidate.

Not just mathematics, it is about business

Actuaries in the 21st century are considered to be business oriented people with keen mathematical and analytical skills. But no matter how good you are, if you cannot show people you are good, you are not so good. Employers favor candidates with business skills which include, but not limited to, communication, presentation, and time management aptitudes.

Communication skills are necessary to make your messages easily understood when involving work with marketing, underwriting, and claims departments if you work in insurance companies; or practice leaders and clients if you work in consulting firms. Presenting projects to senior management, investment analysts, and regulators may be part of the job requirements in senior levels. Taking exams while working at the same time requires good time management skills.

Technical skills

Employers tend to look for candidates with strong analytical skills because junior level actuarial works are highly technical. Most of the time, analysts are responsible to handle detailed calculations. Without good technical skills, it is



easy to make avoidable mistakes. Certain calculation errors may lead to reductions in company profits. On the positive side, good technical skills could help with getting work done more efficiently. Team leaders would want their team members to complete work fast and still be able to provide accurate results.

Attitude

At early stage of actuarial career, analysts are often requested to deal with repeated projects to get themselves familiar with the actuarial work cycles. It requires time and effort to develop skill sets to sustain employers' quality standards. Having the right attitude to work is important during this period. Be an employee that your manager can always count on. Also, bad attitude could become a barrier to progress. Even if you are brilliant and you may require less time to learn, you still need to spend time to build up your experience. Having a good and positive attitude towards work will pay off over time.

Furthermore, do you have a stable mood? Work needs to be completed no matter whether you want to do it or not. Employers would prefer employees who are able to perform consistently over time.

Goals

During interviews, students are often asked why they would like to pursue their career in the actuarial profession. We often recommend university students to think twice as the road ahead may become more difficult to walk than they expected. The long travel time towards the fellowship designation takes both persistency and discipline to achieve. New entrants to the industry should have certain confidence that this is the field that they want to head towards. Setting up a clear career plan in advance helps you regularly measure your interim performance and aligns your activities accordingly.

From the employers' point of view, hiring an actuarial analyst is a human resource investment. It requires employers to provide lots of training over an extended period of time before new hires from school could become key employees of the firm. As the investment horizon is not short, hiring committed individuals with clear career goals that match the company's philosophy creates a win-

win situation.

Independent and team working

The job nature of typical actuarial analysts requires student's abilities to work independently and as part of the team. This combination is necessary to complete projects with optimal usage of resources. Analysts should be able to think and work independently. But at the same time, no one is perfect so the best solution often comes from discussing, brainstorming and combining different persons' suggestions. Team work often results in a synergy that can be more productive than the sum of individual efforts.

Personality and hobbies which would benefit work

Actuarial jobs are rewarding but also challenging. Healthy hobbies could show whether the applicant has a balanced lifestyle. If you cannot manage your life well, you probably cannot manage your work well. Do you have compatible personality and professional interests? Employers want you to enjoy what you do at work because people who love their jobs are willing to go an extra mile.

We cannot list out all the considerations because there are no standard recruiting policies. But we trust that you will find the above general principles helpful. Give yourself some confidence. The start of a rewarding actuarial profession will not be far away.

The views and opinions expressed in this article belong to the authors and should not be interpreted as those of the authors' employers or any other organizations with which the authors are associated.

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Continuous Time Surplus Process Perturbed by Diffusion

By Cary Chi Liang Tsai, Ph.D, A.S.A., Assistant Professor, Simon Fraser University

Consider the surplus process of the insurer at time t in the classical continuous time risk model, (1)
 $U(t) = u + ct - S(t)$, $t \geq 0$, where $u = U(0)$ is the initial surplus, $c = \lambda p_1 (1 + \theta)$ is the constant rate per unit time at which the premiums are received, and $\theta > 0$ is the relative security loading.

The number of claims is assumed to follow a Poisson process $\{N(t); t \geq 0\}$ with parameter λ . The aggregate claims process $\{S(t); t \geq 0\}$, where $S(t) = X_1 + X_2 + \dots + X_{N(t)}$ (with $S(t) = 0$ if $N(t) = 0$) denotes the aggregate claims up to time t , is a compound Poisson process with parameter λ . The individual claim sizes X_1, X_2, \dots , independent of $N(t)$, are positive, independent, and identically distributed random variables with common distribution function $P(x) = \Pr(X \leq x)$ and moments $p_j = E[X^j]$ for $j = 0, 1, 2, \dots$. Let $T = \inf\{t: U(t) < 0\}$ be the time of ruin (the first time that the surplus becomes negative), then $|U(T)|$, the deficit at the time of ruin, and $U(T-)$, the surplus immediately before the time of ruin where $U(T-)$ is the left limit of $U(t)$ at $t = T$, are two important non-negative random variables in connection with the time of ruin T .

Gerber extended the classical risk model (1) by adding an independent diffusion (or Wiener) process to (1) so that (2) $U(t) = u + ct - S(t) + \sigma W(t)$, $t \geq 0$, where $\sigma > 0$ and $\{W(t); t \geq 0\}$ is a standard Wiener process that is independent of the compound Poisson process $\{S(t); t \geq 0\}$ and of the individual claim sizes X_1, X_2, \dots . In this case, the definition of the time of ruin becomes $T = \inf\{t: U(t) \leq 0\}$ due to the oscillation character of the added Wiener process.

Based on the same model (2), Dufresne and Gerber studied three kinds of probabilities: $\psi_d(u)$, the probability of ruin caused by oscillation; $\psi_s(u)$, the probability of ruin caused by a claim; and $\psi_t(u)$, the probability of ruin. That is, $\psi_d(u) = E[I(T < \infty, U(T) = 0) | U(0) = u] = \Pr(T < \infty, U(T) = 0 | U(0) = u)$, $\psi_s(u) = E[I(T < \infty, U(T) < 0) | U(0) = u] = \Pr(T < \infty, U(T) < 0 | U(0) = u)$, and $\psi_t(u) = \psi_d(u) + \psi_s(u) = E[I(T < \infty) | U(0) = u] = \Pr(T < \infty | U(0) = u)$,

$u \geq 0$, where I is the indicator function, that is, $I(T < \infty) = 1$ if $T < \infty$ and $I(T < \infty) = 0$ if $T = \infty$.

Tsai and Willmot generalized the results of Dufresne and Gerber and Gerber and Landry based on (2) by considering a penalty scheme which is defined by a non-negative constant w_0 and a non-negative function $w(x, y)$. That is, the penalty at ruin is w_0 if ruin occurs by oscillation and $w(|U(T-)|, |U(T)|)$ if ruin is caused by a claim. Tsai and Willmot declared that the expected discounted penalty $\phi(u)$ is $\phi(u) = w_0 \phi_d(u) + \phi_w(u)$, $u \geq 0$, where $\phi_w(u) = E[e^{-\delta T} w(U(T-), |U(T)|) I(T < \infty, U(T) < 0) | U(0) = u]$, and $\phi_d(u) = E[e^{-\delta T} I(T < \infty, U(T) = 0) | U(0) = u]$ is the Laplace transform or the expectation of the present value of the time of ruin T due to oscillation.

When $w(x, y) = 1$, $\phi_w(u)$ becomes $\phi_s(u) = E[e^{-\delta T} I(T < \infty, U(T) < 0) | U(0) = u]$, the Laplace transform or the expectation of the present value of the time of ruin T due to a claim. Then the Laplace transform or the expectation of the present value of the time of ruin T is $\phi_t(u) = \phi_d(u) + \phi_s(u) = E[e^{-\delta T} I(T < \infty, U(T) = 0) | U(0) = u] + E[e^{-\delta T} I(T < \infty, U(T) < 0) | U(0) = u]$. Obviously, $\psi_d(u) = \phi_d(u) | \delta = 0$, $\psi_s(u) = \phi_s(u) | \delta = 0$, and $\psi_t(u) = \phi_t(u) | \delta = 0$.

When ruin occurs due to a claim, the expected discount value (discounted from the time of ruin T to time 0) of some penalty function w is usually used in studying a variety of interesting and important quantities.

For example, letting the penalty function $w(U(T-), |U(T)|) = |U(T)|^n$ yields the (discounted) n^{th} moment of the severity of ruin caused by a claim, $\phi_n(u, \delta) = E[e^{-\delta T} |U(T)|^n I(T < \infty, U(T) < 0) | U(0) = u]$, $n = 0, 1, 2, \dots$; if we denote the joint moment of the time of ruin T caused by a claim and the severity of ruin to the n^{th} power by $\psi_{1,n}(u, \delta) = E[T |U(T)|^n I(T < \infty, U(T) < 0) | U(0) = u]$, $n = 0, 1, 2, \dots$, then $\psi_{1,n}(u, \delta) = (-1) [\partial \phi_n(u, \delta) / \partial \delta] | \delta = 0$. Moreover, by appropriate choice of the penalty function $w(x, y)$, we can obtain the (discounted) defective joint distribution function of $U(T-)$ and $|U(T)|$. To see this, for any fixed x and y , let $w(x_1, x_2) = 1$, if $x_1 \leq x$ and $x_2 \leq y$, and $w(x_1, x_2) = 0$,



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otherwise. Then $\phi_w(u)$ becomes $\phi_w(u) = F(x, y | u)$. The joint probability density function of $U(T^-)$ and $|U(T)|$ can be derived by $f(x, y | u) = \partial^2 F(x, y | u) / \partial x \partial y$. With the joint distribution function of $U(T^-)$ and $|U(T)|$, one can derive both the marginal distribution functions of $U(T^-)$ and $|U(T)|$.

Prof. Cary Tsai is specialized in risk measures and ordering, risk theory, ruin theory, stochastic processes in insurance and finance. He can be reached at www.stat.sfu.ca/~cltasi/



Interview with Allen Wu

Interviewed and reported by Peter Au
on April 25, 2005 in Shanghai, China

We would first like to thank Allen for taking the time and effort to attend our interview in Shanghai. In this half-hour interview, Allen highlighted a number of aspects about the pension market in China, namely the trend and development, mindset of the public on pension products and opportunities in the field.

Q1) What are the new trend and direction of the pension market in China?

In the old days the retirement system in China was a social system. It was statutory or state owned.

In the past decade, approximately twenty five to thirty percent of the working population have supplementary pension plans, which are mainly defined contribution plans. Those plans are usually designed for the executive and senior managers.

In April and May of 2004, the government introduced a new legislation to provide a framework for Enterprise Annuities (EA), which is a voluntary corporate pension plan that is similar to the group 401(k) in the United States or the Group Registered Retirement Savings Plan (RRSP) in Canada or the Mandatory Provident Fund Schemes (MPF) in Hong Kong.

However, as EA is a very new concept in China, the government needs to spend a lot of time and money in knowing the regulatory know-how. Alan raised a lot of regulatory questions pertinent to monitoring trustees, investment managers, plan administrator, custodians and service providers before the EA system can run very well.

Q2) What are the mindsets for you working in China?

“Expect the unexpected!” Allen emphasized, “Clients in China expect you to give them instant response to problems. When they phone you,

you are expected to provide with an answer over the phone. You have little time to think about those questions, as compared to western countries, where clients expect consultants to get back to them later. The reason is that China is a developing economy, and is, during the past decades, gradually transforming into a service economy. The consulting industry is a relatively new concept in China, and people in China are learning how to use consultants.”

Same as the rest of the world, the workload of a consultant in Shanghai is erratic and fluctuates enormously. Consultants need to interact with clients. Compared with consulting actuaries, insurance actuaries have a relatively stable workload; they tend to have lots of known internal deadlines to meet, while consultant's ones are dependent on client's needs.

“I have worked in Hong Kong before”, said Allen, “People in Hong Kong works too hard”. Alan expects that people in Shanghai will follow the steps of Hong Kong in the future.

Q3) How do people currently view the pension system in China?

This is a very good question! China has one of the highest savings rates in the world. The savings rate is about thirty-to-forty percents, as compared to one to two percents in the States. I doubt if the retirement system in China would be the same as those western countries. People in the western countries use the retirement systems to save money, while Chinese does not.

Generally speaking, people in the twenties are too young to consider their retirement savings; people in the thirties have little money to save, because much of their earnings go to mortgage payments; people in the forties start to consider their retirement planning, however they will not invest a great amount of money until their children's tuition has been paid.



Q4) What is the size of the market in mainland China? Could you please describe it?

The size of the pension market in China is huge. It will be one of the largest markets in the world. He estimated that the current EA market is about 90 billion RMB by asset value, and it will increase a hundred billion each year. In ten years, the annuity market can grow to one trillion. However the EA will not be popular unless it has tax relief similar to the RRSP or the group 401(k).

Q5) What kind of people do the market need?

Definitely, the market needs professionals who have more than ten years of work experience; those who have extensive knowledge in the pension regulations, and have good awareness of the international pension practice.

Biography



Mr. Allen Wu (on the right) is the Employee Benefits Practice Leader of Mercer Human Resource Consulting in Shanghai, China. He has extensive experience in the retirement field and has been working in Asia for more than thirteen years. In addition to retirement consulting work, he is also actively involved in Merger and Acquisition (M&A) issues.

Born and raised in Canada, Allen completed his university education at the University of Manitoba, and worked in California for five years before exploring opportunities in Asia.

He started as an actuarial science instructor at Nankai University, Tianjin, China; the first course he lectured was the “Theory of Interest”. After a decade, he was interviewed by a Canadian actuarial student in Shanghai, China again!

Stella Wang (left in the picture) is currently assisting Allen in every aspect of retirement issues in China.



Interview with Judy Cheng

Interviewed and reported by Peter Au
on April 25, 2005, in Shanghai, China

Thanks Judy. Judy is a general insurance actuary who has accumulated more than ten years of experience in the actuarial field. The interview was conducted in a Starbucks coffee shop located in Xin Tian Di, Shanghai, China.

Q1) Could you please summarize the current market situation?

Nourished by its rich history, PICC is the dominant leader in the realm of general insurance products. The premium rates of general insurance products are heavily driven by the market. In other words, most companies follow the price that their competitors charge against the customers. We generally suffer from poor and incomplete data problem.

Q2) What direction is the insurance market heading in China?

In the coming years, medical insurance will become one of the major sources for revenue growth. However, due to cost control reasons, most insurance companies proceed with caution. They fear that a large amount of frauds, coupled with the problem of over-utilization, will make the total cost of claims unmanageable.

An individual medical insurance is underwritten for one designated policyholder. Fraud occurs when the individual contract is misused to cover medical expenses of the policyholder's family. For example, a medical insurance may provide an eye exam benefit. However, the policyholder may not need such benefit and in such cases, he/she may violate the contract by passing the benefit to one of his/her family members. Though these phenomenons may exist in any parts of the world, many insurers perceive that such problems are particularly severe in China.

Q3) What is the greatest challenge you face in your position?

"Where can I get the data from?", Judy replied promptly. She explained that data integrity is of

the first priority. Actuaries are the victims for an ill-designed and incomplete database because they are the ultimate end users of the system. The basic criteria for the data are completeness, consistency, accuracy and reasonableness. Without meeting these criteria, actuaries cannot proceed further, not to mention using sophisticated actuarial modeling tools and advanced underwriting techniques. After all, "Garbage in, garbage out."

"I often have difficulties performing data reconciliation," she said. For instance, the amount of claims paid out and the payout method may not match the records in the system. This is an example of internal inconsistency. The most often used techniques is the "triangular loss development method", since it is simple, intuitive, and has good controlled quality check.

She said that one of the largest local insurance firms tries to employ sophisticated parametric modelling techniques in addition to the triangular method, but the scope of application is limited due to the quality of data problem.

The Shanghai insurance regulator has proposed centralizing an auto insurance claim database for all general insurers. The idea is being implemented gradually.

"Moreover, as moving to a senior management role, you are expected to obtain more business for your company", she smiled.

Q4) How do people view insurance in China?

In early 1990s, people were reluctant to buy insurance. However, this situation is slowly improving since people are becoming wealthier and are more willing to buy insurance. Since the year of 2000, investments related to insurance products have become more popular.



Q5) Can you describe the landscape of the current market?

The current insurance market in China is so competitive that it has reached the branding stage. The brand name becomes a key factor in influencing consumers' decision.

In China, we have local insurance companies, foreign insurance companies and others that are in between. In general, the older generation tends to purchase insurance from local companies, while the younger ones from foreign firms.

Banc assurance is popular too. However, banks are usually successful in selling short term or simple insurance products, such as five year term life or endowment insurances. For selling long term insurances, it involves building relationships with customers. This is where agents and brokers fit in.

Q6) What types of software do you use?

We use SAS, Foxpro, and Excel.

Q7) How does one get an entry actuarial position in Shanghai?

We consider actuaries 'experienced actuaries' if they have three or more years of work experience. For entry positions, we tend to look for local students because the actuarial education in China is very good, and local students graduate with many exams.

Biography



Ms. Judy Cheng, F.I.A.A., graduated from Macquarie University, is a general insurance actuary. She worked with Mira consulting and PwC in Australia for six years, and then worked with AIA in Hong Kong for three years. Since 2002, she works for PwC in Shanghai. Her areas of specialization include but not limited to auto insurance, fire insurance, marine cargo insurance, due diligence, actuarial outsourcing and credit risk modeling.



Interview with Peter Luk

Interviewed and reported by Peter Au
On May 3, 2005, in Admiralty, Hong Kong

In a nutshell, Mr. Luk is an “icon” for actuaries in Hong Kong. He has been working very hard for the past forty years, and his drive to stay on top is colossal. He integrated his attitude towards life into his career. His integrity and prudence are consistent in every aspect.

Q1) Why did you name your consulting firm “Plan-B Consulting Ltd.”?

Every insurance company has its own plan, which is called “Plan A”. My advice is supplementary to Plan A. In other words, my advice is a back-up to Plan A; therefore, my consulting firm is called Plan-B Consulting Ltd.

Q2) How do you define a qualified actuary according to your standard?

He or she must have at least ten years of work experience.

Q3) What is the mindset for an actuary like you?

Actuaries should not have a limited scope. Rather, they should coordinate everything and be able to depict an “overall picture”.

Prudent Attitude Towards Life

Q4) Can you elaborate on that?

Everything can happen. For instance, actuaries have never seen the interest rate as “historically lowest for the past sixty years”. Instead, actuaries should be able to prepare for the unexpected. This is not something you can learn from books. This is a matter of your personal attitude towards life. I have been advocating this for more than twenty years. Now, people are getting aware of it and it is called “Risk Management”.

Q5) Can you please give me some examples?

In the 1980s, I worked in Australia. There was a big market crash in 1987. One year before the crash, the guaranteed interest products were selling red hot in Australia, and the stock market

was bullish. At that time, many insurance firms backed the guaranteed products with equities. As a consulting actuary, I advised my clients not to do so since I anticipated that they would run into trouble if the market crashed. I explained this to many CEOs and board of directors countless times, but unfortunately no one listened to me. One year later, the market did crash.

Witnessing Asian Financial Crisis in 1997-1998

Asian Financial Crisis swept across Asia in 1997 and 1998, during which I was the Executive Director of Pacific Century Insurance, which was an insurance firm based in Hong Kong. The investment performance was so poor that all insurers suffered losses. As you know, dividends credited to par life are directly tied to investment performance. However, no actuaries dared to cut dividend to reflect the investment performance and everyone was indecisive at that time.

The situation was very critical. We were different from the foreign-based insurance firms, which were supported by parent companies that had strong capital. Judging on our investment performance, the wisest decision was to cut dividends in those contracts that gave us this option. I was the first one who took such step in Hong Kong. After we announced dividend cuts, all insurance firms followed us.

These are examples of risk management, and every situation is unique.

Q6) Can you explain what you mean by “uniqueness”?

Everyone is unique, and everything is unique. Actuaries have to learn the local mentality, understand the customers, and know the sales gimmick. You need to make sure that your IT system, distribution system, and banking system can support your products.



If the insurance companies want to succeed, localization is possibly the best strategy. It not only works well for the insurance industry, but also to every industry.

Q7) Banc assurance is very popular in the States and in Asia. What do you think of Bancassurance?

“Banc assurance is not an effective distributional channel for pure insurance firms. It makes the insurance firms no where to go because of the conflict of interest between the banks and the insurers.

Insurance companies own the product portfolios, but the distributional channel is owned by others. Banks want to make as much money as possible from the insurer, but the insurer wants to make money from the banks. This is not going to work unless the insurance company is the bank itself. In this way, the conflict of interest is eliminated. In summary, only banks can use bancassurance, but not pure insurance firms.¹

Q8) How can we do to become successful like you?

You have to be very hardworking. I obtained my Fellow of Institute of Actuaries in 1972. To obtain my fellowship, I studied until 2:00a.m. every night while I have a full time job during the 1960s. You have to scarify. There is no shortcut. Other factors include street smart and communication skills. You also need to talk to a lot of people and learn from every person you meet.

I saw many students graduating in actuarial science with straight As on the transcript. They are very good at academics, but the market values experience only. Frankly speaking, it is not necessary to graduate with an actuarial science degree to become an actuary. A degree in actuarial science may train one to think better, but there are still a wealth of materials which cannot be learned from books.

I am a workaholic and you should not learn from me. Traditionally Hong Kong work etiquette is one of the best in the world. We are very hardworking partly because we did not have a retirement system like Canada until the

Mandatory Provident Fund² was introduced five years ago.

Q9) How would you comment on China?

China has been progressing very well, and it is going to continue to prosper. Since the per-capita GDP is increasing, more and more people can afford insurance.

Q10) Do you have any advice for the younger generation?

Your integrity and moral principles are of the first priority. Temptations may surround us in today's society. and can make one go astray very easily. We must be able to resist those temptations.

If you would like to know more about Mr. Luk, please read Newsletter Vol. 1, 2005 on <http://www.actuaries.org.hk/>.



Biography



Kong and who are not covered by a proper pension plan. Both employer and employee are required to contribute 5% of the employee earnings into the scheme, subject to some limits. The contributions are tax deductible. If you want to learn more, please contact for a licensed financial advisor.

Mr. Peter Luk, a 40-year veteran actuary, the first person to qualify as an actuary in Hong Kong in 1972, is currently the CEO of Plan-B Consulting Ltd in Hong Kong, and one of the advisors to the Insurance Institute of Shanghai. He was one of the founding members of the Actuarial Society of Hong Kong (ASHK), the past president of ASHK, and the past Executive Director of Pacific Century Insurance from 1994 to 2000.

His career includes Chief Actuary of American International Assurance Co. Ltd, a Principal consultant with Mercer, Campbell, Cook & Knight, Appointed Actuary for Australian Casualty & Life Insurance Company, as well as Chief Financial Officer of Manulife Asia.

¹ The author totally agreed with Mr. Luk. An example is that “Banks [in China] constantly force insurers to bid against each other and get what’s best for them [banks], rather than developing long-term, mutually beneficial relationship,” foreign executives say. “China life insurance: a frustrating market share game”, REUTERS, reproduced by Factiva, July 13, 2005.

² Mandatory Provident Fund is a mandatory defined contribution retirement system for people who work in Hong