

THE MARK OF AN ACTUARY



50 Years of the
Singapore Actuarial Society

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Singapore Actuarial Society

**50th Anniversary
Commemorative Book
Committee**

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PROLOGUE	4
THE FOUNDING	6
Tan Kin Lian	14
Law Song Keng	28
Tan Suee Chieh	50
Raymond Kwok	58
THE WORK OF THE SAS	63
Standard-Setting	64
Policy Development	69
Education	85
Conferences	92
The Secretariat	98
Social	105
International	109
MEET AN ACTUARY	113
In Conversation with Jill Hoffman & Glenn Tan	114
‘Turn Risks into Opportunities’: Chief Risk Officer	124
In Conversation with Keerti Sethia & Marcus Kok	128
‘Tell, Not Sell the Story’: Regional Chief Actuary	140
In Conversation with Chi Cheng Hock & Ethan Leong	146
‘It is an Uncertain and Testing Period’: Appointed Actuary	157
EPILOGUE	162
APPENDIX	
A Song for the Actuary	164
Historical Notes	166
Roll of Honour	178
References	181

PROLOGUE

by FRANK DEVLIN

Chair of the 50th Anniversary Commemorative Book Working Party, and 22nd President of the Singapore Actuarial Society

From a not very scientific “google” of actuaries in Singapore, I found that the first mention of an actuary actually being in Singapore was a happy one when in March 1914, a Scottish actuary John Moodie FFA of the Shanghai Life Insurance Company, married Elizabeth McNaught. In a professional capacity, the first mention of an actuary in Singapore was in the Malaya Tribune of January 1920, indicating that a Mr. C C Nicholl, FIA, FFA had arrived to take up the actuary role for the Great Eastern Life Assurance Co (incorporated in what was then known as Straits Settlements). Mr. Archie Robinson had become actuary of Great Eastern by 1926, and he was a long-term resident in Singapore (including being interned in Changi Prison during World War II). The number of actuaries in Singapore was not large, and it was not until 1976 that 16 individuals formed the Singapore Actuarial Society.

However, even in 1935, Mr. Robinson was giving a talk to the Singapore Rotary Club to answer that knotty question, “What is an actuary?”

This commemorative book celebrating the 50th anniversary of the founding of the Singapore Actuarial Society will hopefully help to answer that question for Singaporeans – though where an actuary applies his or her profession today can be different from the “1935 answer”! It shows the development of the Society from its small beginnings with a more social club outlook in the 1970s, to becoming a full-fledged professional body in the 1990s and how today it upholds high professional standards and serves the public interest in Singapore.

The book should also help current and future members of the Society to understand their predecessors’ expectations of them. There have been significant crises over the last 50 years which have had an impact on Singapore – AIDS, Asian Financial Crisis, Global Financial Crisis, COVID – and, at the current time, there appear no end of crises to trouble the world in the future – war, climate change, epidemics, tariffs, demographics. Our members need to maintain their professionalism during both the good and bad times ahead, to keep serving the public interest – and so enhance the Society’s standing as an exemplary professional body in Singapore.

I hope you enjoy this book as much as I have enjoyed engaging with the working party to produce it.

THE FOUNDING

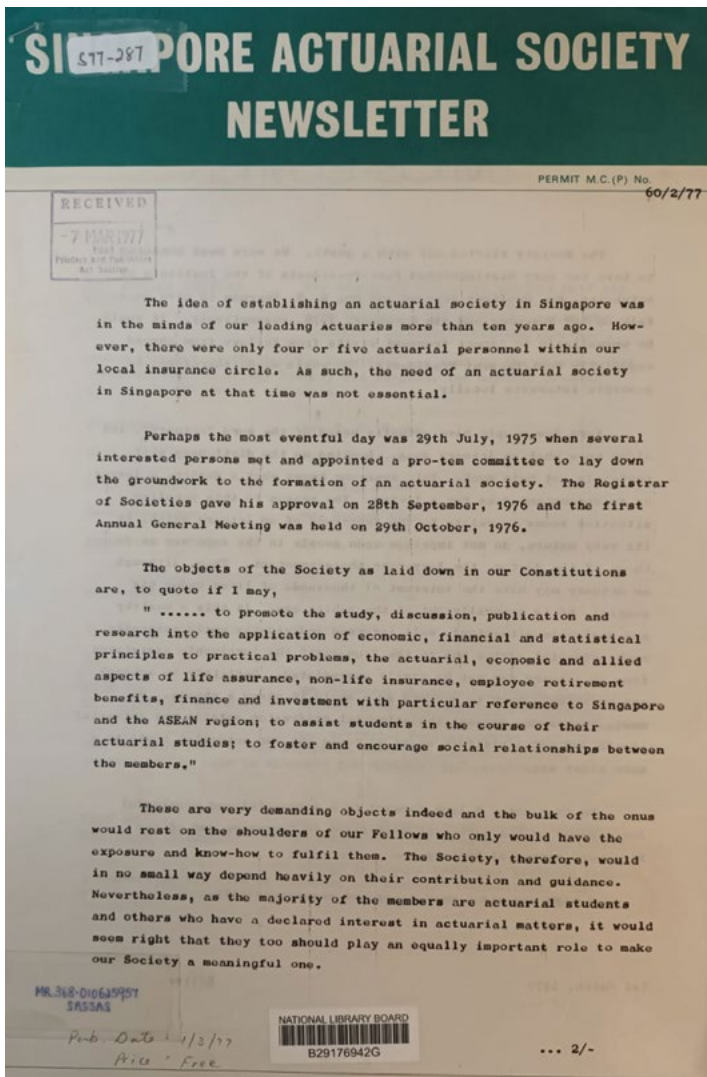
The Obscurity of an Actuary: 'Something in Insurance'

The profession of an actuary has generally been wrapped in mystery. Some have a vague idea that an actuary is like an accountant. Others think of an actuary as something in insurance. The actuarial profession is relatively little-known in Singapore, as most actuaries do not come into contact with the public at large.

Actuaries may be out of sight, but their work makes a mark in our lives. To insurance policyholders, an actuary is the mathematician who determines the amount of premiums they have to pay the insurance company. To insurance companies, an actuary is a forward planner who calculates and reviews premiums, and determines the amount of reserves that should be kept to ensure that promises made to policyholders are honoured. Today, its role is even more expansive. Actuaries are now involved in financial decisions beyond insurance companies – in banks, investment companies, and government statutory boards.

An actuary is also a rare breed. In 1989, only 12 in Singapore were professionally qualified, having been awarded fellowships by prestigious professional bodies overseas. In 2025, the number was over 700.

Inside the first issue of the Singapore Actuarial Society
Newsletter (1977)



RETROSPECTIVE

1st ANNUAL GENERAL MEETING

The Singapore Actuarial Society held its 1st Annual General Meeting on Friday, 29th October, 1976 at 5.15 p.m. at the Singapore Insurance Training Centre.

After a report of the Pro-tem Committee was read by the chairman and the Constitution of the Society was adopted, the members present elected the following officials :-

President	:	Mr. N. N. Handa
Vice-President	:	Mr. Tan Kin Lian
Hon. Secretary	:	Mr. Alan Street
Hon. Treasurer	:	Mr. Robert Lian
Committee Members	:	Mr. B. P. Grupta Mr. George B. P. Tay
Hon. Auditor	:	Mr. Douglas Cho

The meeting terminated at 6.00 p.m.

TALK BY MR. GEOFFREY HEYWOOD

Mr. Geoffrey Heywood, our first guest speaker since the Society's formation, spoke on "The Institute of Actuaries and the Actuarial Profession" to members on 5th October, 1976 at the Singapore Insurance Training Centre. A summary of his talk is attached for members' information.

TALK BY MR. R. S. SKERMAN

Mr. R. S. Skerman spoke on the "Solvency Standard for Life Assurance in the United Kingdom" to members on 9th November, 1976 at the Singapore Insurance Training Centre. A summary of his talk is attached for members' information. The evening was rounded off with a delightful dinner at Hotel Equatorial.

Singapore Actuarial Society: From Social Club to Professional Body

The growth of the actuarial expertise in Singapore is closely tied to the development of the Singapore Actuarial Society (SAS).

Founded in 1976 with 16 members, the SAS began with hopes of assisting students in actuarial studies. It also held talks, lectures, meetings and discussions by actuaries. Its members described the Society in the early days as an informal gathering of people in the profession, where its activities were largely social.

This changed some two decades later. 1996 was the year that saw the adoption of a new constitution and the election of the SAS' first Council. These were the first concrete steps taken towards the professionalisation of the Society. The Council then proceeded to apply for membership of the International Federation of Actuarial Associations (IFAA) section of the International Actuarial Association (IAA). At the time, the IFAA had 34 Full Members, 1 Associate Member and 3 Observer Members, including the actuarial societies of Malaysia and Hong Kong. In December 1996, the SAS decided to apply to be admitted as an Observer Member of the IFAA. In 1997, it was admitted as an Observer Member.

In 2024, there were 981 members in the Society. Today, it is a professional body which sets standards, including a professional code of conduct that governs the practice of Singapore actuaries. Furthermore, it promotes exchange of information among members, advances research on actuarial science and organises talks on actuarial techniques.

Early Milestones: The Growth of the Actuarial Expertise in Singapore

In 1983, with between 40 and 50 members, the SAS organised the second East Asian Actuarial Conference (EAAC), held at the Shangri-La Hotel. The biennial conference – the first which was held in Kuala Lumpur in 1981 – brought together some 100 actuarial consultants and professionals from insurance companies in Singapore, Malaysia, Australia, Hong Kong, Japan and the UK. Issues discussed included employee benefit schemes, computerisation in insurance, and health insurance. Former Minister of State for Labour Dr. Wong Kwei Cheong was the guest of honour.

In 1990, Singapore took the first major step in meeting the shortage of professional actuaries in the country. Nanyang Technological Institute (NTI) introduced a degree course in actuarial science. The three-year course led to a Bachelor of Commerce (Actuarial Science) degree and paved the way for its graduates to become professionally qualified actuaries. At the time, NTI had recruited 2 Fellows and 2 Associates from the SAS to teach subjects in this course. Alan Street, one of the SAS' founders, became a professor at NTI. Today, the degree is known as the Bachelor of Business in Actuarial Science at Nanyang Technological University (NTU). Between 1994 and 2009, the SAS also awarded a Gold Medal to the best student of the university's actuarial science course. Both the SAS and NTU agreed on the rules of the award, where the Gold Medal was awarded at the NTU convocation, and the recipient would be invited to attend the SAS annual dinner following the convocation.

In 1993, the SAS hosted the 7th EAAC again, organised jointly with the Singapore Insurance Institute. It was held at the Pan Pacific Hotel. The conference was opened by then-Minister of State for Finance and Communications Teo Chee Hean, and attracted 260 delegates from 17 countries. The conference conducted a plenary session on the role of the Appointed Actuary. In the following year of 1994, the concept of the Appointed Actuary for life insurance business took effect.

In 1993, the Insurance Act was amended and mandated that all life insurance firms, through their boards, must formally appoint actuaries from 1994. It heralded a greater responsibility of an actuary as a defender of policyholders' interests. Apart from merely signing off on premium rates and reserves, the Appointed Actuary will have to assume an advisory role as well.

The previous year, in 1992, then-Finance Minister Richard Hu voiced concern over the "unprecedented instability" in the international insurance scene. Problems that the industry faced were partly caused by the greater losses, due largely to an unprecedented spate of natural and man-made catastrophes. But insurers themselves have been guilty of unsound practices, such as imprudent underwriting and investment. The Singapore actuary - the mathematician and risk manager in the insurance industry - thus needed to play a broader role of an investment adviser and strategist for insurance firms.

The First Four: Singapore's Pioneer Actuaries

In 1972, there were only four actuaries in Singapore. Mr. A T Shimpi, Mr. B P Gupta, Mr. N N Handa and Mr. Leong Teck Kut were trailblazers who held their records. Mr. N N Handa, who was director of Great Eastern Life Assurance Co. Ltd, as well as its General Manager and actuary, was referred to as one of the “world’s top 10 actuaries” in 1972, as he had been one of only 10 men in the world then with fellowships in both the American Society of Actuaries (SoA), and the British Institute of Actuaries (IoA). Mr. Leong Teck Kut became the first local-born actuary, after he qualified as a fellow of the IoA in 1963 at the age of 28. All four would later form the SAS in 1976.

The Meaning of the SAS Logo

The SAS logo, shaped in a crest, is designed with four main elements. In the top half of the crest, an open book, a reflection of the actuarial textbook, sits behind the letter ‘e’, which represents life expectancy, an actuarial symbol. In the bottom half of the crest, the symbol of a lion, a nod to our Lion City, stands above the year 1976 – the year of the Society’s founding.



1984



2020



TAN KIN LIAN: SECOND SINGAPORE ACTUARY

Mr. Tan Kin Lian is a familiar face. The public will know him as a presidential candidate, having contested in the election to become the President of Singapore in 2011 and 2023. Many also know him as Chief Executive Officer of NTUC Income, a role he held from 1994 to 2007. A recognisable public figure, Mr. Tan Kin Lian is also an actuary. In fact, he is likely the second Singaporean to qualify as an actuary, having passed the professional examination of the British Institute of Actuaries in 1975.

One may consider him an actuarial forefather of Singapore. He is one of the SAS' founding members, and is instrumental in the genesis of the Society.

Mr. Tan, you were made a fellow of the IoA in 1975. In 1977, you were the General Manager at NTUC Income. I wanted to bring it back all the way to the start. I read in an interview that you first learnt about the role of an actuary through your brother, who attended a career talk. What did your brother tell you about the work of an actuary? And what drew you to the profession?

TKL: I was in Secondary Four. I did very well in school. I was the top boy in Raffles Institution in the preliminary examination, which was the final before we took the Senior Cambridge, the common exam for the whole of Singapore. In the actual one conducted by Cambridge, I think I was second. Before the exam, my brother attended a career talk and he told me about the job of an actuary, which interested me because to be an actuary, you need to be strong with mathematics, which I was and also besides mathematics, I think I got a very strong command of English, which was also very important because the examinations are held by the professional body in the UK, so the command of English is quite important. I decided to leave school to pursue an actuarial career. Now, there was also another reason for that. My family was in need of money. My father was unemployed for a long time. My mother tried to run a small business, but that was not enough for the family. So I decided to come out and work so that I can earn \$180 a month as a clerk at Great Eastern Life. The principal at that time was very good. It was Mr. E W Jesudason. He did a lot for Raffles Institution. When he heard that I wanted to leave school, he called me to his office. He said, Kin Lian, if you need money, we can get you a bursary to pay for your examinations, to pay for expenses, but I told the principal, the bursary is not enough, I need a salary. So he introduced me to the General Manager of Great

Eastern Life. That was Mr. N N Handa. He gave me a recommendation, so I got a job as a clerk in Great Eastern Life and a salary of \$180, which was at that time, the average salary for a clerk in the insurance company. So I joined Great Eastern Life, and then for the next three years, I worked in the actuarial department, doing actuarial calculation. I remember at that time we had to use a calculating machine that you had to crank the handle to do multiplication. At that time, I think the first electronic calculator appeared, a Japanese electronic calculator. It was very big in size, and it cost, I think at the time, one year of my salary. I worked in the actuarial department for three years, and finished I think maybe five or six examinations. Then I left Great Eastern to be a computer programmer in a trading company, but then I continued the actuarial examination and later on, at the same time, I actually pursued an accounting profession. I qualified as an accountant before I qualified as an actuary. After that I changed to another company, and worked for another three years. That was Sime Darby. I think in Sime Darby, I qualified as an actuary – after about eight or nine years. That was my journey to be an actuary.

I'm very impressed that at 18, you knew that the bursary was not enough and that you needed a salary. You had a clear goal, and that started you on the path. Were you aware that you are actually one of Singapore's first local-born actuaries?

TKL: No, I was the second. When I joined Great Eastern Life, the head of the actuarial department was Mr. Leong Teck Kut. He was the first local qualified actuary. I think he was about 12 years older than me. So when I qualified, I became the second. Mr. Leong Teck Kut subsequently left Great Eastern to run

the Insurance Corporation of Singapore (ICS), which was owned by DBS. So he was the first, I was the second. Quite interesting about my time at Great Eastern was that the actuarial department head was an Indian called Mr. P P Nair. There were about four clerks in the actuarial department, and every day he had a quota of work (to be complete), and he was quite fair. He allocated an equal amount to each clerk. I finished my quota in less than half a day, so I got plenty of time to study for the actuarial exam. I used the textbooks. The Institute of Actuaries prescribed the textbook. Every subject has one or two textbooks. So I was able, after finishing the work, to read the textbook and do the exercises. I think there was a correspondence course. That means I could apply for the correspondence course, and have a tutor in the UK who would guide me, but I never applied for it. I didn't know whether the company could sponsor it, or if I had to pay on my own. It was quite expensive and I never applied for that. I just studied on my own, but it was not difficult. I studied based on the textbook, and did the exercises. When the examination came, I just took the examination and I passed it.

How do you feel about being the second qualified actuary in Singapore? Did it mean anything to you at that time? How about now looking back?

TKL: Not really. I think it was of course fun to qualify. Actually, there were, I think, 12 or 13 subjects. I took the exam twice a year and I passed every subject. So I could have finished in seven years. But somehow I was stuck with the last, the most difficult topic. I think I did it on the third annual attempt. When I passed, I don't think I even applied for a job in an insurance company. I was working in Sime Darby, doing some office

administration. Maybe it was quite timely because Mr. Handa, the General Manager of Great Eastern, knew the people in the UK from a consulting actuarial firm, Duncan C. Fraser. They wanted to open an office in Singapore to take care of the Far East. So at that time, Handa then asked whether I would be interested to join them, which I accepted. And it was my first time that I got a chance to travel to the UK. When I arrived in London, it was autumn. I had to travel there because I already agreed to work for Duncan C. Fraser, so they sent me there for training and familiarisation. So the first time when I landed in London, it was the first time I travelled outside Singapore and Malaysia. London is beautiful. It was autumn, and everywhere were autumn trees.

I wanted to jog your memory about the SAS. When the Society started in 1976, there were fewer than 10 fellows. Is that right?

TKL: Yes, correct. You've got A T Shimpi, Leong Teck Kut, N N Handa, myself and Alan Street, who might have qualified also. So these five people I know, plus another two or three more, who were fellows. I was already in NTUC Income and then one of my staff there called George Tay, the head of the actuarial department, suggested that we form the Society, together with Alan Street. So Alan Street and myself, we did most of the work, together with George Tay, to set up the Society. At that time, our purpose was mainly to have a Society for social purposes. So we didn't pay attention to the professional part, helping the students to qualify and so on. So it's mainly social activities for actuaries to meet. Our main activity was the annual dinner and the annual general meeting. It was after I left the committee of the SAS that they paid attention to the professional development part. But in the early days, that was not the main purpose.

You also wanted to know about the story of the Society's name. Of course, the natural name was to call it the Actuarial Society of Singapore. Then when I looked at the acronym, it was spelt ASS. I thought it was not a good idea, so I proposed the Singapore Actuarial Society instead. Mr. Handa said, why don't you call it the Actuarial Society of Singapore? I told him, no, no. So that's how the name was obtained.

Thankfully, you spotted it. Otherwise, it would have been an unflattering acronym.

TKL: Yeah, if anybody paid some attention to it, they would have realised it. For everything, you need an acronym. From ASS, Actuarial Society of Singapore, we just changed it to SAS, the Singapore Actuarial Society.

You mentioned that at the beginning, its main purpose was social. Apart from the annual dinner, do you recall any other activities?

TKL: I think the Insurance Commissioner might have approached the SAS for views on some legislation, or some supervisory practices, and the SAS would have met to discuss their views.

Who was the Insurance Commissioner during that time?

TKL: I think one of them was Francis de Costa. Next one was Tan Guan Aik. Then Law Song Keng became the Insurance Commissioner. Law Song Keng was the most active in working with the industry to discuss regulatory matters.

The actuarial profession has grown a lot. In 2025, the SAS has 614 fellows and 103 associates. In your days, there were fewer than 10.

TKL: Wow, I didn't know it became this many!

Yes, it has grown so much. Despite the growth of the actuarial profession – in the numbers, we see this significant increase – it still seems like the public perception of the role of an actuary is still very low. For example, when you were a public figure as a presidential candidate, I think it wasn't very widely known that you were an actuary. Why do you think the public awareness is so low, despite the growth of the profession?

TKL: I think I was more known for running NTUC Income. On the actuarial side, it was partly my fault, because I never used the opportunity to promote the actuarial profession. So I admit, that was my failure. (Laughs)

It's okay. I think you were in a role where you could have promoted and educated others more about actuaries.

TKL: I guess I have not been active in actuarial matters for a long time, after I left the SAS, my focus was to develop the business of NTUC Income totally. So promoting the actuarial profession was not my priority. So I didn't even keep track of the SAS after that. That was my fault.

I read in an interview that you would introduce yourself more as an insurance actuary, so people would understand you as an expert in the insurance field. Was there a reason why you didn't feel this need to educate people about the actuary side of you?

TKL: But I did apply my actuarial training very much in the business of NTUC Income, so I was the actuary of Income until the growth became too big for me to be both the General Manager and actuary, then I got other actuaries, but I still played a dominant role in the design and marketing of the product, using my actuarial knowledge.

I think some people might have considered me to be too dominant in running the company. Later I branched off into motor insurance, where the actuarial training became very important in terms of pricing the motor insurance premium. I was also active in the international cooperative insurance federation. This is the federation of cooperative insurance companies all over the world. I had a very close relationship with the actuary in the cooperative insurance society of the UK. I learned about how they ran the business and I adapted their knowledge, so what I did on developing the motor insurance came from learning their practice in the UK, where they analysed the claims experience to determine the premium and at that time the premium rating in Singapore was quite rudimentary. That means you take the sum of the value of the car, and apply the 2% to the value of the car. That will become the premium, and you adjust it by some loading and then discount. I then implemented the use of rating factors, so the premium is depending upon the seven, eight, nine factors, and the factors are all computed from statistics. That was the practice in the

UK, which I learned from them and then I adopted that in Singapore. That was the time when Singapore moved from a 2% premium with loading and discount, to the risk factor calculation. So that was, I think, a very major move for the general insurance industry. To a large extent, I think I pioneered the move for premium rating for general insurance in Singapore.

Do you remember the year? When was it?

TKL: I think it was around 1990. I was in charge of NTUC Income. When I joined, they already had life insurance and general insurance. General insurance was quite small because the big insurance companies for general insurance were very big and we were quite small.

I did two or three major strategic moves. One was instead of relying on general insurance agents from the market - most of the motor insurance business was done by general insurance agents who were active in the industry - we decided to use life insurance agents to sell motor car insurance. We already had a few thousands life insurance agents selling life insurance. So why don't they just sell motor insurance to their customers? So that was one very strategic move, where we used life insurance agents to sell motor insurance. At that time we were able to price our motor insurance about 10% below the market, because our selling cost was lower and our administration cost was lower. That allowed the business to grow in large volume. Based upon the large numbers of cars that we insured, at that time, the number was about 200,000 or 500,000, then we analysed the claims statistics by those risk factors, such as age, occupation, the type of cover, and gender,

and so on. We analysed it and then we used that as a basis to determine our premium rate. Because we're using a rating formula quite different from the market, some of our premiums became very competitive, so we got a lot of business in those factors, those areas. Our business grew, and we became the largest motor insurer in the market. We became very profitable. In fact, NTUC Income was more profitable in motor insurance than in life insurance.

Is it still the case now?

TKL: Even after I left, yes. It remained very profitable, and also quite a large volume.

Could you tell me more about the views that shaped your decision making?

TKL: I like the cooperative, because the concept of a cooperative is to benefit our customers, the policy holders. Partly, I was influenced by the International Cooperative Insurance Federation, where I attended meetings every two years and got to know the CEO of cooperative insurance companies that were 10, 20, 50 times the size of Income. So I became very strong in believing about the cooperative, and cooperative means you don't make big profits for shareholders, you don't pay high salary to the CEO, you keep the expenses modest, and you keep your premiums low for your customers. After I left Income, many people met me and said, "Mr. Tan, I want to tell you when I bought my insurance policy, I didn't want to buy everything from NTUC

Income, so I put half of my savings in NTUC Income and the other half of the savings in the commercial insurance company. After 20 years when the policy matured, NTUC Income paid me 20 percent more than the other commercial companies.” So that’s the core of being a cooperative, where we benefit our policy holders, and that is something that is part of me for 30 years in NTUC Income and even after I left NTUC Income, I do believe that businesses should operate in that way, not to make so much profit for shareholders and CEOs. The cooperative and socialism are the same body. I think capitalism is exploiting people to make profit for the capitalists. That is a very important part of my belief. I’m quite sad that Singapore is too capitalist. The government and the businesses are too capitalist. I’m also very sad that NTUC decided to turn Income from a cooperative into a for-profit company. That’s my view, not only in insurance, but in Singapore’s economy as a whole. I don’t like the practices in Singapore where capitalism is allowed to run wild. Rental and property prices have gone up so high, and ordinary people say they can’t afford to buy a house. Cost of living, the rental of shops, everything becomes very bad. So anyway, that’s my political view, very much based upon socialist thinking. In fact, the actuarial profession in the past was very much socialist. As we write insurance policies, we invest people’s money and we return it back to them with profit bonuses. It’s actually largely socialist, but then subsequently, in the life insurance industry, it started to turn capitalist and that’s very bad. It started in America, it went to the UK, went around the world, came to Singapore, that it’s better to be capitalist to make as much profit as we can. That’s my view about politics and the insurance industry.

Very interesting. You talked about the actuarial profession as socialist at its core. If you are still a practising actuary in our current capitalist system, how would you change that?

TKL: The participating fund, the life insurance fund, is largely socialist. Under that system, policy holders should get 90% of whatever is the surplus. That should be the core. Once people start to be greedy, they think too much about their personal wealth, how they can make more money from the shares of the insurance company, and it becomes more important than the life insurance fund, the policy holders... I don't know what can be done to bring that back. It might be quite difficult because the whole world is still capitalist. America, UK, that is that. You see that in the high inequality between high-income earners and ordinary people. America is very bad. Singapore is very bad, UK is very bad. So that becomes the dominant economic system. It's now breaking down around the world. What can we do to move back to a more socialist and fairer society... I tried to be President of Singapore to achieve that, but I didn't get enough people to agree with me. (Laughs)

Thanks for trying. I wanted to ask you about your personal goals. I read before that you wanted to obtain a PhD. Is this still a goal of yours?

TKL: Not anymore, I abandoned that long ago. Now, I do spend a lot of time on social media to express my views, and also to express my values. During the presidential election, I have got five values, which I believe are quite important.

The first value is honesty. So I see politicians, government leaders, business leaders, out of their greed, they become quite dishonest. They tell lies. But honesty is very important. The second value is fairness. We have to be fair. We cannot just treat people differently. Everybody should be treated fairly. Our societies are very unfair. People who are well-off, they have power, they bully others. The third value is to be positive. I'm quite worried about Singapore. Too many people are negative. They see what is wrong, they don't see what is right. They think it is good to be negative, and they think they get much more attention when they are negative. Everything has got positive and negative sides. Don't blow up the negative. My fourth value is courage. We should have the courage in what we believe in. So many people say I dare not say this because I will be blackmarked. There's no courage, so this being afraid is just an excuse. The fifth value is public service. Don't think about yourself, think about the public as a whole. That's my socialist nature. So quite often, when people react to what I say, they say, "Mr. Tan, if I were you, I would prefer this course of action." And I say, "That's right." If I were thinking of myself, I would have taken the course of action that you pursued and directed. But I'm not thinking of myself, I'm thinking about the common good, the public good, and my action is quite different. So these are my five values and I want to take this opportunity to emphasise these five values. ¶

LAW SONG KENG: SINGAPORE'S LONGEST- SERVING INSURANCE COMMISSIONER

A founding member of the SAS and an American-trained actuary, Mr. Law Song Keng is Singapore's longest-serving Insurance Commissioner, where he held the post for 12 years. He also holds the title of the longest-serving President of the SAS, where he served for five terms. A first-class honours mathematics graduate from the University of Singapore, Mr. Law went to the US in 1968 to pursue his master's degree in actuarial science at Boston's Northeastern University. In 1978, he became a fellow of the Society of Actuaries in the US.



Mr. Law, I wanted to start from the beginning. You were Insurance Commissioner in 1980. How long were you in the role for? What did you study, and how did you end up in the role?

LSK: I was there for 12 years, from 1980 to 1992. The longest held by anybody so far. I studied mathematics at the University of Singapore at that time. I got a very good grade – first class (honours). So there was this scholarship offered by the Public Service Commission (PSC) for actuarial science. It's amazing I came across it. Our family was poor in those days. We didn't have newspapers. Somehow, I came across it.

Was it an advertisement in a newspaper?

LSK: It must be a newspaper. So I applied for it. I went for an interview, and one of my classmates was there. He was also interested in the scholarship. At that time, I didn't think too much about it, or worry about getting it. Then I got a letter from the PSC that I got the scholarship. This was 1968. For two years, I studied. Then I got a master degree in the associateship, and came back. I entered the public service, admin service.

You studied at Northeastern University.

LSK: Yes, Northeastern University in Boston. When I came back, I was assigned to the Ministry of Finance (MOF) as an admin officer. You call it AO in those days.

So when you saw the advertisement for actuarial science, did you have any idea what it was about, since you were studying mathematics?

LSK: I know maths. The subjects in those days were very limited, only pure maths, and applied maths. Those were the key subjects. So I know nothing about actuarial science. I think there was one friend, one classmate – he knew somebody who knew something. He took me to see him. I cannot recall who, but it was someone in the insurance industry, who knew something about actuarial science. He told me about risk pricing, just some ideas about it. But the main attraction to me, in my position, is the scholarship to study.

You came back in 1970 and joined the MOF.

LSK: Yes, my first job was at the MOF, as an admin officer. In 1975, my boss started to talk about looking for someone to be in insurance supervision, someone who is an actuary. There was an Insurance Commissioner at that time already. He asked me to go and complete (my studies). I asked, are you sure I can complete it? He was very confident. They said, “Why not?” Eventually I went back in 1976 to complete my studies and took my exams.

This was for the fellowship.

LSK: Yes, that’s how I qualified in 1978. I came back (to Singapore) in 1978. By the time I completed in 1978, I think around 1977, the insurance supervision function was transferred from MOF to the Monetary Authority of Singapore (MAS)

already. Tan Guan Aik was the Commissioner. When I came back in 1978, I was not put back into admin service. They assigned me to the MAS. It wasn't decided by me. I think they knew I would take over from Tan Guan Aik. In 1980, I took over as Insurance Commissioner from Guan Aik. It lasted long - 12 years long. But I must say it's quite fulfilling. And I will say that anyone who is involved in insurance, or actuary, the work is quite fulfilling. It is the nature of the business, and the service you are providing is to the customers. It's a good purpose. You're serving a social purpose.

So 1976 to 1978 you went back to the US to study to attain the fellowship.

LSK: Yes, I went back to the same university. Same professor. This professor is very unique. His name is Geoffrey Crofts. We always called him Dean Crofts. It's amazing. He's the best teacher I've come across. From Primary One to university, he's the best. Not only is he so engrossed with what he's doing with teaching, but as a friend. Can you imagine? When I arrived the first time, he went to the airport to fetch me. Nighttime. But that's the first impression. We became friends. He had many Asian students.

You talked about the PSC scholarship for actuarial science. The government was very specific that they were looking for people for actuarial science.

LSK: Correct.

At that time, the government said there was a need for actuarial science in the public sector.

LSK: Yes, in public service, in regulation, in Central Provident Fund (CPF)... It was a scholarship for a specific subject – instead of a more general one. Normally you have economics, maths and computer science. In fact, it's good they have it. Actually, it can be used in many other areas, even in demography, all this can be used also. The government also has a statistics department.

In newspaper articles, where you were interviewed for your views, you often talked about the image problem of insurance agents. Could you elaborate more about this?

LSK: I'm satisfied and proud that the MAS has gone about improving the standards, integrity and conduct of the insurance agents over the years. When I started in the early days, it was a different world.

How would you describe the image of insurance agents at that time?

LSK: Very poor image. They lack knowledge. If one lacks knowledge, how can you advise? The next is integrity. They could have been mis-selling. You cannot treat selling insurance products like selling other trivial things. You must be ethical. So the quality and standard of the agent was the first in my mind when I became Commissioner. The first thing we did was to introduce pre-contract exams for agents. At that point, we are talking only

about life insurance agents. The general insurance agents came much later. They had to pass this set of tests. The idea was to make sure they had a basic life insurance knowledge about the product, purpose and coverage before they could be licensed as an insurance agent. We also monitored the conduct. If there was any mis-selling, the agent would be in trouble. The company was expected to dismiss and terminate their contract.

For insurance, why do we need to regulate? It is in the public interest. It could easily be a scam. For an insurance product, we pay first. So basically the company receives the money in advance, and provides service covering the payment later on. Integrity is very important. Imagine yourself as an entrepreneur. It's actually a good business to scam others. I could be selling a product without adequate pricing. I get all the money, then let it go bust. So it's a very long term business. The companies must and should be around to meet their obligations of payment of claims. For that role, who's the best person to help the regulator? The actuary. Starting from the design, the pricing, the adequacy of payment. Cheap payment doesn't mean it's good, you know? If it's not adequate, the company goes bust, everyone will suffer. That's why I appreciate the role of an actuary so much. They are very essential for long-term solvency so that insurance companies can meet their obligations.

The Rise and Fall of 'Mushroom' Companies: How the Insurance Business Became a Hotbed for Scams in the 1960s

With little regulation in the past, a large number of unregulated insurance companies sprang up rapidly across Singapore and the rest of Malaya. These insurance firms, called 'mushroom' companies, were often fraudulent or financially unstable. They recklessly went into the business without making sure that their premiums were adequate, had records that were incomplete or badly kept, or even had no intention of being honest. From the beginning, these companies were already insolvent. The longer they remained in business, and the

more policies they sold, the greater would be their insolvency. In 1962, it was reported that there were one million policy holders of about 38 'mushroom' insurance companies in the federation of Malaya. Many of them received little or nothing in refund from the premiums they had paid, as the companies were eventually liquidated. To smash these 'mushroom' companies, a new law for insurance firms was passed in the same year. No company can conduct life insurance business in Singapore without a certificate by an actuary establishing minimum premium rates.

The role of Appointed Actuary was introduced to Singapore in 1994. How did you get involved, and how important is that role to the regulator?

LSK: I attended a congress held by the International Actuarial Association in 1988 in Helsinki. During a presentation, they highlighted a concern about the insolvency of insurance companies in the US and European countries, and the need for capital adequacy, all these issues about the financial strength of the insurance company. Canada and the UK started it. Not so much the US. I was very attracted to that. It helped to strengthen insurance companies. As a regulator, you

straightaway realise that it's something that can help you, because your job is to protect the public interest and make sure that insurance companies, ideally, don't go bust at all. I got the idea, brought it back and started to promote it.

Previously, I believe insurance companies need to hire their own in-house actuary, but it's not mandated.

LSK: That's right. That's before the role of Appointed Actuary was introduced. In the early days, companies hired consultants from overseas. The role of an Appointed Actuary is very specific and well-prescribed. Every year, they have to submit a report to the board of the insurance company, detailing adequacy of the capital, capital reserving, even bonus distribution. It has to be recommended to the board and approved. The most important part is this. If the actuary sees that something is missing, or not quite right, and recommends something, if the board disagrees, the actuary has to report to the MAS. The actuary is given a special position. He's not just someone acquired by the company, but also approved by the MAS. It helps the regulator a lot. In fact, the MAS should thank me. (Laughs) And in a way, it's also good for the actuary involved. He has the backing of the regulator for doing his job. Otherwise, the financial officer of the company can override him.

The actuary is an independent role.

LSK: It has to be independent. He must know the purpose of insurance, and be aligned with the needs of the regulator, although he is a staff of the company.

Life insurance companies in Singapore are required to have an Appointed Actuary, as they make promises to policyholders that are fulfilled many years in the future. General insurance companies and reinsurers employ a Certifying Actuary to certify reserves and perform stress tests, which is gradually becoming more aligned with the roles and responsibilities of an Appointed Actuary.

The Appointed Actuary role came into law on 1 January 1994. Did this move have any impact on the SAS?

LSK: The role of the Appointed Actuary demands the SAS to be professional, have your own governance structure, set of discipline etc.

When you were seeding this idea of the Appointed Actuary, was there any pushback?

LSK: I was in the private sector already by then. After the Appointed Actuary position was created, the Insurance (Actuaries) Regulation was enhanced in 2004 to state that only fellows of the SAS can be Appointed Actuaries for life insurers selling directly to the public. If someone acts as the Appointed Actuary for a local life insurer here, it's important that he's subject to the conduct and requirement standard of the local professional standards. Otherwise, if he's overseas, who can discipline him?

The other thing I wanted to share, it's not in Singapore, but it shows how insurance

business can be abused and taken advantage of. Recently, in China, a property developer (Evergrande) saw an insurance company as a source of funds, bought it over, and became the majority (stakeholder). The life company invested in their property business, and the property company went bust. Even in this modern day, when I see that happen, I can only blame the regulator directly. How can you allow a property developer be the majority owner of a life insurance company, and provide funds for you to go and construct property. The life company collapsed. Billions of dollars. So you see how important insurance regulation is, to protect public interest. If everything is done in the public interest, we'll have no problems.

What was the SAS like in the early days? Previously, it was seen as a social club. How would you describe the activities then?

LSK: They were mostly dinners, hangouts with the actuaries, talks by foreign actuaries. There were courses conducted by professors as well, such as Geoffrey Crofts. But the Society had no professional governance over the members. It did not govern the conduct of the members.

When would you say was the year SAS professionalised?

LSK: Fully established... I would say it was 1996. The impetus for professionalising the SAS had something to do with the International Actuarial Association. We wanted to be a full member. When we started out, we were an observer member. To be a full member, you have to have quite a number of things in place. Basically, we had to change the whole structure to qualify for full membership.

Would you recommend an actuarial career to others?

LSK: Without knowing anything about a person, I would. I have a grandson, 11 years old. So the other day, he called me and said he went for maths training, something special. Then of course, I remembered my own journey, studying mathematics and getting a scholarship. But he's still too young, next time he can decide for himself. It can be very fulfilling because you are involved in a lifelong business, and the business serves a social purpose. It's a life vocation. It's beyond you.

Thank you for the insightful conversation, Mr. Law. Anything else you would like to share?

LSK: Maybe something more philosophical. What will be, you will never know. For me, my career - without the scholarship, it wouldn't happen. Then I was assigned to the MAS. I'm not saying it's not planned. But be practical as you go along. Be practical to adjust. You cannot plan and then fix it. Had it been another scholarship, I would have taken it as well. But it happened to be actuarial science. You know, Winston Churchill made an important and famous statement about life insurance. If he could, he would write or stamp the word 'life insurance' on every door. These are not the exact words, but it shows how important it is to a family, to a breadwinner.

"If I had my way, I would write the word 'insure' over every door of every cottage and upon the blotting pad of every public man, because I am convinced that, for sacrifice that are conceivably small, families can be secured against catastrophes which otherwise would smash them forever." Actually, I should have been a life insurance agent. I think I would have been a multi-millionaire. (Laughs) ¶

In October, the Insurance Commissioner sent to the Society a copy of the Presidential Address of Mr Hugh Scurfield (given when he was elected President of the Institute of Actuaries) and requested the views of our members on the various issues raised by him. We have sent copies to all fellows and associates and their replies are being compiled at present. A meeting will be convened to discuss the issues further before replying to the Insurance Commissioner.

In November, the Insurance Commissioner requested the Society to comment on the proposed Commissioner's Valuation Table 1991. The Research Sub-Committee headed by Ms Hauw Soo Hoon met and agreed to adopt the table for valuation purpose. Accordingly, a reply has been sent to the Insurance Commissioner's Department today.

For those of you who may not know, this is the first time that the Insurance Commissioner has had an official dialogue with the SAS and the first time that the Society has given its professional views.

What is significant is that the SAS has come of age - and that it is prepared to play its role as the official spokesman for the actuarial profession in Singapore. The SAS looks forward to the day when the relationship between the SAS and the Insurance Commissioner is similar to the relationship between the Institute of Actuaries and the Government Actuary of UK.

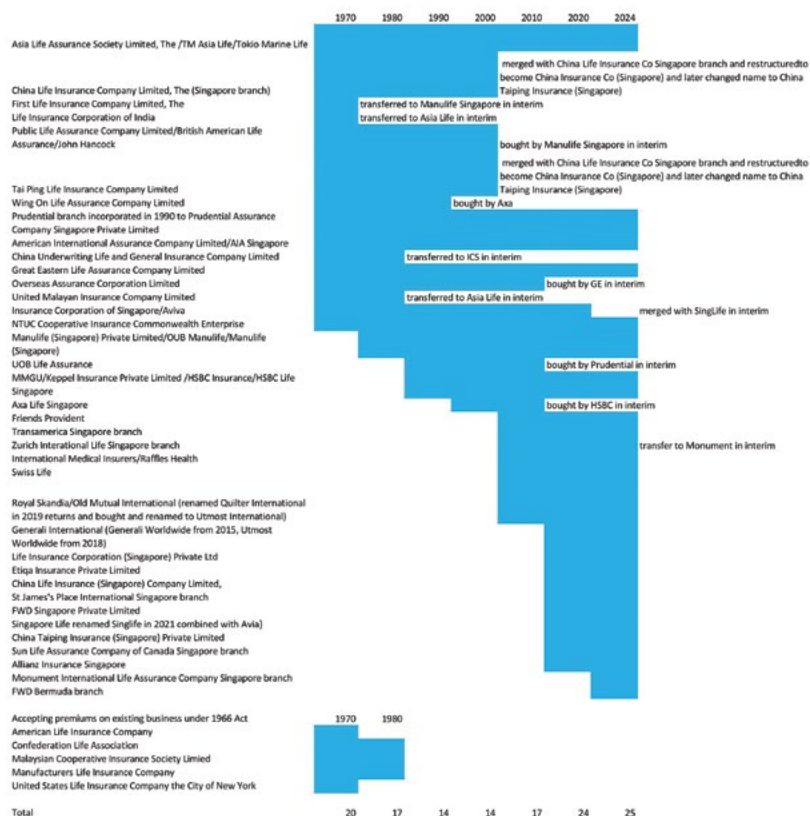
Although we are small in number, we should not be daunted in facing the responsibilities that lie ahead of us. It is a fact that there is no other body in Singapore who is better trained, equipped and qualified to give expert opinion on the financial condition of a life insurance company than the SAS.

Extract from the Presidential Address by Mr. Peter Foo at the 16th AGM of the SAS on 13 January 1992



Practising Certificate Seminars in 2018

Below is an overview of how life insurance companies in Singapore have evolved over the past 50 years. While not all companies are mentioned – particularly those that existed only briefly – the list uses names that may represent several different legal entities over time. This history illustrates both the growth of the Singapore life insurance market and the considerations an Appointed Actuary faces when setting long-term reserves, especially when company ownership evolves in unexpected ways.



An Inside Look:

What It Takes to Transform the SAS into a Professional Body

Professionalising the SAS was a series of constant work from the early 1990s to 2004, where it evolved from a social club to a professional Society recognised both internationally and by Singapore regulation. Here's what went down that winding road.

One, membership was restructured, a move that resulted in fewer members.

In 1990, there were two classes of membership – Ordinary and Associate. To be an Ordinary member, one had to be a fellow, associate or student member of one of the IoA, Faculty of Actuaries (FoA), or Society of Actuaries (SoA). Ordinary members were entitled to vote. Associate members were those who had an interest in actuarial matters (equivalent to Affiliate status today).

In October 1992, a forum was held to discuss the proposed restructuring of the Society. Following the forum, an extra-ordinary general meeting (EGM) was held on 3 December 1992 to vote on the adoption of the constitutional amendments. The motion was defeated by a vote of 29 to 8. Resistance was strongest among the then Ordinary members who would have had to take up Affiliate membership under the revised Constitution and, therefore, lose their voting rights.

Membership of the Society fell from 123 as at 1 January 1992 to 108 as at 31 December 1992, and to 103 as at 31 December 1993, consisting of 96 Ordinary members and 7 Associate members.

Two, a new class of actuary for the insurance industry emerged – the Appointed Actuary – which heralded greater responsibility for the SAS.

In Feb 1992, the Insurance Commissioner and Actuarial Department of MAS sent a letter to the SAS on the enhanced role of the actuary in Singapore for comment with the intention to create the Appointed Actuary role for life insurers and introduce dynamic solvency testing (DST). Feedback was provided by the SAS.

From 1 Jan 1994, all life insurers must have an Appointed Actuary. As the role and DST were new to actuaries in Singapore then, the SAS organised a “closed door” meeting of Appointed Actuaries to discuss the implications of DST and, in particular, the risk of Appointed Actuaries incurring professional liability in conducting these tests.

At the Jan 1993 annual general meeting (AGM), then-President John Chen noted that the Actuarial Society of Malaysia had upgraded from a social club to a professional

body, with four categories of membership, and would deal with professional standards. Furthermore, the Actuarial Society of Hong Kong had also been restructured with four classes of membership, and with the objectives to upgrade the actuarial profession in the community, to uphold the standards of professional conduct among members and to consider the actuarial aspects of legislation.

Third, a Professional Code of Conduct was developed to guide actuaries from diverse backgrounds practising in Singapore.

In August 1995, Mervyn Bryn-Jones, Secretary of the Professional Affairs Board of the IoA and FoA, enquired as to whether the SAS would like to enter into a Paragraph 4 agreement (of the Memorandum of Professional Conduct of the IoA / FoA), whereby IoA and FoA members could replace guidance issued by the IoA / FoA with that of the SAS if they were practising in Singapore.

A code of professional conduct was a pre-requisite of entering into a Paragraph 4 agreement with the IoA and FoA. In March 1997, the Professional Committee submitted a revised draft Code to the Council. On 27 Nov 1997, the Code of Professional Conduct

was unanimously approved by members.

The Canadian Institute of Actuaries, the Casualty Society of Actuaries and the Institute of Actuaries of Australia wished for recognition in Singapore. At an EGM on 27 November 1997, the members unanimously voted to recognise the Canadian Institute of Actuaries, the Casualty Society of Actuaries and the Institute of Actuaries of Australia under the Constitution, and to adopt the proposed Code of Professional Conduct.

In December 1997, an application was submitted to the Registrar of Societies for approval of the amendments to the Constitution and of the Code.

Fourth, to engage with the world, the SAS joined the ranks of international bodies.

In July 1995, the Society received an invitation from the IAA to join the IFAA, its newly formed section. At the time, the IAA was an association of individual actuaries, and the SAS was a Donating Member of the IAA. In time to come, the IAA voted to dissolve and for the IFAA to take over its name. As such, there is no longer an international organisation of individual actuaries, and the IAA

now represents all actuaries on the global stage, through their member associations. In December 1996, the SAS decided to apply to be admitted as an Observer Member of the IFAA. The SAS was admitted as an Observer Member of the IFAA on 21 September 1997.

The Council deliberated on the steps required to upgrade the membership of the SAS in the IAA from Observer Member to Full Member. This includes the need to verify that the SAS' Code of Professional Conduct and Disciplinary Scheme met IAA minimum requirement.

The drafting of disciplinary procedures was started in 1997 and continued in 1998 with external legal advice being obtained. The proposed Disciplinary Scheme was adopted at an EGM held on 29 July 1999.

The outgoing Presidential Address at the 25th AGM on 9 Feb 2001 raised the question as to whether the SAS should remain an Observer Member of the IAA or seek to upgrade to Full Membership. The incoming President expressed his hope for the SAS to become a fully professional body within 2 years. Alongside the SAS, MAS was very keen that the SAS obtained full membership of the IAA. On the 27th AGM of the SAS held on 21

March 2003, members approved changes to the constitution to more clearly define eligibility for Fellow and Associate membership and also on an amendment to the Discipline Scheme. On 17 May 2003, the IAA approved the SAS' application for Full Membership.

Fifth, the SAS gained recognition through dialogue and collaboration with MAS.

On 16 August 2003, MAS made a presentation to the SAS Council covering a number of topics but specifically the oversight of actuaries and enhancing the role of the SAS in that oversight. Subsequent to that, the SAS President and several other Council members met with officers of MAS to discuss enhancing the role of the Society.

Effective 23 August 2004, by the Insurance (Actuaries) Regulations 2004, an Appointed Actuary of a life insurer in Singapore had to be a Fellow of the SAS (and it is understood that Certifying Actuaries are encouraged to join the SAS as part of the fit and proper process).

Furthermore, any Appointed Actuary appointed on 1 January 2005 or after was required to attend an induction programme to be conducted by the SAS.

WHY BECOME PROFESSIONAL ?

If the Society establishes itself as a professional body, then :

- The public can expect a minimum standard of quality and integrity from Members.
- The authorities can recognise the Society as the representative body of the actuarial profession in Singapore. In time, the authorities may require Membership of the Society as a minimum qualifying condition for certification of statutory reports.
- The Society can earn the right to set standards of practice and behaviour with minimum interference from external parties. The profession will then have greater control on the expectations imposed on it.

WHAT IS A PROFESSIONAL BODY ?

appointed authority

A professional body may be defined as one which :

- Has a Code of Conduct by which all Members are expected to abide. The Code must set a level of integrity at which the public and the authorities can then have confidence in the Members of the Society.
- Has a legally sound procedure of investigating breaches of the Code and imposing disciplinary penalties including expulsion.
- Has a select body of Members, with a vested interest in the professional image of the Society, which is entrusted by the Membership to administer the Code fairly and impartially. The select body must consist of Members who can expect to earn the respect of the public and the authorities.
- Issues practice guidelines in areas where Members are expected to give professional advice i.e. advice on which third parties rely upon before taking action. Deliberate deviation from the guidelines which lead to giving of bad advice may be regarded as a breach of the Code.

WHAT IS THE SOCIETY LACKING AS A PROFESSIONAL BODY ?

The Society cannot be regarded as a professional body under its present structure as it lacks :

- A Code of Conduct which is
 - ◆ Acceptable to Members,
 - but which is also
 - ◆ Recognised by the public and authorities as a professional code.
- A select body of Members elected by its peers, which will be respected by the public and authorities, to administer the Code.
- Guidelines for practice in areas where Members are expected to give professional advice, especially where certain Members are qualified to provide certification (to the statutory authorities, a board of directors, etc.).

**HOW CAN THE SOCIETY BE RESTRUCTURED TO
ESTABLISH IT AS A PROFESSIONAL BODY?**

Alternative methods for restructuring the Society to establish it as a professional body are outlined in the following pages (Alternatives A, B, C and D).

ALTERNATIVES FOR RESTRUCTURING THE SOCIETY

ALTERNATIVE A

Retain the current structure of the Society but

- Expand the Objects of the Society to include promotion of professional standards.
- Add a Code of Conduct to the Constitution of the Society.
- Empower the Executive Committee to deal with professional matters⁴ which includes the administration of the Code.

ALTERNATIVE B

As for Alternative A except that :

- The Executive Committee will be re-constituted to consist entirely of Fellows (of professional actuarial bodies recognised under the Insurance Act for statutory certification purposes).
- The Executive Committee will then appoint various sub-committees, as appropriate, to be responsible for the following functions, amongst others, of the Society :
 - ◆ Education.
 - ◆ Research.
 - ◆ Social.
 - ◆ Publications.

ALTERNATIVE C

Two select bodies are constituted within the Society viz. :

- The Executive Committee which will be
 - ◆ Presided by a Fellow.
 - ◆ Elected by all voting Members.
 - ◆ Responsible for all aspects of the Society except on professional matters⁹.
- The Council which will
 - ◆ Consist only of Fellows with a minimum length of residence in Singapore.
 - ◆ Be elected by all voting Members.
 - ◆ Be solely responsible for professional matters⁹.

ALTERNATIVE D

As for Alternative C except that

- A Fellow class of Membership is created which the authorities will recognise as a subset of Members qualified to perform statutory functions. **The Council shall interpret and apply** the Code more stringently to Fellows of the Society than to other Members.

Definition : PROFESSIONAL MATTERS

Professional matters consist of the

- Development and up-dating of a Code of Professional Conduct (to be accepted by all Members).
- Administration of such a Code.
- Development of professional guidelines of practice.



TAN SUEE CHIEH: THE POWER OF SPEAKING UP

Another successful actuary public figure is Mr. Tan Suee Chieh. He was Chief Executive of NTUC Income from 2007 to 2013, a post he took over from Mr. Tan Kin Lian. Before that, he had led Prudential Singapore from 1994 to 1999, and was its first Asian CEO. From 2020 to 2021, he was also president of the UK-based Institute and Faculty of Actuaries (IFoA), one of the largest global actuarial professional bodies that provide qualifications through examinations. More recently in 2025, Mr. Tan Suee Chieh was thrust into the public spotlight again, as he had been one of the prominent voices who spoke out against the proposed Income-Allianz deal, making his views known on his social media pages on Facebook and LinkedIn.

You are known as the former CEO of NTUC Income. I would like to start from the beginning. As a student, what drew you to actuarial science, and how did you get started in the field?

TSC: I was always drawn to mathematics, but I wanted to apply it in a business or organisational context – not as a theoretician, but as a practitioner. Given my family background, it was also important for me to pursue a vocation with purpose and utility. At age 15, a mathematics teacher at Kajang High School suggested actuarial science. That conversation planted the seed.

In your Facebook profile, you posted a banner with the quote, “The actuary who is only an actuary is not an actuary.” It is an intriguing statement. Could you tell me what the statement means to you, and why did it resonate with you?

TSC: In 1968, upon receiving the Gold Medal of the Institute of Actuaries, Frank Redington remarked: “We are apt to be accurate, cautious, consistent and reticent, and in these lies our strength; but if they do not leave enough room for impulse and imagination, they can be a weakness. The actuary who is only an actuary is not an actuary.”

This resonated deeply with me. Over time, we have become overly technical – focused on valuation, pricing, modelling, and regulatory work. While these are essential, they are not enough. To be influential, actuaries must go beyond compliance

and comment meaningfully on whether technical work serves higher-order objectives.

Today's world is shaped by contested domains in economics, ethics, and sustainability. These are no longer matters of numbers alone. To contribute, we must draw on judgement, imagination, and the courage to speak up – just as Redington did when challenging UK politicians on the lack of pension funding and inter-generational fairness.

In your opinion, what other roles and skills should an actuary also embody?

TSC: The foundation is strong mathematics, critical reasoning, and clear communication. But actuaries must also cultivate intellectual curiosity and explore adjacent and emerging areas, such as artificial intelligence and large language models, which are technical enablers, as well as application domains like climate change and sustainability, ethics, governance and systems thinking. Ultimately, mindset is what matters most.

I heard in a podcast that you are currently learning Mandarin seriously, and are taking proficiency tests. It seems that actuaries love taking tests and exams. Could you tell me more about the motivation for this?

TSC: On the surface, I grew up in an English-medium school, but I have always felt the influence of Chinese culture within me. Learning Mandarin is a way of reconnecting

- with language, history, and mindset. The Chinese language is intricate, meaningful, and beautiful. I'm drawn to the etymology of Chinese characters, their layered meanings, and their cultural roots. More deeply, I see language as a gateway to philosophy. Learning Mandarin has allowed me to appreciate Chinese ways of thinking - ideas of harmony, relationality, and ethics - which complement and sometimes contrast with Western thought.

In particular, I've found resonance in the work of Ludwig Wittgenstein, who wrote that "the limits of my language mean the limits of my world." Language shapes not just what we express, but what we perceive and how we think. Isaiah Berlin, in his essays on cultural pluralism, argued that our values and perceptions are deeply embedded in our historical and linguistic traditions. Deep immersion in both Chinese and English worlds allows me to access two different cognitive and cultural paradigms - two ways of seeing and experiencing reality.

In the podcast, you also mentioned that actuaries have to rely more on "judgement" rather than "mathematics" now, due to radical uncertainties in the world, where the problems are increasingly less systematic. Could you elaborate more on this? How do you think the actuarial science profession will evolve?

TSC: This idea formed the basis of my 2020 IFoA Presidential Address. Our profession traditionally values accuracy, cautiousness, consistency, and reticence. These are virtues - especially in stable systems. But today we

live in a world of radical uncertainty, where systems are volatile and models incomplete. In such a world, we need different qualities: courage, imagination, curiosity, adaptability, and judgement. The profession must evolve – developing a broader mindset and engaging more deeply with society’s emerging needs. This includes climate change, longevity risk, AI ethics, and economic fragility. The actuary of the future must be a systems thinker and moral agent as much as a technical expert.

What advice would you give to young actuarial students starting out?

TSC: Becoming an actuary is just the beginning. What matters more is how you grow – intellectually, ethically, and as a human being. Here are a few distilled insights from my “61 Tips for Young Actuaries”. One, on work and character, speak up, be authentic, helpful and kind. Challenge groupthink, but always with humility and respect. Two, on learning and growth, read widely, and develop your curiosity. Learn new skills every year, such as languages, programming, philosophy, technology. Three, on well-being and purpose, treasure your health and your relationships. Use your mathematical strength to serve the public interest.

If you could gaze into the crystal ball, what do you envision for the actuarial profession, or the SAS, in the years ahead?

TSC: Lawrence Summers once said, “Things take longer to happen than you think they will, and then they happen faster than you thought they could.” In the next 10 to 15 years, I believe the basic structure of financial services – insurance, pensions, investments, and risk management – will remain intact. Actuaries will continue to play central roles in safeguarding financial security and resilience.

But in 30 to 50 years, the landscape may be unrecognisable. Advances in artificial intelligence, predictive genetics, and new paradigms of social coordination may render many of today’s actuarial tasks obsolete or radically transformed. Climate instability, demographic shifts, and existential risks will demand not only new models, but new ways of thinking.

In such a world, the actuary of the future must evolve – from a technician of probability to a steward of judgement, from a modeller of systems to a participant in shaping ethical frameworks. Our most meaningful contributions may lie not just in managing financial uncertainty, but in helping societies navigate complexity and ambiguity with clarity, integrity, and foresight.

I believe actuaries can continue to play an important role – by fostering thoughtful leadership, encouraging professional curiosity, and contributing to issues that matter in the region and beyond. As we navigate a changing world, let us remain grounded in our strengths, yet open to new ways of thinking and acting. As Frank Redington reminded us over half a century ago, “The actuary who

is only an actuary is not an actuary.” That insight remains relevant – quietly reminding us to stretch our imagination and deepen our engagement with the world around us.

If you are interested in exploring these ideas further, I invite you to read my 2020 IFoA Presidential Address, titled “Uncertainty, Culture and Imagination” (available on the British Actuarial Journal website), and my essay “61 Tips for Young Actuaries”, which can be found on tansueechieh.com. ¶

RAYMOND KWOK: RETIRED, RETREATED, BUT NOT RESTED

Raymond Kwok joined the SAS in 1982, and was a significant member of the SAS in the early years. The senior actuary shares his memory of the Society.



Could you introduce yourself and what you do?

RK: All my friends call me Raymond Kwok rather than my full Chinese name. I will be 74 years old in August 2025, and expect to live much longer than the actuarial mortality table predicts. I retired since 2009, after working with Prudential London from 1978 till 1990 when I joined UOB Bank Group to start UOB Life Assurance Limited, and built it from zero to 2.5b SGD using the Bancassurance business model without agents – the first Life Insurer to do so then. Since I retired, I did retreat but not rest. (Laughs) I am currently involved with more than 18 businesses nowadays. I joined the SAS immediately after I returned back to the Singapore Prudential office in 1982. I echo Song Keng's remarks that it was basically a social club with well-attended annual dinners by members and our spouses joining the events. Being young and outspoken, I was approached to “front” the charges of many interesting and exciting initiatives of the SAS with the full support of my seniors, actuaries and the senior management of other insurance companies which I am grateful for.

How did you get started in actuarial science?

RK: I graduated with a mathematics degree from Imperial College London. Under the guidance of my personal assigned professor, I decided to join the actuarial profession naively because the number of actuaries was much smaller than accountants. (Laughs) Not knowing that passing the actuarial examinations is definitely much harder.

How would you describe the SAS when you joined it? What was your experience or role with the SAS?

RK: Like Song Keng's remarks, the SAS was a social club then, and I recalled we had many annual dinners held in The Tanglin Club, well-attended by most actuarial professionals and our spouses. In most annual dinners I was tasked as the emcee and led many of the huddles both on serious topics and fun ones of course. We also held dinners whenever we received well-known actuaries passing through Singapore and shared their wisdom.

It was said that when dinners were hosted in the early days of the SAS, the number of actuaries and their spouses could fit in one table. What are some interesting memories you have with the SAS?

RK: Hmm... this is getting more difficult nowadays as age catches up. (Laughs) We organised many social games during our dinners, unfortunately I can't remember them but I am sure if we can dig up some old photos, our memories will return. But one activity I can remember was a small group of SAS members get-together, where we bought a RISIS-gold plated egg to send off one member migrating to Australia, and we jokingly expected it would turn into a big ostrich egg, or bigger by now. This small group of actuarial professionals are still organising social lunch gatherings, where we shared many personal views and deliberations of topics of current interests.

The SAS celebrates 50 years in 2026. What are your hopes for the actuarial profession, or the SAS?

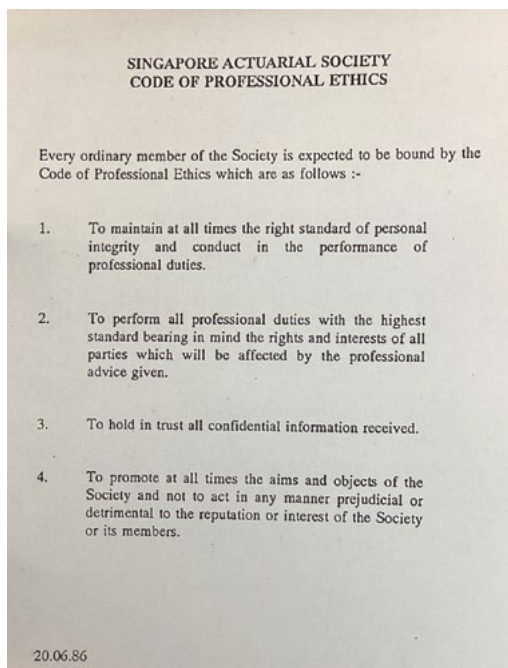
RK: If you hadn't mentioned that the SAS is already going to celebrate its 50th anniversary, I would not have noticed that we came such a long way. During the period when I was the President of LIA (Life Insurance Association Singapore), I have always wanted the SAS to offer the life insurance industry our actuarial professional contribution to topics which greatly affect our industry. But then the SAS was still small and most, if not all actuaries are employees of life insurance company, therefore it's not easy for them to speak out as actuarial professionals which might create conflict with their employment. I hope the SAS going forward can be more independent as an actuarial professional body by contributing openly our actuarial professional voices for major development of our life and non-life insurance industry. I sit on the Advisory Boards of many organisations, and the SAS might want to set one up with members not only from Singapore but the SAS can tap onto other well-known actuaries from around the world to look at issues beyond the horizon. Pro Bono of course. If you already have done so, bravo. ¶

THE
WORK
OF
THE SAS

Standard-Setting

From 1997, in preparation for the enhanced roles and duties of actuaries, the SAS adopted a Code of Professional Conduct for actuaries practising in Singapore.

A code of professional ethics was available as early as 1986.



This document, which has since been revised and rebranded as the Standard of Professional Conduct, governs Singapore actuaries in providing actuarial advice, maintaining independence when providing actuarial advice, communicating actuarial advice, and publicising their services.

In addition, the SAS also issues standards specific to key tasks involved in the actuarial practice for life and general insurance businesses.

1997 Code of Professional Conduct

CODE OF PROFESSIONAL CONDUCT OF SINGAPORE ACTUARIAL SOCIETY

The following Code of Professional Conduct (Code) applies to all members of Singapore Actuarial Society (SAS).

GENERAL

1. SAS is a professional body which, through its members, has an obligation in the public interest to provide the best possible service and advice. In order to achieve this it is essential that the highest standards of conduct are maintained by all members of the SAS when they give advice of a professional nature. The membership of SAS is conditional on the successful completion of rigorous education requirements in the case of Fellows and Associates of the Society, and the abidance of all members by the constitution, the Professional Code and any guidelines of the SAS, thereby providing an assurance to the public that Members are qualified to perform their duties at a high level of knowledge and competence. The purpose of this Code is to ensure that public interest will be served.
2. This Code sets out the main principles to which SAS expects all Members to conform. In addition, SAS may issue guideline notes from time to time to assist Members in the interpretation of this Code, and Professional guidelines whenever necessary to establish acceptable standards of practice.
3. Any Member who is in doubt as to the principles to be adopted or the action which should be taken in a particular case relating to professional conduct is advised to seek the guidance of a Council member.
4. A Member who believes that there has been a breach of this Code by a member is required to bring the matter to the attention of the President. Senior Fellows have a duty to guide Members in the application of this Code in their dealings with the public and other members.

STANDARDS OF PROFESSIONAL CONDUCT

5. Professional conduct of a Member involves integrity in relationships with those to whom the Member renders professional services as well as with other Members of SAS and the public. In all these relationships every Member should be concerned not only with his own behaviour but also the behaviour of other Members of SAS.
6. A Member must act with honesty and in a manner to maintain the dignity and reputation of the profession and to fulfil its responsibility to the public.
7. A Member shall exercise integrity, skill and care in performing professional service taking into account any applicable guidelines issued by SAS and by any relevant authorities.

ACTUARIAL ADVICE

8. A Member should consider whether he has sufficient practical experience to advise on a particular issue. If he is unsure, he should not act except in co-operation with or with the guidance of a Fellow with experience of that issue.
9. All actuarial advice is the personal responsibility of the Member providing such advice.
10. In providing actuarial advice, a Member must make it clear to all relevant parties the capacity in which he is acting and must clearly identify the person or organization receiving such advice.
11. A Member must not be influenced by interests other than those of the person or organization receiving such advice. In a situation where a conflict of interest may arise or where there is any constraint on the advice other than that imposed by the recipient of the advice, the Member must disclose the conflict or constraint fully to the recipient of the advice.

18. In circumstance where a Member is unable to satisfy himself as to the validity of the data used or is constrained to adopt actuarial methods or assumptions which, in his opinion, are inappropriate, he should include an appropriate qualification in the communication of the actuarial advice.
19. Differences of opinion among actuaries may arise, particularly in choices of assumptions and methods. Discussion of such differences, whether directly between actuaries or in observations made to a principal by one actuary on the work of another, should be conducted objectively and with courtesy.

PUBLICITY

20. Any advertisement by a Member or his employer or any other person should be factual and not misleading or lead to unfair professional advantage.
21. A Member must not use a title which is dependent on elective office in SAS unless he is acting on behalf of SAS.

OTHER POINTS

22. A Member may be offered an appointment by a person or organization to provide actuarial advice to that person or organization which, to the knowledge of the Member, is already largely provided by another Member. The Member should then, with the permission of the person or organization appointing him, discuss with the incumbent Member the invitation so as to ascertain whether there are any professional reasons why the Member should ought to decline the appointment or whether the Member should bear any particular consideration in mind before proceeding to accept such invitation.

DISCIPLINE

23. A Member shall co-operate with the SAS Council in any investigation into possible breach of SAS Code of Conduct, and shall subject himself to the disciplinary procedures of SAS.

12. A Member must have proper regard for the trust which is implicit in the relationship between the recipient of his advice and himself. He must ensure that the information he uses and his advice remain confidential except where disclosure is required by law.
13. A Member must not provide actuarial advice to any person or organization when he has reason to believe that his advice may be used to evade the law or is contrary to the public interest or the interest of the Profession.

INDEPENDENCE

14. In providing actuarial advice, a Member must make a full and timely disclosure to the recipient of that advice of any direct or indirect compensation that the Member or his employer may receive from any source as a result of the actuarial advice provided.

COMMUNICATION OF ACTUARIAL ADVICE

15. If a Member has reason to believe that his actuarial advice will be transmitted in whole or in part to a third party he must ensure insofar as is possible that his authorship, the capacity in which he is acting and responsibility for the advice are acknowledged to the third party, that his advice is not presented in a way which is likely to be misleading and that any conflict of interest or constraint on the advice are fully disclosed to the third party.
16. In any communication of actuarial advice, a Member should include a statement identifying the data used and the actuarial methods and assumptions employed. He should also explain the reasons for adopting the actuarial methods and assumptions.
17. In any communication of actuarial advice, a Member should set down what steps, if any, he has taken to satisfy himself as to the validity of the data used. Where he makes use of sources or information for the correctness of which he does not assume responsibility, this should be made clear in the communication.

Policy Development

The Role of Actuaries in Public Policy: The Central Provident Fund Board

Actuaries, with their reputation for technical financial expertise and integrity, have increasingly applied their analytical and risk-management skills to matters of public policy. One example is in the Central Provident Fund (CPF) Board, which had an Actuarial Services Department. The CPF is a key pillar of Singapore's social security system, and serves to meet our retirement, housing and healthcare needs. Actuaries play a crucial role in premium calibration, financial valuation, and risk management for projects related to retirement, housing and healthcare.



Colin Pakshong shares more about his work.

Could you introduce yourself and what you do?

CP: I was born in South Africa, where I took the Institute of Actuaries exams. I moved to Hong Kong shortly after completing the exams and after a few years came to Singapore and am now a Singapore citizen. I have worked in pensions, consulting, reinsurance, retakaful and life insurance. I am currently a director of an insurer and a takaful operator in Malaysia, and chairman of a life insurer in

Cambodia, and in 2024, I completed my term as an independent director of an insurer in Singapore. I'm also currently a member of the CareShield Life Council and am involved with the Personal Injuries Review Committee; in addition, I do some consulting work for the CPF Board.

When did you join the SAS?

CP: I think it must have been around 1992 or 1993, shortly after I moved to Singapore. I have a memory of attending an annual dinner of the SAS where there were only two tables, and at my table, there were no actuaries who had been born in Singapore.

You are an actuary, and your work has real-life application in areas like healthcare. Could you take me through the work you do in life insurance?

CP: I don't currently do any life insurance work directly. As a director, my role is not mainly actuarial, although the actuarial training is very useful in areas such as risk management, par fund management and asset-liability matching. I frequently have the opportunity to review the work of other actuaries, not in the sense of providing technical oversight, but rather in terms of evaluating the conclusions or recommendations and how they were reached or developed.

What were some of the notable reforms or national policy changes in which you were involved? What was their purpose, and why were they important at the time?

CP: I served on the CPF Advisory Panel, which ran from 2014 to 2016. The Panel was set up to make recommendations to the government for enhancements to the CPF, and at the end, the government accepted the changes that were proposed. While the CPF is essentially “just” a defined contribution scheme, as a national pension scheme, there are many aspects that have to be considered, and I think the changes were significant and meaningful without adding burdensome complexity. The changes put more focus on the link between the desired outcome (the level of annuity payment) and the amounts that have to be accumulated by scheme members in order to achieve it.

You have been on advisory panels, and worked with government agencies. Who was a key government stakeholder you engaged with? Could you share memorable moments or experiences you’ve had working with them? What was challenging, and how did you overcome them?

CP: I worked with the CPF for a number of years in addition to my time on the CPF Advisory Panel. Although the CPF system (Ordinary Account, Special Account, etc.) is a large part of what CPF does, it also administers a number of insurance schemes, including MediShield Life and CareShield Life (and from that viewpoint it might be considered the largest insurer in Singapore). Working on the CPF insurance schemes requires a different perspective,

because unlike commercial insurers, there is no profit motive. This is a two-edged sword: it removes many pressures but at the same time, it can lead to loose financial management. In practice, I found that the CPF has strong governance and its oversight of solvency and capital is quite similar to what you would find at a typical insurer.

The main challenges are learning to understand the issues, considerations and constraints from the viewpoint of a public scheme. For example, an insurer might decide not to serve certain demographic groups because the potential volume of business is too small, or expenses would be too high. Public schemes often don't have that choice.

Another interesting consideration is offering choices. In practice, many or most people do not actively exercise their right to choose, and stick with the default. Then it becomes very important to set the default carefully (for example, with CPF LIFE).

While on the CPF Advisory Panel, I attended various focus groups, and that made a lasting impression on me. As actuaries, we can become a little detached from the customers who are buying our policies; the focus groups were an opportunity to hear directly from people who were going to be affected by what we were doing. We got to hear their concerns and expectations, and for me, this process put a real world context on our work.

If you could gaze into the crystal ball, what do you envision for the actuarial profession, or the SAS, in the years ahead?

CP: I hope that there will be greater engagement with the SAS by its members, and that it becomes difficult to imagine being an actuary in Singapore without being a member of the SAS. On the public front, I hope that the SAS will be seen as an authoritative, independent voice on relevant issues and that its views are frequently sought by the government and the press.

I hope that actuaries get opportunities to show their capabilities with more diverse employers and that it becomes more common to find actuaries working successfully in non-traditional roles. At the same time, I hope that in the future, the local universities find it difficult to cope with the number of students applying for actuarial courses! ¶

Actuaries moving into non-conventional roles was a concept even in 1977.

So much for the image but what do they actually do ? What is an actuary ? About the best definition of an actuary that I have heard came from a former Prime Minister of Great Britain, Harold Macmillan, who once said that an actuary is a chap who is always dead on time. However, a serious official definition of actuarial work is as follows and I quote from the 1974-1975 edition of the Institute of Actuaries Year Book "Actuarial work is concerned with the solution of a wide range of financial and statistical problems within the general framework of financial management. These problems are partly dependent upon the contingencies of life and death and partly economic variables - for example in life, sickness and pension insurance - and for their solution the actuary has developed distinctive methods which also have wider applications outside these hitherto conventional fields".

Extract from article "Some Actuarial Aspects of Life Assurance" by Mr. Alan Street in the Singapore Actuarial Newsletter of October 1977

The Role of Actuaries in Public Policy: The Monetary Authority of Singapore

The Monetary Authority of Singapore (MAS) took over the supervision of the insurance industry in 1977, after the supervisory functions under the Insurance Act were transferred from the Ministry of Finance the same year. The MAS, as Singapore's central bank and chief financial regulator, focuses on strengthening insurers' financial position and protection of policyholders' interest in cases of insurance company's insolvency. Furthermore, the MAS requires insurers to have in place Appointed and Certifying Actuaries to ensure that policyholders are treated fairly and insurers operate with sound financial controls. The SAS has been a proactive stakeholder and a valuable partner to the MAS.



Raymond Cheung shares more.

Could you introduce yourself and what you do?

RC: For over 20 years, I have worn many hats - actuary, rating analyst, risk officer, portfolio manager, entrepreneur - always at the crossroads of insurance, finance, technology, and sustainability. What excites me is turning ideas into real-world impact: whether it's helping Basel Medical Group go public on Nasdaq, building a fintech startup (PT Verde) that reached 100,000+ users in Indonesia, or creating Grab's first pay-as-you-grab insurance. I love the messy, rewarding work of

bridging disciplines – like actuarial science and ESG – to solve problems and grow businesses.

Beyond the boardroom, I am deeply invested in mentoring the next generation. Teaching at SCI, NTU, SMU and ESSEC let me share hard-won lessons about insurtech, climate resilience, and the human side of risk. Serving on SGX/Nasdaq boards has taught me to “walk the talk” on how governance can fuel innovation. At the end of the day, I am driven by a simple belief: innovation and thoughtful disruption, rooted in sustainability, can make systems fairer and lives better. I want to add value in society – not just in theory, but in practice – one project, one classroom, one policy at a time.

When did you join the SAS?

RC: I joined the SAS in 2002 when I started my first job with Watson Wyatt Insurance Consulting. I served as Honorary Secretary of the SAS from 2010 to 2019. I founded the ERM Committee in 2012. I am currently serving as a GI Committee member, a position I have held since 2011.

You chaired the SAS Risk-Based Capital Task Force. Could you tell me how that came about? When was this, and who was involved? What was its purpose?

RC: In 2012, the MAS released its first RBC2 Consultation Paper. At the time, I was serving as the Honorary Secretary of the SAS and had recently spearheaded the ERM Committee in the same year. Recognising the importance of fostering stronger collaboration with the regulator MAS, the SAS Council saw value in forming an RBC2 Task Force to

provide independent actuarial perspectives and strengthen engagement with the MAS. Consequently, the RBC2 Task Force was established. Given that RBC2 encompasses both life and general insurance, the Council determined that an impartial chairperson would be ideal. Since ERM also spans both insurance sectors and was gaining prominence in the industry - combined with my role as the SAS Honorary Secretary - I was deemed a suitable candidate and subsequently appointed as the Task Force Chairperson.

As the Chair of the SAS RBC2 Task Force, I collaborated closely with the SAS committees, namely the Life Insurance Committee, General Insurance Committee, Health Insurance Committee, and ERM Committee to consolidate our responses to the MAS consultation papers. The Task Force comprised selected members from these committees, enabling us to refine and harmonise our findings before submitting a unified professional perspective to the MAS. Additionally, we engaged with the Life Insurance Association (LIA) and the General Insurance Association (GIA) to further strengthen the depth and relevance of our consultation responses.

Could you share more about your findings or conclusion from the SAS Risk-Based Capital Task Force?

RC: In 2012, we submitted our first consolidated response to the MAS. Following the release of the second consultation paper in 2014, we presented our updated findings to the MAS in June that year. Additionally, we organised an RBC2 Forum under the SAS to share our insights with industry stakeholders.

Summary of RBC2 Task Force in response to 2nd consultation paper in 2014:

The RBC2 Task Force findings highlighted key concerns and recommendations regarding the MAS' proposed regulatory framework. Key points included:

- **Capital Requirements:** Risk charges (e.g., operational risk at 4%) were deemed excessive compared to global standards (e.g., Solvency II's 0.45%), potentially increasing costs for insurers and policyholders.
- **Diversification & Calibration:** Advocated for broader recognition of diversification benefits and recalibration of risk factors (e.g., equity, credit spread) to align with long-term insurance dynamics.
- **Operational Risk:** Recommended replacing the standardised charge with ERM/ORSA integration, citing lack of empirical justification and double-counting risks.
- **Counter-Cyclical Adjustments:** Supported adjustments for equity and other asset classes to mitigate pro-cyclicality, emphasising global applicability.

Proposed timelines and transitional provisions were also critiqued as overly ambitious.

What was the MAS' response to the findings? Did it affect any changes?

RC: The MAS' RBC2 project, led by Ms. Lee Wai Yi, welcomed the proactive responses from the SAS, marking the beginning of a strong collaborative relationship to refine the RBC2 framework.

In 2016, the MAS issued the 3rd consultation paper in conjunction with QIS2. The SAS had a closed-door consultation with the MAS.

Summary of the RBC2 Task Force in response to 3rd consultation paper in 2016:

The SAS responded to the MAS' revised RBC2 proposals in a closed-door consultation on 19 April 2016. Key areas addressed included:

- **Valuation of Liabilities:** Proposals for yield curve determination, fixed Ultimate Forward Rate (UFR), and studies on matching adjustment and illiquidity premium.
- **Required Capital:** Clarifications on universal life policies, C1/C2 diversification, and life catastrophe risk, with calls for morbidity shock calibrations.
- **Available Capital:** Discussions on reinsurance with head offices and long-term health policies.
- **Other Matters:** Requests for transitional approaches, stress testing scenarios, and derivatives impact reviews. The SAS sought more time for detailed studies on several technical aspects.

Beyond 2016, the MAS had several closed-door consultations with the SAS, but more specifically with the Life Insurance Committee, in order to refine certain areas of the RBC2 proposals such as Matching Adjustment, Illiquidity Premium, and valuation of Universal Life. The MAS conducted a final parallel run for the year ending 31 December 2019, and the MAS issued Notice 133 in 2020, effective 31 March 2020.

Could you describe the experience working with the MAS? What were memorable moments or experiences you've had working with them? What was challenging, and how did you overcome it?

RC: Working with the MAS on the RBC2 framework was a highly collaborative and rewarding experience. One of the most memorable aspects was the open and constructive dialogue between the SAS and the MAS – regulators were genuinely receptive to industry feedback, which fostered a true sense of partnership. Discussions on key technical areas like the Matching Adjustment and Ultimate Forward Rate were particularly engaging, as the MAS demonstrated a willingness to refine proposals based on actuarial insights.

A particularly fulfilling initiative was the opportunity to co-author and co-teach the Risk-Based Capital for Insurers in Singapore – Life and Non-Life, a two-day training program with the MAS Director and RBC2 leader Wai Yi, under the Singapore College of Insurance. Since 2016, we have conducted this annual course to educate younger insurance professionals on RBC2 principles – an initiative that has not only strengthened industry understanding but also deepened the MAS-SAS collaboration. It was incredibly rewarding to work alongside Wai Yi in shaping the next generation of insurance professionals.

Of course, there were challenges, particularly in balancing regulatory rigor with practical industry implementation. Areas like capital requirements for unrated bonds and operational risk initially posed difficulties, but through persistent technical discussions, data sharing, and joint working groups, we arrived at balanced solutions. The MAS' phased implementation approach for complex changes was instrumental in easing transitions.

The most satisfying moments came when the MAS incorporated the SAS' recommendations – such as refining the Matching Adjustment/Illiquidity Premium mechanism or recognising reinsurance with head offices

under appropriate safeguards. These outcomes underscored the power of constructive engagement. Overcoming challenges required patience, evidence-based advocacy, and a shared commitment to long-term stability – a testament to the strong and enduring relationship between the MAS and the SAS.

If you could gaze into the crystal ball, what do you envision for the actuarial profession, or the SAS, in the years ahead?

RC: Looking ahead, I envision the actuarial profession – and the SAS – evolving in three key directions:

1. Expanding Beyond Traditional Roles

Actuaries will increasingly step into non-traditional domains like cyber risk modelling, climate risk analytics, and AI-driven predictive insights. With Singapore's push towards InsurTech and digitalisation, actuaries must blend technical expertise with data science, machine learning, and behavioural economics. The SAS can lead this shift by curating specialised training and fostering cross-disciplinary collaboration with tech and finance sectors.

2. Deeper Regulatory-Industry Synergy

The success of RBC2 set a precedent for how regulators and actuaries can co-create robust frameworks. As risk landscapes grow more complex (e.g., pandemic shocks, crypto-asset risks), the SAS will play a pivotal role in bridging the MAS' policy goals with actuarial innovation – whether in dynamic capital standards, IFRS 17 refinements, or climate stress testing.

3. Global Thought Leadership

Singapore is positioned to become a hub for actuarial excellence in Asia, with the SAS driving thought leadership on emerging risks (longevity tech, embedded insurance) and ethical AI use. Initiatives like regional conferences, joint research with universities, and partnerships with global bodies (IAIS, IAA) will amplify Singapore's voice in shaping the profession's future.

Ultimately, the SAS' strength will lie in its ability to anticipate change, upskill members, and advocate for the profession's expanding relevance - ensuring that actuaries remain indispensable in a data-driven, risk-aware world. ¶

A sense of actuarial humour...

An insurance company is like an automobile going down the road at a high speed. The president has his hands on the wheel; the marketing vice president has his foot on the gas pedal; the controller has his foot on the brake; and the actuary is in the back seat screaming directions from a map he has just made by looking out the back window.

An Actuarial Exam for One Candidate in 1950s Singapore

In 2024, the Society received a letter from Mr. Debenham, an English actuary with a connection to Singapore. During British colonial rule, Mr. Debenham was in Singapore from 1957 to 1959 as part of his National Service for the Royal Air Force. An aspiring actuary then, he had registered to take his actuarial examination while undergoing military service. However, there was one problem. Singapore was not an exam centre at the time. Fortunately for him, provisions were made, and the exam in Singapore went ahead with him as the only candidate. His letter, which is reproduced below, is a rare glimpse into one of the earliest actuarial activities in Singapore before independence.

Mr. Alex Lee, President
Singapore Actuarial Society

26th May 2024

Dear Mr. Lee,

The Singapore Actuarial Society website states that there were few actuaries and little awareness of the actuarial profession in Singapore before the Society was founded in 1976. I was in Singapore from 1957 to 1959, and although I was not an actuary at the time, I was certainly aware of the profession and in fact I sat a British Institute of Actuaries examination there in November 1958. Because Singapore was not an examination centre for the Institute at the time, you may think this cannot be true, but I can tell you how it arose.

I was on National Service in the Royal Air Force (RAF) and stationed at the former RAF Changi, now the site of the civil airport. Before I had been called up to serve in the RAF, I had registered my name with the Institute as a person who wished to take the preliminary exam, which potential members had to pass before they were admitted as students (or else get an exemption). Because there was not an exam centre locally, I arranged with the Education Branch at RAF Changi that they would provide the necessary premises and supervision. This was approved by the Institute and the exam went ahead with me as the only candidate.

After failing this, and while I was still in Singapore, I applied to resit it in May 1959. Expecting to be in the UK and demobilised by March 1959, I registered for the Norwich exam centre. Out of the 12 candidates sitting the exam there, I was one of the three who passed, and duly enrolled as a student member of the Institute. I sat further exams in Norwich in the following years and passed all of them first time, so qualified as an associate (AIA) in 1962 and as a fellow (FIA) in 1963 at age 25. I also won the Institute's Sir Joseph Burn examination prize for 1963. This prize is awarded each year to the UK student(s) showing special merit in completing the examinations and becoming eligible to transfer to the class of fellow. It was first awarded in 1952 after Sir Joseph's death, and I was the first winner from Norwich. Luckily my failure at the first exam in Singapore had not affected my ambition to become an actuary.

I worked for The Norwich Union Life Insurance Society at its head office in Norwich until 1993. This was a mutual company established in 1808 with just over 4% of the UK life insurance market, which made it the fourth largest. Amongst other duties, for many years I completed the government returns for the company on behalf of the appointed actuary, and was appointed actuary myself for some subsidiary life companies. I was also actuary for the company's UK staff pension scheme. Norwich Union transacted life business in several overseas countries including, in Asia, India (until nationalisation), Pakistan, Bangladesh and Sri Lanka, but not Singapore or Malaya, and general business in far more countries through subsidiaries.

Some years after my retirement the company demutualised, and then amalgamated with the Commercial Union, General and Yorkshire companies to become the CGNU group, which quickly changed its name to Aviva, a name which I am sure you will recognise. The yellow part of Aviva's logo is derived from the Norwich Union logo and depicts the spire of Norwich Cathedral.

I was in Singapore in the RAF from October 1957 to February 1959. While there I observed the procession of devotees at the Thaipusam Festival, and visited and toured a film studio (name forgotten), the Tiger Brewery, the Ford Motor Company assembly plant (the site of 1942 surrender), and the old Changi Prison (no cigarettes or cameras allowed). I also visited Johor Bahru, Malacca, Kuala Lumpur, Penang and Fraser's Hill in Malaya.

My most valued souvenir is a Singapore Blood Donor badge which I keep with my English badges, and I have considerable nostalgia for the place. I and my late wife made several visits, the last in 2009, when I

was able to time it to coincide with the Thaipusam Festival and show her the procession from the convenience of a hotel on the route. Exactly as I remembered it 50 years earlier, except we couldn't find anyone walking barefoot on burning coals.

We have also visited the Changi Museum, firstly when it was in a hut just outside the old prison, and then in the present building. I was particularly interested in the replica war-time murals in the present museum because the discovery of the originals was made known in 1958 when I was at Changi. I did try to see the originals on one of our visits but found the old barrack block that houses them is now part of a military establishment that is fenced in, and the guard would not let me through the gate without a letter of authorisation from the appropriate government minister!

I have never worked in Singapore as an actuary, and my only actuarial activity was to take an exam and then apply to take it again. But as you celebrate your 50th anniversary in 2026, you may like to know that at least one person was aware of the actuarial profession in Singapore 18 years before your foundation.

Yours sincerely,
D W Debenham
Norwich, UK

EDUCATION

To be an actuary, odds are, most will fail at least some of the exams along the way. According to a 2021 report in The Wall Street Journal, among people taking at least one exam from the Society of Actuaries – the biggest US credentialing body – 15% eventually pass the multiple tests required to become an associate, one of two designations allowing them to practise. Just 10% passed those and additional tests to become a fellow, the group's higher designation, which affords bigger responsibilities and salaries. With its notorious test-taking, the process to qualify is an arduous one.

When the SAS was set up, one of its objectives was to assist students in the course of their actuarial studies, so that it nurtures the actuary of tomorrow. It set up a student committee with the aim of reaching out to university students and bringing them on board the Society. It also helped to secure internships and employment for more graduates. Another of its long-term goals is to promote the actuarial profession to secondary students.



Fred Weber shares his experience in education outreach.

Could you introduce yourself and what you do?

FW: I am a French actuary specialising in general insurance, and I relocated to Singapore in 2008. I've grown to love the country – its vibrant people, rich culture,

delectable cuisine, and even its tropical climate. Fully embracing local life, I'm now more likely to savour durians and kaya toast than my Singaporean wife!

Since 2011, I have volunteered with the SAS, which has been an immensely rewarding experience. I've contributed through diverse roles across six committees, including a decade on the Council and two years as Chair of the Education and Career Committee. My proudest contribution was serving as the SAS President for three years, driving initiatives to advance the actuarial profession in Singapore.

Tell me more about the global actuarial talent development initiative that you are involved in. What is it and what is your role in it?

FW: In 2014, as Chair of the SAS Education and Career Committee, I collaborated with the SAS General Insurance Conference organisers to showcase the talent of Singapore's university actuarial students. We launched an innovative competition: Singapore's Got Talent - Actuarial Edition. Four finalist teams took the conference stage for an hour, presenting creative actuarial solutions, followed by a lively Q&A session with seasoned actuaries who playfully mimicked a TV show panel. Conference attendees voted for the winner by exiting through one of four designated doors for the tea break. The audience was astounded by the students' presentations, praising their content and delivery as surpassing even some professional talks. The event's resounding success led to its continuation for several years, inspiring Singapore-based companies to recruit interns and graduates from local universities.

In 2019, as the SAS representative to the International Actuarial Association (IAA), I recognised a global need to invigorate the actuarial profession with fresh talent. Inspired by the success of Singapore's Got Talent - Actuarial Edition, I proposed the Young Actuaries World Cup, a global competition to showcase emerging actuarial innovators, open to actuaries aged 35 and under. The prize is extraordinary: the four finalists win fully funded trips to the International Congress of Actuaries (ICA) 2023 in Sydney, Australia, with the ultimate winner receiving the World Cup trophy from the IAA President during the ICA Closing Ceremony. With no fewer than 44 participants, the inaugural event was a tremendous success, and the IAA asked me to chair the second edition in 2026, with finals set for Tokyo, Japan.

Over the two-year journey to the finals, participants in the Young Actuaries World Cup navigate a rigorous path through qualification rounds, quarterfinals, semifinals, and finals. They must produce a compelling five-minute video on an innovative actuarial topic, tackle challenging questions from expert judges during webinars, deliver a concise elevator pitch, and ultimately present on the global stage.

The SAS collaborates with local universities through career fairs, mentorship sessions and industry talks. Could you share an example of this? What is the purpose and why is this important?

FW: The SAS Career Fair has played a vital role in bridging the gap between students and employers, facilitating opportunities for internships and entry-level roles. Each year, the event attracts 200 to 300 students

and 15 to 25 companies. It offers various resources, including speed interviews, LinkedIn group, guides to optimise CVs and LinkedIn profiles, and breakout sessions led by professionals from sectors such as life insurance, general insurance, and consultancy. These sessions provide insights into their fields and allow students to ask questions in an interactive setting.

As students increasingly explore diverse career paths, such as data science, it's important to highlight what sets actuaries apart. Our profession is distinguished by specialised training in (re)insurance and a rigorous qualification process – not everyone can claim the title of actuary.



Matthew Maguire opening the Students Networking Night September 2016

September 1990 was a major step forward for the SAS. For the first time, it organised actuarial courses for junior members to help them in their examinations. Mr. Law Song Keng was instrumental in bringing Professor Geoffrey Crofts to Singapore. The courses were so successful that the event was repeated in the following year.

Professor Geoffrey Crofts's Visit
(9 September - 4 October 1991)

The month-long event was held at the Singapore Insurance Institute and there were about 33 participants, inclusive of 3 participants from Malaysia and Thailand.

The details of the actuarial courses are :-

1. Compound Interest
2. Survival Models
3. Construction of Actuarial Tables
4. Mathematics of Graduation
5. Pricing of Insurance and Annuities
6. Valuation and Financial Reporting
7. Introduction to Pension Funding

In addition to the above, Prof Crofts gave a talk to the actuarial students at Nanyang Technological University on 10 September 1991 on the topic of "Life Contingencies - Conventional vs Stochastic".



Dean Crofts' actuarial course attendees 1991
(Photo courtesy of Mr. Law Song Keng)

Have perceptions about the actuarial profession evolved or changed? How did the SAS contribute to it?

FW: Actuaries are not typically renowned for their communication skills! Passing exams and becoming a qualified actuary seem to be the only priority for young actuaries, but in fact it is not the end goal... it is only the beginning. To truly excel, soft skills like leadership, public speaking, and influencing are essential.

Inspired by my experience attending a Toastmasters session, I recognised the potential for actuaries to benefit from similar opportunities. I proposed the idea to the Education and Career Committee, which identified speaking and influencing as key priorities. This led to the creation of the SAS Speakers and Influencers Club. During each meeting, there are various opportunities to speak, and friendly feedback is given to help identify strengths and areas to improve.



Speakers and Influencers attendees 2015

The goal is simple: equip SAS members with the tools to become impactful actuaries, ultimately increasing the presence of senior actuaries in critical roles such as market-facing positions or general management. Over the years, this program has empowered numerous actuaries, enabling them to secure key leadership roles and gradually reshape perceptions of the actuarial profession.

How would you describe the growth of the actuarial profession in Singapore? And if you could gaze into the crystal ball, what do you envision in the years ahead?

FW: Members join the SAS as a secondary body to engage in professional events, contribute through publications, or participate in networking opportunities. The SAS membership has grown in tandem with Singapore's economy, particularly its (re)insurance sector, but has stabilised at approximately 1,000 members in recent years. To thrive in the coming decade, the SAS must embrace fresh perspectives and innovative ideas.

Singapore has solidified its position as Asia's leading financial hub, and 3rd globally. It is also a global centre for innovation. Given this, I am confident that the actuarial profession in Singapore has significant potential for growth, aligning with the nation's prominence. For over four centuries, the profession has evolved through societal changes and industrial revolutions, and I see no reason why this adaptability will not continue, particularly with the rise of artificial intelligence (AI). It is not whether actuaries should use AI, but how they will leverage it to enhance their work.

Looking ahead, I hope the actuarial profession in Singapore continues to flourish, with the SAS playing a pivotal role. I envision the SAS100 coffee table book – or its 2076 equivalent – celebrating a legacy of inspiring stories and achievements. I extend my best wishes to all SAS members and heartfelt gratitude to everyone who has contributed to making the SAS what it is today. ¶



The NTU Quantitative Finance & Actuarial Science Club, in collaboration with the Education & Career Committee, hosted the tri-university Actuarial Networking Night in September 2014

CONFERENCES

You may say an actuary never stops learning. After all, even after graduating from formal education, studying for examinations is part of an actuary's DNA. Educational opportunities at the SAS are aplenty, through annual forums and conferences. From the East Asian Actuarial Conference to the Singapore Actuarial Conference, the SAS holds talks, invites speakers and presents papers.



Akash Gupta shares his experience in organising conferences.

Could you introduce yourself and what you do?

AG: I am Akash, and I serve on the council of the SAS. I joined the SAS in 2017, and my journey with the Society has been deeply fulfilling. In my professional life, I'm the Managing Director for Munich Re's Life and Health business for Southeast Asia and High Net Worth. My most significant contribution to the SAS has been in my role as the Chair for the Singapore Actuarial Conference (SAC) since 2021. This was a special project for me, as I had the opportunity to conceptualise the conference from the ground up and bring it to life. I owe a special thanks to past and current SAS presidents, particularly Fred Weber for

inviting me to organise the conference, Frank Devlin for steering it through tough times, and Alex Lee for significantly enhancing the profile of the SAS and the SAC.

The SAS organises the annual SAC and the upcoming Asian Actuarial Conference (AAC). Could you take me through the process of what you do to prepare for a conference?

AG: The SAC was born out of my vision to create an annual event that brings all actuaries in Singapore together once a year and provides them with an opportunity to learn about the latest industry developments across a wide variety of topics.

The process typically starts six to nine months in advance with the formation of a dedicated organising committee and defining a clear, compelling theme.

From there, we develop an initial budget, decide on delegate passes and pricing, and scout for suitable venues and event managers to support us. The organising committee simultaneously works on curating content, reaching out to industry leaders and technical experts to ensure our sessions are both relevant and thought-provoking.

The final stages involve meticulous execution - from managing logistics to handling marketing and registrations - all while staying focused on delivering an unforgettable experience for our attendees.

Beyond the organising committee, the SAS secretariat plays an instrumental role in managing administrative tasks, and the SAS council provides the right strategic guidance on mission-critical topics.

Organising a conference seems to be a mammoth task, with its set of difficulties and obstacles. What were some challenges, and how did you overcome them?

AG: We have seen the conference grow significantly over the years. When I started in 2021, the first challenge was deciding whether to host a physical or virtual conference due to COVID-19 restrictions. We chose a virtual format and made the most of it, securing high-profile international speakers like Harvard Law School Professor, Cass Sunstein, and Oxford University Professor, Sir John Kay.

In 2022, with COVID restrictions lifted, we decided to host a physical conference at Resorts World Sentosa. We were worried people had grown too used to the comfort of their homes, but we were pleasantly surprised to find that our community was craving that personal connection. We had over 400 participants and brought together a fantastic programme covering topics like decentralised finance (DeFi), liquid biopsy for cancer detection, and the fundamentals of blockchain.

For 2023, we brought the conference to the city centre at Marina Bay Sands to make it more convenient for our participants, who are typically actuaries working in insurance, reinsurance, consultancies, and banks. With a rich agenda featuring a c-suite panel discussion and protection gap research, the event was a true reflection of its theme: “Actuaries - Unleashing the power of Everything, Everywhere, All at Once”.

2024 was a pivotal year that raised the conference’s profile to the next level, with Health Minister Mr. Ong Ye Kung delivering the keynote address. The theme was “Creating Resilient Actuaries for Tomorrow” and there was a special focus on rising health

insurance costs. We also began offering one-day and two-day passes to better cater to the General Insurance community, which proved to be a fantastic idea.

And 2025 proved to be a watershed year, where we saw unique registrations surpass the 550 mark. The CEO of CPF Board, Ms. Melissa Khoo, delivered the keynote address, and the conference once again lived up to its theme, “Clarity in Uncertainty: An Actuary’s Home Ground”.

A constant feature of our conference is the updates delivered by Wai Yi, the Director and Head of Supervisory Analytics Division at the MAS and I’m personally grateful for her wholehearted support for the conference.

Over time, we have also successfully broadened our audience to include professionals from the wider insurance and financial services ecosystem, including the regulators, policy makers, doctors, underwriters, and brokers, which has truly enriched our discussions.

Organising a conference is a mammoth task with many difficulties. The key ingredients to overcoming these challenges are having a clear strategic focus, assembling a capable team, and giving them the right direction and the freedom to execute. And making sure that we do not just spend time making the right decision but also to make the decision right through hard work and strong collaboration.

My favourite part of the conference is seeing the community come together. There’s a certain energy in the air when people gather to share knowledge, reconnect with old friends, and build new relationships. It’s incredibly fulfilling to know that you’ve played a part in creating a space for learning and professional growth for the entire community.

If you could gaze into the crystal ball, what do you envision for the actuarial profession, or the SAS, in the years ahead?

AG: If I could look into a crystal ball, I would see an actuarial profession that continues to expand its horizons by embracing key trends.

Embracing AI: The profession needs to move from simply understanding AI to using it to create new value. I envision a future where actuaries are at the forefront of building ethical AI systems and using advanced analytics to solve complex problems in ways we can't imagine today.

Growing Singapore as a Financial Hub: The SAS can be a key driver in making Singapore the leading actuarial hub in Asia. The conference provides the perfect platform to bring together talent and innovation from across the region and showcase our leadership on a global stage.

Fostering an Entrepreneurial Spirit: I envision a profession that is not afraid to innovate. This means encouraging actuaries to explore new frontiers, to be entrepreneurial in their thinking, and to continuously challenge the status quo to ensure our profession remains relevant and dynamic in a rapidly changing world.

Maintaining Our Integrity: Finally, our profession is built on trust and integrity. It is our responsibility to serve society by applying our skills to critical issues like climate change and social inequality, ensuring that our work has a positive impact beyond the bottom line. ¶



17th East Asian Actuarial Conference (EAAC) held in Singapore from 15 to 18 October 2013

A sense of actuarial humour...

It is interesting to see the way that the climate change debate has moved with the scientists involved being attacked, not on their conclusions but on the weak point of how they reached those conclusions. This makes it more difficult for actuaries who have to not only defend their decisions but also defend how they were arrived at. The days are gone when the Scottish actuaries prayed: "Oh, Lord. Please make all my decisions true and fair, because there is no way I'm going to change my mind."

THE SECRETARIAT

Though actuaries are at the heart of the SAS, its employees are also an invaluable part too, contributing to the Society's organised and smooth operation. Two of them are Melissa Ong and Patsy Lau, non-actuaries who kept the SAS going and worked alongside the SAS members.

In 2002, Melissa Ong was hired as a part-time secretariat at the SAS, making her the first formal employee of the SAS. She held the role from February to May 2002, before she left to pursue further studies in the United Kingdom.



Melissa Ong recounts her experience with the SAS.

What was your role at the SAS, and for how long did you work there?

MO: I was hired to assist with administrative work and prepare the accounts for the SAS. It was 2002 and I was in my early 20s.

Mr. Chi Cheng Hock mentioned that you were the first paid employee of the SAS. Were you aware of it at the time?

MO: It was only recently when Mr. Chi reached out to me about this anniversary project that I found out I was the first paid employee of the Society. It was quite a surprise.

Could you share how you got the job at the SAS? Were you already familiar with the actuarial profession?

MO: My brother Raymond Ong is an actuary and a member of the SAS, and he was the one who told me about the job opening. I was doing an accountancy course at that time and my classes were all held in the mornings. This left my afternoons free to take on this part-time position which would also let me put some of what I was learning to use.

What are some interesting memories you have of working at the SAS?

MO: I enjoyed working with Mr. Chi who was very patient with me as I learnt the ropes on my first ever job. My first task was to assist with the preparation of the financial statements for the AGM.

I enjoyed that and the other admin work but what I most recall now is it was also during this time that the Society was allocated more space in a work area on another floor of the building. The location was at the Great Eastern building on Pickering Street. The move was within the same building, just to a different floor. When I started, all the files and records of the SAS were stored in Mr. Chi's room. I was seated outside and had to disturb him quite frequently to fetch the files as I worked. Then

we were allocated more space in a quieter area on another floor of the same building so Mr. Chi and I spent quite a few afternoons packing up everything and hauling all the boxes to their new home. 20 odd years later, I am grateful he was very insistent that I learn how to carry the boxes in a way that would not hurt my back. It was advice I didn't know how to appreciate at that age.

What was your work before your time at the SAS, and what did you do after?

MO: I was not at the SAS very long, only a couple of months. After completing my course, I decided to pursue Early Childhood Education in the UK. Patsy took over my role when I left and I only just found out she stayed on for many years, retiring fairly recently.

Could you share with us what you are doing now?

MO: After I returned, I worked in a Montessori preschool here for a while before setting up one with a friend who had the same interest and belief in the pedagogy. ¶

In 2008, Patsy Lau became the SAS' first full-time employee. She was responsible for the day-to-day running of the Society. Most would have seen her at numerous events, registering participants and ensuring that the day ran smoothly.



Patsy Lau recalls her time with the SAS.

What was your role at the SAS, and for how long did you work there?

PL: I was the Office Manager at the SAS, my last month of employment was September 2021, after working for 18 over years. I started as a permanent part-timer with the SAS in the year 2002/2003 taking over from Ms. Melissa Ong, who was the first part-time staff.

Mr. Chi Cheng Hock mentioned that Melissa, whom you took over from, was the first paid employee of the SAS. This makes you second! Were you aware of it at the time?

PL: Yes, I was aware at that time that Ms. Melissa Ong was the first SAS paid part-timer, and I am the second SAS paid staff. At that time, Mr. Chi Cheng Hock was the Secretary and Ms. Patricia Chang was the Treasurer.

**Could you share how you got the job at SAS?
Were you already familiar with the actuarial
profession?**

PL: The SAS was sharing a desk in the office of the Great Eastern Life, Group Insurance Department. Mr. Chi was the Head of Group Insurance and I was the Finance Executive then. Ms. Melissa Ong's desk was in the same section and when she quit for further studies, I asked Mr. Chi if I could take over the part-time job as I have three children in primary school and wished to spend more time with them in their studies. Then, it was three half-days in the mornings, leaving me ample time to be with my children in the afternoons and doing parent volunteering on the non-working mornings.

**What were some interesting memories you
had while working at the SAS?**

PL: I remembered at the first SAS afternoon talk event, I didn't know any members and was rather shy when they approached the registration desk to sign in for the talk. However, I was very glad as at that time, Ms. Patricia Chang was early and gave me some assistance at the registration desk.

Interesting memories - I am not too sure. I enjoyed working in the SAS after my second year as I started to bond with the members, especially at the career fair, where I could share with the student members the benefits of joining the SAS. I also enjoyed working with the various organising committees, there was so much to learn and do for each committee, making it a very interesting job.

What was your work before your time at the SAS, and what did you do after?

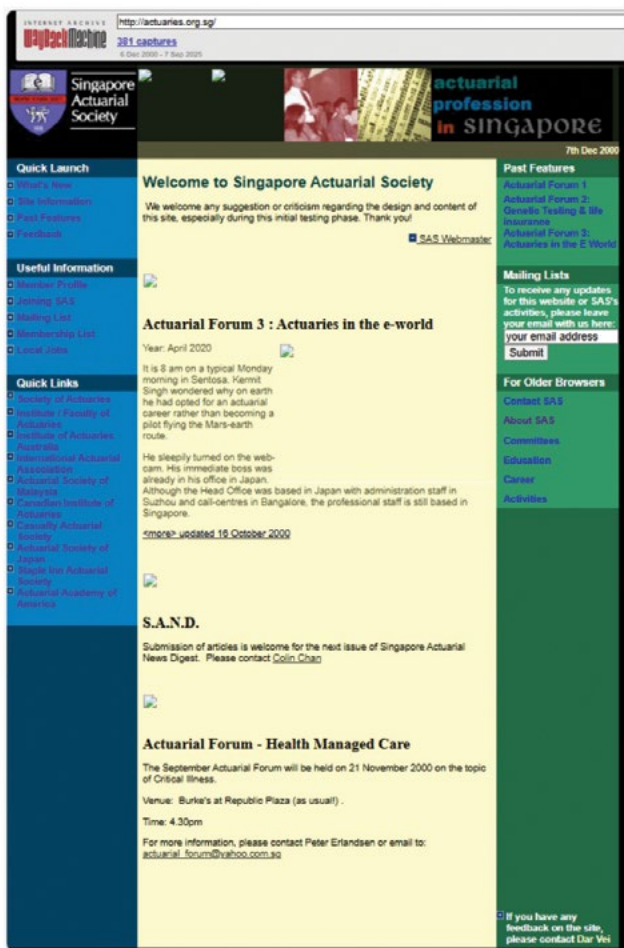
PL: Before working with the SAS, I was working in the Internal Audit Department of Great Eastern Life and moved over to Group Insurance Department in the last two to three years as I was planning to leave the workforce to focus on my children's education. After the SAS, I did some freelance payroll/accounts-related work.

Could you share with us what you are doing now?

PL: I am currently travelling on alternate months, catching up with my relatives and friends occasionally. ¶



Patsy's retirement



The old SAS website circa 2000

SOCIAL

A nod to its origins as a social club, the SAS today continues to offer a gamut of activities for its members, including wine tasting, bowling, and networking, thus building community and connection beyond work.



Whisky Tasting 2023



Go Karting 2018



AON Benfield with their well-deserved trophy after the soccer event in May 2011



SAS members at the Asia Pacific Brewery Tour in October 2011



2013 Quiz Night



30th Anniversary Dinner in 2006
(Photo courtesy of Mr. Andrew Linfoot)



Five of the founding members of the Society were able to join the Anniversary Dinner in 2006. Other attendees included several international guests: Yves Guerard (IAA Secretary General); Chris Daykin (UK Government Actuary); Yvonne Sin (World Bank)



40th Anniversary Dinner in 2016



Mr. Colin Wilson, President of IFoA, Ms. Jill Joffman, Ex-Officio of the SAS and tables of the SAS counterparts

INTERNATIONAL

One of the SAS' objectives is to serve the public interest by promoting the study, discussion, publication and research into the application of actuarial, economic, financial and statistical principles to practical problems related to insurance, retirement benefits, finance and investment, risk management and other fields where such principles can be applied, with particular reference to Singapore and the ASEAN region.

The Asian Actuaries Association (AsAA) is an association to develop international collaboration in the actuarial field within the Asian region. To achieve this, the AsAA organises the Asian Actuarial Conference (AAC) at least once every two years. The SAS is an active contributor to the AsAA, having organised the AAC in 2019 with the theme "Crazy Responsive Actuaries – Taking Action to Secure the Future" and is looking to host the event again in 2026.

Established in 1981, the AsAA was originally known as the East Asian Actuarial Congress. It was renamed the Asian Actuarial Congress in 2014 to encompass all of Asia. In 2019, the Board decided to rename it the AsAA to provide clarity when referring to the group, which took effect in 2022.

The AsAA convenes the AAC at least once every two years. The purpose is to present and discuss papers on actuarial topics of current interest. Among its objectives is to exchange ideas and information on all kinds of actuarial knowledge, promote the actuarial profession within the East Asian region, and to discuss standards of competence and conduct within the actuarial profession.

The AAC is made up of 12 actuarial organisations (including Australia, Hong Kong, India, Malaysia, Singapore) with close to 25,000 members.

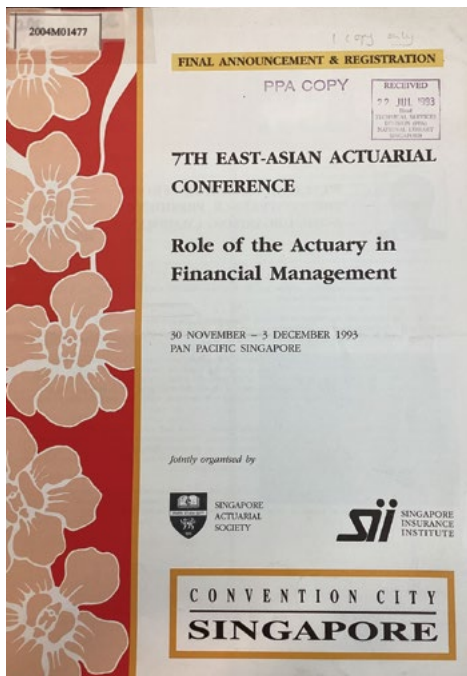
In the early years, it was a biennial event organised by varying actuarial organisations every two years in member countries. Starting from 2013, it has become an annual event.



The conference has been held in Singapore in 1983, 1993, 2013, 2019 and will be held again in 2026
(Photo courtesy of Mr. Law Song Keng)



17th EAAC Oct 2013 at Resorts World Sentosa. EAAC Opening Address by guest-of-honour Mr Lee Boon Ngiap (left) and the CEO Panel plenary session (right)



Conference brochure of 7th EAAC in November 1993



22nd Asian Actuarial Conference

Another objective of the SAS is to promote actuarial science in ASEAN. In October 2015, the SAS sent a small team to Myanmar and provided a two-day training session for their newly formed regulator. About 50 officers from the Financial Regulatory Department attended the session, and the training was opened by Myanmar's Deputy Finance Minister.



A group photo on the first day of the Yangon Seminar. This marked the first of the two international actuarial training seminars organised by the International Committee in 2017

In October 2017, with the support of Cambodia's Ministry of Economy and Finance (MEF), the SAS and the Insurance Association of Cambodia (IAC) jointly conducted the first actuarial seminar in Phnom Penh. About 90 people in the audience were insurance supervisors and regulators from the MEF, staff of the IAC, staff of Cambodia Re, delegates from life and general insurers, micro-insurers, insurance brokers as well as bankers.

MEET
AN
ACTUARY



IN CONVERSATION WITH...

JILL HOFFMAN
&
GLENN TAN

On the world map, it's a long, long way between Singapore and Canada. The distance between the two countries is close to 13,000km, and it takes approximately 18 hours to get from Singapore to Canada on a plane, including transfers. So geographically speaking, it's a Pacific Ocean apart for Canadian Jill Hoffman and Singaporean Glenn Tan. Yet, they collide in the world of actuary. In this conversation, the two members of the SAS – one international and one local – talk about stereotypes of their job, introducing themselves at parties, and dealing with nosy neighbours.

JILL: Glenn, why don't you start? Remind me too, what's your position at the SAS?

GLENN: I stepped down from the SAS treasurer role. Now I'm a volunteer in the education committee. A life update: I just had a kid at the start of the year, who's now five months old.

JILL: Oh! Congratulations!

GLENN: Work wise, I've been with Actuaries OnTap for about three to four years.

JILL: For myself, lots of big changes. After 17 and a half years with Munich Re, I left to join Partner Re. I am the Chief Audit Officer here and I'm going to be relocating to Toronto at the end of July 2025. So leaving Singapore after 18 years.

GLENN: That's incredible. I wanted to know, when did you first learn about the world of actuary?

JILL: I grew up in Winnipeg. When I was in high school, the time before the internet, we had what's known as guidance counsellors in our high school, where you could go to them for career advice and other personal problems. I went to them for career advice and they had like literally a stack of papers of all these different careers. I said, I like maths, but I don't want to be a teacher. So they brought up this job description of an actuary. It was a combination of maths and business. And I said, okay, that sounds pretty interesting. Why they never brought up an accountant, I have no idea to this day.

GLENN: (Laughs)

JILL: Then we had this program in my final year of high school in grade 12, where you could do a little bit of a work program, and they would pair you up with a professional. There was this consulting firm called Eckler Partners based in Winnipeg. I was paired with them and they gave me a bunch of pension data. And I had to do data validation checks on the pension data.

GLENN: As a high school kid?

JILL: Yeah, it was probably just a sample of it, like 100 or 200. This was the time before spreadsheets. And that was my first exposure to actuarial science. Funny enough, later on in my career, I ended up working for Eckler Partners. So that was my first exposure. They gave me data cleansing as a teenager and I said, this is the career for me.

GLENN: Wow. It clicked immediately.

JILL: That's how I fell into the world of actuarial science. How did you fall into it, Glenn?

GLENN: I fell into it quite late. I only knew about it in year one of university. So I chose my degree, which was in Nanyang Technological University (NTU). I did not know what actuarial science was. I did not know there was a specialisation for it. Then there was a career talk that came by. Some of the presenters were from the SAS. It was there that I learned about what actuarial science was.

JILL: What year was that?

GLENN: That was 2015, or 2016.

JILL: I don't know if I did any talks, but I would have been

volunteering at that point in time as well.

GLENN: I don't remember seeing you. But funny enough, now I'm going back to give these talks. Hopefully I did inspire some kids! From there, I learned about the word 'actuary'. So I went to Google about it. I had the internet. (Laughs)

JILL: Fair enough.

GLENN: And then I realised, everything kind of aligns with what I want to do. One of the main reasons why I chose an actuarial career is because it is intellectually challenging. I'm someone who gets bored easily, so the intellectual stimulation drew me into it. And I guess one of the main differences between banking and finance and actuarial science is that it's less cut-throat. People in actuarial science are generally very nice. I spoke to many, many actuaries. I've not seen any mean ones so far.

JILL: Yeah.

GLENN: I'm not sure if that's your experience with the other actuaries, but generally everyone's very collaborative.

It's like a teamwork thing, rather than people trying to outcompete one another. That's how I fell into it.

JILL: Which reminds me... You have to know somebody to find out about actuarial science. It's not a profession that people know. You have to know somebody to hear about it. It's still a word-of-mouth career path.

GLENN: It's amazing that your school counsellor knew that.

JILL: I know. How do you describe what you do to friends and family? Like when you say, oh, I'm an actuary? They're like, what does this mean? You act for a living?

GLENN: (Laughs) I first say I'm working in the insurance industry, and then I make a big disclaimer that I'm not a financial advisor. That's important because they might just stop talking to me. Usually I tell them actuaries are the ones who price the insurance products. I guess that's the easiest way to explain and if they are interested, I go on to let them know about all these exams we have to take.

You have to know somebody to find out about actuarial science. It's still a word-of-mouth career path.

Very few people have actually heard of the word "Actuary", let alone know what an Actuary does. Looking up the dictionary will certainly not help much. Yet, everyone knows what a doctor, a lawyer or an accountant does for a living. The reason to this peculiar situation seems to relate to the functions of an Actuary which, by its very nature, do not impringe upon people in the same way as do those of the doctor, the lawyer or the accountant. Thus, although an Actuary may have the interest of thousands of lives under his control, he is generally out of the public eye. Is this a healthy and desirable situation? Well informed individuals would naturally seek actuarial advice but to the "ignorant" the invaluable assistance from an Actuary may not be easily appreciated. Certainly an Actuary can contribute much to society as a whole if given a chance. We must, therefore, project the actuarial profession outside the actuarial circle and set a platform where we could put our actuarial tools to a more wider use.

From the SAS Newsletter on 7 March 1977

JILL: I'll say, we do the maths for insurance companies. Like you said, figure out the price to charge for the risk, and then figure out how much money we need to set aside.

GLENN: Yeah!

JILL: When I go on to describe reinsurance, I tend to use property casualties as an example. I'll be like, imagine insuring Marina Bay Sands, that's too much to put on one insurance company's books. So then reinsurance comes in and they'll carve up the pieces of it. When I describe actuary, I'll tend to use the life example, but for reinsurance, non-life is a bit easier to explain.

GLENN: Actually, in Canada, is actuary a well-known job?

JILL: No, it's not well-known anywhere, right?

GLENN: It's well-known in Malaysia for some reason. There're a lot of Malaysian actuaries.

JILL: Well, I heard this one story from Holland, where a lot of actuaries come from this one fishing village in the Netherlands. It's because anytime someone's good in maths, the maths teacher tells them about this career. So it's like a disproportionate sample size, with the sample from this one thing. And I also heard in South Africa, in the past, people who had the highest marks in school for the country, they'd end up on TV and they'd ask them, what do you want to be? A lot of them said actuary. But for Canada or even Singapore, I don't think it's that well-known. I was in the Bahamas for four years before Singapore. There were only two actuaries in the country at one point in time. There's a few more

now, but, again, we're a niche, word-of-mouth profession, right? Which is a pro and a con.

GLENN: Yeah, agree.

JILL: You talked a little bit about this. With respect to the work culture, you were saying like finance and banking maybe has a reputation for being a bit more competitive. What do you think is the work culture surrounding actuarial work in Singapore?

GLENN: I've worked in various Asian countries, but to me, they all kind of feel quite similar. Maybe because the technical actuarial or the way things are done is quite standardised. I think people are collaborative. And I think because maybe it's a very small industry as well, people like to guide others, mentor others along the way. I guess you can't be too mean also. Everyone will know that you are mean because it's a small industry. I've been meeting kind and good people. What about your experience?

JILL: I would agree with you. When you think about actuaries, because we're a self-selecting group, where you have to go through the rigour of the exams to come out of it at the end. I think there's probably some stereotypes that surround us that go beyond your country's culture, but sort of actuarial culture per se. So, you know, stereotyping. Obviously everybody is their own individual, but we tend to be more on the introverted side. We tend to be more detail-oriented, prone to analysis paralysis, and just love a sensitivity test. And we're good at taking exams to finally get through at the end. The exam system is difficult, but it's the core culture of actuaries.

Probably the overarching culture for the teams would be actuarial personality traits.

GLENN: How do people around you react or respond when you tell them about what you do?

JILL: Well, I'm an actuary and an auditor, so I'm the life of a party.

GLENN: (Laughs)

JILL: I don't know. (Shrugs) No one ever stays talking to me after I say that. Obviously at work, especially in the audit circles, I will talk about being an actuary because I find it credentialises myself. Especially if you're auditing other actuaries as well, that's helpful to have that backing. In terms of personal life, I tend not to talk too much about my career outside of work, but I do remember having one neighbour. She was very surprised to learn that I was an actuary, and I was similarly surprised to learn that she knew what an actuary was. She's like, but... you are outgoing? And I'm like, yeah, we're allowed to be...? How about yourself? How do people react when you're introducing yourself at the party?

GLENN: No, they're just confused. If they know what an actuary is, then they just assume that you are very smart. That's a good thing. But really, not much response, because not many people know about it.

JILL: Yeah, smartness is automatically conferred, and then it's embarrassing because I'm not good at mental arithmetic. They'd be like, here, split the bill. And I'm like, what do you have? Excel? Like, I can do it with Excel. In Singapore,

where do you commonly see actuaries working?

GLENN: I guess insurance, where else?

JILL: Do we have any at the CPF Board right now? So sometimes the CPF Board has actuaries. And then I know that there was someone who had worked at one of the hospitals, who's a health actuary, but I don't know if they're still doing that. We don't have too many actuaries in non-traditional roles.

GLENN: Data science? I think many are moving to data science now.

JILL: It's pretty similar for Canada as well. I haven't lived in Canada for quite some time, but my perception is that we don't have too many over there in the non-traditional roles either.

GLENN: I guess the industry is trending towards non-traditional roles as well.

JILL: Yeah, we have to balance that because we are a niche profession, so there's just so many of us to go around.

GLENN: That's true. If there's one thing you want to change about the actuarial profession in your country, what would it be?

JILL: I don't know if I could talk specifically about Canada. But how can we grow the actuarial profession in a way that makes sense? We've been saying, it's a niche profession. So how do we make it more visible in a way that makes sense, that doesn't grow too much, while still maintaining standards, because obviously you and I are very high quality standard people.

GLENN: (Laughs) Yeah, like no over-supply.

JILL: I think we can do a better job of maybe pitching it and selling it to sort of these non-traditional areas, but we have to grow that in a way that can move in lock steps. So I think just raising the profile of it and how do we compete against going into data science? That's where I think we're going to lose people the most in the short term.

GLENN: Yes, that's true.

JILL: I think that I can see that being true for Canada, right? Like at the university, how do you pull in the kids into the exciting world of insurance? (Laughs)

GLENN: But yeah, that's the main question that kids are asking nowadays, why not data science instead?

JILL: It's a hard one to answer.

GLENN: My answer will always be something along the lines that anyone can be a data scientist. You can just go and learn it on the web. An actuary can be a data scientist as well. But to be an actuary, you have to go through the proper path and learn everything in detail.

JILL: So you saw the exam system as a plus? Good for you. I'm going to have to steal that. Because I always struggle with that sales pitch. But I like your answer. Basically an actuary can be a data scientist, but a data scientist cannot be an actuary. That's a good answer.

GLENN: And I think in Singapore, that issue of oversupply is not anywhere near.

An actuary can be a data scientist, but a data scientist cannot be an actuary.

JILL: I don't think we have too much oversupply. It's just about having jobs and opportunities. And I'm not too worried about us getting replaced by AI. I have yet to meet a technology that doesn't create more work.

GLENN: (Laughs)

JILL: So I think that should be okay. The future is overall bright for the profession.

GLENN: That's good to hear.

JILL: Like anything else, it has to keep itself relevant. We can't just sort of rest on the laurels of the statutory roles. If we can continue to get actuaries into the C-suite roles as well, that's also inspiring. And we have quite a few C-suites executives and CEOs here in Singapore who are actuaries. I think that's something nice to point to, and I think a lot of them would give credit to their actuarial background for helping them get to where they are today. Building on CEOs, is actuarial work seen as prestigious or well compensated in your country?

GLENN: I think within the actuarial circle, we all think we are not well compensated for some reason, but then from the external point of view, or you look at the gross or the median salary in Singapore then, yes, we are generally seen as more prestigious and

well compensated. But I guess if people compare to all the tech roles and the investment banking roles, then it pales in comparison. I think it's a very stable, prestigious job. We are more privileged to have more stability.

JILL: Yeah. And one of the things that did appeal to me with taking up an actuarial science career as well was that as you pass exams, you get increases as well in your salary. So that helps build your salary level up higher, and keeps you motivated for the exams.

GLENN: I thought the way that we were compelled to study at the earlier part of the career sort of instills that discipline throughout your next few years that you can do something more outside of your job. Like you can actually find time to learn things and do other things that require discipline and consistency.

JILL: It's a lot of exams to write, where nobody dies at the end of the day. However, I do feel a little bit differently about that. We do have the ability to crash the world economy. When you think about these institutions that we work for with being too big to fail... In the 2008 financial crisis, some of the models there were built by actuaries, right? So there is a heavy responsibility that way, and that is why we want to make sure that we have people who hopefully know what

We can crash the whole global economy if we don't do our jobs well.

they're doing, doing this sort of stuff. Again, we're not building a bridge that's going to fall down. But we can crash the whole global economy if we don't do our jobs well. If you think about some of the big companies in the world, if there's a mistake with their reserves and it's off by a big factor, or it turns out they're not solvent, the governments are going to have to bail them out, like they're all too big to fail now. That is why they get extra scrutiny. This is why there's a lot of responsibility placed on your statutory actuaries. So I guess it would be prestigious.

GLENN: You were leading a task force on the future of actuaries, right? How is that going?

JILL: Well, it's already finished. We talked about actuaries moving up the career ladder. If we want to move up that ladder into the C-suite, then there're skillsets that we need to have. We talk about leadership, strategic thinking. We're very good at the details. But how do you get better at that bigger picture thinking? And then leadership, that has changed in emotional intelligence. How do you bring people together? Sitting in your room by yourself in your 20s, studying actuarial exams, is not going to teach you emotional intelligence and leadership. Let's be honest. It will teach you to be a very good mathematician. If I want to move up that ladder,

you're going to, at some point in time, compete against non-actuaries. I'm in internal audit. I'm not competing against actuaries for my role. I'm competing against other professions. Being an actuary gives me specific skillsets, and I can say it's a plus, but I also have to have other skills to go around it besides just the technical skills.

GLENN: So you're saying the self-selection doesn't train you in the other aspects, which are way more important?

JILL: I don't think they're way more important, but they are important. And as you go through your career, you need different things at different points in time. When you start your career, you are a technician, right? So your technical skills are the most important. Again, unless you're the signing actuary, when you're in the later stages of your career, being the technician is not what you're going to be doing. So how do you morph from like the technician up into those roles? I think also the profession needs to think about how do they support people with that journey? Supporting the students and creating the actuaries is the easy part. It's not "easy", but that part's well-known and they know how to do it. What is the support that you need later on? And this is why we have the conferences.

GLENN: Okay, I've never thought of it that far.

JILL: Yeah. And then later on, you've got artificial intelligence coming in. So what's that going to do for the actuarial work? I'm sure a lot of actuaries use it for writing reports.

GLENN: Yeah. I think it makes us more efficient...

JILL: Which just means more work.

GLENN: That's true.

JILL: It's not like you're going to get to go home earlier. They'll just give you more work to do.

GLENN: Yeah, it's important to still understand what's happening. We have to keep up with things that are changing so fast. I wanted to know, was there something you learned in school that turned out to be totally different at work?

JILL: For me personally, like Poisson distribution, I've never used this in my life. You learn a lot of this higher level maths that I'm sure there're people out there who use it, but most actuaries probably are not. So

some of that stuff was like, wow, that was really hard. And I don't remember any of it. It was on the exams, right? But have you ever used Poisson distribution?

GLENN: Nope. (Laughs) We had to learn a lot of complex maths.

JILL: What do you use it for? I don't even remember. Maybe the non-life guys, do.

GLENN: Yeah, I think they do.

JILL: Some of this university level maths, at the end of the day, you're just using Excel.

GLENN: (Laughs) Correct.

JILL: So that probably is one of the things that's, I guess, a little bit misaligned. But it's probably part of the weeding process.

GLENN: True.

JILL: Well, Glenn, I think we've covered a lot.

GLENN: Yeah, I enjoyed the conversation.

JILL: That's great. Thank you very much. We finished in perfect timing. Now I just have to go home for dinner. ¶

Sitting in your room by yourself in your 20s, studying actuarial exams, is not going to teach you emotional intelligence and leadership.

“Risk isn’t always bad, and we shouldn’t fear it. When managed well, it can turn into opportunities.”



**Felicia Er,
MSIG Asia’s
Chief Risk Officer**

Could you introduce yourself and what you do?

FE: Hi, I’m Felicia Er, Chief Risk Officer at MSIG Asia. I lead our Risk Management and Actuarial Services teams, overseeing risk across the region. I also chair MSIG’s Motor Committee, where I focus on driving strategic growth and profitability in our motor business.

What drew you to actuarial science, and how did you get started in the field?

FE: I first heard about actuarial science in college through a friend. Since I’ve always enjoyed maths and its practical use in business, I decided to pursue a degree in it – and never looked back.

How do you explain your job to someone with no background in finance or statistics?

FE: Insurance is a business of risk-taking. I help stakeholders make sense of risks - spotting them early, understanding their impact, and figuring out how to manage them effectively.

What does a typical day look like for you as an actuary?

FE: No two days are the same! My day typically involves a combination of meetings with my team and various stakeholders and going through analytical assessment to translate technical assessment into something that drives business impact.

What's one of the most challenging projects you've worked on, and why?

FE: This project brought together multiple departments and entities across the region to develop a unified strategy (from sales strategy, product development, technical and risk assessment). This requires strong collaboration and alignment of priorities.

What are some of the biggest risks you think the insurance industry faces today?

FE: Climate change, cyber threats, and shifting customer expectations are some of the biggest risks our industry faces today. And with how fast digital transformation is moving, just keeping pace is a challenge.

What advice would you give to someone just starting the actuarial exam journey?

FE: Actuarial exams are important, but real learning also happens on the job. That's where you apply what you've studied and pick up skills you won't find in textbooks.

What's the most useful skill you learned that wasn't taught in exams or school?

FE: Communication is key - being able to break down complex ideas into simple terms is incredibly helpful, especially when working with non-actuaries.

If you could build your dream actuarial team, what types of professionals would you include beyond traditional actuaries?

FE: I'm lucky to have the dream team at MSIG Asia! Beyond traditional actuaries, it would be beneficial to include data scientists, engineers or anyone with strong analytical and problem-solving skills to bring diverse perspectives.

What's one thing you wish more people understood about risk?

FE: Risk isn't always bad, and we shouldn't fear it. When managed well, it can turn into opportunities.

If you could gaze into the crystal ball, what do you envision for the actuarial profession, or the SAS, in the years ahead?

FE: I see actuaries stepping beyond traditional roles, getting more involved in emerging areas to support from technical perspective especially as digital transformation and climate change reshape the landscape of the insurance industry. ¶



The General Insurance Conference (GIC) was held in May 2018 with the theme "The Next 10 Years..."

IN CONVERSATION WITH...





KEERTI SETHIA & MARCUS KOK

“A career as an actuary for boys”. These words, printed in big, bold print, were the headline to a 1962 article in The Straits Times. It was part of a Career Corner series in the national broadsheet, which introduced jobs such as a physiotherapist, a meteorological assistant, and even a refrigeration engineer. The article went on to list qualities that make an actuary, including “a sound general education”, “a flair for mathematics”, an “ability to analyse complex problems and to express the conclusions clearly and concisely”. The mention of an actuary among the slate of careers was a pleasant surprise, though presumably, the actuarial world was perceived then to be a domain for males. More than six decades later today, have our views evolved? In this conversation, Marcus Kok and Keerti Sethia – one male and one female – talk about gender biases, parenthood, and why grey hairs can be a privilege.

MARCUS: Hi, Keerti. I’m glad we met today. It’s been a while. We all keep talking about having lunch together, but, you know, busy schedules. You can never find the time. Hopefully you are doing well.

KEERTI: I’m doing well and I mean, I’m glad we are connected by the health committee. So we usually meet in the health committee meetings. Health and retirement are very close topics to us. You’re an expert on the retirement topic.

MARCUS: I wouldn’t say expert, I try to be.

KEERTI: This is a trait of an actuary. They will never confess something clearly black and white. There’s always a probability there.

MARCUS: (Laughs) This is our professional hazard. I’ll just throw this question out to you. I mean, we always ask the younger generation, why do you want to be an actuary? As a senior actuary yourself, how do you come to know this profession?

KEERTI: It’s a coincidence. A small paper, maybe only A3-sized, changed my life.



The Health & Retirement Conference was held in June 2014 with the theme “Peace of Mind for Today and Tomorrow”

MARCUS: Wow.

KEERTI: Yeah, it was a news article in India, in Chandigarh, where I was doing my master's in mathematics, completely submerged in mathematics. And then suddenly I read this article. It was on a notice board. My friend and I were just walking down the path, and we noticed this and we read it. The article mentioned that anyone who has a mathematical statistical background and an inclination towards numbers can explore actuarial science. And there was also a clear mention of this as a very niche profession and very few people know about it. It's for hardworking people, and it pays very well.

MARCUS: (Laughs)

KEERTI: Yeah, that was one of the key things. I was like, okay, let's explore this. So that was how I started my journey without knowing that there will be so many exams, and a lot of commitment.

MARCUS: (Laughs)

KEERTI: And it takes real effort to become an actuary.

MARCUS: Did you qualify SoA or IFoA?

KEERTI: IFoA.

MARCUS: I'm from SoA.

KEERTI: What about you?

MARCUS: My story is a bit different. I always thought I wanted to be an engineer. When I graduated from Singapore Polytechnic, I spent one year working as an engineer, a quality control engineer, and I hated

it. So I managed to convince my parents that I needed to make some changes. Good thing my parents were okay to send me overseas and I was very, very fortunate to be one of those kids who was able to go to the US for my school. My cousin was in the US. So my mom felt that I could go join him. I knew deep inside me, I really like numbers. I like maths. So I took a lot of maths classes. And then I was staying with my cousin for a while and I realised that he does this funny analysis on some insurance. He's a health actuary. So I had a conversation with him, what do you really do? And he said I'm just like you, who likes numbers and then came to the US and realised that there's such a professional as an actuary. So that's where I started to get to know more about actuaries.

KEERTI: Wow.

MARCUS: I started taking the exams and that's how I became part of this community. I never regretted it. You know in the US, in a survey of the best job in town, every year without fail, you'll see actuarial science at the top.

KEERTI: Yeah!

MARCUS: It's the number one job or the top three jobs in the US. The reason is because, high pay, low stress. I was like, this is nonsense.

KEERTI: (Laughs)

MARCUS: To me, on the consulting side, I don't think it's low stress. It is always high stress. And I think even in direct company these days, there's no such thing as low stress anymore, yeah?

KEERTI: Yeah, I truly believe stress is an individual thing.

In the US, in a survey of the best job in town, every year without fail, you'll see actuarial science at the top.

MARCUS: That's a fair point.

KEERTI: I want to know, how do you describe your work to your friends and family?

MARCUS: I always have a big difficulty explaining it to people. I always tell people that I'm an actuary and I specialise in analysing and managing risk. And I'm analysing uncertainty.

KEERTI: Nice.

MARCUS: And what we do is we use mathematical models, statistical models, and financial models, to try to make sense of the future, so that other people can make a better decision out of the uncertainty that we're going to face in the future.

KEERTI: For me, it depends who you are talking to, because different people will understand the different levels of technicality. I used to think I had to explain properly. Then I noticed people lose interest. After my two sentences, they are like, what is she talking about? Then I just came to this point. Everyone holds an insurance policy, right? They will say yes. So they are part of the conversation. My next question would be, you see a premium that you pay there. It is basically a premium which is calculated considering future risk. This is the premium I calculate. This is how I explain

so that they can register in their mind that oh, there is someone sitting behind this number who is called an actuary.

MARCUS: That is a very good view. Sometimes you meet people who don't really understand the whole financial mumbo jumbo stuff. So what I always try to tell people is, we try to play God here.

KEERTI: (Laughs)

MARCUS: I'm trying to predict how long you're going to live, based on past historical data that we've collected. For example, someone 24 years old, smoking or non-smoking, what's the chance that the person is going to live for the next four years, and die in the fifth year? Then from there, I put a price tag on it.

KEERTI: Cool, that's nice.

MARCUS: I wanted to know, how do people react or respond when you tell them about what you do?

KEERTI: People might switch off when you start with the technical terms. So I tell them very simply, car insurance, life insurance, we calculate the premiums. They get engaged. Why is this increasing? Which policy should I purchase? So they somehow register it as anything related to insurance, I can reach out to this person, which I think is a good outcome, in a way.

MARCUS: I agree. People ask, oh, so that's what you do. And then, what kind of insurance should I buy?

KEERTI: (Laughs) Yes, yes.

MARCUS: Do I really need insurance? And if I say yes. They say, which one is better? Should I buy life insurance or a savings plan? When people know that I'm one of the very few pension actuaries, people start asking me about CPF. Here's the funny thing: Whenever there's a change in policy from the CPF board, I get calls from relatives, from friends, why are they changing this? I'm happy to share my views and opinions on delaying our retirement age, or encouraging people to work longer.

KEERTI: What qualities do you think are important for the role of an actuary?

MARCUS: Very good question. To be a good actuary, you need to have an analytical mind. You need to have good quantitative skills. Another thing I believe is you need to have very good communication skills. Not a lot of people out there understand what we are talking about. If we start throwing out all the actuarial jargon, nobody out there will understand.

It is our responsibility to think about all this complex mathematical model, and be able to communicate it to the man on the street, a maths professor or English professor, or my grandma or my grandfather.

KEERTI: I agree.

MARCUS: The other thing, perseverance is very important. The number of years of exams you need to take...

KEERTI: Yeah, truly.

MARCUS: It is a tough set of exams that you need to persevere through, and I think you need to have a certain discipline and perseverance to go through it.

KEERTI: Resilience, yeah.

MARCUS: Last thing, actuaries hold ourselves to a very high standard, ethically. Because people do trust what an actuary says, I think it's very important to us to hold that high standard of ethics in whatever that we do. We are unique in a sense that we are specialists. People trust us, that trust comes with a notion that we need to be ethical.

KEERTI: Yes, to uphold high standards, actuaries follow a code of conduct. It's a profession with licences and certificates. In

Because people do trust what an actuary says, I think it's very important to us to hold that high standard of ethics in whatever that we do.

the past, I have seen cases where some people who are not really true to what they are doing, or they have some goof ups, and the licence can actually go away. I agree, I think an analytical mindset, and at the same time, a craving to be detail-oriented. Never hesitate to ask enough, to be confident of what is going out from your desk. I think this attention to detail is very important. And never hesitate to ask a question. Don't just take a shortcut. You'd rather spend more time, delay your project, but better be accurate. And speak up. In a way, an actuary is holding the financial pen. So these are the reserves you hold for the future. Never come under pressure and say, okay, let me change the numbers for the interest of the company. This is not considered good practice.

MARCUS: Oh, people are constantly trying to ask me, just let it go, this assumption should be clear. I was like, no, you need to tighten it.

KEERTI: Exactly. I have noticed it happening more. People want to take it light. They say, it's okay. How much does it matter? I'm like, it matters. Somewhere it matters. So please don't give up on your one assumption. One will lead to the second, and to another. It's a chain of things, and it's also a mindset.

MARCUS: It's a mindset. The next question I have is interesting. In your opinion, who makes a better actuary, a male or female?

KEERTI: If it was super casual, I would laugh out and say, obviously, females make a better actuary. But given the qualities we just listed down, I think it is really independent

of gender. I've noticed that the actuarial profession is one unique profession where I don't see any bias. Because usually you would see, for example, arts or communication or marketing, there is a bias, right? Mathematics, there is a bias. Psychology, there might be a bias. I was checking how many males and females are there in the health committee. So we have 20 members in the health committee, and it happens to be 9 females. It's almost equal. Even in my team, I think we have like 4 females and 4 males who are actuaries.

MARCUS: That's interesting that from the health committee, it's almost 50-50. But if you zoom a bit out, historically, the actuary profession is still very male-dominated. Fast forward to the modern time, I think it's getting a bit better, but still under our membership in Singapore, I think we're still saying about 60% male, 40% female. In my own office, when I look at the young generation coming through, it's a lot of female candidates and so I think eventually it will equalise and become 50-50, and I hope so.

KEERTI: Yeah. What about your thoughts?

MARCUS: I want to sit on the fence, because I don't think it's a matter of gender that makes you a better professional. All those things that we mentioned earlier, those traits reside in both male and female.

KEERTI: Yeah. In school or at work, were there any instances where your gender was an advantage to you?

MARCUS: Actually, that's very interesting. I never thought

about that, whether I have certain advantages. I always thought that my only advantage is because of all my grey hair.

KEERTI: (Laughs)

MARCUS: My wife always says, don't you want to dye your hair? I was like, no. This makes me money. (Laughs) I'm just joking. But perhaps it brings certain trust. I think it's a cultural thing, in certain societies, it still goes by seniority. I think that's my only advantage. Oh, and sometimes they prefer a male authority to say certain things. I think it all boils down to culture.

KEERTI: Yeah.

MARCUS: Certain countries, they are so used to seeing decision-makers as a male person. Things will change, you know, it takes time. I've worked with a lot of very brilliant female actuaries before. Even analysts. I think credibility takes time. I always tell my team that as an actuary, let's try not to be a thermometer in the meeting or the room. Because the thermometer can only tell the temperature of the room. Let's try to be a thermostat. The thermostat can not only tell the temperature of the room, you can regulate the temperature of the room.

KEERTI: That's very nice. I have been brought up in a way where there is no gender difference. But I would say I did notice that when girls say something, teachers listen more. (Laughs) I mean, they would not doubt girls. If girls are saying something, there must be some issue. Whereas boys are known for their naughtiness, right? I have two boys, so I know.

MARCUS: I have three. So we all

know. (Laughs)

KEERTI: Girls have a good heart, are convincing and they express their thanks and show their love naturally. There's a perception that girls are less notorious, and hence people trust them faster. So maybe they will earn credibility faster than anyone else.

MARCUS: I think so. I think men normally deal with things hard on, right?

KEERTI: Yeah.

MARCUS: And then ladies, most of the time you have a softer side of you. You probably have more patience than I do.

KEERTI: Yeah, the natural things actually drive certain things, right? For example, females also have an understanding of others' emotions. So females would be a faster thermostat, than maybe a male counterpart. In my younger years also, I have felt that a female is trusted faster than a male. So there's some difference.

MARCUS: Yeah, I do agree. So we talked about advantages, how about any disadvantages as a female?

KEERTI: Throughout my career and my education, I have never felt any disadvantage except for one point, which is no one's fault, but it goes back to the maternity thing. What happens is when you are pregnant, there are so many changes going on with a female. You tend to be managing a lot more, right? And if you are an ambitious female, it is not easy. It's not easy to manage the expectations. And you cannot explain to the whole world what is going on, and you don't want

If you are an ambitious female, it is not easy. It's not easy to manage the expectations. And you cannot explain to the whole world what is going on, and you don't want to. You don't want yourself to be treated differently.

to. You don't want yourself to be treated differently. When I went through it, I was not very happy. Some things just changed and I did not want to work in the same role anymore, maybe because I was a high performer and I just felt I was not able to cope with it or I was not doing as well as I had been. So this is where I feel at times, it's a little bit difficult for the females in this journey. For my first child, I was lucky to have a one-year break. With my second one, I had only a four-months break. After that, it's a little bit too much juggling. You don't want people to think because you have a child, you step away or you are not committed the same as you were earlier. I don't want anyone to feel that. So you work even harder. But at the same time, you also have so many other commitments in your life.

MARCUS: It's not easy.

KEERTI: It's practically not easy.

MARCUS: Yeah, it's not easy being a career woman. That's one of the things I always hats off to you. As a modern woman, you want to be financially independent. You want to have your own career. And then you can't deny the fact that you are wired

differently because once you have children, the maternity instinct automatically kicks in. You can't switch it off.

KEERTI: True.

MARCUS: In a modern society, it is quite a huge challenge.

KEERTI: You know, in my team, I do think males, their basic instinct is they want to be heard. Whereas females naturally have a tendency to listen more. If there is a feedback session, it is a much smoother session with a female, because they are very expressive. Whereas with males, it takes me much longer to fully understand what exactly they're feeling. I've also noticed females are happy to talk about their family life. But I've noticed younger males, they are methodical and logical, like 'I expect this session to be completely only about my work right now.'

MARCUS: I feel that we just don't like to deal with the touchy emotions. If you ask me, how am I doing? I'd say fine. End of conversation.

KEERTI: For a female, that's the start of conversation. That's a good point. Do you think your

gender matters in the actuarial profession?

MARCUS: No. I've never felt that I got an advantage because I'm a male, or I got a disadvantage because I'm a male. I hope the ladies in our profession feel the same thing. Is this your experience?

KEERTI: Same. Look at the qualities required. An analytical bend of mind. You are always evidence-based. You need to be a good communicator. And detail-oriented. So it becomes very neutral of your gender. Your bias is put aside.

MARCUS: What is something that you wish the opposite gender knew and why?

You won't believe even now, sitting here, right now, I'm thinking, what is the time? What are my kids thinking?

KEERTI: It's quite philosophical. I think one thing is maybe to tell males that females are also doing their best, even if the time they can allocate to something might be different, but they are equally contributing. There is a natural bias in how much time a male and a female can really allocate, because you have 24 hours, right? I come back to mothers. You won't believe even now, sitting here, right now, I'm thinking, what is the time? What are my kids thinking?

MARCUS: (Laughs) Are they still alive? Have they had their dinner?

KEERTI: (Laughs) So my mind is already tick tick tick thinking about it. Are you thinking of that, Marcus?

MARCUS: No, it is a very good point because I don't worry about that. Maybe because my boys are also older.

KEERTI: You know, whenever I receive an invitation for an evening, I can't tell you how much goes into my mind. Do I attend or not attend? I have to choose going to an event very wisely. A work networking event, I choose very wisely. And in one year, I think I attend only maybe maximum five. Five events I go to, which are after office hours. And this is one of them. I've counted already.

MARCUS: (Laughs) Aww, I feel very honoured.

KEERTI: I usually try my best to go back home and spend that time with kids.

MARCUS: How old are your kids now?

KEERTI: Nine and five.

MARCUS: Do you think you would release this feeling when they are older?

KEERTI: I don't think so.

MARCUS: My older son is 22 years old. So as long as you don't get into trouble outside, and I don't get a call from a police station...

KEERTI: (Laughs) Your mind is off as long as he doesn't get into trouble. Girls are always attached to their parents. I think females choose their evening appointments or early morning appointments very wisely. I've seen many other males, they just go out for drinks after office, just like that. At AXA where I work, every week there used to be a gathering and you will notice maybe one female, who is not married.

MARCUS: Yes, I noticed that too. Sometimes I join these social events, and the majority are males.

KEERTI: And those are networking events, right, where you actually interact, you open up, you make those relationships. So, frankly, there is this thing where I think that the males might be making their strongest relationships much faster. They know more people, because of those networking. Whereas females, in a year, there are 50 gatherings on an average, and you're not attending any of those. Obviously, there is something you have missed.

MARCUS: Yeah.

KEERTI: (Laughs) Okay, at the end of it, there is a bias.

MARCUS: (Laughs) We always talked about work. We always talked about healthcare stuff. I feel I got to know you better today. Now I know more about how you feel. ¶

“Our role is to tell the story, not sell the story.”



**Sagar Sahay,
Munich Re's
Regional Chief Actuary**

Could you introduce yourself and what you do?

SS: My name is Sagar Sahay. I am Indian. I am married and a father of two children: my son is 9, and my daughter is 7. I am currently responsible for the Group Valuation of Munich Re's Life and Health business across the Asia Pacific and Africa regions. On the hobbies front, I am an amateur audiophile, a movie lover, a cook, a bread baker, and I play the drums.

What drew you to actuarial science, and how did you get started in the field?

SS: My paternal uncle worked for the Life Insurance Corporation of India. I met his friend, who was an actuary working for a north-American Life insurer when I was 13. I was engaging in general conversation with him, as a 13-year-old would, and I asked him what he did. He told me he was an actuary, and as most actuaries would have experienced in their lives, I gave him a blank expression, having no idea what

that meant. He laughed and said, do you like maths? I did. So, he suggested that I look into the field. True to the habits of a teenager, I walked away from the conversation and forgot about it. Then, when I was 17, I was reading the newspaper and came across an article about an actuarial coaching institute. I asked my father, and he recollected to me the conversation I had a few years ago. He then said that if you want to pursue a profession that sets you apart from all the engineers and doctors in the world (probably the two key professions followed by the Indian boys of my generation), pursue actuarial studies. Well, that's how it all started...

How do you explain your job to someone with no background in finance or statistics?

SS: I use numbers to predict how long people live – not to be grim, but to help life insurance companies plan for the future. I work for Munich Re, a reinsurance company, which is like the insurance company's insurance. My job is to make sure the company doesn't go broke paying claims and can still cover everyone, even if something unexpected happens. It's part maths, part forecasting, and a whole lot of responsibility!

What does a typical day look like for you as an actuary at Munich Re?

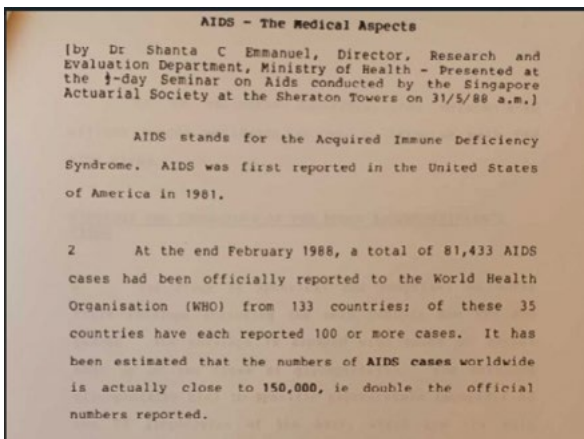
SS: It depends on the time of the year. On most days, I would say my day is split 40% on technical topics, 30% on stakeholder management and 30% on people management.

What's one of the most challenging projects you've worked on, and why?

SS: One of the most challenging projects I worked on was the IFRS 17 implementation a few years ago. IFRS 17 reporting has been a pivotal change in the reporting landscape for all insurers and reinsurers. Implementing the system and process change while developing an in-depth understanding of the standard and simultaneously reporting on the regulatory and group solvency reporting was a challenge like no other. Maintaining high team morale when days were long, and tasks felt never-ending was a test of my managerial and technical skills. To add to the demanding timelines, our organisation also has a significant block of IFRS 9 business, which was another standard that we had to understand and implement in addition to IFRS 17.

What are some of the biggest risks you think the insurance or financial industry faces today?

SS: The ability to stay abreast of the era of technological growth, automation and AI is key for all industries, not just the financial and insurance industry. Insurance was based on the law of large numbers, particularly in the case of life insurance. However, with the growing use of AI/automation in the insurance industry, we are deviating from reserving based on the law of large numbers, and the size of the homogeneous groups we insure is shrinking. That said, with these changes, we are now able to provide insurance cover even for relatively small homogeneous groups, like people diagnosed with HIV.



Extract from presentation by Dr Shanta Emmanuel to the SAS in May 1988

What advice would you give to someone just starting the actuarial exam journey?

SS: Be ready to learn and grow. Individuals entering the workforce as they begin their actuarial profession often divert themselves from the exams. Focusing on exams and qualification is essential to succeed in any actuarial role. Without the best qualification, you might never get the chance to prove your capabilities. So focus, learn, qualify and grow.

What's the most useful skill you learned that wasn't taught in exams or school?

SS: Presentation and story-telling. Most of the time, actuaries struggle to provide insights that are both business-friendly and actionable,

lacking the necessary business acumen to make their presentations effective. This was a key skill that I had to develop as I grew in my role. That said, as a reserving actuary, our role is to tell the story, not sell the story... I leave that responsibility to the business development team.

If you could build your dream actuarial team, what types of professionals would you include beyond traditional actuaries?

SS: There is a strong linkage between a successful team and emotional intelligence. A team with a collaborative mindset and a focus on success is more likely to achieve success. Diversity will be a key aspect of the team that I would help build. This is not limited to gender but encompasses diversity in generation, culture, and thought. I am privileged to have a team composed of people from diverse backgrounds and multiple nationalities.

What's one thing you wish more people understood about risk?

SS: They exist in every aspect of life, and they are uncertain. Everything has a risk - if you don't see it or understand it, it doesn't mean it isn't there. COVID-19, for example, highlighted the importance of life insurance, which many Asians previously viewed as merely an investment product, without valuing its protection coverage.

If you could gaze into the crystal ball, what do you envision for the actuarial profession, or the SAS, in the years ahead?

SS: Actuaries are adaptable. Actuaries are no strangers to learning, new skills and new technologies. As we move forward in the digital era, the actuarial profession will evolve beyond the current focus on numbers and calculations to generate insights and support informed business decision-making. Knowing the questions to ask rather than finding the answers would be a significant direction for the actuarial profession. I see the SAS playing a critical role in upskilling and right-skilling actuaries for the future. ¶

IN CONVERSATION WITH...

For actuaries here, it's a small world after all. Few professions have as clear a lineage, where its legacy can be traced to the first and second recorded actuary - Mr. Leong Teck Kut and Mr. Tan Kin Lian respectively. Safe to say, they are Singapore's pioneer generation of actuaries. Since the first two, new generations of Singaporeans have qualified and joined their ranks. In this conversation, veteran Chi Cheng Hock and greenhorn Ethan Leong - one senior and one junior - bridge their generation gap and talk about the actuary "red book", computation functions and the almost "zero" perception of an actuary among the Singapore public.



CHI CHENG HOCK & ETHAN LEONG



ETHAN: Hi Mr. Chi, my name is Ethan. I'm working with a reinsurer, Munich Re, where I mainly do life insurance valuation and reserving. I studied actuarial science and economics at NUS. That was a partner program between NUS and the Australian National University, where I spent two years here and then two years abroad in Canberra, Australia. But they have since stopped the program as far as I know. They never really stated any official reasons, but probably if I had to guess, a main reason would be a low interest in the program. For my batch, there were only two people from the NUS side. And I think one person from the Australian side. Very low demand and the university probably didn't see a need to focus resources on it, and that they had other programs in mind that they had better interests in. How about you, Mr. Chi?

CHENG HOCK: You've got two hours? (Laughs) To go through my life history, it's going to be a long one.

ETHAN: (Laughs) A brief introduction.

CHENG HOCK: Okay. I did an actuarial mathematics and statistics degree at Heriot-Watt University from 1977 to 1981. After I graduated, I worked in Scotland, Edinburgh, for four years with a mutual society, called the Scottish Equitable Life Assurance Society. I worked there for four years until I qualified as a fellow of the Faculty of Actuaries in 1985, and then I came over to Singapore. I was looking for a job either in Malaysia or Singapore, but Singapore had a job opening at Great Eastern Life. I spent 21 years with Great Eastern Life

until 2006, then I joined the MAS for two years. I left in 2008, just as the global financial crisis was starting. The following year, I joined a small little insurance company called UOB Life Assurance until it got bought up a year later by Prudential. Then I stopped full-time work, and began freelancing. I was writing textbooks, mainly for the Singapore College of Insurance, then a couple of semesters teaching at NTU and SMU. Then I was Executive Director of the SAS for one and a half years. I left at the end of 2019, because they were looking for a full-time Executive Director, and I wasn't interested in doing it full-time. In 2020, COVID hit, I retired.

ETHAN: Very detailed.

CHENG HOCK: I know. How did you first find out about the world of actuary?

ETHAN: My brother had a friend, who was an actuary from Malaysia. It was one of those dinners or lunches that we had. At the time I was in junior college, my second year studying the A-levels. Of course the natural question then would be, oh, what are you going to apply for university? From a young age, I've been very strong with numbers, and good at maths. My brother's friend was there and then somebody said, why don't you consider studying actuarial science? I've never heard of that kind of science in my life. I only knew physics, chemistry and biology. That was the first time I heard of this profession. Then I was like, okay sure, you know, I'll consider it. That was the end of it and nobody said anything else after that. Fast forward to the end of A-levels, it was time to apply to university. I applied

for economics at NUS. It was the first week of university where they had their orientation and they brought you to discover all the special programs that the university had. I just happened to chance upon a talk on actuarial science. Oh, this sounds like what was brought up some time ago. I went in to have a look and then they said, okay, if you want to apply for this, we will only take in students at the end of their first year of studies. You have got to take a specific set of modules and courses and then they'll see your grades. The criteria was a bit ambiguous. It just said like, okay, you take this at the end of the first year, we will let you know if you get in. To me, it was like no harm trying, right? After the first year, I actually got in! I guess a bit of luck as well, like chancing upon the talk.

CHENG HOCK: For me, I finished the Malaysian Certificate of Education examinations, MCE, which is the equivalent to the O-levels here in Singapore. I was waiting for my results and wondering what course I should pursue. I cycled over to my career guidance master's house, which wasn't too far away from my own home. I had a chat with him and said I'm not particularly interested in becoming a lawyer, engineer or doctor, which was basically what everybody aimed for in those days. Are there other things that I can do? He started listing out quite a lot of professions, including computer science. Then he said, what about becoming an actuary? Like everybody else, my reaction was, what is that? It was really quite unknown in those days, especially in Malaysia and Singapore. He mentioned it's for people who are good in maths and statistics, and they work

in insurance. I thought, okay, it sounded quite interesting. So I wrote to a few of the actuarial bodies around the world. The Society of Actuaries in the US, Institute of Actuaries in England and the Faculty of Actuaries in Scotland. They all very generously sent me materials about it. So I read through them, I said, hey, this looks like a very interesting profession here. And then my MCE results came out and you know, I was interviewed by the press.

ETHAN: This means you must have done very well.

CHENG HOCK: No need to mention that. (Laughs)

ETHAN: They asked you what you wanted to be?

CHENG HOCK: Yes. And I said I was aiming to be an actuary. And that's how the word actuary became very well-known in Malacca. (Laughs) Because everybody read about it, and wondered, what is he talking about? So having stated it so publicly, I couldn't really change my mind.

ETHAN: (Laughs)

CHENG HOCK: Yeah, so after I finished my higher school certificate (HSC) in Malaysia, my results were good enough to enter the actuarial program, so I applied and got a place in Heriot-Watt University in Edinburgh for actuarial mathematics and statistics. I studied there for four years, got my degree, and then after I graduated from university, I joined the mutual society. They were very fast in taking me in because I had worked part-time with them every summer vacation. They

knew me quite well, and were quite happy to take me. They got a work permit for me. In 1985, I qualified as a fellow of the Faculty of Actuaries.

ETHAN: Was it hard to qualify as an actuary in your time?

CHENG HOCK: Of course it was harder in the past. (Laughs) Our exams are harder.

ETHAN: Really?

CHENG HOCK: No, that was a joke. (Laughs) I've never sat an actuarial examination since I qualified, so I really can't tell whether it's harder now than before. The emphasis is all quite different from my time. 1981 to 1985 was when I did my professional examinations. After I graduated from Heriot-Watt, I actually got exemptions from all the technical papers. I only had to do the professional papers. That time, computers hadn't come into the picture yet, so a lot of it was formulae using a lot of tables.

ETHAN: There was an infamous red book, I heard, or orange book? For the mortality rates...

CHENG HOCK: Yeah. It's for the computation function. It's a way of simplifying actuarial calculations. By using a few symbols, you can calculate the value of what you want, whether it's a life insurance policy... etc. So basically we develop these shortcuts by developing these functions, which is a series of numbers which are combined and then you get your answer, instead of having to do everything by first principle all the time. Of course you have to understand the first principles, how the computation functions

are each developed. Anyway, they don't use it anymore.

ETHAN: In my time, it was in a PDF. You control-F and get to the number, so you minimise those careless mistakes. You can imagine it's a book that's so thick, and then it's rows and rows of tiny little numbers. If your eyes get tired or you see the wrong row...

CHENG HOCK: You mean you guys are still using computation functions?

ETHAN: Yeah, yeah, we do.

CHENG HOCK: Oh, my goodness.

ETHAN: Yeah, we still have to learn it. Although the lecturer does make a caveat that nowadays, in practice, we really don't use them anymore.

CHENG HOCK: No, we don't.

ETHAN: But it's just so that your foundations are there.

CHENG HOCK: When I was working in Scotland, we were still using a lot of computation functions because computers were not that easily accessible yet. But in 1985, I think, our department received our first personal computers. When I came back to Singapore, maybe I worked for another three years, we just abandoned computation functions because we did everything on spreadsheets. Well, basically, you can generate the computation functions using the spreadsheet. I guess it's good that they are still teaching computation functions because I think it is the essence of what actuarial calculations are. But if I were running the education service, I would have abandoned

it long ago. We don't use it in practice anymore.

ETHAN: Well, I have actually not qualified yet. I'm still studying the professional papers. I also had been fortunate enough to get all exemptions for all the technical papers. I am currently awaiting results for one paper and then if I finish that one, I've got one more left. The plan is to qualify by the end of the year. We'll see how that goes. Fingers crossed. But I think it is really quite different studying while working, and as opposed to studying as a full-time student. In university, I guess one can say that their main commitment is studying. But it's hard to say that when you're at work, because technically your work is supposed to come first. Then at the same time, you don't want to jeopardise your studies... There's kind of like a fine balance that you have to slowly learn to find on your own, because these are not struggles that a university student would generally face.

CHENG HOCK: It is a common experience among every actuary. What they have done from my time was to simplify the whole process by letting you get your technical qualifications out of the way at university itself. That's really just a lot of maths and statistics, which was best taught at university. Having said that, when I was working in Scotland, I did have colleagues

who were studying and working right from the very first paper. They entered as an entry level and they just did every paper while studying and working. They've been quite successful. So all I can say is if you want to become an actuary, I think you'll need a bit of resilience.

ETHAN: I agree.

CHENG HOCK: You really have to be disciplined. You really have to schedule time for your studies. It's a sacrifice. You have to sacrifice quite a number of your social life, to be honest.

ETHAN: Even today, I see some of my colleagues not coming from an actuarial background. They take a maths degree, for example, and like what you mentioned, when they finally decide after graduation that they want to be an actuary, they have to take all those technical papers too.

CHENG HOCK: A little bit about the professional papers... I think it's almost impossible to just study, sit and pass the professional papers, because it draws a lot on how you apply actuarial principles in practice. So while you're working, you understand the issues involved. If you use theoretical knowledge, it's not enough. Without work experience, it will be much more difficult to pass the professional papers. What do you think makes a good actuary?

**If you want to become an actuary,
you'll need a bit of resilience.**

ETHAN: I guess I only have a limited experience of the working world, but so far, I think from what I gather, definitely first and foremost your technical skills have to be there. You would have more or less found out whether your technical skills are good by the time you've graduated university. Then you do need the resilience to qualify. But after that, it's really a lot about forming your view of the world and current issues. There's a lot of actuarial judgement involved, and these things I think are very difficult to be taught in black and white. You have to experience them yourself and then form your own view about how you would approach a situation and what is the best way. I think those take time. An example is setting of reserves for our life insurance policies. Sometimes it's not as black and white as what the models churn out. The output may say it's like that, but do you agree? You've got to have that questioning kind of mindset. Like, you need to ask, do we deviate from these results a bit? If so, why? I guess this comes out of a need to also justify what you produce, especially to the more senior stakeholders, because they will want to know why you said this number should be it. That's not easy. It's definitely still something I'm still learning myself.

CHENG HOCK: The actuarial profession is fundamentally a technical profession. You learn all that practically by the time you finish all your technical papers. The question is you need to apply them to the real world. The real world has a lot of rough edges. For one thing, you sometimes cannot get enough data to do a proper theoretical analysis. This is where your judgement comes in. What data you have... Is this sufficient? Are there some allowances you can make, for the fact that you do not really have a full set of data? Is that enough for you to make a decision? So this is the professional judgement that you've said. All actuarial work involves what we call assumption setting. Basically our work is to project the financial future of a product and decide whether the price is right. And for a company, whether you're holding enough assets and reserves to meet all your future liabilities. So it's not something that is certain. There's a high element of uncertainty. And that actually allows the actuary a lot of variability in the judgement, much more than in many other professions. You can give a problem to two different actuaries and get two very different answers, but both of them will be honest answers. It's just how you perceive the problem and how you decide on your range of uncertainties.

The actuarial profession is fundamentally a technical profession. The question is you need to apply them to the real world. The real world has a lot of rough edges.

Actuaries are not all robots, you know. We are warm-blooded.

That is where a good actuary comes in. They know what is the limit and therefore, that's where they make their recommendation and decision. So, on the question about what makes a good actuary. Technical foundation is one. But the second one is even more important. It is the integrity of the actuary. Because it is very easy for an actuary to just concede to the senior stakeholders. Why can't the company sell the product cheaper? The fact is you can. But is that where you think the price should be? If you take a very rosy picture of the future, you can come to a very low price. You can assume that every time you sell, you can keep your cost down so well, then the money you invest, you can get these very nice returns. But in real life, that doesn't happen. So that's why it's very important that an actuary has a high level of integrity. So it's where the professionalism of an actuary comes in. The SAS has standards of practice, so that is a guide to the actuary, to ensure that whatever you propose or recommend is evidence-based. In my time, the recommendation of an actuary was deterministic. But now, it's more stochastic.

ETHAN: Given the nature of our skillset, we are quite versatile. So we can work in quite a few industries. Traditionally, we work in insurance, but there are also many working in consulting, investments, even with AI.

CHENG HOCK: Yes, our training is largely in the insurance industry. That is where the skills of an actuary develop and it's still most valuable in the insurance industry. The reason why so many CEOs of life insurance companies are actuaries is because no one understands the risk of insurance businesses better than them. We have to analyse every risk that is faced by the industry, by the company. The actuaries of the company are the ones with the most knowledge of the risk which the company must deal with to become successful. And that has translated into actuaries branching into various fields within an insurance company. Actuaries have translated not their technical skills, but their ability to assess risk and use it in many things. Actuaries are not all robots, you know.

ETHAN: (Laughs)

CHENG HOCK: We are warm-blooded. We have emotions. And this is a disappointing thing when I talk to some of the young actuarial associates. Some of them are thinking of not qualifying. They feel they don't gain very much more on their qualification. I say, no you do, because it is a recognition. It is a recognition of you as a professional. You have proven your mettle by going through exams, especially with the professional exams that require

you to apply your technical skills in a real world environment.

ETHAN: What was the perception of actuaries in your time?

CHENG HOCK: Zero perception. There was no perception at all in the public.

ETHAN: I agree. I guess the main reason for why it's not changed is because the public generally doesn't have to interact with actuaries, right?

CHENG HOCK: Not like a lawyer or a doctor.

ETHAN: Even today, when I tell my friends about what I do, the first natural response would be, what is that?

CHENG HOCK: Yeah.

ETHAN: But of course, those who do know, know.

CHENG HOCK: Yeah, and this is what the SAS is now trying to do. They're trying to get the actuary into the public consciousness. They make the public more aware that actuaries do contribute to society, although it may seem rather indirect. Hopefully in five years' time, when you ask the question, we will give you a different answer.

ETHAN: I think there still remains a demand for actuaries in the industry. It's not like we have an oversupply, like the computer

scientists now. Because during COVID everyone studied computer science and then people are getting retrenched. You generally don't hear of actuaries being retrenched, or losing jobs.

CHENG HOCK: Yeah.

ETHAN: But you do see this in other industries, like software engineers, because they hired too many... I think that relates back to public perception. In Singapore, for example, I feel like parents don't generally encourage their kids to pursue actuarial science. Whereas in Malaysia, from what I understand, at least there is that knowledge of the existence of the profession. A lot of my actuarial friends actually came from Malaysia, they have the Asean scholarship, they come here and then they choose to study actuarial science. If I talk to my local friends, those I grew up with, I've not heard a single one of them say they want to be an actuary.

CHENG HOCK: I'm from Malaysia. From time to time, I get calls from my friends. And then they say, oh, my son or daughter wants to be an actuary. Can you please talk to him or her? So there seems to be that level of awareness in Malaysia, which is not present in Singapore. Some years ago, we ran a career talk at Raffles Institution. We had great difficulty even setting up the talk because the career guidance

teacher wasn't keen on it. She had no awareness of the actuarial profession, and we suspect that she thought that we were trying to recruit insurance agents. We managed to do the talk, and immediately after the talk, she rushed and said, where can I get more material on this? After the talk, we told the students, those of you who are interested can stay back and talk to us. About 20 students stayed back and 10 were from Malaysia, 10 were from China. No Singaporeans.

ETHAN: Even in my program, I'm the only Singaporean. The other one is a Malaysian ASEAN scholar.

CHENG HOCK: Then the Australian is of Chinese ethnicity?

ETHAN: Yes.

CHENG HOCK: My theory is that Singaporeans, especially that time, had far more options. I think Malaysians were a little bit restricted, besides the traditional professions, they couldn't see much more where else they could be employed. I think Singaporeans had, by that time, quite a bit more options.

ETHAN: Interesting. We have lots of cross-generation insights.

CHENG HOCK: Yeah. It's nice to learn about what's happening nowadays. ¶



Under the purview of the Operations Committee, the History Working Party and Membership Insights Working Party were formed in 2022. The SAS donated some of its founding documents to the National Library Board for archival.

A sense of actuarial humour...

Are actuaries really such introverts? Do the extroverts amongst us look beyond the other person's shoes? For those unfamiliar with it, the joke goes: "What is the difference between an introverted actuary and an extroverted actuary? An introverted actuary stares at his own feet during a conversation, while an extroverted one stares at the other person's feet."

“The actuarial profession is entering a rather uncertain and testing period.”



**Tan Eng Yau,
Great Eastern's
Appointed Actuary**

Could you introduce yourself and what you do?

TEY: My name is Tan Eng Yau, a fellow member of the SAS. I'm currently serving as Appointed Actuary at a life insurance company and I've been in the actuarial profession for close to two decades, with extensive experience in life insurance, financial reporting, and risk management. In my current role, I provide actuarial advice to the board and senior management and ensure that the company maintains sound actuarial practices and remains financially resilient.

Could you describe your career path, which led you to your current role as Appointed Actuary?

TEY: I began my actuarial journey after graduating with a degree in actuarial science and started off in the traditional roles - working on valuation and pricing. Over time, I took on broader responsibilities in other areas, which

gave me a strong foundation in both technical and strategic aspects of the business. This eventually led to my current role when the opportunity came.

What are your responsibilities as Appointed Actuary, and why are they important?

TEY: As Appointed Actuary, my main responsibilities include certifying policy liabilities and ensuring sound reserving practices, conducting and signing off on financial condition investigation, overseeing the appropriateness of pricing and approving premium rates, and recommending to the board on the allocation of participating bonuses. Ultimately, these responsibilities serve to assure that the insurer is able to meet its obligations to policyholders.



Inaugural SAS Life Insurance Conference in November 2012

Could you share some significant or key moments in your role as Appointed Actuary?

TEY: There have been many significant moments, with a few standing out. One, implementing RBC 2 and IFRS 17. Transition to the new frameworks was both technically challenging and strategically important. It required recalibrating assumptions, processes, and governance structures.

Two, responding to COVID-19. During the pandemic and the subsequent recovery period, we had to adapt to the new norms while staying agile to rapidly respond to various scenarios and provide timely insights to management and the regulator.

Three, volatile interest rate environment. Navigating shifts in interest rates while balancing competitiveness, profitability, and solvency has been especially challenging for long-term insurance business. Difficult decisions often have to be made with differing stakeholder views.

Each of these moments and developments underscored the importance of actuarial judgement and the need for clear communication with stakeholders.

The Appointed Actuary role in life insurance firms was mandated in January 1994 in Singapore. Then, it was reported that the Appointed Actuary will be a 'watchdog' who keeps tabs on financial solvency. Thirty years later, would you say that this role is increasingly challenging? Why?

TEY: Absolutely. The role has evolved over the past three decades and has become more complex and demanding. Today's actuaries operate in a more challenging environment due to greater regulatory expectations under regulatory capital frameworks, more sophisticated products and financial instruments, accelerated pace of change, macroeconomic uncertainty, and digital & AI disruption. While the core principles remain, the breadth and depth of responsibilities have demonstrably expanded.

In your opinion, what are some adverse scenarios that are your top-most concerns?

TEY: One, persistent low or negative interest rates, which threaten the profitability and sustainability of long-term insurance guarantees. Two, rapid technological advancements that could fundamentally reshape insurance business model and invalidate our current assumptions about the future. Three, regulatory shifts, such as evolving capital or accounting regimes, which may require swift adaptation and stakeholder alignment.

If you could gaze into the crystal ball, what do you envision for the actuarial profession, or the SAS, in the years ahead?

TEY: If I'm honest, I think the actuarial profession is entering a rather uncertain and testing period. On one hand, we're facing pressures from the rise of AI and

commoditisation of our traditional skill sets. If we don't adapt, our profession may risk being commercially sidelined.

We're also navigating a more fragmented world - volatile markets, climate upheavals, and unpredictable macroeconomic and geopolitical trends. In this environment, the temptation might be to stay defensive, stick to what we know, and become overly cautious. But that to me would be a mistake.

What we need is the courage to step out of our comfort zones and embrace interdisciplinary collaboration. I believe the SAS has a critical role to play in this regard, not just in promoting technical excellence, but in sparking difficult conversations, challenging the status quo, and helping actuaries reinvent themselves for a very different future. ¶

EPILOGUE

by ALEX LEE

President of the Singapore Actuarial Society

A 50-year history is not trivial for a profession. We must not take it for granted.

As Frank Reddington famously observed, “An actuary who is only an actuary is not an actuary.” Professions that apply their skills narrowly rarely endure.

Our founding generation understood this well. They did not limit the meaning of “client” to their employers or fee-paying customers. They worked with deep concern for fairness to the public who rely on insurance. Through careful and principled work, they helped people meet financial needs more efficiently and built public trust in the actuarial profession. Many of their careers went on to influence fields beyond insurance.

Now it is our generation’s turn.

Today, actuaries in Singapore enjoy high salaries and a regulatory moat that provides considerable job security. Comfort, however, breeds complacency. We must guard against it.

Do not abuse the public's trust in our judgement. Do not allow our training to be captured by those who pay the most or wield the most power.

Our skills are powerful. They are capable of creating great good or great harm. The future standing of the actuarial profession in Singapore will depend on how we choose to use them.

What is your vision for the actuarial profession in Singapore?

And what will you do to make that vision a reality?

A SONG FOR THE ACTUARY

Actuarial Rhapsody
Lyrics written by Andrew Linfoot,
one of SAS' former presidents

Sung to the tune of Bohemian Rhapsody by Queen,
this song was presented by the Singapore Delegation to the 13th East
Asian Actuarial Conference in Bali, Indonesia at the Closing Poolside
Dinner on 15 Sep 2005

Is this the real price? Is this just fantasy?
Priced by a broker, No link to reality
Open your eyes, Look up your old tables and see,
I'm just associate, I get no sympathy
The price is easy come, easy go,
Little high, little low
Any way the boss goes doesn't really matter to me, to me

Mama, just killed a man, made my formula too long
He got bored and now he's gone
Mama, life had just begun
But now I've gone and billed for 5 whole days
Mama, ooh, Didn't mean to make you cry
I know you always wished I was a doctor
carry on, carry on as if nothing really matters

Too late, the exam has come
I haven't got a clue, between my x bar and my mu
Goodbye, ev'rybody, I've got to go
Gotta leave you all behind and face the truth
Mama, ooh, I don't want to fail
I sometimes wish fertility rates were lower

I see a little silhouetto of a man
Redington, redington, will you do the asset matching
Du-ra-tion, con-vex-l-ty, very, very fright'ning me
(Pentakainen.) Pentakainen. (Pentakainen.) Pentakainen,
Pentakainen figaro
Magnifico. I'm just associate and nobody loves me
He's just associate from a poor society
Spare him his life con-tin-gen-cies
Easy come, easy go, will you let me pay
A bo-nus! No, we will not let you pay
(Let him pay!) A bo-nus! We will not let you pay
(Let him pay!) A bo-nus! We will not let you pay
(Let me pay.) Will not let you pay
(Let me pay.) Will not let you pay.
(Let me pay.) Ah No, no, no, no, no, no, no.
(Oh mama mia, mama mia.) Mama mia, let me pay
The C-E-O has a bonus put aside for me, for me, for me

So you think you can pay divid-eee-eee-nds
So you think you can declare zero bonuses
Oh, baby, can't do that to them, baby Just gotta get 10, just
gotta pay 90, get 10

Nothing really matters, Anyone can see
Nothing really matters
Nothing really matters to me

Any way the pricing goes

HISTORICAL NOTES

Some key points in the development of the SAS:

1975/76

Foundation and first meetings and newsletter

1977

Insurance became under purview of MAS, Singapore Actuarial Society Newsletter issued

1978

Letter to editor of Insurance News highlighting some errors in their August 1978 article on changes to the Insurance (Amendment) Regulations – perhaps first public comment by SAS on Singapore regulations

1983

2nd International Actuarial Seminar (aka 2nd East Asian Actuarial Conference) held in Singapore, Shangri-La Hotel – papers are in NLB
Inflation and Product Innovation
Mr N N Handa Singapore Retirement Benefits Scheme Mr A Waddingham Malaysia
Health Insurance Group
Individual Mr Terry D Jenkins Hong Kong
Computerisation in Insurance Mr Mabini L Juan Philippines
Agency System and Agents' Remunerations Mr Leong Teck Kin Singapore
Recent Developments in Underwriting Techniques Mr Hugh J Jarven United Kingdom
Role of Actuaries in General Insurance Mr P D Johnson United Kingdom

In early 1975, discussions started on the formation of an actuarial "circle" or Society. Alan Street, of Prudential Assurance, was instrumental in moving this project forward and wrote to the actuaries working in Singapore at the time, requesting for their support. His principal concern appeared to be the disappointing examination results of students in Singapore. He compiled a list of actuaries and students who could potentially be members of this Society. After receiving support for this idea not only from Fellows but also Associates and students of the Institute and Society of Actuaries he wrote to the Actuarial Society of Hong Kong in July 1975 requesting for a copy of the constitution of the ASHK, to be used as a point of reference in drawing up the constitution of the new Society. Patrick Poon, Secretary of the ASHK, obliged and sent him a copy. With this document in hand, Alan Street proceeded to set up a meeting of interested persons for 29 July 1975. At this meeting, a Protem Committee was formed. The members of this committee were:

- PWA Dayananda, of the National University of Singapore.
- NN Handa, of Great Eastern Life.
- Robert Lian, of American International Assurance.
- Alan Street, of Prudential Assurance.
- Tan Kin Lian, of Duncan C. Fraser.
- George Tay, of NTUC Income.

On 2 August 1975, Alan Street notified the Registry of Societies of the intention to form and register an actuarial society or association, and informed the Registry of the names of members of the Protem Committee. Five days later, the Registry replied enclosing the forms, which were required to be completed in quadruplicate, for the Society itself, and for each proposed officer of the Society.

Thereafter, a discussion among members of the Protem Committee ensued on the drafting of the constitution of the Society. The draft was finalised in October 1975 with the seal of approval received from NN Handa, who was the most prominent actuary at that time. This draft included the objectives of the Society as proposed by BP Gupta, who worked with NN Handa in Great Eastern Life.

After the finalisation of the draft constitution, there appeared to be a quiet period until Alan Street submitted the necessary forms and the proposed constitution to the Registry of Societies on 7th May 1976.

The Registry enquired as to the definition of an International Actuarial Association Donating Member "A". Alan Street managed to obtain a definition from N Page, Secretary of the Institute of Actuaries (England and Wales), which he forwarded to the Registry. He cited the Regulations of the International Actuarial Association (paragraph 3 of Article 3), and enclosed Pages 327 – 338 of the 1975 Bulletin of the IAA listing actuarial associations which were Donation Members "A".

After receiving this clarification, the Registry wrote to Alan Street requesting for amendments to selected provisions in the constitution. The Protem Committee agreed to incorporate these amendments and the revised draft constitution was submitted to the Registry. Subsequently, in a letter to Tan Kin Lian, the Protem Treasurer, the Registry approved the application for the registration of the Singapore Actuarial Society (SAS) on 8th September 1976, conditional on the President, Secretary and Treasurer signing the Register of Societies in person at the Registry, and on the payment of a \$20 registration fee.

Tan Kin Lian then proceeded to write to all the Founder members informing them of the registration of the SAS on 26 September 1976, as well as of the names of the Protem Committee members. He enclosed a copy of the approved constitution, and advised them that the application for membership was opened and of the membership fees payable:

	Ordinary	Associate
Entrance	\$10	\$10
Annual Subscription	\$20	\$15

On 14th October 1976, the Protem Committee met and agreed to hold the first annual general meeting on 29th October 1976 at the Singapore Insurance Training Centre (SITC, precursor to the Singapore College of Insurance). The Committee also approved all applications for membership.

Tan Kin Lian, in the chair, 3 Protem Committee members, 9 Ordinary Members and 7 Associate Members attended the annual general meeting which approved the proposed constitution and elected the first Executive Committee:

- President NN Handa
- Vice President Tan Kin Lian
- Hon. Secretary Alan Street
- Hon. Treasurer Robert Lian
- Committee Members BP Gupta

George BP Tay
The meeting also elected Douglas Cho as the SAS' first Honorary Auditor. The first Executive Committee (Exco) meeting was held immediately after the annual general meeting, with Tan Kin Lian in the chair again, with Alan Street, Robert Lian, George Tay and Douglas Cho in attendance. The Exco decided on these matters:

- Mementoes of pewterware worth \$20
 - \$25 be given to overseas visitors who give talks to SAS members.
 - Newsletters be published regularly:
- Tan Kin Lian and Alan Street agreed to sit on the Editorial Sub-committee.
- Formation of the SAS to be publicised: Alan Street would reach out to The Straits Times and the Insurance Institute of Singapore.
 - Hon. Treasurer, Robert Lian, to look into the opening of a bank account.

1984

Logo of SAS determined

1985

The Singapore Insurance Industry: historical perspective, growth and future outlook / [edited by Myint Soe] includes "Role of the Singapore Actuarial Society - Past, Present and Future" by Raymond Kwok and Alan Street

1986/87

SAS joined Singapore Professional Centre

1988

There were five SAS newsletters issued in the year primarily related to AIDS and implications for underwriting and reserving

1990

Lizah becomes first part-time member of Secretariat being seconded from the LIA but it is understood this was on a goodwill basis

1991

Insurance Commissioner engages with SAS to discuss code of professional conduct; training and development of actuaries; role of actuary in the financial management of a life insurer

SAS agrees to the giving gold medal to NTU best student of the BSc actuarial science course. First awarded in academic year 1993/94 to Colin Chan

EGM to change date of AGM from October to January so as not to clash with student examinations

In 1990 there were 93 members and two classes of membership – ordinary and associate. To be an ordinary member one had to be a fellow, or associate or student member of one of the Institute of Actuaries, Faculty of Actuaries (the Institute and Faculty later merged into the Institute and Faculty of Actuaries), or Society of Actuaries and were entitled to vote. Associated members were those who had an interest in actuarial matters (equivalent to affiliates status today). The code of Professional Ethics had been agreed in June 1986.

The early 1990s were a time of considerable change for SAS with a change from a largely social club to a professional body. There were 4 main (but interconnected and contemporaneous) themes:

- Insurance Commissioner's/MAS desire to have better management of insurance companies in Singapore and in particular life insurers by introducing an Appointed Actuary role and dynamic solvency testing (i.e. how the excess of assets in an insurer above its liabilities react under stress e.g. an equity crash);
- Having Professional Code of Conduct;
- Structure of Society in terms of classes of membership;
- International engagement.

1991 Professionalism Sub-committee was formed to study various actuarial issues affecting the profession; to review the objectives and structure of the SAS which had not changed in the previous 16 years and to recommend changes to meet the challenges that were facing the actuarial profession.

At the same time the Insurance Commissioner (i.e. Mr Law) and expressed this view to senior members of the profession regarding the need for SAS to introduce a i) code of conduct and ii) to assist in continuing education of actuaries by conducting workshops on dynamic solvency testing and actuarial methods in determining the financial condition of a life insurance company. Publicly he had been quoted in the Straits Times indicating that MAS was looking into wider functions for actuaries including five year financial projections based on different scenarios.

In Aug 1991 Hugh Scurfield (President of the UK Institute of Actuaries) talked on Recent Developments in Life Insurance in UK and there was a workshop on "Dynamic Solvency Testing" by M Allan Brender in the same month. Mr Paul McCrossan (Canadian Institute of Actuaries) held a seminar on "Dynamic Solvency Testing" in Nov 1991.

In October 1991, the Insurance Commissioner sent Hugh Scurfield's presidential address "Developing a proactive role" for SAS to consider and also in Nov 1991 Insurance Commissioner asked SAS to comment on the proposed Commissioner's Valuation Table 1991.

In Feb 1992 the Insurance Commissioner

and Actuarial Department of MAS sent a letter to SAS on the enhanced role of the actuary in Singapore for comment with the intention to create the Appointed Actuary role for life insurers and introduce dynamic solvency testing. Feedback was provided by SAS.

In Apr 1992 Mr Michael Pickford from the UK Government Actuary's Department addressed SAS regarding "The Role of the Appointed Actuary in the UK". In July 1992 the President of the Institute of Actuaries of Australia (Catherine Prime) talked to SAS on the "The Role of the Appointed Actuary in Australia".

Given the above it was clear that the Society had to be restructured if it were to be converted into a professional association. In May 1992, the Professional Sub-committee proposed a Code to govern the practice of actuaries to the SAS Executive Committee. In Oct 1992, a forum was held to discuss the draft Code of Professional Conduct and the proposed restructuring of the Society. Comments on the draft Code and proposed amendments to the Constitution were received from, among others, Ms Mimi Ho of the Insurance Commissioner's Department of the MAS. Following the Forum, an extra-ordinary general meeting was held on 3rd December 1992 to vote on the adoption of the constitutional amendments. The motion was defeated by a vote of 29 to 8. Resistance was strongest among the then Ordinary members who would have had to take up Affiliate membership under the revised Constitution and, therefore, lose their voting rights.

It is noted that the membership of the Society fell from 123 as at 1st January 1992 to 108 as at 31st December 1992, and to 103 as at 31st December 1993, consisting of 96 Ordinary Members and 7 Associate Members.

At the Jan 1993 AGM, the President (John Chen) noted that the Actuarial Society of Malaysia had upgraded from a social club to a professional body, with 4 categories of membership, and would deal with professional standards and further that the Hong Kong Actuarial Society had been restructured with also 4 classes of membership, and with the objectives to upgrade the actuarial profession in the community, to uphold the standards of professional conduct among members and to consider the actuarial aspects of legislation and take desirable actions.

From 1 Jan 1994 all life insurers must have an Appointed Actuary. As the role and DST were new to actuaries in Singapore then, the Society organised a "closed door" meeting of AAs to discuss the implications of DST and, in particular, the risk of AAs incurring professional liability in conducting these tests. For further understanding of the purpose of conducting DSTs, a talk on this subject was organised in August 1994 which included a panel discussion. The panellists were:

- Ms Mimi Ho of the Insurance Commissioner's Department (ICD) of the Monetary Authority of Singapore (MAS); and
- David Richardson, Society President.

11 Jan 1994, 27 Ordinary member of the Society discussed Chi Cheng Hook paper "Should the Society Become a Professional Body?" The forum attendees tasked the incoming President to appoint a special committee to look into the restructuring of the Society. This Committee, with its term of reference being to steer the Society to become a professional body (as soon as possible), was appointed after the AGM with 10 members who were all prominent actuaries working in Singapore at the time. They were drawn from the life insurance and reinsurance industry, consultancies and the regulator. The Committee was chaired by the President, David Richardson and including Mr Law who had resigned from MAS to become CEO of a local insurer.

This Special Committee was also empowered by the Exco to deliver its recommendations directly to the membership at a general meeting, without having to report to the Exco first.

The Special Committee produced its proposals and then a survey of members entitled Professionalisation of the Society and new Constitution, was circulated in October 1994 along with the proposal and papers giving background.

There appeared to be broad support for the new Constitution, and so the Exco decided to put the draft Constitution to a general meeting for adoption. The 19th annual general meeting of the Society was held on 20th January 1995 and the new proposed constitution was tabled for adoption at the AGM. The new Constitution amended as proposed at the AGM was unanimously adopted by all voting members present.

A legal firm was asked to vet the new proposed constitution and they responded in April 1995, and so the Exco put forward a revised new Constitution for adoption at an extra-ordinary general meeting held on 19th October 1995. This version was unanimously adopted subject to the Register of Societies approval.

An extra-ordinary general meeting was held on 5th July 1996 when a revised version of the new Constitution, incorporating the changes required by the Registrar of Societies for its approval of the Constitution, was tabled for adoption. The new Constitution was unanimously adopted by the 19 members present at that time.

Code of Conduct
In August 1995, Mervyn Bryn-Jones, Secretary of the Professional Affairs Board of the Institute of Actuaries (IoA) and Faculty of Actuaries (FoA), enquired as to whether the Society would like to enter into a Paragraph 4 (of the Memorandum of Professional

Conduct of the IoA / FoA agreement whereby IoA and FoA members could replace guidance issued by the IoA / FoA with that of the Society if they were practising in Singapore.

SAS informed the Professional Affairs Board of the Institute and the Faculty of Actuaries that the Society would be drafting a code of professional conduct, which was a pre-requisite of entering into a Paragraph 4 (of the Institute's and the Faculty's joint Memorandum of Professional Conduct) agreement with the Institute and the Faculty. In March 1997, the Professional Committee submitted a revised draft Code to the Council, which incorporated comments raised at a Committee meeting in February 1997. On 27 Nov 1997 the Code of Professional Conduct was unanimously approved by members.

The Canadian Institute of Actuaries, the Casualty Society of Actuaries and the Institute of Actuaries of Australia wished for recognition in Singapore. There had been prior engagement with MAS on the matter with members of SAS facilitating and a circular on the topic sent to members. At an EGM on 27th November 1997 the members unanimously voted to:

- Recognise the Canadian Institute of Actuaries, the Casualty Society of Actuaries and the Institute of Actuaries of Australia under the Constitution.
- Adopt the proposed Code of Professional Conduct.

An application was submitted to the Registrar of Societies for approval of the amendments to the Constitution and of the Code in December 1997.

IAA

In July 1995, the Society had received an invitation from the International Actuarial Association (IAA) to join the newly formed section of the IAA, called the International Federation of Actuarial Associations (IFAA). At the time, the IAA was an association of individual actuaries, and the Society was a Donating Member (A) Association of the IAA. In time to come, the IAA voted to dissolve and for the IFAA to take over its name. As such, there is no longer an international organisation of individual actuaries, and the IAA now represents all actuaries on the global stage, through their member associations. The Society informed the General Secretary of the IAA that it was currently undergoing a restructuring and would defer its decision to join the IFAA until after a Council had been elected under the proposed new Constitution. In December 1996, it decided to apply for the Society to be admitted as an Observer Member of the IFAA. The Society was admitted as a Donating Member of the IAA on 9th September 1997 and as an Observer Member of the IFAA on 21 September 1997.

Council deliberated on the steps required to upgrade the membership of the Society in the International Actuarial Association (IAA) from Observer Member to Full Member:

- To draw up procedures for adopting

guidance notes and standards of practice for approval at the annual general meeting in 2001.

- To verify that the Society Code of Professional Conduct and Disciplinary Scheme met IAA minimum requirement

The drafting of disciplinary procedures, started in 1997 and continued in 1998 with external legal advice being obtained. The proposed Disciplinary Scheme was adopted at an extraordinary general meeting held on 29th July 1999, with only one member objecting. One member present abstained from voting.

The outgoing Presidential address at the 25th AGM on 9 Feb 2001 raised the question as to whether the Society should remain an Observer Member of the International Actuarial Association or seek to upgrade to Full Membership. The incoming President expressed his hope for the Society to become a fully professional body within 2 years. The 26th annual general meeting (AGM) of the Society was held on 22nd March 2002. At the annual general meeting, members voted on a number of resolutions for amendments to the Constitution including granting the Council powers to formulate professional standards or guidance notes which would require the approval of 2/3rds of Fellows attending any general meeting called to adopt the standards or guidance notes. In addition, voting members at the AGM approved the addition of Code 8 to the Code of Professional Conduct which stipulated that any Member should not provide actuarial advice unless the Member had sufficient relevant experience and professional competence to do so. All the amendments to the Constitution voted on at the AGM were subsequently approved by the Registry of Societies on 25th July 2002.

As well as SAS, MAS was very keen that SAS obtained full membership of the IAA. The above 26th AGM changes allowed the SAS Hon Secretary to submit an application for Full Membership to the IAA, which would then be considered by the IAA Council at its meeting to be held from 15th to 17th May 2002 in Sydney Australia. The application was approved by the IAA Council, but the IAA Accreditation Committee proposed amendments to SAS Constitution and Disciplinary Scheme. On the 27th annual general meeting (AGM) of the Society was held on 21st March 2003 and members approved changes to the constitution to more clearly define eligibility for fellow and associate membership and also on an amendment to the Discipline Scheme. On 17 May 2003 the IAA approves SAS application for Full Membership.

Statutory Recognition

On 16th August 2003, the Monetary Authority of Singapore (MAS) made a presentation to the Council of the Society covering a number of topics but specifically the oversight of actuaries and enhancing the role of SAS in that oversight. Subsequent to that,

the SAS President and several other Council members met with Officers of the Monetary Authority of Singapore to discuss enhancing the role of the Society. At this meeting an induction course for new actuaries and also the recognition of the Society in insurance legislation were discussed. Effective 23 Aug 2004, by the Insurance (Actuaries) Regulations 2004, an Appointed Actuary of a life insurer in Singapore had to be a Fellow of SAS (and it is understood that Certifying Actuaries are encouraged to join SAS as part of the fit and proper process). In line with this recognition, the Society circulated exposure drafts of the following Guidance Notes which would govern the practice of members:

- 20th October 2004 L01 For Appointed Actuaries of Life Insurance Funds
- 4th November 2004 G01 For Actuaries Investigating Policy Liabilities Relating to General

An extra-ordinary general meeting was called on 18th November 2004 to vote on the adoption of these Guidance Notes. Votes for L01 were 35 and for G01 28 for and 7 abstentions. As such, both Guidance Notes were adopted and members had to comply with their provisions if their duties and responsibilities were governed by either of these Notes.

Further, any appointed actuary appointed on 1st January 2005 or after was required to attend an induction programme to be conducted by the Society.

Hence, after a long process from 1991 to 2004, the SAS had converted from a social club to a professional body recognised as such both internationally and by Singapore regulation.

1992

Process of converting Society from a largely social club to a professional body – drafting of code of professional conduct, MAS paper on The Role of the Actuary. MAS indicated that appointed actuaries of life companies must be Fellow of either the Institute of Actuaries, the Faculty of Actuaries or the Society of Actuaries in the impending legislation. Proposed change to constitution in terms of category of member in Oct 1992 was defeated primarily as many Ordinary members would lose voting rights.

1993

7th EAAC – papers in NLB and have some photos

1993

Insurance (Duties of Actuary) regulations

1994

Appointed Actuary needed to be designated for life companies in Singapore

Special Committee to steer Society to become a professional body – empowered to bypass ExCo

1995

New constitution supported at AGM, changing membership classes, powers of Council, etc, but external legal review and so next version was adopted at Oct 1995 EGM prior to submission to RoS

1997

Became observer member of International Federation of Actuarial Associations section of the IFAA and Donating Member of IAA

CIA, CAS and IAAust recognised actuarial bodies for SAS

It was agreed that relevant job advertisements could be circulated to members

1997 Code of Professional Conduct

1998

Aided IAAust in representations to MAS that its Fellows would be recognised under the Insurance Act, Aug 1998 first issue of Singapore Actuarial News Digest issued

1999

Disciplinary Scheme approved by members at EGM and added as a schedule to the constitution in the 1999/2000 SAS yearbook.

2000

The Actuarial Journal of Singapore published by Singapore Actuarial Society

2000-2002

RBC (Life Business) working group – leading to 2003 RBC framework

2002

SAS Disciplinary Scheme

2003

MAS presented to Council on oversight of actuaries and enhancing the role of SAS with specific requirements for MAS to be able to have in statute that AA had to be fellow of SAS.

Full member of IAA approved 15-17 May 2003 – MAS was very keen on this

2004

Mortality Study of Assured Lives 1997-2002 led by Eric Seah. This

MAS annual report indicated:
"MAS embarked on a major exercise to review the valuation and solvency framework for insurance business. A workgroup, comprising representatives from the Singapore Actuarial Society, Institute of Certified Public Accountants of Singapore and MAS officers, was formed in September 2000 to design a risk-based capital model for life insurance business. An exposure draft outlining the proposed framework for valuation and capital adequacy requirements for life insurance business was circulated for industry feedback in February 2001. A similar workgroup was also formed to design an analogous model for general insurance companies."

The MAS-SAS Joint Workgroup on Risk-based Capital Model Development for Life Insurance Companies produced three papers:
- Risk-based Capital (RBC) for Life Insurers – Exposure Draft (Feb 01)
- Valuation of Assets and Liabilities for Traditional Life Policies – Discussion Paper (Aug 01)
- Capital Adequacy Requirements for Life Insurers in Singapore – Discussion Paper (Jan 02)

The following members represented the Society on the MAS Risk-based Capital Work Group:
- Vidyasagar Govind
- Nishit Majmudar
- Prabhat Mehta
- Richard Holloway
- Steve Miles
- Timothy Shield
- Winson Siu

On 20 Dec 2002 the RBC General Insurance Workgroup published "Risk-based Capital Framework for General Insurers in Singapore" discussion paper. The workgroup had been formed in Apr 2002 with members from MAS, General Insurance Association, Institute of Certified Public Accountants and of course SAS.

The SAS representatives were:
- Mr David Richardson
PricewaterhouseCoopers
- Mr John Tucci Trowbridge
- Mr Verne Baker Watson Wyatt
- Mr Julian Lipman Ace Asia Pacific

There were a number of fora for SAS members on RBC
- 28 Mar 2001: Risk-based Capital for Life Insurers
- 22 Mar 2002: Risk-based Capital Framework for Life Insurance Business
- 21 Mar 2003: Risk-based Capital Framework for Life Insurance Companies

With the issuance of the Insurance (Valuation and Capital) Regulations 2004, the Risk-based Capital (both Life and Non-life) Working Groups were disbanded.

was first SAS mortality study – at least two others were prepared by S W Caffin an Australian actuary at the request of the insurance commissioner

Insurance (Actuaries) Regulation 2004 – only fellows of SAS were eligible to be appointed as Appointed Actuaries to life insurers registered in Singapore

GN G01 Guidance Note for Actuaries Investigating Policy Liabilities Relating to General Insurance Business and GN L01 for Appointed Actuaries of Life Insurance Funds first guidance notes

Any Appointed Actuary appointed on 1 Jan 2005 or after was required to attend Appointed Actuary Induction Program

2006
Constitution change to allow membership of SAS by Fellows of non-Recognised Actuarial Associations

EGM adopted Professional Standard PS1 on Continuing Professional Development

30th anniversary Dinner – along with 2006 Life Convention/SAS Retirement Conference – first full conference (excluding EAACs)

Singapore Actuarial Society Newsletter issue 1

2007
First Appointed Actuaries Symposium

2009
Annual Report restarted

Inaugural General Insurance Conference 2009

2010

First Singapore Actuarial Society Career/Internship Fair

2011

SAS monthly newsletter issued in June

2012

First Life Insurance Conference

RBC2 working parties begin and Forum as illustrated by the interview with Raymond Cheung

2013

17th EAAC in Singapore

2014

SAS Quarterly newsletter issued

2015

Big Data Working Party launched and became the Data Analytics Committee

2016

40th Anniversary Dinner

2018-2023

IFRS17 Implementation

2019

Asian Actuarial Conference in Singapore

2020

SAS Superweek fully virtual conference due to COVID

SAS was selected to be represented for four years on the International Actuarial Association Strategic Planning Committee (SPC), which is a subset of IAA Council and determines strategy for the IAA. Jill Hoffman took this role and in 2021 she was selected to be a member of the Executive

Committee for the period 2022-2025. Fred Weber then joined the SPC. Other members of SAS represent SAS at various IAA committees, and in 2023, SAS pitched to hold the 2029 International Congress of Actuaries, all showing how SAS has taken a global actuarial leadership role.

Life business

An IFRS17 project workgroup was set up in June 2018. Meetings were held on average once a month with participation of over thirty actuaries in the industry. Discussions involved the interpretation of the new IFRS17 standard and ways to meet the new standard's requirements in the Singapore life insurance industry context. The workgroup has been quite productive in delivering 11 working papers covering in 2019 (in addition to the 3 papers in 2018):

1. Discount Rates
2. Coverage Units
3. Par Fund and VFA Measurement
4. Expense
5. Premium Allocation Approach
6. Options and Guarantees
7. Fair Value Approach
8. Reinsurance
9. Aggregation
10. Specific Treatment for APD, Policy Loan
11. Contract Combination and Separation
12. Contract Boundary
13. Measurement Model
14. Modification and Derecognition

These papers have been shared with the IAA IFRS17 and ISCA IFRS17 working groups. The workgroup will continue to update the papers as the standard develop and seek public feedback.

Over 2020-22, the SAS IFRS17 working group collaborated with the ISCA's IFRS 17 Working Group to produce an article on the comparison of the measurement of insurance liabilities under FRS117 Insurance Contracts vs MAS Risk-Based Capital 2. This article was published in the ISCA journals in December 2022 (part 3) and January 2023 (part 4).

- FRS 117 Insurance Contracts Vs MAS' Risk-Based Capital 2 (Part 3)
- FRS 117 Insurance Contracts Vs MAS' Risk-Based Capital 2 (Part 4)

General Insurance

An IFRS17 working group was set up in 2019 to discuss the interpretation of the new IFRS17 standards and to provide a discussion forum for general insurance actuaries working on the implementation of the standard. IFRS17 was the most significant working party in 2019 with a large collaboration across a range of functions including representatives from direct insurers, reinsurers and consultants. The working party disseminated the key issues through a working party technical paper discussed at a SAS afternoon forum. The working party then progressed to smaller sub groups, focusing on deep dive topics of Risk Adjustment and PAA eligibility.

First SAS Constitution 1976

CONSTITUTION OF THE SINGAPORE ACTUARIAL SOCIETY

ARTICLE 1 - NAME

The name of the Society shall be the Singapore Actuarial Society.

ARTICLE 2 - PLACE OF BUSINESS

The place of business of the Society shall be:-

The Singapore Actuarial Society
c/o Duncan C. Fraser & Co. (Far East)
1501-D International Plaza Building
Anson Road
Singapore 2.

ARTICLE 3 - OBJECTS

The objects of the Society are to promote the study, discussion, publication and research into the application of economic, financial and statistical principles to practical problems, the actuarial, economic and allied aspects of life assurance, non-life insurance, employee retirement benefits, finance and investment with particular reference to Singapore and the ASEAN region; to assist students in the course of their actuarial studies; to foster and encourage social relationships between the members.

ARTICLE 4 - MEMBERSHIP

Section 1 - Founders

The following are founders of the Society:-

Mr. N.N. Handa	MR ROBERT LIAN	MR. ROBERT FUNG
Mr. A.T. Shimpi	Mr. Law Song Keng	Mr. Peter Lee
Mr. Leong Teck Kut	Mr. F.J. D'Costa	Miss Pearly Lim
Mr. S.P. Gupta	Mr. A. Street	Mr. K. Manikavasegan
Mr. Tan Kin Lian	DR P.W.A. Dayananda	Mr. George Tay
		Mr. Yeo Boon Tong

Section 2 - Admission to the Society

Persons may be admitted into the Society in one of the two classes:-

(a) Ordinary members - ordinary members shall be entitled to vote, hold office, make nominations and generally exercise the rights of full membership.

(b) Associate members - associate members shall be entitled to vote, to make nominations, to be present at the meetings of the Society, to present papers and to join in discussions at such meetings. They are not entitled to hold office.

Section 3 - Ordinary members

(a) Founders may become ordinary members of the Society upon payment of the prescribed entrance fee and subscription.

(b) Any person who makes an application for ordinary membership by completion of a prescribed application form may become an ordinary member of the Society provided:-

(i) He is nominated by two members of the Society who shall be ordinary members.

(ii) He meets at least one of the following minimum requirements:-

- (1) He is a fellow, associate or student member of a professional actuarial society which is a Donation Member A of the International Actuarial Association.
- (2) He has completed an actuarial course or other related statistical course in a university, a college or any other academic institute and has achieved a qualification thereof.
- (3) He is performing actuarial or other related work in a life or non-life insurance company, government office or an actuarial consulting office.

(iii) His application is approved by the Executive Committee.

(iv) He has paid the prescribed entrance fee and annual subscription.

Section 4 - Associate members

Any person who makes an application for associate membership by completion of a prescribed application form may become an associate member of the Society provided:-

(a) He is nominated by two members of the Society of whom at least one shall be an ordinary member.

(b) He has a declared interest in actuarial matters.

(c) His application is approved by the Executive Committee.

(d) He has paid the prescribed entrance fee and annual subscription.

ARTICLE 5 - DUES

Section 1 - Entrance Fee

Each ordinary or associate member shall, upon admission to the Society, pay an entrance fee of S\$10.

Section 2 - Annual Subscription

Each ordinary member shall pay an annual subscription of S\$20 and each associate member shall pay an annual subscription of S\$15. Such subscriptions shall be payable not later than the last day of December in each year.

It shall be the duty of the Hon. Secretary to notify by mail any member whose subscription becomes two months or more in arrears. If the subscription remains unpaid thirty one days after such notice has been given the member shall be stricken from the rolls of the Society. The offending member may be reinstated upon approval of his application by the Executive Committee, and upon prior payment of such arrears of subscription as the Executive Committee may require.

ARTICLE 6 - OFFICERS

The officers of the Society shall consist of a President, a Vice-President, an Hon. Secretary, an Hon. Treasurer and two Committee Members. The duties of the officers shall be such as usually appertain to their respective offices.

ARTICLE 7 - ELECTION OF OFFICERS

Officers shall be elected at the Annual General Meeting of the Society held in October of each year. Retiring officers shall be eligible for re-election.

Candidates for election as officers must be proposed by one and seconded by another member of the Society and must be present at the meeting or have indicated in writing to the Society their willingness to serve if elected. Officers shall be elected by a show of hands or by ballot. Votes may only be given personally. No member not personally present shall be entitled to vote.

All elected officers shall hold office until the next Annual General Meeting or until their successors are elected.

ARTICLE 8 - MEETINGS

The Annual General Meeting shall be held in October of each year and shall be devoted to receive the President's address, to receive the Hon. Secretary's report, to pass the audited Statement of Account and to elect officers for the following year.

Extraordinary general meetings may be held upon call by the President, whenever the Executive Committee thinks fit, or upon request made in writing and signed by not less than five members of the Society.

Seven days' notice shall be given of the Annual General Meeting and of any extraordinary general meeting by circular to members.

Other ordinary meetings may be arranged from time to time as the Executive Committee thinks fit. These meetings shall be devoted to the presentation of actuarial papers, to informal discussions of actuarial matters of mutual interest and to such other business as may be presented before the Society.

ARTICLE 9 - PROCEEDINGS AT MEETINGS

Ten members of the Society shall constitute a quorum for the Annual General or any extraordinary general meeting. Three members of the Executive Committee shall constitute a quorum for any Executive Committee meeting.

The President, or in his absence the Vice-President, shall preside as Chairman at the Annual General Meeting, any extraordinary general meeting or Executive Committee Meeting.

Except as otherwise stated, the passing of resolutions at any meeting shall be decided by a single majority of votes of all members present. In case of an equality of votes on each side, the Chairman shall have a second or casting vote.

If within half an hour from the time appointed for the Annual General Meeting or any extraordinary general meeting a quorum is not present, the meeting shall be adjourned for a period not exceeding fifteen days after which period the meeting shall be reconvened, seven days' notice having been given to all members by circular posted to their last known address. A quorum shall be deemed to be present at such reconvened meeting provided not less than ten members of the Society are present, and if the members present are insufficient to form a quorum, those present shall constitute a quorum but they shall have no power to add, amend or alter any of the existing rules.

ARTICLE 10 - THE EXECUTIVE COMMITTEE

The Society shall be governed by the Executive Committee to be composed of the following:-

The President
The Vice-President
The Hon. Secretary
The Hon. Treasurer
Two Committee Members
The Ex-Officio Member

With the exception of the ex-officio member, who shall be the first preceding ex-President, all officers of the Executive Committee shall be elected at the Annual General Meeting.

The Executive Committee shall have powers:-

- (a) To invest and otherwise deal with the funds of the Society and to incur such expenses as they deem necessary.
- (b) To decide on such subjects or matters as are referred to them by members and which fall within the objects and powers of the Society.
- (c) To appoint such sub-committees as may be deemed necessary.
- (d) To co-opt (without power to vote) other members or other interested parties for the purpose of dealing with particular subjects.
- (e) To receive, investigate and approve or reject applications for admission to membership of the Society.
- (f) To plan and make arrangements for the activities of the Society, including the preparation of assistance programmes for actuarial students and the arrangements of all meetings of the Society.
- (g) To consult with any other body dealing with matters of common interest.

ARTICLE 11 - FUNDS

The funds of the Society shall be used to meet the expenditure of the Society only. They shall not be used for any other purposes.

In the event that the Society should be involved in any debts or liabilities, it shall be the responsibility of the members of the Executive Committee if such debts or liabilities were incurred due to their negligence, or otherwise of all the members of the Society prorated to their respective annual subscriptions to meet such debts or liabilities.

ARTICLE 12 - AUDIT

Two persons not officers of the Society will be elected as non-Auditors at each Annual General Meeting and will hold office for one year only and may not be re-elected. They will be required to audit each year's accounts and present a report on them to the Annual General Meeting. They may be required by the President to audit the Society's accounts for any period within their tenure of office at any date and make a report to the Executive Committee.

ARTICLE 13 - PROHIBITIONS

Section 1 - Misuse of Funds

The funds of the Society shall not be used to pay the fines of members who have been convicted in Court.

Section 2 - Restrictive Practices

The Society shall not attempt to restrict or in any other manner interfere with trade or prices or engage in any Trade Union activity as defined in any written law relating to Trade Unions for the time being in force in Singapore.

Section 3 - Lotteries

The Society shall not hold any lottery, whether confined to its members or not, in the name of the Society or its officers, Executive Committee or members.

Section 4 - Political Activities

The Society shall not indulge in any political activity or allow its funds to be used for political purposes.

Section 5 - Gambling

Gambling of any kind, whether for stakes or not, is forbidden on the Society's premises. The introduction of materials for gambling or opium smoking and of bad characters into the premises is prohibited.

ARTICLE 14 - AMENDMENTS

The constitution may be amended by an affirmative vote of 3/4 of the members present at the Annual General Meeting or any extraordinary general meeting held at least fourteen days after each member shall have been notified of the proposed amendments. The amendments shall only come into effect with the approval of the Registrar of Societies.

ARTICLE 15 - INTERPRETATION

In the event of any question or matter arising out of any point which is not expressly provided for in the Constitution, the Executive Committee shall have power to use their own discretion.

ARTICLE 16 - DISSOLUTION

(a) The Society shall not be dissolved except with the consent of not less than three-fifths of the members of the Society for the time being resident in Singapore expressed, either in person or by proxy, at a general meeting convened for the purpose.

(b) In the event of the Society being dissolved as provided above, all debts and liabilities legally incurred on behalf of the Society shall be fully discharged, and the remaining funds shall be shared among the ordinary and associate members pro-rated to their annual subscriptions.

(c) Notice of dissolution shall be given within 7 days of the dissolution to the Registrar of Societies.

ROLL OF HONOUR

Founding Members (28 Sep 76)		M. N. N. Hando	M. Leong Teck Kuf	M. Tan Kin Lian	M. Low Song Keng	M. A. Street	M. Robert Fung	M. Pauly Lim	
#	Age	President	Vice-President	Honorary Secretary	Honorary Treasurer	Council Member 5	Council Member 6	Council Member 7	Council Member 8
1	29 Oct 76	Natalia N Hando	Low Song Keng	Alan Street	Robert Fung	George Tay	Boat Paoed Gupta	-	-
2	28 Oct 77	A. T. Theng	Tan Kin Lian	Alan Street	Robert Fung	George Tay	Boat Paoed Gupta	-	-
3	31 Oct 78	A. T. Theng	Alan Street	Boat Paoed Gupta	Low Song Keng	Robert Fung	John Chen	-	-
4	26 Oct 79	Natalia N Hando	Low Song Keng	Boat Paoed Gupta	John Chen	Pecky Lim	Alan Street	-	-
5	29 Oct 80	Low Song Keng	Boat Paoed Gupta	John Chen	J. Muthusamy	K. Manivassagam	Alan Street	-	-
6	23 Oct 81	Low Song Keng	Boat Paoed Gupta	John Chen	Ong Kok Keong	Peter Foo	Alan Street	-	-
7	13 Oct 82	Low Song Keng	Boat Paoed Gupta	John Chen	Howe Soo Hoan	Peter Foo	T.M. Wang	-	-
8	21 Oct 83	Boat Paoed Gupta	Tan Kin Lian	Raymond Kwok	Howe Soo Hoan	Peter Foo	T.M. Wang	-	-
9	31 Oct 84	Boat Paoed Gupta	Tan Kin Lian	Raymond Kwok	Peter Foo	Howe Soo Hoan	Liong Tang Kap	-	-
10	30 Oct 85	Tan Kin Lian	Alan Street	Uong Tong Kap	Tang Yu Sang	Howe Soo Hoan	Hsu Wei Ching	-	-
11	30 Oct 86	Tan Kin Lian	Alan Street	Uong Tong Kap	Tang Yu Sang	Howe Soo Hoan	Hsu Wei Ching	-	-
12	23 Oct 87	Alan Street	Peter Foo	Uong Tong Kap	Raymond Kwok	Howe Soo Hoan	Tan Kah Tee	Hsu Wei Ching/Patrick Chong	-
13	14 Oct 88	Alan Street	Peter Foo	Uong Tong Kap	Low Fong Chao	Howe Soo Hoan	Tan Kah Tee	Patrick Chong	-
14	30 Oct 89	Peter Foo	John Chen	J.M. Menon	Hsu Wei Ching	Howe Soo Hoan	Steve Tay	Patricia Ho	Robin Chia
15	13 Oct 90	Peter Foo	John Chen	J.M. Menon/Jin Boon	Hsu Wei Ching	Howe Soo Hoan	Steve Tay	Patricia Ho	Robin Chia
16	13 Jan 92	John Chen	David Richardson	Chi Cheng Hock	Vidyasagar Govind	Ng See Keat	Lim Keen Hin	Benjamin Chan	Lee Yuen Siang
17	29 Jan 93	John Chen	David Richardson	Chi Cheng Hock	Lim Keen Hin	Ng See Keat	Soo Hong Chan	Benjamin Chan	Ong Leen Wan
18	28 Jan 94	David Richardson	Tan Siew Chieh	Chi Cheng Hock	Benjamin Chan	Karen Koh	Au Sing Hong	Jeffrey Lee	Uong Tong Kap
19	29 Jan 95	David Richardson	Tan Siew Chieh	Chi Cheng Hock	Benjamin Chan	Karen Koh	Au Sing Hong	Jeffrey Lee	Uong Tong Kap
20	28 Jan 96	Low Song Keng	Boat Paoed Gupta	Chi Cheng Hock	Mimi Ng	Vidyasagar Govind	Geoffrey Boon	Colin Palsang	Peter Foo
21	24 Jan 97	Low Song Keng	Boat Paoed Gupta	Chi Cheng Hock	Pat Seah	Vidyasagar Govind	Geoffrey Boon	Colin Palsang	Mimi Ho
22	23 Jan 98	Boat Paoed Gupta	Chi Cheng Hock	Karen Koh	Colin Palsang	Low Song Keng	Vidyasagar Govind	Nahli Majmudar	Mimi Ho
23	29 Jan 99	Chi Cheng Hock	Colin Palsang	Karen Koh	Rudy Chan	Boat Paoed Gupta	Richard Holloway	Nahli Majmudar	Ken Ng
24	28 Jan 00	Colin Palsang	Colin Palsang	Mike Fowles	Rudy Chan	Boat Paoed Gupta	Richard Holloway	Nahli Majmudar	Colin Chan
25	9 Feb 01	Tan Beng Lee	Nahli Majmudar	Chi Cheng Hock	Colin Chan	Adrian Wong	Richard Holloway	Tim Stuart	Colin Palsang
26	22 Mar 02	Tan Beng Lee	Nahli Majmudar	Chi Cheng Hock	Patricia Chong	Adrian Wong	Harvey Chamberlain	Steve Miles	Colin Palsang
27	21 Mar 03	Tan Beng Lee	Steve Miles	Chi Cheng Hock	Patricia Chong	Adrian Wong	Yame Baker	Lawrence Iul	Loi Suk Hoan
28	3 Mar 04	Steve Miles	Andrew Unloof	Chi Cheng Hock	Tim Boardall	Tan Beng Lee	Yame Baker	Lawrence Iul	Patricia Chong
29	4 Mar 05	Andrew Unloof	Chew Boon Seng	Mark Birch	Tim Boardall	Khee Koh Seng	Richard Holloway	Lawrence Iul	Lee Mun Yew
30	17 Mar 06	Andrew Unloof	Khee Koh Seng	Mark Birch	Tim Boardall	Chew Boon Seng	Richard Holloway	Benjamin Chan	Woon Dai Yil
31	9 Mar 07	Andrew Unloof	Khee Koh Seng	Mark Birch	Tim Boardall	Chew Boon Seng	Richard Holloway	Chi Cheng Hock	Sebastian Tan
32	7 Mar 08	Frank McInerney	Eric Seah	Mark Birch/Jill Hoffman	Tim Boardall	Andrew Unloof	Angela Koechl	Chi Cheng Hock	Colin Palsang
33	27 Mar 09	Frank McInerney	Frank Rajalingham	Jill Hoffman	Sharon Tan	Tim Boardall	Angela Koechl	Chi Cheng Hock	Colin Palsang
34	26 Mar 10	Jill Hoffman	Frank Rajalingham	Lorna McLennan	Angela Koechl	Frank McInerney	Choo Qi Sen	Sharon Tan	Colin Palsang
35	25 Mar 11	Jill Hoffman	Richard Holloway	Lorna McLennan	Angela Koechl	Colin Palsang	Choo Qi Sen	Chi Cheng Hock	Kath Walker
36	23 Mar 12	Jill Hoffman	Richard Holloway	Raymond Cheung	Angela Koechl	Colin Palsang	Choo Qi Sen	Chi Cheng Hock	Kath Walker
37	15 Mar 13	Jill Hoffman	Richard Holloway	Raymond Cheung	Angela Koechl	Colin Palsang	Choo Qi Sen	Chi Cheng Hock	Kath Walker
38	14 Mar 14	Choo Qi Sen	Matthew Maguire	Raymond Cheung	Leo Ng	Jill Hoffman	Eric Seah	Jim Gin	Joey Zhou
39	13 Mar 15	Choo Qi Sen	Matthew Maguire	Raymond Cheung	Leo Ng/Choo Kay Hasee	Jill Hoffman	Eric Seah	Danny Quast	Joey Zhou
40	18 Mar 16	Matthew Maguire	Frederic Weber	Raymond Cheung	Khee Kay Hasee	Jill Hoffman	Eric Seah	Danny Quast	Joey Zhou
41	24 Mar 17	Matthew Maguire	Frederic Weber	Raymond Cheung	Frank Devlin	Jill Hoffman	Eric Seah	Danny Quast	Joey Zhou
42	23 Mar 18	Matthew Maguire	Frederic Weber	Raymond Cheung	Frank Devlin	Jill Hoffman	Eric Seah	Danny Quast	Joey Zhou
43	29 Mar 19	Frederic Weber	Frank Devlin	Maple Lam/Anuj Bahl	U. Tse	Matthew Maguire	Jill Hoffman	Danny Quast	Joey Zhou
44	27 Mar 20	Frederic Weber	Frank Devlin	Anuj Bahl	U. Tse	Matthew Maguire	Jill Hoffman	Kay Ying Sheng	Joey Zhou
45	26 Mar 21	Frederic Weber	Frank Devlin	Anuj Bahl	Kevin Chau	Matthew Maguire	Jill Hoffman	Kay Ying Sheng	Joey Zhou
46	25 Mar 22	Frank Devlin	Anuj Bahl	Chao See Ju	Kevin Chau	Frederic Weber	Alkash Gupta	Kay Ying Sheng	Joey Zhou
47	31 Mar 23	Frank Devlin (until Apr 2023)	Anuj Bahl	Kevin Chau	Glenn Tan	Frederic Weber	Alkash Gupta	Kay Ying Sheng	Joey Zhou
48	22 Mar 24	Alex Lee Hai Ming	Hitesh Shah	Kevin Chau	Glenn Tan	Frederic Weber	Alkash Gupta	Kay Ying Sheng	Joey Zhou
49	31 Mar 25	Alex Lee Hai Ming	Hitesh Shah	Kevin Chau	Tah Yun Ying	Alkash Gupta	Nvin Chong	Goh Jing Rong	Joanne Tan
50	27 Mar 26	Alex Lee Hai Ming	Hitesh Shah	Kevin Chau	Tah Yun Ying	Alkash Gupta	Nvin Chong	Goh Jing Rong	Joanne Tan

Note: Council Member 5 has been Assistant Secretary from 1992 to 1995, Immediate Past President from 1996 to 2001, ex officio since 2004

Mr. George Tay	Mr. A.T. Shimp	Mr. B.P. Gupta	Mr. Robert Lim	Mr. J.J. D'Costa	Dr F.W.A. Dissanayake	Mr. Peter Lee	Mr. K. Marikavagun	Mr. Yeo Soon Tong
Council Member 9	Council Member 10	Council Member 11	Council Member 12	Council Member 13	Council Member 14	Council Member 15	Honorary Auditor 1	Honorary Auditor 2
-	-	-	-	-	-	-	Aloysius Tee	S A Chellappah
-	-	-	-	-	-	-	Douglas Cho	-
-	-	-	-	-	-	-	Peter Lim	-
-	-	-	-	-	-	-	Peter Lim	S A Chellappah
-	-	-	-	-	-	-	Peter Lim	Ong Koo Kiang
-	-	-	-	-	-	-	K. Marikavagun	David Foo
-	-	-	-	-	-	-	K. Marikavagun	Ong Kok Keong
-	-	-	-	-	-	-	Chua Phooi Hwee	Uong Tong Kap
-	-	-	-	-	-	-	Edward Tan	S M Menon
-	-	-	-	-	-	-	Nal Lee Sheng	Tan Beng Lee
-	-	-	-	-	-	-	Patika Ho	Teoh See Leong
-	-	-	-	-	-	-	Kenneth Wong	S M Menon
-	-	-	-	-	-	-	Tim Chan	Daniel Lim
-	-	-	-	-	-	-	Teoh See Leong	Patrick Chan
-	-	-	-	-	-	-	Teoh See Leong	Patrick Chan
Loai Pui Chyan	-	-	-	-	-	-	Lee Seng Yen	Joseph Choo
Uong Tong Kap	-	-	-	-	-	-	Cedric Boon	Hong Siu Wan
Uong Tong Kap	Theresa Poon	-	-	-	-	-	Tan Hoi Leih	Patricia Chang
Uong Tong Kap	-	-	-	-	-	-	Raymond Wong	Jessica Sim
Tan Jooi Cheah	David Richardson	-	-	-	-	-	Purdy Chan	Karen Kish
Duncan Lead	Tan Beng Lee	-	-	-	-	-	Olbert Pak	Piers Thorne
Duncan Lead	Tan Eui	-	-	-	-	-	Colin Chan	Marilla Sharon
Tan Hoi Leih	Tan Eui	-	-	-	-	-	Chua Tui Ming	Peter Branson
Tan Hoi Leih	-	-	-	-	-	-	Hawee Soa Hoon	Clement Khoo
Tan Hoi Leih	Aditi Inwadi	-	-	-	-	-	Tim Keardall	Li Wei Yi
Tan Hoi Leih	Aditi Inwadi	-	-	-	-	-	Lindsay Mann	Law Suk Hoon
Tan Hoi Leih	Tim Saadavall	-	-	-	-	-	Sharon Tan	Christopher Wright
Tan Hoi Leih	Chew Boon Eym	-	-	-	-	-	Lindsay Mann	Colin Chan
Annette King	Duncan Lead	-	-	-	-	-	Raymond Cheung	Vincent Lee
Au Sing Hong	Duncan Lead	-	-	-	-	-	Samuel Tan	Jenny Lim
Au Sing Hong	Duncan Lead	-	-	-	-	-	Angus Keardall	Minor Lufabave
Sharon Tan	Luke Sebery	-	-	-	-	-	Ong Soon Chool	Walter De Oude
Annette King	Samuel Tan	Walter De Oude	-	-	-	-	Quvin Malshy	Wang Jia Yu
Annette King	Alister Chamberlain	Gavin Malshy	-	-	-	-	Richard Holloway	Walter De Oude
Annette King	Alister Chamberlain	Gavin Malshy	-	-	-	-	Col Wei	Patricia Chong
Scott Yen	Leo Ng	Matthew Maguire	-	-	-	-	Jessica So	Yan Lai Sun
Scott Yen	Leo Ng	Matthew Maguire	-	-	-	-	David Marechal	Lim Siang Thika
Scott Yen	David Marechal	Erker Huang	-	-	-	-	Wali Kili	Hany Lee
Husain Ahmad	Frederic Weber	Erker Huang	-	-	-	-	Eng Ping Hi	Li Kiang Eng
Husain Ahmad	Frederic Weber	Erker Huang	Lon Schmidt	Raymond Chan	-	-	Eng Ping Hi	Li Kiang Eng
Husain Ahmad	Chua See Ju	Erker Huang	Lim Siang Thika	Raymond Chan	Mudit Gupta	Bruno Rison	Jessica So	Chen Cheng Hock
Husain Ahmad	Chua See Ju	Erker Huang	Lim Siang Thika	Raymond Chan	-	-	Cyril Oon	Li Wei
Husain Ahmad	Chua See Ju	Erker Huang	Lim Siang Thika	-	-	-	John Lim	Han Kiang
Husain Ahmad	Chua See Ju	Erker Huang	Harry Lee	Frederic Boulting	Shou Eric	-	Osh Jo Young	Joseph Choo
Husain Ahmad	Chua See Ju	Paul Wee	Harry Lee	Frederic Boulting	Shou Eric	Philip Eng	Phan Ngoc Hung	Sagar Sahay
Husain Ahmad	Chua See Ju	Paul Wee	Tan Shu Yuan	Leong Sio Weom	Shou Eric	Philip Eng	Jessica So	Samuel Lim
Husain Ahmad	Ong Wei Chong	Keert Sethi	Tan Shu Yuan	Leong Sio Weom	Glenn Tan	Andrew Zell	Valerie Gilles-Coeur	Bije Zhou
Husain Ahmad	Isa Liang Chan	Keert Sethi	Tan Shu Yuan	Andrew Zell	-	-	Aida Bifair	Premrajall Kuparion
Husain Ahmad	Tan Shu Yuan	Andrew Zell	Perry Lee	Cynthia Shen	Joanne Tan	Chen Cheng Hock	Valerie Gilles-Coeur	John Tan Tai-Hel
Husain Ahmad	Keert Sethi	-	-	-	-	-	-	-
Husain Ahmad	Chuan Quenlang	-	-	-	-	-	-	-

ON GOVERNMENT SERVICE

R of S 166/76

Registry of Societies
Ministry of Home Affairs
2nd Floor
Pearl's Hill
Singapore 2

Date: 8 Sep 76

Mr Tan Kin Lian
The Protem Treasurer
Proposed "Singapore Actuarial
Society"
c/o Duncan C Fraser & Co (Far
East)
1501-D International Plaza
Anson Road
Singapore 2

Dear Sir

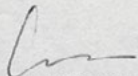
I am to inform you that your application for the
registration, under the Societies Act of

" SINGAPORE ACTUARIAL SOCIETY "

is approved, subject to compliance with paragraph 2 below.

2 The President, Secretary and the Treasurer of the
Society (or other officers holding analogous positions) should
call at this Registry, during normal office hours, to sign the
Societies Register and to pay the requisite registration fee of
\$20/- which should be in the form of 4 x \$5/- SINGAPORE adhesive
REVENUE STAMPS.

Yours faithfully


S H LEONG Kien
for REGISTRAR OF SOCIETIES
SINGAPORE

4/
People's Park Complex

AT

Can Miss Leong
Ask her to confirm
that P, S & T are
those allowed by the
Trust Act and not
the Pro-Tem Committee

Ken

Pro-Tem
Committee OK

REFERENCES

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Featuring interviews with:

Akash Gupta
Chi Cheng Hock
Colin Pakshong
Ethan Leong
Felicia Er
Fred Weber
Glenn Tan
Jill Hoffman
Keerti Sethia
Law Song Keng
Marcus Kok
Melissa Ong
Patsy Lau
Raymond Cheung
Raymond Kwok
Sagar Sahay
Tan Eng Yau
Tan Kin Lian
Tan Suee Chieh