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Peter Withey
President, 2018-19

Presidential PERSPECTIVE

Message from the ASSA PRESIDENT

ACTUARIAL SOCIETY OF SOUTH AFRICA

Message from the ASSA PRESIDENT

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The annual ASSA convention is undoubtedly the flagship event of the profession each year. The Practice Area seminars provide a forum to cover specific areas of interest to practitioners in a field, but the convention provides the opportunity for us to engage as a profession as a whole and to also consider wider topics that we may not be exposed to in the narrow confines of the practice area seminars. Topics ranging from Equity, the actuary's role in Public Service, Machine learning, Geocoding tools and other emerging techniques through to traditional areas of interest will leave us all with challenges in choosing what sessions to attend.

The convention also provides the opportunity for us to challenge and be challenged about issues that are important to enable us to play our role as valued professionals who act in the public interest as we seek to fulfil our professional promise by ensuring that the work that actuaries do is relevant to the diverse South African public whose interest we serve. I fully anticipate that Thuli Madonsella's plenary address will fall into this category.

For me this Convention also provides the opportunity for some reflection as it is roughly half way through my term of office as president. A time to consider how far we have moved along the road of meeting our strategic objectives; what new and emerging challenges we are starting to see as a profession; and how we are doing in being relevant in the international actuarial world, to our members and importantly to the society of which we are a part.

At a recent new Fellow's Professionalism Course we considered the challenges facing the profession and one contribution was 'to maintain the current Brand of the Actuary', especially in the light of the potential loss of our job's to other disciplines, such as data scientists, and even to machines. I think that this is a really important matter for us to consider or life could easily pass us by. However, I would add to the topic and ask the question of the challenge of maintaining the brand of the Actuary in the light of the challenges being faced by other professions both locally and internationally. Consider the situation of the accounting and auditing profession here in SA and the banking and insurance industries in Australia with the current ongoing Royal Commission that is happening there. I think we would be naïve to think that similar challenges will not face us as an actuarial profession and we need to be making sure we are up to the task and managing the risk.

On a less intense note though, we must not forget that Convention provides fantastic opportunities to build relationships with our colleagues through the lunch and tea breaks as well as the evening function. While it is always good to renew old contacts I would challenge each one of us to make the effort to have at least one meaningful engagement with someone we have not met before, and ideally with someone who is quite different to ourselves. I have found that such intentional engagements widen our horizons and help us to develop the culture of inclusion that we are seeking to develop in the profession. If each one of us were to make such a connection I believe that we would take a great stride in our transformation initiatives in ASSA and it will certainly contribute to every member of the society feeing welcomed, appreciated and inspired to succeed and contribute.

In closing, I would like to thank the Organising committee for the extensive effort that they put into producing what I expect to be another outstanding event. In particular I would like to recognise Guy Chennels who is stepping down as chair of the organising committee after a number of years of stellar service.

ENJOY THE CONVENTION.







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Patron : Peter Withey
Editor : Mike McDougall
Pictures Editor : Jo Coetzee
Society News : Wim Els
Student News : Jeanine Wilson and Learoy Alcock
Design & Layout : Vegiah Design

ACTUARIAL SOCIETY OF SOUTH AFRICA

Editorial



Mike McDougall (Chief Executive)

In this edition we highlight the annual ASSA convention. Although over the years we have successfully increased our number of Practice Area Seminars and other CPD opportunities, this remains our flagship event - the one time in the year when actuaries and senior students from all disciplines come together to interact, learn and expand our professional boundaries. Although the convention has been a constant for many years, it is now almost unrecognisable in scale and format from those earlier days.

My first convention was held at the Lord Charles Hotel in Somerset West in 1990. To a man we were all dressed in the standard actuarial uniform of the day – dark suit and tie with white shirts that matched our complexion – with the only exceptions being the few pioneering female delegates who could probably be counted on the fingers of one hand. No colour, a few small banners for our sole sponsor; otherwise, no distractions other than the gentle rumble of about 200 actuaries in deep and meaningful conversation. An intimidating environment … and that was just the pre-convention coffee break.

What was clear from the start was that if you had not read the papers, you were wasting your time. The full convention was held in one plenary venue with all sessions imperiously presided over by the president for the year, Pierre Steyn. Speakers would be given 5 minutes to introduce their papers, followed by a time of discussion where delegates would make the long trek to the podium microphone to either make insightful comments on the paper or to point out grammatical or other errors in the third paragraph on page 53. At the end, the presenter was given about 10 minutes to respond to the comments. All very formal and intimidating, but a forum in which many pioneering actuarial thoughts were debated and our profession grew in both breadth and depth.

Over the years, guided by our dedicated convention organising committee, the convention has grown and changed continuously. The introduction of the exhibition area, the introduction of presentations as well as presentations of papers, PowerPoint, roving microphones, parallel break away sessions, workshops, guest speakers who are not actuaries, dress code changes, the number of delegates and, most importantly, the demographic mix of delegates, have changed the event beyond recognition. However, two constants remain - the drive to provide a forum for high quality and challenging CPD as well as a forum for engaging with professional peers. This edition of SA Actuary provides the next change as we provide convention presenters the opportunity to write an article either summarising or supporting their presentation or paper. This will not only give you a better grounding for the sessions you do attend but also some insight to the sessions that you miss.

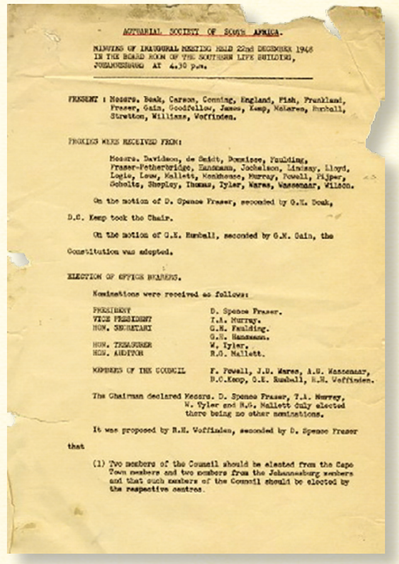
Over the years, many convention contributors have had a significant impact on the convention even when not presenting a paper themselves. Names like Rob Dorrington and Anthony Asher come to mind, as do Douglas Keir and Paul Truyens. However, from that first convention I attended, one stood out and earned the respect of the audience almost before he started talking – that was Tony van Ryneveld. Although already retired from actuarial work, his astute observations were evidence of deep and insightful thought. Mr van Ryneveld recently passed away at the age of 92 after a short illness. Despite having held one of the most senior executive roles in Old Mutual and been a past president of ASSA, his career as an actuary received no more than a passing mention both during the lengthy tribute at his funeral and in his obituary (reproduced here with the kind permission of his family). This is surely the corollary of the Frank Redington's statement that "An actuary who is just an actuary, is not an actuary". In Mr van Ryneveld we had an actuary who was so much more than an actuary and was thus an exceptional actuary.

In conclusion, the growth in breadth and depth of actuarial thought and practice is built on combined wisdom of all our comments. Whether you are making a presentation, contributing from the audience or engaging in discussions during the break, the growth of our profession is in your hands.

At SA Actuary we welcome your contributions (saactuary@actuarialsociety.org.za), but please don't tell us about grammatical errors in paragraph 3 on page 53.

HAPPY BIRTHDAY TO US

ACTUARIAL SOCIETY OF SOUTH AFRICA



ACTUARIAL SOCIETY OF SOUTH AFRICA.

MINUTES OF INAUGURAL MEETING HELD 22nd DECEMBER 1948
IN THE BOARD ROOM OF THE SOUTHERN LIFE BUILDING,
JOHANNESBURG AT 4.30 p.m.

PRESENT : Messrs. Beak, Carson, Conning, England, Fish, Frankland, Fraser, Gain, Goodfellow, James, Kemp, Malherbe, Marshall, Steuston, Williams, Wolfenden.

PROXIES WERE RECEIVED FROM:

Messrs. Davidson, de Smidt, Dominicus, Faulding, Fraser-Fetherbridge, Hansmann, Jochelson, Lindsay, Lloyd, Logie, Low, Mallett, Venthoeven, Murray, Powell, Pilger, Scholtz, Shepley, Thomas, Tyler, Warne, Wassenaar, Wilson.

On the motion of D. Spence Fraser, seconded by G.K. Beak,

D.C. Kemp took the Chair.

On the motion of G.K. Marshall, seconded by G.N. Gain, the Constitution was adopted.

ELECTION OF OFFICE BEARERS.

Nominations were received as follows:

PRESIDENT	D. Spence Fraser.
VICE PRESIDENT	T.A. Murray.
HON. SECRETARY	G.K. Faulding.
HON. TREASURER	G.H. Hansmann.
HON. AUDITOR	W. Tyler.
	R.H. Mallett.

MEMBERS OF THE COUNCIL F. Powell, J.B. Warne, A.H. Wassenaar, H.C.Kemp, G.K. Marshall, H.M. Wolfenden.

The Chairman declared Messrs. D. Spence Fraser, T.A. Murray, W. Tyler and R.H. Mallett duly elected there being no other nominations.

It was proposed by H.M. Wolfenden, seconded by D. Spence Fraser that

(1) Two members of the Council should be elected from the Cape Town members and two members from the Johannesburg members and that such members of the Council should be elected by the respective centres.

1883

William Marshall, AIA, founded the Cape Town branch of the Colonial Mutual in 1883. He was the first actuary that worked in South Africa. The inaugural meeting of the Actuarial Society of South Africa was held on 22 December 1948. The timeline below draws attention to some of the highlights over the past 70 years.

David **Spence-Fraser**

22 December 1948: Inaugural meeting of the Actuarial Society of South Africa. David Spence-Fraser is elected as first president.



1955:

Pat Wood (nee Potgieter) became the first South African woman to qualify as an actuary.

1958:

The Assessment of Compensation for Loss and Support by R Howroyd, FIA, and F J Howroyd, BA L LB, is published in the South African Law Journal. It is the first published paper by a member of the Society.

1966:

The publication of the SA 56-62 Mortality Tables marks one of the first milestones for the Society.

1967:

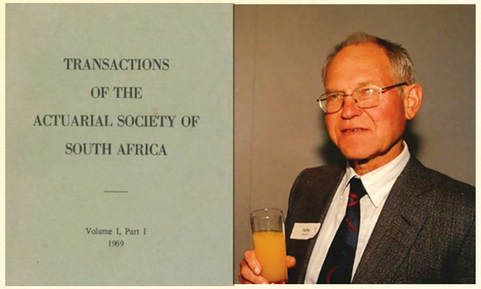
- The first sessional meeting of the Society is held in Cape Town (14 June): Unit Trusts and Equity-linked Endowment Assurances, by Grant and Kingsworth.
- The first paper by a member of the Society to be discussed at sessional meetings is The Distribution of Profits arising from Equity Investments by John van der Linde.

1969:

Tom Murray donates money for a prize fund. This evolves into the Murray Medal, the Society's most prestigious award.

1969:

John van der Linde, as editor, produces the first edition of the Transactions of the Actuarial Society of South Africa. "It was the best way to ensure my paper was published in it," he explained afterwards.



1970:

The Society's Coat of Arms is registered with the Bureau of Heraldry.

1972:

The first Convention is held in Cape Town (20 October).

1973:

- The first Murray Medal is awarded to Tom Murray.
- The first purely actuarial courses are presented at the University of Cape Town.

1978:

The JSE-Actuaries Index is launched.

1983:

The Fixed Interest Indices is launched.

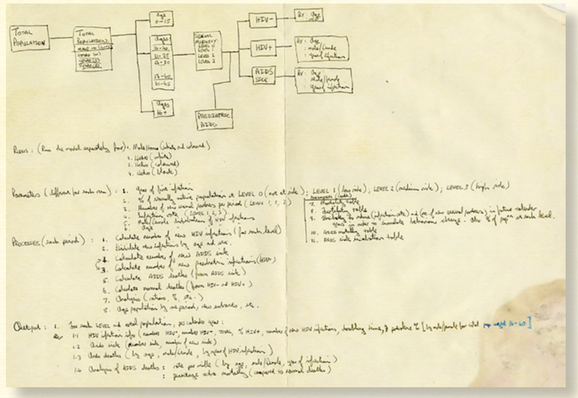
1986:

The Guide to Professional Conduct is issued. Council follows this by issuing an explanatory memorandum on the Guide.

1987:

The AIDS Committee is established. The world really took notice of AIDS for the first time in the 1980s and the Committee was established to create and enhance awareness of the pandemic among members of the Society and other decision-makers in the long term insurance industry.

1987: Peter Doyle's AIDS Model in embryonic stage.



1995:

- The Swiss Re Prize is introduced. It was awarded for the first time in 1998.
- The IT Committee is established and the Society's first website is regarded as one of the best by its peers in the international actuarial community.

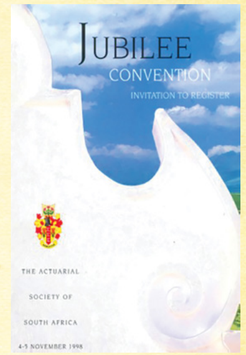
1996:

- The implementation of the Continuing Professional Development Scheme makes CPD compulsory. One member resigns, as he does not want to belong to an organisation for "developing" actuaries.
- The ASSA 500 AIDS Model, primarily designed to make users more aware of the impact of AIDS on mortality, is released. ASSA 500 was followed by various other models, e.g. ASSA 600, ASSA 2000, ASSA 2002, ASSA 2003 an ASSA 2008.

1998:

- The first meetings of International Actuarial Association in Africa are held at Spier, as part of the Society's 50th anniversary celebrations.
- International Presidents and Past Presidents of the Society at Spier.
- Council's first strategic plan is discussed at the Convention.
- The Swiss Re Prize is awarded for the first time, to Rolf van den Heever.





1999:

- RGA Prizes for Best Paper at the Convention, Best Paper by First-time Authors and Best Published Paper are announced.
- The Convention celebrates the 150th anniversary of the Faculty of Actuaries.
- The Research Committee is established. Rob Thomson is the first Chair.



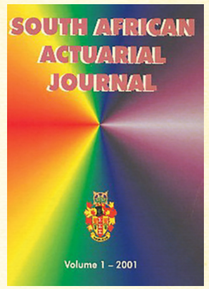
RGA Prizes became, well, prized awards! Seven years after they were announced, they still drew broad smiles from recipients.

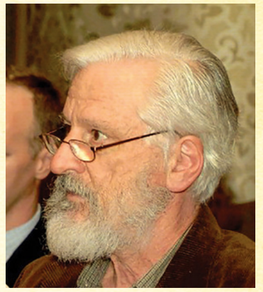
2000:

- The Diversity Committee is established.
- Discovery agrees to sponsor the Society's prize for the best honours project at a South African university. Leigh Johnson and Brendan Horwitz share the inaugural prize.
- Anthony Asher wins the first RGA Prize for the best paper at the Convention.

2001:

The first edition of the South African Actuarial Journal is published. Rob Thomson is the editor.





2001:

Actuaries on the Move, a joint venture with Metropolitan, is launched as a pilot programme in Soweto.

2002:

- Two-year presidency comes into effect. Joubert Ferreira is the first two-year president.
- A service provider disappears, and takes the Society's website with him. Steven Levin and Brett Cameron don the shining armour and rescue the Society.
- Anthony Dardis wins the first RGA prize for the best paper published in a refereed journal.

2003:

- The Presidents' Forum, a meeting of presidents of Anglophone organisations and the IAA presidents, is hosted at Bakubung, Pilanesberg.
- Peter Clark, Tamsanqa Kambule and Gloria Serobe become the first honorary members of the Society.
- The first "local content" Fellowship papers are written. These are UK papers adapted for the South African environment.
- Gustav Jenkins is the first Student Representative on Council.

2004:

Janina Slawski becomes the first woman President of the Society.



Bob Conger (CAS), Janina, Joubert Ferreira, Jim McGinnitie (Society of Actuaries) at the 2003 Convention, where she took over from Joubert.

2004:

- ASSA'ndaba, an information pamphlet in pony newspaper format, is published. The first one deals with surplus in retirement funds.
- Ranti Mothapo is the first African South African to qualify as an actuary.
- The revised Disciplinary Scheme is implemented. It provides for non-actuaries to serve on the Disciplinary Committee. This is a new development in the actuarial world.
- The South African version of UK Professional Conduct Standards is introduced.



2005:

Ndivhuwo Ravele (now Manyonga, left) is the first African South African woman to qualify as an actuary. She received her Fellowship certificate from Peter Clark, President of the Institute of Actuaries and Hon FASSA.

2006:

The Local Qualification Task Team, chaired by Andrew Gladwin, recommends the introduction of a South African actuarial qualification.



2007: The first Actuarial Governance Board: Reg Munro (Chair), Mr Justice Ralph Zulman, Tom Wixley, Prof Philip Sutherland.

2007:

- The Society's Transformation Charter is adopted.
- An IAA Health Section Colloquium is hosted in Cape Town. Emile Stipp chaired the organising committee. As a dry run for the 2010 International Congress, it attracts a number of actuaries from other countries. And they are impressed.
- The Actuarial Governance Board meets for the first time, chaired by Reg Munro.

2007:

The new emblem is unveiled at the Convention.

ACTUARIAL SOCIETY OF SOUTH AFRICA

LOGO

ACTUARIAL SOCIETY OF SOUTH AFRICA

ACTUARIAL SOCIETY OF SOUTH AFRICA

ACTUARIAL SOCIETY OF SOUTH AFRICA

MINIMUM SIZE: THE LOGO SHOULD NEVER BE REDUCED SMALLER THAN 22mm IN WIDTH FOR BEST LEGIBILITY AS SHOWN BELOW.

2008:

- Council delegates certain functions to operational boards: operations and finance, international affairs, professional matters and communications.
- A service provider manages to erase the Society's database.

2009:

- The Convention Lite is a two-day event with separate tracks for the various practice areas on Day One, as well as mainly professionalism and education issues on Day Two. This allows members to focus on the international congress in 2010.
- The revised Constitution and By-laws are adopted at a special general meeting. Amendments bring various Society practices in line with the electronic age.
- The Society's first Mutual Recognition Agreements – with the Institute of Actuaries and the Faculty of Actuaries, who were separate entities at the time – are signed at IAA meetings in Tallinn, Estonia.



2009:

(Above) Trevor Watkins (Head of Learning, Institute), Andrew Gladwin (Chair: ASSA Education Board), Nick Dumbreck (Institute President), Garth Griffin (ASSA President), Ronnie Bowie (Faculty President), Chris Daykin (Past President, Institute, Hon FASSA), Peter Dingwall (International Affairs Manager, Institute), and Peter Doyle (ASSA President-elect) at the signing of the MRAs.



2010:

- (Above) Desmond Smith (Chair: Organising Committee), Yves Guerard (Secretary General: IAA) and Peter Doyle (ASSA President) with a plaque thanking the Society for arranging and hosting the International Congress of Actuaries in Cape Town. Paul Thornton, President at the time of the IAA, said, "It is quite a challenge to attempt any summing up of a Congress with such a diverse range of topics, but what I will do is highlight what was, for me, the single most important direction to come out of this particular Congress, and one that has the greatest strategic importance for the global actuarial profession. This is the contribution we can and should make to managing the risks of the world's financial systems." Various other delegates had a more succinct view: "What a party!"
- The first local Fellowship exams are sat. These papers were drawn up from scratch in South Africa; they are not adapted from the UK papers.

2011: Arthur Els and Xiao Yu are the Society's first CERA's.





2011:

- The Society becomes an award signatory to the CERA Treaty.
- The Africa Seminar becomes part of the Convention. It is hosted in the boardroom of GenRe, which is also the sole sponsor of the event.

2012:

- The Actuarial Governance Board issues a revised disciplinary procedure. At the time, it is pioneering work, allowing the use of provisions of the Arbitration Act.
- The first Code of Conduct developed specifically for members of the Society is issued.
- Desmond Smith is the first actuary from Africa to serve as IAA President.
- Leigh Johnson co-authors the paper that wins the RGA Prize for best paper at the Convention. This means he has won the Discovery Prize and all three RGA Prizes.
- FASSA, AMASSA and CERA are registered with the South African Qualifications Authority.

2014:

- The Transformation Committee is restructured, with the President-elect as Chair ex officio. It reports directly to Council.



2014:

The Society enters into a partnership with PaperVideo to support maths education in previously disadvantaged communities. RGA was one of the first sponsors, and still supports the initiative. (Above) Paul Maree (Paper Video) demonstrates the use of the material, while Mike McDougall (Chair, Actuarial Society Education Trust) and Tjaart Esterhuyse (MD, RGA) and a learner at LEAP follow.

ACTUARIAL SOCIETY OF SOUTH AFRICA ASSOCIATION OF SOUTH AFRICAN BLACK ACTUARIAL PROFESSIONALS Sponsored by Investec



2015: The first Young Members' Convention is hosted. It is a joint venture between the Society and ASABA, and sponsored by Investec.

2015:

The first actuarial banking Fellowship in the world is written. No students pass this one. Michael Tichareva, Chair of the Society's Banking Committee, is appointed as Chair of the IAA Working Group on Banking.

2016:

- The Society hosts IAA Council and Committee meetings in Cape Town. The dinner doubles as farewell function for IAA Executive Director, Nicole Seguin.
- Mickey Lowther presents the outcomes-based CPD approach at the Convention.

IAA AAI Section Colloquium 2019

THE MODERN ACTUARY - CHALLENGE • INFLUENCE • LEAD

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DESCRIPTION	EARLY BIRD (by 31 December)	STANDARD (after 1 January)
IAA SECTION / ASSA MEMBERS:		
3 Day Section Colloquium	**R10,000**	R11,000
4 Day Full Colloquium	**R11,750**	R12,750
NON-MEMBERS:		
3 Day Section Colloquium	**R11,500**	R12,500
4 Day Full Colloquium	**R13,500**	R14,500
FULL TIME ACADEMIC (includes students)		
3 Day Section Colloquium	**R8,000**	R8,800
4 Day Full Colloquium	**R9,750**	R10,550
ASSA 1 DAY SEMINARS:		
ASSA Member	**R1,750**	R1,750
Non-Member	**R2,000**	R2,000

NOTE: All prices listed include VAT @ 15%

COLLOQUIUM FEES INCLUDE:

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Access to all colloquium sessions for the sections sellected
Delegate pack
2 x Tea / Coffee breaks per day
Lunch
Welcome Cocktail Party
Social Afternoon
Gala Dinner
Access to the exhibition hall for the duration of the colloquium
Includes the ASSA Seminar

4 DAY COLLOQUIUM:
All of the inclusions in the 3 day colloquium PLUS the additional colloquium day not included (see the final page of the individual section programmes for details)

ASSA 1 DAY SEMINARS:
Access to the seminar on the day selected
Seminar programme
2 x Tea / Coffee breaks on the day selected
Lunch on the day selected
Access to the exhibition hall on the day selected
NOTE: No social events are included – you are welcome to purchase tickets.

Additional Social Events Tickets
Tickets are available for purchase on the registration form:

EVENT	DATE	ADDITIONAL TICKET
Welcome Reception (IACA / PBSS / IAALS)	1 April 2019	**R250**
Welcome Reception (ASTIN / IAAHS)	2 April 2019	**R250**
Gala Dinner (All Sections)	3 April 2019	**R750**

Each social event ticket includes:
Meal, Entertainment, Limited bar – cash bar available for spirits and when limit has been reached

Colloquium Secretariat:
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SCATTERLINGS

Project Manager: Carolyn Melnick
Tel: +27 (0)21 422 2402
caro@soafrica.com

Registrations: Simone Solomons
Tel: +27 (0)21 422 2402
simone@soafrica.com

Abstracts: Tanys Goosen
Tel: +27 (0)11 463 5085
tanys@soafrica.com

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Transformation of the Actuary in Microinsurance



Nabeelah Kolia

This article was written by Nabeelah Kolia (Manager: Deloitte), with contributions from Peru Govindasamy (Senior Actuarial Analyst, Liberty). Nabeelah and Peru are both members of the Microinsurance Practice Area Committee - contact Peru (govindasamyperu@gmail.com) for more details.

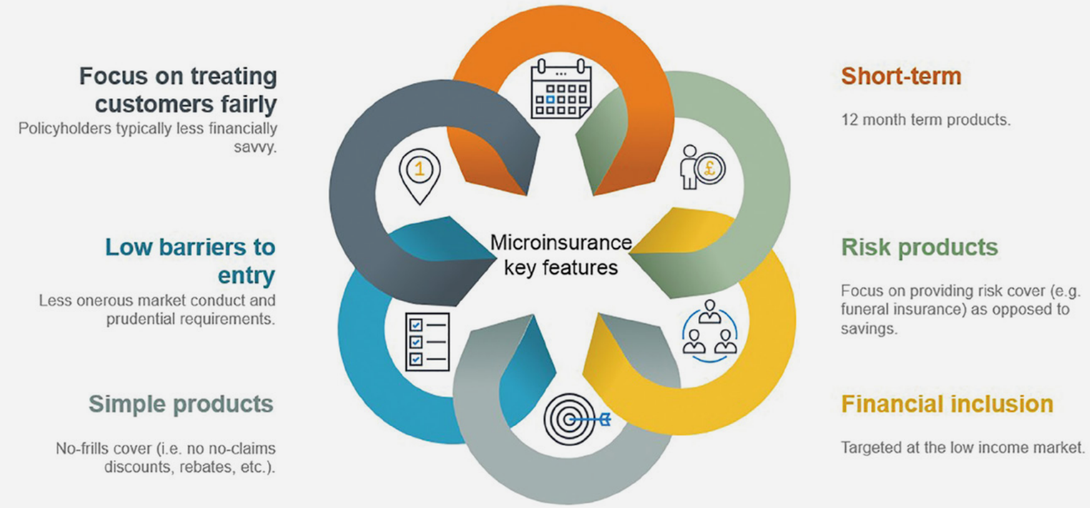
With Microinsurance regulations finally going live with SAM on 1 July 2018, the task of the Microinsurance committee has been focused on formalising the profession's requirements for Actuaries in Microinsurance.

The role of an actuarial technician in the 2011 Microinsurance Policy Framework , as someone who would only be required to sign-off on the premium calculation, has now greatly expanded.

Despite ideas such as "Chief of Microinsurance" and "Microinsurance Managing Actuary", more than half of our survey respondents said we should refer to the actuary working in Microinsurance as the "Head of Actuarial Function".

The policy framework specified that a microinsurer will not be required to appoint either a full-time actuary or a statutory actuary and no annual statutory actuarial valuation will be required. It did, however, mention that the Actuarial Society will be requested to develop criteria for actuarial skills needed to sign off on microinsurance premiums, and to issue corresponding certificates to qualifying individuals to authorise them to do so.

From this emerged the "Microinsurance Actuarial Technician", first referred to as the MIAT and then later as the MAT. The name clearly alluded to the fact that the MAT would not need to be a qualified Actuary and could in fact be an actuarial student with appropriate experience.



Technical provisions and capital requirements

Governance and Operational Standards for Microinsurers (GOM) require the HAF to provide advice on the soundness of product development and design, and capital requirements. In addition, microinsurers will have to compile an ORSA annually, or where there is a material change in risk. Given the simplified capital requirements, this will be less onerous than that of a traditional insurer.

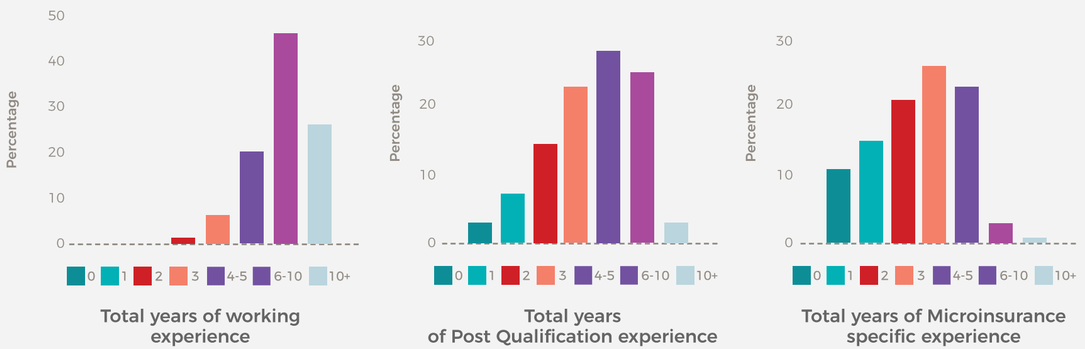


Figure 1: Respondents' opinions on the experience requirements for a microinsurance HAF

[1] The South African Microinsurance Regulatory Framework (National Treasury, July 2011)

Fast forwarding to 2018, the Governance and Operational Standards for Microinsurers replace the name MAT with 'Head of Actuarial Function' or 'HAF'. Along with the name change comes a significant change in responsibilities. The simple screwdriver that was required in the actuarial toolbox of a MAT has morphed into a Swiss army knife. The HAF of a microinsurer is now also responsible for expressing an opinion to the board of directors regarding the accuracy of the calculations and the appropriateness of the assumptions underlying the valuation of the microinsurer's technical provisions and calculation of its capital requirements.

Some actuaries have expressed reservations about the risks to the profession and to the individual involved should an actuarial student have the responsibility to express opinions on to a microinsurer's Board.

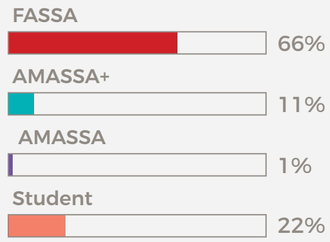
However, key objectives of microinsurance regulations are to promote inclusive insurance, decrease costs, and encourage competition and new entrants. There is a concern that overly restrictive requirements created by the Actuarial Society could impede these goals. Further, given the extent of transformation within the profession, requirements for greater experience may restrict otherwise qualified black actuarial professionals from taking up these roles.

To get input from other members of the Actuarial Society, the Microinsurance committee distributed a survey on the Role of the Actuary in Microinsurance.

When asked about the qualifications required for the microinsurance HAF, respondents on average thought that the total years of work experience should be 12 years. Of these 12 years, on average 7 should be post-qualification experience and 2 should contain microinsurance-related experience. More detail on the distribution of the respondents' answers can be seen in Figure 1.

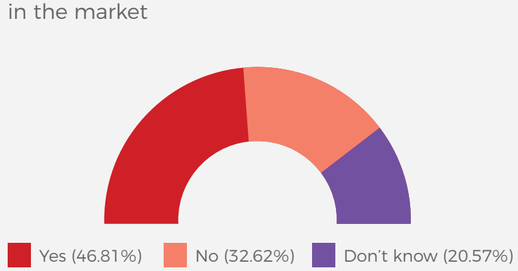
These experience requirements, together with our transformation objectives, led to the exploration of the idea of setting the Associate Member of the Actuarial Society of South Africa (AMASSA) designation as a minimum qualification for the HAF of a microinsurer.

Unfortunately, there were only a few AMASSAs who answered our survey.



It may be that many students who have completed all the exams necessary to qualify as an AMASSA have not yet completed the professionalism course required, or applied to be an "AMASSA". We are hopeful that more students will qualify for the AMASSA qualification, especially if there is a specific reason to do so.

While committing to investigate the AMASSA designation further, we were then led to consider the demand and supply of microinsurance HAFs in the market



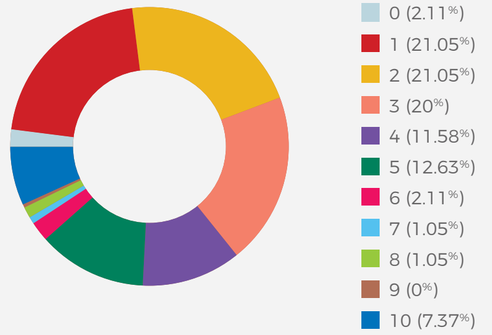
Would you be interested in being the HAF for a microinsurer?

On the supply side, we asked how many respondents would be interested in being the Head of Actuarial Function for a microinsurer, 66 respondents answered in the affirmative.

Of those that said yes, 21% were students with on average 4 years of work experience. 62% of those that said yes were FASSAs (or equivalent) and 29% of the FASSAs already had a practicing certificate in another area.

From a demographic point of view, only 15% of the respondents who said yes to be the HAF for a microinsurer were black Africans. This number increases to 24% if we consider all South African EE candidates.

When asked how many microinsurers they would consider being the HAF for, the vast majority of

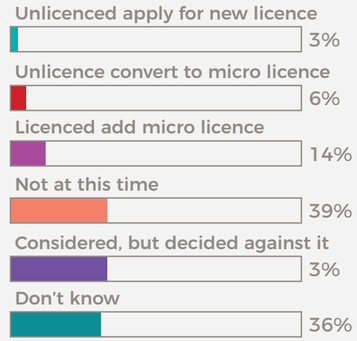


For how many microinsurers would you consider being Head of Actuarial Function?

respondents answered less than 4. Those that answered more than 6 do not currently have practising certificates.

Turning our attention to the demand side, even though SAM is live since 1 July to our knowledge there is yet to be a microinsurance licence granted.

It appears that only 3% of survey respondents know of their unlicensed employers who would be likely to apply for a new microinsurance licence.



Is your employer or are your clients considering applying for a microinsurance licence?

The AMASSA qualification will likely form the base for the qualification and experience requirement for budding Heads of Actuarial Functions for Microinsurers.

For the entities who would either convert from their current licence to a microinsurance licence or who would add a microinsurance licence to their company group, it is yet to be seen whether they will change their current HAF to suit the new license.

In summary, currently the supply of willing microinsurance HAFs appears to exceed the demand for microinsurance licenses. However, this doesn't diminish the task of balancing the requirements for the HAFs of microinsurers with the aim of decreasing barriers to entry to individuals and insurers, managing costs, promoting transformation and managing professional risks to individuals and the Actuarial Society.

The AMASSA qualification will likely form the base for the qualification and experience requirement for budding Heads of Actuarial Functions for Microinsurers.

Guidance for these the microinsurance HAFs is due to be released by the Microinsurance committee soon.

national treasury
Department:
National Treasury
REPUBLIC OF SOUTH AFRICA

The National Treasury's microinsurance policy document, "*The South African Microinsurance Policy Framework*", was released in July 2011. The policy and other documents are available on **https://www.fsb.co.za/Departments/insurance/Pages/microInsurance.aspx#**

SNAPSHOT



Michael Goemans

Michael Goemans:
"Make a Difference"

Readers of The Actuary may recall a series of vignettes by Bradley Shearer on actuaries in leadership positions. We have based this article about Michael Goemans, Chief Executive Officer: Life Insurance, Investec, on the template Bradley had used. More information on Bradley, a former UCT student, is provided at the end of this article.

Career History/Path

I was a top student at school, and did an actuarial degree at the University of Cape Town. I had a bursary from a large life insurance and investment group (Old Mutual), whom I went on to work for. Fortunately, I managed to qualify relatively quickly (less than 2 years after university) and could focus fully on work quite early on in my career.

Career Choices

I enjoy variety and trying / learning new things, and this aligned with the company I worked for looking to rotate promising staff around to diversify their skillsets / experience. I started my career in life risk and investment product development roles, which I credit for with starting me off on a creative and commercially minded footing. I then moved to a regional business development and marketing role, which really helped me understand the front-end of the business (how the products were actually sold). I then decided I didn't understand enough about the financial side of the business, which led to roles in finance and also the growing risk-based capital side (including a 3-year stint in the UK) and then CFO roles back in South Africa.

This diverse experience meant that when the opportunity came up to run my own life insurance company I took it on, which is what I have been doing as the CEO of the Investec Life business for the last 2 years.

Detours

Not many. I have done different things, but in hindsight they have almost all contributed to me being able to do what I do now.

How did your actuarial qualifications prepare you for the work you are doing?

It certainly does help when it comes to understanding and driving the financial side of a life insurance business (pricing, P&L, capital), and having an analytical mindset also promotes rigour in thinking and analysis. Discipline and focus, needed to qualify as an actuary, are also required to be successful.

Having said this, running a business is not just about technical excellence. Strategic, commercial, operational, technology and people aspects are even more critical in my role.

Reflections on the route taken

I have been fortunate to have had the opportunities to do a wide variety of interesting and enjoyable work, and progress by trying to make a positive difference along the way.

Learnings/lessons about yourself, your preferences

I am very driven, with an intense desire to win, but also strongly believe in doing the right thing - for clients, for employees and for other stakeholders.

I also really enjoy business. Corporate life is an acquired taste – it doesn't work for everyone, but I mostly enjoy it (you just have to accept / recognise what it is and what it isn't, e.g. the reality is there are stakeholders to manage, so just do it).

How do you deal with diversity in the workplace?

I value gender, race, culture and age diversity tremendously. Not only does it bring different thought processes and experiences into the workplace, and helps one understand and cater to the needs of different clients, but it's also important to recognise and help redress the specific issues caused by South Africa's past.

Any learnings you would like to share with students/younger actuaries?

Work hard, focus on the right areas, be honest and upfront / straightforward, do the right thing, build relationships (talk and listen to people, do not burn bridges).

Actuaries need to pay special attention to the non-technical skills if they want to become successful, well-rounded business leaders. This isn't just learnt in a book, and intellectualism won't result in the right answers (in fact, it often generates the opposite outcome).

BRADLEY SHEARER is Executive Director of Protagion. He studied at the University of Cape Town, qualified as an actuary and is a Chartered Financial Analyst.

Protagion offers active career management and development services to professionals. Our members include actuaries in South Africa and the British Isles.

We aim to be a positive force in professionals' lives, enabling you to make and sustain the proactive changes that lead to long-term career success, including lifelong learning. We digitally assist members to improve both their personal career fulfilment and earnings profile, including via engagements like coaching and mentoring by other professionals. Both personalised and technological, we guide and support you along your career journey.

Protagion provides tools and guidance on how to develop your careers, making tailored suggestions given your unique ambitions, backgrounds and potential. We help you soar by digitally enabling you to take strategic control of your career, ensuring you move in the direction you want to. We support you within an online environment to:

- **Understand yourself**, including your aspirations, motivators, strengths, career path and goals
- **Improve yourself** through focused actions, feedback and opportunities to challenge yourself
- **Track your progress** given your personal definition of success, and update your long-term goals

Our approach to active career management is iterative, adjusting as you make progress towards your goals, redefining what you want, and learning more about yourself. How you internalise and apply what you learn is a crucial part of the development process. Iterative activities include things like: self-exploration, analysis, exercises, books, courses, events, feedback from others, and connection with mentors or coaches.

In addition to the career suggestions of the senior leaders showcased in this edition of the "South African Actuary" magazine, the Protagion website shares more stories of potential interest to South Africans and actuaries, including for example on:

- Personal journeys of professionals: https://www.protagion.com/stories/category/personal-journeys
- Executive Assistant roles: https://www.protagion.com/stories/role-executive-assistant
- Wider Fields: https://www.protagion.com/stories/wider-fields-cas

PROTAGION
ACTIVE CAREER MANAGEMENT

Reform In The South African Healthcare System: AN UPDATE

Actuarial Society Healthcare Committee



Barry Childs, Chair

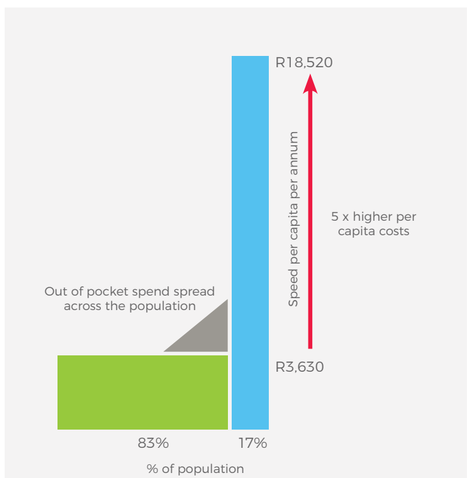


While they say change is the only constant, the nature of change is harder to predict. Sometimes change is gradual and incremental and sometimes it is sudden and significant. 2018 saw the release of the draft National Health Insurance bill, a draft Medical Schemes Amendment bill and the provisional report and recommendations of the Competition Commissions Health Market Inquiry. The NHI bill follows the release of the green paper in August 2011 and white paper in June 2017 and is the culmination of our national health reform since 2007. The MSA bill puts forward long contemplated medical scheme reforms and is a necessary partner to the NHI bill. The HMI provisional report provides a unique review of the private healthcare market in South Africa after a long and arduous data gathering and analysis process. Each document is significant in its implications for the health system. Taken together they are momentous.

THE STATUS QUO

South Africa's health system is broadly characterised into two tiers - those that access private hospitals, doctors and other care providers though medical schemes, and those that rely on the public health sector. A significant number of patients also pay out of pocket for medical services, especially primary care. The health insurance industry has grown over time to provide coverage for shortfalls in medical scheme indemnity cover (gap cover) and also to pool risks for primary care cover.

While South Africa performs well by world standards in terms of total out of pocket payments for health services (at around 8% of total health spend) the inequity in the system means resource distribution and effective access to quality of care is not guaranteed for everyone. Some striking examples of failed public health service delivery have been raised in public discourse. Much like the rest of the economy, the health system reflects the broader income disparity in the country, with only a minority (roughly 17%, which attract toughly half of the total health spend for the country) able to afford medical scheme coverage in order to access private care.



NHI BILL

The draft NHI bill will see the introduction of the NHI Fund as a new legal entity, with its own accountability and governance structure, and operational function. It brings the idea of a purchaser-provider split to separate the pooling and purchasing of healthcare from the provision of healthcare services to the South African public health service. Currently, the public health service is funded and managed by each province, with funding flows from the health portion of the provincial equitable share allocation of tax revenue. There is currently no separation in the function of funding care and providing care in the public system. The separation of these functions through the NHI Fund is intended to introduce higher accountability and responsiveness to healthcare needs as such a fund can theoretically direct resources to areas of greater need and hold providers of care more accountable for service delivery. The NHI Fund starts small by focusing on identified vulnerable groups with just over R4bn allocated over the next 3 years. Over time it is intended to be the means by which comprehensive healthcare services are purchased for all South Africans.

The budget for the NHI Fund is not given attention in the bill, with the costs being left for Treasury to determine. Benefits of the NHI fund will expand over time, "subject to available funds". This means any funding constraints faced by the NHI fund will limit expansion of benefits. Eventually the NHI will replace all of the current public service. In the current economic climate, we consider any additional tax charges to fund the NHI unlikely. The tax credit for medical schemes contributions will continue to decline in real terms to provide additional NHI funding. Pressure will mount of government subsidies of public sector medical scheme membership.

The role of medical schemes and health insurers alongside the NHI Fund remains to be clarified. The draft bill says schemes will be complementary, which means they will be able to provide benefits not covered by the NHI Fund or benefits not paid for by the NHI Fund. Benefits from the NHI Fund require compliance with referral pathways and are only payable at accredited healthcare providers. To be accredited, healthcare providers will need to meet certain standards of care, agree to abide by NHI determined referral pathways, and be prepared to charge the fees for services determined by the NHI Fund, which are expected to be significantly lower than current private sector prices (as is currently the case for medicines where state procured tender prices are far below private sector prices for the same medicine).

This leaves room for the private sector to still play a meaningful role for funding healthcare. Coverage for providers not contracted by the NHI Fund, or access to care outside of the referral pathways, or outside of strict clinical protocols dictated by the NHI Fund can be covered by medical schemes. Advanced cancer treatment, access to dialysis services, treatment of neonates below certain birthweights are a few examples of where tight protocols are followed in a public care setting, and where private funders and providers tend to provide richer access to care.

MEDICAL SCHEMES

The draft Medical Schemes Amendment bill introduces a new set of comprehensive service benefits which are to be detailed in regulation at some future point. Discussions so far on these benefits suggest they will include primary and preventative care and not be as hospital centric as the current Prescribed Minimum Benefits.

Other changes included an allowance to charge lower contributions for "young adult dependants" between 20 and 30. Analysis by members of the healthcare committee suggests this may have the unintended consequence of increasing contributions for older scheme beneficiaries which would undermine the solidarity based principles of the young subsidising the old.

Changes were made to the underwriting capabilities of schemes which are not yet clear and will require engagement with policymakers. At face value the changes appear to reduce medical schemes' ability to underwrite even further.

The draft bill sets out a bass for improved medical scheme governance, insisting on certain professional competitive on the board of trustees. The proposed amendments also include an expansion of the role of the Council for Medical Schemes to include more significant data collection, expanded technical expertise such as clinical coding standards, stronger benefit regulation, and explicit support for the NHI Fund. The interaction between the two draft bills is encapsulated in the powers given to the Registrar of the Council for Medical Schemes to remove benefits from medical scheme coverage should they overlap with benefits provided by the NHI Fund, to avoid duplicative coverage. The new comprehensive benefit package will be developed by a yet-to-be-appointed Benefits Advisory Committee and will be published in the supporting regulations of the amendment bill, along with guidance for improved solvency requirements for schemes.

HEALTH MARKET INQUIRY

The HMI provisional report suggests significant market failure in private healthcare and casts its blame evenly across the system. The HMI bemoans a lack of competition among medicals schemes with no new entrants and uneven profitability of administration services. Increases in utilisation are accounted for by demographic and burden of disease measurement but assertions are made that increases in private hospital beds and private sector doctors increase the utilisation of hospital services. Measurement of the quality of care is strongly urged, for the benefit of patients. Poorly developed and implemented legislation and regulatory oversight also received attention in the report. The HMI acknowledged the presence of anti-selection in the environment, and also the need for risk equalisation between schemes. Ongoing engagement from market stakeholders on the findings in the provisional report will continue as the HMI works on its final report.

The healthcare committee of the Society has responded to the invitation for comment on the draft bills and the HMI provisional report, and offered technical assistance to the Department of Health for input into the bills.

BRIEF HISTORY OF RECENT PRIVATE HEALTH REFORMS IN SOUTH AFRICA

Medical schemes operate as not for profits under a solidarity based regulatory system with community rated contributions (which can only differ by income, benefit option, and dependant type), open enrolment (no one can be denied coverage), and a mandatory set of prescribed minimum benefits that must be offered on all benefit options on all schemes. It was intended that these structures would be complemented by mandatory membership for those earning above some income threshold to mitigate anti-selection into the environment which would drive up costs, and a system of risk equalisation between schemes to minimise the effect of cherry picking young and healthy lives which would lead to lower claims costs and a competitive advantage. Between 2000 and 2007 significant research was undertaken on the reforms necessary to complete these intended steps. The Polokwane conference in 2007 saw a policy shift away from this Social Health Insurance pathway to a National Health Insurance vision. The NHI green paper, white paper and draft NHI bill are the painstakingly slow realisations of that vision. In the interim, the planned reforms for medical schemes have been left undone leaving schemes exposed to selection into-, out-of-, and within the environment. The result has been a worsening demographic profile of scheme members, increases in the burden of disease. Both result in increased utilisation of healthcare services which in turn drives up medical scheme contributions. The above inflationary increases in contributions and consequent strain on medical scheme membership prompted the Health Market Inquiry.

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Camila Harding
+27 21 673 5404
Camila.harding@standardbank.co.za

Faye Meyer
+27 21 401 2208
Faye.meyer@standardbank.co.za

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SNAP SHOT

Ursula Torr: "Listen and Learn from Others"



Ursula Torr

Career History

I started with a Maths and Stats degree in Durban, because, well, I was offered a bursary there for Maths, and why not? After a year or so, it became clear that as much as I enjoyed the abstract logic of the maths and the delicate Sanskrit of stats, I wasn't a pure academic destined for the pursuit of the golden mean. So I packed accounting, computers, economics and, er, German... into the BSc degree. I wanted a business career that used my skills and my investigations turned up the (to a Durbanite, far from the insurance madding crowd) arcane yet intriguing idea of becoming an actuary. After learning it to be a highly elite, well-paid and immensely difficult profession, clearly it was time to move to UCT to do the 2 year ActSci conversion course. Ha. Immensely difficult to concentrate on achieving the exemption rate of 60% when you've just moved out of home, yes.... highly elite in that it's specialized in INSURANCE, yes.... well paid - certainly, compared to other salaried professions at the start. After 2 years, I decided not to continue with the UCT course but to find a job in act sci to really figure out what I'd signed up for, to be financially independent and to pass exams in an environment that would help me with the coursework.

After 2 years in the valuations area at Norwich I'd passed quite a few exams and was well on the way to figuring out the force of interest. A 2 year stint in the UK at a life office there dealing with valuations and unit pricing gave extra impetus to the exam progress, and on my return to SA I joined Old Mutual Investment Frontiers where I was promptly put into the prod dev team with special focus on unit pricing.

I passed the last of my exams ... and in the same month moved to product marketing for the retail risk product suite, with very little actual knowledge of either risk products or marketing! Nonetheless, it was the best move I made, finally bringing together my logical numerate problem solving side with the creative, people-fascinated aspect in me.

I continued in this vein career-wise with a move to investment product marketing. I was at OM for 11 years in total before I moved to Gen Re, to head up the client team there. The last of the 5 years at Gen Re was in the MD position.

How did your actuarial qualifications prepare you for the work you are doing?

Act Sci gives you an immense depth of logical problem solving ability. Without realizing that you've been trained to do so, you are able to think broadly, in a structured fashion and to approach very complex knotty layered conundrums uniquely.

Learnings/lessons about yourself, your preferences

Whatever you do, wherever you work — even in deepest back office scenarios — you will work with people. It will serve you to concentrate on working effectively with others. You will solve more problems this way, faster. You will have more fun. You will grow more.

Diversity is required, essential and critical!!!!! Diversity has many shapes - people that think differently can offer different approaches. Do not, under any circumstances, be too arrogant to listen and to seek out the small voice. I have been humbled many times with other folk's contributions.

Skills that have served you best

I guess mostly the exam knowledge with the inevitable failures and the perseverance are pretty much baked into every actuary, and provide what is one of the essentials for success - not giving up.

Apart from that, and the people attention I mentioned previously, I would say it's in finalizing the work with the right priority level. With that I mean picking the actual problem to solve in the first place, judging the level of approximation, the appropriate shortcuts, the detail required and the deep analysis necessary ... and actually at the end — giving a route forward.

Any learnings you would like to share with students/younger actuaries?

You're an amazing evolving being. Listen and learn from others. Take chances, take opportunities and try; if others think you can... you probably can! Be the best human you can be. Go slowly with exams, but when you study — don't kid yourself!!! REALLY work in the hours you sit at your desk, talk over problems and help others.

ROAD ACCIDENT BENEFIT SCHEME:

Presentation to Parliament



Wim Loots



Olatha Tuswa



Nilen Kambaran

The Road Accident Benefit Scheme (RABS) is a proposed replacement for the current Road Accident Fund (RAF), which is a state-supported insurance fund designed to provide compensation for those seriously injured in motor vehicle accidents on South African roads. Having submitted written submissions on the Road Accident Benefit Scheme Bill, the Society was invited to make an oral submission on the proposed legislation. Olatha Tuswa and Wim Loots have the full story, below.

In May this year, parliament's Portfolio Committee on Transport hosted public hearings on the proposed Road Accident Benefit Scheme (RABS) Bill. The Actuarial Society of South Africa (ASSA) was represented by Wim Loots (Chairman of the Damages and Compensation Committee), Nilen Kambaran (Member of the Damages and Compensation Committee), and Olatha Tuswa (an actuarial student working in the field).

RABS is aimed at replacing the existing Road Accident Fund (RAF) Act, subject to a period of concurrent operation while RAF is in run-off. Some of the key points of the proposed legislation are as follows:

- RABS will be based on a "no-fault" principle i.e. anyone will be able to claim regardless of the degree of fault in causing an accident.
- RABS will be fully funded (or close to fully funded).
- Claims processes will be streamlined.

- Compensation will be paid as an annuity while the claimant is eligible, rather than a lump sum as is the case under RAF.
- RABS is underpinned by a social welfare philosophy. The unemployed or low earners will qualify for a minimum level of benefits. Other claimants will receive benefits in accordance with defined benefit formulae and is likely to receive compensation that falls short of the full extent of losses suffered.
- RABS aims to provide a more extensive rehabilitation benefit than RAF.
- RABS provides no cover for general damages i.e. compensation for pain, suffering and loss of amenities of life.

ASSA's presentation focused on the following areas:

Broad Design Issues:

RABS incorporates a number of positive changes. The ASSA presentation focused on some of the remaining benefit design flaws and unintended consequences inherent in draft legislation. Some examples include the following:

- We highlighted the inherent moral hazard risks that arise when combining a social welfare system with an insurance system.
- The proposed legislation may introduce bias against certain groups such as children, students and widows.
- Some degree of earnings inflation protection could be written into legislation.
- The benefit formulae and earnings definitions set out in draft legislation seem insufficiently detailed for the large range of claims that can arise in practice. ASSA recommended that a representative number of case studies be concluded before finalisation of legislation.

Costing and Risk Management:

The current costing of RABS shows that it will be cheaper than RAF. A number of key assumptions are however required regarding variables for which little or no data are available in the South African context. ASSA pointed out the risks underlying these assumptions and the potential problems relying only on point estimates rather than a range of outcomes. We also introduced the actuarial control cycle and how it can be used to reduce the risks of implementing a large number of changes at once. Finally, it was highlighted that on a like-for-like basis, the proposed Bill may not be as economical as contended and some of the savings could later have unintended social welfare costs.

Final Remarks:

The ASSA presentation lasted for approximately one hour, of which 30 minutes were reserved for questions and answers. The presenters were posed with a significant challenge in conveying complex issues in simple terms during a short period of time. Our efforts therefore focused on covering some of the main issues that are representative of broader themes. We furthermore aimed to use diagrams or graphs that captured the essence of our message at a glance.

Overall, discussions were lively and thought-provoking. The presenters had to field a number of important questions, sometimes veering into broader areas such as the equitability and constitutionality of legislation.

Feedback from the Portfolio Committee was generally positive and ASSA was asked to make a supplementary submission on a number of our recommendations. We await further iterations of legislation and hope that the issues raised by ASSA find expression in the final Bill.

THE MURRAY MEDAL



The Murray Medal is the most prestigious award the Society can bestow on any of its members. The main reason for making the award is outstanding service to the actuarial profession. The award is not made annually, but Council should consider annually whether there are any candidates who warrant consideration. The award is funded from a donation made by Tom Murray, the second South African to qualify as an actuary.

FIND OUT MORE
CLICK HERE

FAGMEEDAH PETERSEN:

"Being popular does not necessarily lead to a comfortable conscience"



Those who know Fagmeedah, and those who have heard about her, will know she does not mince her words, she does not tolerate unfairness, and she is involved in a variety of activities. Life as an actuary has seen her blend both the traditional and the untraditional.

Coming from a historically disadvantaged background where, growing up, my father had struggled as a carpenter, my career choices in matric were very simple: get a job after leaving school (I would be greatly privileged to secure a post as a trainee teller at a bank) or get a full bursary for any further study that I wanted to pursue. In March of my matric year, very soon after this sobering conversation with my parents, my matric math teacher encouraged me to enter the UCT Maths Olympiad. Leaving Jameson Hall that night in 1992, someone thrust a back copy of the Mathematical Digest into my hand. On the back cover was an advert for Old Mutual bursaries for studying actuarial science for mathematically talented pupils. I had never heard of actuarial science before, but I was enticed by the generosity of the bursary, and set about finding out more about the course of study and the career choices that it opened up.

What I discovered was very appealing, particularly the well-charted career path and career progression that the qualification presented in insurance companies and actuarial consulting firms.

I graduated from UCT with a Bachelor of Business Science (Actuarial Science) degree in 1996, having secured a full bursary from Sanlam from my first year.

I joined Sanlam in the Group Risk Department In 1997 and within a year had an opportunity to be part of the team running the demutualisation project for Sanlam. As part of this I had an opportunity to work with international consultants from Tillinghast, which was eye-opening in terms of the breadth of experience that the consultants gained.

Sanlam completed demutualisation in 1998, and having just failed my first actuarial exam, I decided I needed to take a bit of time out to focus on fulfilling my Fellowship requirements. I worked part-time on pension mis-selling redress calculations in 1999 and also passed my final Fellowship exams that year, while living in London. I had friends who qualified ten years later, and I think the lesson learnt from writing my final exam at the age of 23 was that big challenges need focus and determination.

When I returned to South Africa in 2000, I joined Alexander Forbes as a Principal Consultant. Talk about being thrown in at the deep end! A consultant died a month after I had joined, and I was given his full portfolio of clients, including the trial switch of administration system on the biggest client of the branch. However, I found that I enjoyed the challenge of looking after a client end to end, and that I was able to assimilate the various areas of actuarial training (pensions, administration, risk benefit pricing) in developing client solutions, and was in my element when consulting to boards of trustees.

I became the branch head of Alexander Forbes Cape Town within 2 years, and this was where I discovered my management capability and financial acumen. I found that I enjoyed the management side of business as much as the consulting side, and I was appointed to a national position covering government and parastatal clients barely a year later, and I flourished even more. This role required a focus on asset consulting, and this was where my career path moved from being a pensions specialist

to being an investment specialist. While at Alexander Forbes, I did a Postgraduate Diploma in emotional intelligence at UCT GSB. It developed my insight into understanding people enormously, including myself, and how people respond to various stimuli, and therefore allowed me to consciously modify my own responses, and even more, gain empathy for the reactions I saw in others. This was the best formal soft skill training that I have had in my professional career, and I believe it has given me an advantage in dealing with difficult group and individual situations. Also at Alexander Forbes, I did a course which focused on finding and following your moral compass, which helped make some of the most difficult decisions, with far reaching consequences, very easy. Ironically, AF was hit with the bulking saga shortly after that, which left me feeling very disappointed with the relationships I had with executives in the business.

I was headhunted to be CEO of the institutional business of one of the largest asset managers in the country in 2006. While I was very successful at the role, I found it very one-dimensional, and not sufficiently challenging, and although financially it was very lucrative, I left in 2007, and did a group fitness instructors course. It is important to take time out, and to ensure that you look after yourself, to be the best you that you can be, and fulfill your roles as partners, parents and respected professionals.

Because of the relationships I had built while consulting to government and parastatals, National Treasury approached me to set up a Government Actuaries Department for South Africa and become the Government Actuary. By this stage I had already learned that technocrats served at the whim of politicians, and I was not keen to have my career be dependent on the tenuous tenure of politicians, and I declined the role. However, I got various other consulting appointments from National Treasury as well as consulting appointments at one of the big insurance companies, and various other pension funds. I was also appointed by then Minister Trevor Manuel to the board of the Government Employees Pension Fund, where I got to understand the workings of the PIC, a position I resigned from in 2014, due to workload.

In 2012 I became Acting Chief Investment Officer at the Eskom Pension Fund, a defined benefit fund, which later became a 5 year fixed contract appointment. I was in my element, fully marrying my pensions liability management skill with my investment strategy capability, and reformulated the risk management approach to the investments of the fund, and the enterprise risk management culture of the business. By introducing appropriate investment risk management systems, the asset liability modeling of the scheme could be redefined so that solvency and surplus at risk were the measures to be optimised. I eventually left the pension fund in 2016, as the greater forces of corruption which drove the company started overwhelming the pension fund too.

Leaving Eskom Pension Fund left me with a great sense of loss, because I had assimilated an investment team and become their leader. A team in a male-dominated industry (there are two female CIO's amongst the biggest 30 asset management companies) had accepted a woman, from a previously disadvantaged background, and who yet was not African, to lead them and manage a pool of assets in excess of R120 billion at the time. I was appointed without political currency, and solely for my technical skill and ability to manage relationships. Even more, I had rung the changes, and my team, and my board, had accepted them. Professionally, as a qualified actuary, my credibility was unchallenged, but more than that, I believe I was accepted because I am always authentic, and honest, to the extent that I will raise the uncomfortable points, when nobody else will. Managing diversity in the workplace is always challenging, not least because I am often one of the diverse minority, whilst also being a member of management. However, I have found that, in my relationships with my teams, recognising people as individuals, and recognising the unique contribution that each person makes, and what their aspirations are, is the best way to forge relationships. I have learnt that being the most popular person is not the objective that makes one's conscience comfortable in a country like South Africa. In a country like South Africa, paradigms need to change, and this often only happens successfully when the change is driven by from within a system.

I am therefore proud of the role I shared with Rob Rosconi in reforming the pensions industry, co-authoring the white papers with National Treasury that have been implemented in a series of amendments to the Pensions and Income Tax Acts, which leads to better outcomes for pension fund members in what is a relationship of great imbalance between service providers and pension fund trustees and members. Successful pension fund service providers have recognised that they needed to change their operating models and value propositions if they wanted to remain viable in the new, more balanced paradigm.

I have in the last four years also become involved in the healthcare space. My involvement spans the continuum of healthcare provision in South Africa, from being on the board on Kalafong Tertiary Hospital, a state hospital in Gauteng desperately in need of funding and management skill, to Bankmed, one of the most elite medical aids in the South Africa, run by Discovery. Healthcare in South Africa is in a crisis, of non-delivery of service to poor people who are dependent on the state, and spiraling costs for middle class members who cling desperately to their medical aids, even when they are unaffordable, because of private healthcare companies charging disparate prices, and allocating capital inefficiently. I have become involved in this industry, because I believe it is one of the growth areas for actuaries, but more so, it is an industry that I believe could greatly benefit from the ability of actuaries to produce creative solutions, borne out of a diverse set of skills, and their ability to integrate information, and have very unique insights, because of this range of skills.

I believe it is this ability to think critically, to evaluate dispassionately, and t**o identify areas for refinement, in a word, the actuarial control cycle, that has prepared me for the roles I currently play, and allows me to deal with new complex problems.**

I believe it is this ability to think critically, to evaluate dispassionately, and to identify areas for refinement, in a word, the actuarial control cycle, that has prepared me for the roles I currently play, and allows me to deal with new complex problems, to break them down, identify the problem statement, and gain insights for solutions.

As I chair the social and ethics committee of Steinhoff Africa Retail (STAR), and work as part of the board of the company focused at doing damage control, rescuing the integrity of the business, and giving the business a new strategic direction, I believe that actuaries can add significant value across all sectors in corporate South Africa, and not only in Finance. (I was appointed as a non-executive director of STAR on 16 April 2018).

HEALTH WARNING: Education can be a poverty trap!

Help us help more children to escape the poverty trap.

Contact Paper Video (Chris Mills, 072 347 6154, **chris@papervideo.co.za**) or the Actuarial Society Educational Trust (Mike McDougall, 021 504 4651, **mmcdougall@actuarialsociety.org.za**) and make education a powerful catalyst for change in more children's lives.



PaperVideo

ACTUARIAL SOCIETY OF SOUTH AFRICA

SAQA
SOUTH AFRICAN QUALIFICATIONS AUTHORITY

TRUSTED TRUSTED TRUSTED TRUSTED

The National Qualifications Framework (NQF) Act requires the South African Qualifications Authority (SAQA) to recognise professional bodies and register their professional designations on the NQF. This only happens if the professional body meets the SAQA Policy and Criteria for recognising professional bodies and registering professional designations.

Benefits of being a SAQA recognised professional body:

- Recognition as trusted professional bodies through an Act of Parliament
- Part of a national database of professional bodies that uphold high standards of competence and ethics
- Registration of professional designations on the most comprehensive national database of learner achievements
- Exposure to best practice through access to fora that improve professional bodies functions

SAQA recognises a professional body if it:

- Complies with, and adheres to, good corporate governance practices
- Protects the public interest in relation to services provided by its members
- Promotes professional development of its members to meet their relevant designation requirements
- Has a code of conduct for its members to adhere to
- Does not apply unfair exclusionary practices in terms of membership admission

These are the TRUSTED professional bodies recognised by SAQA

- Actuarial Society of South Africa
- Allied Health Professions Council of South Africa
- Association for Office Professionals of South Africa
- Association for Skills Development in South Africa
- Association for Supportive Counsellors and Holistic Practitioners
- Association of Accounting Technicians (South Africa)
- Association of B-BBEE Professionals
- Association of Certified Fraud Examiners
- Association of Chartered Certified Accountants South Africa
- Association of Christian Religious Practitioners
- Association of Southern African Professional Archaeologists
- Association of Southern African Travel Agents
- Batseta Council of Retirement Funds for South Africa
- Chartered Institute for Professional Practitioners and Trainers
- Chartered Institute of Government Finance Audit and Risk Officers
- Chartered Institute of Management Accountants
- Chartered Institute of Procurement and Supply
- Chartered Secretaries Southern Africa
- Coaches and Mentors of South Africa
- Compliance Institute Southern Africa
- Contact Centre Management Group
- Contractors Plant Hire Association
- Corporate Counsel Association of South Africa
- Council for Equine and Equestrian Professionals of South Africa
- Direct Marketing Association of South Africa
- Disaster Management Institute of Southern Africa
- Employee Assistance Professionals Association of South Africa
- Engineering Council of South Africa
- Estate Agency Affairs Board
- Federation of African Professional Staffing Organisations
- Financial Planning Institute of Southern Africa
- Forum of Immigration Practitioners of South Africa
- Health Professions Council of South Africa
- Independent Regulatory Board for Auditors
- Institute for Local Government Management of South Africa
- Institute for Timber Construction South Africa
- Institute for Work at Height
- Institute of Accounting and Commerce
- Institute of Bankers in South Africa
- Institute of Business Advisers Southern Africa
- Institute of Certificated and Chartered Statisticians of South Africa
- Institute of Certified Bookkeepers and Accountants
- Institute of Chartered IT Professionals
- Institute of Commercial Forensic Practitioners
- Institute of Credit Management of South Africa
- Institute of Directors in Southern Africa
- Institute of Information Technology Professionals South Africa
- Institute of Internal Auditors South Africa
- Institute of Loss Adjusters of Southern Africa
- Institute of Management Consultants and Master Coaches of South Africa
- Institute of Mine Surveyors of South Africa
- Institute of People Management
- Institute of Professional South African Mariners
- Institute of Risk Management South Africa
- Institute of Safety Management
- Insurance Institute of South Africa
- Law Society of South Africa
- Library and Information Association of South Africa
- Marketing Association of South Africa
- Ocularists Association of Southern Africa
- Plumbing Industry Registration Board
- Professional Hunters' Association of South Africa
- Project Management South Africa
- Public Relations Institute of Southern Africa
- Register of Exercise Professionals South Africa
- SAINT Professional Body for NDT
- South African Association of Health and Skincare Professionals
- South African Board for People Practices
- South African Chefs Association
- South African Chemical Institute
- South African Council for Natural Scientific Professions
- South African Council for Project and Construction Management Professions
- South African Council for Social Service Professions
- South African Council for the Architectural Profession
- South African Council for the Property Valuers Profession
- South African Council for the Quantity Surveying Profession
- South African Dental Technicians Council
- South African Facilities Management Association
- South African Geomatics Profession Council
- South African Institute of Chartered Accountants
- South African Institute of Financial Markets
- South African Institute of Occupational Safety and Health
- South African Institute of Physics
- South African Institute of Professional Accountants
- South African Institute of Tax Practitioners
- South African Institute of the Interior Design Professions
- South African Nursing Council
- South African Payroll Association
- South African Professional Firearm Trainers Council
- South African Professional Institute for Kinderkinetics
- South African Restructuring and Insolvency Practitioners Association
- South African Reward Association
- South African Sports Confederation and Olympic Committee
- South African Veterinary Council
- Southern African Asset Management Association
- Southern African Communications Industries Association
- Southern African Emergency Services Institute
- Southern African Institute for Business Accountants
- Southern African Institute for Occupational Hygiene
- Southern African Institute of Government Auditors
- Southern African Marketing Research Association
- The South African Council for Administrators
- The South African Pharmacy Council
- Turnaround Management Association Southern Africa
- Vehicle Damage Quantification Governance Body of South Africa
- Water Institute of Southern Africa

Telephone: 012 431 5000
Facebook: SAQA
Helpdesk: 086 010 3188
Twitter: @SAQAlive
Website: www.saqa.org.za
LinkedIn: South African Qualifications Authority
Email: saqainfo@saqa.org.za



THEY'RE PLAYING **OUR SONG**

The Convention programme used to include a sit-down dinner on the evening before the Convention, when it was a one-day event, or on the evening of Day One. It started off as a networking event, but the question of entertainment came up periodically. Now, how does one entertain an audience comprising actuaries and their partners? As one senior actuary's wife said, "I am married to an actuary. I listen to an actuary's life at the office every day. I do not want to listen to an actuary at a dinner as well." Various valiant attempts were made, and the response was fairly similar every time: some members enjoyed what was provided and some regarded it as something not appropriate for an actuarial event.

In 2001, Des and Dawn Lindberg performed at the Convention dinner. (Young 'uns: Google them.) in 2012, Des recalled, "We remember the evening well. We were a bit terrified, because we had been told that actuaries were the most difficult audience to please … ever! Not true, as we well recall."

They penned a song for the occasion.

ACTUARIES OF SOUTH AFRICA

A special kind of magic travels
where actuaries meet.
Join us in our revels;
there's a dance in Africa's feet.
Dreams of tomorrow
in the promises of today;
melodies of joy and sorrow
are a toast to a better way.

CHORUS

Actuaries of South Africa, Dumelang, sechaba, sahetso lekae.
Actuaries of South Africa, Sanibonani, ninjani nonke, bangane
Actuaries of South Africa, Statisticians and soothsayers of our land.
Actuaries of South Africa, quantifying risk and helping us plan.
A calculating lot, who knows what's what
The actuaries of South Africa.

In the heat of the African summer
let music warm your hearts.
It's a time for making promises,
a time for brand new starts;
a time to look around us
a time to understand
that our earth has only one enemy:
The bloodstained hand of man.

CHORUS

This is the land where eagles fly,
Where lions hunt and hyenas cry.
South Africa's actuaries shoot the breeze;
Actuaries are people who mingle with ease.
Come and share a glass of wine
in tune with each other;
in tune with the time.
Actuaries from north, south, west and east
together for our biennial feast.

CHORUS

Actuaries of South Africa,
statisticians and soothsayers of our land;
actuaries of South Africa,
quantifying risk and helping us plan;
you're a calculating lot
who know what's what,
the actuaries of South Africa …

HERE'S TO ACTUARIES …. IN SOUTH AFRICA!

The Society is probably the only actuarial organisation in the world for whom a song has been written.

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SPECIAL FEATURE: FOCUS ON THE CONVENTION

Let's Start at the Very Beginning ...

Towards the end of 1971, Johannesburg-based members of the Society approached Council about an annual seminar. Council requested a more detailed proposal, which was submitted at the Council meeting held on 25 January 1972. The outline of the programme was as follows –

- A presidential dinner with presidential address;
- A morning session, dealing with the presentation and discussion of a prepared paper;
- An afternoon session, during which topical and contentious issues would be discussed, and
- The annual general meeting.
- If held on a Friday, the convention could be followed by an informal golf outing the next day. It is not clear how much weight the little white ball carried, but it was decided that the convention would be held on a Friday. Members based in Cape Town were tasked with the arrangements.

The 1972 presidential dinner was held at the President Hotel in Cape Town on 19 October 1972. The cost, R5 per person, excluded liqueurs and cigars.

The first Actuarial Society Convention was held on 20 October 1972 and attended by 77 members. After the opening by Dick Lloyd, as President, the report on the latest Continuous Mortality Investigation was presented and discussed. This was followed by a panel discussion on "The responsibility of the actuary to policyholders and the public". After lunch, there was a panel discussion on "The investment scene". The final session comprised the discussion of a paper by Jan Pijper, The Role of Government in the Control of Life Assurance. The Convention concluded at 16:30 and was followed immediately by the annual general meeting. And, surprisingly, a golf competition in Bellville the next morning.

Successful conventions were held in 1973, '74 and '75. Due to a lack of suitable papers and the International Congress of Actuaries held in Tokyo that year, no Convention was held in 1976. The convention has been an annual event since 1977.



By 1997, the target for Convention attendance was 200 delegates. The Convention was organised by a Programme Committee that had sections in both Cape Town and Johannesburg. These were effectively two separate committees, and were also responsible for sessional meetings and the occasional practice area seminar.

The Society celebrated its 50th anniversary in 1998. The Convention, which was preceded by meetings of the International Actuarial Association (IAA), attracted more than 300 registrations for the first time.

Registration was managed on an Excel spreadsheet in the office, with members registering telephonically, by email, fax or snail mail, until 2007. (Quick info break: A survey conducted by Rob Dorrington and David Blecher in 1995, sent to 780 members – total membership of the Society – showed that 19% of the 194 respondents had full internet access, 8% had access to email only and 73% had no internet access.) Back to 2007: In that year, the Society hosted a colloquium of the IAA Health Section, and made use of a professional conference organiser. When the Johannesburg Programme Committee encountered a series of problems with the Sandton Convention Centre later in 2007, said conference organisers were requested to assist. Since then, professional conference organisers have been part of the Convention.

The 2010 Convention formed part of the International Congress of Actuaries, held in Cape Town and hosted by the Society. It was attended by some 830 members of the Society, roughly 80 more than the attendance figure for the 2009 Convention. The Convention Organising Committee, established in 2008, expected some 800 delegates to attend the 2011 event. For the first time, more than 1 000 delegates registered. Little additional space was available at the Sandton Convention Centre. Cognitive triumphed over culinary, and the area where members would have been able to sit down for lunch had to be used for breakaway sessions.

The increasing number of practice area seminars contributed to a change in the format of the Convention. Since 2014, there has been a bigger emphasis on professionalism and normative issues. Longer, interactive discussions have replaced some of the discussions on Convention papers. This has met with a favourable response from members, as a new registration record has been set annually for the last few years.

When the proposal for the first Convention was discussed, Council was of the view that joint discussions would prevent the Johannesburg and Cape Town branches of the Society drifting apart. The annual Convention, including the sports days that used to precede it, has been a major contributor to keeping the Society (relatively!) united.

IN FUND LIVING ANNUITIES

Issues to consider when retirement funds implement In Fund Living Annuity strategies and the experience and learnings to date



David Gluckman

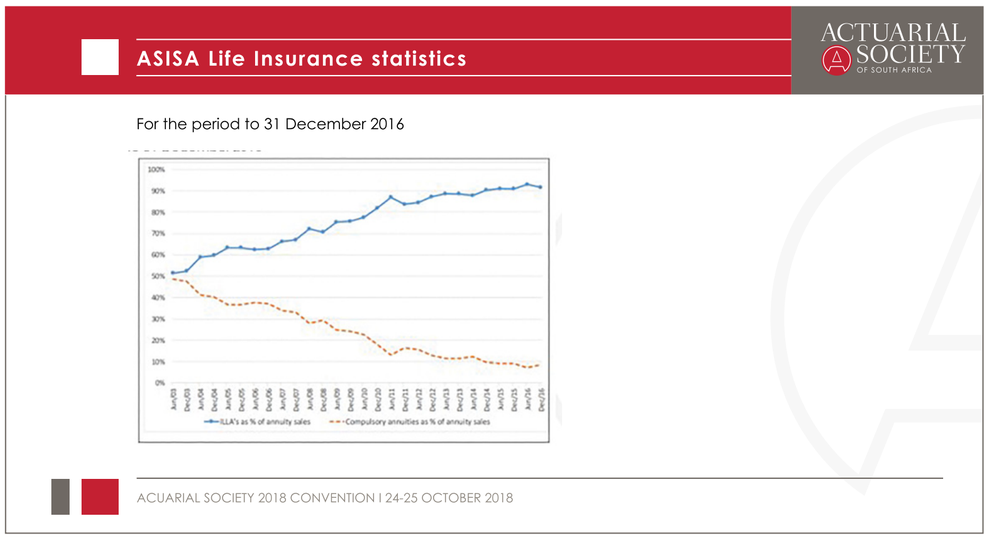


Danie van Zyl

"National Treasury has put forward a series of regulations that all retirement funds are supposed to implement as of the second quarter of 2019, which will see the fund trustees being obligated to pay more attention to the retirement income products that their membership are offered and to potentially offer an in-fund default option, which the trustees can impose further limits on."
Jaco van Tonder, Advisor Services Director, Investec Asset Management

"Provided that the Board can do a decent job (and are prepared to take on the extra governance), the odds favour a better retiree outcome with an in-fund strategy."
Ant Lester, Willis Towers Watson

According to the ASISA 2017 Living Annuities Survey, South Africans had R421.9 billion of their retirement savings invested in 447 560 living annuities. Living Annuities have become the de facto preferred retirement income drawdown product for South African retirees.



But nonetheless National Treasury have expressed some concerns pertaining to living annuities, and the impending default regulations can in some ways be regarded as their attempt to address these concerns by compelling boards of trustees of retirement funds to consider the problem and implement suitable trustee-endorsed post-retirement annuity strategies for their members.



As far as we are aware, this is the first published research on the topic of In Fund Living Annuities. The presentation aims to cover:

- Living Annuity industry overview, legal considerations and reform proposals.
- Sanlam Benchmark research.
- Analysis of the Sanlam's In Fund Living Annuity experience (drawdowns, costs, advice).
- Survey of retirement funds offering In Fund Living Annuities (see examples of survey questions as an annexure).
- Learnings to date and recommendations.

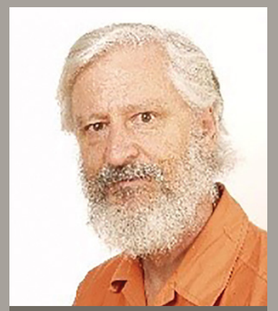
SURVEY OF RETIREMENT FUNDS OFFERING IN FUND LIVING ANNUITIES

1. When was your Fund's In Fund Living Annuity option first introduced?
2. Rank the trustees' reasons for offering this option:
3. How many In Fund Living Annuitants were receiving a pension as end June 2018?
4. How many new In Fund Living Annuitants between 1 July 2017 and 30 June 2018?
5. How many In Fund Living Annuitants transferred to other options outside the Fund between 1 July 2017 and 30 June 2018?
6. Estimate the percentage of retirees between 1 July 2017 and 30 June 2018 that opted for an In Fund Living Annuity?
7. Rank retirees' reasons for opting for the In Fund Living Annuity:
8. What is the minimum Rand amount (after any cash commutation) required to enrol as an In Fund Living Annuitant?
9. Is there a cap imposed by the trustees for drawdown rates?
10. When are drawdown rates reviewed?
11. Would you prefer that these drawdown rate reviews take place on a fixed date for all In Fund Living Annuitants?
12. Do you permit spouses of members who die in service to receive some or all death benefits in the form of an In Fund Living Annuity?

13. Is there a default investment strategy in place for In Fund Living Annuitants who do not wish to make investment choices? If so, please describe it.
14. How many investment portfolios can In Fund Living Annuitants choose between?
15. What is the maximum number of portfolios that an In Fund Living Annuitant can invest at one time?
16. From which investment portfolio are pensions paid?
17. Would you prefer that Regulation 28 does not apply to In Fund Living Annuities?
18. On the death of an annuitant, is Section 37C of the Pension Funds Act applied or are death benefits are paid to the annuitant's nominated beneficiaries
19. On the death of an annuitant, do you permit the In Fund Living Annuity to continue but henceforth payable to the deceased annuitant's spouse?
20. Does the Fund have a restricted panel of preferred advisers to advise on this option?
21. Does the Fund facilitate the payment of financial advice fees to the annuitant's chosen financial adviser?
22. If so, what is the cap of such financial advice fees, if any?
23. Does the Fund facilitate guaranteed annuity quotations for retiring members as an alternative to the In Fund Living Annuity option?
24. Do the trustees formally regularly review the investment choices selected by In Fund Living Annuitants?
25. Do the trustees formally regularly review the drawdown rates selected by In Fund Living Annuitants?
26. Does the Fund facilitate a transfer to a guaranteed annuity at older ages?
27. List and rank the 3 features you like most about In Fund Living Annuities.
28. List and rank the 3 features you dislike most about In Fund Living Annuities.
29. Will the In Fund Living Annuity option form part of the Fund's annuity strategy in terms of Regulation 39?
30. If so, will it be the preferred annuity option at retirement for members that meet the qualifying criteria for this option?
31. What changes, if any, are anticipated to be made to this option as a consequence of the default regulations?

A FORMULATION OF ECOLOGICAL VALUE ADDED CONTEXT AND PREVIEW OF A PRESENTATION AT THE ACTUARIAL SOCIETY CONVENTION, 2018

by Rob Thomson and Taryn Reddy[2]



Rob Thompson



Taryn Reddy

Value added is a well-known concept not only to accountants and economists, but also to actuaries. Economists like it because it adds up to GDP. Accountants like it because it tells you what value a particular firm has contributed to the market economy. To actuaries it may be useful as an exogenous variable in a time-series model of the assets and liabilities of a financial institution, particularly if the future is unlikely to resemble the past.

But you don't generally read about ecological value added. The expression has been used in the literature, but not in the way we think it should be used. When we talk about 'ecological value' we mean a scalar measure of the state of the Earth's biosphere. The biosphere is the sum of all ecosystems, the zone of life on Earth. Unlike other authors we don't measure ecological value in terms of money. We want a measure of the inherent value of the biosphere—not its value to people, that's reductionist. The ecology could do very well without humankind and its economy. In fact the word 'value' is a bit of a stumbling block for people (like actuaries) whose business is to value things in terms of money. People argue that if we talk about the 'value' of the biosphere, we must ask who is doing the valuation; if people are doing it then it's the value to people. So generally speaking economists value the biosphere in terms of the resources and facilities it provides; the economy needs the biosphere for the purposes of providing goods and services to humans in future.

We take issue with that. It's fine to include the resources of the biosphere in a measure of human well-being. That's the right place for anthropocentrism. And it's also fine to include their monetary value as an asset in a measure of the state of the economy. That's the right place for economism. Besides ecological value added, we are working on social value added and economic value added.

But let's not kid ourselves that that's the whole story. The value of the biosphere is not just about social and economic value. The biosphere has inherent value—call it inherent importance if you like—that can't be treated as an asset. Actually, to humankind it's more like a liability. We have the capacity and the power to sustain the biosphere. We are the responsible species. As such we have an obligation to sustain the biosphere. That goes beyond the anthropocentric view of the biosphere as resources and facilities for the use of humans, regardless of whether we are talking about the short-term needs of the current human population or the long-term needs of our descendants.

So what we have done is to define a measure of the state of the biosphere that can be disaggregated to every single one-square-kilometre cell of the Earth's surface. Conversely, it can be aggregated across all those Earth cells to get back to the state of the whole biosphere. That measure is one that focuses on the biosphere as life. It's a function of estimates of the indigenous biodiversity and biomass on such an Earth cell.

We define ecological sustainability as the sustainability of that measure of the biosphere in the future. A number of authors refer to "measures of sustainability" that are actually measures of current effects of recent activities. To us, sustainability is about the future, not about the past. When we assess the financial soundness of a long-term financial institution we implicitly or explicitly use a model of the future flows of funds to and from that institution. A measure of financial soundness is a measure of financial sustainability. So we need a model of the future of each cell on the biosphere in terms of our measure.

The object of such a model is to assess the ecological sustainability of the activities of each entity in terms of our measure so as to hold that entity accountable for the effects of its activities on the biosphere. Here an 'entity' is generally a company or government agency, and in principle it could be extended to include individual consumers and producers as well as other civil-society organisations. But how do we link changes in the biosphere with the activities of entities?

[2] © T.L. Reddy & R.J. Thomson 2018

Well first we need to measure the effects of its activities on its own sites by how much it has increased or (more generally) reduced the measure of the Earth cells on which it operates. Then, at the other extreme, we need to measure its emissions of greenhouse gases. And in between we need to measure its emissions of pollutants into air, soil and water. From its emissions we can estimate its contribution to concentrations of greenhouse gases and pollutants. And then, from our model, we can work out what the state of the biosphere would have been but for entities' emissions. The difference between that measure and the actual measure is the effect of entities' emissions. Finally, for each pollutant and each entity, we apportion the aggregate effects in proportion to the marginal emissions of that pollutant and we add up across pollutants, including greenhouse gases, and we add the on-site effects, to give the effects of that entity's activities. To cope with delayed effects, all of this is done for effects at a specified time horizon arising from a specified year of activities. And it's done using stochastic simulations to demonstrate the uncertainties involved. We have explained all this quite rigorously by means of formulae. So now we can make comparisons between entities—even between entities in quite different industries. And we can make comparisons between activities in different countries. We can also make comparisons between the effects of economic activities on different countries or ecosystems. And we can make comparisons between different reporting periods.

We have also explained how we can use our model to assess the contribution of an entity to the ecological sustainability of the system.

The estimation of biodiversity and biomass will depend on ground-truth observations of sample cells, but that will be complemented by Bayesian methods using satellite-based remote-monitoring systems. The state of the art is not yet ready for the implementation of the system we propose. But progress is continually taking place not only in remote monitoring systems but also in such fields as general circulation models, atmospheric dispersion models and hydrological transport models, all of which will be needed for the time–space modelling of concentrations of pollutants and greenhouse gases. The spatial resolution of such models is gradually improving. And at entity level, effluent monitoring is also improving.

Our work shows that, in principle, there is a way forward in taking seriously **our responsibility for, and our obligation towards, the biosphere of Planet Earth.**

We don't intend to get involved in data or in the parameterisation of our model; that will necessitate a far bigger operation than we are able to undertake. But we hope that our formulation will provide a basis for further research and for the discussion of priorities on the road towards implementation. Our work shows that, in principle, there is a way forward in taking seriously our responsibility for, and our obligation towards, the biosphere of Planet Earth. The challenge is to the private sector and to government agents to make it happen. And we believe that the actuarial profession has a role to play in the modelling of ecological sustainability.

SLAYING THE DRAGON

Optimising the return on Actuarial Exams

By Mike McDougall





Every year 800 students enter universities and aspirant actuaries. About half of these emerge between 3 and 7 years later clutching a hard-earned actuarial bachelor's or honours level degree. They then realise they have just reached the end of the beginning of their quest to become Associate or Fellow members of ASSA.

What lies ahead are, in many cases, years of struggling through the exams while establishing themselves in their careers and their broader lives. Some students will require no more than the minimum of three additional years (the work-based learning required) before they can triumphantly raise their Fellowship certificate. However, for most the challenge is more drawn out with no guarantee of ultimate success as those who persist may take up to the rest of their working lives before they ultimately slay the dragon and, like Monty Python's Black knight, exhaustedly raise their remaining limbs in triumph.

The road to qualification is long and pitted with exam failures and rewrites. Although failures help build resilience and, in the words of my old school principal, character, all students are looking for ways to improve their chance of passing and completing that next step on the road to qualification.

Exam performance

In analysing exam pass performance, it is important to recognise that not all factors that are strongly correlated with exam performance have a causal impact on that performance. In some instances, the factor may be a proxy for the underlying performance influencers. In analysing results over 10 exam sessions spread over 5 years, it is found that some have a statistically significant impact on performance while others show a marked and consistent trend though they fail the tests for statistical significance.

In understanding performance, we consider correlations to uncontrollable factors (race and gender), previously controllable factors (university attended, whether SAADP student and exemptions achieved) and currently

controllable factors (region, session, employer and education interventions). The word "controllable" does not assume the student has full control over the factor but that it can be changed through an active decision by the student or a third party.

The tabulated results of the analysis can be found in the paper presented to the ASSA convention on 24 October 2018 and its appendices. From a summary perspective it can be see that:

UNCONTROLLABLE FACTORS

- **Race:** Significant differences in exam performance by race
- **Gender:** Noticeable but not significant with women outperforming men in most subject groups. This is most apparent in A301.

PREVIOUSLY CONTROLLABLE

- **Alma mater:** Some marked differences in performance for graduates from the accredited universities with graduates from each university performing better at different stages of the curriculum.
- **SAADP:** SAADP alumni outperform their peers from a comparable demographic group in all the exams up to the Associate level but underperform at the F2 level.
- Exemptions: Unsurprisingly, students with more exemptions perform better. However, students with no exemptions tend to perform well if they get to the F2 level. This group consists of both the poorer students from accredited university programmes and those from other universities and unaccredited programmes.

CONTROLLABLE FACTORS

- **Region:** Students writing exams in the Western Cape outperform those in Gauteng. Even after allowing for the other factors (race, employer, university, etc.) this is significant at A2 level.
- **Exam session:** Overall this makes little difference but performance in A301 is significantly better in the first session and F1 significantly better in the second.
- **Employer:** There are marked differences in performance of students by employer. Although these are generally not statistically significant, they are marked and consistent. After making allowance for other factors, there remain marked differences. Based on a survey done the amount of study leave provided does not have a direct relationship with performance in exams and the financial support for exams offered appears to be largely consistent between survey respondents. Differences appear to be driven by less quantifiable aspects.
- **Interventions:** Although numbers are small, those having exam counselling or participating in courses and mock exams consistently outperform other students. The question is how much is this due to the value added by the intervention and how much is it due to more motivated students availing themselves of the interventions.

Passing exams is not easy and is not meant to be easy but it is possible to improve the probability of passing through hard work and deliberate decisions.

The investment

The business case for actuarial education is deceptively simple. Students and often employers invest significant amounts of time and money in registering and preparing for actuarial exams. On passing the exams, students gain skills that can be used to open up new work opportunities and increase the value of their output to employers and they gain an increase in remuneration. Although the probability of passing the exams is better than the chance of winning the lottery, there is a high probability that the student will fail the exams. However, even with limited success (reaching TASSA after 15 years) the student is in a financially stronger position than he would have been with no exam success.

For the student the value of actuarial education can be calculated as the expected value of future earnings over their career following the examination success. For the employer, there is no guarantee of future tenure so the value is taken as the revenue impact over one year and the present value of revenue over two years.

There is often a focus on managing the direct financial costs of exams and limiting the interventions purchased, the most significant cost element for both students and, where study leave is offered, employers is the opportunity cost (and sometimes forfeited pay for unpaid leave) of time.

As mentioned above, students who take advantage of interventions like courses and counselling tend to outperform those who do not in exams. Should there be a direct causal relationship between the intervention and exam performance, there is a clear case for significantly improving the return of investment for both the student and the employer. An investment in a tuition course or counselling session could increase the expected value of the exam by between 75% and 100% to both the student and the employer.

The quest to slay the dragon of the actuarial exams is, for most students, an arduous one littered with heartbreak and failure. However, for able and determined students, there are substantial rewards to be gained from each success and particularly from the ultimate triumph of slaying the dragon. This success will not only be marked by the sense of achievement but also by substantial financial returns.



Imran Lorgat

BITCOIN DECRYPTED:

What does it mean for financial services?

Bitcoin is dead, allegedly. After crashing over 60% from its all-time high of around $20,000 in December 2017, its detractors wrote it off as just another popped bubble. Only, if you visit 99bitcoins.com/bitcoinobituaries you'll find that Bitcoin has died over 300 times in its nine-and-a-half year history. On average it dies 2.65 times a month. Another interesting fact for a dead project: it has been around for almost a decade.

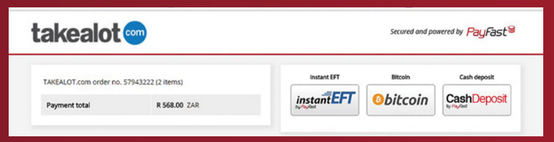
If you dig beyond you'll discover something interesting: an average of $1 billion was transacted on the Bitcoin network every day in 2018[4]. By many metrics, Bitcoin is in the best shape it's ever been[5]. Even the price is up: on 1 September 2018, Bitcoin traded at around $7200, up from around $5000 on the same day the year before, and $600 the year before that. Yet the criticism of Bitcoin is endless. Bitcoin was declared dead at $10[6], and then at $1000[7], and when it hits $100,000 some 'leading economist' will step in to tell us (again) how it's going to fail and why it can never work. But every day that Bitcoin survives is another inconvenient data point for those writing it off. Perhaps it tells us something else: that Bitcoin is here to stay.

If you feel like you still haven't quite figured Bitcoin out, I wrote this article to catch you up.

What is Bitcoin?

It's easier to show someone what Bitcoin is than

to explain how it works. If you log onto takealot.com, place an order, and checkout, you have the option to pay in Bitcoin.



So you can use it to pay for things. But it's also a network that handles payments. You use bitcoin, the currency, to pay people on the Bitcoin network. And who is on the Bitcoin network? Anyone who wants to be. It's the same principle as e-mail: you run software or download an app and you can send or receive bitcoins.

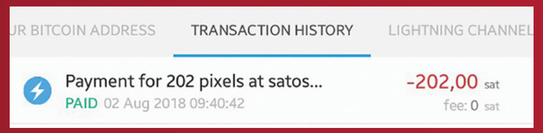
Why would anyone use Bitcoin on Takealot? There are a few advantages to doing so:

1. There are no banks involved, no sign-up, and no identity checks or credit checks. You download an app and you can use Bitcoin, just like e-mail
2. You only pay fees on transactions you make. I paid 70c for the one above
3. It's more secure than a credit card. You can pay someone, and they can verify payment, without revealing security information. No card numbers get stored on anyone's servers
4. The merchant receives full settlement in around 10 minutes instead of 2 days or more[8]
5. The fees and transaction times are the same to anyone anywhere in the world

So there are some advantages, and Bitcoin is at its best for global payments where it is cheaper and quicker than anything available in the traditional banking system[9]. But is this enough to get people to learn an entirely new technology? Probably not. But the technology keeps evolving.

Earlier this year, Bitcoin saw the launch of the Lightning Network. It has now become possible to send fractions of a cent anywhere in the world.

In the screenshot below[10] I paid 0.00000202 bitcoin (approx. 1.5 U.S. cents) to someone in another country, instantly, with no banks or third parties involved. For this amazing service, the fees were a nice round number: zero.



The Lightning Network is still in its testing phase but it already shows the potential of this technology. There are no bank holidays or hidden fees. And why should there be? E-mail is instant and free. So what happens when we make sending money instant and free as well?

The Catch

Here's the catch: the Lightning Network and Bitcoin are difficult to use for non-technical people. Their mechanics are obscure to most. But so was e-mail twenty years ago. Today, e-mail has become so simple that even my nieces and nephew use it. I have little doubt that within a decade or two, the same will be true of Bitcoin.



How it works is not of interest to most people. The person on the street just wants something that's easy to use and works without problems. But for us in finance it will become important to understand what is already becoming a building block of global finance. If you're interested in the technical aspects of Bitcoin, I will be going into more detail at the 2018 ASSA Convention in October. For the rest of this article, I'd like to talk about what Bitcoin means for business.

[4] Blockchain.com: Estimated USD Transaction Value (https://www.blockchain.com/charts/estimated-transaction-volume-usd?timespan=all)

[5] There many metrics to assess the growth of the network: node count, hash rate, active addresses, USD transaction volume, USD trade volume, number of exchanges, app downloads etc. All are up. Google is your friend.

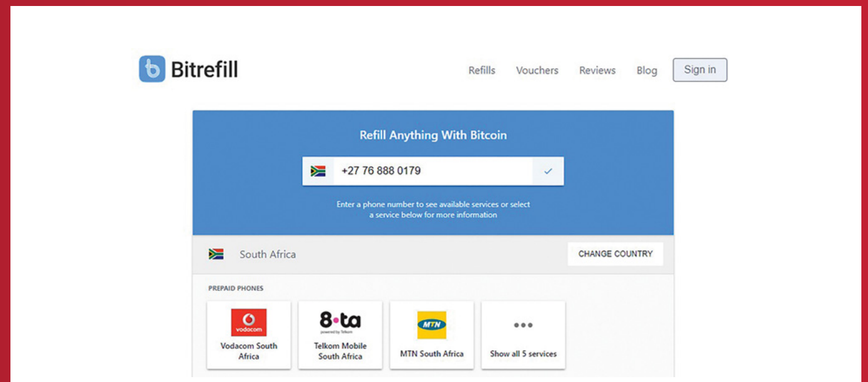
[6] Forbes: So, That's the End of Bitcoin Then (https://www.forbes.com/sites/timworstall/2011/06/20/so-thats-the-end-of-bitcoin-then/#4fa9c5ba5d71)

[7] Business Insider: Bitcoin Will Crash To $10 By Mid-2014 (https://www.businessinsider.com/williams-bitcoin-meltdown-10-2013-12?IR=T)

[8] I find it extraordinary that we can send twenty books in two seconds to someone across the world, but it takes two whole days to clear an EFT locally. The banking system hasn't kept up with every other form of data transfer.

The Bitcoin Economy

The important change we're already seeing is the creation of a new global marketplace. We didn't have this before. Unlike your media, which on YouTube can come from anywhere in the world, your bank, insurer, and asset manager are still likely to be local. Financial services have borders because money has borders, and if you want to cross these borders be prepared for long waits, high fees, and red tape.



It gets more interesting. Bitrefill is in Sweden. I'm in South Africa. But I can buy airtime for my aforementioned nieces in Saudi Arabia if I wanted to. When you're operating in the Bitcoin economy it no longer matters where in the world you are. You become a citizen of the internet.

It's hard to say what will happen when we take the borders off money, but we know what happened when we took them off media. Try asking DStv how they feel about Netflix.

Remember how we used to pay for newspapers and now on the internet all the news is free? Do we still need the post office? In the future, will we still need banks?

In contrast, Bitcoin is native to the internet. It's not issued by a government. It's not controlled by anyone[11]. Bitcoin has no borders and, like e-mail did to the post office, it is revealing all the limitations in our current financial system.

To see what I mean, try using Bitcoin on Bitrefill.com. It's simple to use: you plug in a phone number, pick a provider, and you can purchase airtime from over 700 carriers in over 160 countries around the globe. Under the traditional financial system Bitrefill would need to accept 160 different currencies in order to make this happen.

Governments are losing their monopoly

It's not just businesses that will have to adapt to the new order. Until Bitcoin, governments had a monopoly on the issuance and control of money. If you didn't like it, tough! As long as you're in South Africa only the South African Rand could be used as payment.

Think about it for a second: if you had the choice to receive your salary in the Rand or the U.S. Dollar, which would you choose? There are at least some people (myself included) who might prefer a currency that holds its value better over time[12]. Until recently, you didn't have a choice. You had to transact with the currency of the country in which you did business.

[11] To understand why, consider that nobody controls e-mail. 'E-mail' is just a method for computers to send information, and anyone can develop an e-mail client like Gmail or Outlook. You can send an e-mail from Gmail to Outlook or to any other client and it will still work. Bitcoin is the same: there are many clients.

[9] By comparison: an international wire transfer costs about R350 and takes a week

[10] I paid using Éclair Wallet for Android. The Lightning Network is not recommended for beginners. Try GreenAddress instead: https://play.google.com/store/apps/details?id=it.greenaddress.cordova



With Bitcoin, that's changed. We've already seen the shift in power with the cryptocurrency exchange Binance[13]. Binance became frustrated with the Hong Kong regulator's stance on Bitcoin. It became such an impediment to business that they decided to move their operations to Malta. But something was different here: for the first time in history, a company moved countries and took their customers with them. Nothing changed for me as a customer of Binance. But all that tax revenue moved from Hong Kong to Malta[14]. All the jobs created by Binance moved as well. Can a local insurer, medical aid administrator, or asset manager do the same?

We can no more go back to a world before Bitcoin than we can go back to a world before e-mail. The game has changed. In the Bitcoin world, governments have to compete to provide productive environments for businesses, just like businesses have to compete to keep their customers happy. If they don't, the cost of moving elsewhere is only going to decrease over time.

But why is it so volatile?

"That's all fair and well," many people say, "but how can Bitcoin succeed if it's so volatile?". It's a good argument. How can an asset that can fall 60% from its peak be a global reserve currency? The answer: it can't be. Not yet. Unless you're a crazy person like me, Bitcoin is still too risky an asset class. You shouldn't be investing more than you can comfortably afford to lose. But Bitcoin's volatility is also easily explained.

Bitcoin's market cap on 1 September 2018 was around $120bn. At the same time, the world gold market cap was around $8 trillion, 67 times higher. A $100 million selloff on the $30 trillion US Stock market doesn't get noticed. A $100 million selloff on the Bitcoin market is a catastrophe. But there's another way to see it: at $120 billion, Bitcoin is already 1.5% of the value of the world's gold[15]. It is positively insane that not-even-10-year old Bitcoin has reached 1.5% of gold in value when gold has been used as a reserve currency for over 5000 years.

A Troubled Adolescence

The way I see it, Bitcoin's manic price swings are growing pains from a troubled adolescence. People often forget that the market has a poor track record of valuing new technologies. Facebook was famously called "76%-overvalued"[16] after its IPO in 2013 before going on to quadruple in price.

Amazon dropped over 90% during the dotcom bubble yet today it is one of the most valuable companies in the world . As Bitcoin grows it will become less volatile.

If you want to understand this technology, forget about the price. Read books . Try using it. Learn about it instead. That's a better investment than trying to get rich quick. Because just like e-mail changed communication, Bitcoin has changed money. And nobody can change it back.

[12] At the time of writing it is over R15 to the Dollar. Five years ago in it was R10, and ten years ago it was R7.50

[13] Binance is the world's largest cryptocurrency exchange. In Q1 2018 its profits exceeded Deutsche Bank: https://www.ccn.com/binance-surpassed-germanys-biggest-bank-deutsche-in-profitability/

[14] Medium: Binance Announcement (https://medium.com/binanceexchange/binance-the-worlds-largest-crypto-exchange-announces-investment-in-malta-4c7e51136563)

[15] Bitcoin also recently exceeded the total market cap of the South African Rand. Crazy if you think about it.

[16] Forbes: Four Reasons Facebook Stock is 76% Over-Valued (https://www.forbes.com/sites/petercohan/2013/04/05/four-reasons-facebook-stock-is-76-over-valued/)

[17] Amazon crashed from a peak $107 on 10/12/1999 to a low of $6 on 29/09/2001. Ouch. Similar is true of Dotcom Bubble survivors Microsoft, Apple, Google, and eBay. (https://finance.yahoo.com/quote/AMZN/history)

[18] highly recommend The Internet of Money by Andreas Antonopolous for the technical angle, The Bitcoin Standard by Saifedean Ammous for the economic angle, and Digital Gold by Nathaniel Popper for the history.

OPTIMAL RETIREMENT INCOME STRATEGIES:
Blending deferred and immediate annuities with traditional asset classes



John Anderson



Steven Empedocles

Retirement savings in South Africa is dominated by a system of defined contribution provision. Within this system, individuals contribute regularly over their working careers, where the contributions accumulated with returns earned from the selected investment vehicles – the accumulation phase. At and after retirement, individuals start the process of converting their accumulated savings into an income – the decumulation phase.

Annuities are used during the decumulation phase to achieve this.

Annuities have existed in various forms for thousands of years. For example, Romans sold financial instruments for a lump sum payment called "annua" and in return received a fixed yearly payment, either for life or a specified period. Over time, annuities have increased in complexity to meet the varying needs of retirees.

A further distinction can be made between annuities purchased at retirement where the income starts immediately (immediate annuities) and an annuity purchased at retirement where the income only starts at a later date (a specific form of deferred annuity purchased at retirement).

The efficacy of using deferred annuities within an investment strategy can be reviewed within a goals-based approach, using two measures that summarise main goals in retirement, namely:

(i) 'Lifetime spending needs met' which is defined as the probability-weighted proportion of income needs being met over a remaining lifetime with 90% confidence.

(ii)'Expected financial reserve upon death' which is defined as the 50th percentile of the present value of the remaining retirement assets available on the death of the pensioner, adjusted by the present value of income support provided by dependants during the life of the pensioner in order to meet the pensioner's income needs where it falls short.

In reviewing various investment strategies, the most optimal strategies are those with the greatest level of 'lifetime spending needs met' ("LSN") for a given level of 'expected financial reserve upon death' ("EFR") and vice versa.

In order to illustrate the results in evaluating the different strategies, a male aged 65 years with an initial income requirement of 6.44% is used. A summary of the most optimal portfolios for different objectives appears in the table below.

Objective	Maximise LSN annuitizing no more than 15% of initial capital	Maximise LSN annuitizing no more than 30% of initial capital	Maximise LSN	Maximise EFR	Maximise EFR with LSN at least 90%	Maximise EFR with LSN at least 80%
% of Initial Income Annuitised	50%	100%	100%	0%	70%	20%
% of Portfolio Annuitised	15%	30%	75%	0%	53%	15%
Life Annuity Utilised	Deferred	Deferred	Immediate	None	None	None
Living annuity growth allocation	18%	13%	39%	90%	90%	90%
LSN	85%	87%	96%	75%	90%	80%
EFR	13%	13%	20%	26%	22%	25%

Some of the key insights revealed include:

- Blending either immediate or deferred life annuities together with traditional asset classes into post-retirement investment strategies improves the levels of 'lifetime spending needs met' for given levels of 'expected financial reserve upon death', compared to strategies focussed purely on traditional asset classes such as equities, bonds and cash. This is a result of the benefit of mortality credits as well as the immediate and deferred with-profit annuity providing an annual income stream where volatility of the underlying returns are smoothed over a 5-year period using the annuity insurer's balance sheet.
- It is only when a constraint is imposed on the amount of initial retirement savings to annuitise (which could be based on an individual's preference), that deferred annuities apply in some circumstances. This is particularly so at some of the lower level of initial drawdown levels and depends on the extent on the constraint being imposed (the more restrictive the constraint, the more likely a deferred annuity being more optimal all else being equal). The points at which this applies depends on the retirees age, gender and the cost of securing the desired income based on their expected mortality.
- During the decumulation phase with no constraints on the amount of initial capital annuitized, an immediate annuity has the greatest impact on improving lifetime spending needs met and is more favourable than a deferred annuity bought at age 65 years (with income commencement being deferred to a later date). The two reasons for this are:

(i) The impact of mortality credits being greater with immediate annuitisation (where the benefit of mortality credits apply to all instalments of the income stream purchased from age 65 years) compared to that of deferred annuities.

(ii) Where immediate annuitisation is used, less reliance is placed on the balance of the capital for income and hence the sequence of returns risk is better managed on the balance of the strategy. With a strategy incorporating a deferred annuity, the full income requirements from age 65 years to 75 years (or 85 years depending on the deferment period) are taken from the remaining drawdown account (which has been reduced to purchase the deferred annuity with income payments only commencing from either age 75 or 85 years). Given that the 10th percentile is used as the risk measure for lifetime-spending needs, the sequence of returns risk is more significant and amplified with a strategy requiring more income to be drawdown from the remaining draw-down account.

- Although individuals may prefer delaying annuitisation (and constraining the amount of initial capital annuitized), and in terms of behavioural biases would be more palatable, such advice is sub-optimal where the goal is maximise income sustainability of providing a legacy. Instead, advice and solutions provided at retirement should encourage earlier annuitisation, by blending immediate annuities with traditional asset classes as early as possible and then revisiting this decision regularly to annuitise more of the retirement capital over time until an optimal blend is achieved given the individual retiree's goals.
- Blending with immediate annuities, allows the balance the strategy to be allocated to more growth assets. The benefit is lower where deferred annuities are used as a result of the income during the deferment period needing to be paid from the remaining living annuity.
- The South African industry is undergoing significant change for the better. Given the increasing focus on retirement income solutions in South Africa, in particular funds having to adopt default annuity strategies, we hope that the above insights will assist practitioners and product providers to provide better advice and construct better solutions in order to improve the outcomes for retirement fund members.

WHAT DO YOU WANT? MANAGING RISKS FOR BETTER OUTCOMES WHEN YOU RETIRE

Warren Matthysen



The Association for Savings and Investments South Africa (ASISA) summary statistics for the year to 30 June 2017 indicates that people, who retire, invested R57.3bn in living annuity products. This compares with R5.3bn invested in conventional life annuities.

Actuaries assisting defined benefit funds with valuing (and managing) liabilities, deal with the complexities of meeting more certain benefit outcomes, cross-subsidies between different beneficiaries and the assets used to fund those benefits. Is it reasonable to expect that these complexities can be distilled into a single living annuity investment product, where the investor bears all the risks associated with the benefits?

There may a difference between what retirement investors want and what retirement investors need. We can use actuarial practice to provide perspectives that attempt to bridge this gap and provide more context for investors at retirement, when they make an investment decision.

Why are living annuity products so popular?

It is fairly easy to understand how a living annuity operates. We invest money, we earn investment returns, we draw out an income benefit at a rate

we choose and whatever remains when we pass away, is distributed to beneficiaries.

- It is simple.
- It is flexible (within limits).
- The investor is in control of the different levers influencing the benefits.

But there is also complexity:

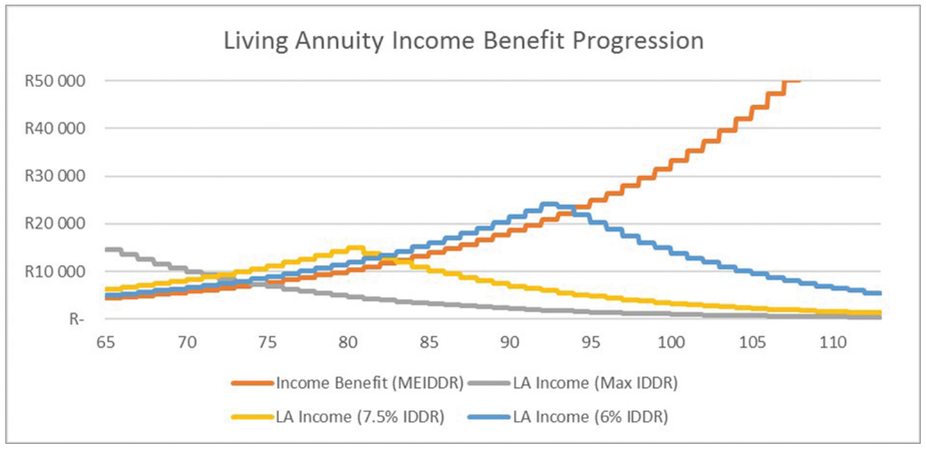
- What income level do we draw out to sustain the benefit?
- Where do we invest the money to earn appropriate returns?
- How certain are we of the benefits we will receive?

How well is this complexity understood? Let us consider a male, aged 65, with R1m to invest for retirement in a living annuity. What initial draw down rate (IDDR) should he select? Figure 1 considers a few options:

- An initial draw down rate (IDDR) of 17.5%. This is the maximum draw down rate that legislation allows.
- An IDDR of 7.5% increasing at 6% pa.
- An IDDR of 6% increasing at 6% pa.
- An IDDR of 5.2% increasing at 6% pa.

5.2% is the maximum IDDR that will ensure (under my assumptions) that the draw down rate cap of 17.5% is not breached over the lifetime of the annuitant (using the PA(90) mortality table rated down by 3 years). I call this the maximum equivalent initial draw down rate (MEIDDR), because the equivalent income stream can be replicated by a pooled annuity that increases at 6% pa.

Figure 1 shows the progression of these income streams.



We see that:

- The MEIDDR of 5.2% results in an income stream that never breaches the maximum draw down rate of 17.5%.
- Any draw down rate above the MEIDDR results in the 17.5% maximum being breached at various ages.

We can determine the present value of the expected income stream under each of these IDDR scenarios.

If the present value of the expected income stream is less than R1m, we can say that the difference to make up the R1m is funding an expected death benefit. This death benefit is the lump sum that remains when an investor passes away.

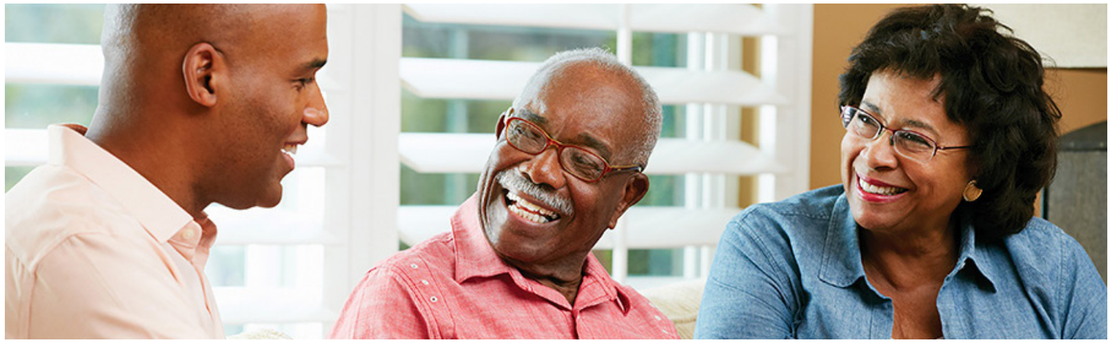


Table 1: Expected present value of both the income and death benefit components of different IDDR options – that make up the initial investment of R1m.

Investment Age	Gender	MEIIDDR	IDDR	Present Value of Living Annuity Expected Income Benefit	Present Value of Living Annuity Expected Death Benefit	Age when maximum draw down rate is reached in Living Annuity	Probability of survival to max draw down age
65	M	5.20%	5.20%	R 570,559	R429,441	112	N/A
65	M	5.20%	6.00%	R 655,881	R344,119	93	41%
65	M	5.20%	7.50%	R761,693	R238,307	80	61%
65	M	5.20%	17.50%	R 875,500	R124,500	65	100%

What this tells us is:

- If we want to ensure that our income increases at 6% pa to our maximum potential age, then our IDDR should be 5.2% (the MEIDDR) or lower.
- At the MEIDDR we are only allocating R570,559 of our investment capital towards providing an income benefit.
- The remaining R429,441 is funding the present value of an expected death benefit.
- Even if we have an IDDR at the maximum 17.5% draw down rate, we are in effect only allocating R875,500 towards an income benefit. R124,500 is still funding an expected death benefit.
- It is not possible to allocate the full amount of investment capital towards funding an income benefit using a living annuity.

The last bullet implies that if an investor intends to maximise the income benefit from an investment, that a living annuity product may not be an optimal product to do so.

An important aspect of making an investment decision at retirement is to consider:

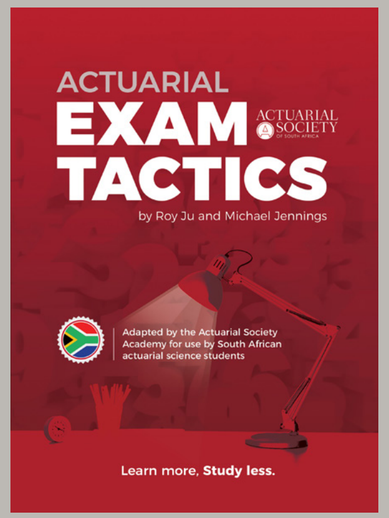
- How much should we allocate to fund an income benefit?
- How much should we allocate to fund a death benefit?

A further consideration is whether the way a living annuity delivers the benefit outcomes -both income and death benefits - meets the benefit needs in an appropriate manner.

The answer differs from individual to individual, but it seems that:

- Living annuities are very complex products.
- The intricacies of how benefits are delivered may not be well understood.
- All risks are borne by an individual investor.

A living annuity product may not be as appropriate for investors at retirement, as the ASISA statistics seem to suggest..



BOOK PREVIEW

Actuarial Exam Tactics: Learn More, Study Less

The Actuarial Society Academy South Africanised Roy Ju and Michael Jennings's Actuarial Exam Tactics to make it relevant for South African students. The bulk of the work was done by Billy Enderstein and Stephanie da Silva, assisted by input from two students.

Michael Tichareva, an experienced tutor and examiner, and former Chair of the Actuarial Society's Education Board and Banking Committee, says, "It is an excellent piece of material to bridge the gap for Actuarial students very early in their careers. It is also very short and easy to read. One can finish it in a few hours. And can repeat it many times! I suggest the Actuarial Society recommends this book for our students."

Frans Koning, Head of Mathematical Statistics and Actuarial Science at Free State University, says, "The book contains various useful tips. In fact, I am going to incorporate some of them in my sessions for Academy A301 students." He cautions, however, that it is similar to training for a marathon; having the perfect programme is not enough in itself; it has to be combined with solid training. "This is an excellent programme, but if you do not put in enough hours, you will never pass."

Thandi Mcizana, member of the Academy Advisory Panel who obtained both the CERA and FASSA designations at age 26, recognised some of her own successful study techniques in the book. She points out, though, that the Society should ensure the availability of appropriate support structures.

So, are the structures there, and does the book live up to the hype? You will soon be able to judge for yourselves. Actuarial Exam Tactics will be available shortly in electronic and paper format, or as a combo.

ACTEX Learning, US-based publishers of Actuarial Exam Tactics, is hosting a series of webinars in November and December. The links below contain more information.

- **6 November: The Actuarial Manager's Toolkit**
- **15 November: Making Your Health Data Confess—Analytics, Exploration, and Predictive Modeling**
- **29 November: The Actuarial (R)Evolution: Modernizing to Compete in Today's Changing Environment**
- **6 December: Everyday Ethics for Actuaries**
- **11 December: Advanced Techniques for Data Visualization in Excel**

ACTUARIAL SOCIETY OF SOUTH AFRICA

MATHEMATICS TEAM COMPETITION, 2018: PROOOOOVINCE!

Western Province A team won the senior section and Wits Siyanqoba A team took the honours in the junior leg of the 2018 ASSA Mathematics Team Competition. 87 teams from 16 regions took part in the competition organised by the South African Mathematics Foundation (SAMF).



The competition aims to develop mathematical skills of talented learners who have been identified through the South African Mathematics Olympiad (SAMO) and other SAMF Olympiad programmes, such as the Siyanqoba Regional Olympiad Training Programme. This programme is sponsored by the Department of Science and Technology and consists of bi-weekly classes at nine centres across the country concentrating on developing mathematical problem-solving skills. This year, seven Siyanqoba centres participated in the competition, namely the Centre of Excellence in Mathematical and Statistical Science at WITS, Algoa College of Education in Port Elizabeth, University of Pretoria, University of Limpopo, Rhodes University, University of Venda and University of KwaZulu-Natal.

Each team enters two teams of ten: Junior (grades 8 and 9), Senior (grades 10 to 12) and may also enter additional teams at each level. The first part of the competition is a one-hour individual paper, consisting of 15 problems in multiple-choice format. The second paper consists of ten problems and the teams work together and submit one set of answers.

Professor Kerstin Jordaan, Executive Director at SAMF, congratulates the winners. "The ASSA Mathematics Team Competition encourages talented learners to develop and strengthen their mathematics skills. For SAMF, this competition plays an important role towards the contribution we believe Mathematics can make in the skills and knowledge improvement for South Africa's future. SAMF would like to acknowledge all the students who made the effort to participate and we congratulate the winners," she said.

Peter Withey and Lusani Mulaudzi represented the Society at the awards ceremony.

IN MEMORIAM. We remember...



LULAMA BOPHELA

3 July 1985 – 11 September 2018

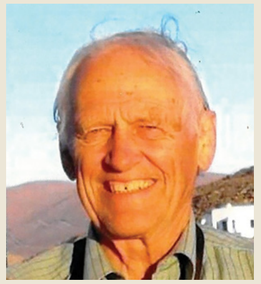
On Tuesday, 11 September 2018, our beloved Lulama suddenly passed away. He will always be remembered and celebrated by the love of his life, his wife Patricia, his dearest mommy who was his life and he was her Heavenly sent gift, his drama queen daughter Carmel, whom he loved very much, his little sister, his nieces and nephew whom he loved dearly and his beloved family and friends. For Lulama, family was his everything and he cherished us all.

Lulama was the kindest soul, full of life and compassion, and had a lovely sense of humour. He was always one of the brightest sparks in the room, a lover of knowledge, a voice of reason, understanding and wisdom. In his childhood he went about experimenting, breaking things just to rebuild them so that he could better understand how they work. He went on adventures with his friend Johnathan and cherished the thrill of pranking his little sister. He always had loads of questions which came from having a curious mind that always wanted to understand the big why's of the world.

Lulama was a dux scholar and matriculated with 5 distinctions at Durban High School. He then graduated with a degree in Actuarial Science and Statistics at the University of Witwatersrand on a full bursary from the South African Actuaries Development Programme (SAADP). To his wife, Patricia, Lulama was the most intelligent man she knew.

Lulama was passionate about Actuarial Science and initially wanted to specialise as an investment actuary, but as his career progressed, he found his niche in risk management. He loved his career because it was challenging and complex, and he was given the opportunity to put order in chaos. His colleagues had a big impact on him as he learnt a lot from them and we believe that they learnt a lot from him as well. His career was nurtured at blue chip corporates like Alexander Forbes, ABSA Life, Liberty and Sanlam, where he gained experience in employee benefit actuarial valuations and consulting, enterprise risk management, life insurance valuations and embedded value calculations and reporting.

He had a love for movies and dreamt of becoming a director in his spare time. He loved collectors' items and had a passion for venturing into the unknown, always trying out different things. One of his biggest adventure accomplishments was bungee jumping off the highest bungee bridge, the Bloukrans Bridge. He never really grew up, his inner child was always active, loved building car tracks, Legos and playing PlayStation. We imagine him now sitting in a Spanish type villa, with his Chelsea shirt and jeans, contemplating and making up his mind about life.



TONY VAN RYNEVELD

17 November 1925 – 29 August 2018

Born in Cape Town on 17th November 1925, Tony van Ryneveld lived there for most of his life, surviving his wife of 60 years, Lil (nee Clayton). Tony was the older brother of Clive and their sister Marie (Philip).

He was schooled at Diocesan College (Bishops) where he was a remarkable all-rounder. He was strong academically and also excelled in rugby, cricket, and athletics while also driven by outstanding character values that stayed with him throughout his life. He was described by his housemaster at Bishops as one who stood out as 'a boy in a thousand'.

In 1944 he joined the South African Airforce and qualified as a navigator in 1945, seeing the tail-end of the war and becoming involved in transporting returning soldiers between Egypt and South Africa.

After a few months at the University of Cape Town he took up a Rhodes Scholarship at Oxford University where he read mathematics and attained an MA. He was awarded his rugby Blue and eventually played three intervarsity matches against Cambridge at Twickenham. He was part of the unbeaten 1946 team which, in 14 matches, scored 314 points with only 37 scored against them. In 1947 he played for Oxford against an Australian team, and in 1948 went to tour the Argentine in a combined Oxford and Cambridge team. On a few occasions too he played cricket for Oxford.

Returning to South Africa in 1949 he played rugby for Villagers and was also trialed for the Springbok team. In keeping with his brother Clive's connection to springbok cricket, Tony also enjoyed a long association with the Western Province Cricket Club. His other more leisurely pursuits included a love for the fairways of the Royal Cape Golf Club, sailing at Langebaan and Churchhaven, and enjoying the beauty and outdoors offered by Table Mountain, Kirstenbosch, and the rest of the Cape's west and east coastlines. For relaxation he also followed his passion for history – especially that of the Cape and his ancestors, starting with the arrival of Daniel van Ryneveld in 1753.

He will be remembered by many as a most generous and caring person, loving unconditionally, of free spirit, and with a profound sense of justice and fairness for all people.

His career started in 1949 at Old Mutual. He qualified as an actuary in 1956 and rose steadily through the ranks towards his appointment as General Manager of the Pensions and Investment division. In these roles he was instrumental in developing the Old Mutual's unit trust-type investment model, introducing a pension scheme for

ex-servicemen and forming the SA Insurance Association (as its first Chairman).

He spent four years in Johannesburg as the Managing Director of Mutual and Federal Insurance Company but returned to the Cape and eventually took up the role of joint General Manager of the Urban Foundation in 1980. At the Urban Foundation his primary objectives were: to achieve enlightened corporate responsibility in South Africa that would be inclusive of employment of people of all races on merit; to provide opportunities for work and understanding; and to develop housing assistance schemes for staff, especially for those at low income levels.

As well as being a business leader, he held numerous other posts including: President of the Actuarial Society of SA (1981); trustee of the SA Nature Foundation; board member of the National Botanical Gardens of SA; chairman of the John and Charles Bell Trust, among many others across his interests in business, politics, the arts, and environment.

In politics he was an influential fundraiser for the Progressive Federal Party and became an active member of the Democratic Alliance through which he felt he could best influence policy to achieve fair and just treatment for all people of South Africa. In the time leading up to the changes in 1994, Tony was part of a group of business and political leaders who travelled to Lusaka to hold talks with emerging ANC leaders – essentially to try to promote cooperation and gain insights that would benefit inclusion of all races in a post-apartheid South Africa.

Throughout his life his real passions and drivers were for the betterment of social conditions and opportunities in South Africa. Remarks he made to the Financial Mail in 1980 embody this simply…"If I can play a real role and make some contribution to improving circumstances in which our communities live, and create opportunities for them…this will give me great satisfaction".

As a person he was an energetic philanthropist throughout his life, believing strongly that giving is receiving. In both his business and personal capacity he was a driver for raising awareness and funds to help those in need. A major part of this, achieved in deep collaboration with his wife Lil, included the establishment of a community centre at Village Heights and in Vrygrond in Cape Town.

He will be remembered by many as a most generous and caring person, loving unconditionally, of free spirit, and with a profound sense of justice and fairness for all people.

He is survived by his sister Marie, his four sons - Peter, John, Michael, and Andrew – and seven grandchildren.

Two anecdotes added by SA Actuary:

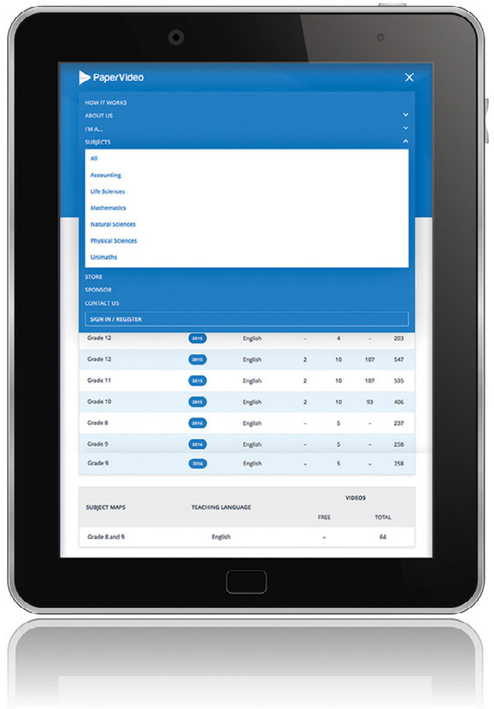
In 1967, as Pensions Actuary of Old Mutual, Tony persuaded the Registrar of Insurance to allow life offices to administer pension funds on a deposit-administration basis. He was invited to address a conference in Port Elizabeth on pension fund investments, where he met the then Registrar. One evening, after dinner, they were looking for something to do and Tony suggested they play snooker at a club where he had reciprocity rights. The Registrar informed him that he had never played snooker before. Tony taught him the game and they played some elementary snooker. That established a relationship that stood Tony in good stead later – "When I went to see the Registrar and his staff, I was not regarded as a foreigner from elsewhere anymore!"

In the editorial of this edition, reference is made to his insightful thought. Correspondence between Tony and the then Governor of the Reserve Bank, Gill Marcus, was published in the first edition of SA Actuary ("To Target or Not To Target – That is the Question", p 20).

When we informed members that Tony had passed away, one of the first to respond was Jacques Malan: "Tony was one of the older people guys who always greeted youngsters warmly and treated them with respect. A true gentleman in the true sense of the word."

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