



Quantifying Risk, Enabling Opportunity.

Annuity Innovation

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ANNUITIES AREN'T
SEXY BUT NEITHER
IS FLIPPING BURGERS
WHEN YOU'RE 81.



Annuity innovation:

How are we making annuities sexy again?

Quick introduction: Main retirement risks

Longevity risk	The risk that you live longer than expected, and thus outlive your savings. Particularly important given increasing life expectancies.
Inflation risk	The risk that inflation is higher than expected. Apart from the systemic risk, there is a specific risk too i.e. your particular cost inflation can be higher than headline inflation.
Investment risk	The risk that investment returns are lower than expected. During retirement, mainly wealth <u>decumulation</u> occurs, which means sequencing risk is critical.

Quick introduction: Main retirement product needs

Complexity	Retirees, like all people, want products which are <u>simple</u> to understand.
Flexibility	Retirees want products that are <u>flexible</u> i.e. can be changed to suit their (changing) needs.
Value-for money	Retirees want products that offer <u>good value-for-money</u> i.e. are cheap.

Risks + product needs; how can we gauge products?

Risk / need

1. Longevity risk

2. Inflation risk

3. Investment risk

4. Product complexity

5. Product flexibility

6. Product value-for money

Risks + product needs; how can we gauge products?

Risk / need

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Self-insured



Fully insured

Fixed



Inflation-linked

Volatile



Smoothed

Complex



Simple

Fixed



Flexible

Low



High



Caveats: these ratings are subjective; ratings will vary between provider's specific products

Product gauge: Living annuity as an example

Risk / need

1. Longevity risk

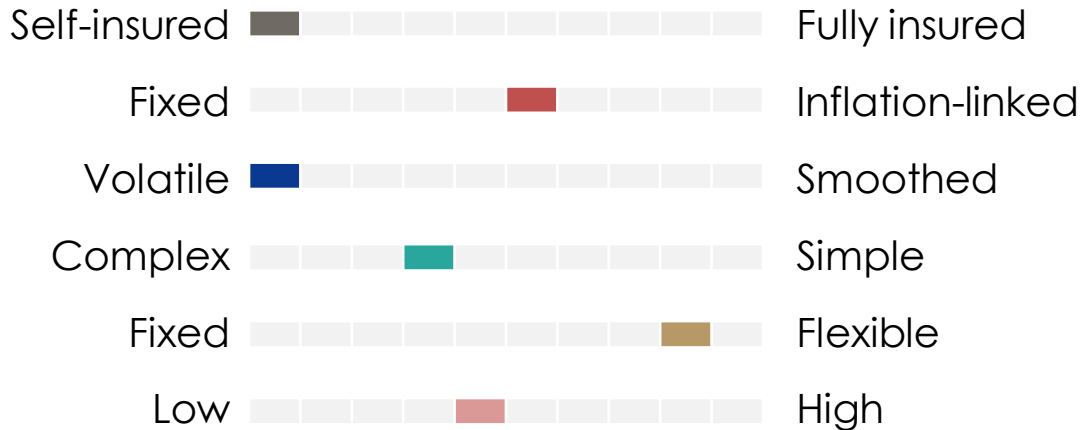
2. Inflation risk

3. Investment risk

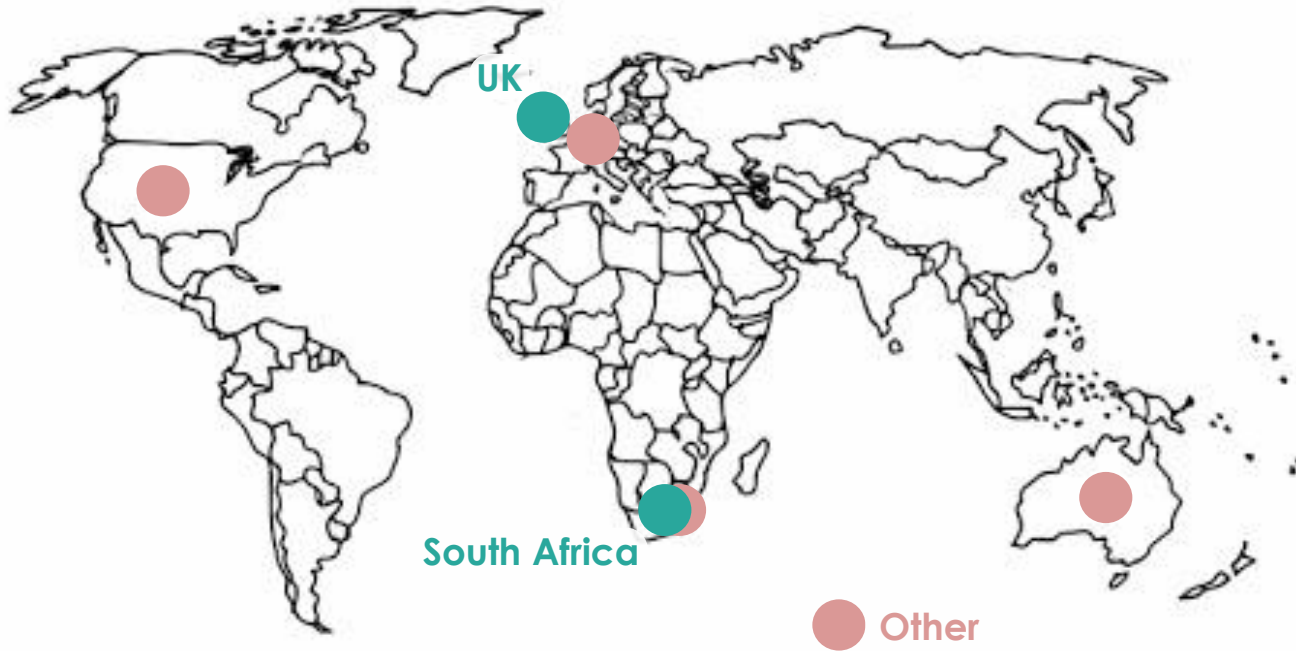
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Annuity innovation: Examples from some markets



Annuity innovation: South Africa

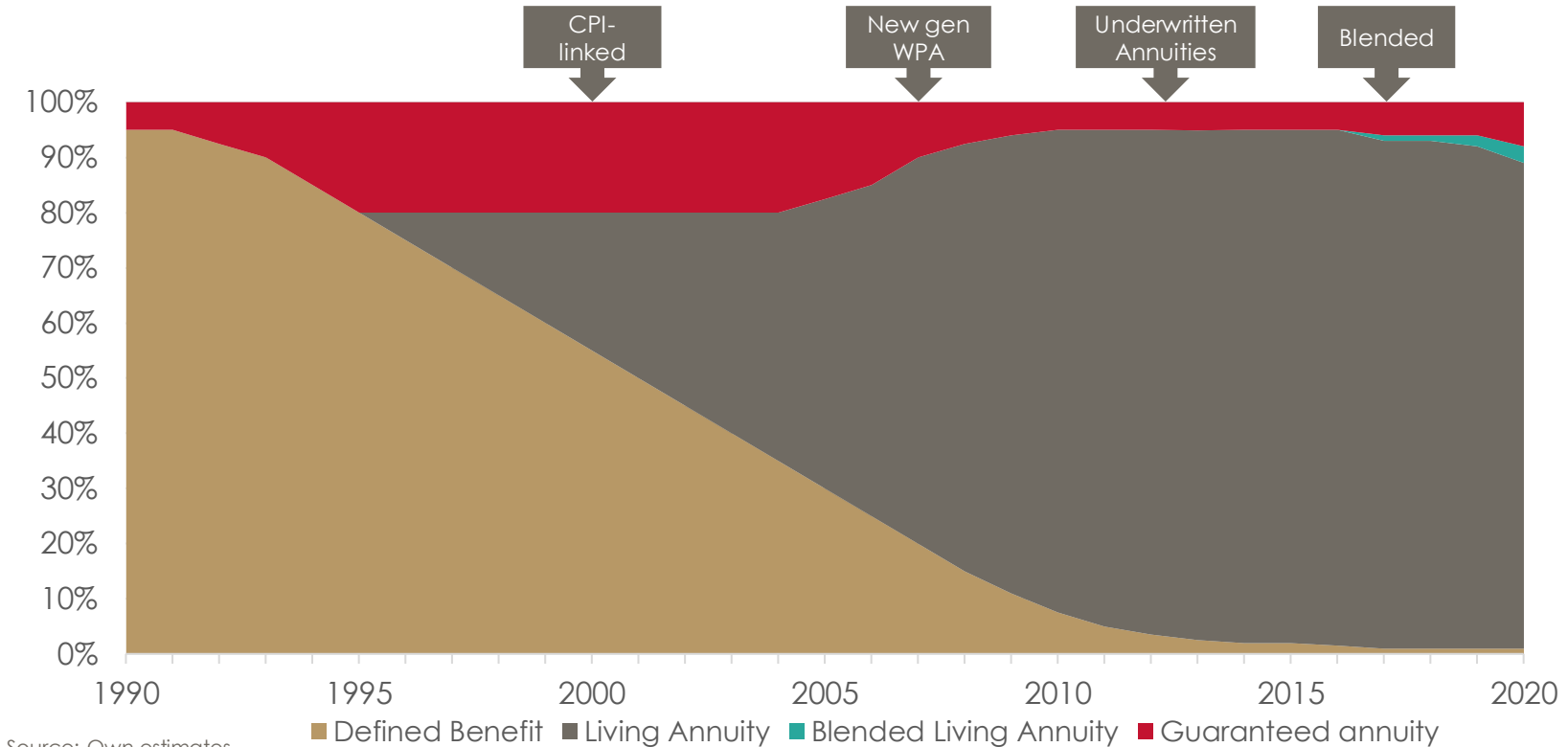


Retirement market characteristics

- Basic social benefits only
- Very few defined benefit pension schemes remain
- At retirement, choice of two types of annuities, after cash (max 1/3) taken:
 1. Living annuity
 2. Guaranteed life annuity
- Annuity market: ~R30bn p.a.

Source: [1]

Annuity market split in South Africa since 90s



New generation with-profit annuities (WPAs)

New generation WPAs: Overview

- Available since 2007 in SA
- These products offer:
 1. Lifetime income
 2. Increases which are determined annually using a transparent formula
 3. Risk-sharing of defined elements (notably mortality experience)

New generation WPA: Increases

- Typical components of the increase formula:
 - Minimum of 0% i.e. floor
 - Post-retirement Interest ("PRI") rate, or hurdle rate
 - Experience adjustment (risk-sharing of mortality experience, hedging profits & losses, etc)
 - Management fee
 - Smoothing of returns
- Example increase formula:

$$\text{increase} = \frac{1 + \text{smoothed returns}}{1 + \text{PRI}} - \text{fee} \pm \text{experience adjustment} - 1$$

New generation WPA: Comparison

Aspect	New Generation WPA	Inflation-linked annuity	Traditional WPA
Value-for-money	 Starting income generally 10% - 20% higher than inflation-linked annuity	 Expensive in SA	 Similar to new generation WPA
Historic increases	 1-2% above CPI over last 5 yrs	 Increases = CPI	 Similar to new generation WPA
Benefit expectations	 Increases linked to portfolio returns, with transparent formula	 Increases linked to CPI	 "Black box" approach to increases
Risk management	 Dynamic hedging techniques *, theory holding well in practice **	 Standard asset-liability matching framework	 Funding levels under pressure
Product complexity	 Increases linked to a formula	 Increases linked to a known, simple index	 Increases unclear

Product gauge: New generation WPA

Risk / need

1. Longevity risk

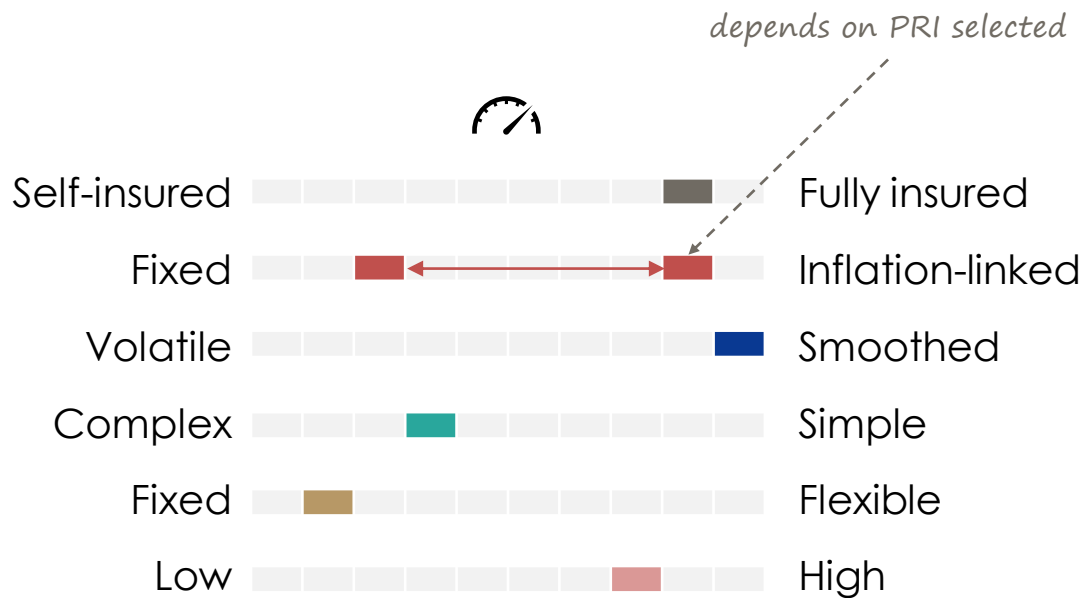
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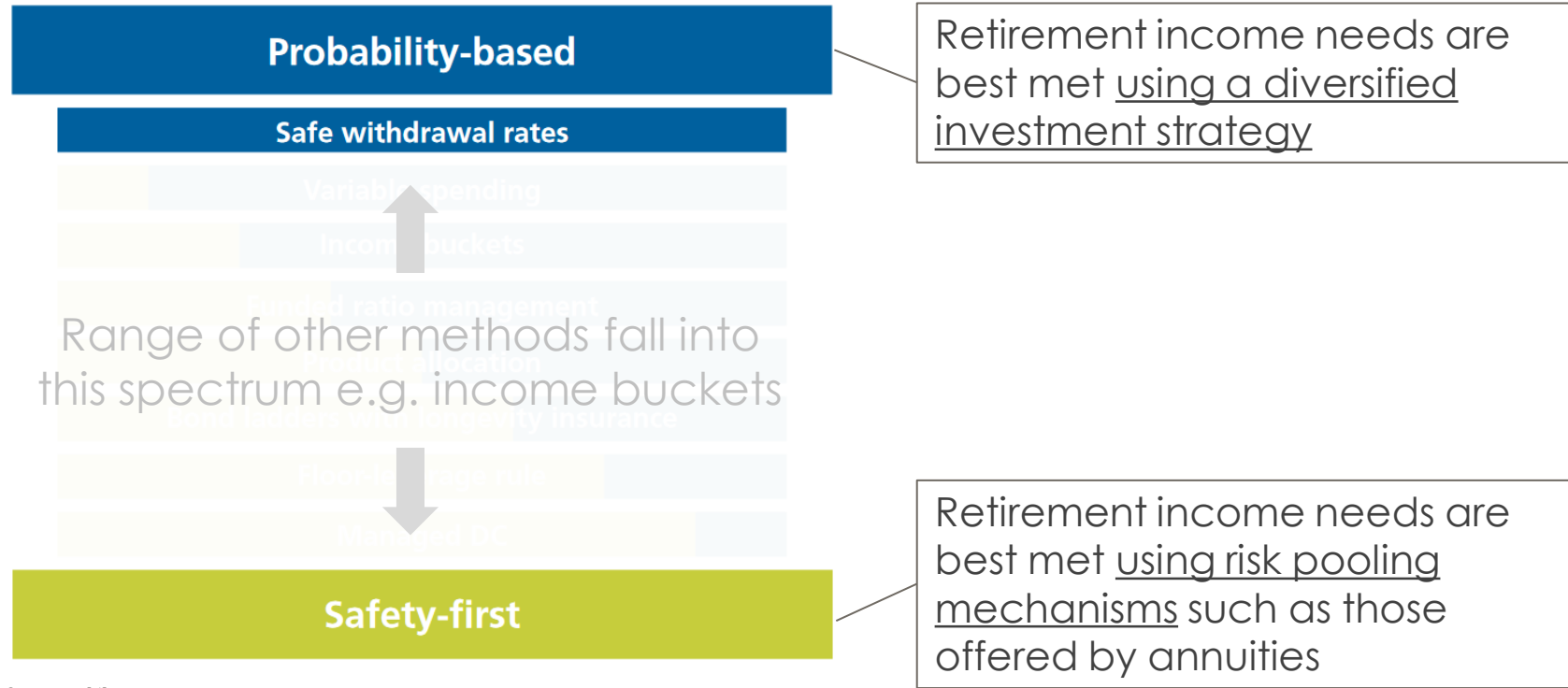
5. Product flexibility

6. Product value-for money



Blended living annuities

Spectrum of retirement income philosophies



Source: [4]

South African application

Probability-based

Safe withdrawal rates

Living annuities with (draft) FSCA recommended drawdown rates or rule of thumb e.g. 4% drawdown rule

Safety-first

Guaranteed life annuities

Annuity puzzle, as evidenced in South Africa

Probability-based

Very popular

~ 90% of retirement monies going into living annuities

Safety-first

Not popular

~ 10% of retirement monies going into guaranteed life annuities

Source: [5]

Annuity puzzle, as evidenced in South Africa

Probability-based

Very popular

~ 90% of retirement monies going into living annuities

WHY?



Safety-first

Not popular

~ 10% of retirement monies going into guaranteed life annuities

Main SA annuity products satisfy different needs

Probability-based

Standard living annuities

- ✓ Flexibility
- ✓ Capital legacy
- ✗ No longevity protection

Safety-first

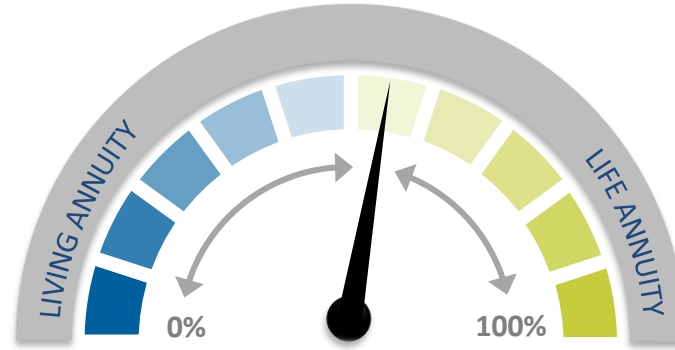
Guaranteed life annuities

- ✓ Longevity protection
- ✓ Income sustainability → certainty
- ✗ Lack of flexibility

Blended living annuity: Choose where you want to be

Probability-based

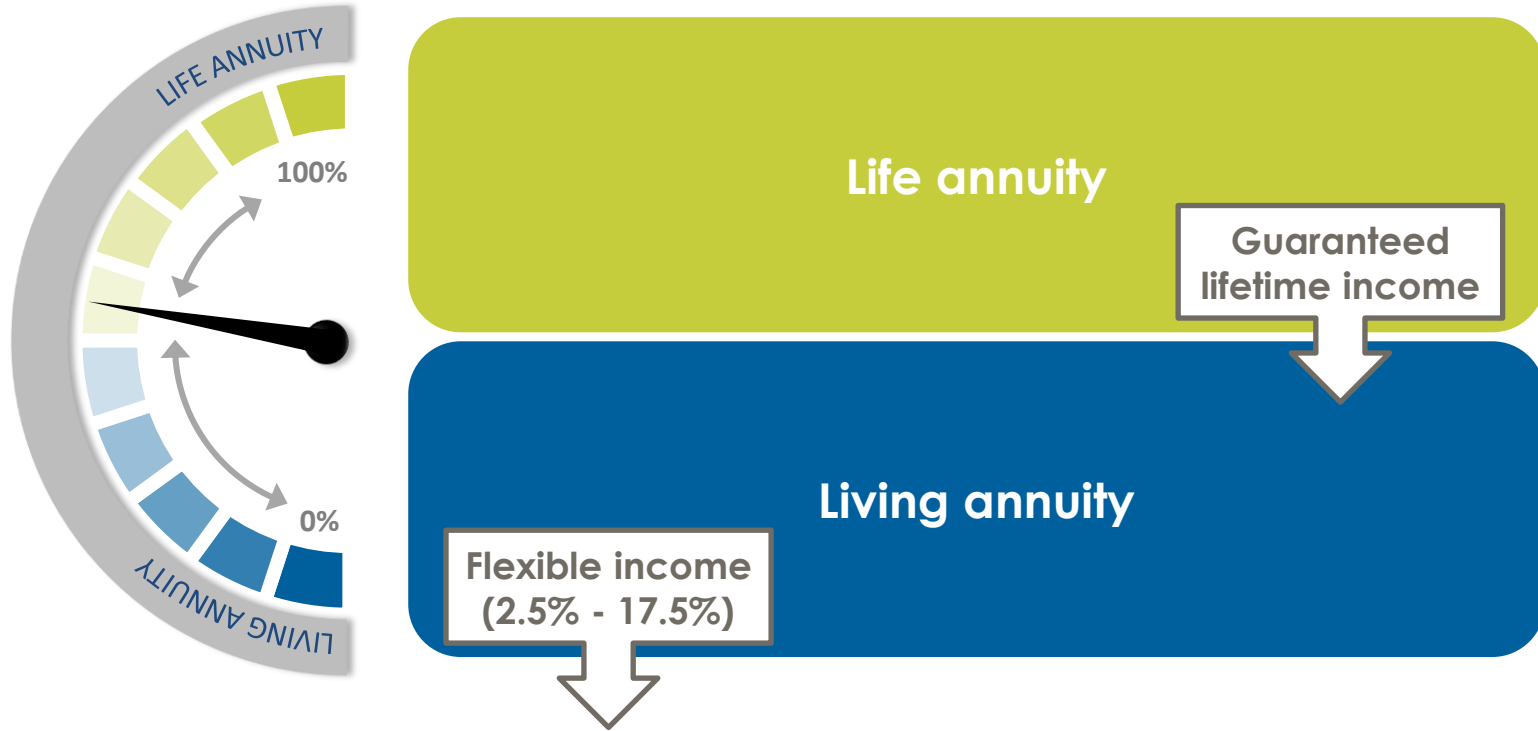
100% in living annuity



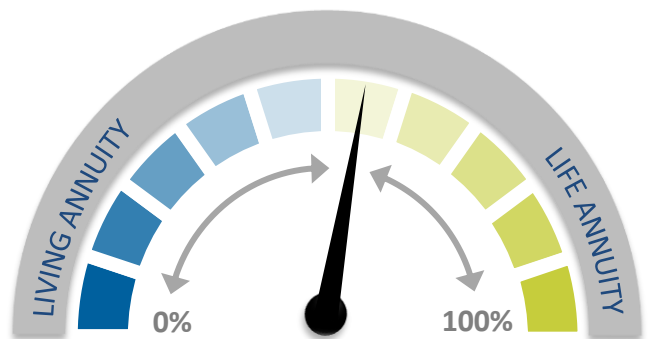
Safety-first

100% in guaranteed life annuity

Blended living annuity: Basic structure



Blended living annuity: Combines best of both



Blended living annuities

- ✓ Flexibility: best of both worlds
- ✓ Reduction of risks: longevity, inflation and investment risks
- ✓ Advice fees can be structured as required

Product gauge: Blended living annuities

Risk / need

1. Longevity risk

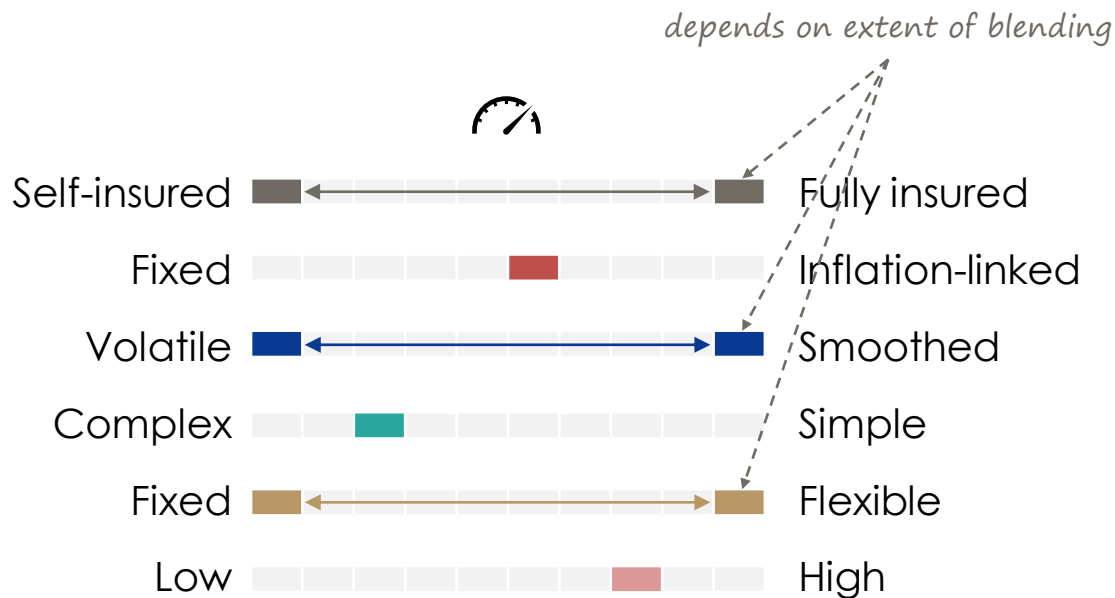
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Annuity innovation: UK



Retirement market characteristics

- Since Pensions Freedom in 2015, annuitisation at retirement is no longer compulsory.
- Material decline in annuity volumes since then, but market remains strong
- Annuity market: ~R70bn p.a.

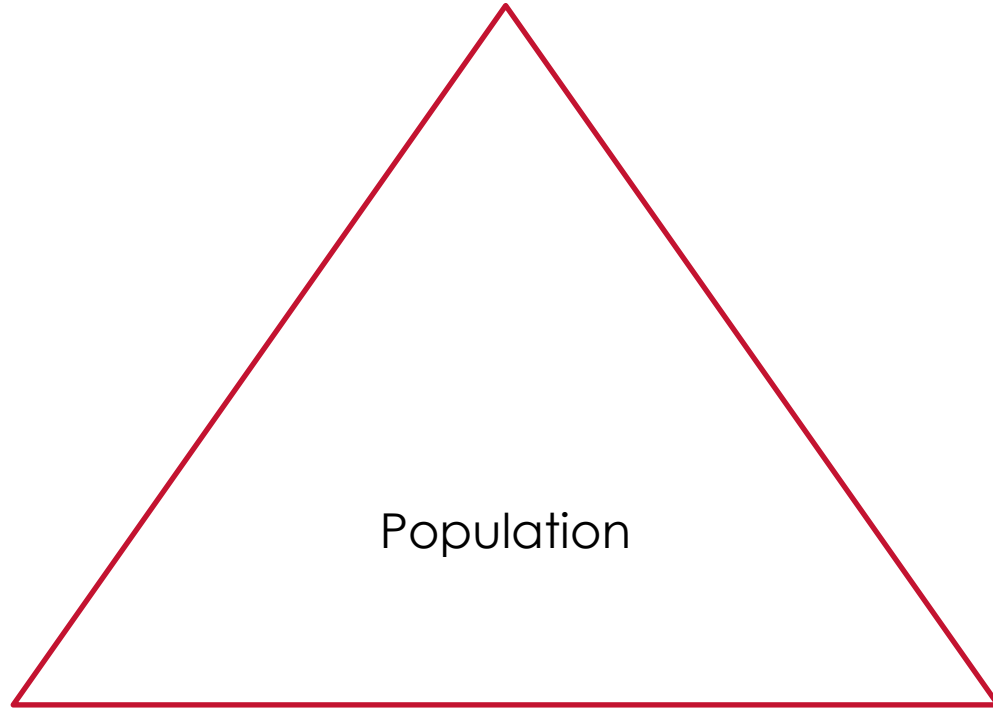
Source: [1]

Underwritten & Care Annuities

Underwritten annuities: Overview

- Started in UK in 1995
- Product created when a client asked why he got rated for life cover but don't get a higher annuity?
- By now, around 40% of immediate annuities sold in UK are underwritten
- Market is well developed e.g. common underwriting questionnaire used across all providers
- In SA, the first fully underwritten annuity was launched in 2012

Underwritten annuities: Population “pyramid”

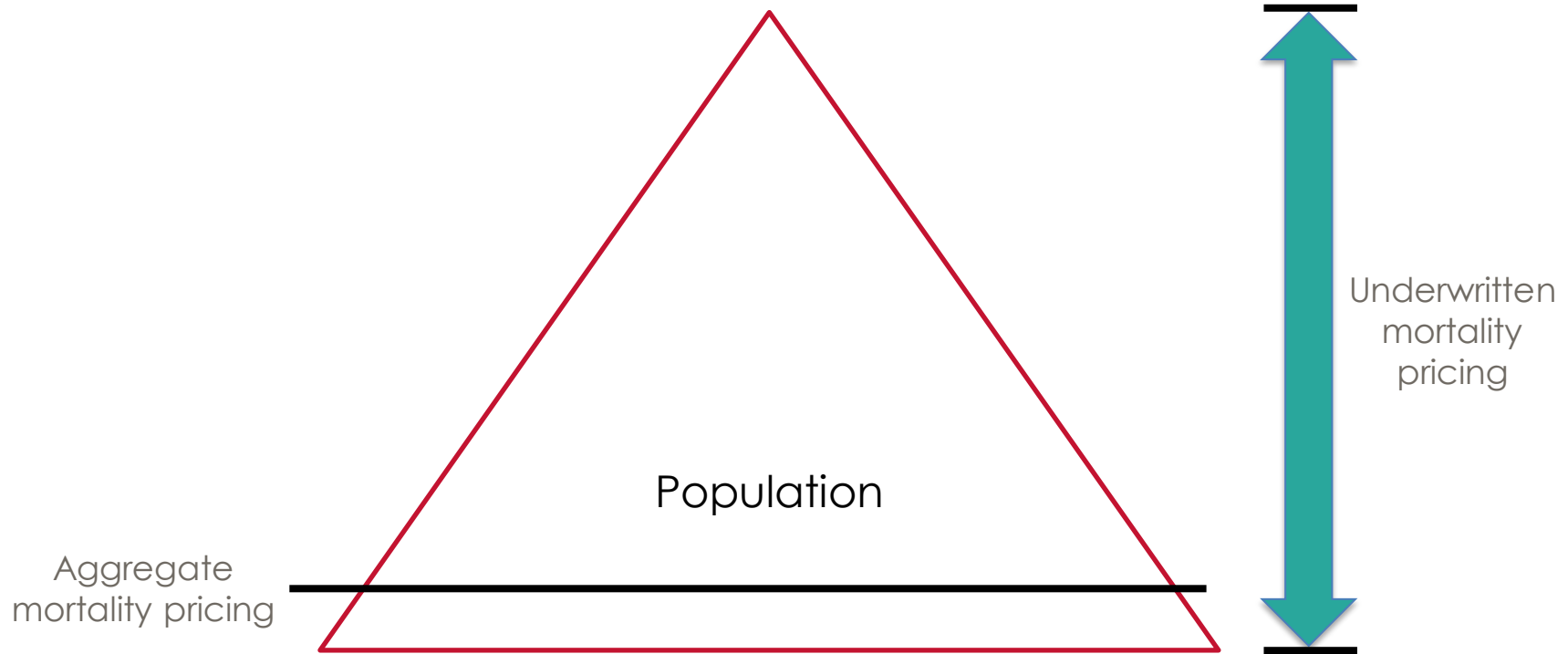


Few people are very impaired



Most people are healthy

Underwritten annuities: Mortality pricing



Underwritten annuities: Range of outcomes



Level of impairment	Healthy	Mild	Moderate	Severe
Proportion of population	60%	15%	15%	10%
Annuity uplift (approximate)	0%	0-10%	10-25%	25%+
Examples		• Severe asthma • Stroke	• Diabetes, with complications • Chronic lung condition • Heart attack, hospitalised	• Invasive cancers • Severe strokes • Organ failure • Multiple conditions

Care Annuities: Specific type of underwritten annuity

- Short history:
 - Introduced in 1997 in the UK
 - Renewed interest due to greater need for long-term care products (life expectancy extending but not “healthy life expectancy”)
- Target market:
 - Seriously impaired individuals between age 75 and 90 i.e. those who have already started to incur long-term-care costs
- Recent change:
 - In the past available to those already in nursing homes
 - Now extended to those in need of home/residential care
- Differences compared to standard annuities:
 - Entry ages much higher
 - Underwriting is compulsory, and is based on measuring the activities of daily living

Product gauge: Underwritten & Care Annuities

Risk / need

1. Longevity risk

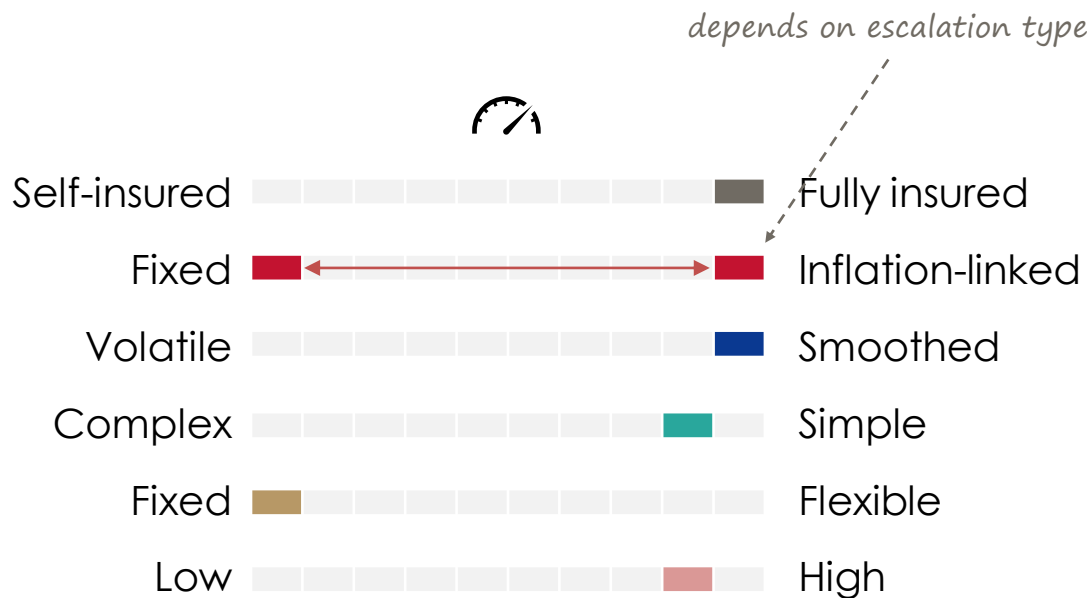
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Open Market Option

Open Market Option: Overview

- “Open Market Option” in the UK is a very good example of where legislation drives better value-for-money
- This allows retirees to shop around for the best deal at retirement $\Rightarrow$ promotes “Treating Customers Fairly”
- This, as opposed to settling for the default annuity offered by the same provider
- It has been around since the 70s but Pensions Freedom (and bad press around Open Market Option practices) has put pressure on providers to do this properly

Annuity innovation: Other



Annuity innovation:

Tontines

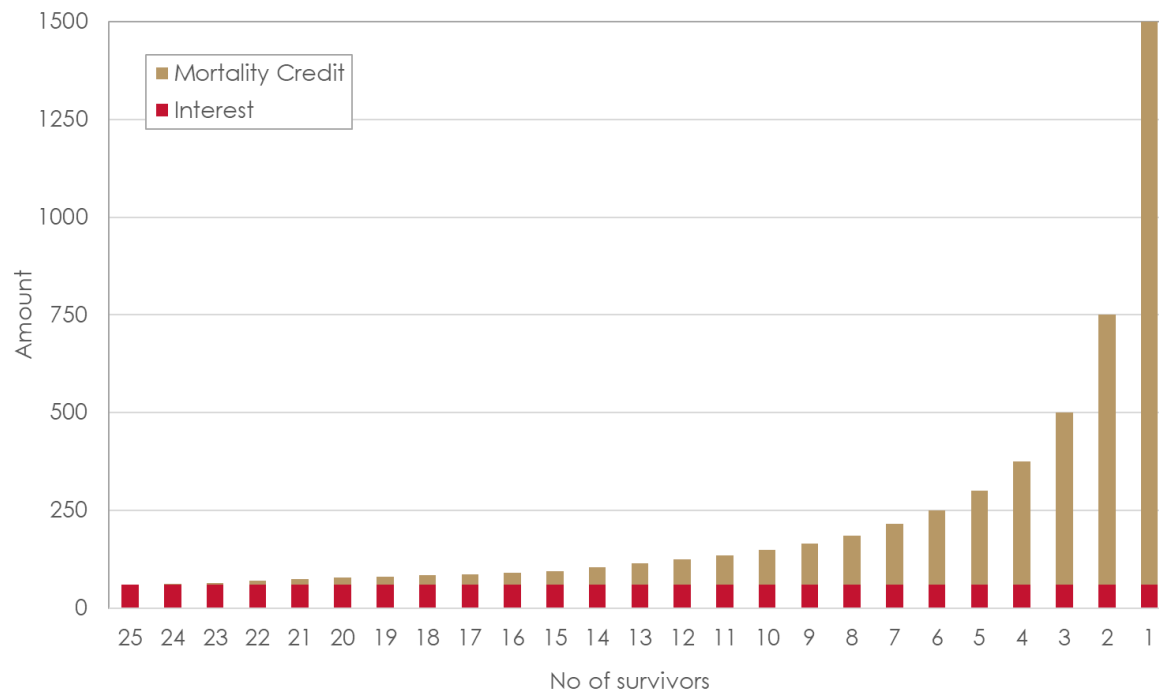
Tontine: Overview

- Records of special annuity pools called “tontines” that operated in Europe from 17th to 20th century
- Tontines provide payments that include return on capital and mortality credits – similar to annuities
- Main difference compared to traditional annuities is the payout profile – weighted towards when the insured lives actually die
- This eliminates the “time guarantee” of when mortality credits will be paid ⇒ reduces reserve requirements

Source: [6]

Tontine: Example

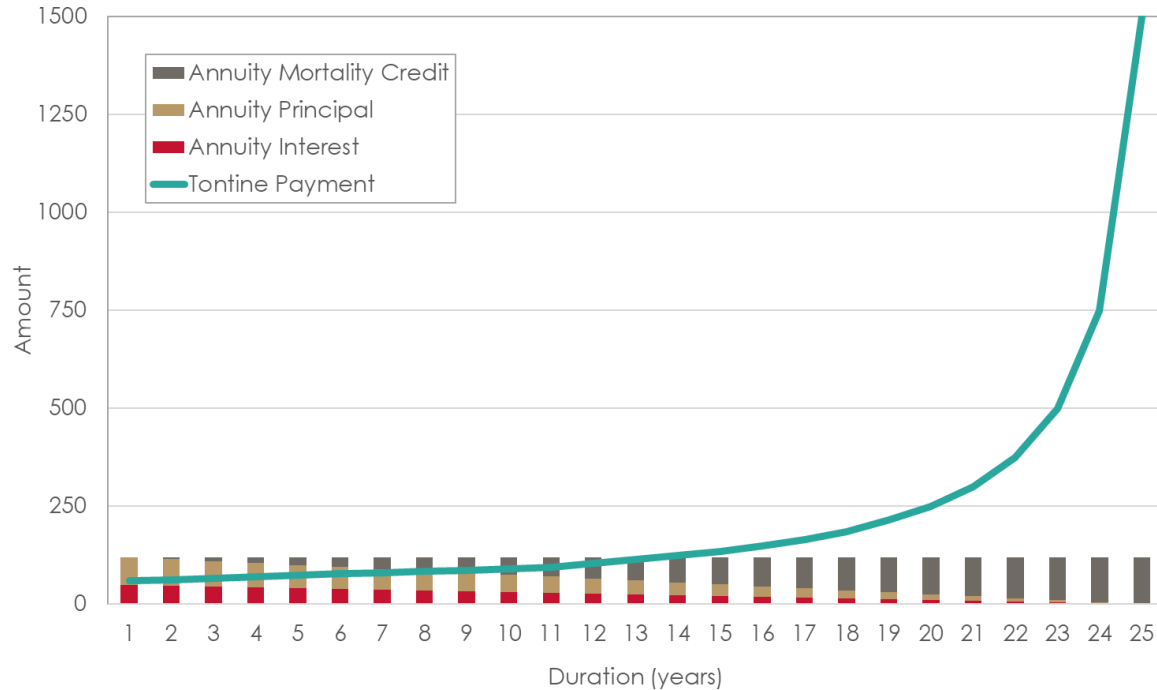
Tontine: Example Payment Profile



Source: [7]

Tontine: Example (continued)

Tontine vs Annuity: Example Payment Profile



Source: [7]

Tontine: Challenges

- Regulatory framework:
 - In some markets, legislation prohibits this (recently lifted in e.g. Europe)
 - In other markets, not regulated at all
- Inefficient pricing in underdeveloped markets
- Results are best for larger pools; small pools may have volatile income streams or may even have to be unwound
- New/unknown product, without clear guarantee
- High interest rates mean relative benefit underrated (survival benefit vs market performance)
- Moral hazard (if participants known)

Product gauge: Tontine

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Fully insured

Fixed



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Flexible

Low



High



Annuity innovation: Closing remarks

- Some other examples of innovation:
 - Technology advances to make decision journey easier for retirees
 - Equity release / reverse mortgages to unlock property wealth
 - Secondary annuity markets to overcome “no surrender” issue ⇒ however, many challenges
 - Extension of spectrum or hybrid concepts – no longer either/or options only
- Regulatory reform still required in many areas
- Overall, the **key challenge** is to have products which simplify the choice for retirees who have to navigate complex decisions about retirement income
- If we can do this, annuities will be sexy again!



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Presentation Name: Title

Author: Name Surname

Date: dd/mm/yyyy

Version: v.0.0

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- [3] J Swanepoel, "Dynamic Hedging Case Study," presented at Retirement Matters Committee, November 2010
- [4] W. Pfau and J. Cooper, "The Yin and Yang of retirement income philosophies," available at <http://dx.doi.org/10.2139/ssrn.2548114>, November 2014
- [5] ASISA statistics [latest details as at June 2018]
- [6] M. Milevsky, "King William's Tontine: Why the Retirement Annuity of the Future Should Resemble Its Past," Cambridge University Press, 2015.
- [7] M. Kitces, "Could A Tontine Be Superior To Today's Lifetime Annuity Income Products?" <https://www.kitces.com/blog/tontine-agreement-instead-of-annuity-lifetime-income-mortality-credits-and-book-review-of-milevsky-king-williams-tontine/> , February 2016.