

**IFoA Pensions, Risk and Investment
Conference with AFIR**

Lifetime income in a DC world

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Agenda

- ▶ Context
- ▶ Social benefit
- ▶ Methodology
- ▶ Implementation

Key take-aways

- ▶ Product assessment methodology
 - Universally applicable and flexible
 - Provides management tool and ‘language’
 - Success requires all links in chain to work
- ▶ Applying the methodology shows our new deferred GSA style product is a strong contender to effectively manage longevity risk for older retirees
- ▶ Process to optimise approaches over set of features covering user, provider and external dimensions

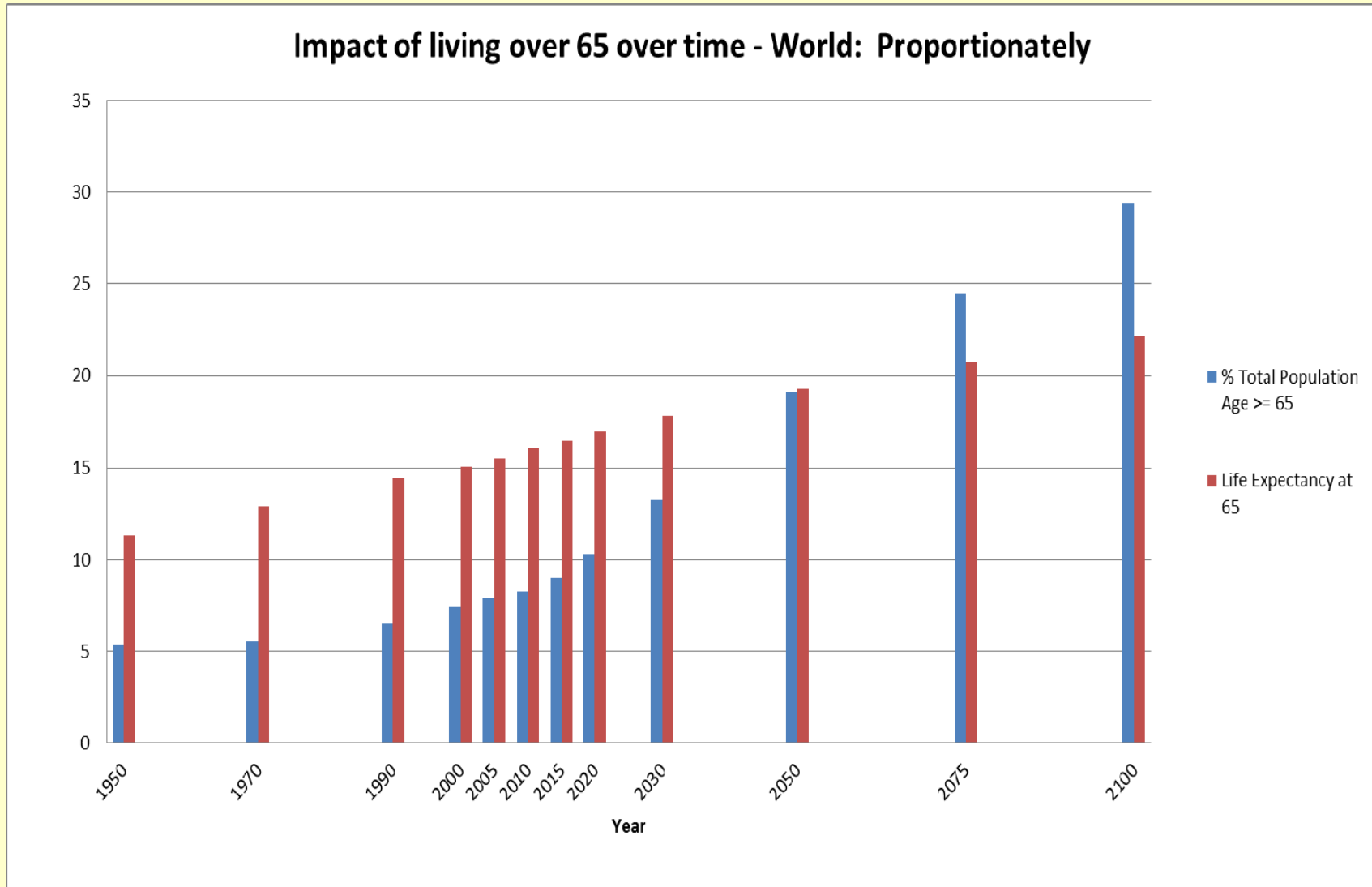


Context

Retirement

- ▶ New concept (20th century)
 - Presumed to be desirable – a ‘reward’
- ▶ Retirement
 - After completing a ‘working career’ individuals progress to the next stage of their lives
- ▶ Transition
 - Unclear, increasing blurred, not necessarily 1-way
- ▶ Historically
 - Relatively immaterial in terms of societal costs and expectations (few ‘out to pasture’)
- ▶ Now becoming a growing ‘problem’

The big picture: Global demographics - %



Retirement income

	Active	Passive	Frail
Discretionary: Regular			
Spikes	↓	↑	
Needed: Regular			
Spikes			

<- '65' ->

<- '80' ->

<- '95' ->

Death

'Healthy' Longevity risk --->

▶ Spikes

- Major expense, choice, emergency, medical, ...
- Role of insurance (personal and social)

▶ Other financial matters

- Other (Government) income, age care, inheritance ...

Social benefit

The big problem(s)

- ▶ Demise of corporate DB plans
- ▶ Governmental stresses on funding ‘pensions’
 - Including Pillar 1 (poverty alleviation)
- ▶ Transfer of longevity and investment risk to individual (DC plans)
 - Longevity risk cannot be managed individually
 - Low interest rate environments
 - Withdrawal timing risk for individuals
 - Lack of capacity to make informed choices
 - Loss of capacity
- ▶ Will worsen: Numbers, durations, expectations

Indicative individual DC wastage

- ▶ Retire at age 65
- ▶ Population life expectancy of 20 years
- ▶ Self manage longevity by assuming 'worst case'
 - Live to 95 or 99 percentile – approx ages 96 and 101
 - Say 100 – 15 years past 'expected' age of death
- ▶ Assume NIL interest and constant payments

- ▶ Individual DC wastage, on average, about 40%
 - $15/(20+15)$

- ▶ For individual and society, seems very inefficient

The big challenge (s)

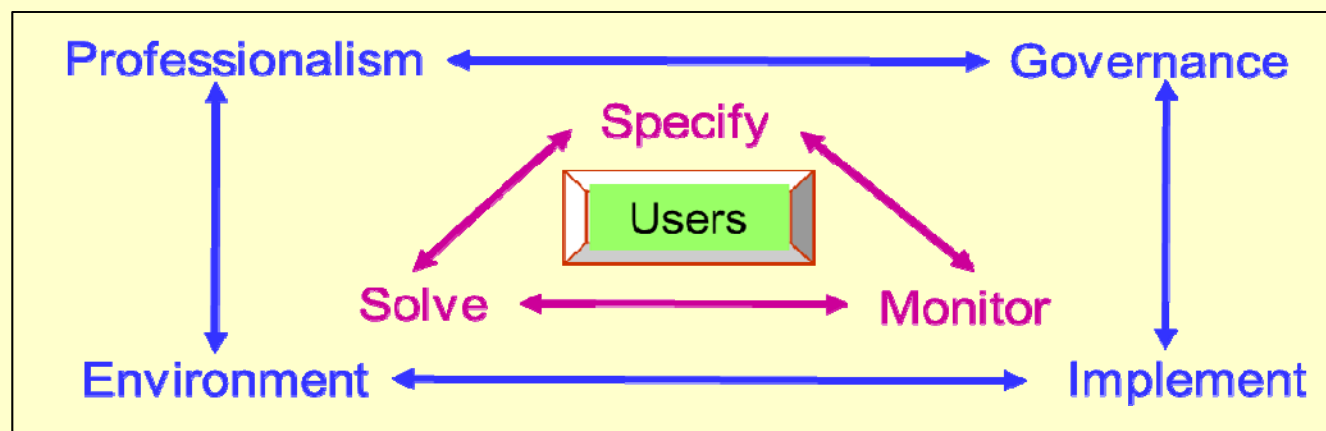
- ▶ Complex and evolving optimisation challenge
- ▶ Needs holistic solution(s)
 - Financial management
 - Education for all stakeholders
 - Engagement and participation (balance with government)
 - Expectation management
- ▶ No universal 'right' answer ... but plenty of 'wrong' ones
- ▶ Success (financial management) is retirees (users) taking up effective products that meet retiree needs

A big answer 😊

- ▶ Provide a methodology
 - Holistic – users, providers, society
 - Provide structure and ‘language’ for discussion
 - Develop and assess products – follow the full ‘chain’
 - Identify impediments to success - find the weak links
 - Suggest new approaches
- ▶ Apply the methodology
 - Focus: Older age ongoing financial income
 - Outcome: New product design using traditional actuarial building blocks that addresses longevity risk and outsources management from the individual

Approach

- ▶ Set up tool – build process
 - Determine features, weights, gates
- ▶ Use of tool - proof of concept
 - High level search for range of products
 - High level assessment from public information
 - Applied judgement and perspective
- ▶ Applied Actuarial Practice and Control paradigm



Framework

Tool (Provider, Technical)	+	Use of Tool (User, Behaviour)	+	Support (External, Environ't)	=	Outcome
Risk manage't	+	Criteria for use	+	Legal	=	Validity
+		+		+		+
Financial stability	+	User utility	+	Regulatory acceptance	=	Perceived user value
+		+		+		+
Systems & capacity	+	User access	+	Political support	=	Endorsed use
=		=		=		=
Technical solution	+	Behavioural solution	+	External solution	=	Approved & used
=		=		=		=
Managed	+	Trusted	+	Implemented	=	Success

Methodology (set up tool)

Dimensions of success

- ▶ Three key dimensions needed for success
 - User acceptance / Behavioural ... wanted
 - Provider capacity / Technical ... available
 - External / Environment (legal etc) ... acceptable
- ▶ All dimensions need to be successfully addressed

- ▶ Methodology
 - Features: Criteria to consider for all dimensions
 - Assess against: From perspective of each dimension
 - Quantify: Weighted averages, minimum levels ('gates')
- ▶ Tool to understand, inform, monitor, improve
 - Input to real decision making process

Perspective

- ▶ Criteria vary by specifics of intent and objectives
- ▶ For given set of criteria weightings may vary

Purpose	Specific / 'on average' ...
Users	Wealth, risk tolerance ...
Providers	In/out source, for/not for profit, products ...
External	Policy objectives, regulation ...
Context	Jurisdiction, local expectations ...

- ▶ Our perspective
 - User focused, on average, in-sourced, not for profit
 - Australian context

Methodology: Outcome

Product	Assessment Dimension			Outcome	
	User (Behaviour)	Provider (Technical)	External (Environment)		
	Weight_U	Weight_P	Weight_E	Wt Av	Gate?
1 xxx	%	%	%	%	Y/N
2 yyy	%	%	%	%	Y/N
3 zzz	%	%	%	%	Y/N
...					
	% = percentage of maximum possible score				

- ▶ Products rated/compared in each dimension
 - For relevant features, reflecting 'sub-features' in structured way
 - Outcome in each dimension is weighted average, with 'gates'
 - Outcome is weighted average over dimensions, reflecting 'gates'
- ▶ Add/change features
 - Improve analysis or reflect different perspectives

Methodology: Assess product features

- ▶ Funding of benefits
- ▶ Investment backing
- ▶ Internal/external fund management options
- ▶ Benefit payments
- ▶ Mortality pooling
- ▶ Exits and surrenders
- ▶ User capacity
- ▶ Capital requirements
- ▶ Administration
- ▶ Management
- ▶ Systems

Features (cont)

- ▶ Expenses
 - ▶ Profit
 - ▶ Volumes
 - ▶ Fit with Current Pensions/Superannuation
 - ▶ Taxation
 - ▶ Social security
 - ▶ Longevity protection
 - ▶ Inheritance
-
- ▶ Relevance (weights) change between dimensions

Feature assessment for each product

Features (User perspective)	Weight	Score	Gate (Y/N)	Total
1 xxx				
2 yyy				
3 zzz				
...				
User outcome (as % of max possible)				

- ▶ Weights: For relative importance in dimension
 - Used 0, 1, 2, 3
- ▶ Score: Buckets give granularity
 - Used 0, 1, 2, 3, 4, 5
- ▶ Gate: 'Fail' if below minimum required score
- ▶ Outcome: As % of maximum possible

Dimension 1: Users

Assuming we have products available (technical solutions) why would retirees take them up?

- ▶ The devil is in the detail ...
 - 'would' not 'should'
 - *Homo economicus* does not rule
- ▶ Test of success of a product/tool:
 - Its use/adoption by users
 - A chain is only as strong as its weakest link

User: Some considerations

- ▶ Flexibility:
 - Ability to reassess with changing circumstances
- ▶ Control:
 - Ability to determine level of control over retirement funds (level of control over retirement funds during active phase)
- ▶ Inheritance:
 - Potential to leave Inheritance for beneficiaries / dependents (potential to utilise unused retirement fund balances for inheritance)
- ▶ Minimum size:
 - Criteria of minimum level of funds for retiree desires to be able to be satisfied

Dimension 2: Provider

How can retirees in a DC environment access products that better manage, in their later ages, their ongoing income needs?

- ▶ The devil is in the detail ...
 - DC environment – individual not group
 - Manage – declining activity/interest
 - Later ages – post ‘active retirement (80/85)
 - Regular income – not for ‘unexpected’ amounts
 - Needs – pattern of income (indexed, flat, etc)

Provider: Some considerations

- ▶ Longevity
 - People live longer, leveraged in retirement
 - Future model, not historic extrapolation
- ▶ Benefit pattern
 - Not ever increasing or even need retain parity
 - Material impact on design
- ▶ Systems and organisational capacity
- ▶ Environment
 - Low (negative) interest rates
 - Medical advances
- ▶ Expectations
 - Higher expectations of quality of life in retirement
 - Guarantees - potentially not sustainable

Dimension 3: External

- ▶ Assuming we can properly market and deliver good products (from a user perspective) is the broader social and political environment supportive?
- ▶ The devil is in the detail ...
 - Are user and political assessments aligned with underlying user needs (and viable provider solutions)
 - Is there sufficient long term 'trust' in the 'system'?
- ▶ Good products that meet user needs and are technically viable will fail if the environment does not support them

External: Some considerations

- ▶ Regulatory acceptance
 - Market conduct
 - Prudential stability (including under stress) and liquidity
 - Governance and risk management
 - Wind-up and policyholder protection funds
- ▶ Politics and expectations – need manage differently
- ▶ Political will (and legislation)
- ▶ Product perceptions and reputations

- ▶ These considerations may not be as controllable as others

Implementation (use of tool)

What we did

- ▶ Global examples of retirement income products
- ▶ Universal list of product features
- ▶ Three dimensions / perspectives
- ▶ Applied methodology to develop new product
 - Control cycle approach
 - Optimised over existing products
 - Used traditional building blocks
 - Assessed active and passive retirement
- ▶ Assessed in Australian context
 - Australia is essentially a mutual DC world – global trend
 - Considered recent (May 2016) budget

Products

- ▶ Australian Allocated Pension
 - Individual drawdown with rules to get for tax advantages
- ▶ Australian living bonus product
- ▶ South African life insurance product
- ▶ Indian product (direct mail traditional annuity)
- ▶ Traditional annuity
- ▶ US Longevity insurance
- ▶ US Variable Annuity
- ▶ Defined Benefit pension – Funded
- ▶ Defined Benefit pension – Unfunded
- ▶ Group ‘self annuitisation’ (GSA) product structure
- ▶ Our new product structure (Deferred managed GSA)

Our solution structure ... Deferred GSA

- ▶ Address key aspects of passive retirement challenge – having lifetime ongoing and secure income:
 - Deferred and managed group ‘self annuitisation’ product
 - Relatively small payments in deferral period from or before ‘retirement’ (eg age 65) up to ‘old old’ age (eg 80) or size trigger
 - Benefit pattern not necessarily inflation adjusted
 - Conservative investments (fixed interest) reduces investment risk
 - Pool mortality gains from deaths
 - Benefits payments guaranteed (but not amount) so minimise capital
 - Funded. Not need be offered by a life insurer
 - Payments reflect contributions. Over and above Pillar 1 pension payments (unfunded)
- ▶ With discretionary post retirement allocated annuity
 - Transfers much of longevity risk to above product
- ▶ Provides longevity risk management for Australian SMSFs

User assessment

User/Member	Weighted by Importance					
	BEFORE Minimum required outcome			AFTER Minimum required outcome		
Product	Rank		Total	Rank		Total
	Pre Trigger	Post Trigger		Pre Trigger	Post Trigger	
Australian Allocated Pension	3	11	8	-	-	-
Australian living bonus produ	7	4	5	-	-	-
South African Product	4	2	3	2	2	2
Indian Product	8	8	7	-	-	-
Traditional Annuity	10	7	9	-	-	-
US Longevity Insurance	9	5	6	-	-	-
US Variable Annuity	2	3	2	-	3	-
DB Pension - Funded	6	10	10	-	-	-
DB Pension - Unfunded	11	9	11	-	-	-
GSA	5	6	4	-	-	-
New Product	1	1	1	1	1	1

Provider assessment

Provider	Weighted by Importance					
	BEFORE Minimum required outcome			AFTER Minimum required outcome		
	Rank			Rank		
	Pre Trigger	Post Trigger	Total	Pre Trigger	Post Trigger	Total
Australian Allocated Pension	9	8	9	-	-	-
Australian living bonus produ	8	8	8	-	-	-
South African Product	5	3	5	2	2	2
Indian Product	4	4	3	-	-	-
Traditional Annuity	2	1	2	-	-	-
US Longevity Insurance	3	5	3	-	-	-
US Variable Annuity	7	7	7	3	3	3
DB Pension - Funded	10	10	10	-	-	-
DB Pension - Unfunded	11	11	11	-	-	-
GSA	6	6	6	-	-	-
New Product	1	2	1	1	1	1

External assessment

External	Weighted by Importance					
	BEFORE Minimum required outcome			AFTER Minimum required outcome		
Product	Rank		Total	Rank		Total
	Pre Trigger	Post Trigger		Pre Trigger	Post Trigger	
Australian Allocated Pension	11	11	11	-	-	-
Australian living bonus produ	10	10	10	-	-	-
South African Product	3	5	4	2	2	2
Indian Product	1	2	1	-	-	-
Traditional Annuity	5	1	3	-	-	-
US Longevity Insurance	5	3	4	-	-	-
US Variable Annuity	7	8	7	3	3	3
DB Pension - Funded	9	9	9	-	-	-
DB Pension - Unfunded	4	6	6	-	-	-
GSA	8	6	8	-	-	-
New Product	2	4	2	1	1	1

Overall assessment

Aggregate	Weighted Average of Weighted by Importance					
	BEFORE Minimum required outcome			AFTER Minimum required outcome		
Weights:						
User 50%	Rank			Rank		
Provider 33%	Pre Trigger	Post Trigger	Total	Pre Trigger	Post Trigger	Total
External 17%						
Australian Allocated Pension	4	11	10	-	-	-
Australian living bonus produ	9	8	8	-	-	-
South African Product	2	2	2	2	2	2
Indian Product	6	6	6	-	-	-
Traditional Annuity	8	4	5	-	-	-
US Longevity Insurance	7	5	7	-	-	-
US Variable Annuity	3	3	3	-	3	-
DB Pension - Funded	10	10	9	-	-	-
DB Pension - Unfunded	11	9	11	-	-	-
GSA	5	7	4	-	-	-
New Product	1	1	1	1	1	1

Some challenges

- ▶ Public / private administration and delivery
 - Profit motive
 - 'Efficiency' of commercial world
 - Power/benefit of 'competition' – risk of the herd
- ▶ Voluntary / mandatory
 - Including transfers within system – 'choice'
 - Anti-selection / liquidity
 - Volume can manage diversifiable risk
 - Volume does not manage non-diversifiable risk
 - Needs capital (support), expectation management
- ▶ Ultimately need, size, good risk management and broad uptake

Australian budget, May 2016

- ▶ Key underlying policy shifts
 - Defined (into law) objective of superannuation
 - System flexibility to provide more choice and access to superannuation income in retirement
 - Not tax minimisation, estate planning etc
 - Resetting expectations
 - Opening up legal/regulatory opportunities
 - Foster positive development in controlled manner

- ▶ Opens gate for deferred annuities and GSA like products

- ▶ Including our Deferred GSA product

Summary

Summary

- ▶ Product assessment methodology
 - Universally applicable and flexible
 - Provides management tool and ‘language’
 - Success requires all links in chain to work
- ▶ Applying the methodology shows our new deferred GSA style product is a strong contender to effectively manage longevity risk for older retirees
- ▶ Process to optimise approaches over set of features covering user, provider and external dimensions

Thankyou ... Discussion

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Contacts

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