

Rethinking defined contribution benefit design



QUANTIFYING RISK, ENABLING OPPORTUNITY

John Anderson and Kelsy Moodley
4 August 2014

Content

- The evolution of investments in DC funds
- Findings from the latest Benefits Barometer
- Needs-based benefit design
- Risk sharing in DC funds
- Defaults
- Financial education and communication
- Measuring success

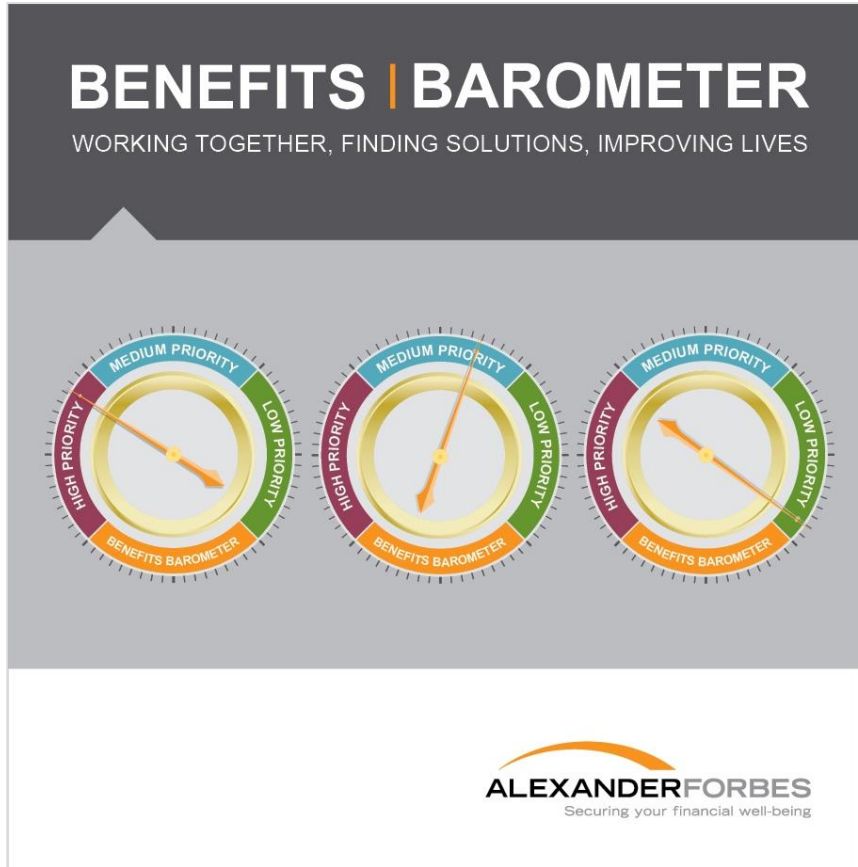
Which of these most closely describes your role:

- valuator;
- employee benefits consultant;
- trustee;
- liability manager
- asset manager or asset consultant
- other

FINDINGS FROM THE LATEST BENEFITS BAROMETER

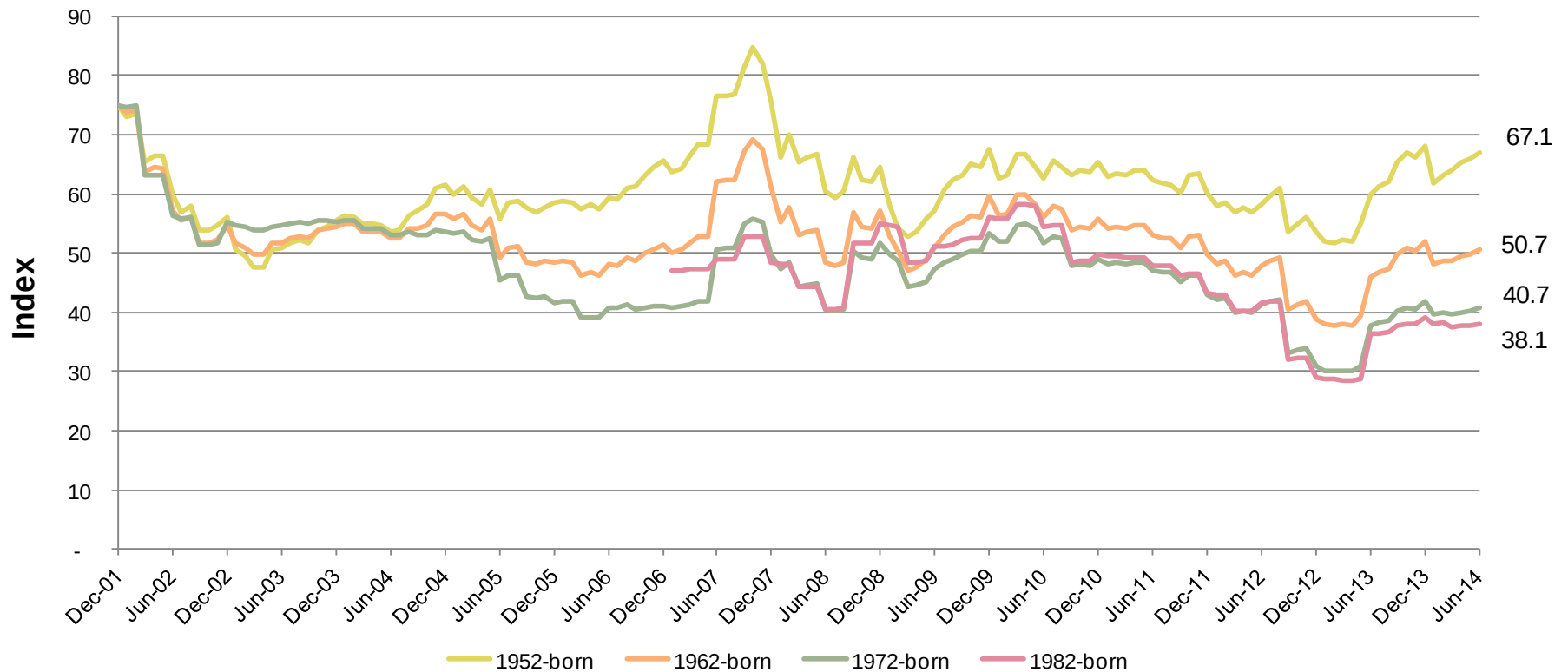
Industry Statistics

Benefits Barometer 2014



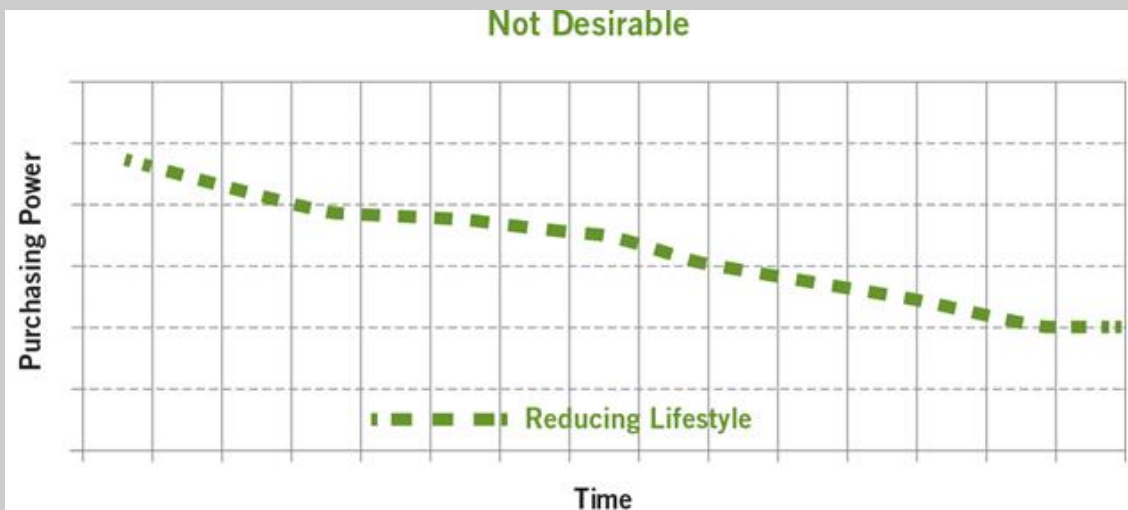
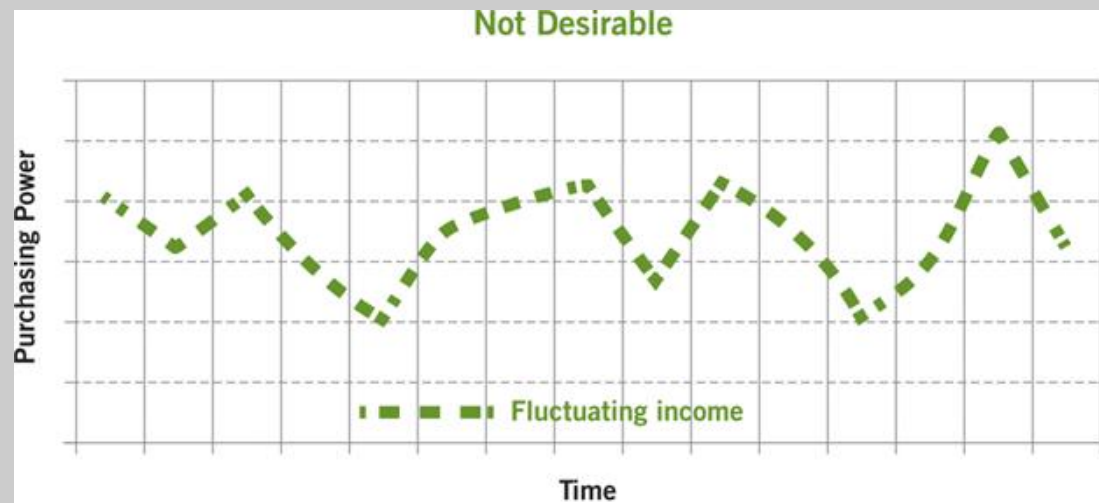
Access the book on our
blog:
Benefitsbarometer.co.za

REPLACEMENT RATIO INDEX OF MEMBERS BORN IN DIFFERENT YEARS



THE EVOLUTION OF INVESTMENTS IN DC FUNDS

What we don't want

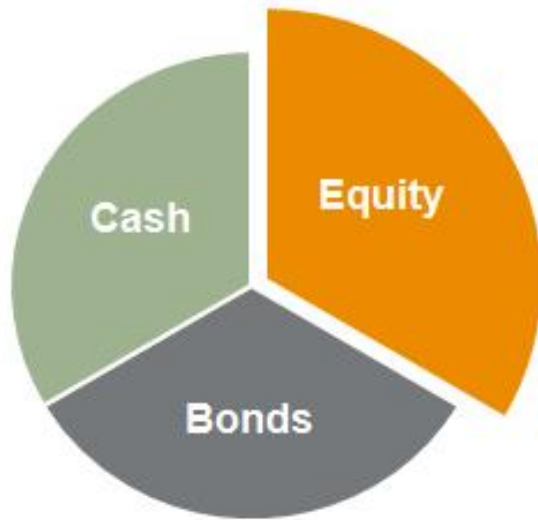


What we do want

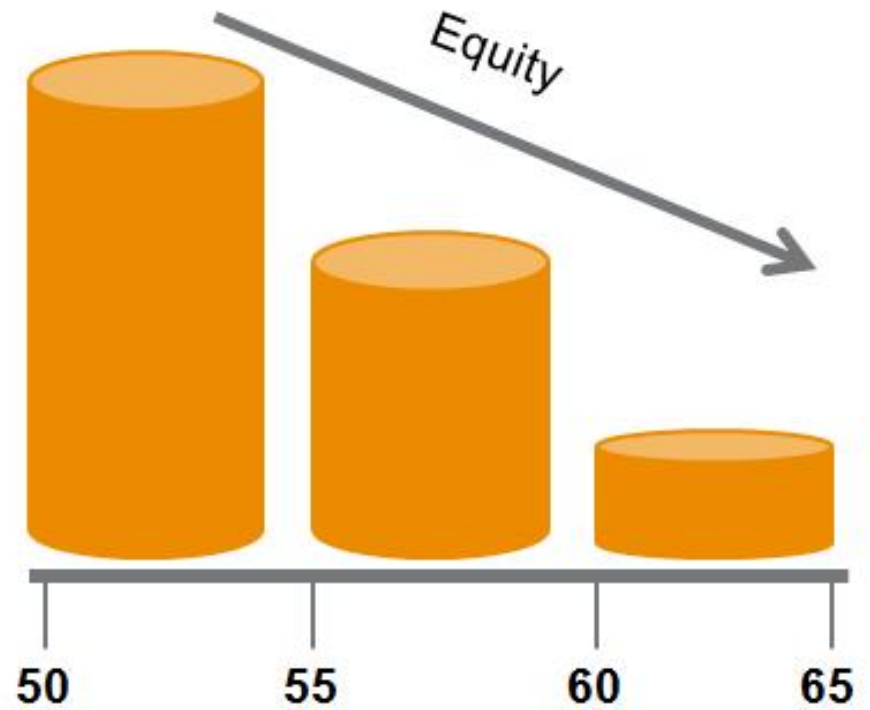
- Stability of income
- Income for life
- Maintain standard of living



Balanced portfolio



Life stage

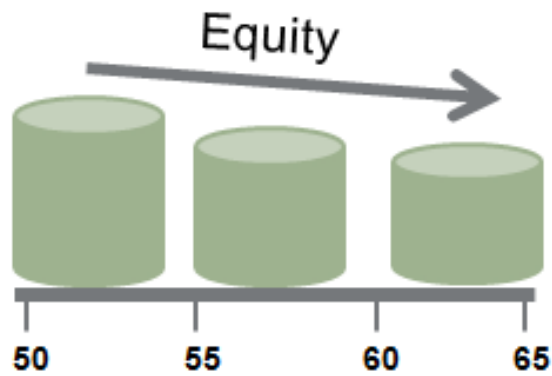
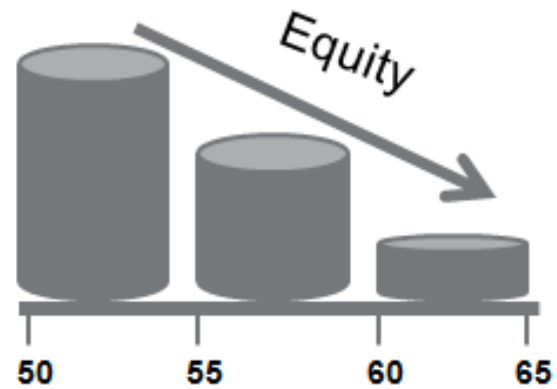
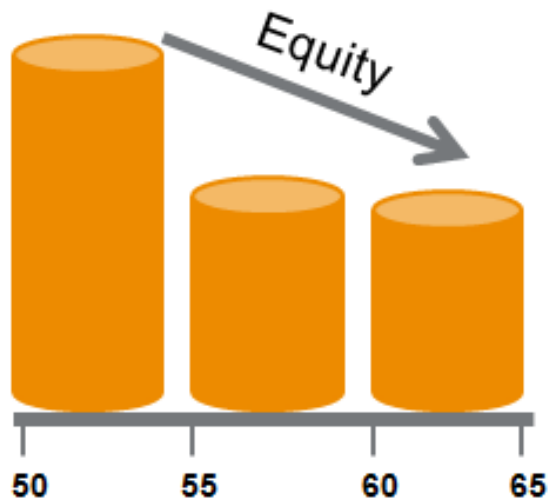


JOHN & VUSI: DOES A SUITABLE AVERAGE EXIST?

- Currently both members end up in same investment strategy based on some hypothetical average member's "glidepath"
- **But being average is certainly not optimal**

	John	Vusi
Optimal allocation to equity	80%	26%
Prob (Replacement Ratio>50%)	64%	Near certain
Prob (Replacement Ratio>80%)	Negligible	47%
Fund Credit	R0.5 mill	R1 mill
Salary p.a.	R100 000	R100 000
Contribution rate	20%	20%
NRA	65	65
Current age	55	55

Individual DC



Example: Annuity costs increase

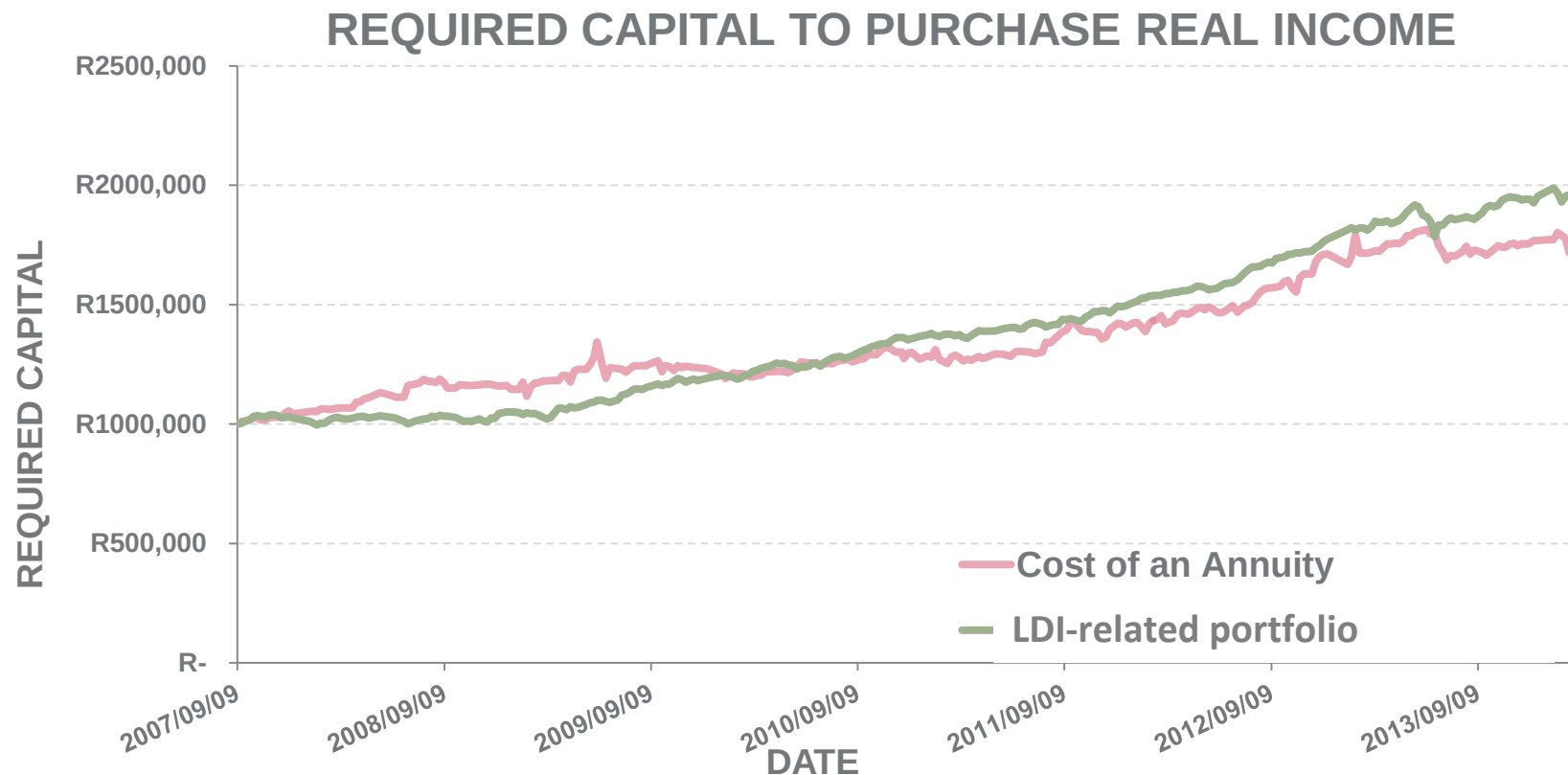
Investment strategy needs to be cognisant of liabilities

	June 2013	Annual
ALSI	-5.7%	21.0%
ALBI	-1.5%	6.2%
SAPY	4.4%	24.0%
STEFI	0.4%	4.7%

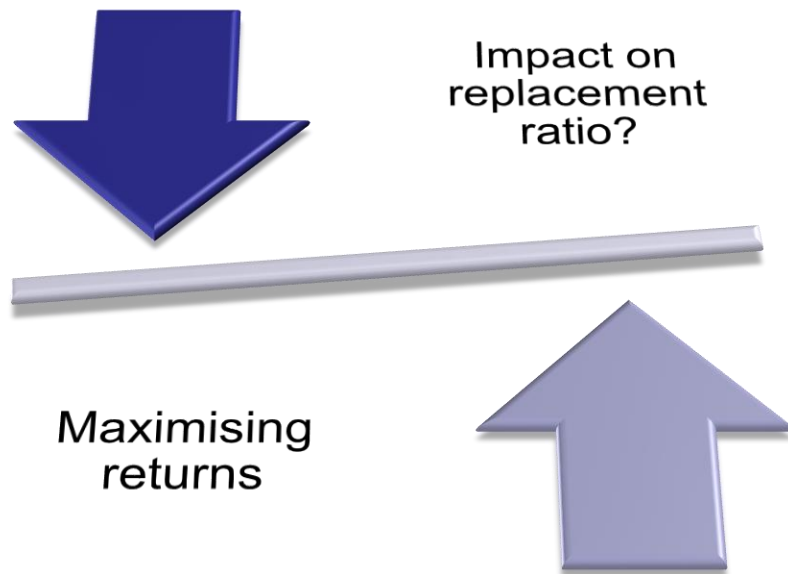
	Monthly Income needed	Capital needed for income	Investment Value	Affordability Level
1 June 2013	R5 500	1 864 818	1 500 000	80.44%
1 July 2013	R5 500	1 659 085	1 441 393	86.88%
Improvement		12.04%	-3.91%	6.44%

Managing income conversion risk

- Improve retirement income
- Reduce chance of 'undesirable outcomes'



Sustainable investing : the link to liabilities...



To what extent do you believe there is value in a default strategy that varies a member's investment strategy over the course of their employment (i.e. Life Stage or Target –date type funds)?

- Not worth the additional complexity or cost
- A good idea
- A good idea but not as a default
- Need to be more targeted to individual's circumstances than they currently are to be effective

NEEDS-BASED BENEFIT DESIGN

Getting to the heart of the matter

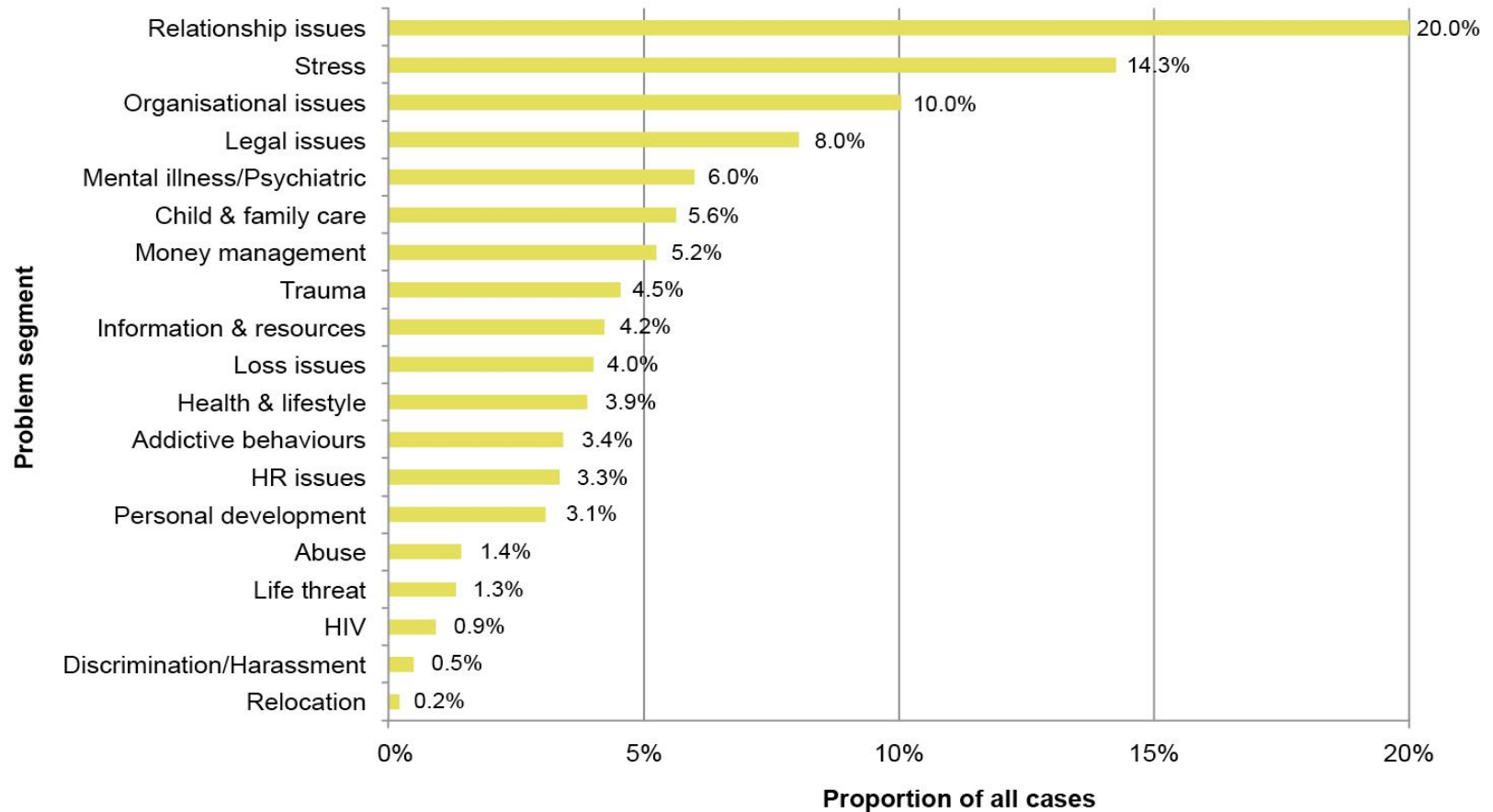
What do you see as the ambit of a retirement fund?

- Provide a savings vehicle for members
- Provide affordable access to risk benefits
- Provide cost-effective means to ensure the overall well-being of members
- Provide a savings vehicle for members' retirement
- Provide security of income both during employment and after retirement

The need for individualised solutions



Issues reported to ICAS

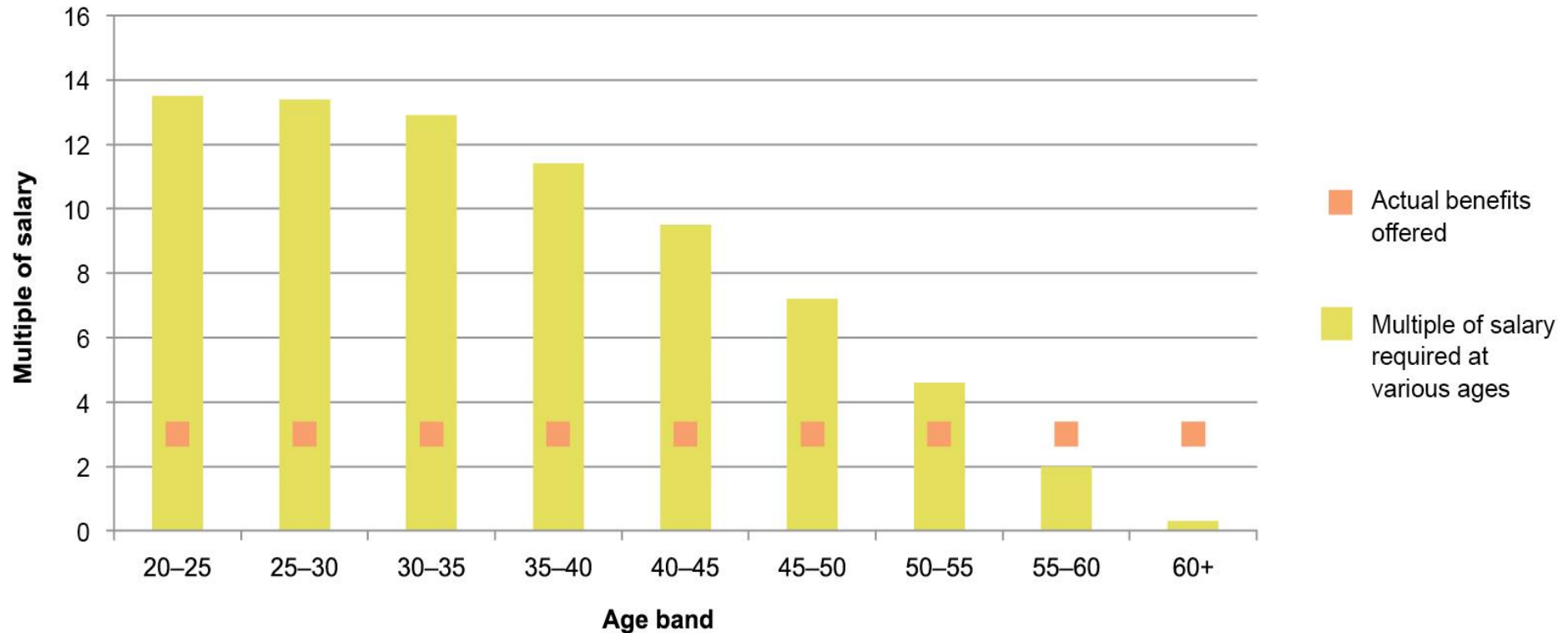


The need for individualised solutions

Member	Gender	Current Age	Pensionable Salary	Industry	Retirement Age	Death Benefit Multiple
1	Male	62.2	R 146 282.40	Construction	65	4
2	Male	53.9	R 318 334.32	Metals industry	65	4
3	Male	40.5	R 516 083.16	Mining and minerals	65	4
4	Male	34.4	R 118 464.00	Construction	65	4
5	Female	41.0	R 363 000.00	Energy	65	4
6	Male	46.7	R 78 604.80	Fashion	65	4
7	Female	39.5	R 821 370.36	Financial Services	65	4

Individualised risk benefits

DEATH BENEFIT NEED AGAINST ACTUAL BENEFIT OFFERED



Individualised risk benefits

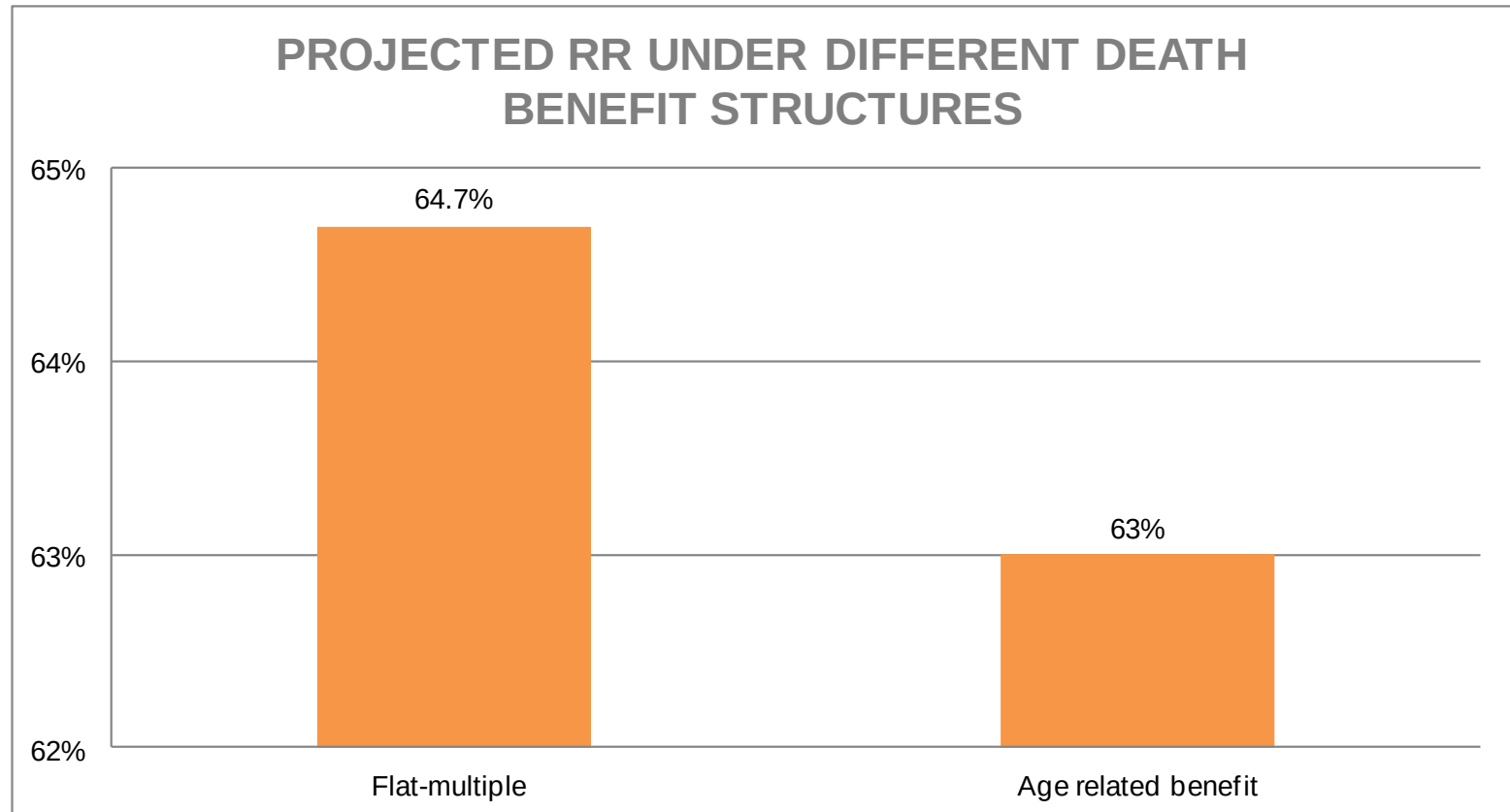
- Life cover that changes according to the age of the member

Age	Multiple of Salary
≤ 25	3
26-40	7
45-50	6
51-60	4
≥ 61	3

Individualised risk benefits

- Improving risk benefits involves a trade-off
- A 25-year-old new fund member who plans to retire at the age of 65
- Contribution rate of 15.4% net of administration and disability benefit costs

Individualised risk benefits



How effective are replacement ratios as a target for members in their retirement planning?

- Finally members and the industry as a whole are beginning to understand the importance of replacement ratios – and this is an important plus.
- Replacement ratios only reflect one aspect of protection for the individual and as such, fail as an effective target.
- Replacement ratio targets within funds are meaningless if an individual is moving from fund to fund
- We need more comprehensive targets than replacement ratios if we are going to determine optimal balance between savings and risk benefits and other member protections
- All of the above



Rivash

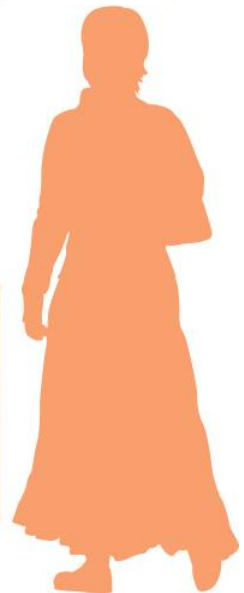
Male aged 40

Debt level	Number of children	Total contribution rate	Most efficient benefit structure	Least efficient benefit structure
-	-	17%	Primary Lifecycle default	Fixed multiple of salary
R300 000	2 (aged 10 and 16)	17%	Fully flexible benefit structure	Fixed multiple of salary
R300 000	2 (aged 10 and 16)	22.5%	Fully flexible benefit structure	Fixed multiple of salary

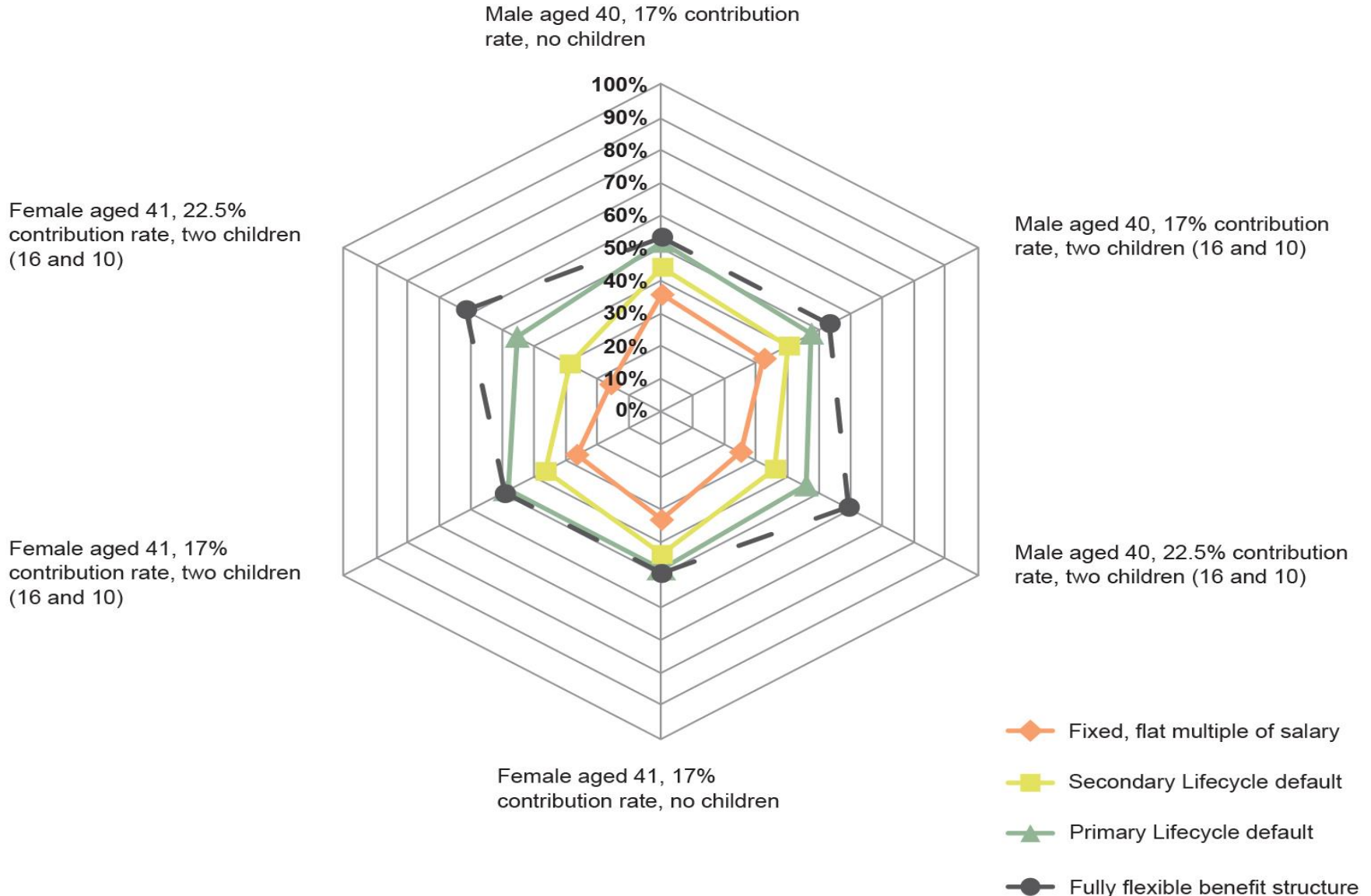
Lerato

Female aged 41

Debt level	Number of children	Total contribution rate	Most efficient benefit structure	Least efficient benefit structure
-	-	17%	Fully flexible benefit structure	Fixed multiple of salary
R300 000	2 (aged 10 and 16)	17%	Fully flexible benefit structure	Fixed multiple of salary
R300 000	2 (aged 10 and 16)	22.5%	Fully flexible benefit structure	Fixed multiple of salary



Outcomes-based efficiency



To what extent do you believe there is value in a default strategy that varies a member's risk benefit coverage over the course of their employment

- Not worth the additional complexity or cost
- A good idea
- A good idea but members may not always understand if they should opt out
- Need to be more targeted to individual's circumstances than they currently are to be effective

RISK SHARING IN DC FUNDS

The 'ABC's of fund design

What options exist for risk sharing?

Defined
Benefit

Defined
Contribution

Defined
Ambition?

What would the reaction of South African employers be to risk sharing in DC funds?

- Positive – they might welcome the chance to re-connect with members
- Negative at first although they might warm to the idea
- Negative – they will not want to take on the cost of guarantees
- I'm not sure

If we were to introduce risk sharing, how could it be done?

- Smoothing of investment returns
- Using reserves
- We would need a new method

DEFAULTS

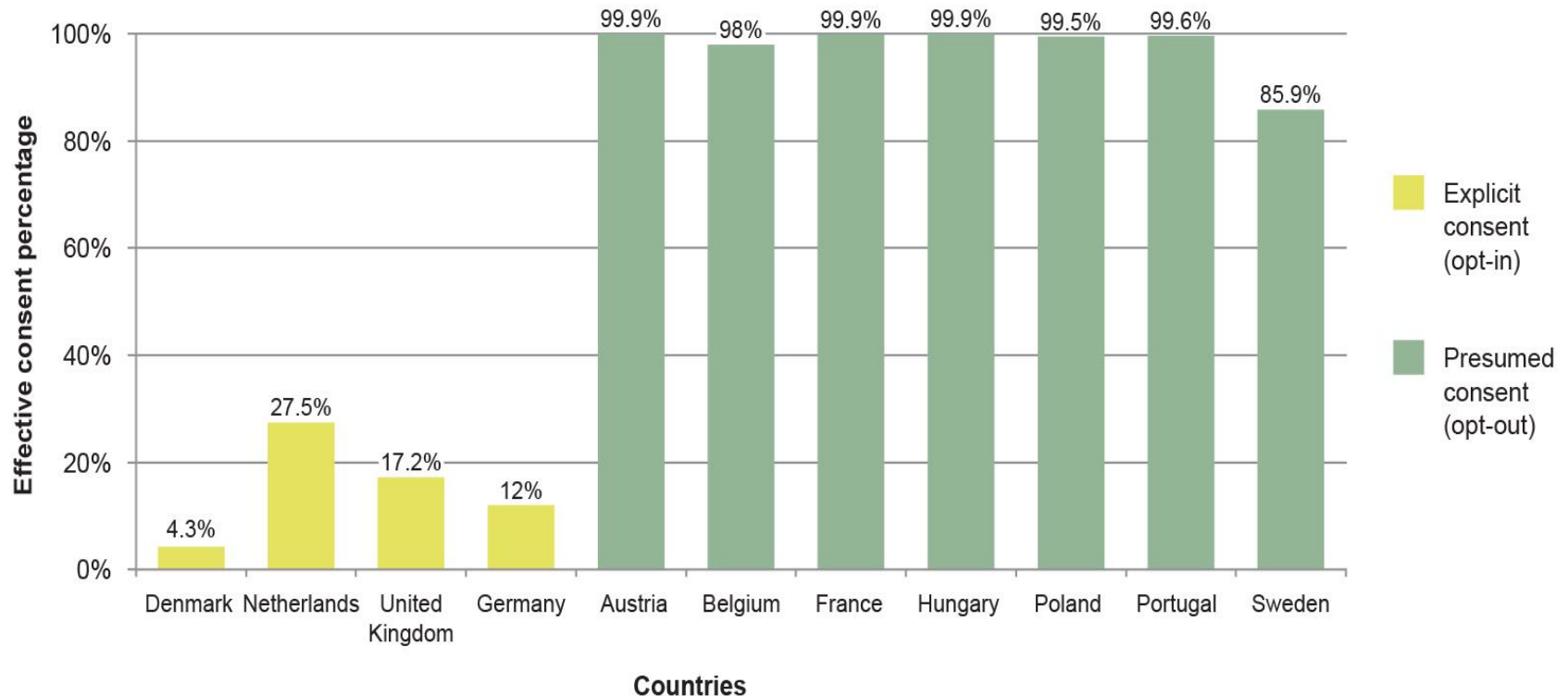
Auto-escalation and targeted solutions

WHAT AFFECTS MEMBER OUTCOMES MOST?

- 1 Whether the member preserves
- 2 Whether the contributions are a meaningful proportion of their salary (and is not reduced by pensionable pay choice)
- 3 When contributions start
- 4 The allocation of contributions between risk benefits vs retirement savings
- 5 Costs
- 6 Long-term asset allocation strategy
- 7 The additional value from fund managers above the long-term asset allocation strategy (alpha)

Defaults affect outcomes

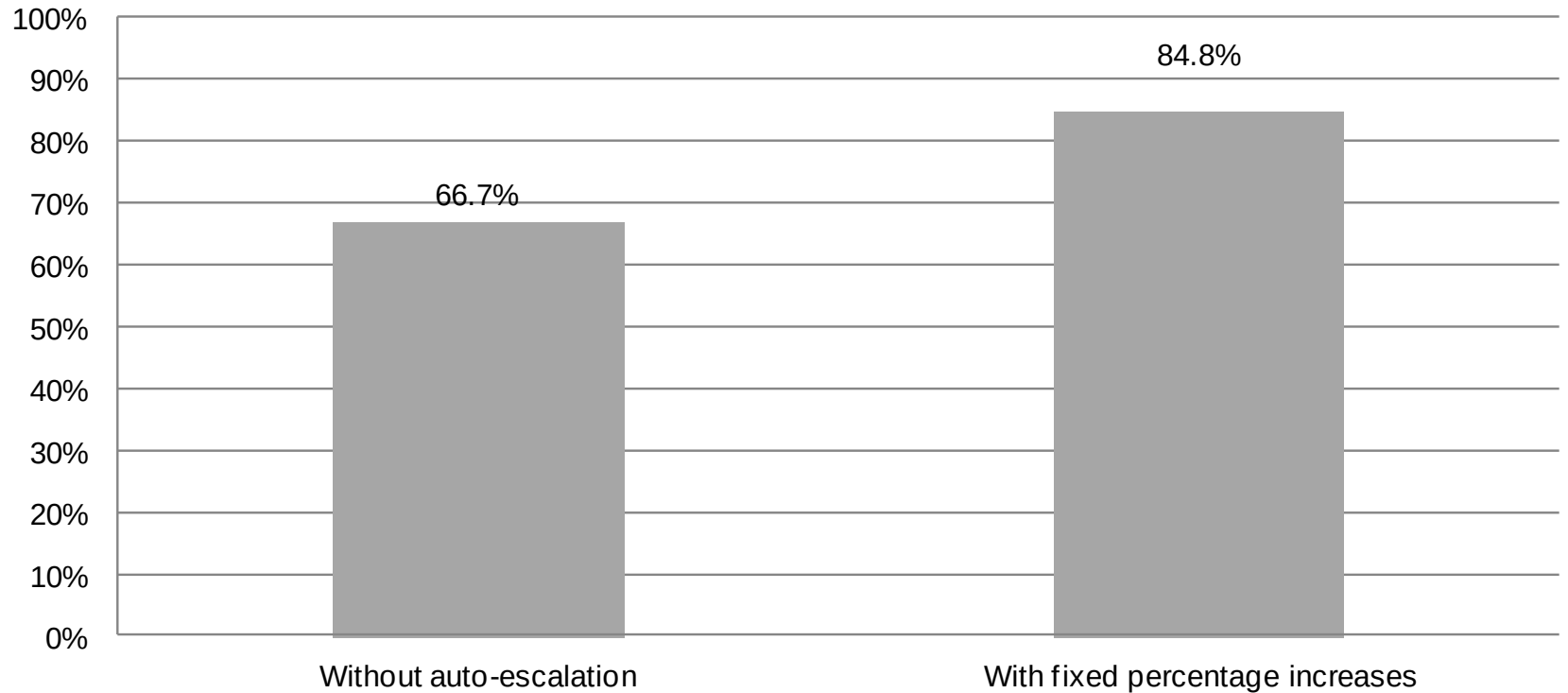
EFFECTIVE CONSENT RATES BY COUNTRY



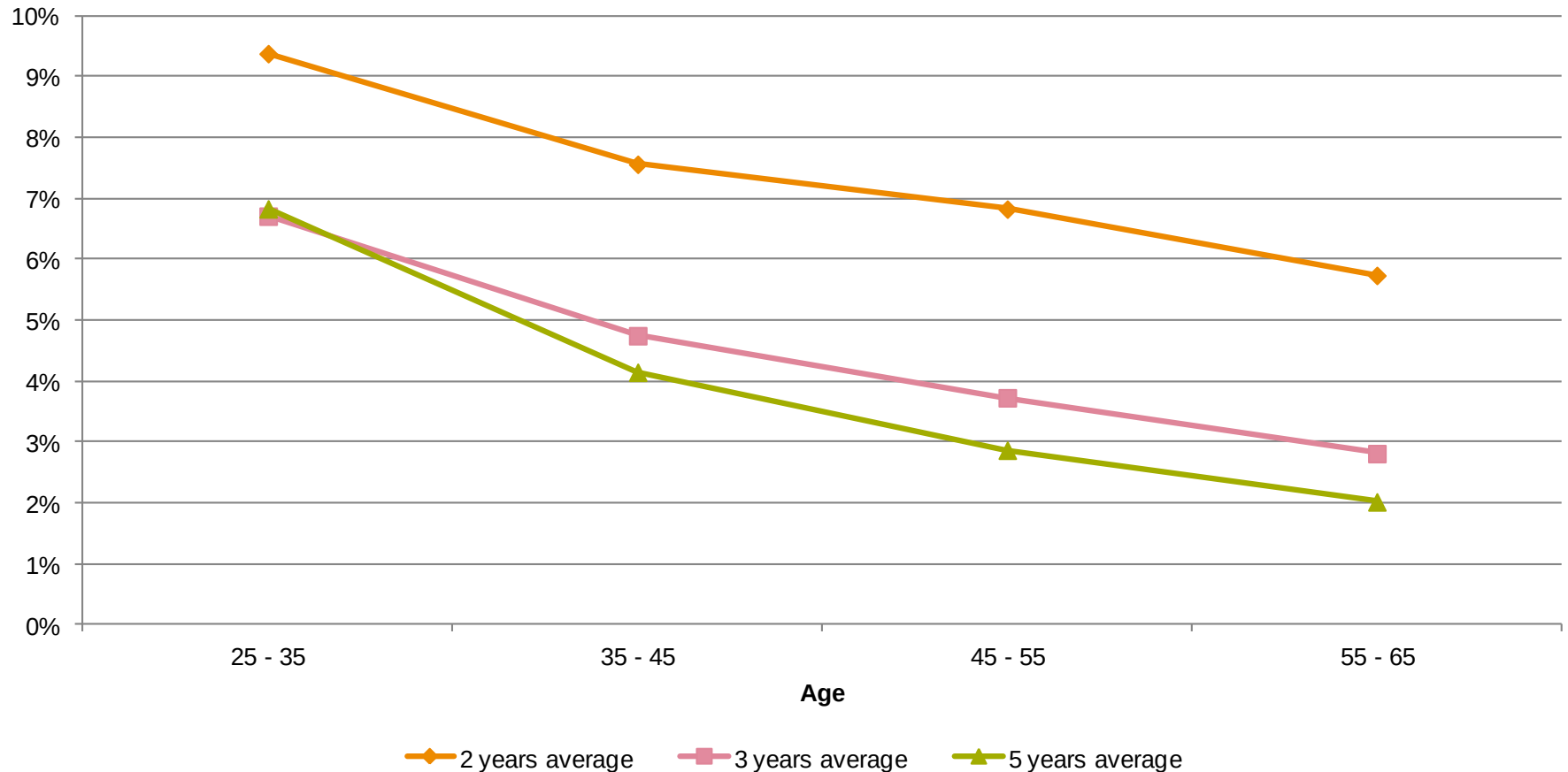
Auto-escalation

- Contributions increase by a fixed percentage each year:
 - 25 year-old new fund member who plans to retire at the age of 65.
 - Employer contribution rate fixed at 10%
 - Member contribution rate initially 7.5%
 - Contributions increase by 1% each year
 - Contributions capped at 27.5% - aligned to tax-deductible limit

PROJECTED RR APPLYING AUTO-ESCALATING CONTRIBUTION RATES



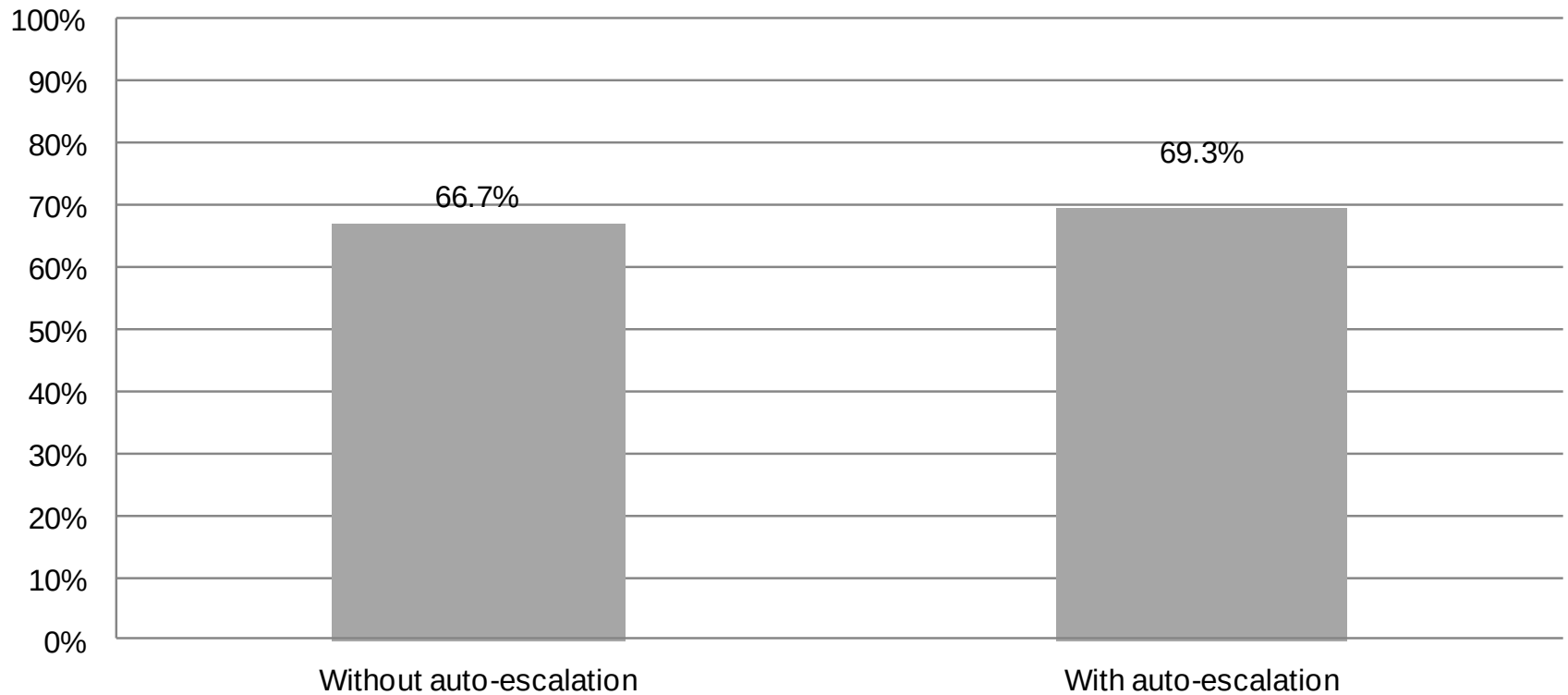
AVERAGE ANNUAL REAL SALARY INCREASE



Auto-escalation

- The SMarT method - Members may find this form of auto-escalation more palatable
- Contribution increases are a percentage of annual salary increases
 - A merit scale is applied
 - Increase is 1% of the annual increase
 - Contribution rate in the year before retirement is 18.6%

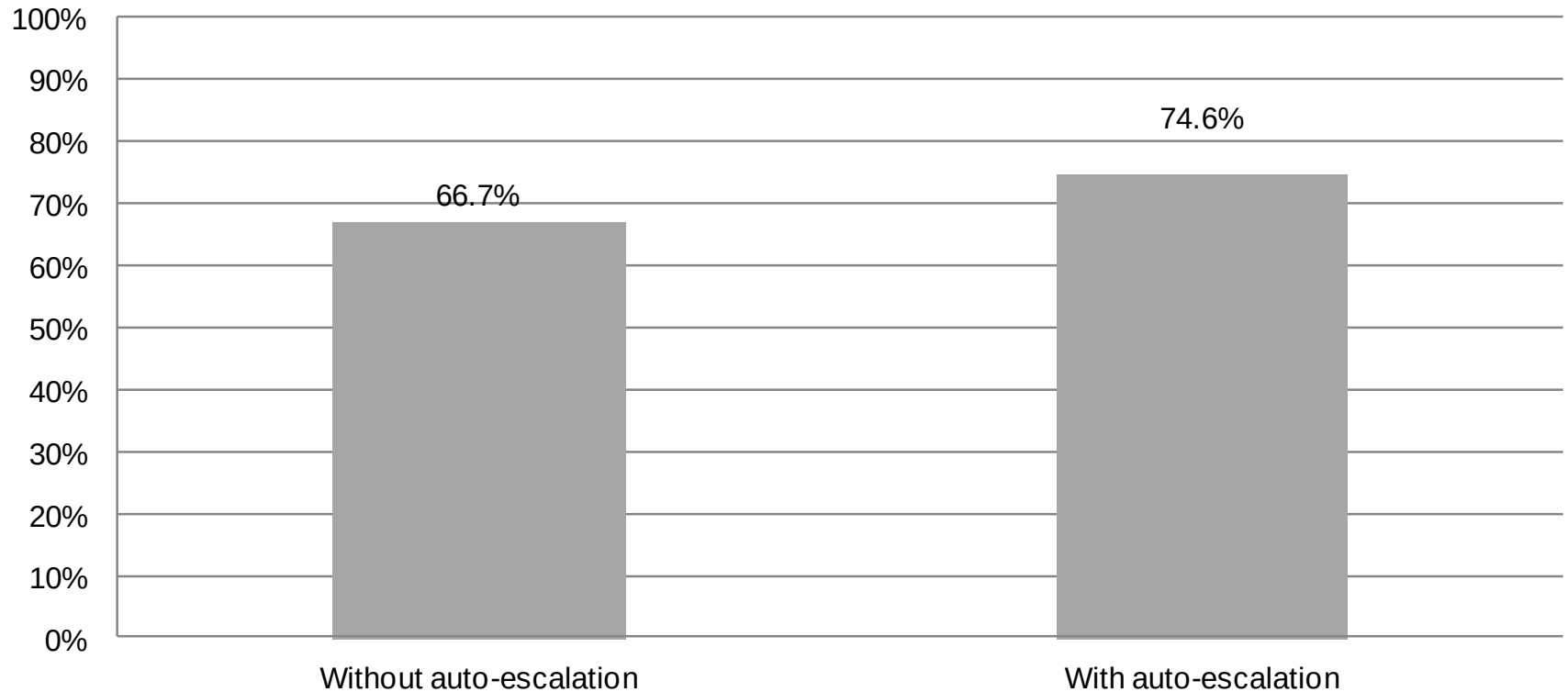
PROJECTED RR APPLYING AUTO-ESCALATING CONTRIBUTION RATES



Auto-escalation

- If contribution increases are 3% of annual salary increases:
 - Contribution rate in the year before retirement is 20.9%

PROJECTED RR APPLYING AUTO-ESCALATING CONTRIBUTION RATES



Auto-escalation – will it work in South Africa?

- The inflation history shown is only for a small subset of the population – aggressive increments will increase the chances of take-home pay falling
- Those with the lowest incomes are least likely to opt out of defaults – education and advice is imperative
- High employee turnover – companies should all use the same form of auto-escalation: one that is based on age attained not duration of service
- Auto-escalation may work well in bargaining council funds

Auto-escalation – will it work in South Africa?

- We need to be wary of:
 - Setting the starting contribution level too low
 - Setting the increment between contribution levels too low
 - Capping the contribution rate at a low level

FINANCIAL EDUCATION AND COMMUNICATION

Engaging members

Findings from a recent meta-analysis



A mere **0.1%** of the
variance in financial
behaviours are as a result of
interventions to improve
financial literacy

Engaging retirement fund members

- 1 TEACHABLE MOMENTS
- 2 JUST-IN-TIME EDUCATION
- 3 UNDERSTANDING BANDWIDTH
- 4 RULES OF THUMB
- 5 DEFAULTS
- 6 SMART DEFAULTS
- 7 TRANSLATE FUTURE INTO PRESENT
- 8 UNDERSTANDING TRADE-OFFS
- 9 THE RIGHT INCENTIVES

Engaging retirement fund members

1 | How do we start a conversation with the individual? The new job

2 | How do we maintain an on-going dialogue? Building the member profile over time to add efficiency and breadth

3 | How do we develop more effective financial decision-making? Trade-off decision-making framework

MONITORING FUND DESIGN

Are we achieving our
goals?

Monitoring fund design

- Any system that is implemented must be monitored
- For retirement funds we need to ask:
 - Is the structure or design capable of delivering the goods?
 - Have we measured what happens at individual level, and do we understand what dynamics inhibit the translation of good concepts in good results?

How important do you believe it is for a DC fund target to set targets on behalf of its members?

- Unequivocally, yes;
- Yes – as long it is communicated appropriately;
- There is too much debate around appropriate targets for individuals for us to advocate their use at fund level
- Only if we change our current thinking about how to set targets
- No

On a scale of 1 to 5 (5 being most important)
How important is it to measure the success of
members in meeting their targets?

- No discernable value
- Some value but too difficult
- Of some value
- Fairly important
- Important



YOUR SETTINGS

Contributions



Savings period

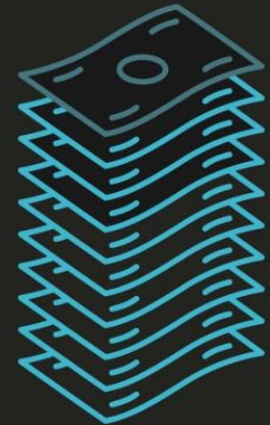
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Investment return



A new member joining now is projected to retire with

94%



of their final salary



Actual

Scenario



LIFEGAUGE STRATEGY TOOL

ABC CORPORATION AS AT 01/03/2014 | PUBLIC SECTOR



Members

15320

3102
9428
2790

RR
56.3
Average
94
New

Member Health



Gender



Age



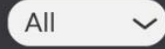
YTR



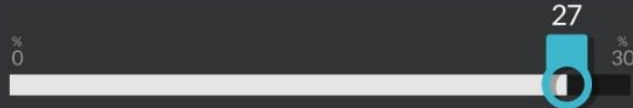
Cntrib %



Salary (k)



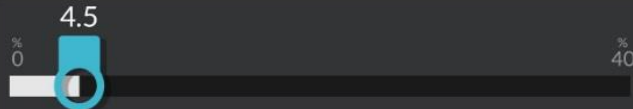
Contributions



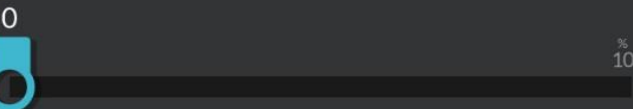
Costs



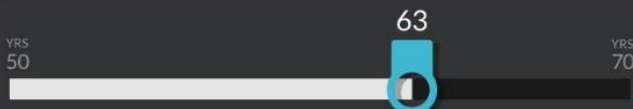
Investment Returns



Fees



Normal Retirement Age



Adverse Events



Retirement distribution

☐ Age ☒ Years to retirement



Actual
Scenario



LIFEGAUGE STRATEGY TOOL

ABC CORPORATION AS AT 01/03/2014 | PUBLIC SECTOR



Members

15320

3102

9428

2790



Member Health



Gender



Age

All

YTR

All

Cntrib %

All

Salary (k)

All



Contributions and Costs

PENSIONABLE PAY



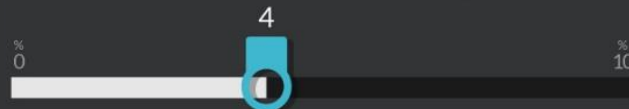
CONTRIBUTION RATE

Absolute Relative



COSTS

Absolute Relative



NET = PENSIONABLE CONTRIBUTION LESS COSTS

ACTUAL 23%

SCENARIO 23%

Investment Returns

Fees

Normal Retirement Age

Adverse Events

Retirement distribution

Age Years to retirement



Actual
Scenario

LIFEGAUGE STRATEGY TOOL

ABC CORPORATION AS AT 01/03/2014 | PUBLIC SECTOR



Members

15320

2179

6428
6713



Member Health



Gender



Age

All

YTR

All

Cntrib %

All

Salary (k)

All

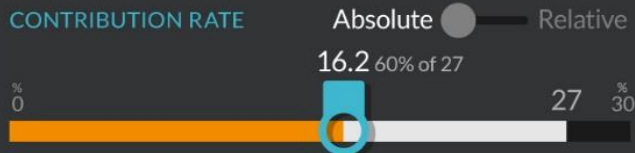


Contributions and Costs

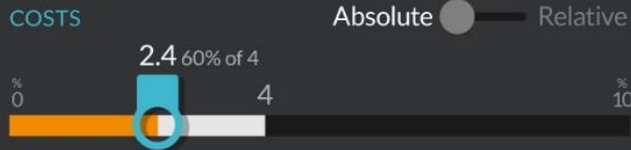
PENSIONABLE PAY



CONTRIBUTION RATE



COSTS



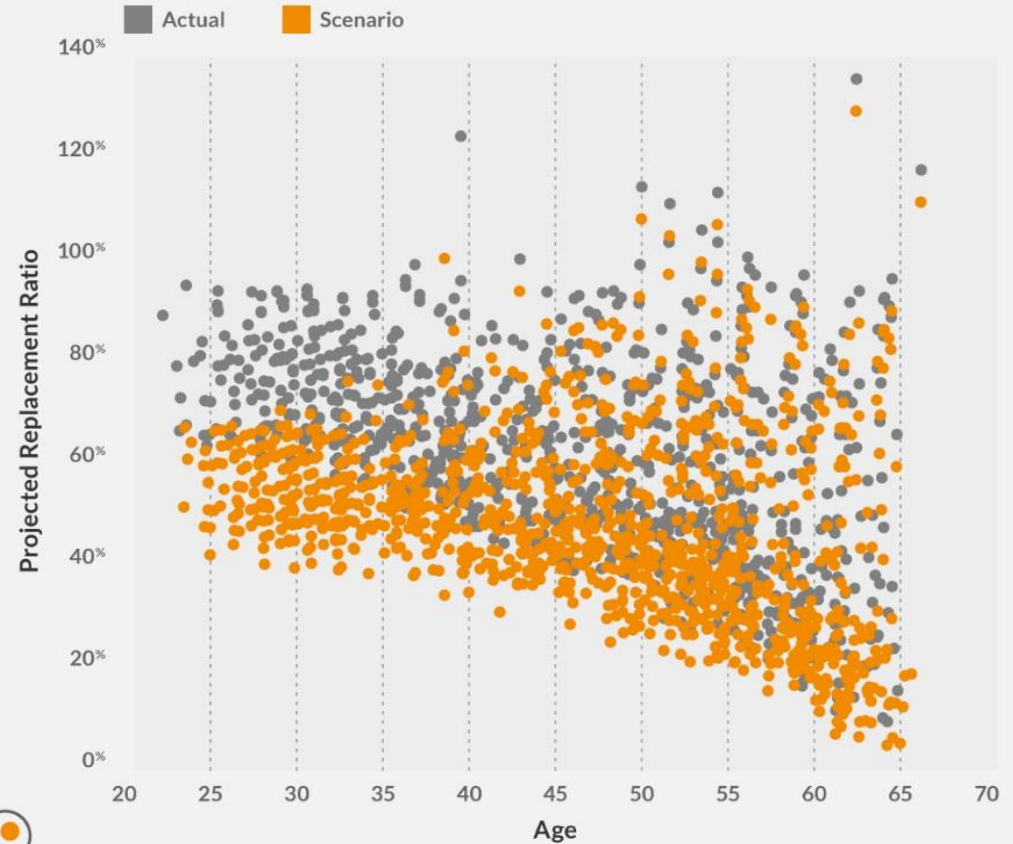
NET = PENSIONABLE CONTRIBUTION LESS COSTS

ACTUAL 23%

SCENARIO 13.8%

Retirement distribution

○ Age ● Years to retirement



Investment Returns >

Fees >

Normal Retirement Age >

Adverse Events >



Actual
Scenario

LIFEGAUGE STRATEGY TOOL

ABC CORPORATION AS AT 01/03/2014 | PUBLIC SECTOR



Members

15320

2179

6428
6713



Member Health



Gender



Age

All

YTR

All

Cntrib %

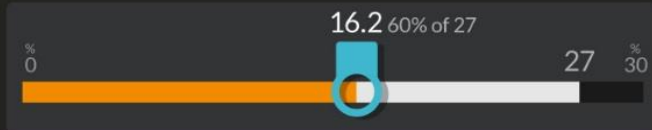
All

Salary (k)

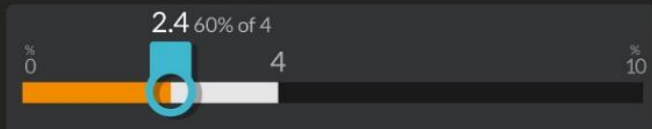
All



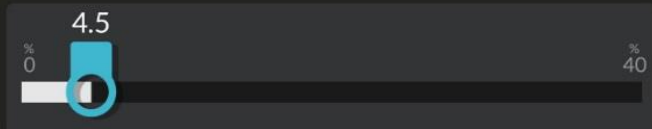
Contributions



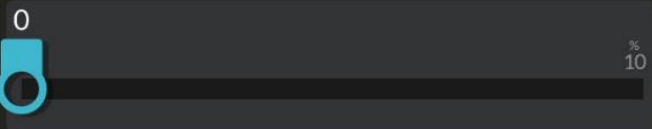
Costs



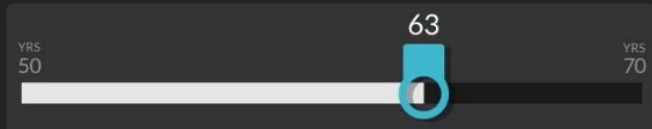
Investment Returns



Fees



Normal Retirement Age

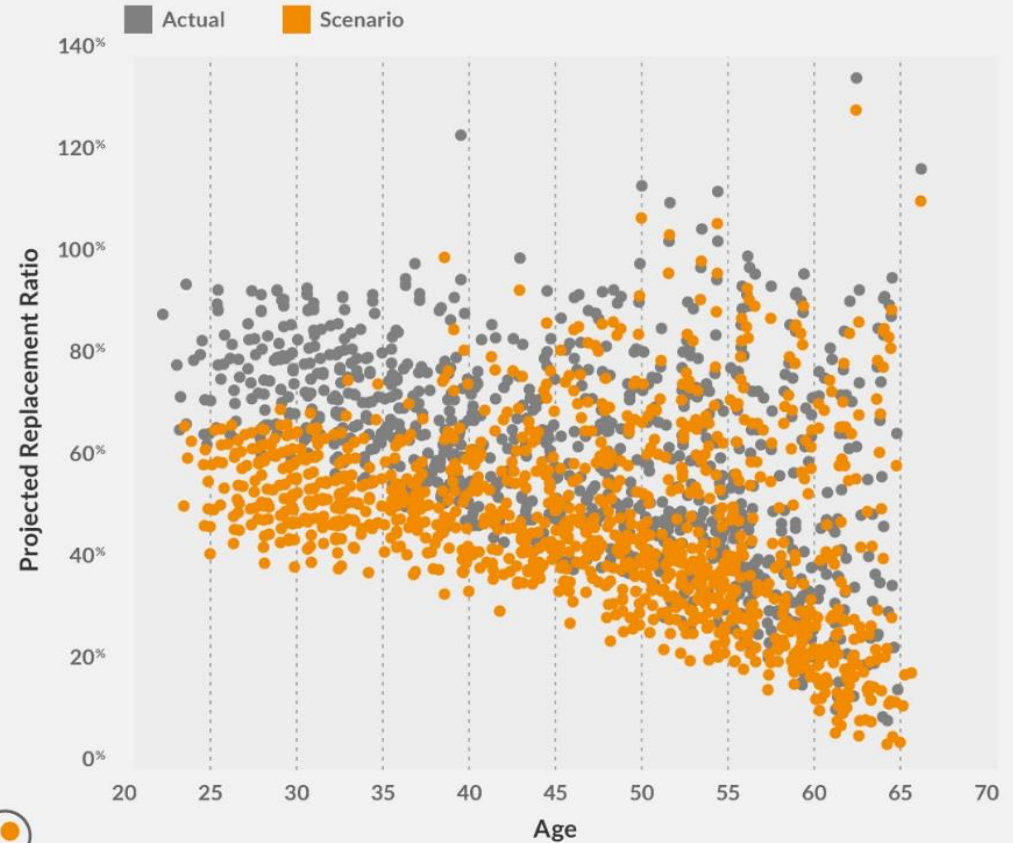


Adverse Events



Retirement distribution

☐ Age ☒ Years to retirement



Actual
Scenario

LIFEGAUGE STRATEGY TOOL

ABC CORPORATION AS AT 01/03/2014 | PUBLIC SECTOR



Members

15320

2915
4133
8272

RR
50.4
Average
61
New

Member Health



Gender



Age

All

YTR

All

Cntrib %

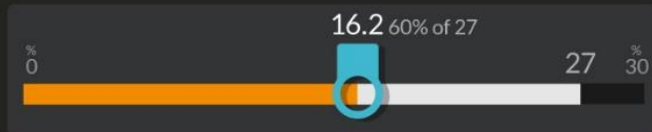
All

Salary (k)

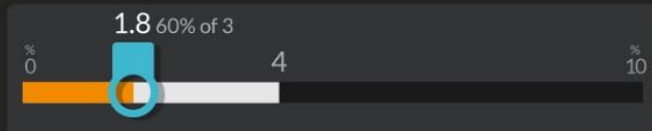
All



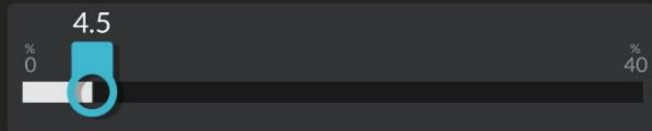
Contributions



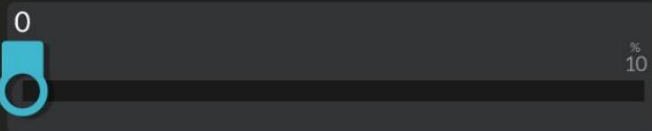
Costs



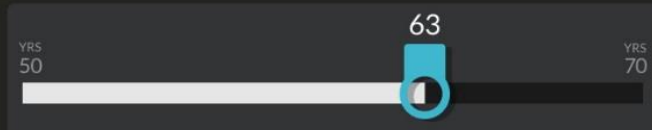
Investment Returns



Fees



Normal Retirement Age

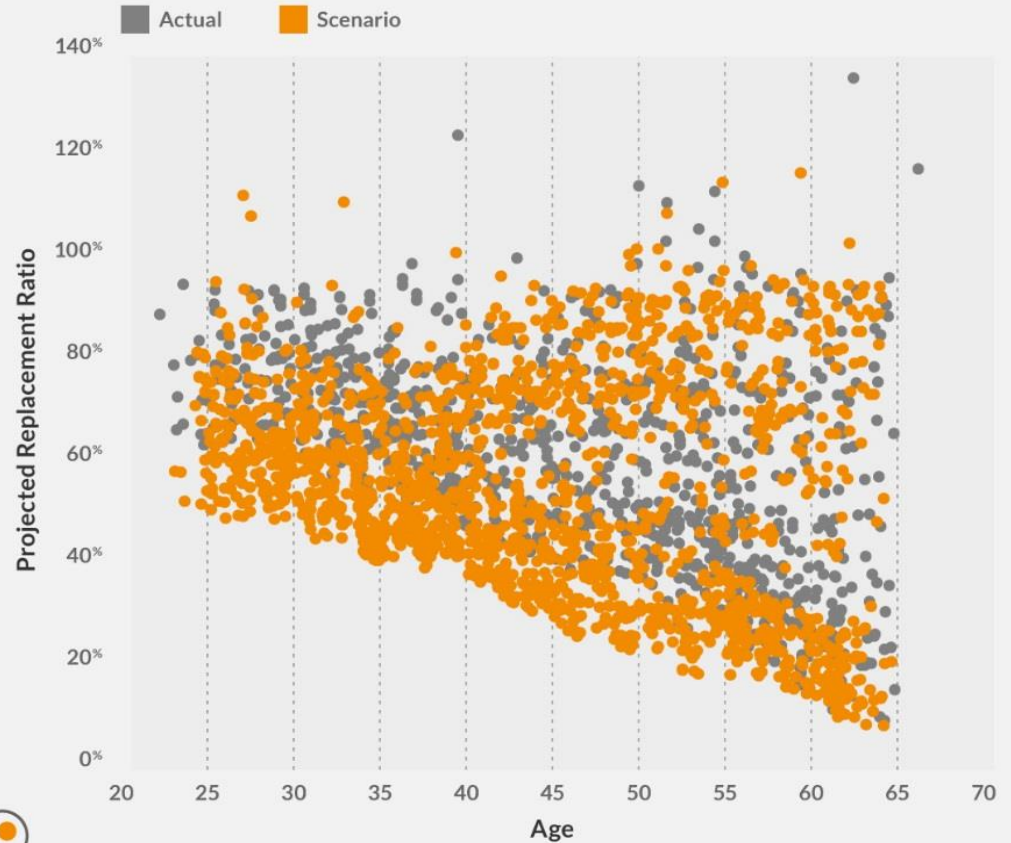


Adverse Events



Retirement distribution

☐ Age ☒ Years to retirement



Actual
Scenario

LIFEGAUGE STRATEGY TOOL

ABC CORPORATION AS AT 01/03/2014 | PUBLIC SECTOR



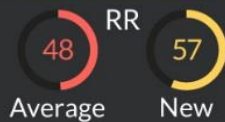
Members

15320

2179

6428

6713



Member Health



Gender



Age



YTR



Cntrib %



Salary (k)



Contributions



Costs



Investment Returns and Fees

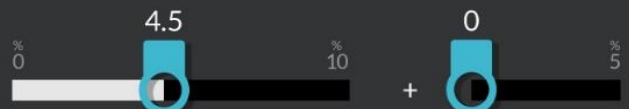


SELECT

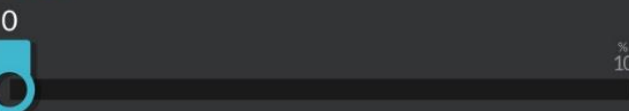
Fixed return ☐ Lifestage curve ☒

REAL RETURN TARGET

α (ALPHA)



FEES



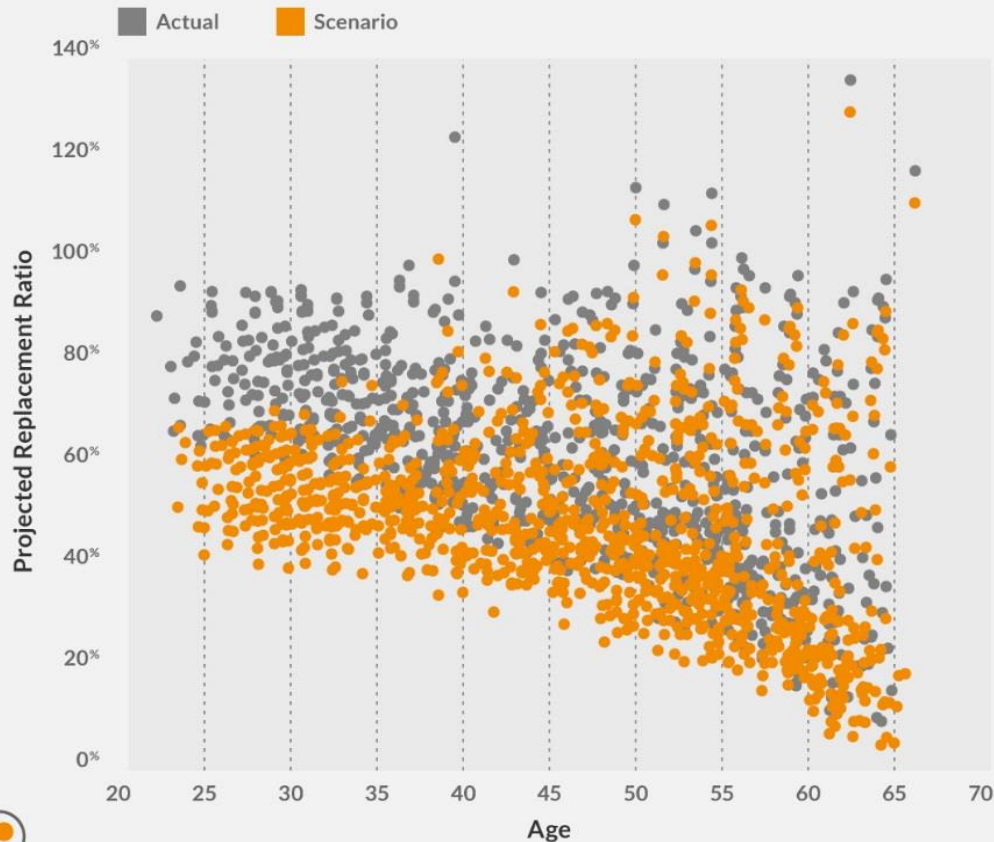
NET = FIXED RETURN PLUS ALPHA LESS FEES

ACTUAL 4.5%

SCENARIO 4.5%

Retirement distribution

☐ Age ☒ Years to retirement



Normal Retirement Age



Adverse Events



Actual
Scenario



LIFEGAUGE STRATEGY TOOL

ABC CORPORATION AS AT 01/03/2014 | PUBLIC SECTOR



Members

15320

3164
7132
5024

RR
52.4
Average
64
New

Member Health



Gender



Age



YTR



Cntrib %



Salary (k)



Contributions



Costs



Investment Returns and Fees



SELECT

Fixed return ☐ Lifestage curve ☒

REAL RETURN TARGET

4.5

10%

+

α (ALPHA)

0.5

5%

FEES

0

10%

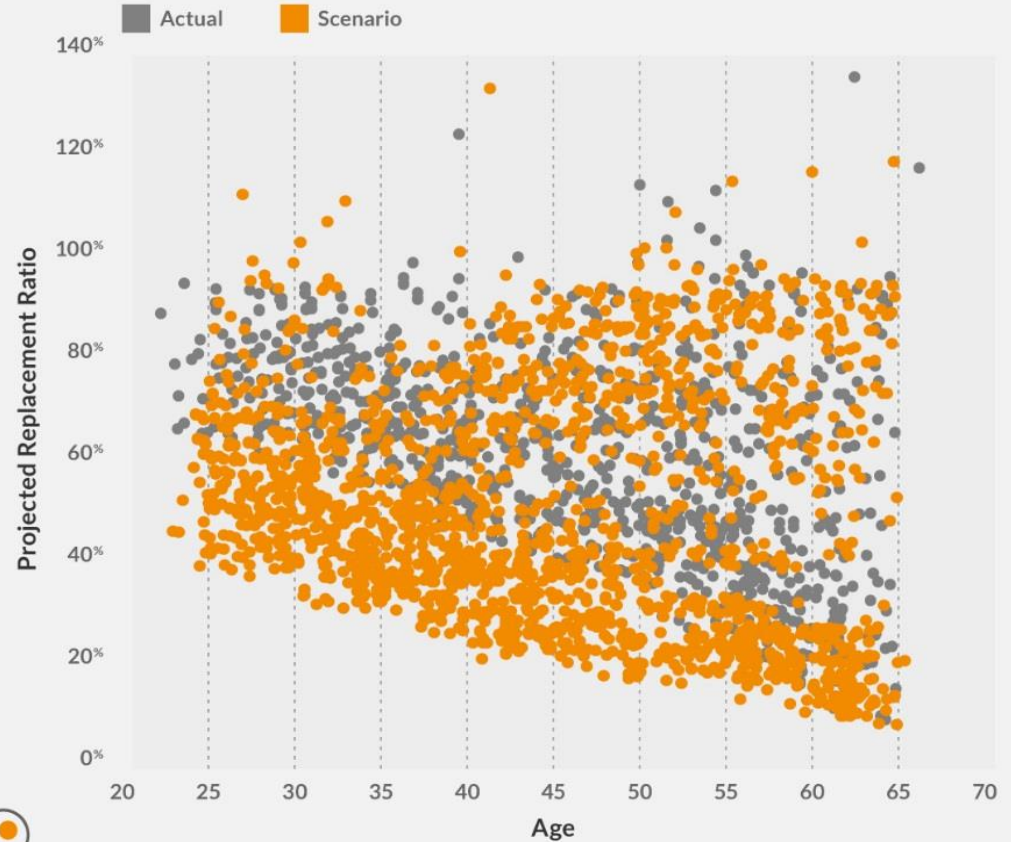
NET = FIXED RETURN PLUS ALPHA LESS FEES

ACTUAL  4.5%

SCENARIO  5%

Retirement distribution

☐ Age ☒ Years to retirement



Normal Retirement Age



Adverse Events



Actual
Scenario ☒



YOUR SETTINGS

Contributions



Savings period

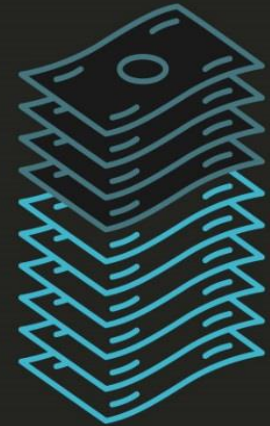
83940414

Investment return



A new member joining now is projected to retire with

57%



of their final salary



Actual
Scenario





YOUR SETTINGS

Contributions



Savings period

83940414

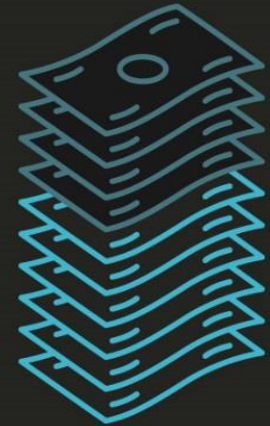
Investment return



Normal retirement age

A new member joining now is projected to retire with

66%



of their final salary

Actual
Scenario



YOUR SETTINGS

Contributions



Savings period

14243444

Investment return



A new member joining
now is projected to
retire with

74%



of their final salary



Actual
Scenario

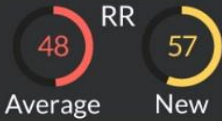




Members

15320

2179
6428
6713



Member Health



Gender



Age



YTR



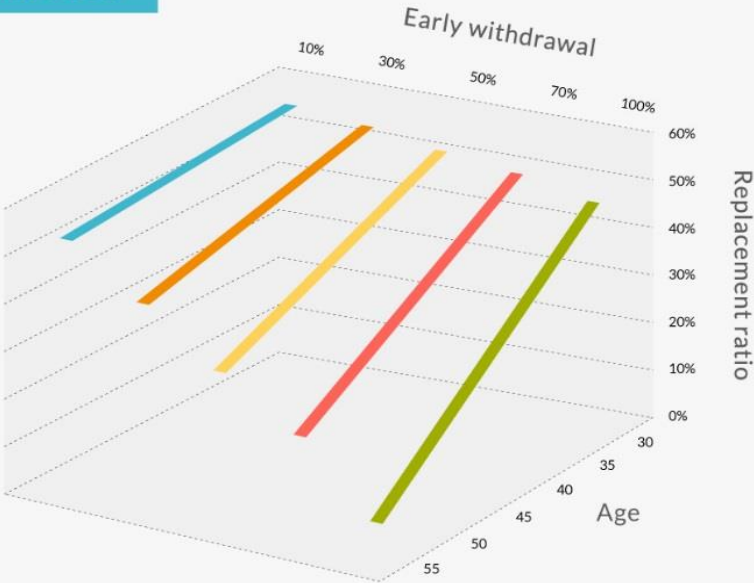
Cntrib %



Salary (k)



PRESERVATION SCENARIOS



		Age 30	Age 35	Age 40	Age 45	Age 50	Age 55
	10%	56%	56%	55%	54%	53%	53%
	30%	54%	52%	49%	47%	45%	43%
	50%	52%	48%	44%	40%	36%	33%
	70%	50%	44%	38%	33%	28%	23%
	100%	47%	39%	30%	22%	15%	9%

Implications for actuaries:

- Re-looking at syllabus to ensure needs-based approach followed
- Ensuring advice and solutions are needs-based and fit-for-purpose
- Application of actuarial techniques to optimising benefit design
- Professionalise guidance for modelling and assumptions
- New role of actuary in DC in assessing suitability and sustainability of design – statutory?