Keeping the benefits but not the guarantees

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LEADERS IN IDEAS AND SOLUTIONS

Pre-retirement

INVEST TO MEET CUSTOMER’S GOALS

HERIOT WATT UNIVERSITY

- Plan today for the future…

- …but which one?

What should most people want in retirement?

An inflation-increasing income for life.

Merton’s idea

- Goal = inflation-increasing income for life.

- Risk = failure to meet goal.

- Align investment strategy with goal.

Merton's idea

How much income in retirement? E.g.

- Target £20,000 p.a.

Merton’s idea

Inflation-indexed:

- income target of £20K p.a.
- minimum income of £10K p.a.

0% chance of <£10K → 25% chance of £10K-£20K → 75% chance of £20K → 0% chance of >£20K

Merton’s idea

What Merton didn’t tell us...

What is the investment strategy?

Example

Buy index-linked life annuity

- £20K p.a. = £600K lump sum at age 65.

25% chance of £0K-£600K → 75% chance of £600K → 0% chance of >£600K

Customer data

Salary £50K.

Retirement age 70.

Current age 35.

Current contribution rate 12% of salary.

Current pension savings £50K.

Target income £20K p.a.

Customer feedback

Contribution rate	Chance of getting £20K p.a.
12%	37%
15%	61%
17%	75%

Why cap the income?

Contribution rate	Chance of getting at least £20K p.a.	
	No cap of £20K	Cap of £20K
12%	35%	37%
15%	54%	61%
17%	65%	75%

Add a minimum income of £10K

Contribution rate	Chance of getting £20K p.a.	
	Min. of £10K	No minimum
12%	25%	37%
15%	57%	61%
17%	74%	75%

Components of strategy

Baseline strategy, and

Long synthetic put to have wealth $\geq$ £300K, and

Short synthetic call to have wealth $\leq$ £600K.

Summary so far

- Customer goals drive the investment strategy.
- Restrict high income, to offset the cost of low income protection.
- So far, pre-retirement strategy.

Post-retirement

HIGHER INCOME THROUGH MORTALITY POOLING

The annuity puzzle

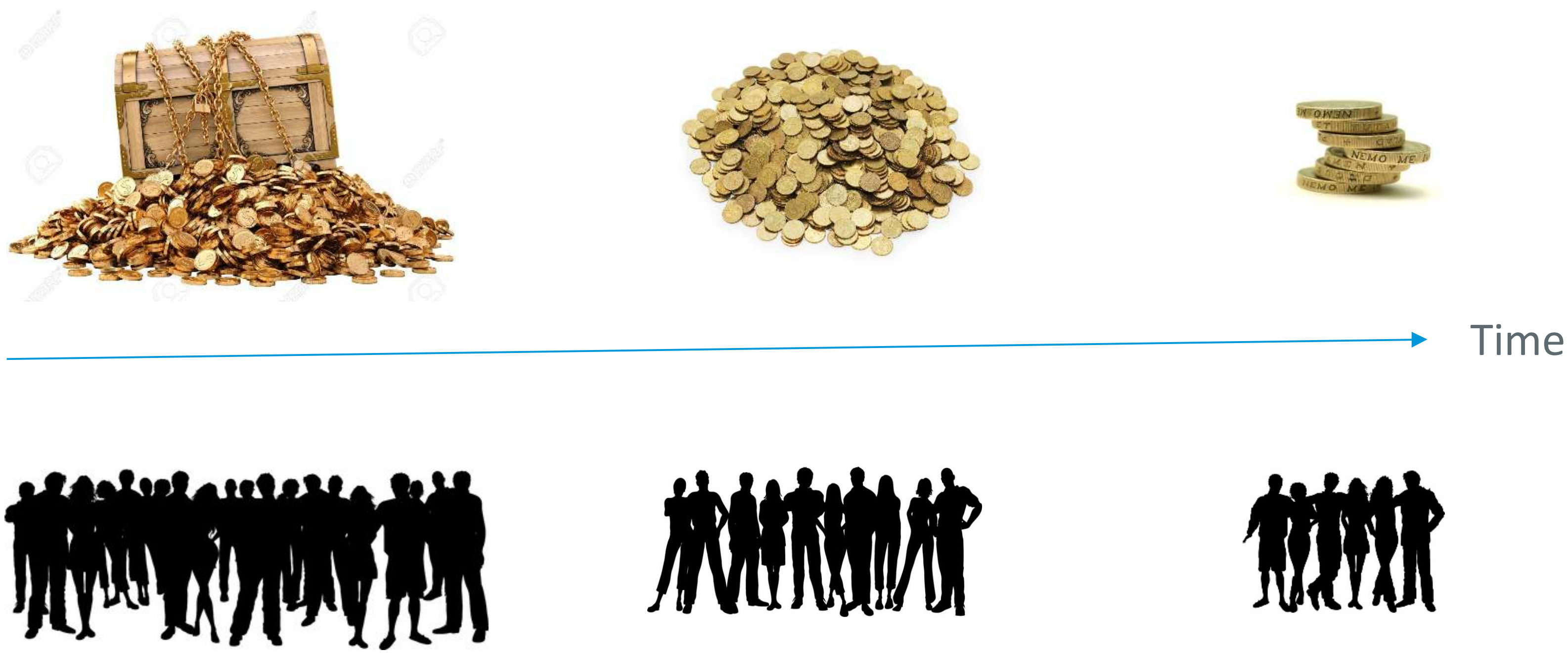
Why should people buy life annuities?

The annuity puzzle

Why don’t they?

- Communication
- Lack of flexibility
- Irrevocable decision
- Lack of trust
- …

Annuities



Idea: split investment from mortality

- Ring fence each customer's assets.

- Estimate each customer's probability of dying over the next month.

Customer's exposure-to-risk	=	Value of customer's assets	x	Probability of customer's death

Idea: split investment from mortality

- Mortality credit paid at the end of the month

$$\text{Customer's mortality credit} = \frac{\text{Customer exposure-to-risk}}{\text{Total exposure-to-risk}} \times \text{Asset value of those who died over the month}$$

- Survivors can continue to the next month.

Idea: split investment from mortality

Can operate like a life annuity

Key differences:

- ‘Annuity premium’ paid upon death,
- More flexible income withdrawal,
- Mortality mis-estimation risks borne by customers.

Why might it be attractive?

- Increase returns in low-interest environment.
- Risk and reward can be understood.
- Asset rich, cash poor
  - 2.7 million single pensioners own their home

What are the drawbacks?

- Anti-selection risk
- Estimating mortality
- Mortality credits likely to be ‘lumpy’

Summary so far

- Keep the benefits of a life annuity
- Eliminate/reduce guarantees.
- Provide a higher income in retirement.

Conclusion

- Customer goals drive the strategy.
- Keep benefits, remove guarantees.
- Lower costs.

Bibliography

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