Spend More Today Safely: Using Behavioural Economics to Improve Retirement Expenditure Decisions

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Behavioural economics …

- Behavioural economics combines economics, finance, psychology and sociology
- Standard economic theory fails to take human behaviour into account
- Richard Thaler and Cass Sunstein[1] define two types of consumers:
  - ‘Econs’ who are highly rational consumers
  - ‘Humans’ who are subject to behavioural traits that limit their ability to implement their intended financial plans
- Thaler and Sunstein believe that few people are “Econs”
- Most of us are “Humans” and we need “nudges”

[1] *Nudge: Improving Decisions about Health, Wealth and Happiness* (Richard Thaler and Cass Sunstein, published by Yale University Press in 2008)

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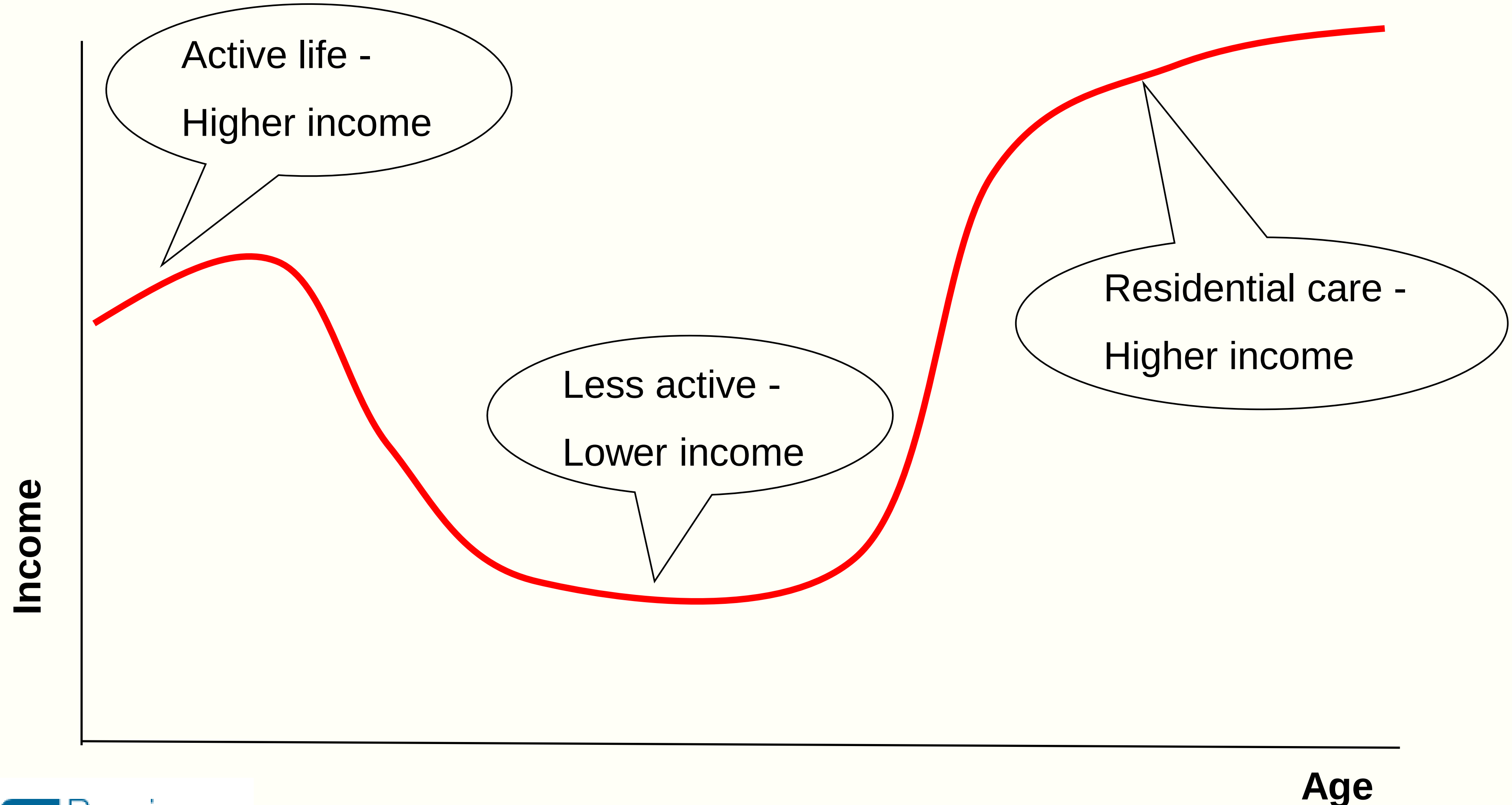
Outline of presentation

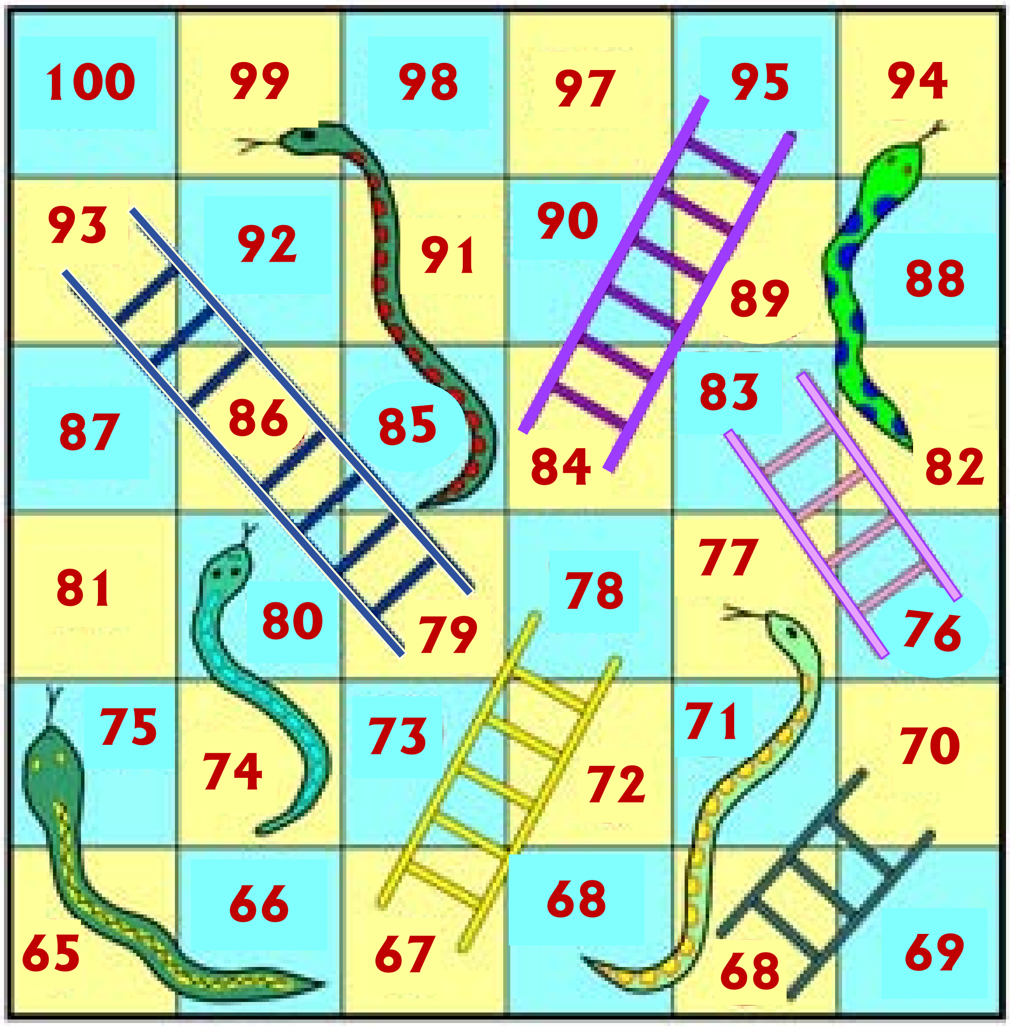
- Needs, risks and financial resources
- Retirement income products
- Optimal use of products
- Behavioural barriers
- Choice architecture and nudges
- Conclusions

Needs, Risks and Financial Resources

Income needs in retirement are not smooth or certain



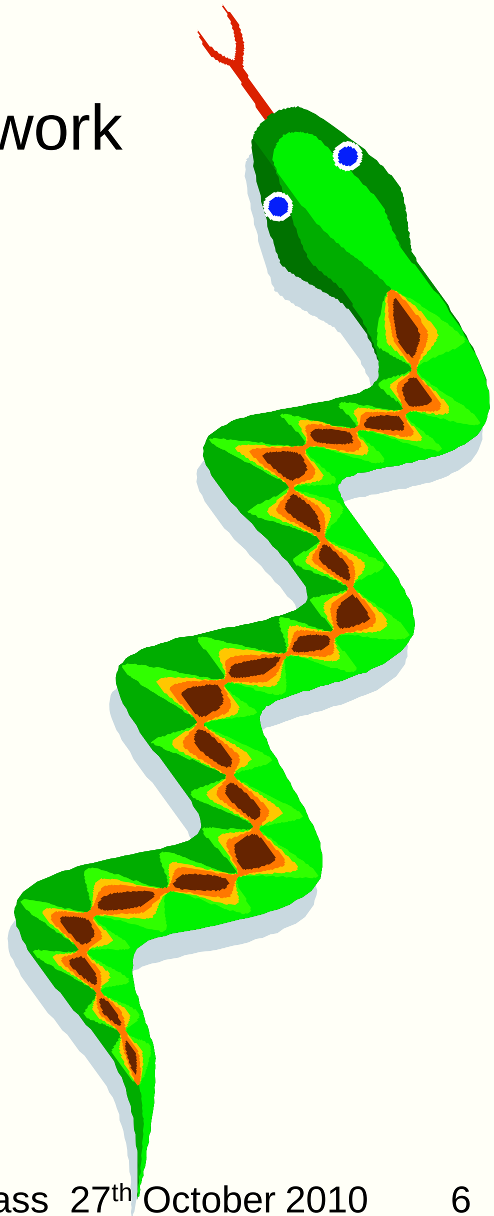
Living through retirement can be a bit like snakes and ladders …



- There are many events that can impact even a well structured retirement income plan
- Many are unpredictable and essentially random or at least the time of their occurrence is random

There are many snakes …

- Loss of or inability to find post-retirement work
- Poor investment returns
- Periods of high inflation
- Changes in taxation and benefit rules
- Failure of private pensions
- Unexpected needs of dependants
- Divorce
- Ill health
- Death of a spouse
- Funding for long-term care



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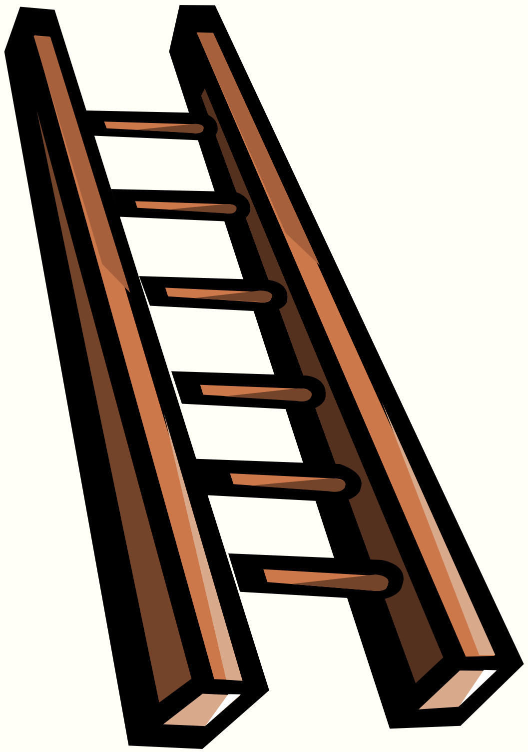
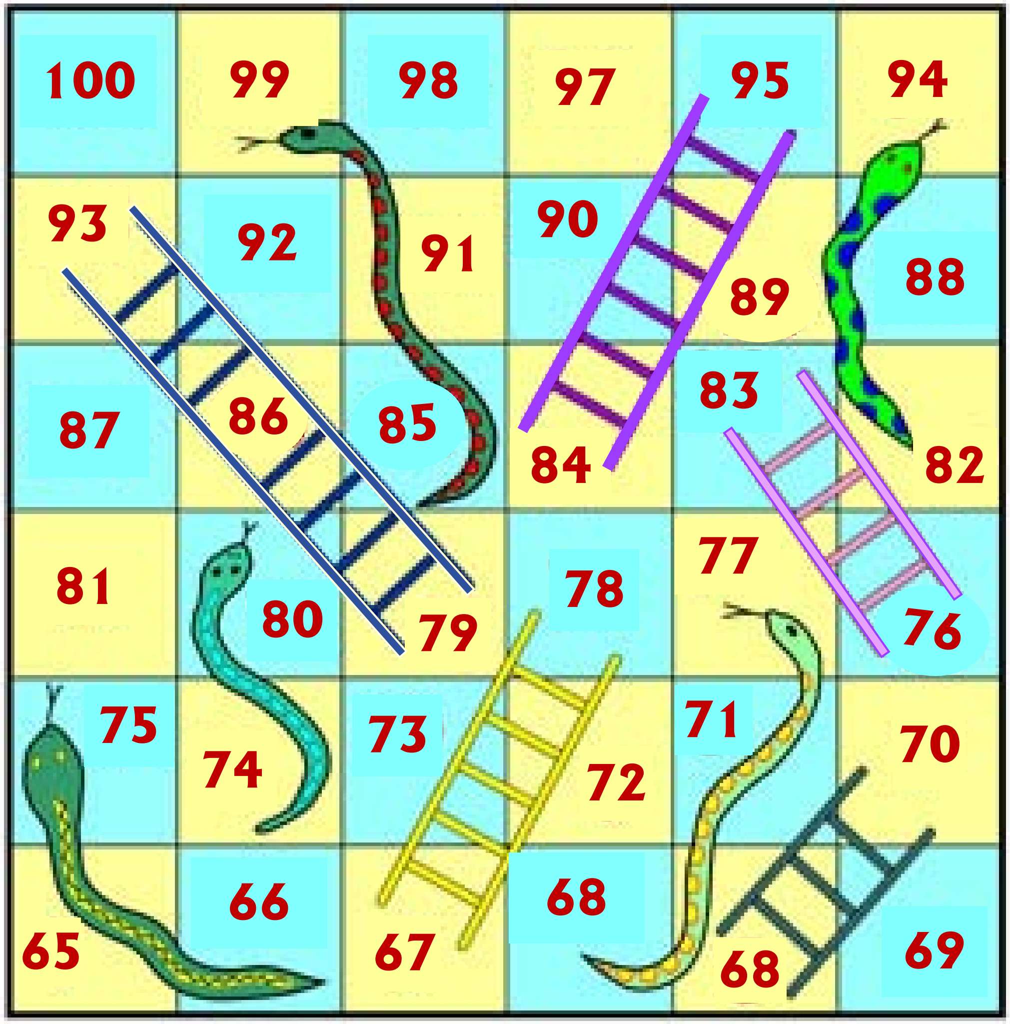
Regrettably there are fewer ladders …

- Part-time working
- State benefits and allowances
- Inheritance from elderly parents
- Lower inflation
- Higher investment returns
- Marriage
- Opportunity to use housing equity



The analogy to a snakes and ladders game is not quite right …



- Snakes and ladders is essentially a game of chance with limited tactical or strategic options
- There is limited opportunity to mitigate against the impact of hitting a snake
- HOWEVER pensioners can be helped to mitigate the impact of the shocks
- AND in real life sadly you can't hit a snake at age 99 and revert back to age 85!

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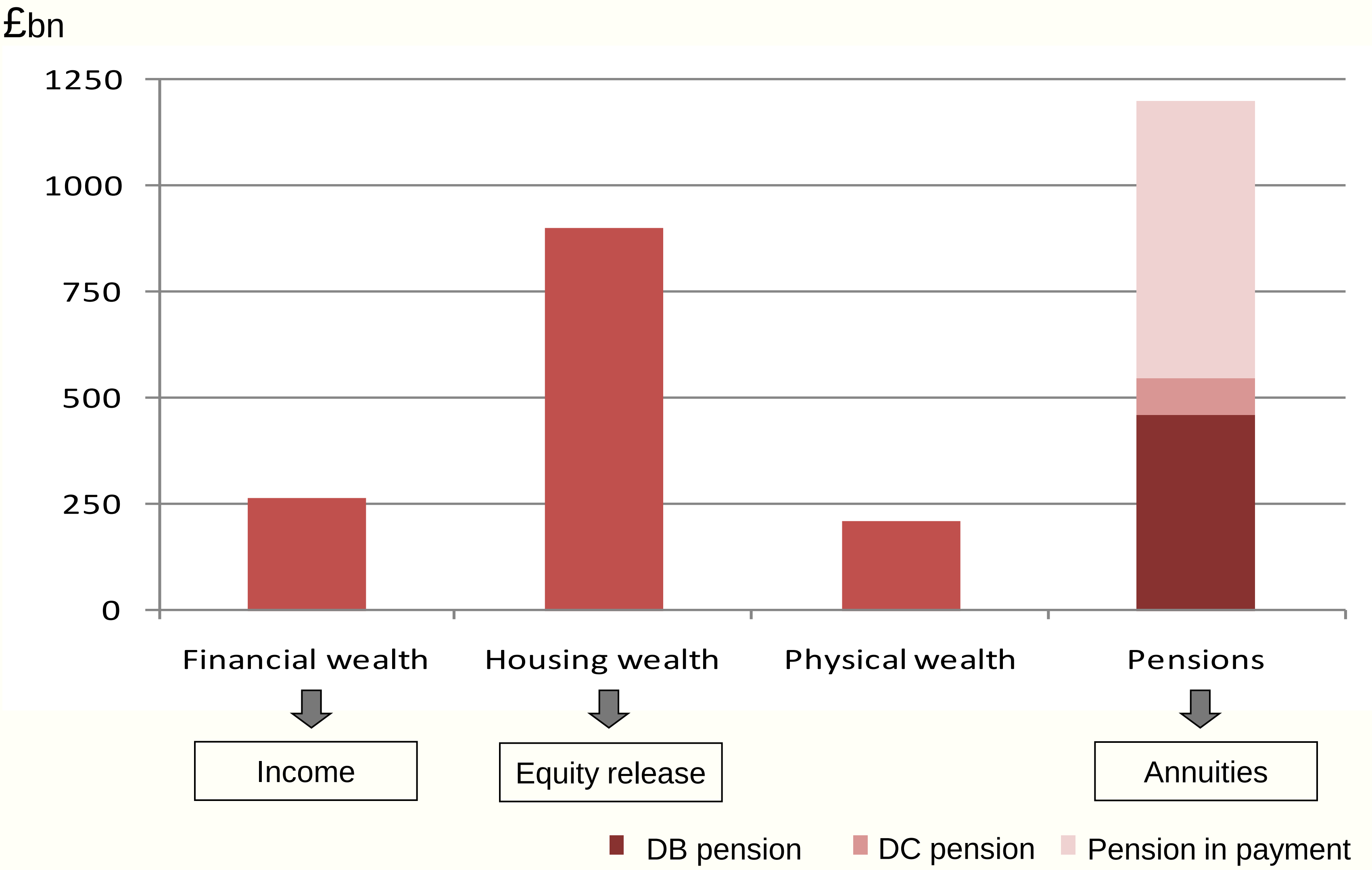
Total wealth for ages 55 to 64 in 2005



Source: Wealth and Assets Survey 2006-2008, Office for National Statistics

Retiree segmentation 50+ pre-retirement

- **Low Income and Wealth**
  - 3 million (35%)
  - Net income below £10,000
  - Mean financial wealth £2,200
- **Mass Market**
  - 4 million (45%)
  - Net income between £10,000 and £30,000
  - Mean financial wealth £13,300
- **Mass Affluent and High Net Wealth**
  - 1.8 million (20%)
  - Net income above £30,000
  - Mean financial wealth £71,400

Source: Analysis of FSA Baseline Survey of Financial Capability (2006) by Jackie Wells

Retirement Income Products

Products considered

DC income products:

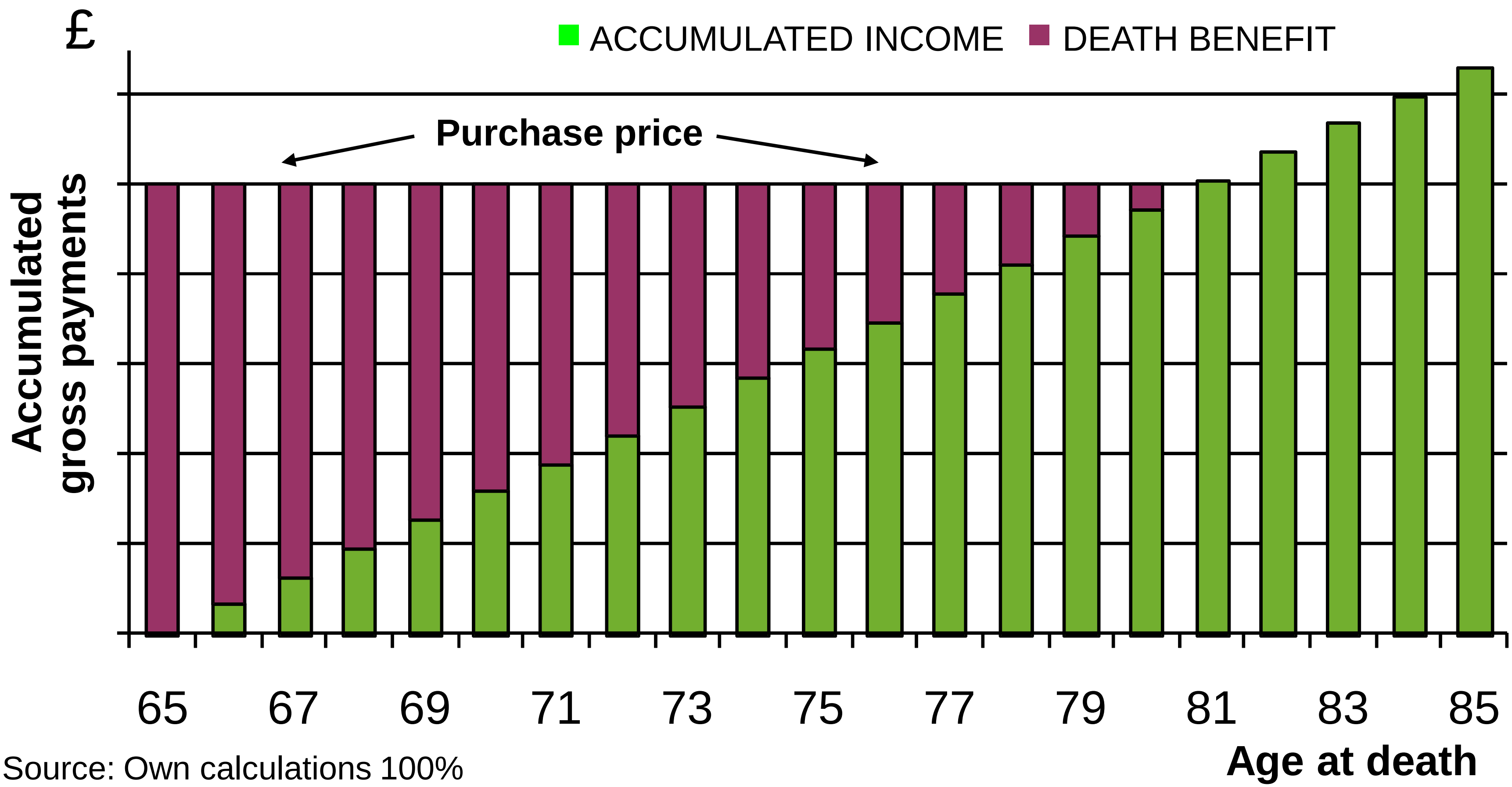
- Conventional annuities
- Income drawdown
- Investment-linked annuities
- Variable annuities
- Limited period annuities

Non-pensions products:

- Cash and guaranteed bonds
- Life bonds and variable annuities
- PLAs and immediate-needs annuities
- Property
- More specialist investments

Death benefits under a money-back annuity

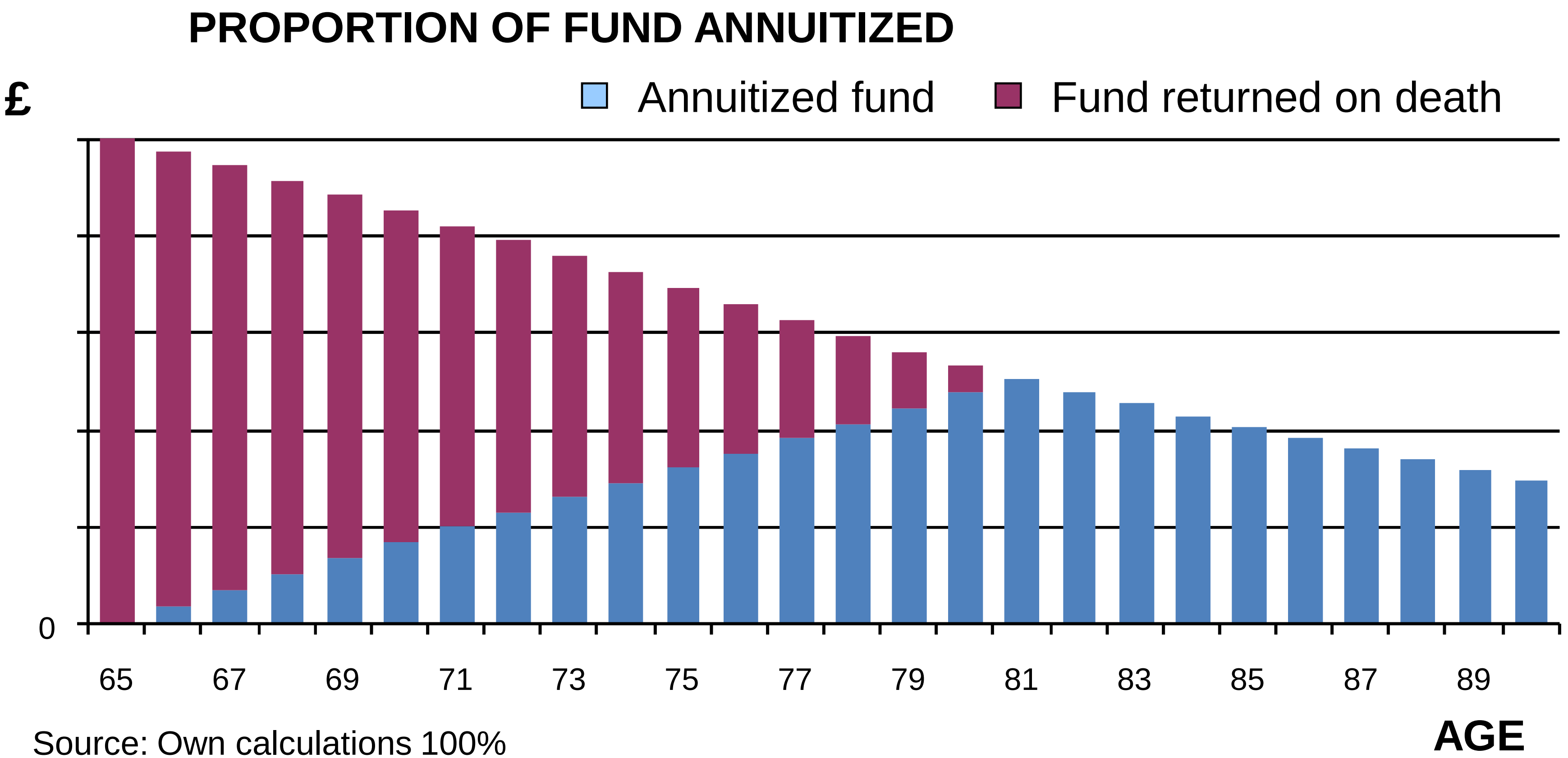
On death any excess of the original purchase price over the gross annuity payments already received is returned to the annuitant's estate



Source: Own calculations 100% PNMA00 2010 plus improvements in-line with CMI_2009_M [1.00%]

Money-back annuities phase full annuitization

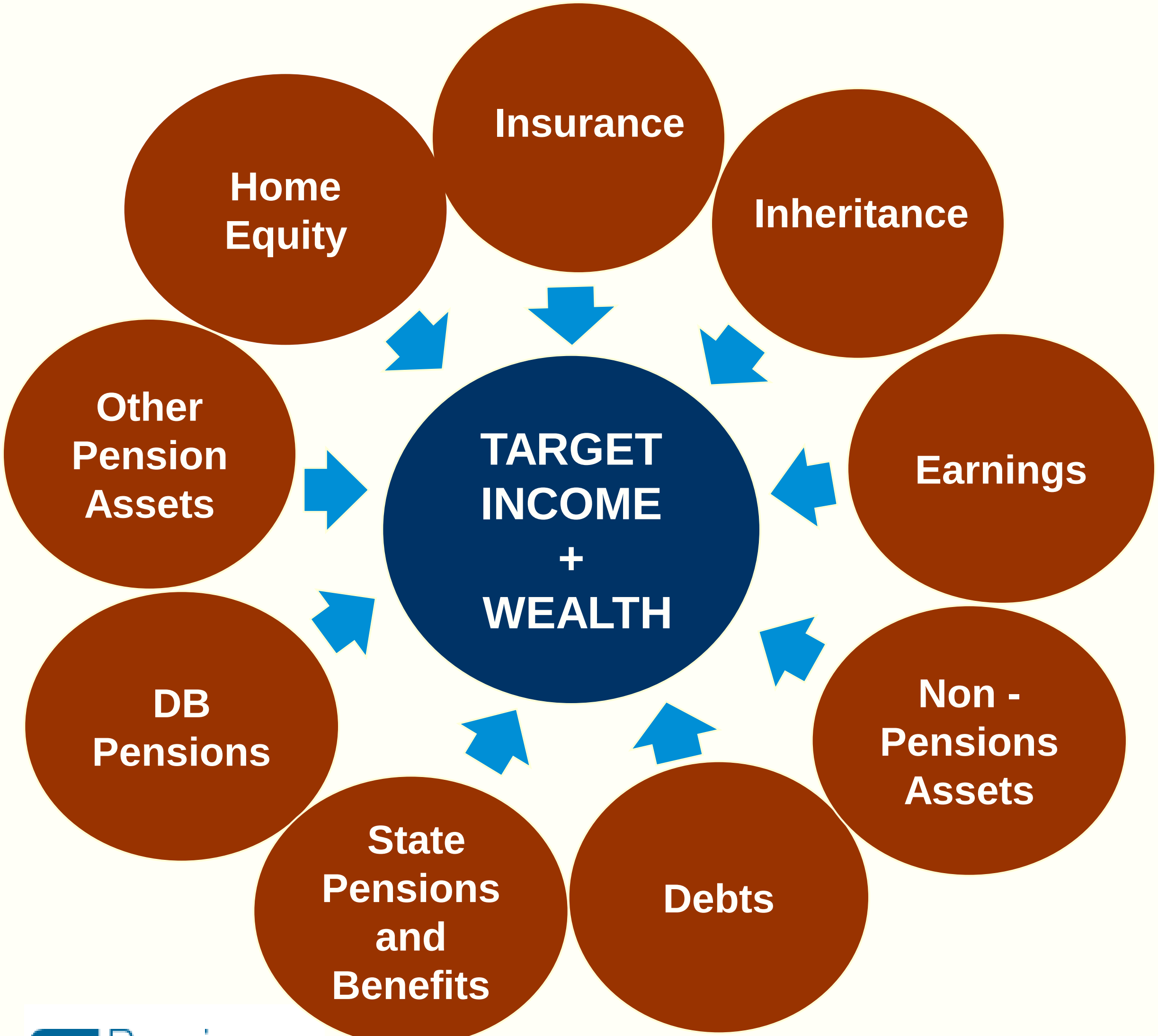
Money-back annuities allow annuitization to increase gradually over the early years of the contract



Source: Own calculations 100% PNMA00 2010 plus improvements in-line with CMI_2009_M [1.00%]

Optimal Use of Products

Optimal retirement income planning



Successful retirement income planning
=
Ensuring a dependable post-tax income stream for life
… while preserving as much accumulated wealth as possible

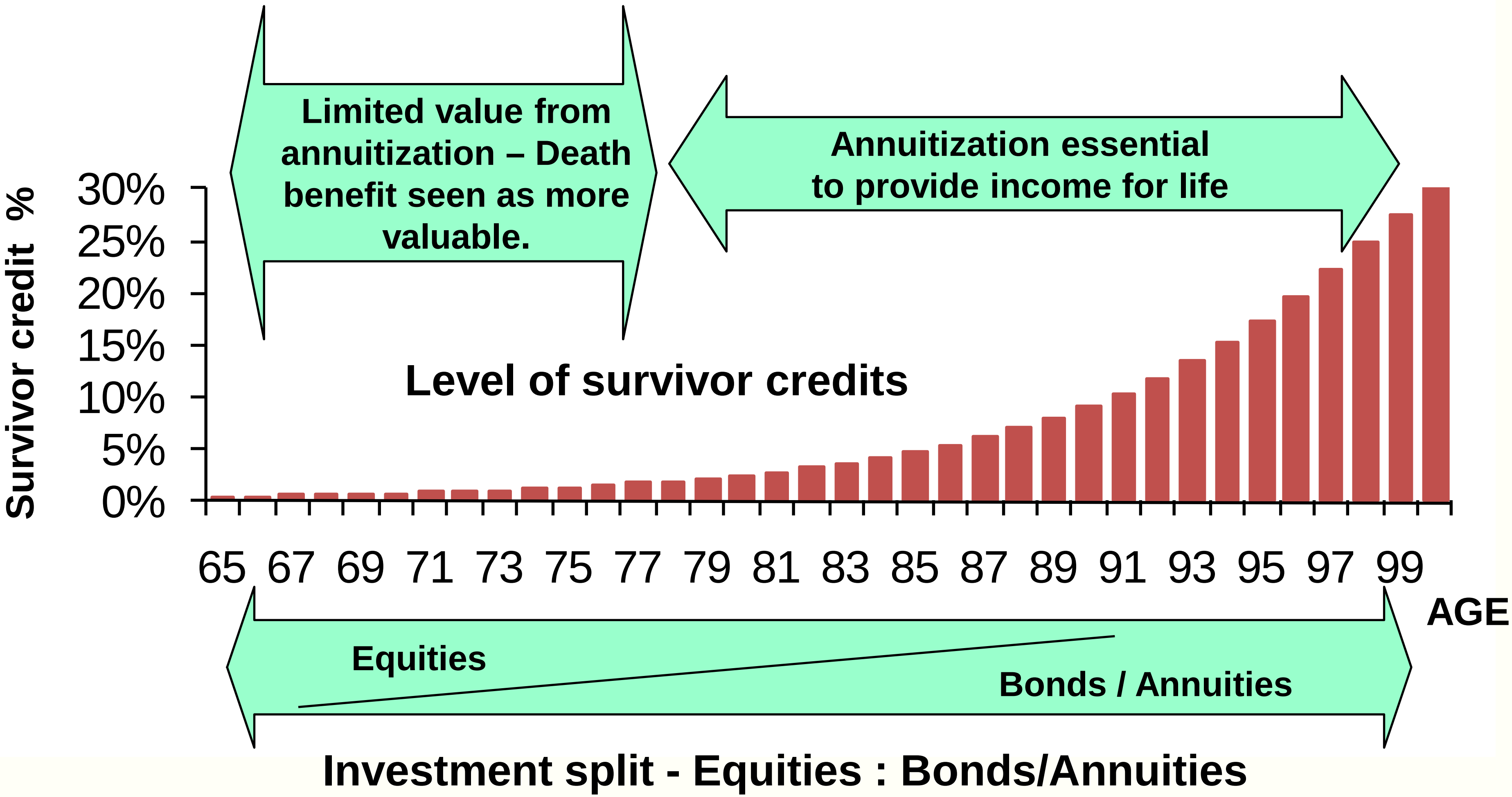
Retirement income planning is inevitably about trade offs

Personal circumstances will influence the right decisions for an individual

- Income and expenditure today **V** Income and expenditure later
- Higher income and expenditure **V** Higher inheritance
- Protecting against future inflation **V** Higher immediate income
- More investment risk **V** More certainty
- Buying longevity insurance **V** Taking risk

Key option is the trade off between death benefit and income

It is not a question of IF but WHEN pensioners should annuitize



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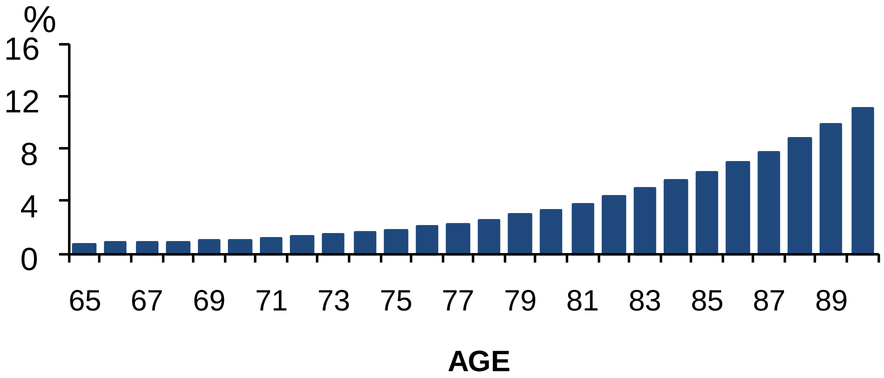
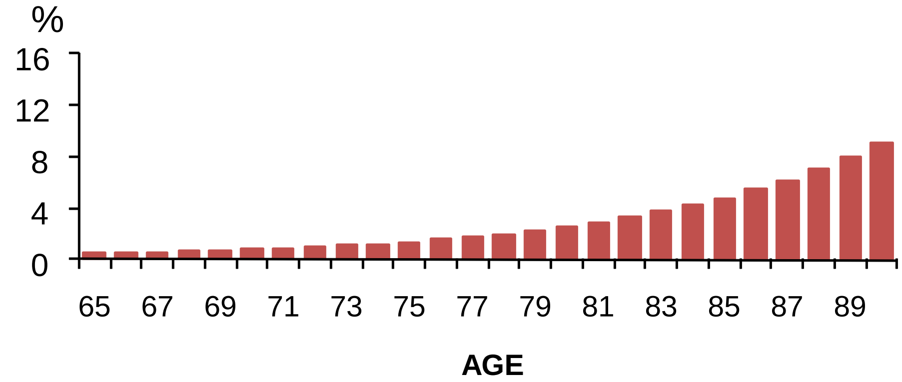
Source: Own analysis; 100% PNMA00 2010 plus improvements in-line with CMI_2009_M [1.00%];
Survivor credit = $q_x / (1 - q_x)$

Optimal age to annuitize is later for females and couples

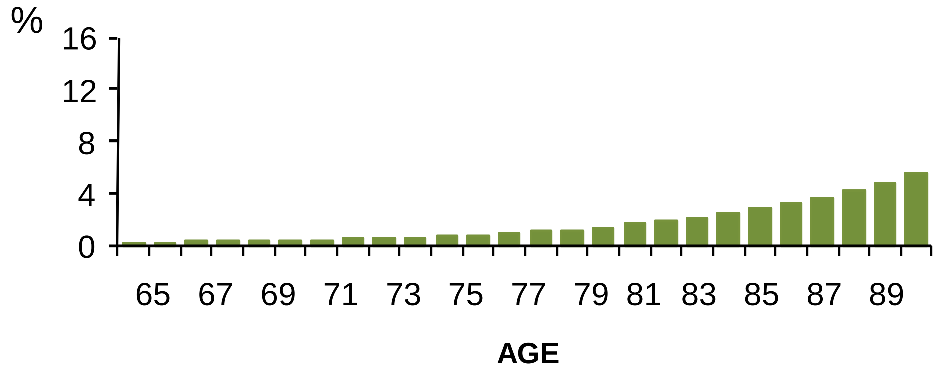
Survivor credit
Male life aged 65



Survivor credit
Female life aged 65



Survivor credit - Joint lives aged 65



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Source: 100% PNMA00 2010 plus improvements in-line with CMI_2009_M [1.00%];
Survivor credit = q_x / (1-q_x)

An annuity is the best option for most of the mass market …

- Most pensioners have limited means
- Mass market households are likely to have to accept a relatively simple strategy with default options
- Their primary focus will be on maximizing retirement income
- Level annuity may be appropriate given size of fund, earnings+ inflation protection of state benefits and shape of the income need curve
- They are likely to have to rely on the state and any housing equity for providing for their health care and other retirement contingencies
- Bequests - mainly in the form of residual housing equity - are typically left more by chance

Optimization for the mass affluent is very complex

- Very difficult task to optimize the controlled run down of a pensioner’s assets
- Pensioners in their 60s looking forward to retirement of 20 years or more
- Decumulation investment strategy far more complex than accumulation
- Mass affluent need to take account of inflation risk
- Pensioners have varying needs and face many risks
- Optimal solutions are likely to differ

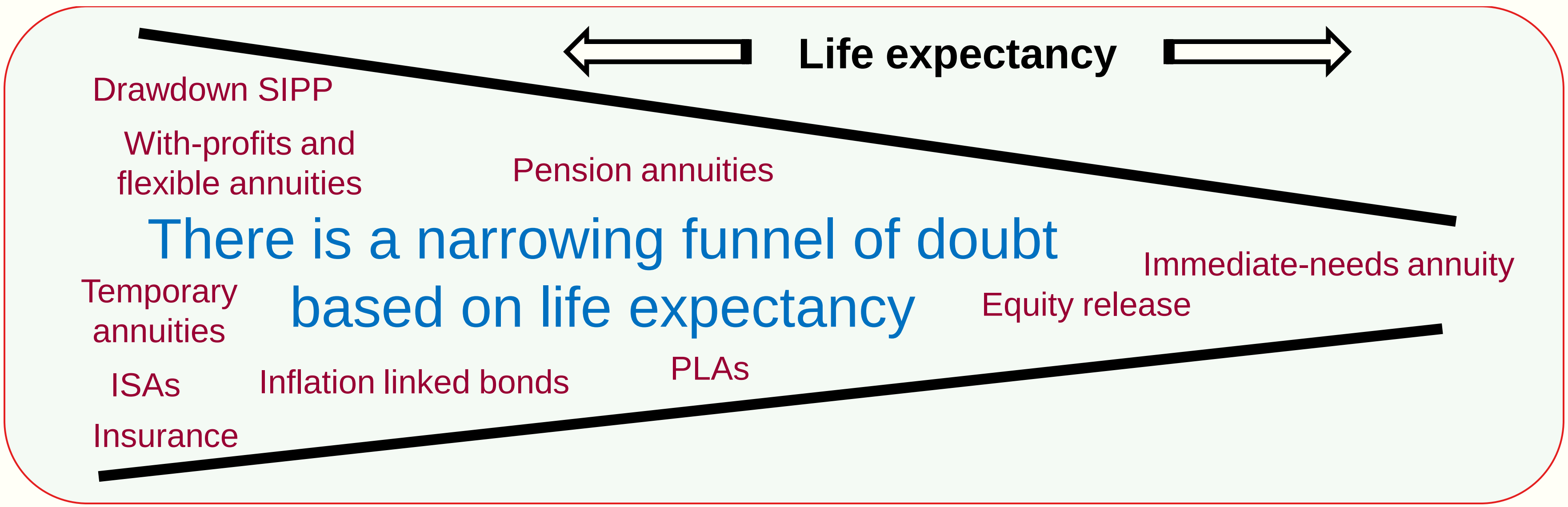
The optimal solution in early retirement is generally to retain flexibility with some downside insurance

Given doubt and uncertainty in early years of retirement:

- Generally makes sense for pensioners with sufficient wealth to retain flexibility and control
- Pensioners should look to secure a base income, and …
- Use insurance solutions to reduce the uncertainty from adverse events
- Annuities have a role to play as life expectancy reduces
- Key role for home ownership and equity

As life expectancy reduces optimization becomes easier

- Fewer risks to cater for
- Investment considerations become easier
- Income expenditure less volatile when people enter care homes



Behavioural Barriers

Rational for mass affluent not to annuitize

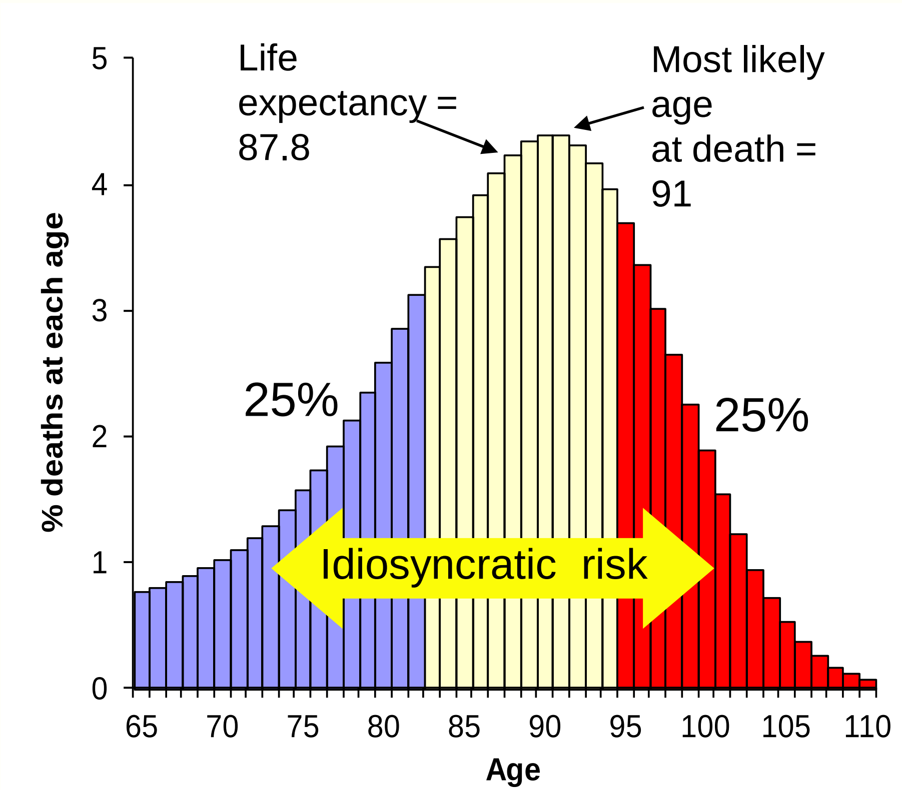
- Wealth
- Flexibility
- Bequests
- Inflation risk
- Money's worth
- Ad hoc expenditure
- Couples
- Phasing

“Humans” are poorly equipped to take rational actions

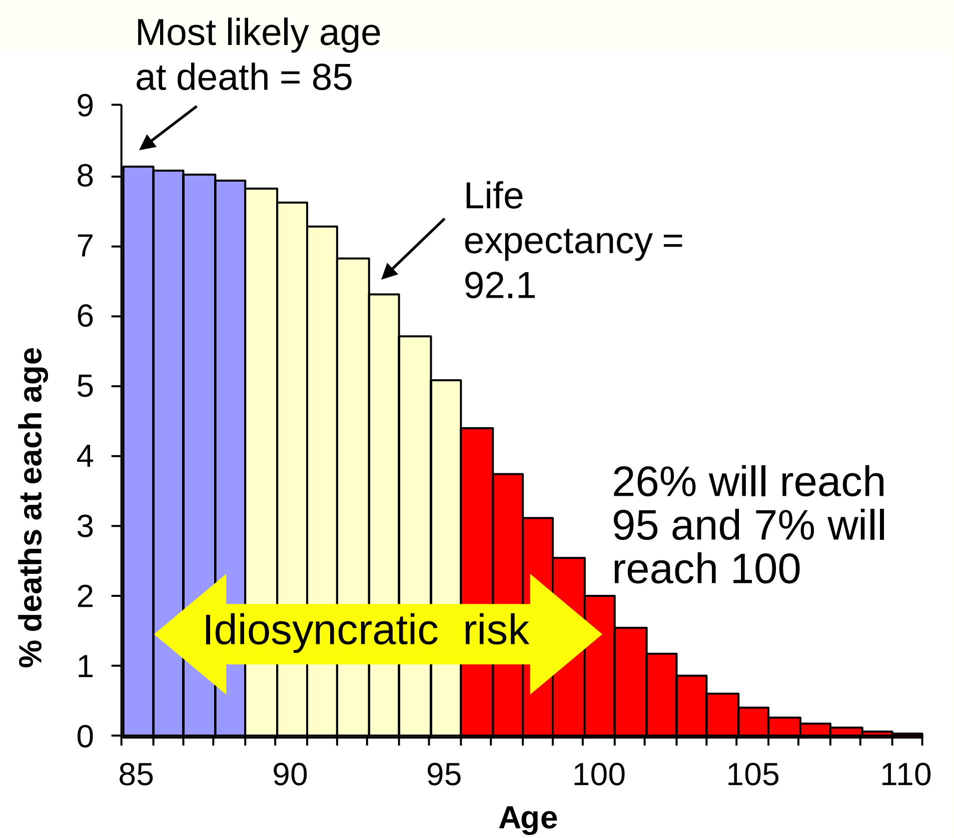
- Poor financial literacy
- Poor understanding of effects of inflation
- Poor at estimating life expectancy
- Poor understanding of the variability of actual lifetimes

Consumers don't understand variability in life expectancy

Expected distribution of deaths: male 65



Expected distribution of deaths: male 85



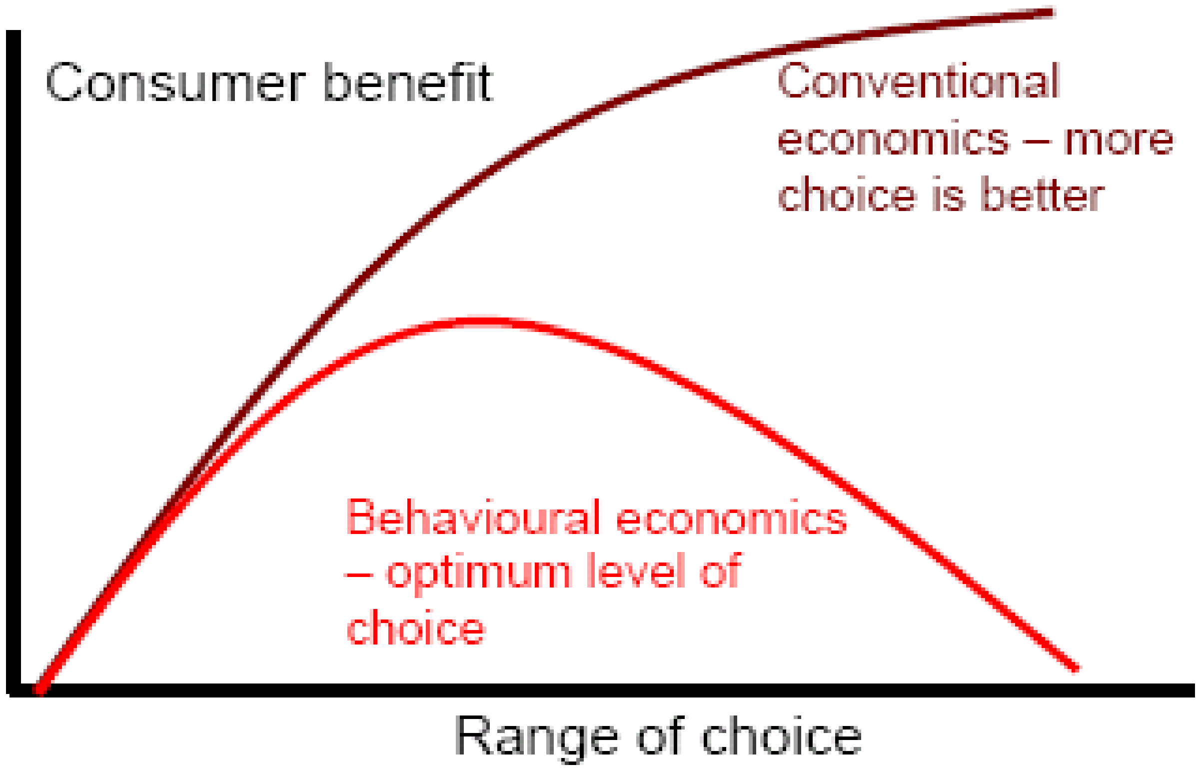
Source: 100% PNMA00 2010 plus improvements in-line with CMI_2009_M [1.00%]

“Humans” experience behavioural traits and influences that limit their ability to take rational actions

- Too much choice
- Aversions
- Undervaluing the future
- Framing, herding and norming

Annuity puzzle: Choice

Too much choice may mean no decision at all



Annuity puzzle: Aversions

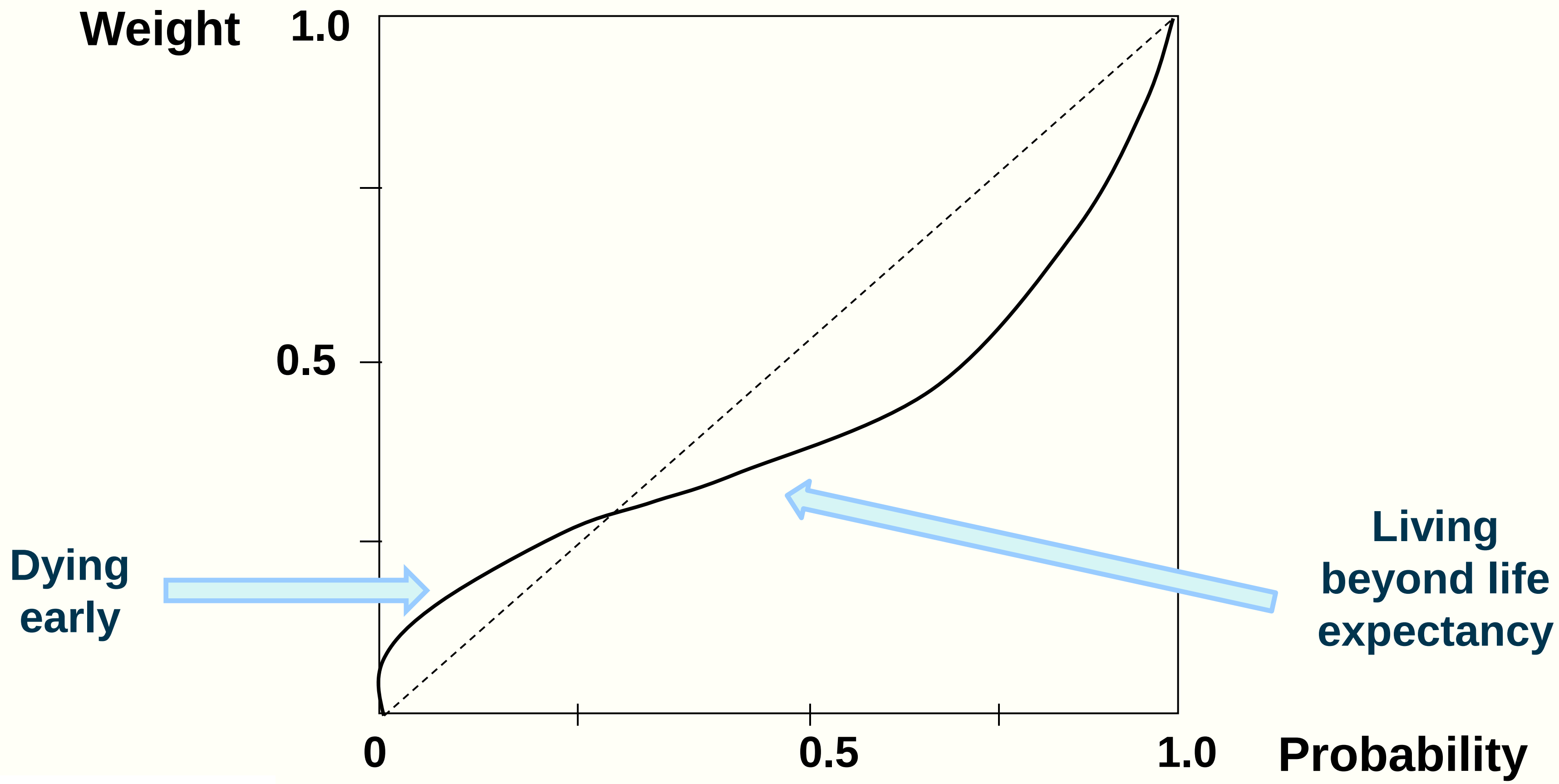
- Planning
- Large long-term transactions
- Losing control
- Dealing with complex problems
- Facing reality with inadequate savings
- Paying for advice
- Making losses
- Taking risk

Annuity puzzle: Hyperbolic discounting

- Overvalue the present and undervalue the future
- Poor understanding of the distant future
- Leads to overconfidence and self-control problems
- Leads to ‘Humans’ having a tendency to over consume today and so face the possibility of running out of retirement assets before they die

Annuity puzzle: Cumulative Prospect Theory

Over-estimate the likelihood of low-probability events and underestimate the likelihood of high-probability events



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Annuity puzzle: Using framing effect

- Sample of 5,000 workers in large corporations asked if they would prefer an annuity that paid a constant £7,000 per year or one that was initially £4,900, but rose in line with inflation
- One half of the group was shown:

Table of annuity payments shown to group A

Age	Level annuity	Inflation-linked annuity
65	7,000	4,900
70	7,000	5,500
75	7,000	6,300
80	7,000	7,100
85	7,000	8,000
90	7,000	9,000
95	7,000	10,300
100	7,000	11,600

65% chose level annuity and 26% inflation-linked

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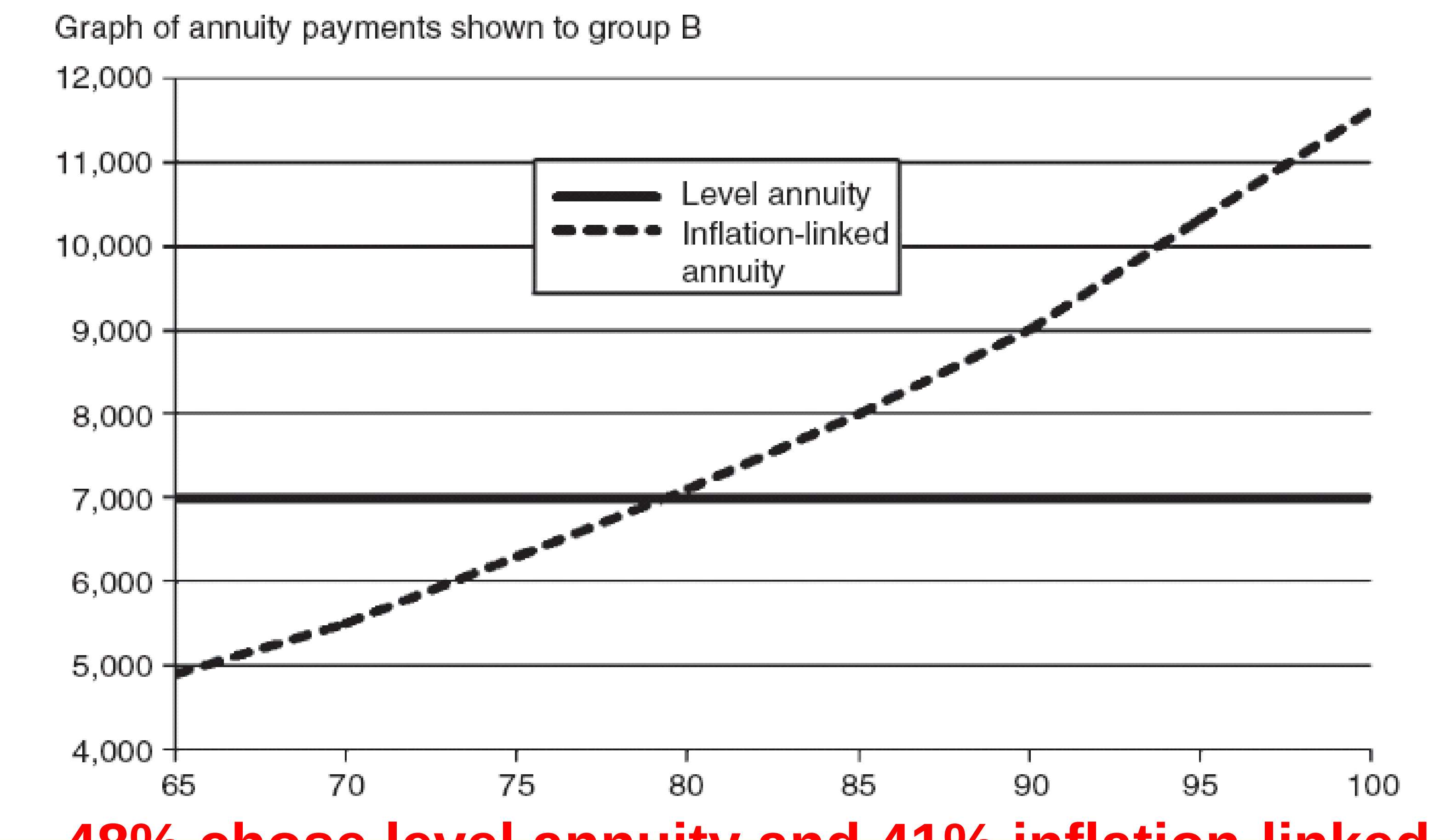
Source: Pension Research Forum (2004)

Annuity puzzle: Using framing effect

- The other group was shown:



48% chose level annuity and 41% inflation-linked

Source: Pension Research Forum (2004)

In summary all this leads ‘humans’ to ...

- Overvalue the present and undervalue the future
- Overconfidence and self-control problems
- A tendency to over consume today and so face the possibility of running out of retirement assets before they die
- Inertia and procrastination
- Failure to plan
- No sense that an annuity is a smart thing to buy
- Sub-optimal decisions

- Solution is to ‘nudge’ them towards making decisions that improve their welfare (or use compulsion!)

Choice Architecture and Nudges

***S*PEED*O*ME*T*E*R* retirement expenditure plan**

Spending Optimally Throughout Retirement

- **First,** make a plan
- **Second,** secure “essential” income
- **Third,** have insurance and a “rainy day” fund to cover contingencies
- **Fourth,** secure “adequate” income
- **Fifth,** achieve a “desired” standard of living and make bequests

A universal plan for all retirees

First, make a plan

- Either ... by using an on-line or telephone-based service providing generic financial advice
- Or ... if wealth permits, involving a financial adviser whose role is to assist with making and implementing the plan and conducting annual reviews

Second, secure "essential" income

- Plan manages ***all*** assets and income sources holistically to secure essential income
- Defined as the ***minimum***, core inflation-protected income sufficient to meet the retiree's 'essential' needs for the remainder of their (and their spouse's) life.

Third, have insurance and a “rainy day” fund to cover contingencies

- Use insurance solutions, when available and cost effective, to cover contingencies,
- Where appropriate, rely on state support
- Where possible, maintain flexibility by holding sufficient assets to meet uninsurable shocks (i.e., a ‘rainy day’ fund)

Fourth, secure "adequate" income

- Secure an 'adequate' level of life-long income above the minimum if there is sufficient wealth
- 'Adequate' income defined as that needed to achieve the minimum lifestyle to which the pensioner aspires in retirement.

Fifth, achieve a “desired” standard of living and make bequests

- The plan uses a simplified choice architecture for managing any residual wealth
- Aim of achieving a ‘desired’ standard of living in retirement, while allowing part of the remaining wealth to be bequested at a time of the retiree’s choosing.

How a ***S***PEED***O***ME***T***E***R*** plan deals with behavioural traits

- Use of inertia and procrastination
- Use of defaults
- The plan **NOT** the member deals with complexity of decumulation
- Use of commitment devices
- Use of money back annuities
- Use of phasing
- Positive norming via effective communication
- The slogan ‘spend more today safely’ to reinforce the idea that ‘buying an annuity is a smart thing to do’.

Conclusions

The ***S***PEED***O***ME***T***E***R*** plan involves just four key behavioural nudges:

- First, make a plan
- Automatic phasing of annuitization
- Capital protection in the form of ‘money-back’ annuities
- The slogan ‘spend more today safely’ to reinforce that ‘buying an annuity is a smart thing to do’.

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Spend More Today Safely: Using Behavioural Economics to improve Retirement Expenditure Decisions

David Blake & Tom Boardman

www.pensions-institute.org/workingpapers/wp1014.pdf