IMF Seminar on Ageing, Financial Risk Management and Financial Stability

Annuitization lessons from the UK

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[1] Prudential plc, is a company incorporated in the United Kingdom ("Prudential UK"). Prudential UK and its affiliated companies constitute one of the world's leading financial services groups. It provides insurance and financial services directly and through its subsidiaries and affiliates throughout the world. It has been in existence for over 150 years and had £238 billion assets under management as of 30 June 2006. Prudential UK is not affiliated in any manner with Prudential Financial, Inc, a company whose principal place of business is in the United States of America.

THE RETIREMENT INCOME OPPORTUNITY IS EXCITING ...

"By providing financial protection against the major 18th and 19th century risk of dying too soon ... life insurance became the biggest financial industry of that century.

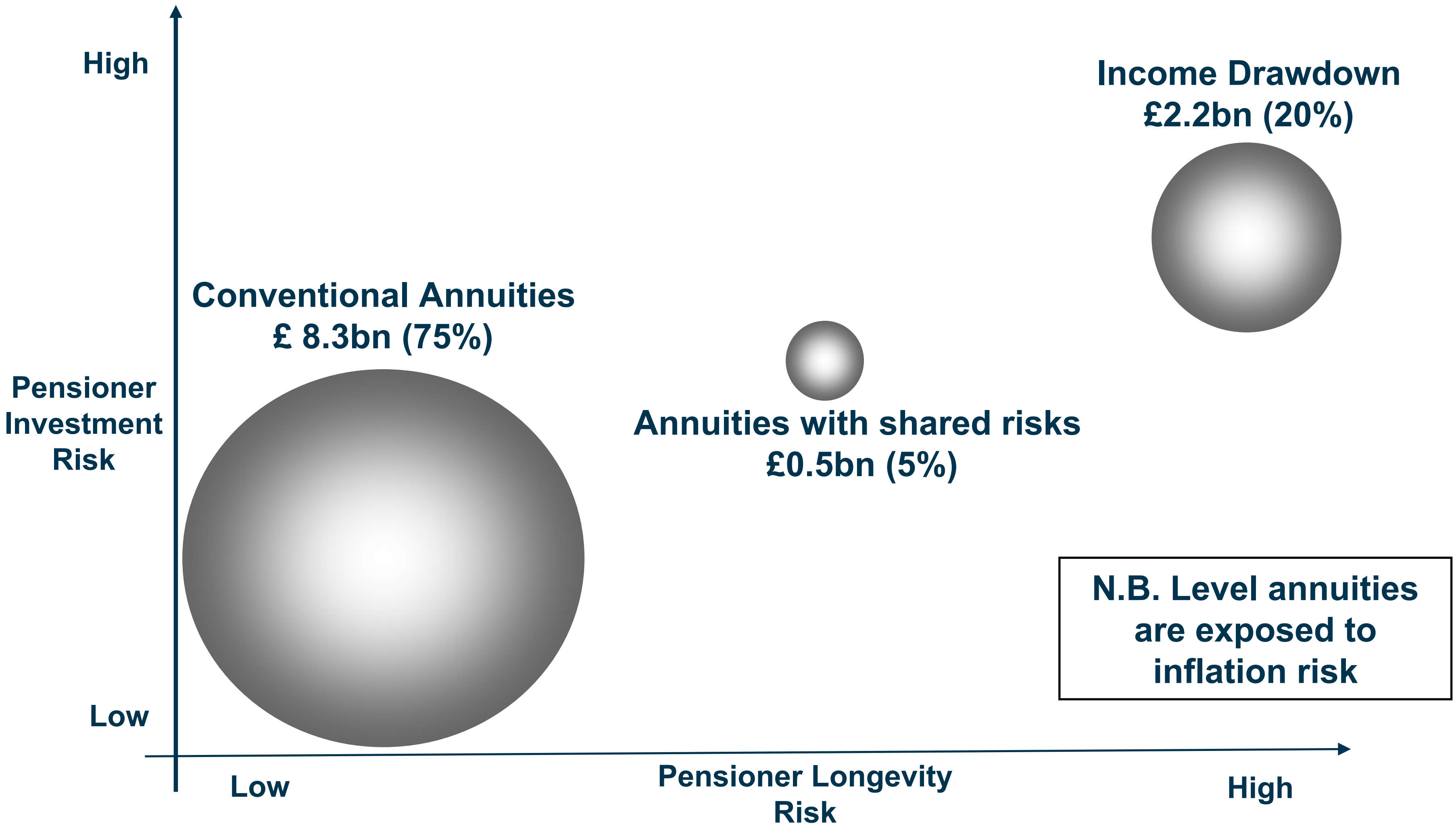
Providing financial protection against the new risk of not dying soon enough …. may well become the next century's major and most profitable financial industry."

Peter Drucker - Economist 1999

AGENDA

- UK retirement income market
  - Current market shape
  - The value of annuitization
  - When should Pensioners annuitize?
  - Investment considerations
- Economic Capital requirements
- Supply and Demand considerations
- Observations on future market shape and longevity risks

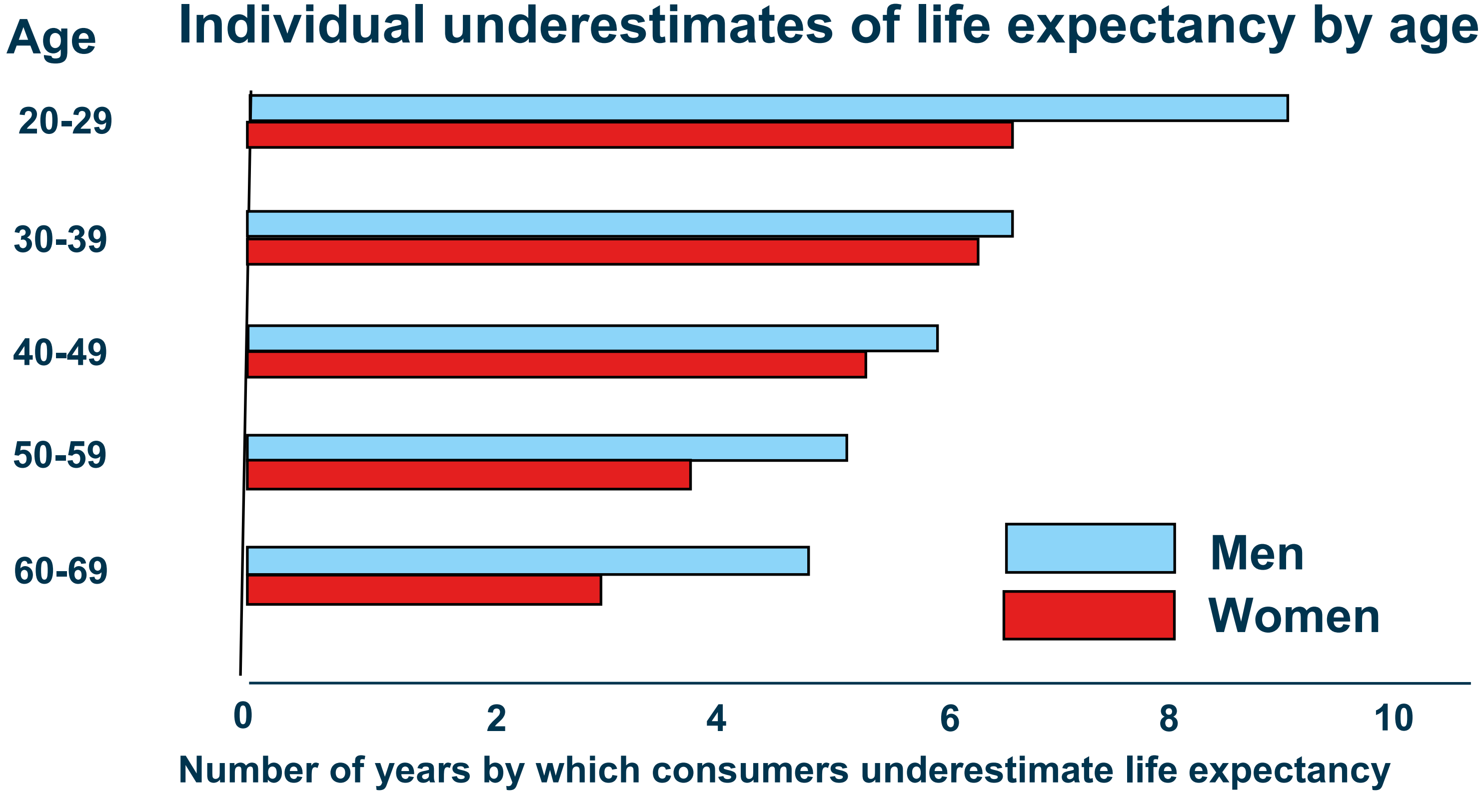
UK RETIREMENT INCOME MARKET



Source - ABI Data 12 Months to 30 September 2006

The advice challenge is huge … Consumers consistently underestimate how long they will live ...

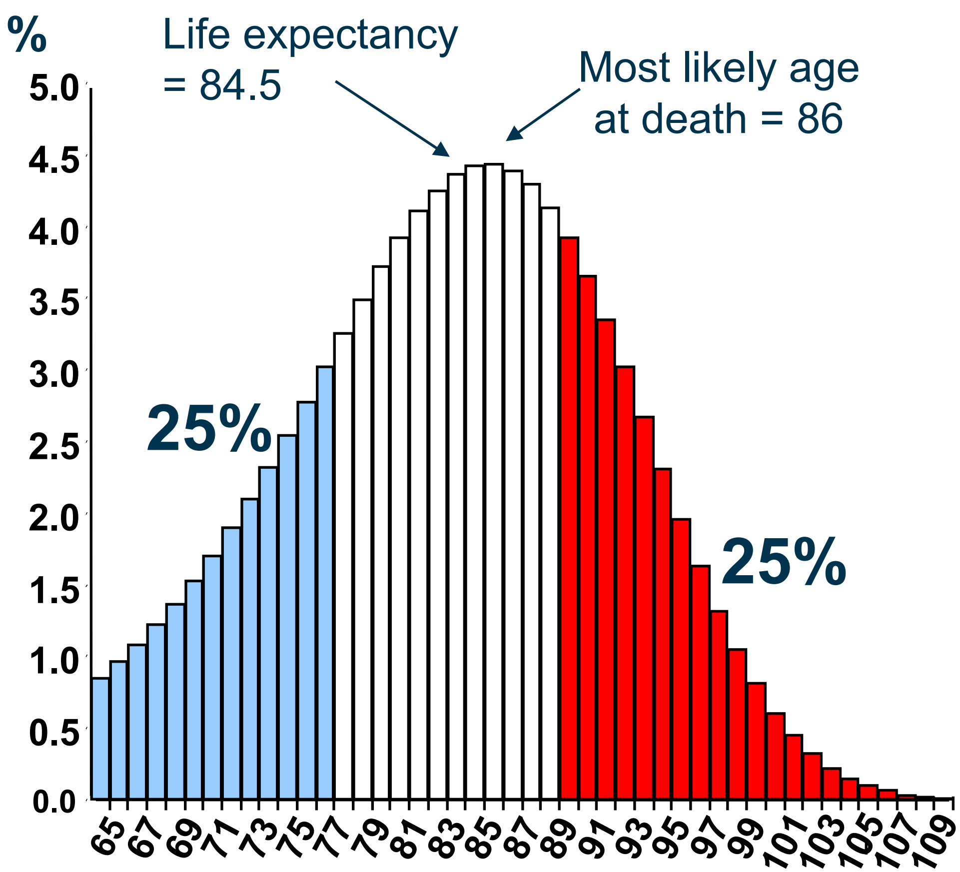
Individual underestimates of life expectancy by age



Sources: O'Brian, Fenn, and Diacon, 2005, self-estimated life expectancy compared with GAD forecast life expectancy; own analysis.

CONSUMERS DON'T UNDERSTAND VARIABILITY IN LIFE EXPECTANCY EITHER ...

Expected distribution of deaths: male 65



Source: 100% PMA92 (U2003)

The importance of a guaranteed income for life:

- At 65, male life expectancy is 84.5 - but more than 1 in 4 will reach 90 and 10% will reach 95
- Planning retirement finances in the context of this level of uncertainty is difficult
- Deferral of income is impractical for the mass market
- The guarantee of an income for life provided by an annuity is still essential for the vast majority seeking security.

PROBABILITY OF OUTLIVING ASSETS – MALE AGE 65

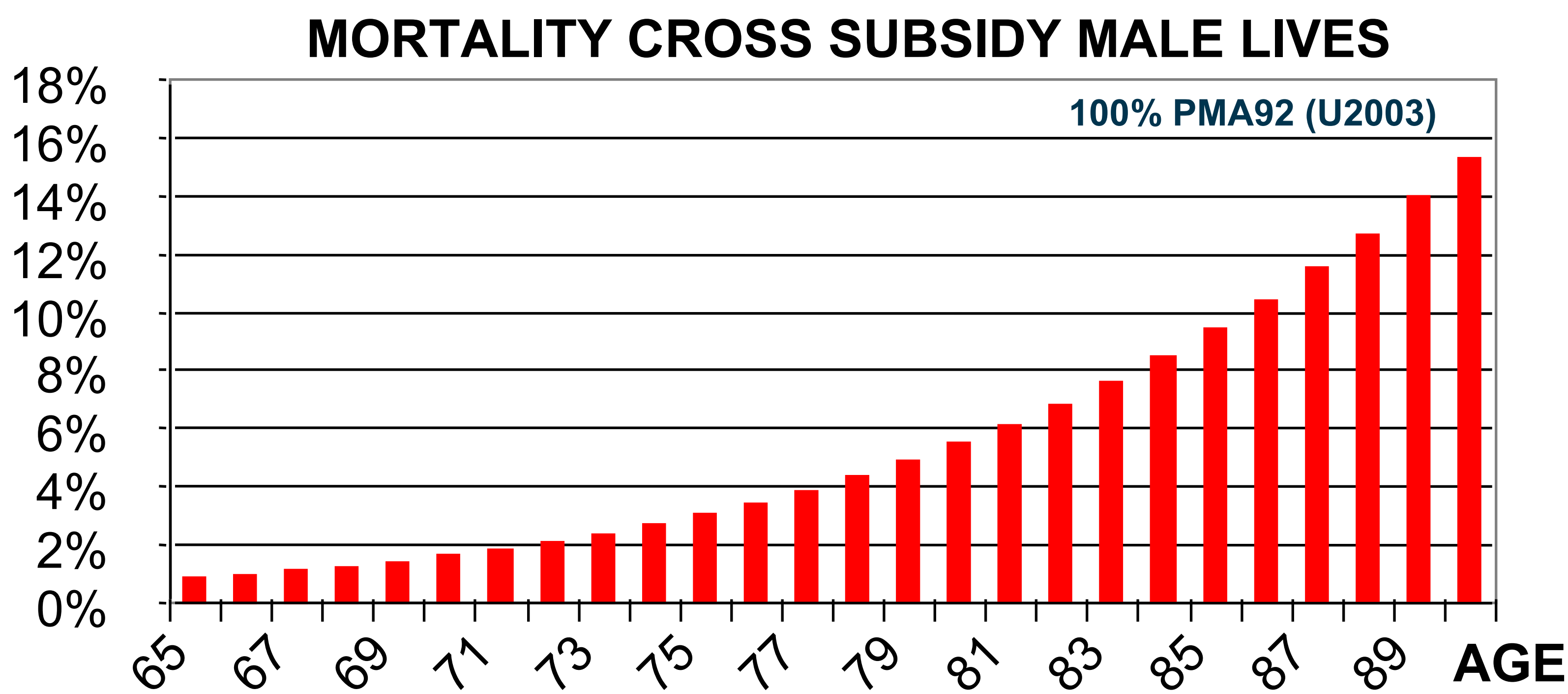
Reduce income by:	0%	10%	20%
Fund size at life expectancy of 84 (% of initial amount)	0%	12%	39%
Probability of outliving assets (%)	58%	45%	20%

Source: Own calculations 100% PMA92 (U2003)

With Income Drawdown there is a death benefit of the residual fund. This is clearly valuable if you die early but this is less than an evens chance.

WITH RECENT MORTALITY IMPROVEMENTS THE ANNUITY MORTALITY CROSS SUBSIDY GIVES LIMITED BENEFITS TO PEOPLE IN THEIR 60s

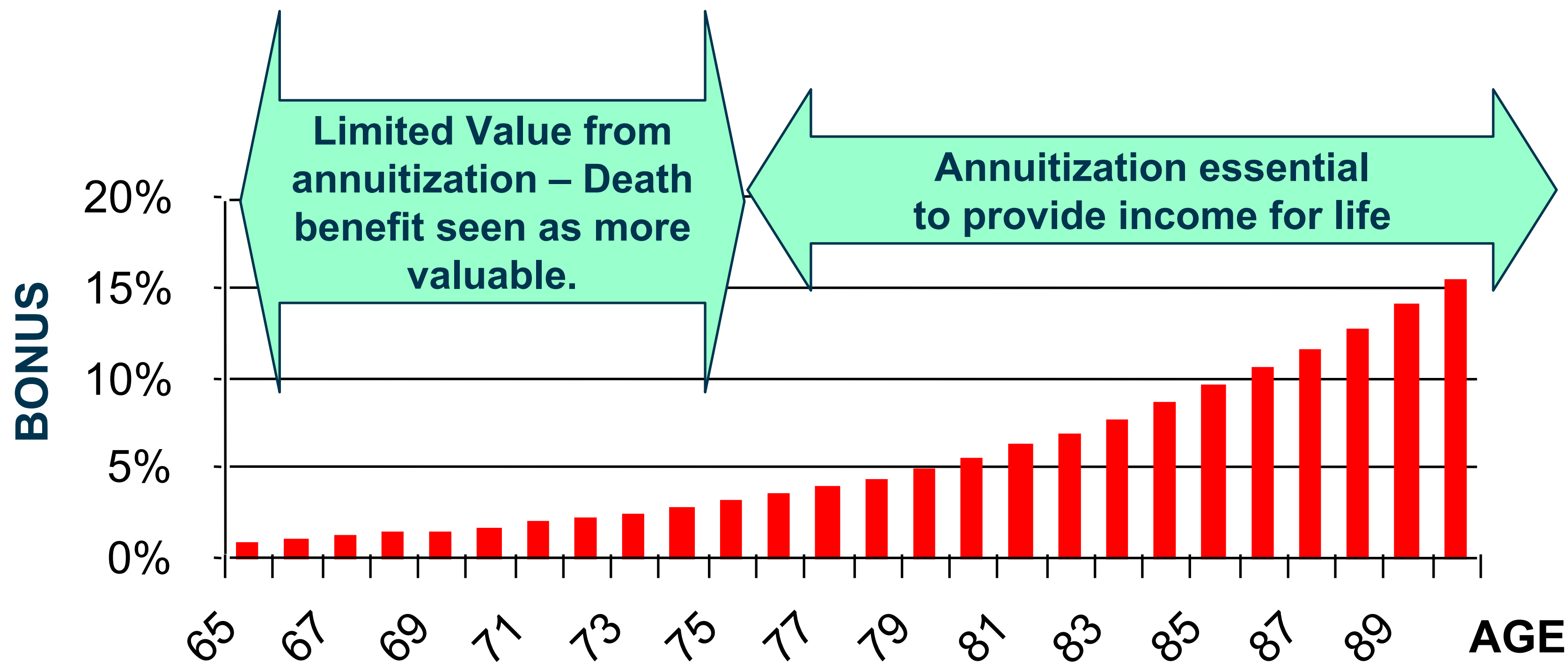
The funds of those dying in a year are spread over the lives surviving to the end of the year. Mortality cross subsidy = qx / (1-qx).



The scale of the mortality cross subsidy at older ages makes annuitization essential for anyone without extensive alternative wealth.

WHEN SHOULD PENSIONERS ANNUITIZE?

Annual Mortality Cross Subsidy

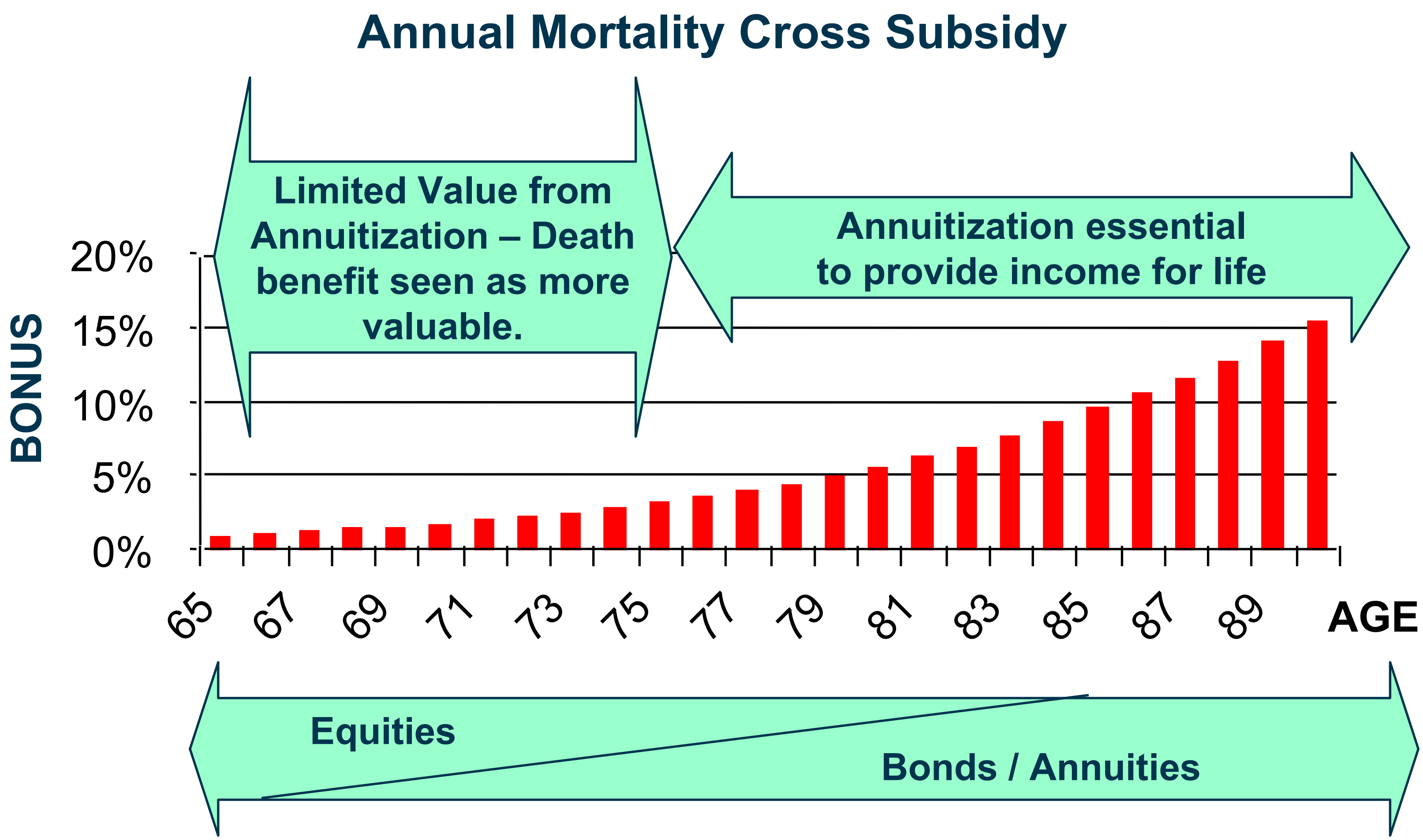


Source: Own Analysis

ANNUITY INVESTMENT CONSIDERATIONS

- UK Regulations effectively require **guaranteed annuities** to be backed by Government or Corporate Bonds or at least bond like assets
- 100% investment in bonds over a 20+ year period is not an optimal investment strategy!
- Lifestyling into long term bonds before retirement can often deny pensioners the benefit of equity returns when their funds are at their highest.
- Long term bonds are in short supply in UK resulting in an inverse yield curve.
- Guaranteed annuities particularly level fixed annuities are exposed to inflation risk
- A mixed portfolio should provide a higher expected return over 20 years
- Continuing to invest in equities beyond retirement may be appropriate for pensioners who can afford to take the risk.

WHEN SHOULD YOU ANNUITIZE AND HOW SHOULD YOUR ANNUITY FUND BE INVESTED?



Investment split - Equities : Bonds/Annuities

Source: Own Analysis

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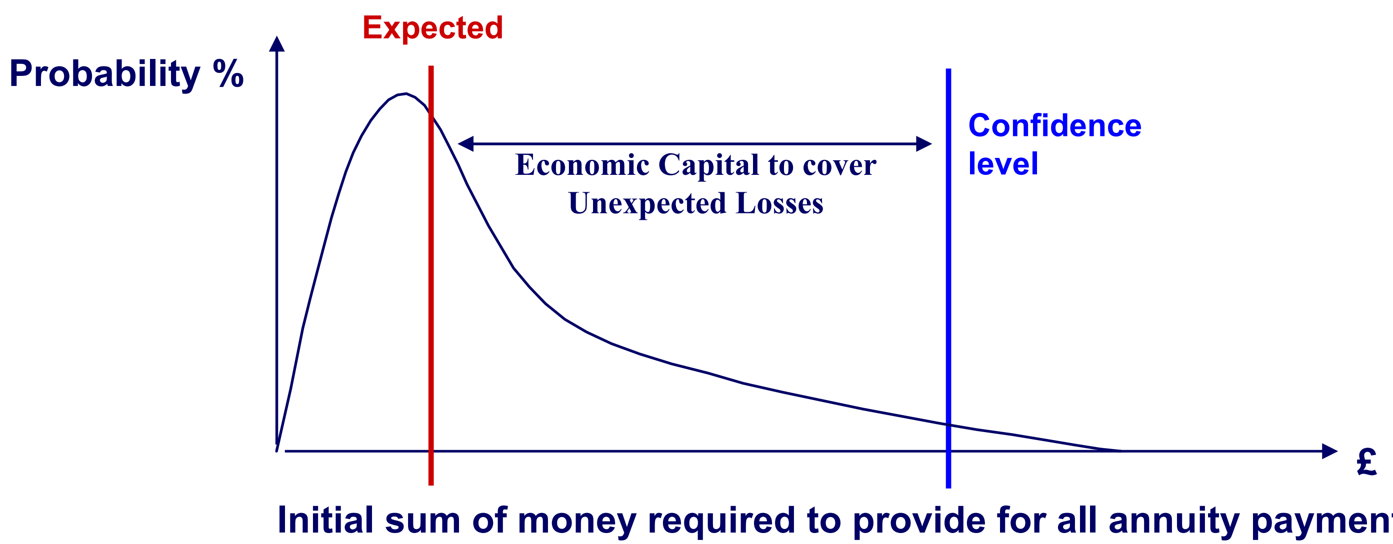
ANNUITY PROVIDERS FACE A NUMBER OF RISKS ...

- **Mortality experience** being lighter than expected because:
  - the **starting mortality assumptions** are inappropriate for the mix of lives insured, or
  - **annuitant mortality improving at a faster rate** than assumed
- **Asset defaults** for corporate bonds being higher than expected
- **Mismatching** of the company's asset and liability cash-flows
- **Lack of matching assets** for Defined Benefit scheme liabilities **particularly for deferred annuity business** due to its very long duration.
- Providers also face **Business risks:**
  - If **pricing is not competitive** they won't secure business
  - Pension schemes need to be able to **afford to buyout**

ANNUITY PROVIDERS NEED TO HOLD SUFFICIENT ECONOMIC CAPITAL TO ABSORB ANY "UNEXPECTED LOSSES" ON ANNUITY BUSINESS

- We use stochastic modelling of longevity and investment outcomes over 60 years to determine how much we need to set aside to provide annuity payments up to a set confidence level - typically AA.
- Consistent result to the "1 in 200" one year Realistic Capital Assessment
- Economic capital reflects the diversification benefit between longevity and credit risk

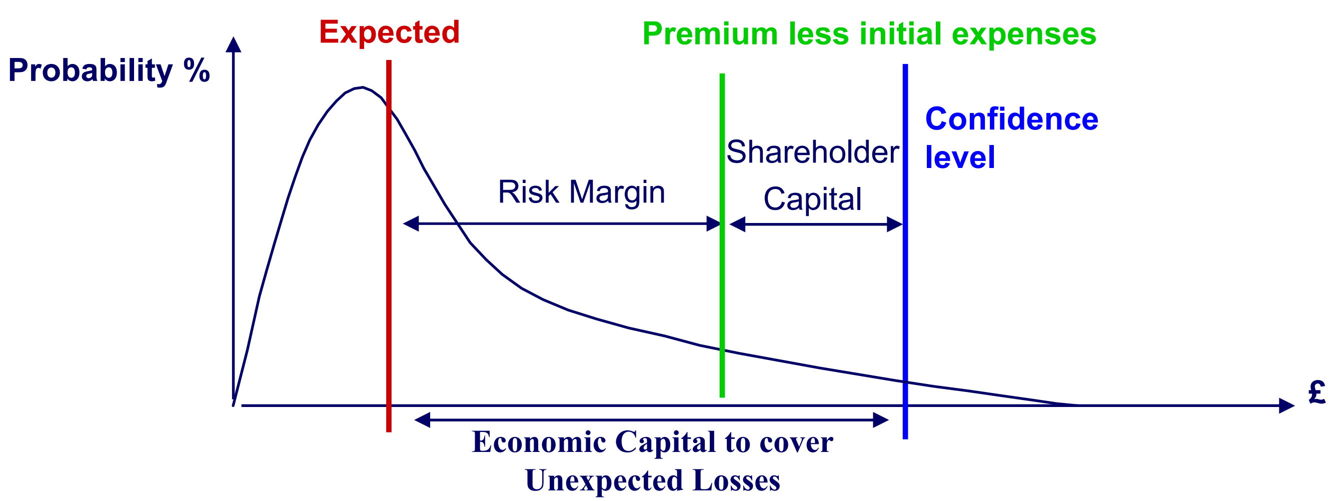
Probability distribution of Initial sums of money required to provide for all annuity payments



THE PREMIUM CHARGED DETERMINES HOW MUCH CAPITAL THE ANNUITY BUSINESS HAS TO PROVIDE . . .

- The premium charged is derived by adding a margin for risk and profit to the expected or best estimate result
- The premium received less the initial expenses determines how much capital is required from the Life Office shareholders and how much is provided by the annuity purchaser

Probability distribution of Initial sums of money required to provide for all annuity payments

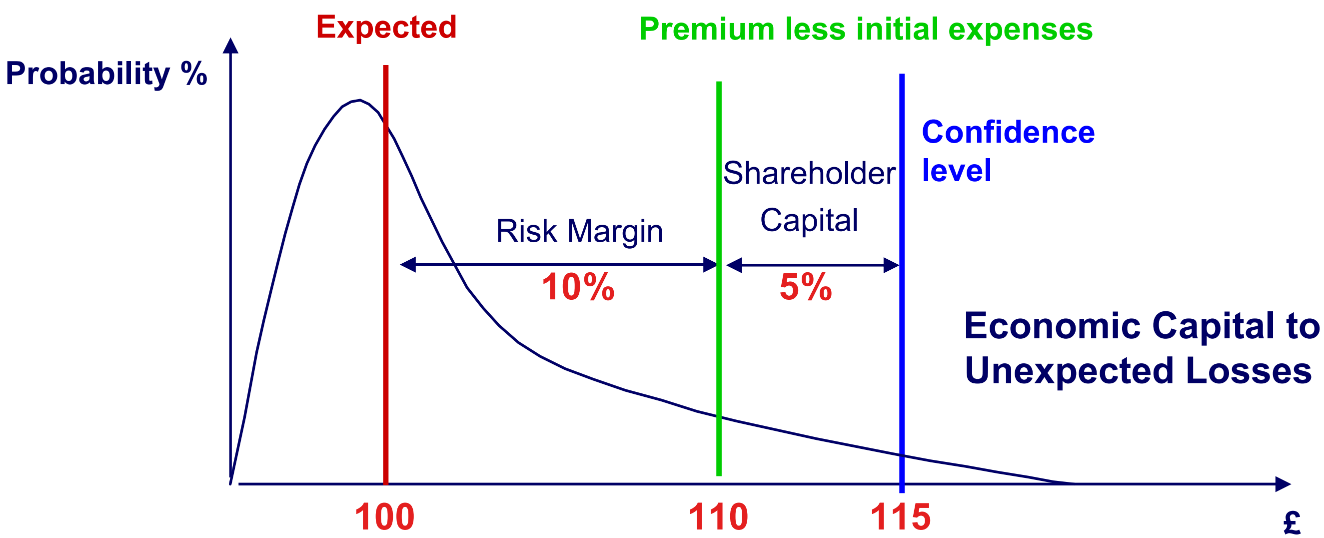


Initial sum of money required to provide for all annuity payments

WHAT IS A TYPICAL CAPITAL REQUIREMENT ON IMMEDIATE ANNUITY BUSINESS?

- This might be around 115% of the expected result
- The premium charged, after initial expenses, provides around 110%
- The shareholder capital required is therefore around 5%

Probability distribution of Initial sums of money required to provide for all annuity payments

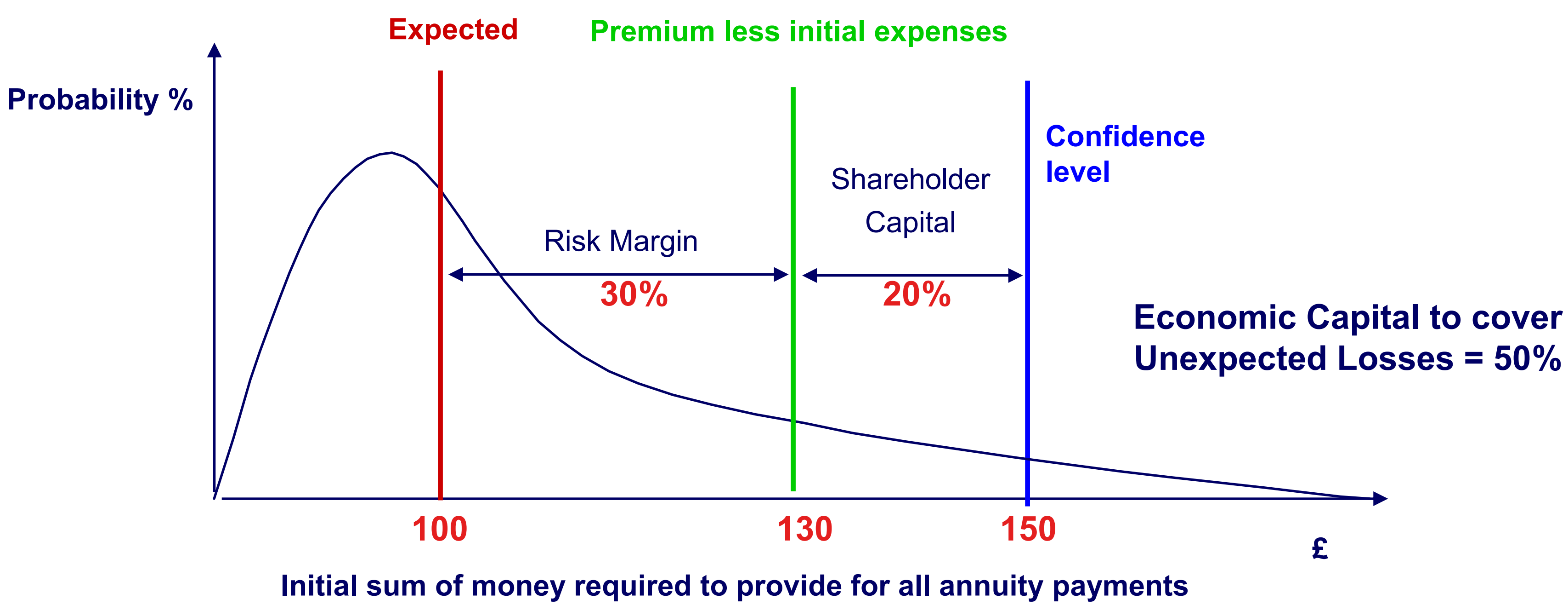


Initial sum of money required to provide for all annuity payments

THE ECONOMIC AND SHAREHOLDER CAPITAL ON DEFERRED ANNUITY BUSINESS IS VERY SIGNIFICANT ...

- For Deferred Annuity business on younger lives the confidence limit can be over 150% of the expected result - with Economic Capital tied up for many years
- The premium after initial expenses is around 130% - requiring shareholder capital of around 20%

Probability distribution of Initial sums of money required to provide for all annuity payments



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SUPPLY AND DEMAND FOR ANNUITIES

- Supply in the market will depend on:
  - the number of institutions that are willing to take on the risks **and** to tie up capital
  - the availability of suitable assets

- Demand will be determined by:
  - the amount of Defined Contribution business reaching retirement
  - the price of Annuities and attractiveness of alternative propositions
  - the need for Defined Benefit schemes to buy-out or their desire to reduce risk

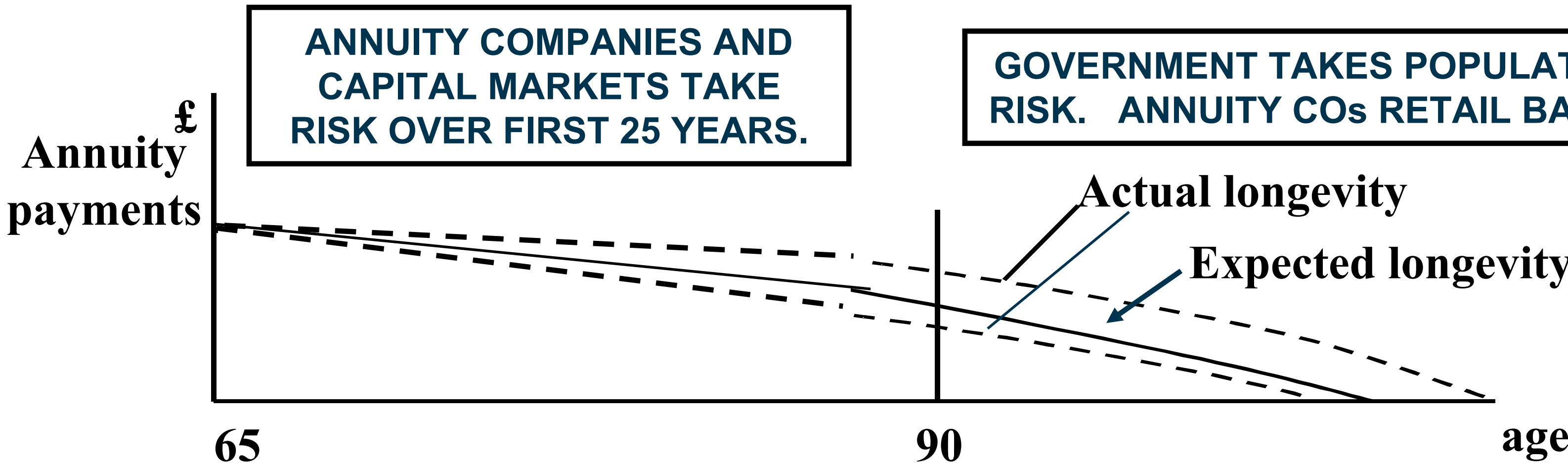
Annuity companies should be able to support the expected growth in demand of c10% per annum from DC based pensions.
The challenge will be supporting likely demand from DB schemes

MEETING DEMAND FROM DB PENSION SCHEMES WILL NEED SUPPORT FROM GOVERNMENT AND THE CAPITAL MARKETS

- Total value of Defined Benefit liabilities are large: £400Bn+ pensions in payment and another £400Bn+ of accrued deferred annuities
- Difficult to see a solution for deferred annuities
- Transfer to personal pensions by adequately rewarding individuals for taking longevity and investment risk may be way forward
- Many schemes will continue to self insure and pay pensions in payment
- But as impact of schemes closing to new entrants works through there will be a stronger case for buying annuities to cover pensions in payment
- Insurance Industry will have insufficient capital and will not want or be able to afford the concentration of longevity risk
- Annuity providers will need support from capital markets
- Government support will also be needed to insure the tail risk

THE POTENTIAL ROLE OF GOVERNMENT IN MANAGING LONGEVITY RISK ON IMMEDIATE ANNUITIES

The Pension Commission suggested the Government should consider the use of Deferred Annuity Longevity Bonds to help Annuity Companies cover tail risk



- Bond provides cover beyond age 90 (or 95) with no payments in the first 25 years
- Designed to tackle the widening funnel of doubt with respect to longevity and reinvestment
- Bond indexed to increases/decreases in expected population longevity
- The DMO would benefit if longevity did not increase as much as expected
- Geared intervention
- Facilitates Capital Market solutions in first 25 years

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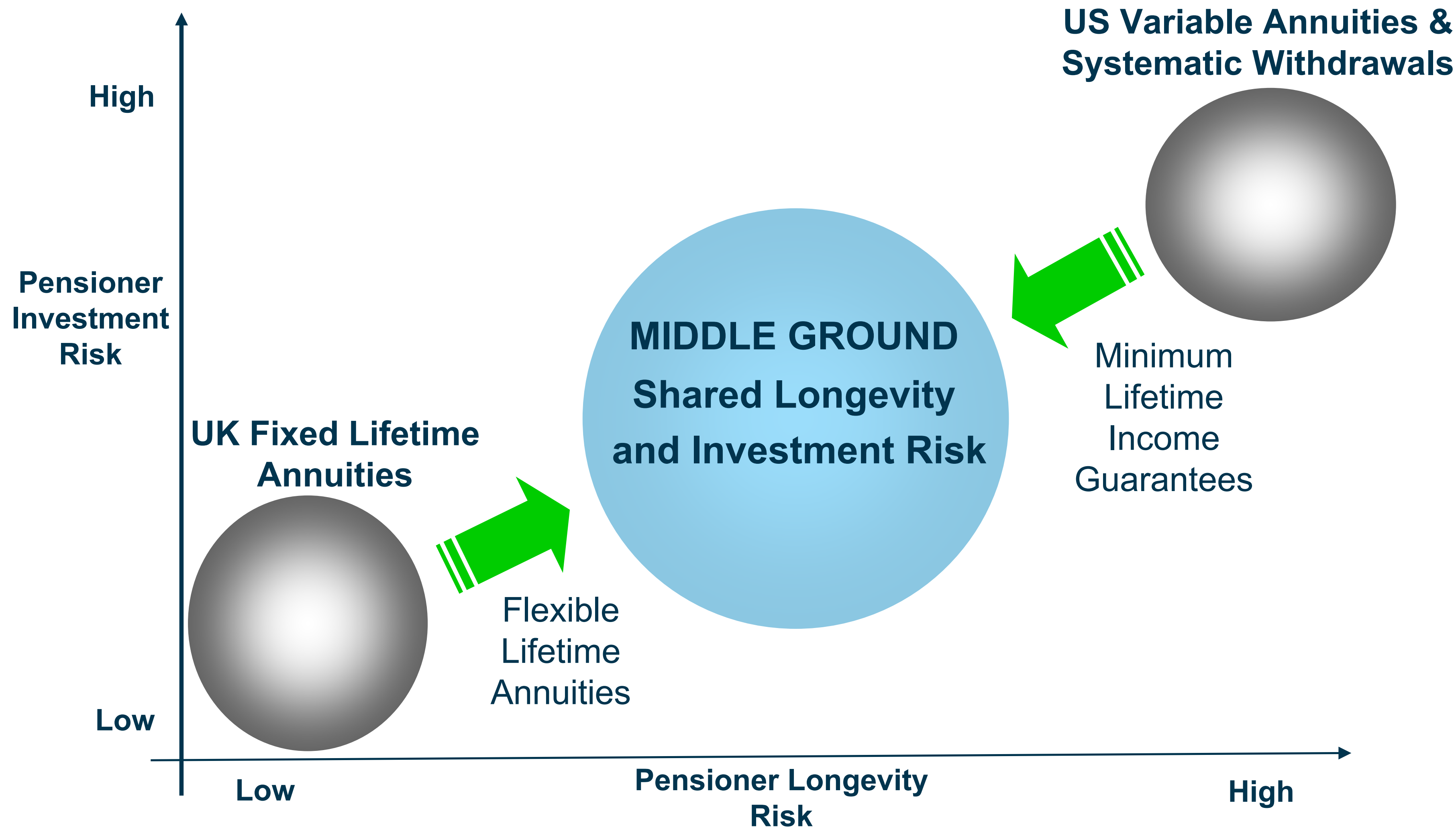
FUTURE RETIREMENT INCOME MARKET

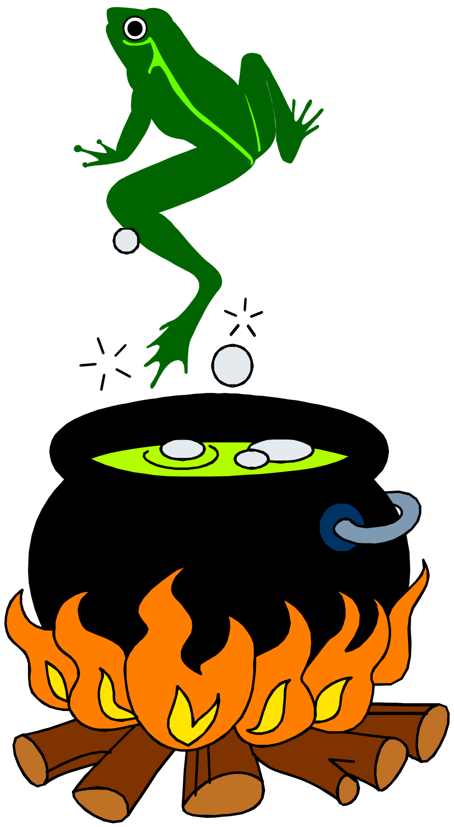
Below age 65	Age 65 - 80	Above age 80
Limited supply of and demand for annuities which are priced to reflect high investment and longevity risks. Longevity and investment risks taken by individuals.	Retirees use standardised retirement income account solutions which allow income, investment and death benefit choice and flexibility. Majority delay or phase full annuitisation. Capital protected "Money-Back" annuity option provides reassurance that savings are not lost.	Annuitisation remains key to securing a guaranteed lifetime income for the vast majority. Longevity risk absorbed by industry and capital markets with help from Government beyond age 90.

THE UK AND US RETIREMENT INCOME MARKETS MAY BE ON A JOURNEY ... DRIVEN BY CONSUMERS' NEEDS … THAT MAY CONVERGE AT SOME TIME IN THE FUTURE



WE NEED TO MAKE SURE THE FROG ESCAPES THE BOILING WATER!

- Danger that we miss the implications of gradual changes.
- Longevity changes are gradual.
- Particularly difficult to assess pace of future improvement.
- Impacts are far reaching for individuals, companies and Governments.
- Insurers' exposure is very sensitive to longevity changes given the nature of long term contracts and the discipline of realistic capital assessments.
- Unfortunately we can't magic longevity risk away.



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