Institute of Actuaries of Australia

Super Policy Forum

Growth assets, bonds and annuities – finding the right mix?

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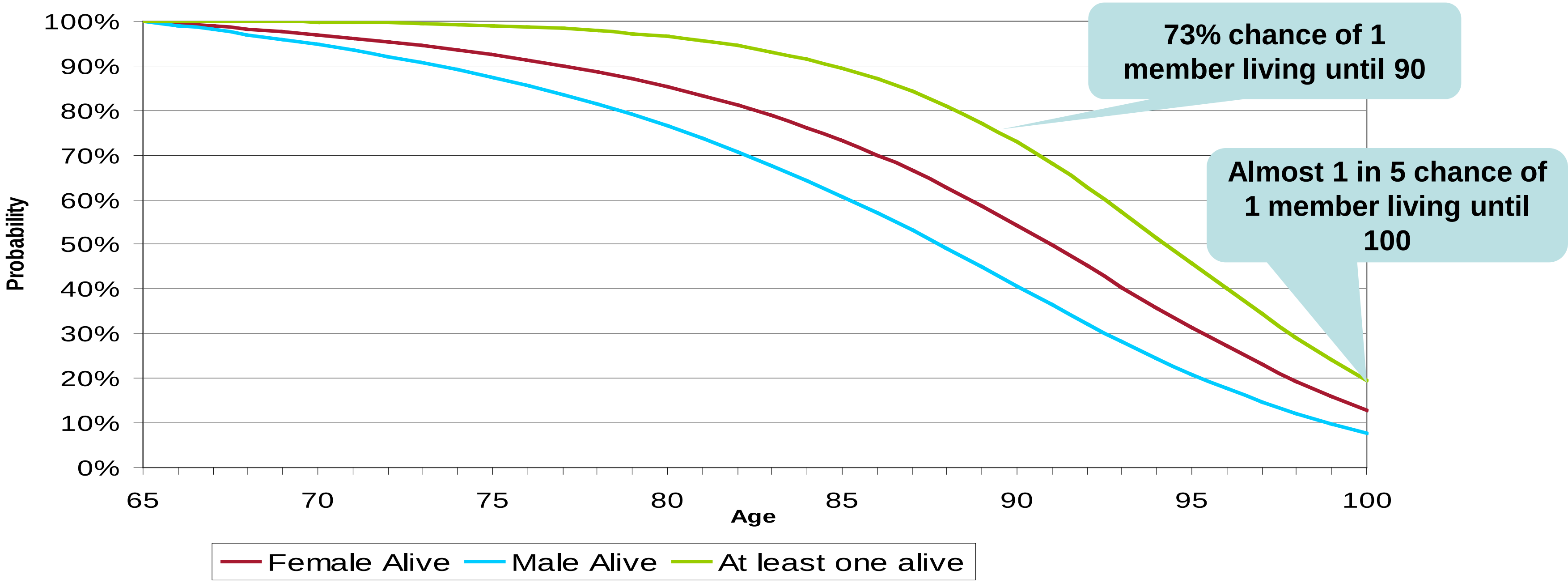
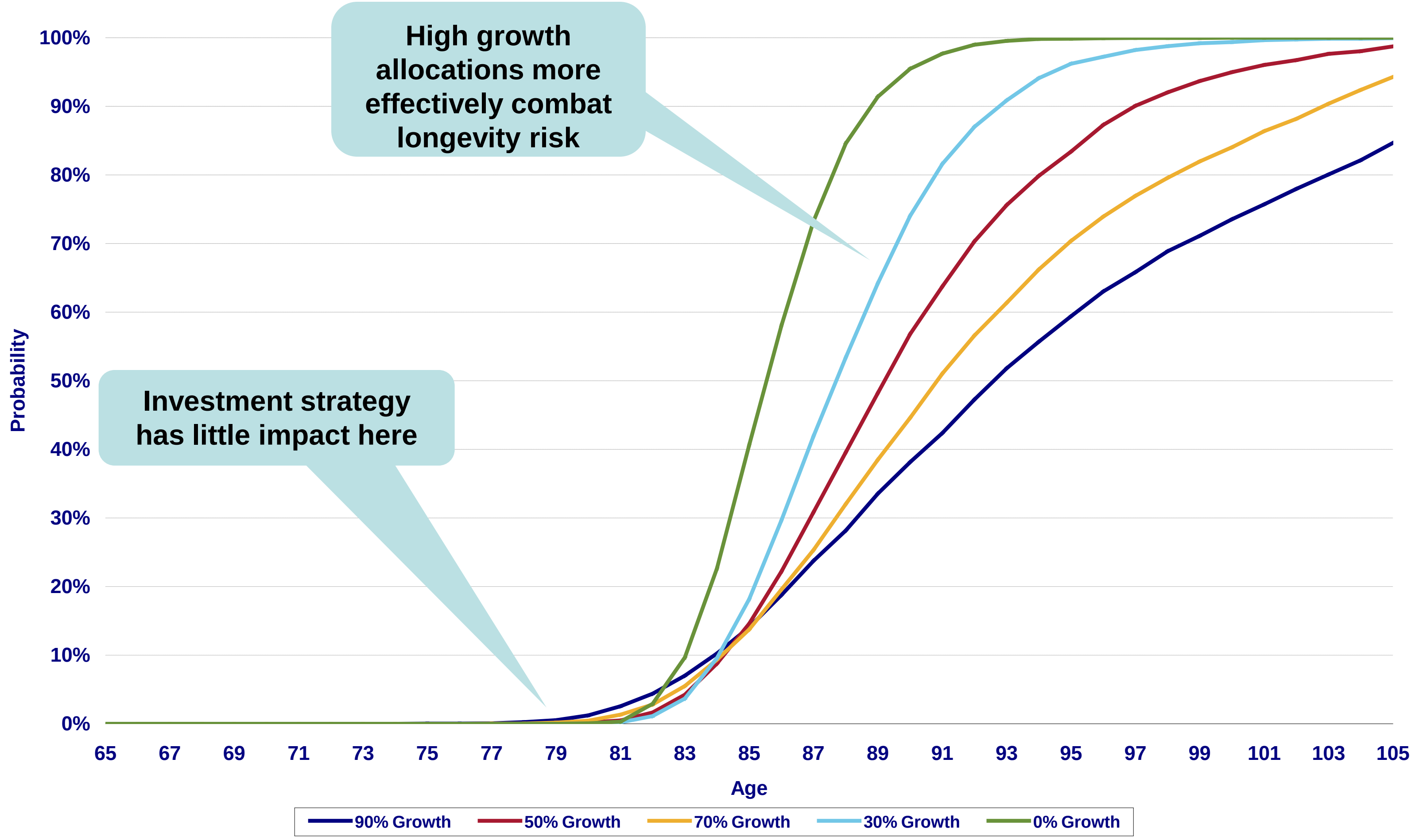
Living longer – more likely than we think



Assumptions - Base Mortality: ABS Life Tables, Australia 2005-2007; Socio-economic status (SES) allowance: 75% of base rates at age 60 rising to 95% of table at age 100 and over; Mortality Improvement: 25-year improvement factors in Australian Life Tables 2000 -02 (Australian Government Actuary)

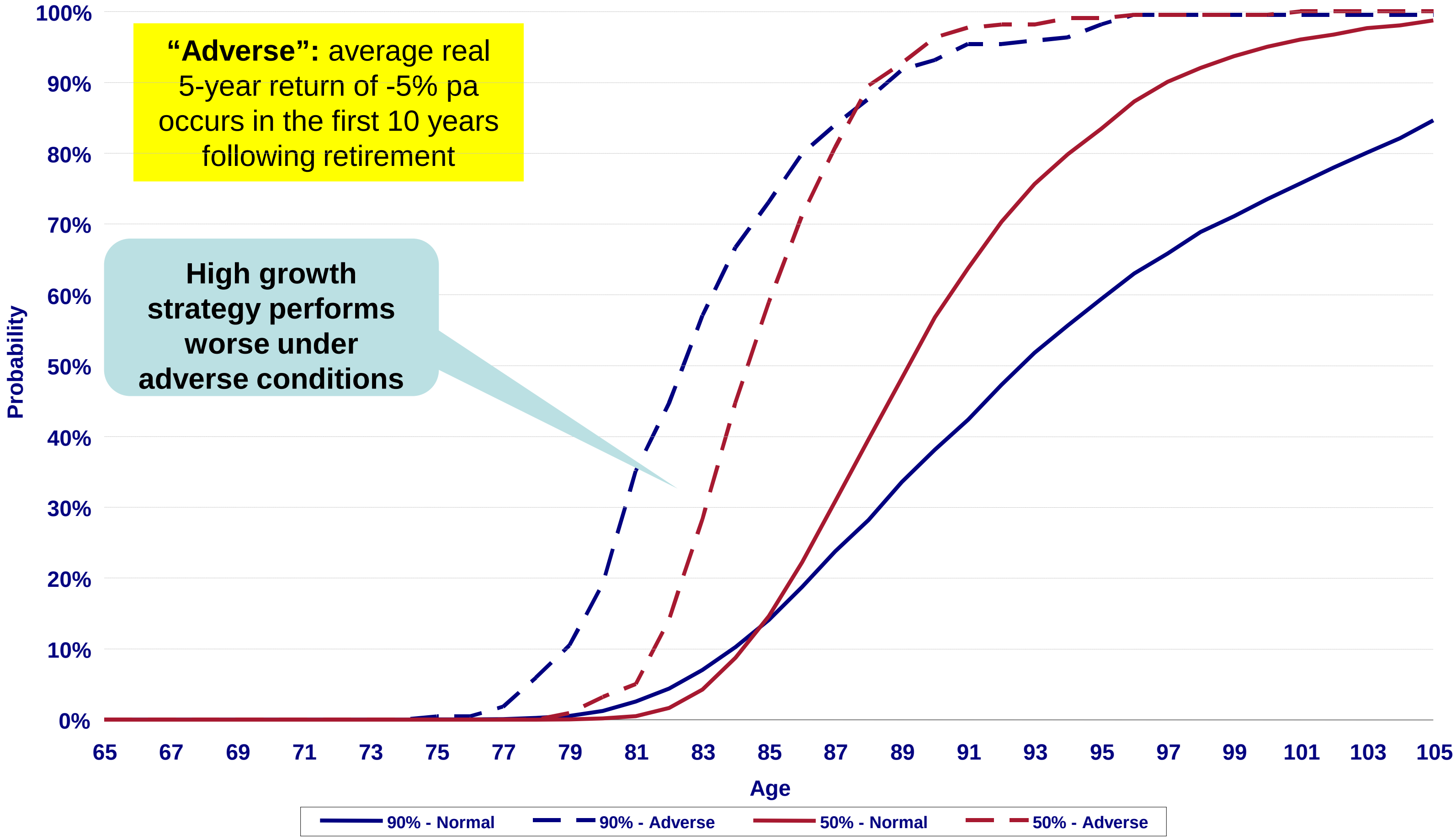
- **it is the *uncertainty* of retirement period that makes the retirement problem challenging**

Risk of Running out of money ("Ruin") – varying investment strategies



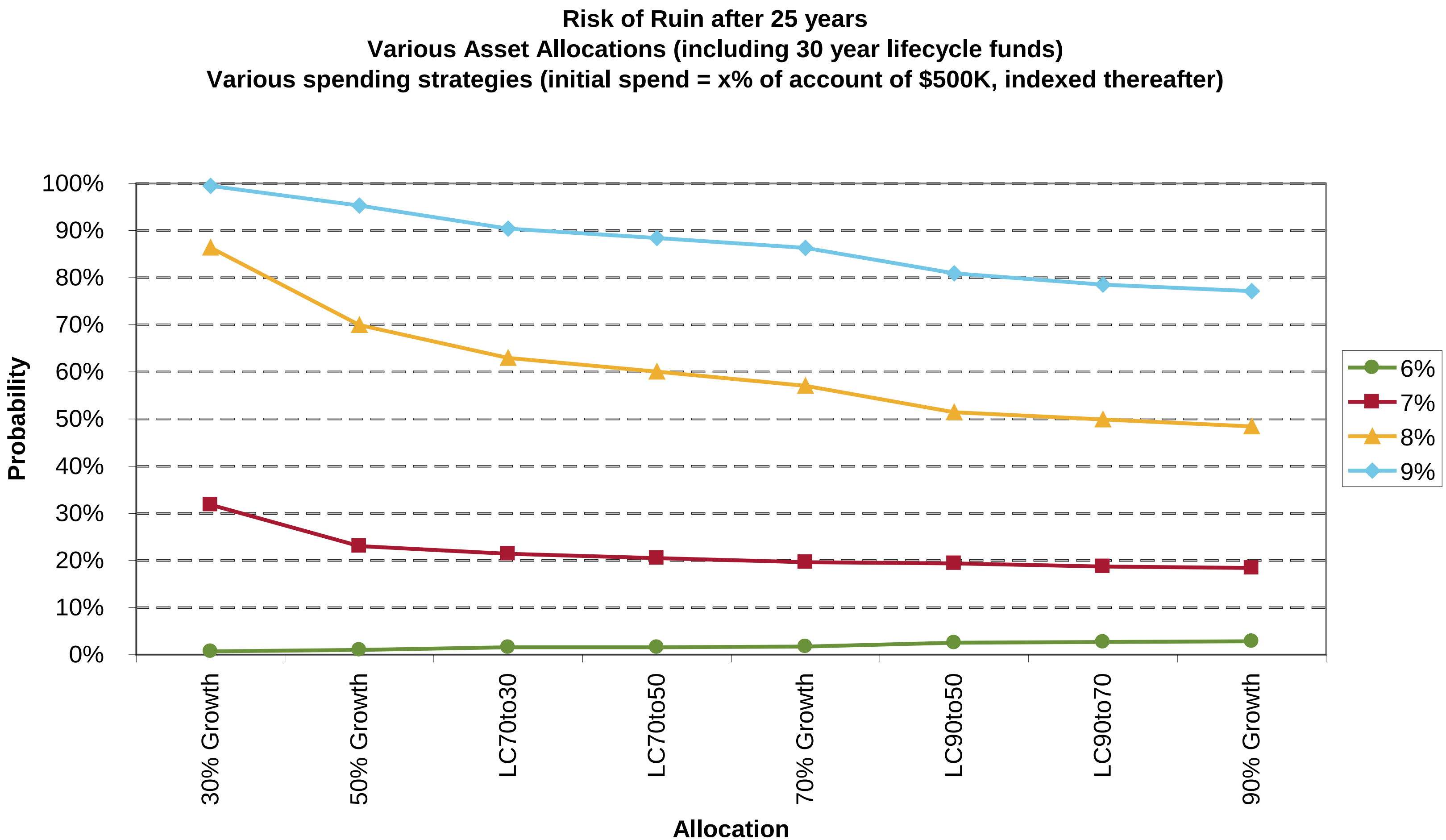
Assumptions: $500,000 initial account balance; $37,621 pa (indexed) Target Income; Watson Wyatt global asset model stochastic returns; single means tested age pension allowed for

Growth less effective where poor returns strike early in retirement period



Assumptions: $500,000 Initial account balance; $37,621 pa (indexed) Target income; Watson Wyatt global asset model returns; single means tested age pension allowed for

Investment Strategy can depend on target income (spending) level



- **For lower retirement spending targets, the reward for higher growth allocations is reduced**

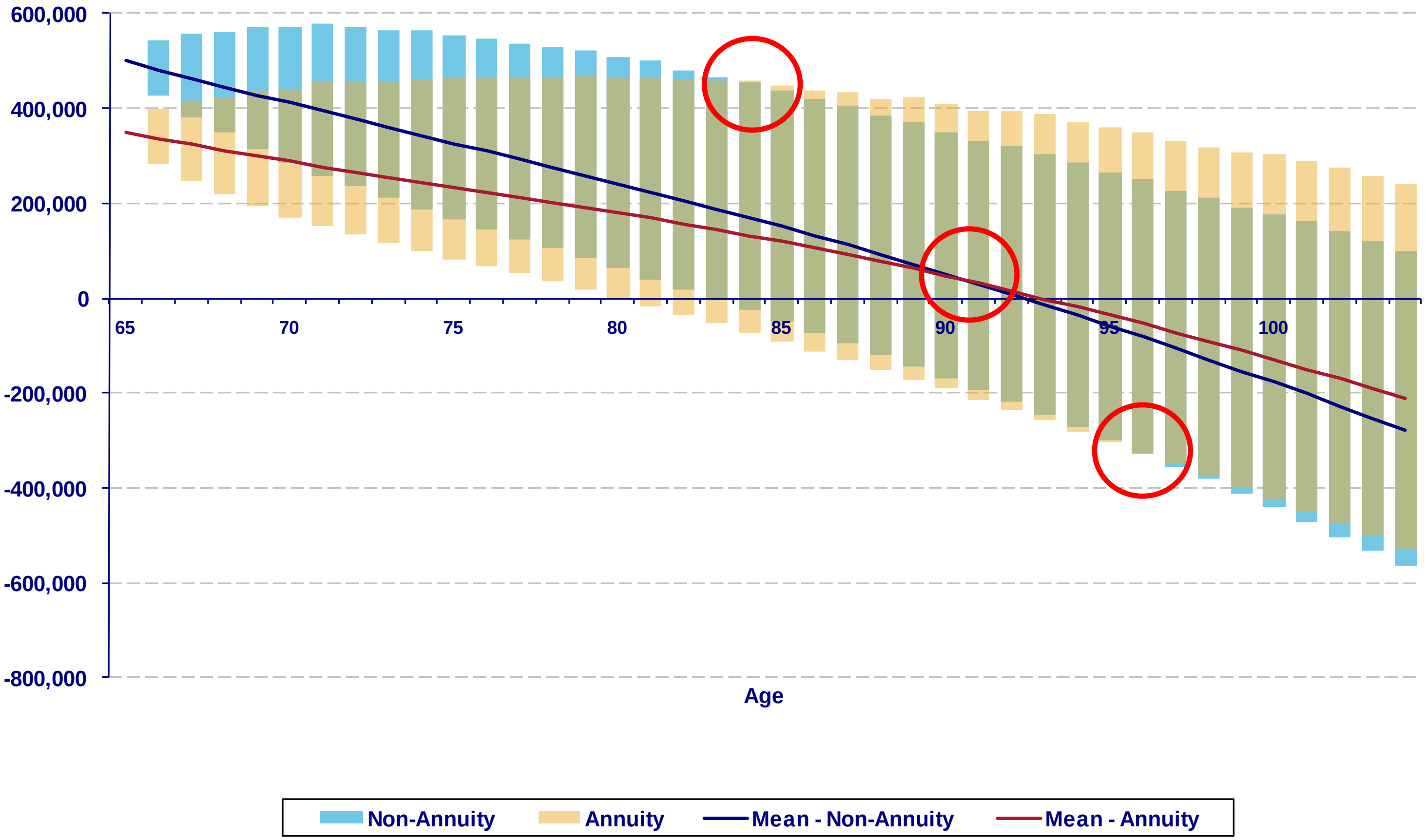
Adding annuities to the mix

- Consider a retirement portfolio comprising a mix of
  - growth
  - defensive
  - annuities (lifetime, CPI indexed)
- Critical assumptions
  - annuity pricing
  - what part of invested portfolio does annuity replace?

Current Annuity pricing

70/30 strategy, annuity replaces bonds

90% confidence interval of remaining account balance



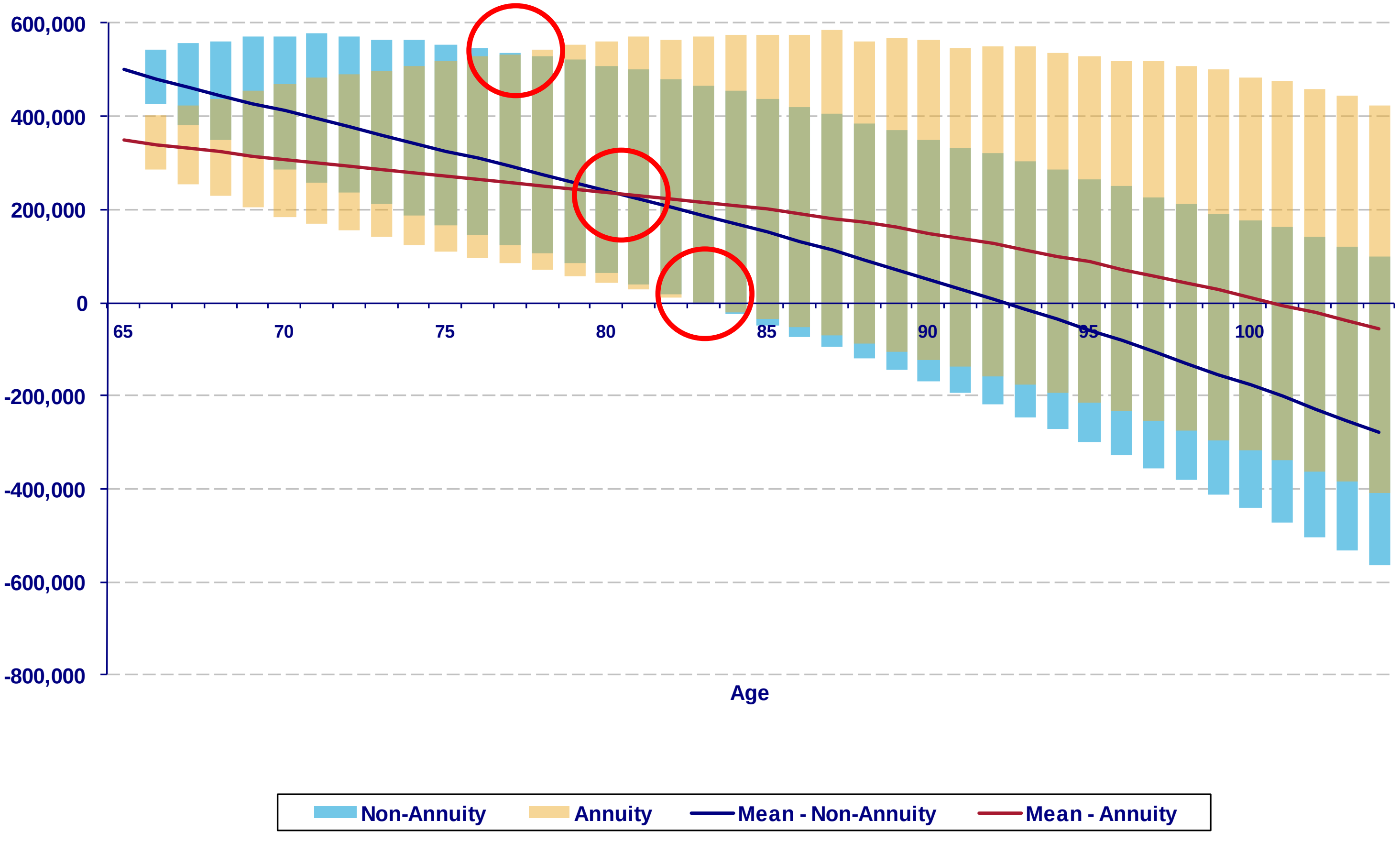
Assumptions: $500,000 Initial account balance; $37,621 pa Target income; 70% Growth, 30% Bonds/Cash or Annuities

- **Current annuity pricing: $4,900 per $100,000**

“Compulsory world” pricing

70/30 strategy, annuity replaces bonds

90% confidence interval of remaining account balance



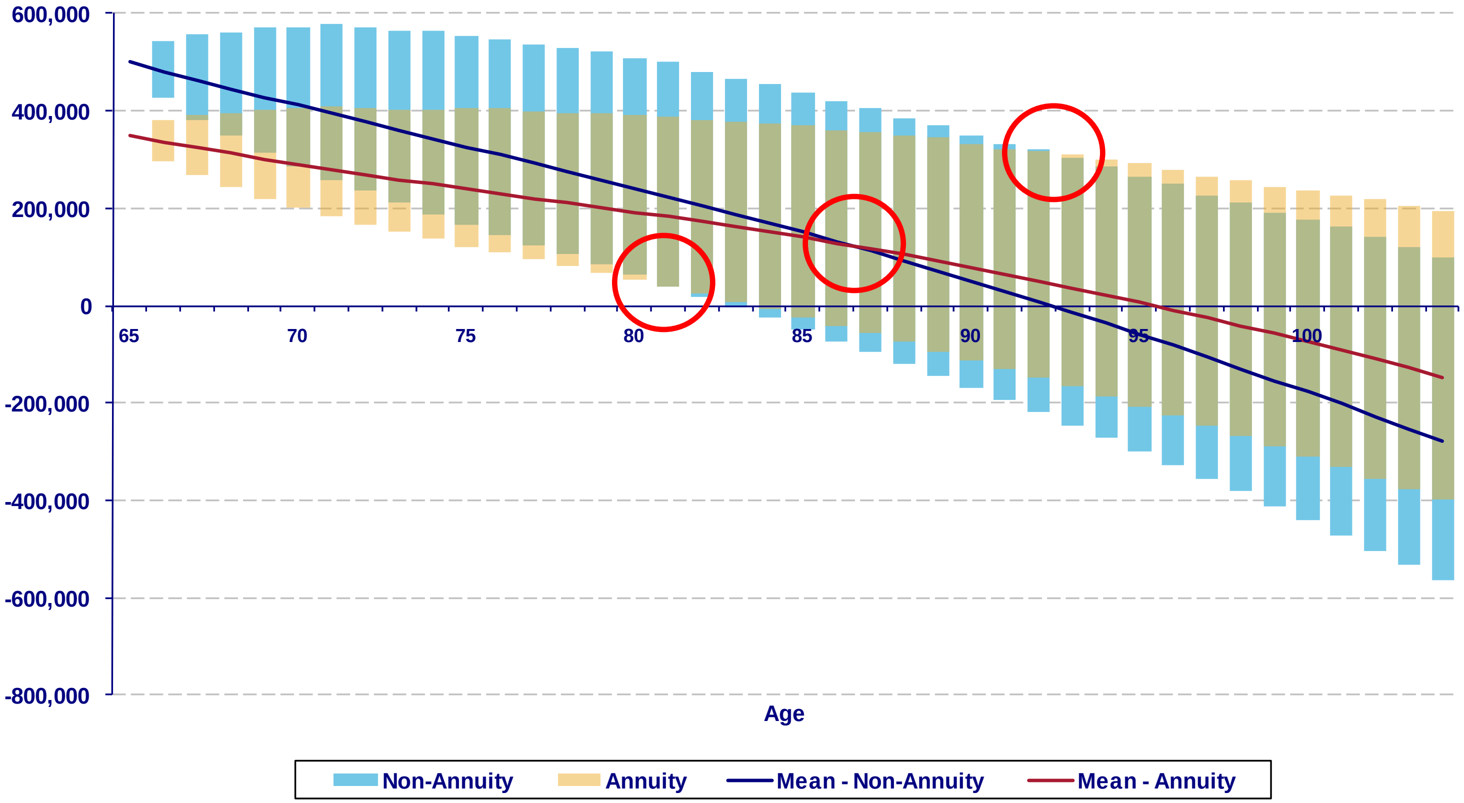
Assumptions: $500,000 Initial account balance; $37,621 pa Target income; 70% Growth, 30% Bonds/Cash or Annuities

- **Compulsory world pricing: $6,900 per $100 K**

“Compulsory world” pricing

70/30 strategy, annuity replaces equities and bonds

90% confidence interval of remaining account balance



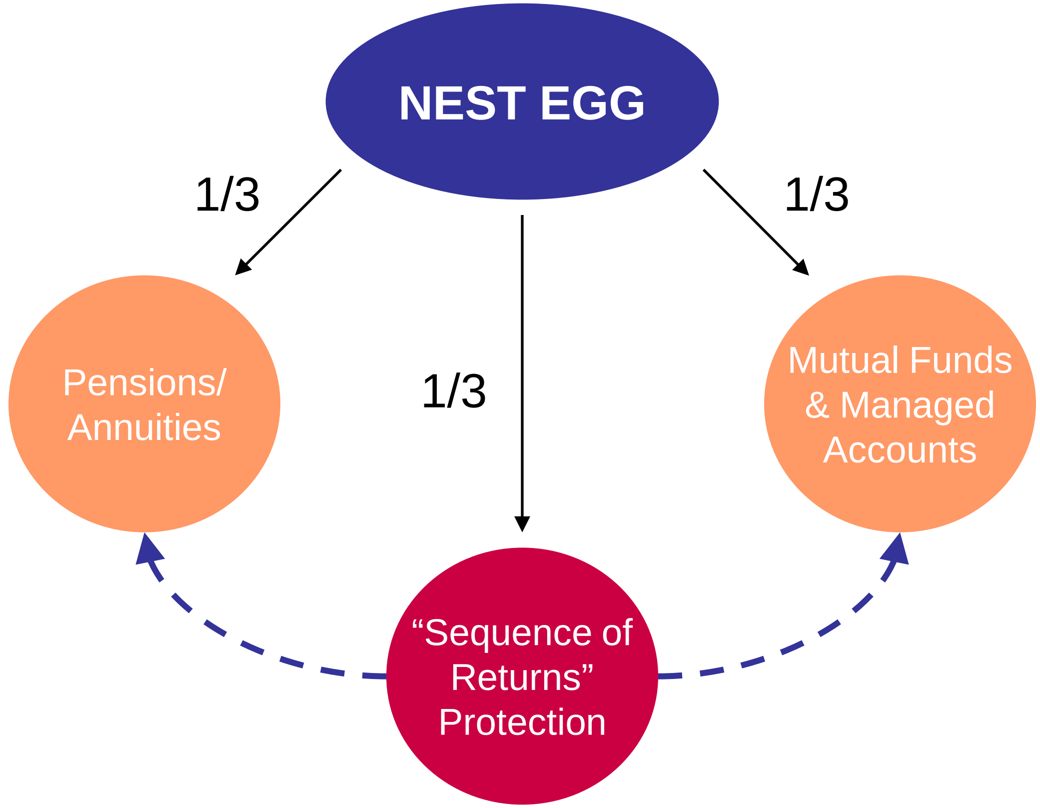
Assumptions: $500,000 Initial account balance; $37,621 pa Target income; 70% Growth, 30% Bonds/Cash versus 50% Growth, 20% Bonds/Cash, 30% Bonds/Cash or Annuities

- **Under this approach, the non-annuity portion of the portfolio is invested 70/30 (rather than 100% growth)**

Observations

- Value of adding an annuity increases as retiree lives longer
- Annuity as defensive asset increases growth exposure over time
- Annuity pricing is critical

The future of Product Design ?



Source: Adapted from Moshe A. Milevsky

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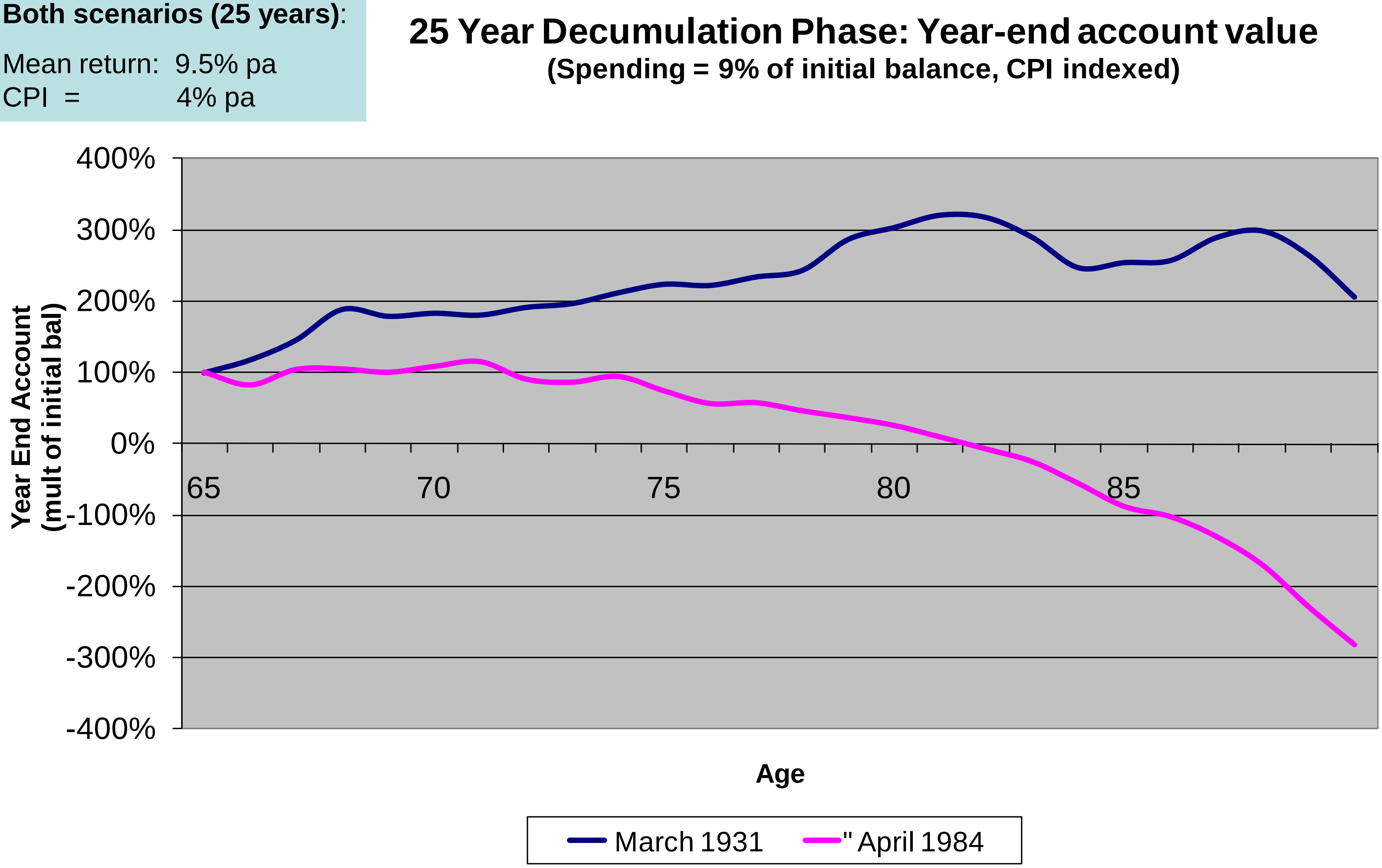
Please note that investment returns can fall as well as rise and that past performance is not a guide to future investment returns.

The sequence of returns matters

Both scenarios (25 years):

Mean return: 9.5% pa
CPI = 4% pa



Ruin and Inadequacy