Retirees' Longevity Risk

Duncan Rawlinson and Michelle Cater

Before We Begin…

- Disclaimers
  - The views expressed in the paper are those of the authors alone
  - For the reasons noted in our paper, our analysis is general in nature and should not be used or relied upon as a substitute for specific advice or as a basis for making specific business decisions
- Reproduction
  - Reproduction of the contents of the paper is permitted provided that the paper and its authors are acknowledged as the source
- Peer Review
  - We thank Anton Kapel for peer reviewing our paper
  - The authors are responsible for any errors that may remain

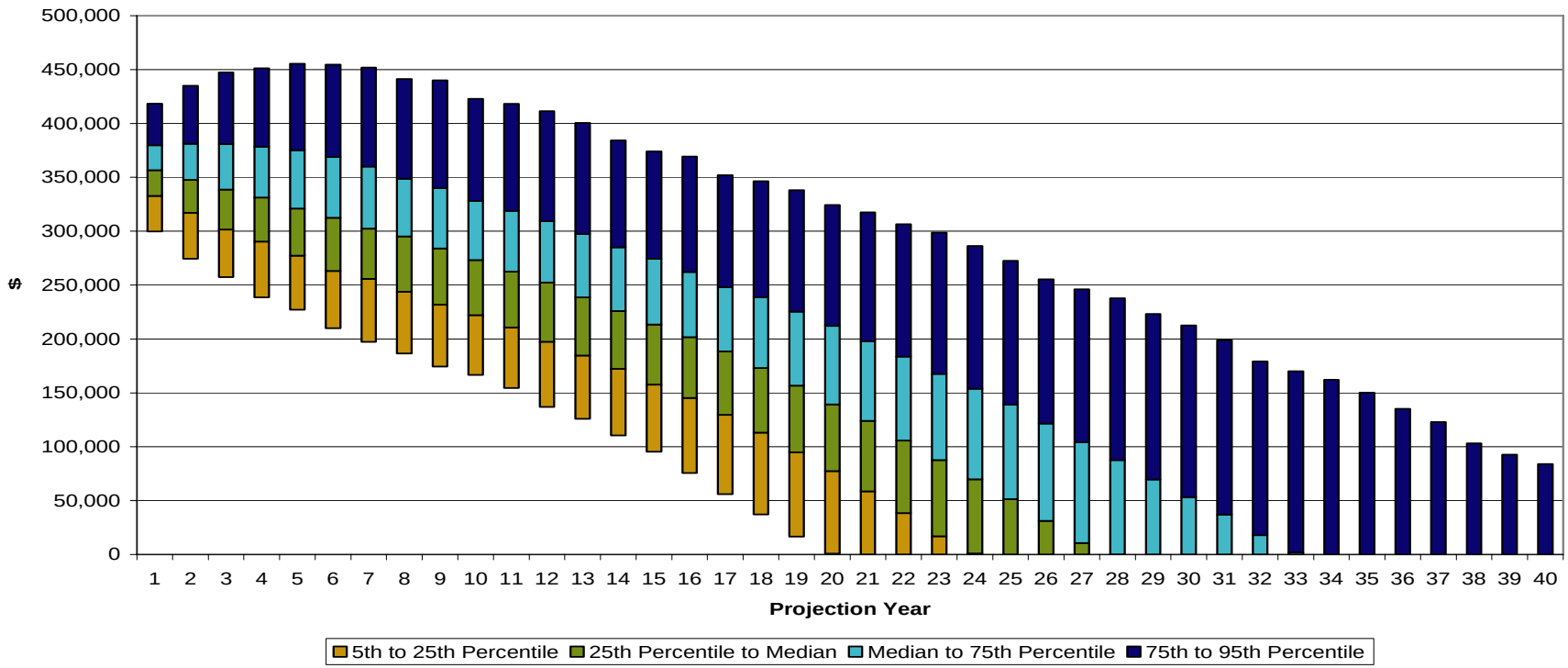
Nature of Longevity Risk

- The paper notes myriad financial and non-financial risks faced by retirees
- The paper focuses on certain key financial risks only
- A key theme of the paper is the random statistical uncertainty for an allocated pensioner i.e. the binary risk of survival or death from one year to the next
- By contrast, parameter risk is the greater concern for an annuity provider (assuming of course that the provider has a sufficiently large/homogeneous pool of annuitants)

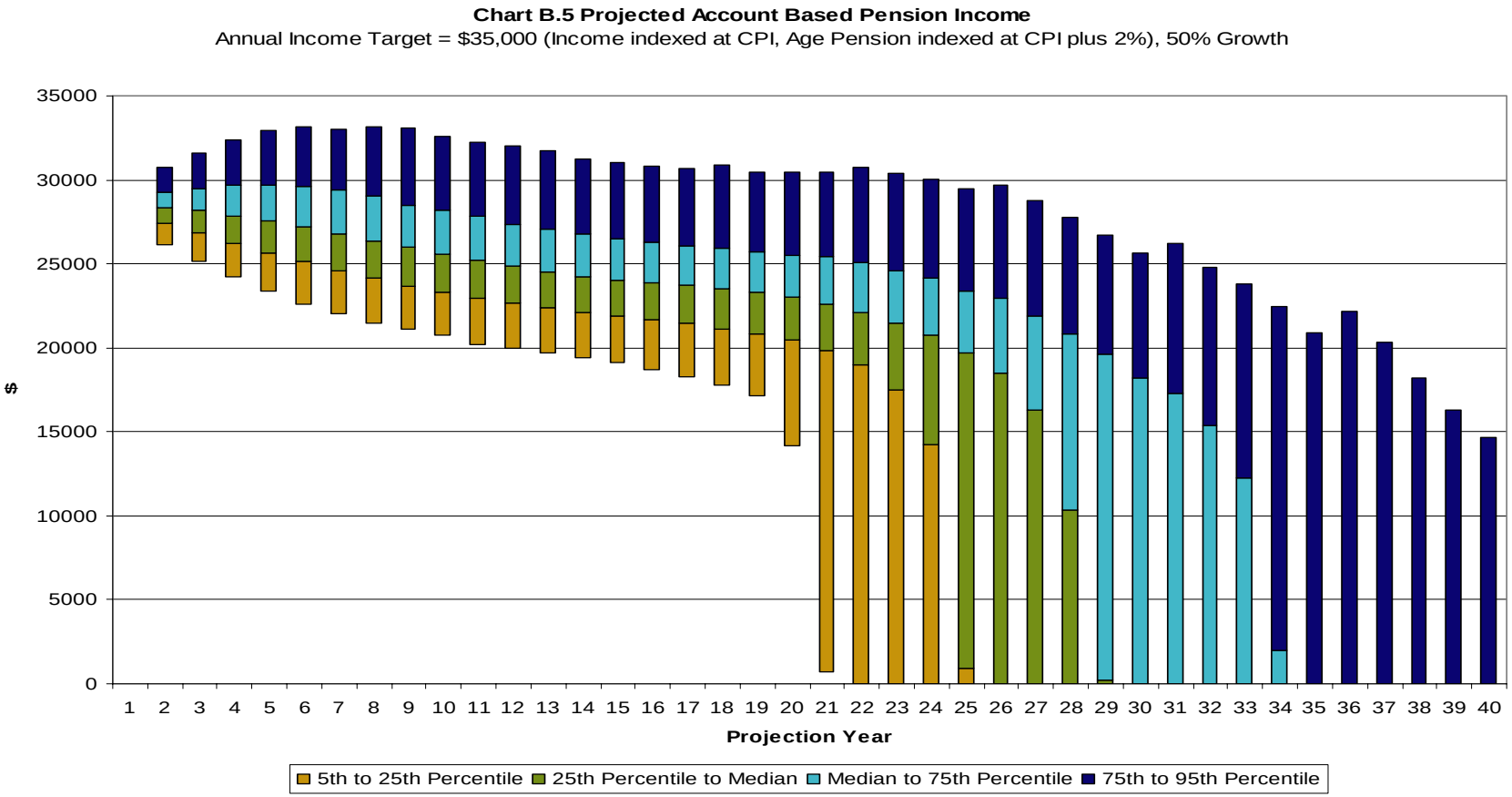
Longevity Risk Exposure	Annuity Provider	Allocated Pensioner
Parameter Uncertainty	✓ ✓ ✓	✓
Statistical Uncertainty	✓ *(in theory)*	✓ ✓ ✓

How long will my Allocated Pension last?

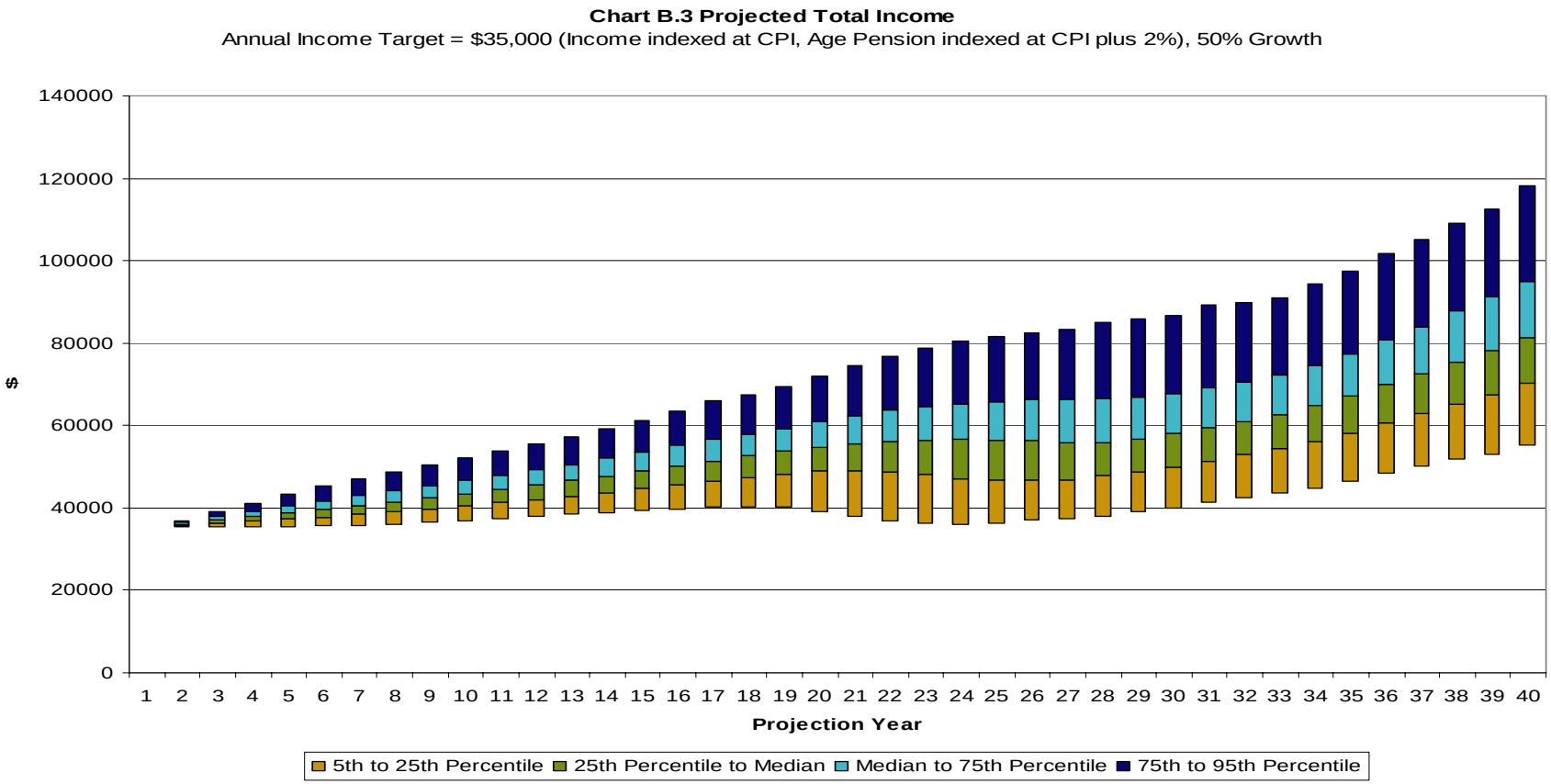
Chart B.2 Projected Account Based Pension Fund Balance
Annual Income Target = $35,000 (Income indexed at CPI, Age Pension indexed at CPI plus 2%), 50% Growth



How long will my Allocated Pension last?



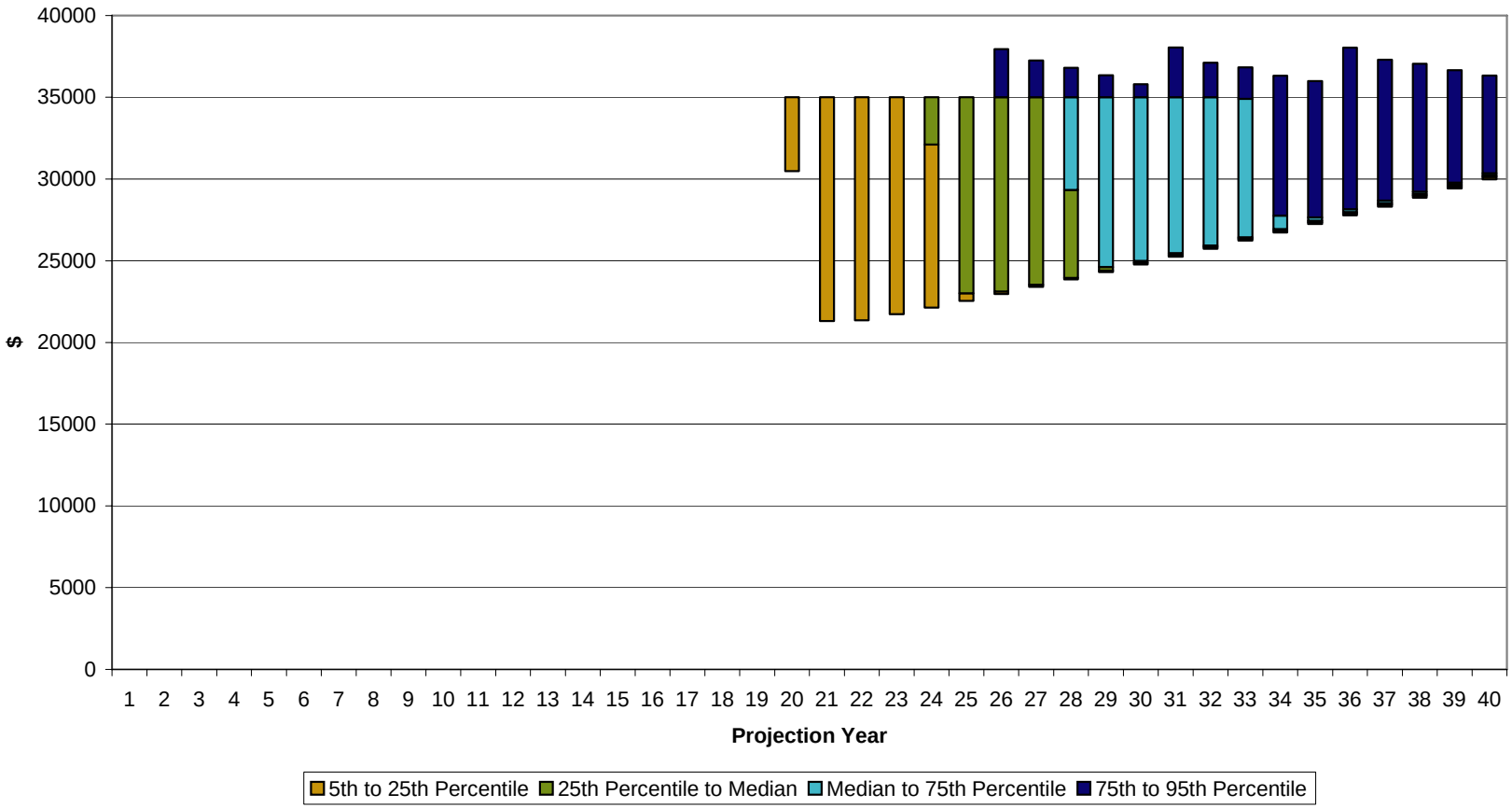
How long will my Allocated Pension last?



How long will my Allocated Pension last?

Projected Total Deflated Income

Annual Income Target = $35,000 (Income indexed at CPI, Age Pension indexed at CPI plus 2%)



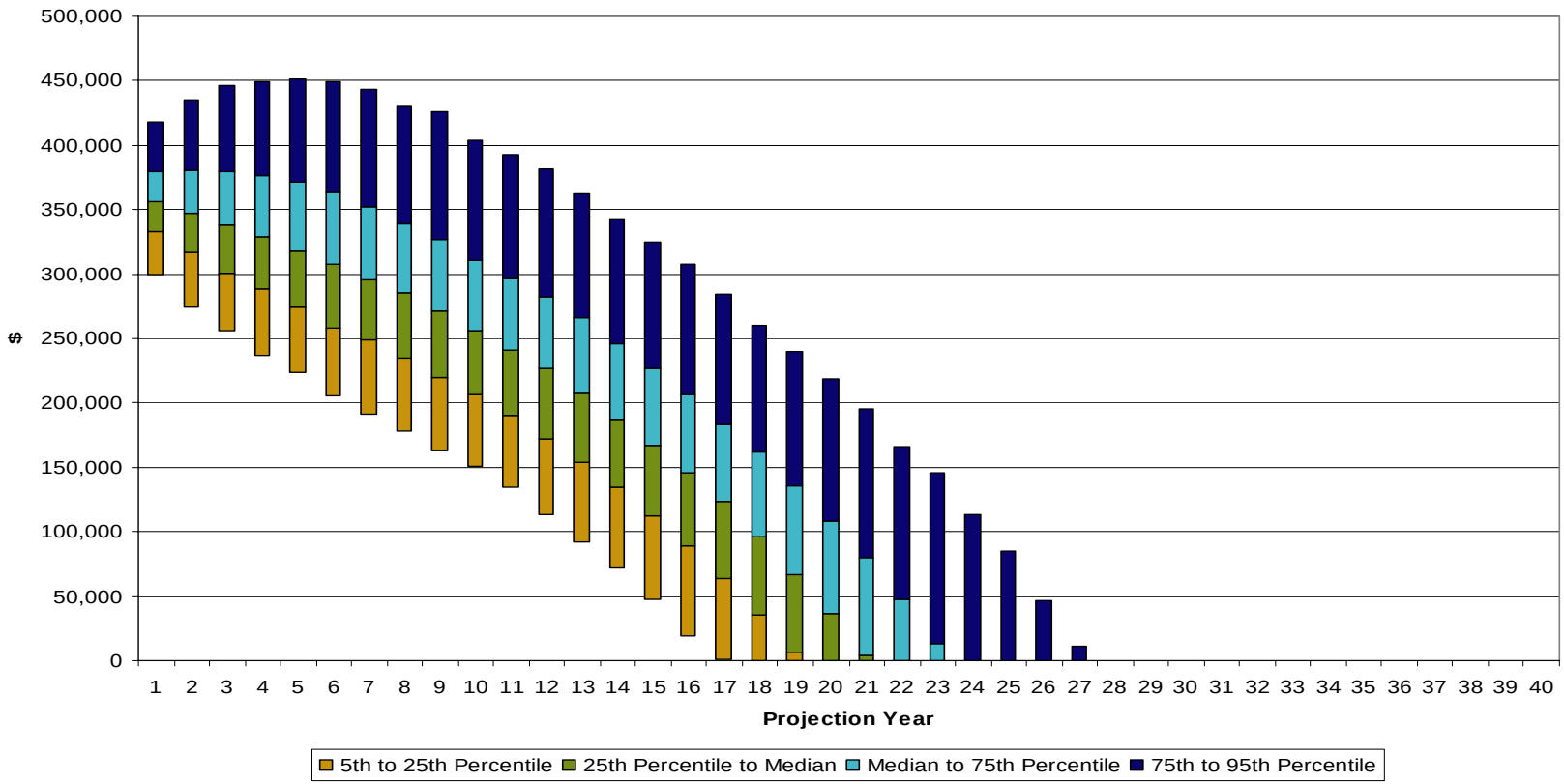
Illustrations of Allocated Pensioner Longevity Risk

Male Currently Aged 60[(1)]		Likelihood that Allocated Pension will be depleted	
		50% Growth Assets	30% Growth Assets
1 in 20 chance of dying before age	66	0% chance of fund being depleted before this age	0% chance of fund being depleted before this age
1 in 4 chance of dying before age	78	1% chance of fund being depleted before this age	0.5% chance of fund being depleted before this age
1 in 2 chance of dying before age	86	36% chance of fund being depleted before this age	46% chance of fund being depleted before this age
3 in 4 chance of dying before age	92	68% chance of fund being depleted before this age	80% chance of fund being depleted before this age
19 in 20 chance of dying before age	100	85% chance of fund being depleted before this age	93% chance of fund being depleted before this age

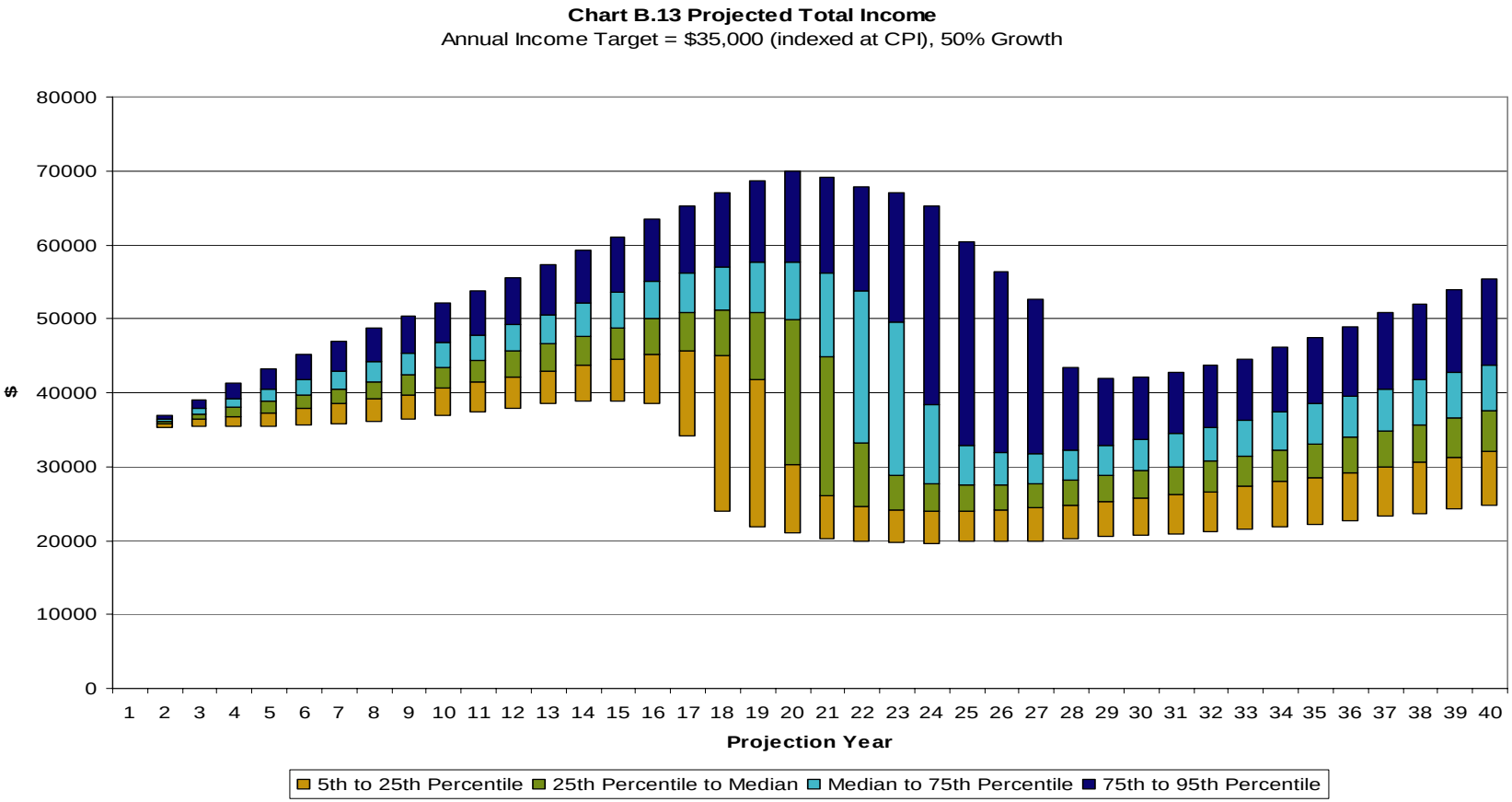
(1) Based on ALT 00-02 with mortality improvements

How long will my Allocated Pension last?

Chart B.12 Projected Account Based Pension Fund Balance
Annual Income Target = $35,000 (indexed at CPI), 50% Growth

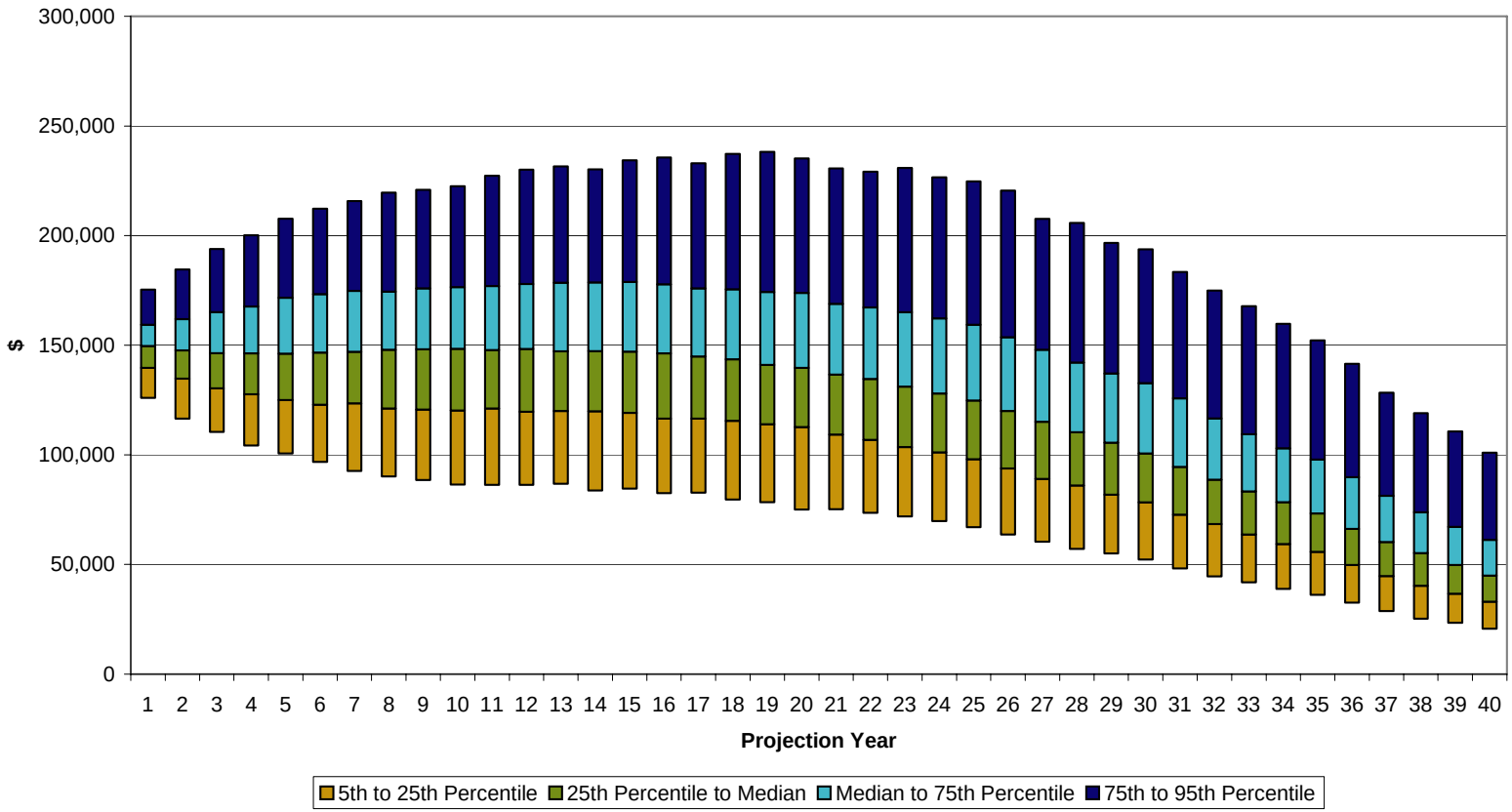


How long will my Allocated Pension last?

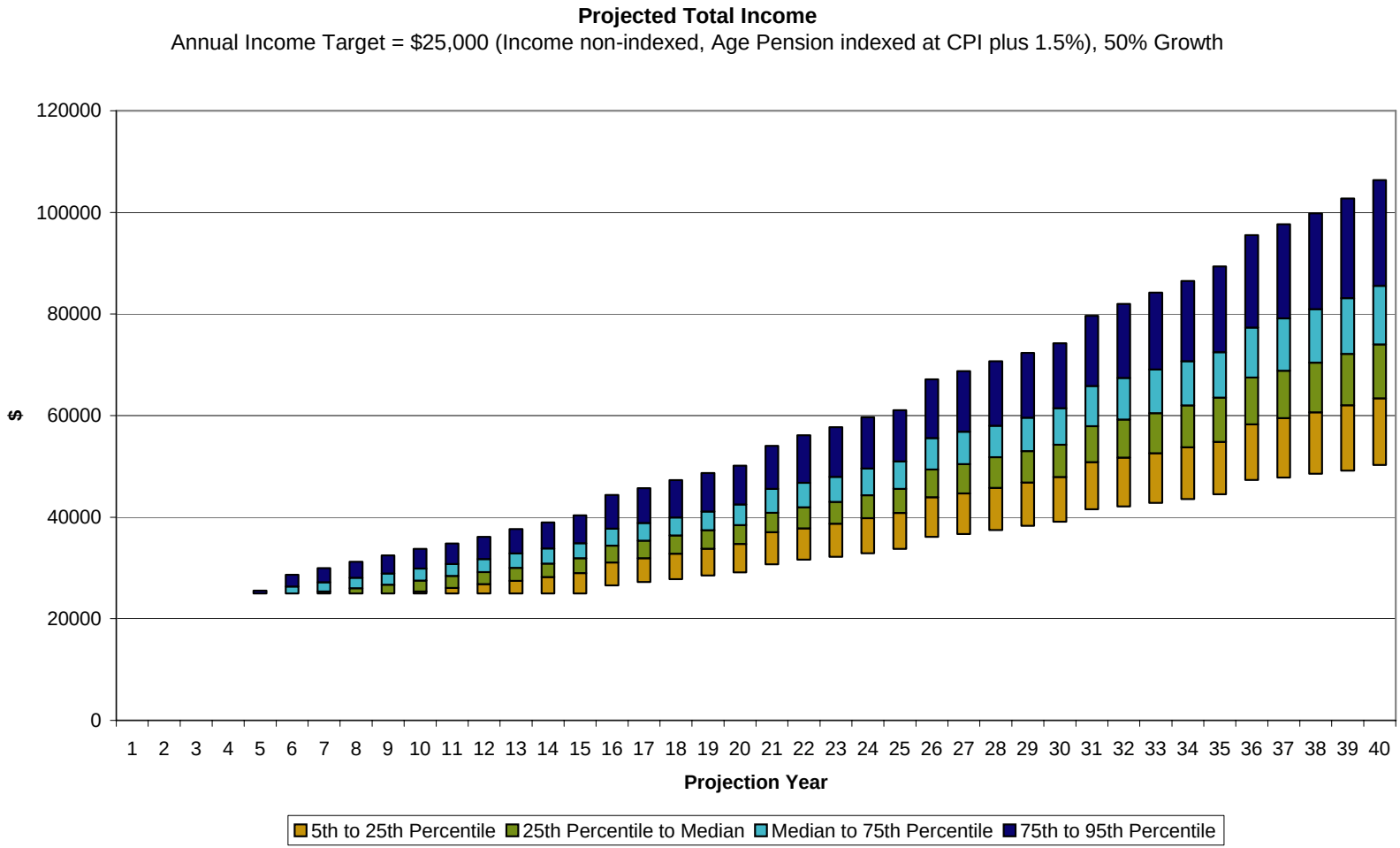


How long will my Allocated Pension last?

Projected Account Based Pension Fund Balance
Annual Income Target = $25,000 (Income non-indexed, Age Pension indexed at CPI plus 1.5%), 50% Growth



How long will my Allocated Pension last?



Implications for the advice process

- Better enunciation of the nature/extent of longevity risk assumed:
  - Longevity risk "underpin" provided by the age pension – a "Commonwealth GMIB"
  - Longevity risk may be transformed (in part) into political risk
- Importance of assessing investment risk by reference to a retiree's attitude to the dispersion of fund depletion outcomes (rather than more traditional measures of investment risk)
  - More sophisticated tailoring of investment strategy in light of a more comprehensive enunciation of risk
  - Better illustration of risk/return characteristics of an allocated pension relative to longevity
- More effectively weighing up the merits (costs and benefits) of new forms of investment guarantees emerging within allocated pensions
- Seeking ways of presenting complex information in a simple but useful way
- Better management by AFS licensees of the risks associated with the retirement income advice process

Survivor Risk Premium (SRP)

- How rational is the decision not to purchase a lifetime annuity?
- No free lunch
- SRP is an economic measure which contributes to assessing this decision:
  - represents the annual cost of electing not to purchase a lifetime annuity the SRP
  - the implicit financial benefit that flows to surviving annuitants on account of the death of some annuitants in the prior year (which an allocated pensioner forgoes)
- Simplified assessment of SRP:
  - Ignores the utility a retiree derives from payment of the AP fund balance on death
  - Assumes survival from one year to the next
  - Deterministic investment portfolio risk premium, adjusted for difference in product fees
- More refined assessment of SRP:
  - Seeks to address the death benefit utility
  - Relaxes the assumption of survival
  - Stochastic investment portfolio risk premium, adjusted for difference in product fees

Chart 2. Portfolio risk premium (PRP) vs Simplified Survivor risk premium (SRP)

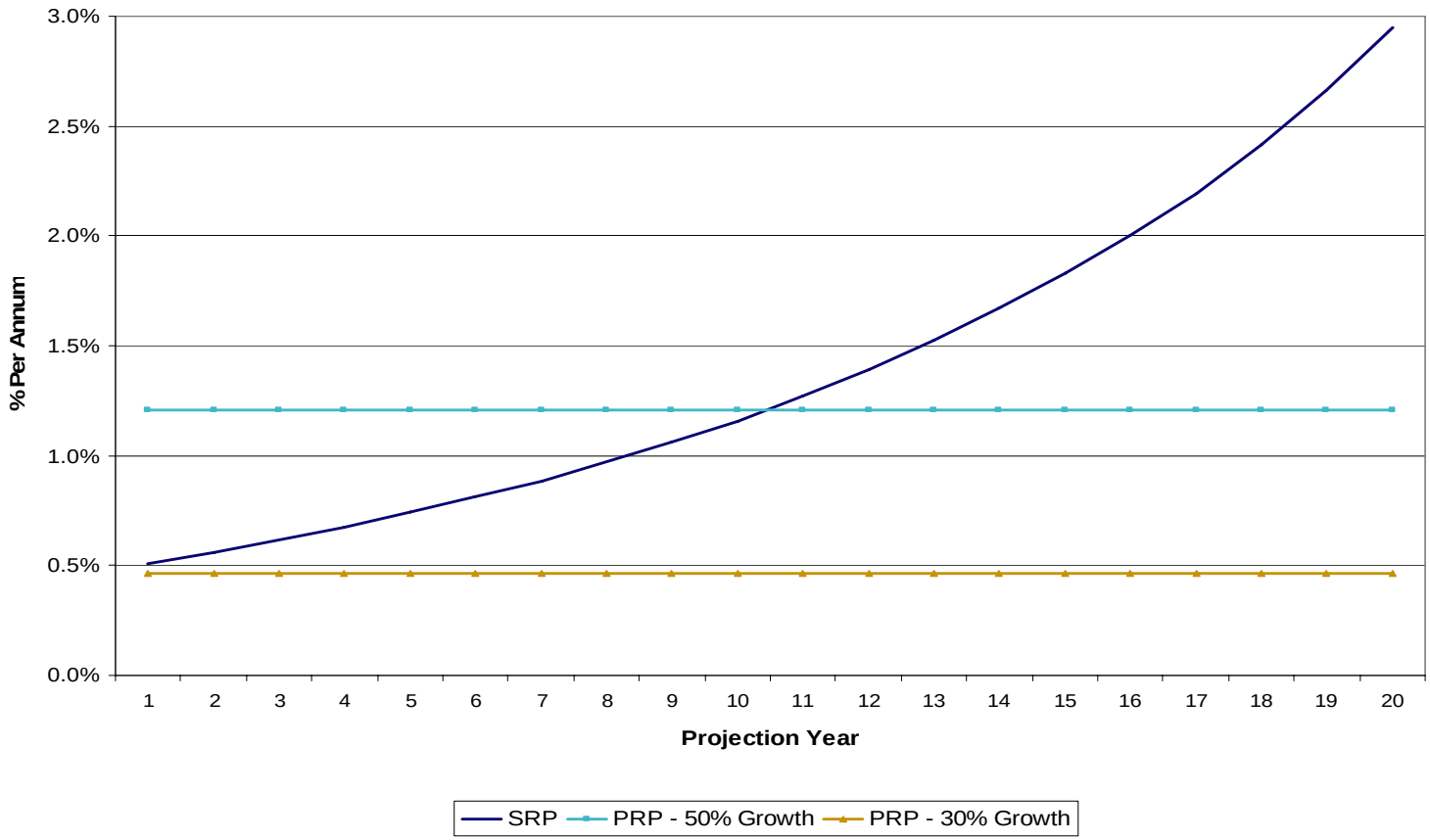


Chart 3. Portfolio risk premium (PRP) vs Survivor risk premium (SRP) - with indexation

Investment Mix - 50% Growth

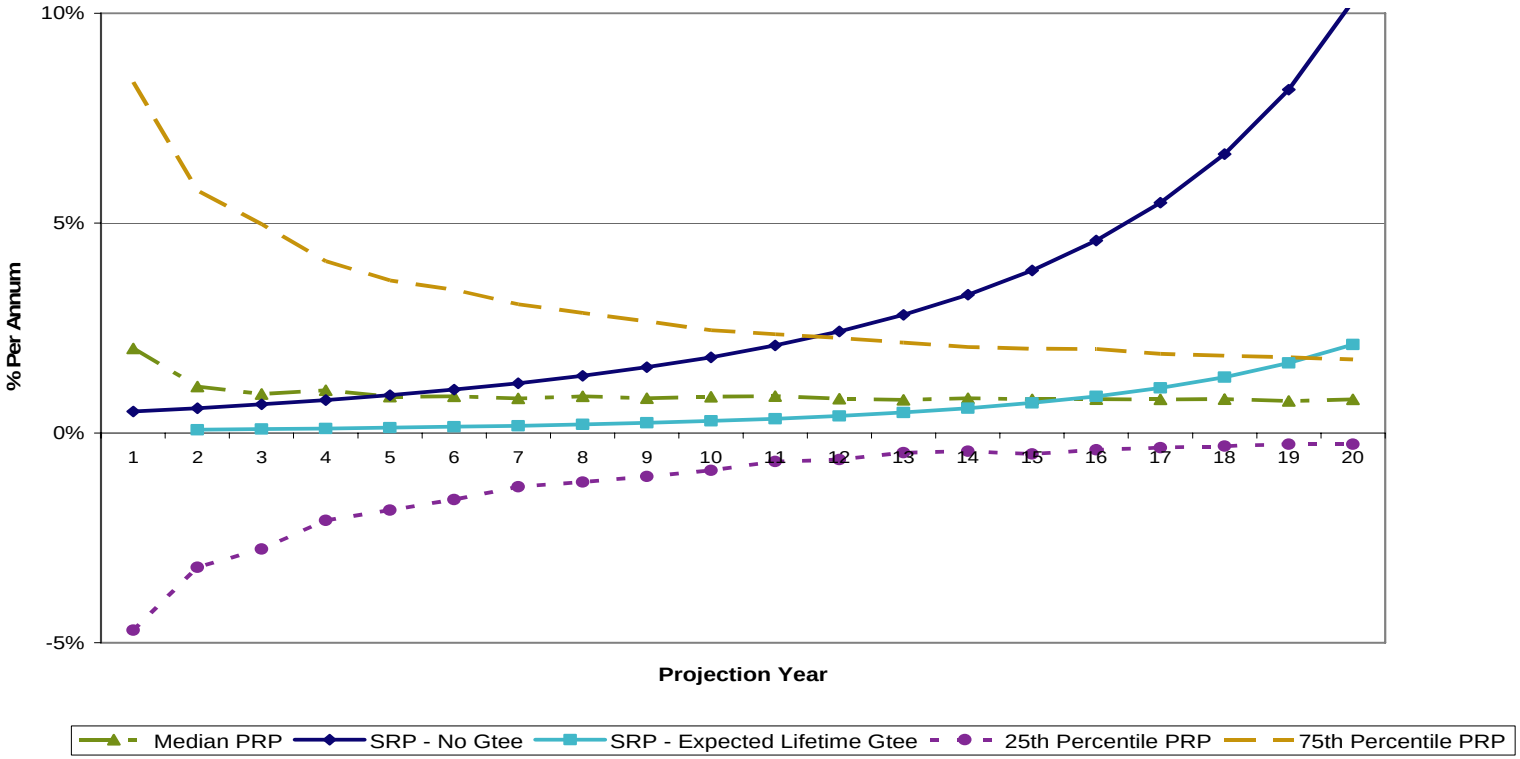
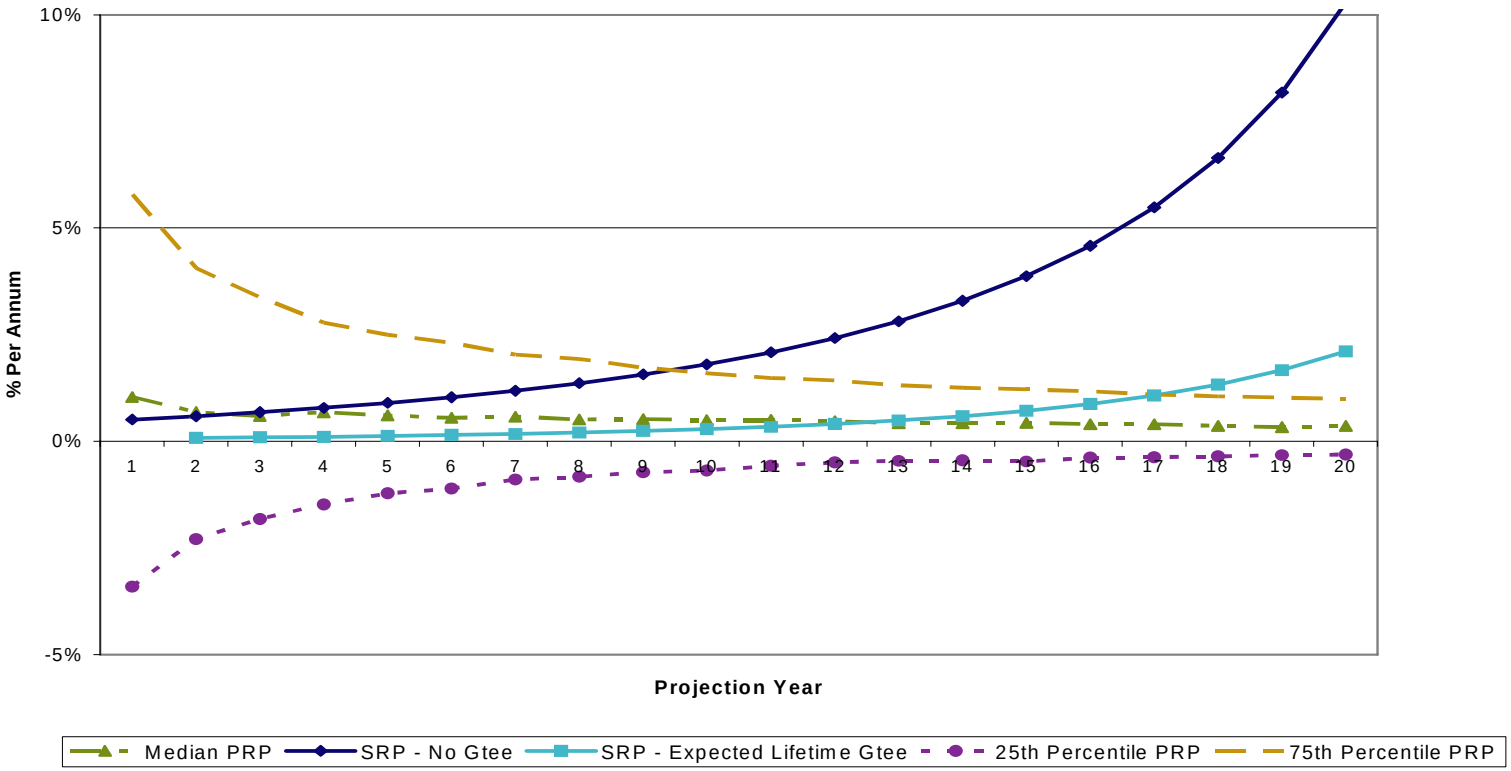


Chart 4. Portfolio risk premium (PRP) vs Survivor risk premium (SRP) - with indexation
Investment Mix - 30% Growth



Implications for the advice process

- In short, better satisfying a “reasonable basis of advice” test
- Judging investment risk by reference to a more relevant return benchmark i.e. SRP
- Highlighting the increasing opportunity cost (and risk) of the flexibility offered by an allocated pension
- More effectively weighing up the merits (costs and benefits) of new forms of investment guarantees emerging within allocated pensions
- Better informing the decisions made by retirees at and during retirement
- Supporting a valuable continuing role for an adviser during retirement
- Better management by AFS licensees of the risks associated with the retirement income advice process

Retirement Income Product Suite

Investment Risk	***Non-Guaranteed***	Inv-linked Lifetime Annuity GMWB	Annuitised Fund	Inv-linked Allocated Pension
	Pooled	Par Lifetime Annuity	Par Lifetime Annuity Annuitised Fund	Par Allocated Pension
	Underwritten/ Guaranteed	Trad Lifetime Annuity GMIB/GMWB	Annuitised Fund	Non-par, capital guaranteed AP GMAB/GMWB
		Underwritten	***Pooled***	***Self-Insured***
	Longevity Risk			

Key Product Considerations Arising

- What does this analysis imply for the optimum mix at, and during, retirement between non-guaranteed APs, embedded AP guarantees, lifetime annuities and the age pension?
- What form of allocated pension guarantee will provide a sufficient proposition to warrant recommending in light of:
  - A guaranteed benefit which reduces the tail of adverse outcomes, judged against…
  - …a guarantee fee that may substantially reduce the median/mean outcome, and
  - …a guarantee fee that reduces the likelihood of outperforming the SRP?
- What is the size of the market for these guarantees in light of:
  - The present policy regarding the age pension and its impact on retirees, and
  - The implications of the analysis in the paper?
- Do providers need to enhance their tools for assessing/promoting guaranteed benefits?
- Is the current level of retail sector allocated pension fees an impediment to adding substantive guarantees?
- What does the SRP analysis imply for products which seek to pool longevity risk, such as annuitised funds?