Institute of Actuaries of Australia

Super Policy Forum

Developing a Robust Retirement Income System – Risk Pooling and Longevity Risk

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Agenda

1. Recap on Longevity Risk
2. Lifestyle Risks for Retirees
3. Longevity Products
4. Australian Market Characteristics
5. Longevity Risk Management

Recap on Longevity Risk

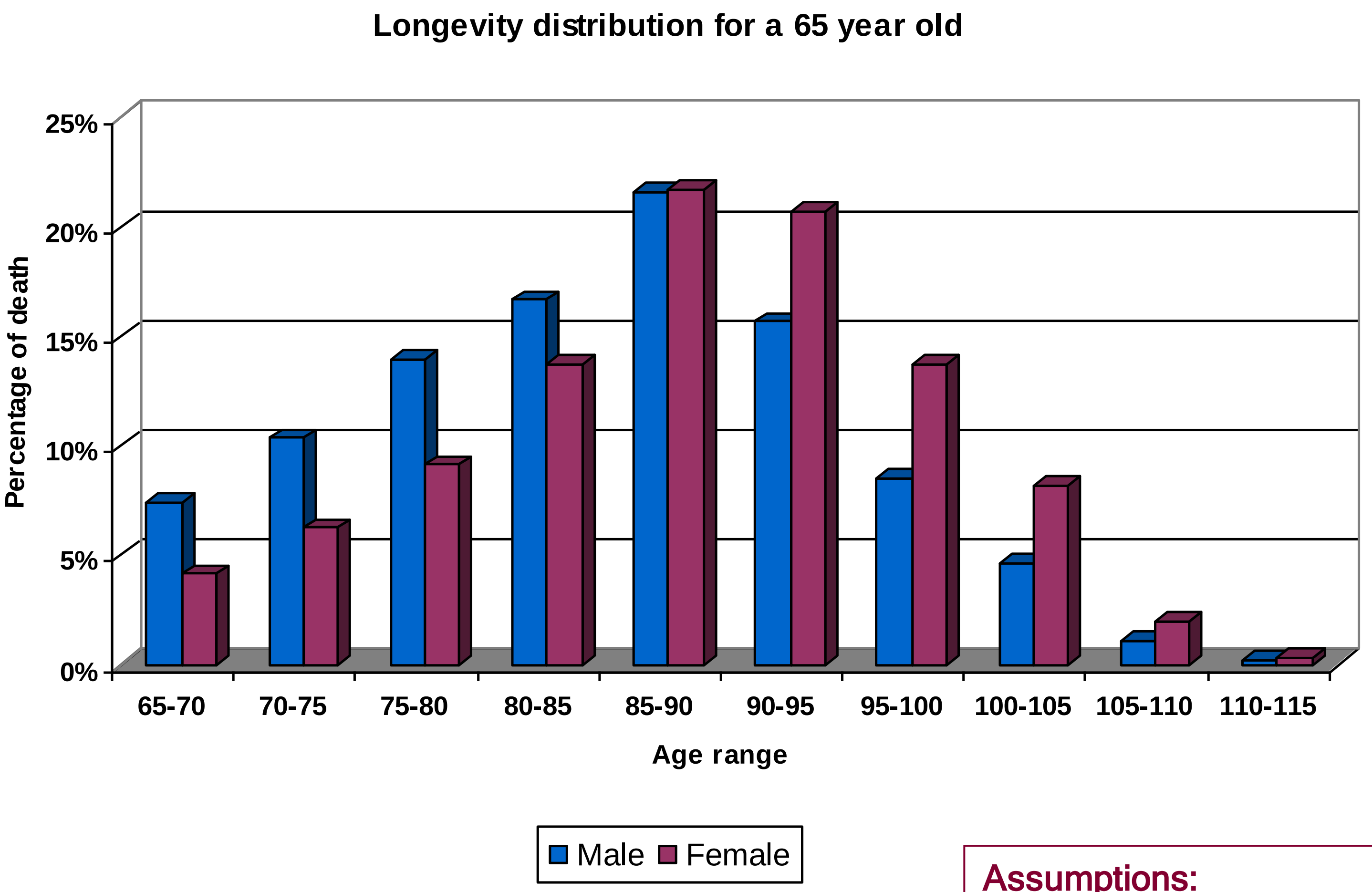
Age of Survival for 65 year olds

% Surviving	Females	Males
90	75	71
80	80	76
70	84	79
60	87	82
50	89	85
40	91	88
30	93	90
20	96	93
10	100	97

Assumptions:

ALT 00-02 with mortality improvement of 1.5% p.a. up to age 85, 0.75% p.a. up to age 100 and none after

Longevity Distribution



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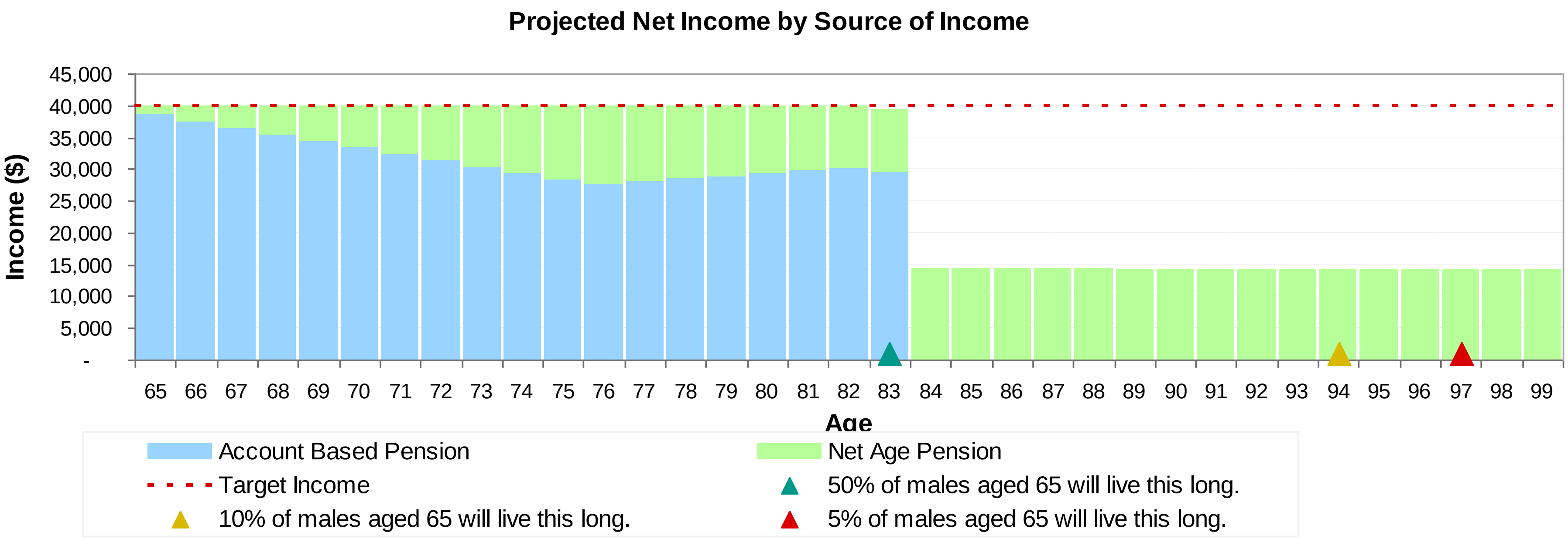
Typical Retirement Strategy



Assumptions:

Single male with account balance at age 65 of $500,000

Retirement income: $40,000 (8% of retirement balance)

Real rate of return: 2.70% p.a. before fees and tax

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Lifestyle Risks for Retirees

Lifestyle Risks for Retirees

- Managing personal cash flow – retirees will be uncertain about their expenditure patterns; some will be frivolous and squander their benefit
- Most will be unaware of the different phases of retirement and expenditure patterns
- Adapting lifestyles - retirees need to make long-term decisions about health, aged care and accommodation
- Estate planning – this is a lottery when you have no idea how much money is needed for consumption over the retirement years. Further, death benefits paid to non dependants from a pension are now taxed

Three Distinctive Phases of Retirement

Active *Ages 60 to 75*	*Passive* *Ages 65 - 85*	*Frail* *Ages 75 to 100*
Continuation of lifestyle but more time for leisure, travel and family	Shift to more passive activities; travel is closer to home	Restricted mobility means leisure activities are limited
Some part-time work	Some unpaid charitable work	Reduced contribution to economy and society
Increased expenditure on leisure. Majority are still nett savers	Increased expenditure on health. More frugal lifestyles.	Increased dependency on aged care expenditure
Housing upgrade	Housing down-sizing	Retirement village or nursing home

Summary of Income Needs in Retirement

- Expenditure in Active Phase is less than 75% of salary at retirement
  - Costs associated with working have ceased
  - Mortgage has been paid off
  - Some discretionary spending on children
  - Replacement of white goods and car – and an expensive holiday

- Expenditure in Passive Phase reduces
  - Lifestyle becomes more frugal
  - Pensioners become more conservative (no scope to recover from losses)

- Expenditure in Frail Phase grows
  - Health costs spike
  - Aged care and accommodation needs change
  - Decision-making ability is diminished

Current Research

- AMP and Rice Warner have partnered ANU's College of Business and Economics to investigate expenditure in retirement.

- Three year ARC Grant will measure expenditure needs and preferences in retirement

- Officially commenced July 2008

Drivers of Variability on Post Retirement Expenditure

- Net income
- Source of income (government v non-government)
- Wealth (excluding home)
- Value of home
- Age
- Gender
- Household type (single and couple)
- Education
- Tenure (owner with mortgage, owner without mortgage, renter)

Notable Observations on Expenditure Patterns

- Current income and wealth highly correlated with expenditure

- Even after controlling for net income, wealth, and other factors, the following are significantly correlated with total expenditure:

  - Age
  - Education
  - Tenure (owner with mortgage, owner without mortgage, renter)
  - Gender
  - Source of income

WHY ?

Implications

- Substantial variation in consumption preferences according to:
  - **age**, single/couple status, gender, income, source of income, wealth, education, tenure…

- Variation confirms the need to better quantify variability in consumption levels.

- Retirees, and pre-retirees, when estimating their own needs, may benefit from observing the consumption patterns of others.

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Longevity Products

Longevity “Products”

“Product”	Funding	Access to Capital	Investment Risk	Longevity Risk
Extended Family	Family	N/A	N/A	Family
Age Pension (set at 25% of MTAWE*)	Federal Government	N/A	N/A	Federal Government
Lifetime Annuities	Individual	No	Provider - Pooled	Provider - Pooled
DB Superannuation Funds (incl. Public Sector)	Employer / individual	No	Employer - Pooled	Employer - Pooled
Typical Account Bases Pension	Individual	Yes	Individual	Individual
Variable Annuities# / Guarantees Lifetime Pensions	Individual	Yes	Individual	Provider – Pooled

* Male Total Average Weekly Earnings

Many VA products provide guarantees pension payment only for a fixed period rather than for life

The Death of Lifetime Annuities

- Dependent on interest rates at inception
- Cost of guarantees – investment and longevity
- Capital requirements – reflecting investment and longevity risks
- Lack of appropriate backing assets
  - By term, risk profile and payout characteristics

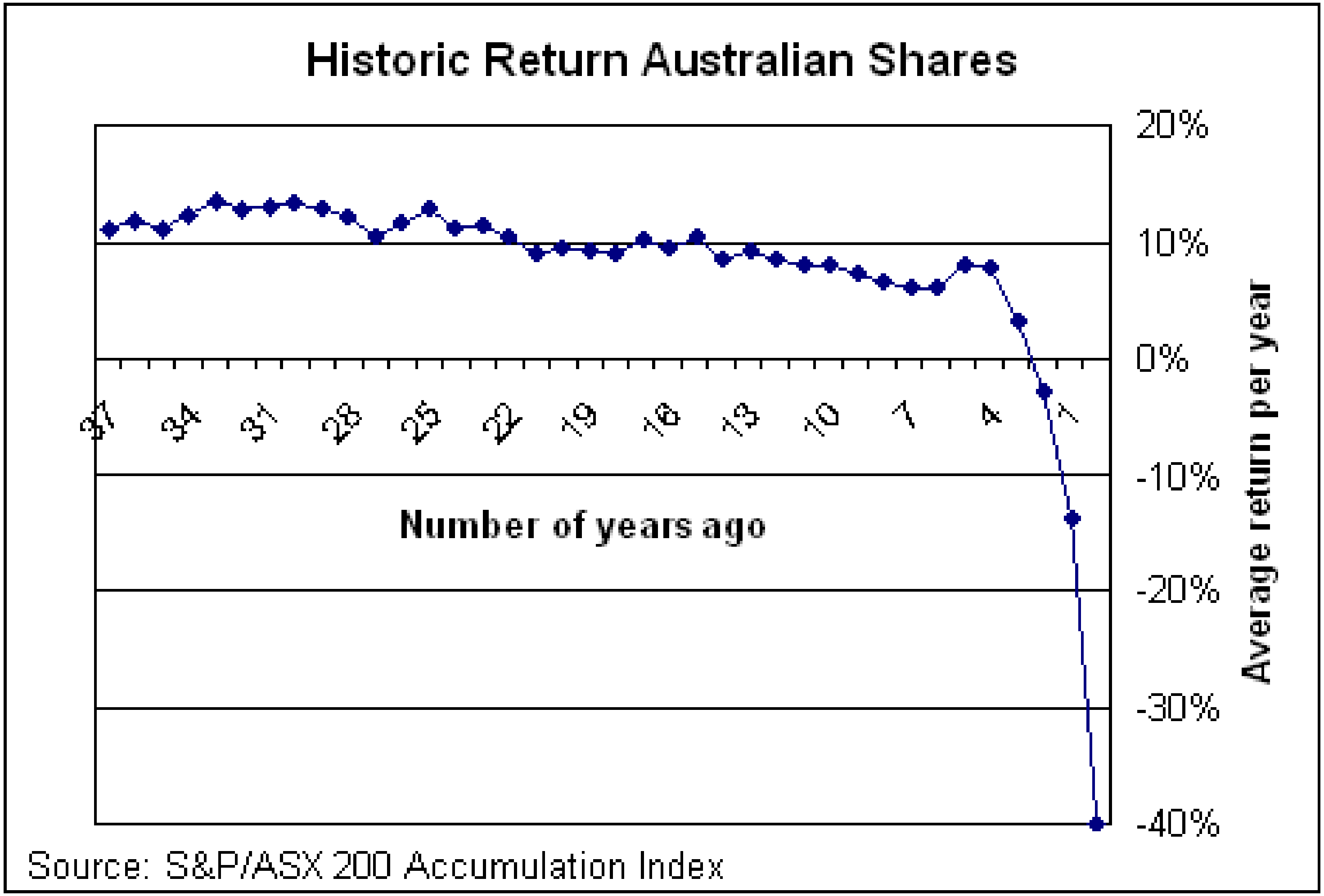
Longevity / Capital Protection Innovations

- Term Annuities
  - Alternative asset backing
  - Dependent on interest rates at inception
- ALIS – Asteron
  - A true longevity product
- AXA North
  - Recent price increase
- Various other spot guarantee products, e.g.
  - Goldman Sachs JB Were – Keystone, HFA - ANZ Discovery Asia, HSBC BRIC, Perpetual - Protected Investments, Macquarie - Fusion Funds, MQ Gateway Trust, Quattro - Vault 08
- "Watch this space"…….
  - Guaranteed Lifetime Pensions
- BUT…..whilst longevity risks with expected improvements can be pooled, the pool can break down if improvements are beyond expectations

Overseas Experience

- Variable Annuities and Guaranteed Lifetime Pensions
- US, Japan, Europe
- Mixed experience during 2008 – actively hedges portfolios have performed well but
  - Basis risk – fund manager performance
  - Increased hedge costs
- Arguably under-reserved and therefore under-priced
- Prices likely to increase

Is Investment In Growth Assets Also Dead?



Lessons from the Past 12 Months

- Sustainability of financial institutions – and their guarantees
- Systemic risks ultimately borne by government – e.g. bank guarantees and bailouts
- Derivatives provide real protection – but not against poor fund managers
- Heightened awareness of financial security – particularly amongst retirees.

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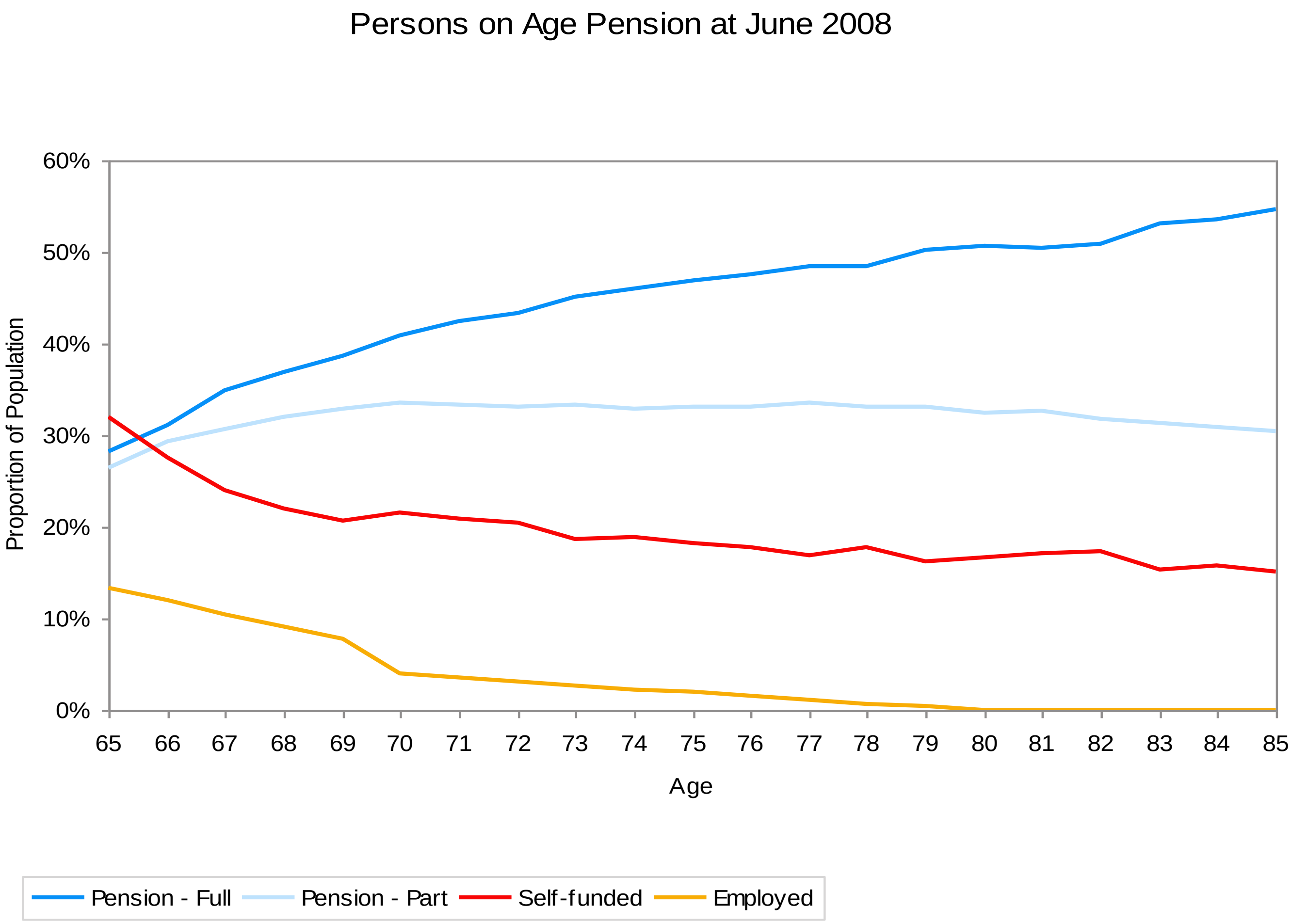
Australian Market Characteristics

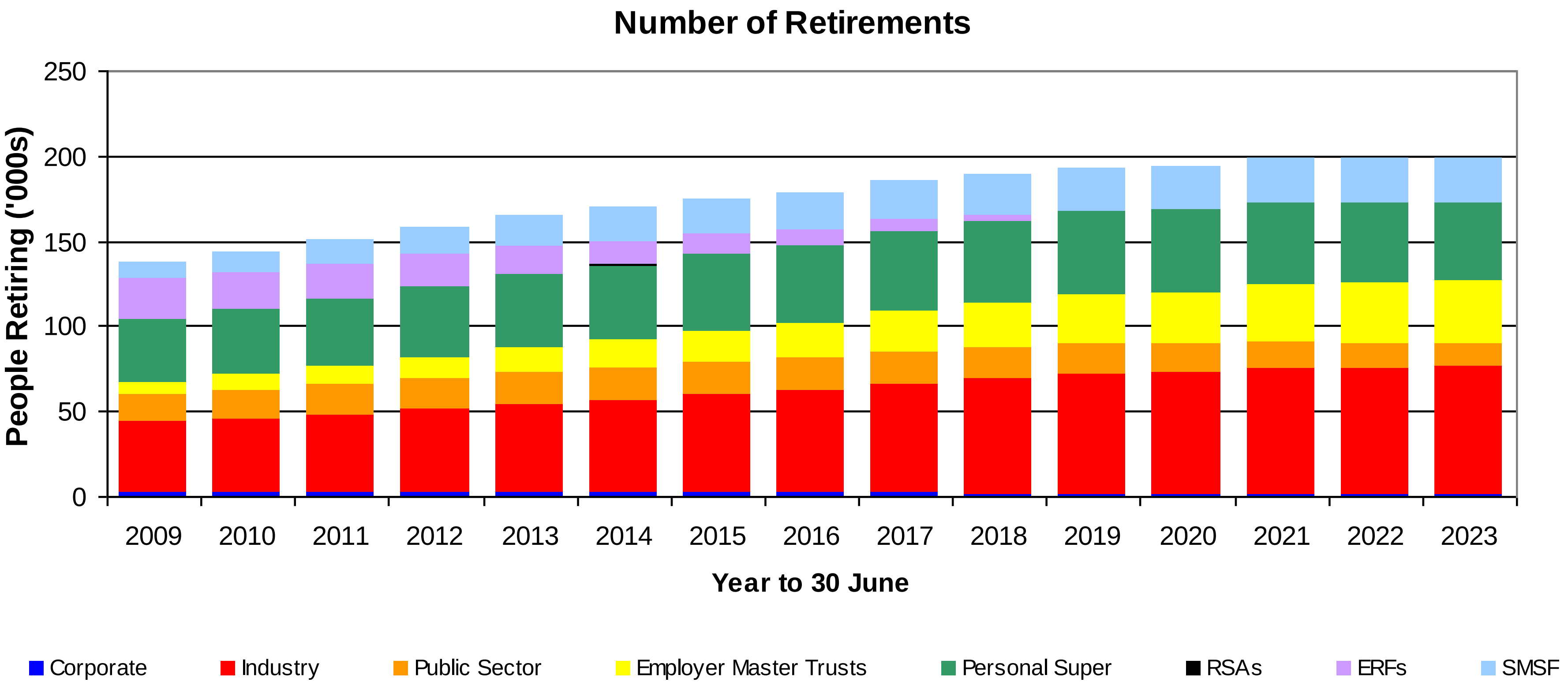
Age Pensioners: 2008



Future Retirees

Number of People Retiring from the Workforce by Superannuation Segment									
Year to 30 June	Corporate	Industry	Public Sector	Employer Master Trusts	Personal Super	RSAs	ERFs	SMSFs	Total Superannuation Market
2009	2,400	41,500	15,600	7,700	36,800	600	23,400	9,800	137,800
2010	2,400	43,400	16,700	8,900	38,300	500	21,900	12,000	144,100
2011	2,500	45,600	17,700	10,300	39,700	500	20,300	14,000	150,600
2012	2,600	48,300	18,800	11,800	41,300	400	18,600	16,000	157,800
2013	2,600	51,400	19,500	13,700	42,900	400	16,700	17,800	165,000
2014	2,500	54,100	19,300	15,900	43,800	300	14,200	19,300	169,400
2015	2,400	57,500	19,100	18,400	45,000	200	11,800	20,800	175,200
2016	2,200	60,200	18,600	20,800	45,700	200	9,100	21,900	178,700
2017	2,000	64,300	18,400	23,600	47,400	100	6,300	23,600	185,700
2018	1,700	67,400	17,800	26,300	48,300	100	3,300	24,300	189,200
2019	1,400	70,800	17,300	28,900	49,200	0	0	25,400	193,000
2020	1,100	72,000	16,100	30,900	48,300	0	0	25,300	193,700
2021	900	74,300	15,400	33,300	48,200	0	0	26,100	198,200
2022	700	75,200	14,300	35,000	47,100	0	0	26,100	198,400
2023	600	75,800	13,400	36,400	46,100	0	0	26,500	198,800

Future Retirees



Australian Market Characteristics

- Lump sum mentality
  - No compulsion to take an income stream
  - No tax incentive to take an income stream
- “She’ll be right”
- Fear of “loss of capital”
- Removal of Age Pension advantages (Sept 2007)
- Strong capital / regulatory framework – thankfully!
- Scale: many large funds and default investment options
  - Third / fourth largest superannuation market in the world
- Innovative investment and insurance markets
- Future federal budgets vulnerable to people falling back on the Age Pension
- Current retirees have only modest savings

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Longevity Risk Management

Longevity Risk Management

- Product solutions
- Education / Advice solutions
- Government policy

Product Solutions

- Income streams
- Growth asset backing
- “Protection”
  - Derivative strategies with counterparty risk management
  - Compromise: access to capital, longevity risks covered
  - Possible securitization of longevity risk – but doubtful?
  - Better terms for guarantee only to age 85 – but consumer testing suggests this is undesirable
- High volume, low fee
  - Fee “drag” increases protection costs

Education / Advice Solutions

- Driven by Superannuation Trustees
- Multiple sources – mail, email, web, outbound calls, advisers
- Advice pre retirement - before transition starts
- Structured investment portfolios to cover “lumpy” requirements – paying off mortgage, at retirement expenditure, retirement home bond, etc.
- Advice during retirement - managing draw-downs – investment returns are variable, costs are not

Education / Advice Solutions

- Tailored to individual – not broad advice to accumulate a set retirement pot
- Recognise personal characteristics – income, wealth, marital status, occupation, education, tenure, …
- Customer knowledge – smarter customer data management and mining
- Two pots – liquidity (first 18 months); longer term

Government Policy

- Promotion of annuitisation
  - Reinsure longevity risk - doubtful?
  - Provide appropriate assets – long term indexed bonds
- Double the age pension from age 85?
- Simplify means testing of age pension – allow $250,000 of assets but then no pension until down to that level?

Longevity Products: Strategy for Superannuation Funds

- Income / pension guaranteed at modest level with upside if markets are kind
- Guarantees that are sustainable – emphasis on income – capital items funded separately following advice process
- Member confidence in guarantees – primary risk borne by fund – albeit with portfolio construction, insurance / reinsurance and use of derivatives to offset most of the risk
- Risk management will mean a fundamental change for many DC funds – may add impetus to fund consolidation

Conclusions

- Retirement expenditure patterns vary significantly – therefore so does longevity risk
- Improving longevity is systemic and difficult to pool or hedge
- Australians reluctant to cede significant personal wealth to longevity pool
- Well managed longevity products have performed reasonably well over the past 12 months
- Guaranteed lifetime pensions and other guarantee products linked to account based pensions will be a growth area BUT…..
  - Guaranteed amounts will be modest, reflecting systemic risks
  - Only under soft compulsion and/or tailored advice models
- Advice needs to be tailored to recognise variety of expenditure patterns in retirement
- Government assistance would help – e.g. through their debt financing structures

Questions?