

Dynamic Investment Strategies in Defined Contribution Drawdown Phase

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The QSuper Retirement Journey

1. Background
2. QSuper Goals and Philosophy
3. Accumulation (context)
4. Decumulation (income drawdown)
5. Summary

1. Background

Australian retirement system has three pillars:

1. Means-tested Age Pension from age 65 (safety net)
 - Moving to 67 and then maybe 70
2. Compulsory occupational defined contribution system
 - Mandatory employer contributions (currently 9.5% - to go to 12%)
 - Concessionally taxed investment earnings (tax-free in pension phase)
3. Voluntary employer and member contributions
 - Concessionally taxed up to certain limits

Australian Superannuation Industry

Superannuation Funds

- Less than 200 large industry and retail funds
- Small number of large public sector funds
- Corporate funds are limited
- Self managed superannuation funds (maximum 4 members)

Benefits

- Mandatory preservation until age 55 (moving to 60)
- Tax-free cash lump sum at retirement (if moved to a pension account)
- No lifetime annuity market – account based withdrawals (no maximum)

QSuper

- Public sector regulated fund for Queensland State Government employees, former employees and spouses (100 year history)
- 545,000 members (55,000 DB; 200,000 inactive; 34,000 pension)
- Administers over \$80billion in accounts
- Manages ~ \$60billion DC assets
- Closed DB section ~ \$25billion
- Self-insure death, TPD and income protection benefits
- QInvest Financial Planning
- Segregated pension assets
- Default, Choice suite and direct investment platform
- Soft compelled 17.75% contribution rate (5% member)

2. QSuper Goals and Philosophy

- Life long financial wellbeing, a broad concept
- Move from uncertain lump sum to stable, risk-adjusted retirement income
- Re-define risk as variability in outcomes (not asset volatility)
- Investment strategy is one (but not only) tool
- Choice members make decisions; we engage, inform and advise
- Trustee has right and obligation to set default investment strategy
- Use all available information, gather and use more
- Started with accumulation phase using ALM methodologies
- Trade-off between certainty and adequacy of outcomes
- Manage strategies dynamically as demographics and risks change

The Investment Strategy Task

- Accumulation

We started here using ALM methodologies

- Decumulation

Expand ALM approach into retirement phase

- Longevity risk management

Under development and consideration

Integration will come in due course . . .

3. Accumulation (context)

Principles

- Manage assets to meet best estimate of liabilities (ALM)
- Invest “to” not “through” retirement (for now)
- Define risk as not achieving the retirement income objective
- Members typically have asymmetric risk preferences – prudent bias
- Respond dynamically to changing investment environment and member characteristics
- Assume members have Age Pension entitlements, under current policies, into the foreseeable future (social security)

Use what we DO know about members

Segment cohorts of default members

Known individual data

- Age
- Account balance
- Salary
- Contribution rate
- Gender

Informed assumptions

- Time to retirement
- Retirement income level
- Expected investment returns and risks
- Life expectancy
- Age Pension entitlements
(incl. home and other assets)

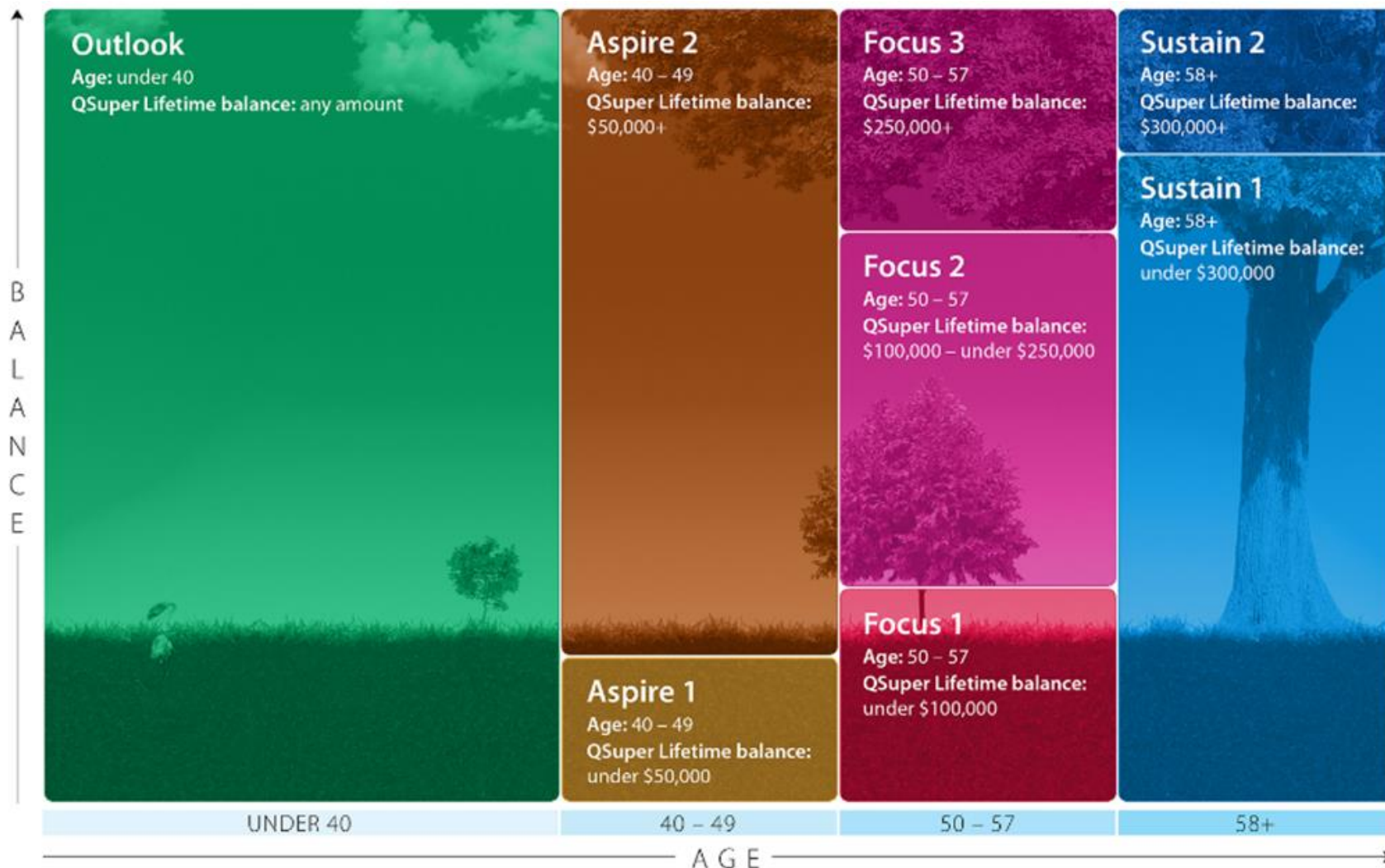
We currently segment groups on *prescribed factors*: age and account balance

Investment Structure (ALM Tenets)

- Strategies will be constructed from a mix of:
 1. A liability hedging (risk - free) asset combining two elements:
 - An interest rate hedge (duration equivalent to term to retirement)
 - An inflation hedge
 2. Risky assets pool with solid risk premium (common to all cohorts)
- The % mix between the two will designate the cohort strategy risk level
- This is standard asset/liability management methodology

No quantitative optimisation!

QSuper Lifetime



4. Decumulation (income drawdown)

At retirement all member options are voluntary:

- Opening an account based pension (structured withdrawal)
- Selecting an income drawdown amount (1 July each year)
- Annual increases to income
- Payment frequency
- Making investment strategy decisions
- Rebalancing between chosen investment options
- Order from which investment options income payments are made

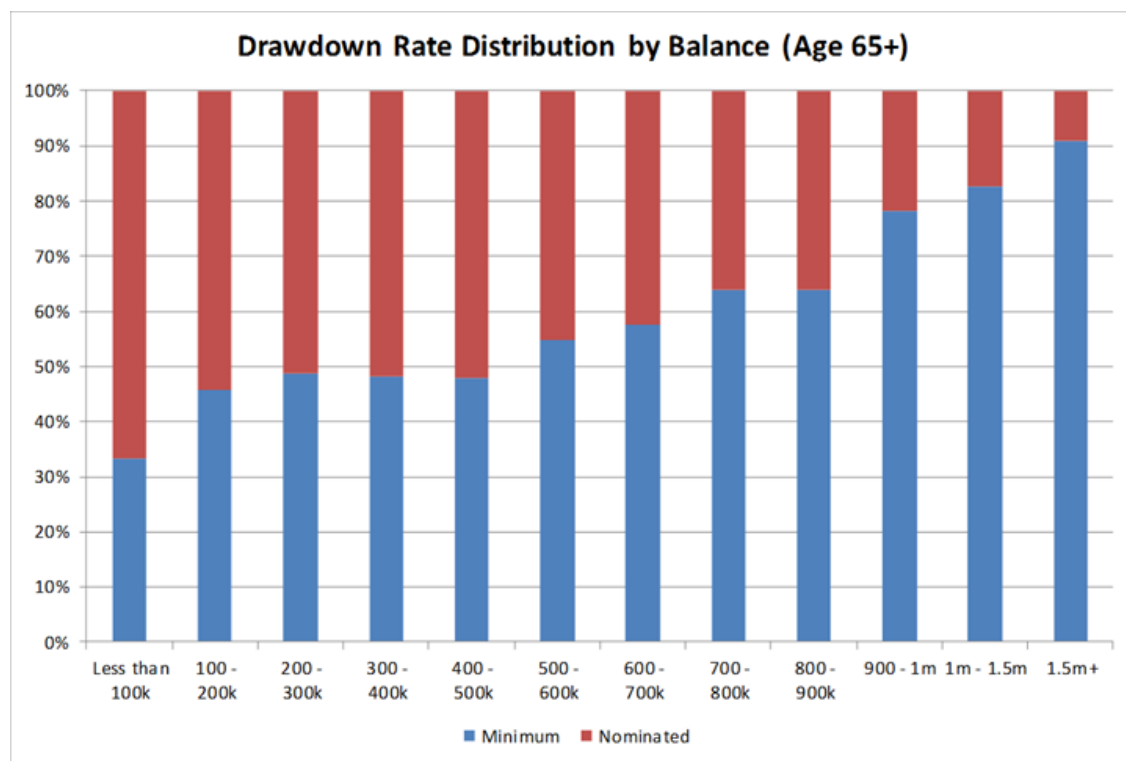
Legal

Operational

‘Default’ structures can be built for all the operational options

Legislated minimum drawdown rates

<u>Age</u>	<u>% of balance</u>
Under age 65	4%
65-74	5%
75-79	6%
80-84	7%
85-89	9%
90-94	11%
95 and older	14%



QSuper's approach

- Extend ALM methodologies to retirement period
- Observed (partial) cash lump sum withdrawals
- Two additional pieces of information:
 1. Date of retirement
 2. Income drawdown preference (proxy for liability)
 - Minimum age based %; or
 - A fixed \$ amount above the minimum
- Cannot know actual objectives and risk preferences
- Reasonable to infer certain things

Minimum % Drawdown

- Probably seeking to preserve capital
- Creates income sustainability, not stability or predictability
- Long investment horizons
- Tolerant of sequence risk and income volatility
- Would seek high growth allocation
- Variable income (account balance and minimum drawdown % changes)
- Members with higher balances tend to opt for this

Higher Fixed \$ Drawdown

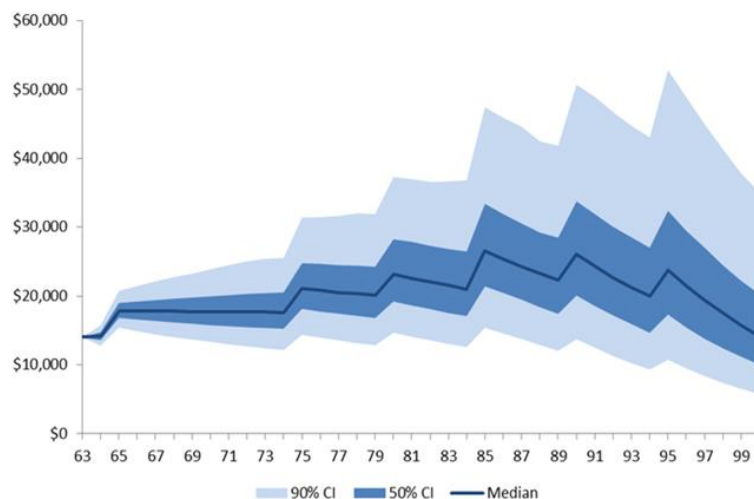
- Prioritising fixed income over sustainability and capital preservation
- Expect (shorter) finite horizon for capital
- Investment horizons shorter and reducing over time
- Lower tolerance for capital volatility
- No tolerance for income volatility
- Sequence risk is important; increases as capital declines relative to income
- Seek asset allocation that adjusts with changing risks
- Growth assets should decline with investment horizon
- Members with lower balances tend to opt for this

So: Decumulation Strategy

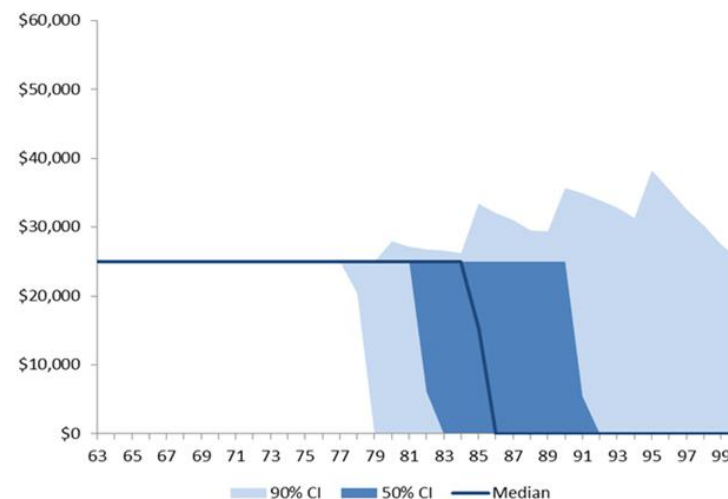
- Needs to reflect two different liability states
- Adapt as members move between them
- Establish two asset pools (high risk and low risk)
- Two years nominated income into low risk for regular drawdowns
- Remainder of balance in high risk
- Rebalance regularly (quarterly)
- Not perfect but it captures roughly the right strategy
- Consistent with 'bucketing' strategies:
 - Popular amongst financial planners
 - Easy to understand
 - Addresses behavioural biases

Income level (excluding Age Pension)

Minimum % drawdown



Higher fixed \$ amount



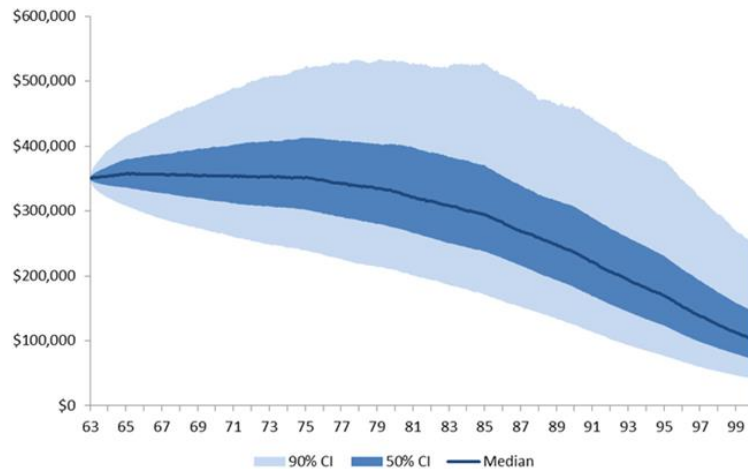
- Market stresses and member stresses (e.g. cash lump sums) are absorbed in:

Income level

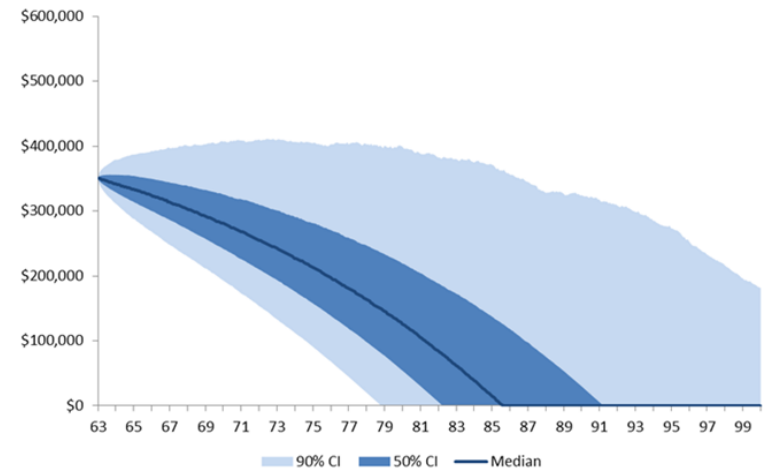
Asset allocation

Account balance

Minimum % drawdown



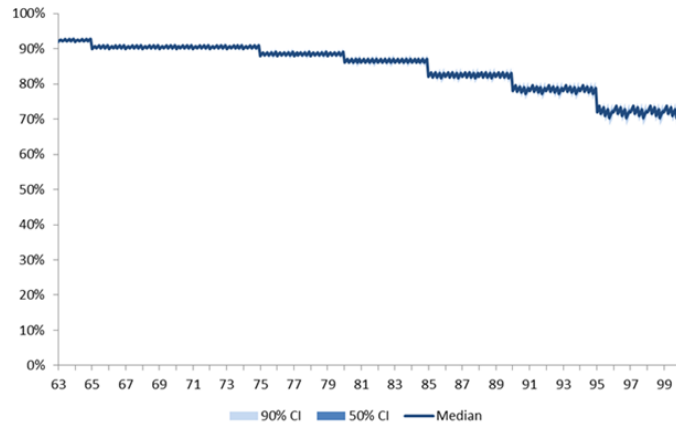
Higher fixed \$ amount



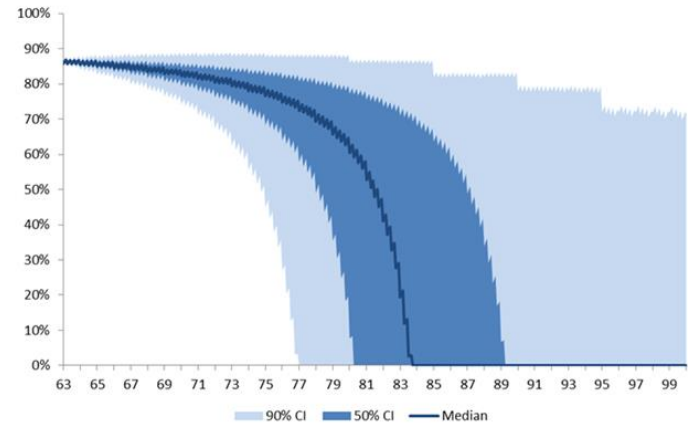
- Portfolio life expectancy differs, i.e. 'duration of liabilities' are different

Risky assets allocation

Minimum % drawdown



Higher fixed \$ amount



- Investment strategy is adjusted differently

5. Summary

- The objective is financial wellbeing. Retirement income is part of it and that is a multi-faceted problem.
- Setting investment strategy (default) or advising on it (choice) is an important but not sole weapon to use in this challenge.
- The long established tenets of ALM (including annuities) provide a solid basis to understand asset and liabilities; develop strategies to manage the changing risks; and monitor outcomes.
- Individual members have finite money-weighted outcomes, rolling time-weighted investment performance bears little relevance.

Conclusion

QSuper has started the journey, with a long way yet to go:

- We use all the information we have on members and are seeking more.
- We adjust investment strategies over time; imperfect but better than not adjusting.
- We tailor strategies to the best practical extent currently possible, with incremental improvement planned into the foreseeable future.
- We are very keen to learn from others as they grapple with the same challenge.

Appendix

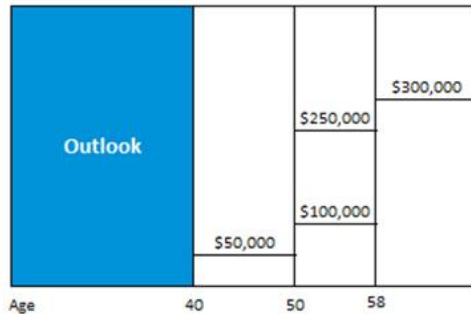
Discussions

OUTLOOK

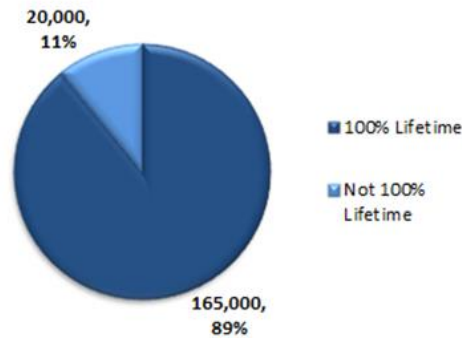
Membership

31 October 2015

A: Cohort Diagram



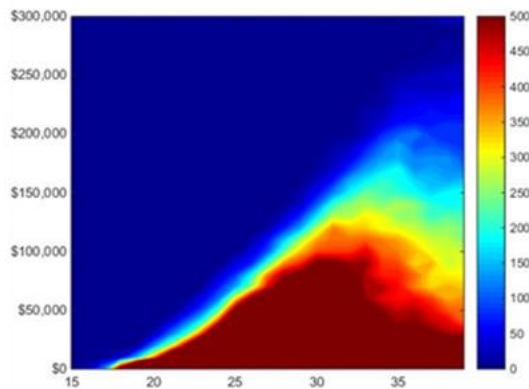
B: Proportion 100% Lifetime



C: Gender Split



D: Membership Distribution

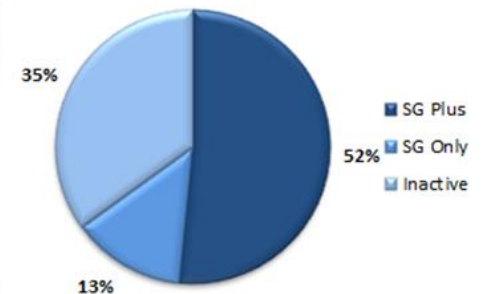


E: Statistics (100% Lifetime members - 165,000)

	SG Plus	SG Only	Inactive
Number of members	85,000	22,000	58,000
FUM	\$5.7b	\$0.8b	\$1.3b
Average Age	31	30	31
Median Balance	\$52,000	\$20,000	\$7,000
Median Salary	\$64,000	\$36,000	N/A

Note: Cohort statistics based on assumed immediate refresh

F: Contribution Status

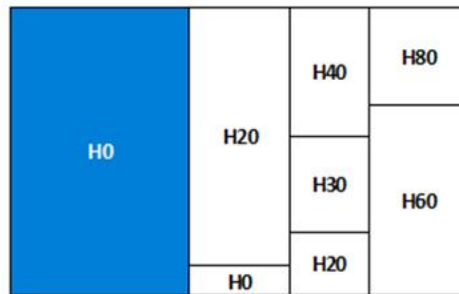


OUTLOOK - SG PLUS

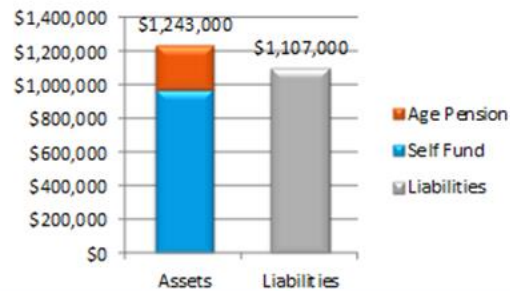
Strategy

31 October 2015

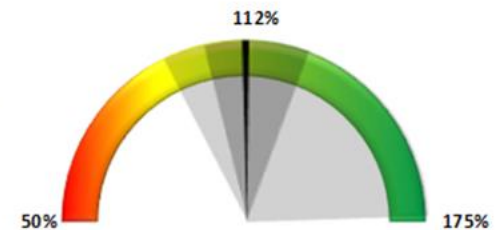
A: Cohort Diagram and Strategies



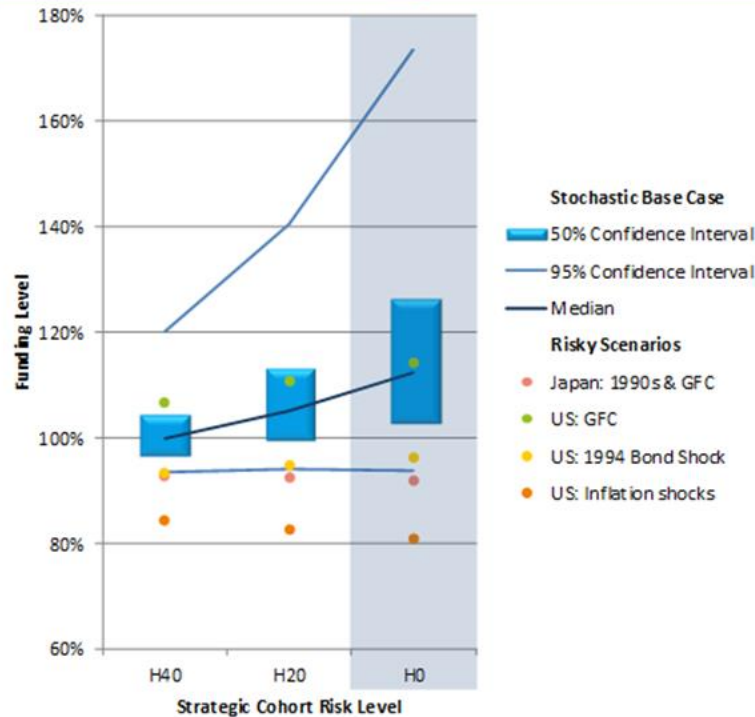
B: Assets & Liabilities



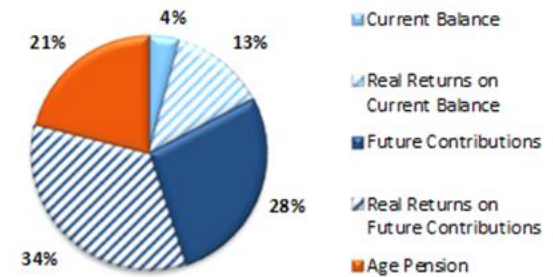
C: Funding Level



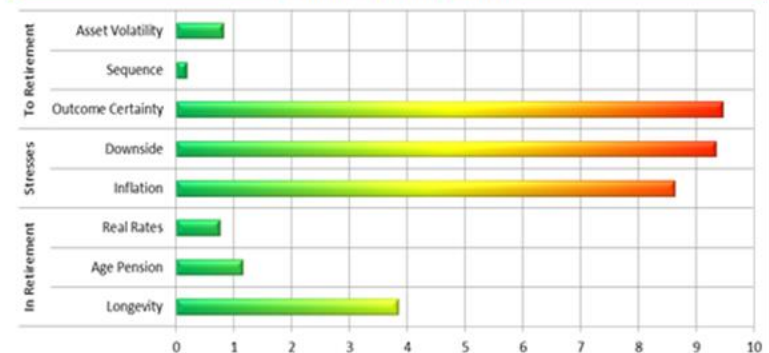
D: Modelling Results



E: Retirement Funding Sources



F: Consideration of risks

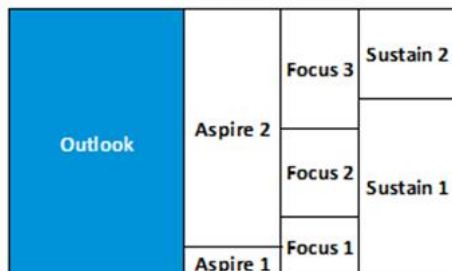


OUTLOOK

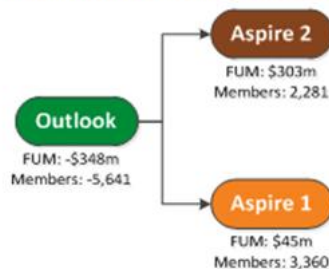
Monitoring

November 2015 Refresh

A: Cohort Diagram



B: Refresh Transitions (20 Nov 15)

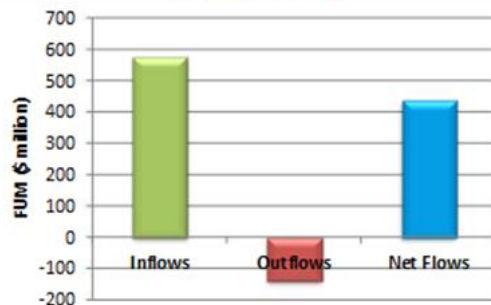


C: FUM since Inception

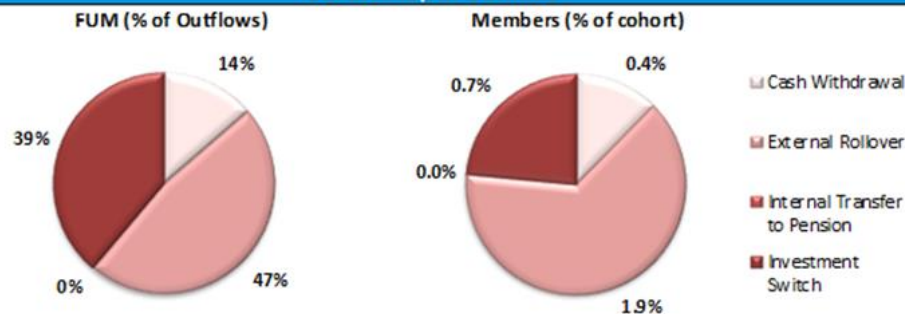


D: Cohort Cash Flows (21 May 2015 to 20 Nov 2015)

D1: Net Cash Flows



D2: Breakup of Outflows



E: SG Plus Performance Attribution (21 May 2015 to 20 Nov 2015)



Attribution analysis of funding level

