



Institute of Actuaries of Australia

4th Financial Services Forum

Innovation in Financial Markets

19 and 20 May 2008 – Melbourne

The Best Laid Plans.....
Will Financial Objectives Be
Achieved In Retirement?

Darren Wickham and
Richard Starkey



Overview

- Different approaches to retirement planning
- A Case Study
- What are the risks to the plan?
- Some observations
- Some strategies to reduce the risks



WARNING

**THIS PRESENTATION CONTAINS
MANY INDEFENSIBLE
GENERALISATIONS &
ALSO STATES THE OBVIOUS**

**ALL GENERALISATIONS
ARE BAD**



Different approaches to Planning Retirement with ABPs

- Retirement income = Age Pension + drawdown of Account Based Pension (ABP) + income from other assets
- Drawdown Approaches
 - Fixed Desired Total Income (ie $ABP = \text{Desired} - \text{Age Pension}$)
 - a) Based on Required Income needs; or
 - b) Budgeted life expectancy
 - Fixed Account Based Payment only
(ie ignore Age Pension when determining drawdown)
 - Estate Planning
 - Active / Passive / Frail
 - Dynamic – re-smooth each year
 - Mortality Boost / Longevity Insurance Approach
 - Maximize Age Pension



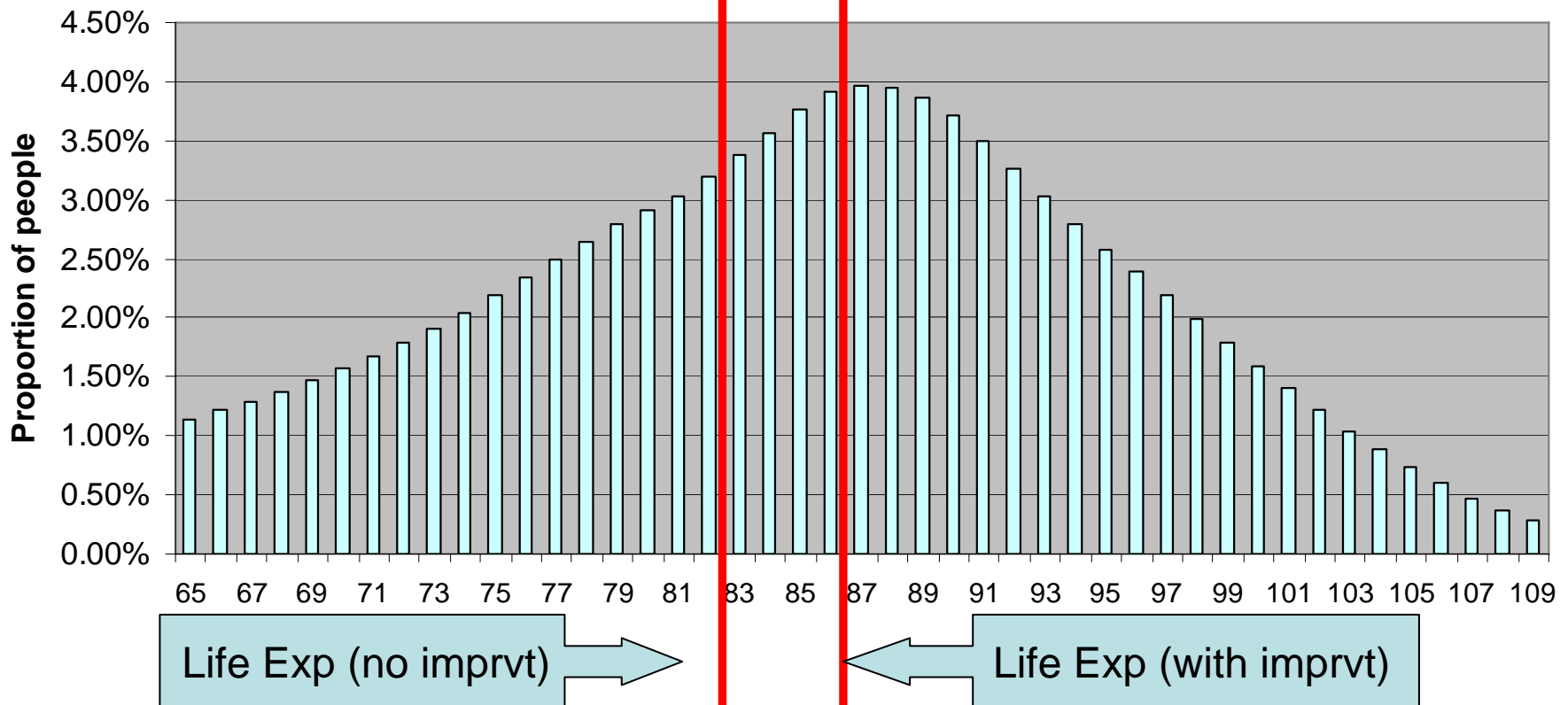
Generalisation #'s 1, 2 & 3

1. Retirement Planning is more likely to focus on income needs now / medium term rather than making money last
“if the money runs out I’ll go on the pension”
2. People (and planners) underestimate their life expectancy
3. Planners / consumers don’t have good tools to understand risks (esp longevity)



Stating the obvious – around half the people live longer than life expectancy

Age At Death (for a male currently 65)





Case Study: Meet Bev and Kev (Beverley and Kevin)



- Bev 63 & Kev 65 *working family*
- Their assets:
 - Kev's super \$150k (balanced)
 - Bev's super \$50k (balanced)
 - They own their own house (no debt)
 - Other bank account, cars, etc \$100k
 - No other income
- ALT says Bev will live to 90 & Kev to 86

Generalisation #4 – the typical couple



Bev and Kev's Retirement Plan



- Two plans to consider :
 - one based on ASFA / Westpac comfortable income (\$49k pa)
 - Another based on making their money last for their life expectancy (\$35k pa)



Both of these plans use the “Fixed Amount of Retirement Income” approach



What are the risks to the Retirement Plan? – Fundamental risks

1. Live longer
2. Investment returns are poorer than expected
3. Cost of Living increases
4. Community standards of living increase
5. Larger than expected expenses:
 - a) Poor health
 - b) Help Kids with house deposit
6. Housing market crash
7. Tax / Social security change
8. Fund Failure
9. Systemic Failure





What are the risks to the Retirement Plan? – Plan Specific

1. Run out of money
2. Don't spend enough money (die without enjoying \$\$)
3. Income fluctuates (dynamic approach)
4. Too little in Estate (estate planning approach)





Modelling Approach taken

Modelling the probability of running out of money

Modelling phase	How we model Investment returns	How we model Mortality
1. Investment Risk only	Stochastic	Deterministic
2. Longevity Risk only	Deterministic	Stochastic
3. Both Risks modelled	Stochastic	Stochastic

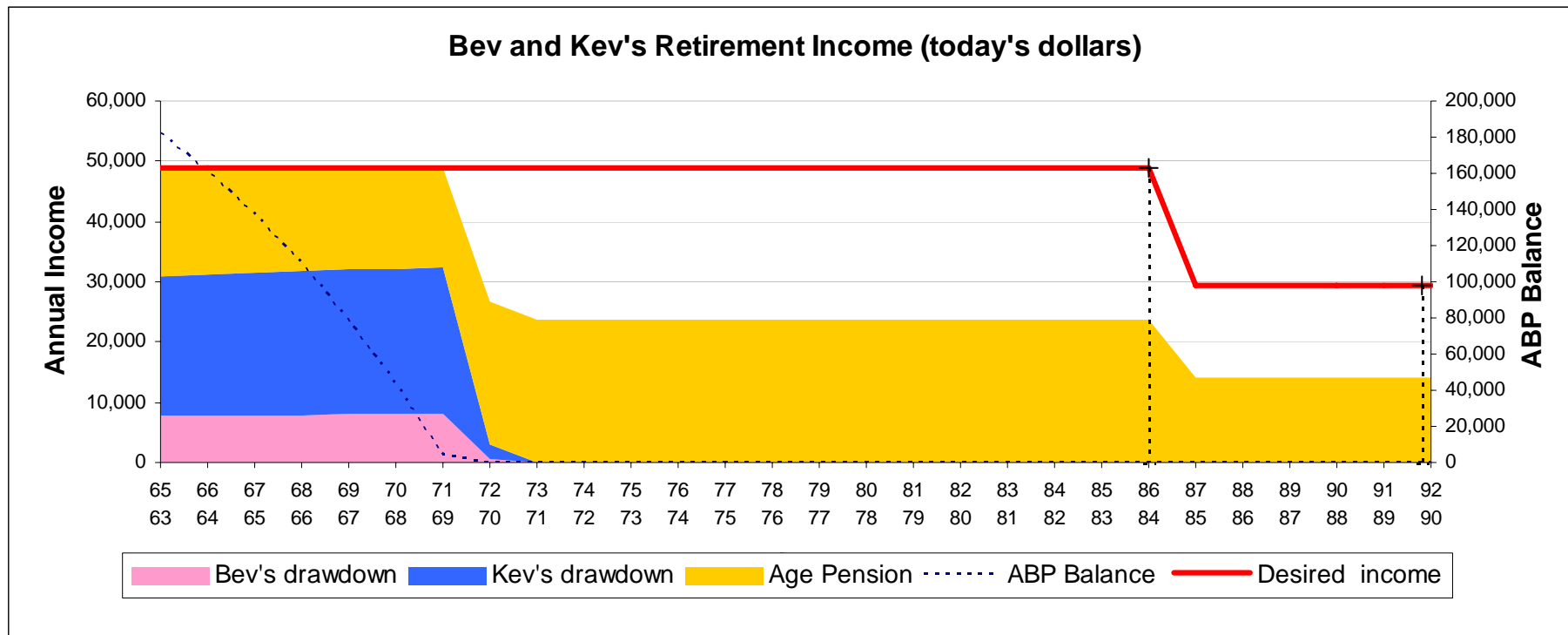


Modelling Assumptions

- Mortality is based on ALT00-02
 - With “25yr” improvements
 - Simple Binomial stochastic model
- Mercer Capital Markets Simulator model
 - Cascade model, builds returns from economic growth, inflation and yields (mean reverting, serial correlation)
 - “Balanced” 70/30% investment, avg return (geo)= 7.5%
 - AWE inflation =4.0%
- 0.55% admin fee
- Desired income upon death of spouse = 60% couple income
- Amounts shown in today’s dollars (AWE)
- Retirement Income grows with AWE



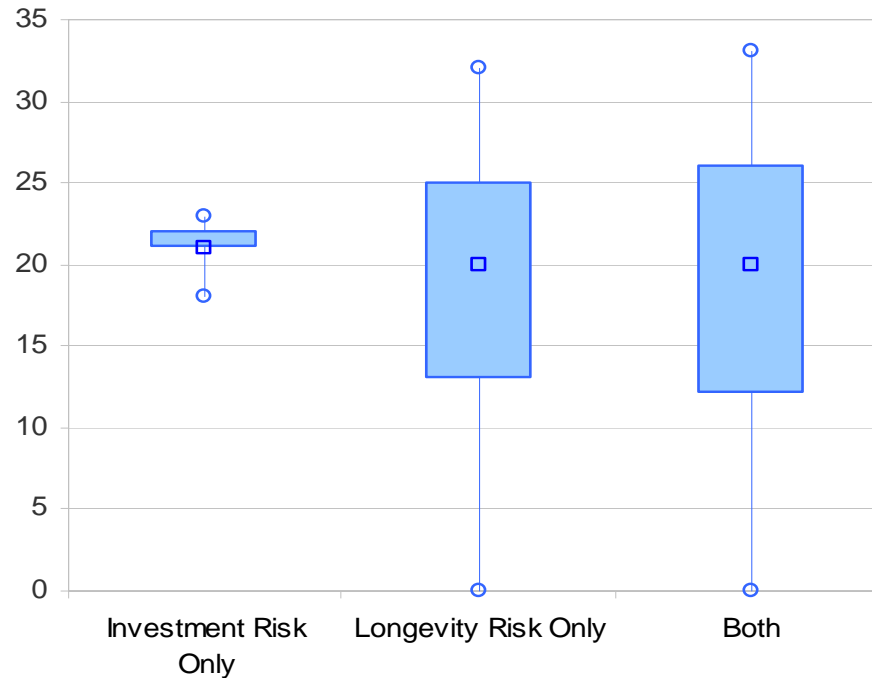
Modelling Results (ASFA “comfortable” \$49k) (deterministic case)





Modelling Results (ASFA “comfortable” \$49k) (stochastic results)

Number of years on Age Pension only



**Probability Run
out of money**

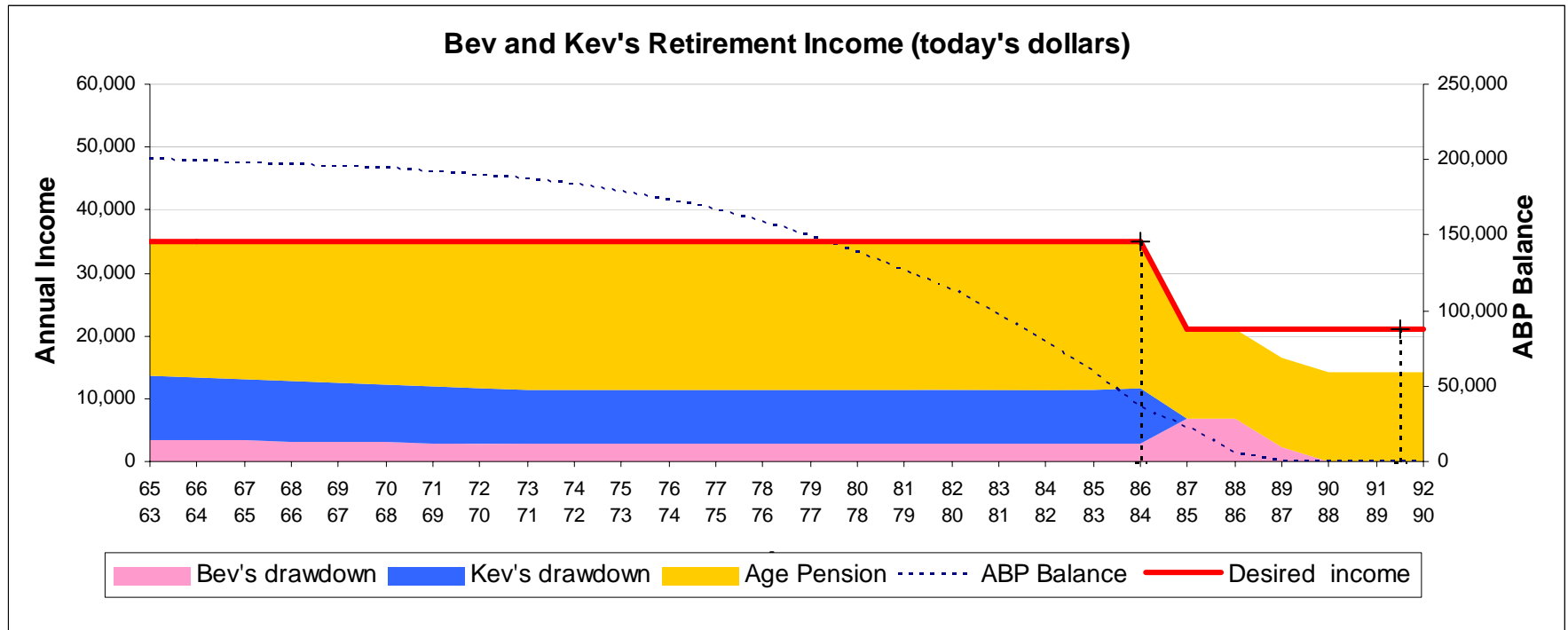
100%

86%

88%



Modelling Results (\$35k drawdown) (deterministic case)

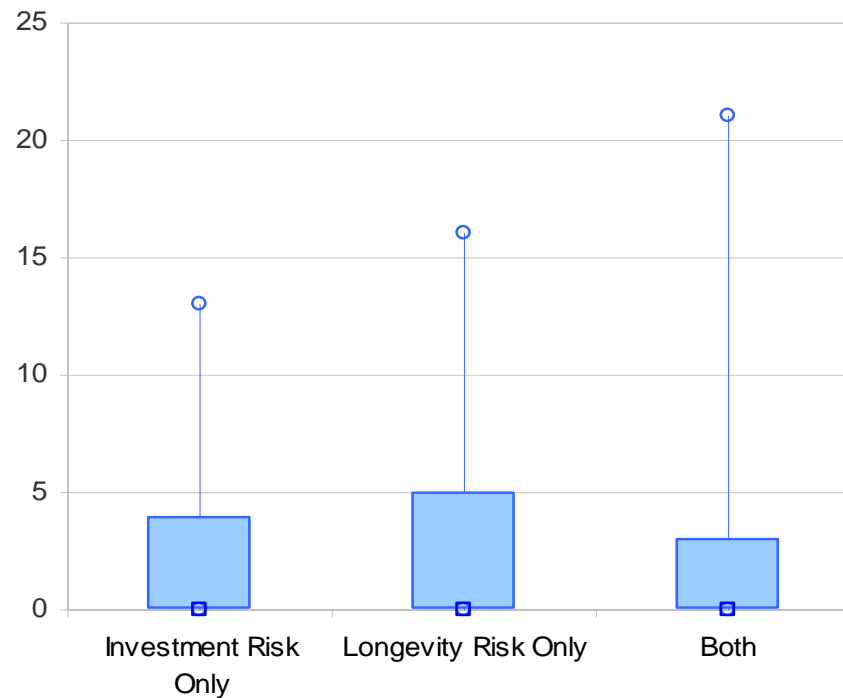




Modelling Results (\$35k drawdown)

(stochastic results)

Number of years on Age Pension only



**Probability Run
out of money**

49%

43%

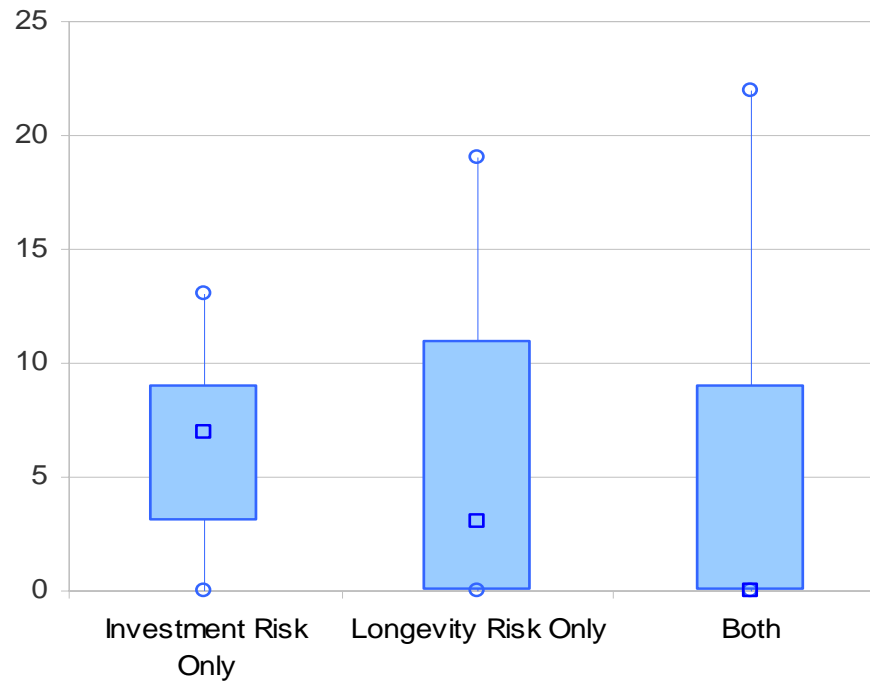
33%



\$35k drawdown – CAPITAL STABLE

(stochastic results)

Number of years on Age Pension only



Probability Run
out of money

85%

56%

52%



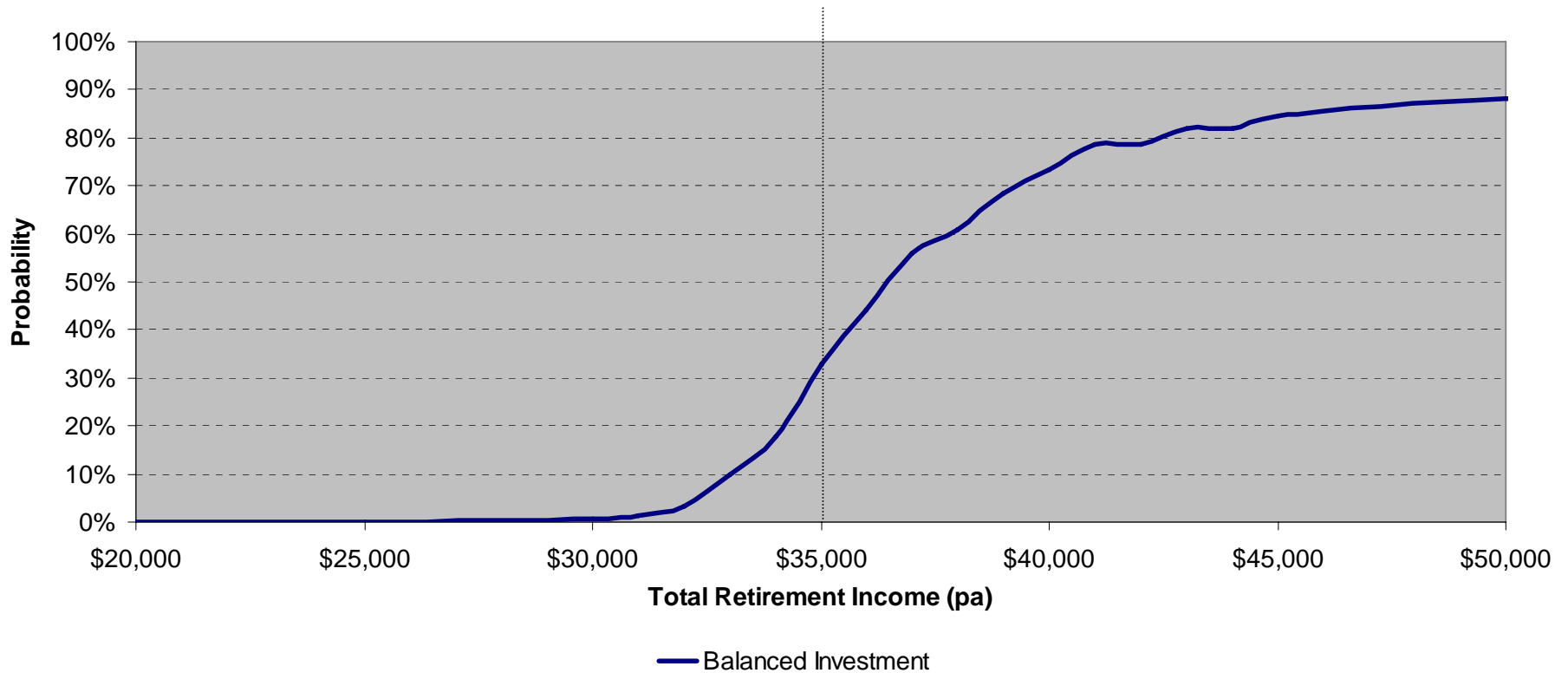
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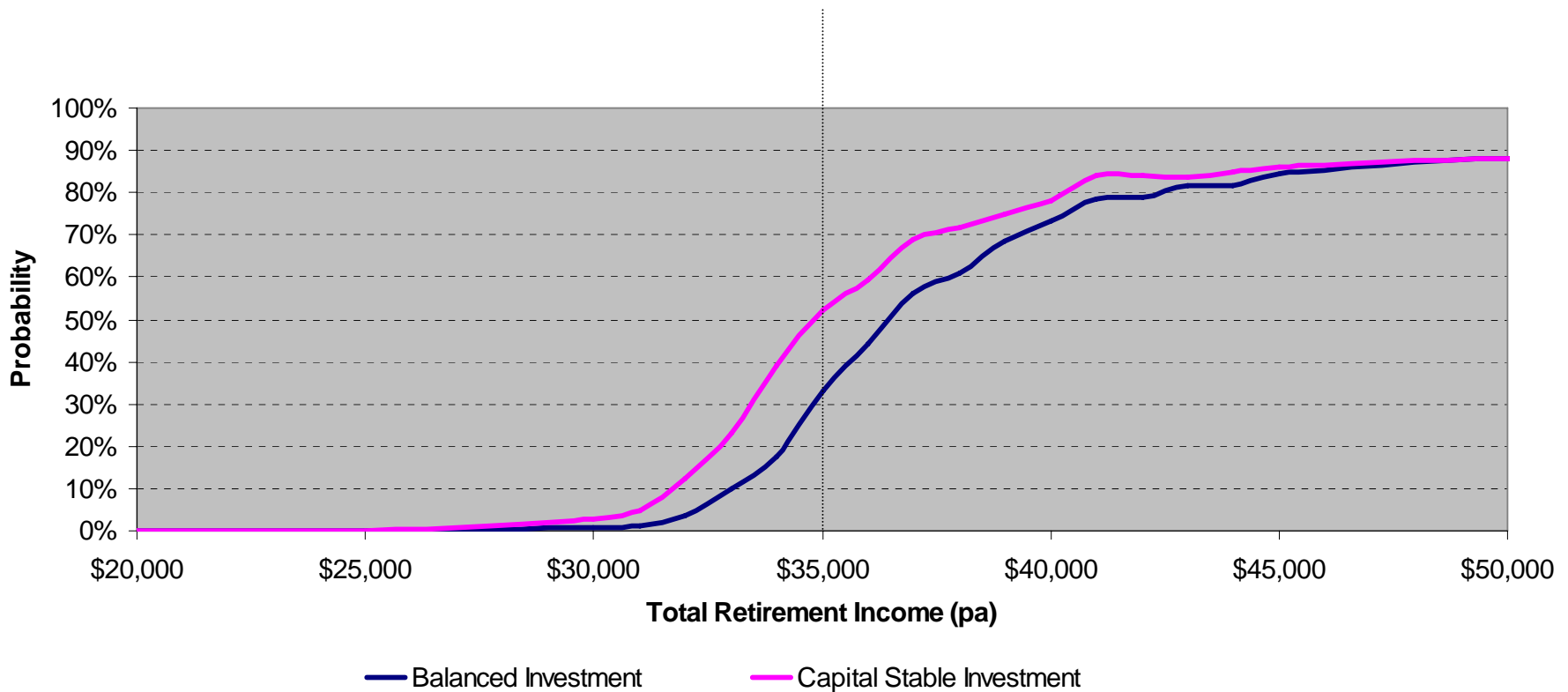
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Probability of Running out of Money (for \$200,000 combined lump sum)





Probability of Running out of Money (for \$200,000 combined lump sum)





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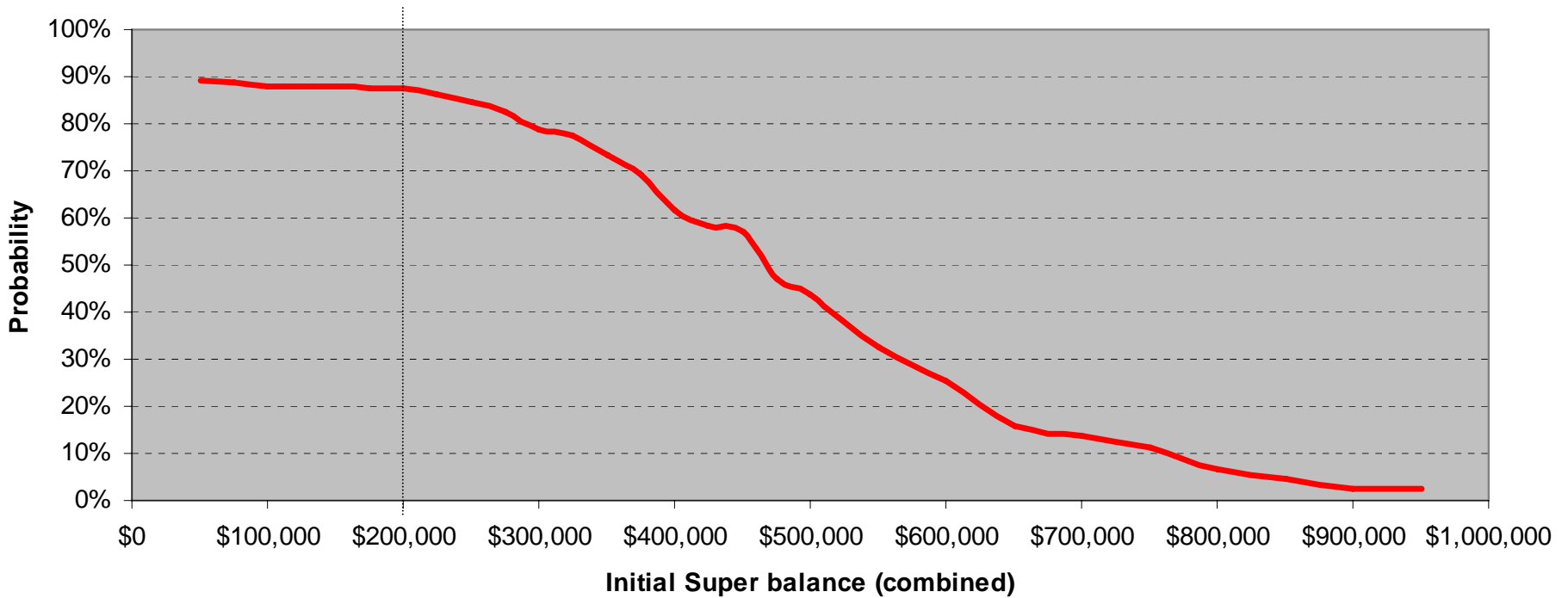
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Probability of Running out of Money

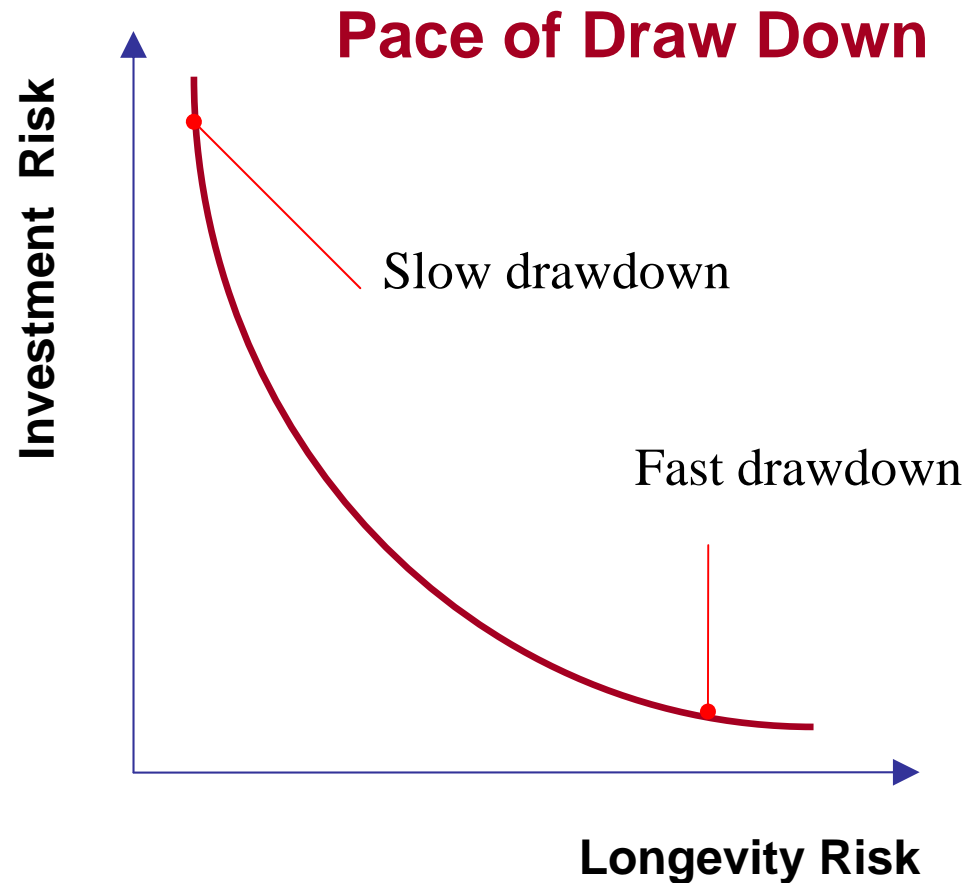
Desired Total Retirement Income
"ASFA Comfortable" \$49k





Some observations

- Stating the obvious: The more you drawdown, the more likely you are to run out of money
- Mix of longevity risk and investment risk depends on pace of drawdown
 - if you never drew down – the money would never run out – no longevity risk
 - If draw down all in first year - no investment risk





Some observations

- Age Pension reduces risk (view as an investment hedge or longevity insurance)
- More conservative investments increases risk
- The average couple pursuing a “comfortable” income will face years of “discomfort” on the age pension
- Useful for helping determining contribution levels - target a lump sum with a low probability of running out of money.



Strategies to reduce risk / The “Buffers in the Plan”

- Downsize House
- Reverse Mortgage
- Work part time
- Reduce amount of drawdown
- Lower standard of living
- Live with the Kids





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Discussion? Your Thoughts?





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