

FINANCIAL SERVICES FORUM
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SYNOPSIS

Robust Financial Planning

Chris Condon

Financial planners are improving the way they demonstrate investment risk to their clients. Many services are now available to assist the planner in modeling the range of outcomes that may affect investors' wealth as a consequence of investment, career, savings and consumption decisions.

In my view, these tools do not sufficiently require the investor to internalise the consequences of decisions that they make. They also inadequately reflect the reality that the investor can change strategy in midstream. And finally, these tools do not provide a robust advice process that assists the adviser to retain the relationship with the client during the inevitable periods when a long-term strategy suffers from medium term downturns.

This presentation suggests a simple tool that attempts to overcome these issues by requiring the planner and the investor to define contingency strategies that respond to unpleasant (but possible) outcomes.

These strategies are defined before such outcomes are realised. The hard discussions are held in advance. If the investor is not comfortable with consequences that could occur, then strategies can be adjusted in advance. In this way, the emotional aspect of decision making is reduced, and the interactions between the planner and the investor should remain strong.

For this reason, I have dubbed the tool "Robust Planning". This idea is still a work in progress. The basic framework has been established and a version of the model has been built using simple (simplistic) econometric assumptions. The presentation to the IAAust forum will:

- explain the drivers that led to the development of the model
- briefly describe other tools that are available to planners
- outline the design criteria used to construct the simple model
- demonstrate the simple model (this could be interactive)
- set out the algorithms in the model (time permitting)
- describe the limitations of the current model, and open the discussion for further ideas



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Robust Planning

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Background

- Most individual investors are inappropriately sensitive to short term volatility.
- Advisers attempt to convey risk notions in advance ...
- ... but struggle to manage client responses after bad risk outcomes occur.
- New and simple tools are needed to assist advisers help clients on an ongoing basis.
- This presentations suggests one such idea. I have dubbed it "Robust Planning".

Agenda

- Monte Carlo wealth forecasting
- A story of woe
- “Robust planning” concept
- Open issues

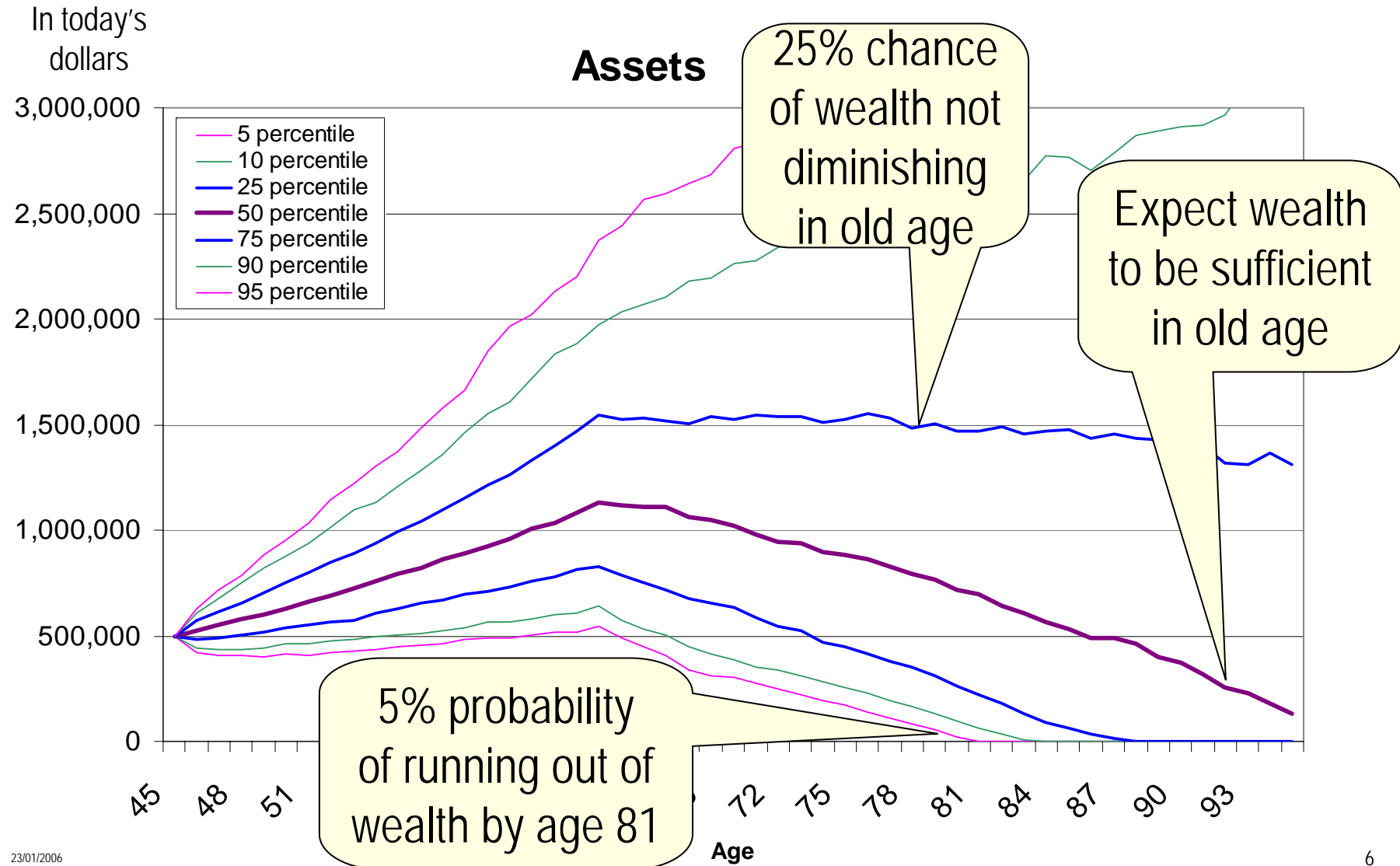
Monte Carlo wealth forecasting

Objective: *Demonstrate risk through statistical distributions of key variables, such as wealth*

Method:

- Identify current assets and liabilities
- Identify capacity to save, and desired future consumption
- Specify rules, such as:
 - Savings as a function of the need to save
 - Consumption as a function of the assets available
 - Investment strategy as a function of financial strength
 - Tax
- Specify statistical distribution of stochastic variables
- Run thousands of times, drawing asset returns at random

Monte Carlo model - example of output



Monte Carlo model - Strengths and Weaknesses

Strengths

- Very good at demonstrating the savings / consumption trade-off
- Shows risk clearly
- Caters for tax complexity

Weaknesses

- Sensitive to the return model
- Dynamic rules difficult to formulate
- Needs lots of inputs
- Does not mirror reality of annual investment reviews
- Complex to explain

A story of woe



A story of woe - learnings

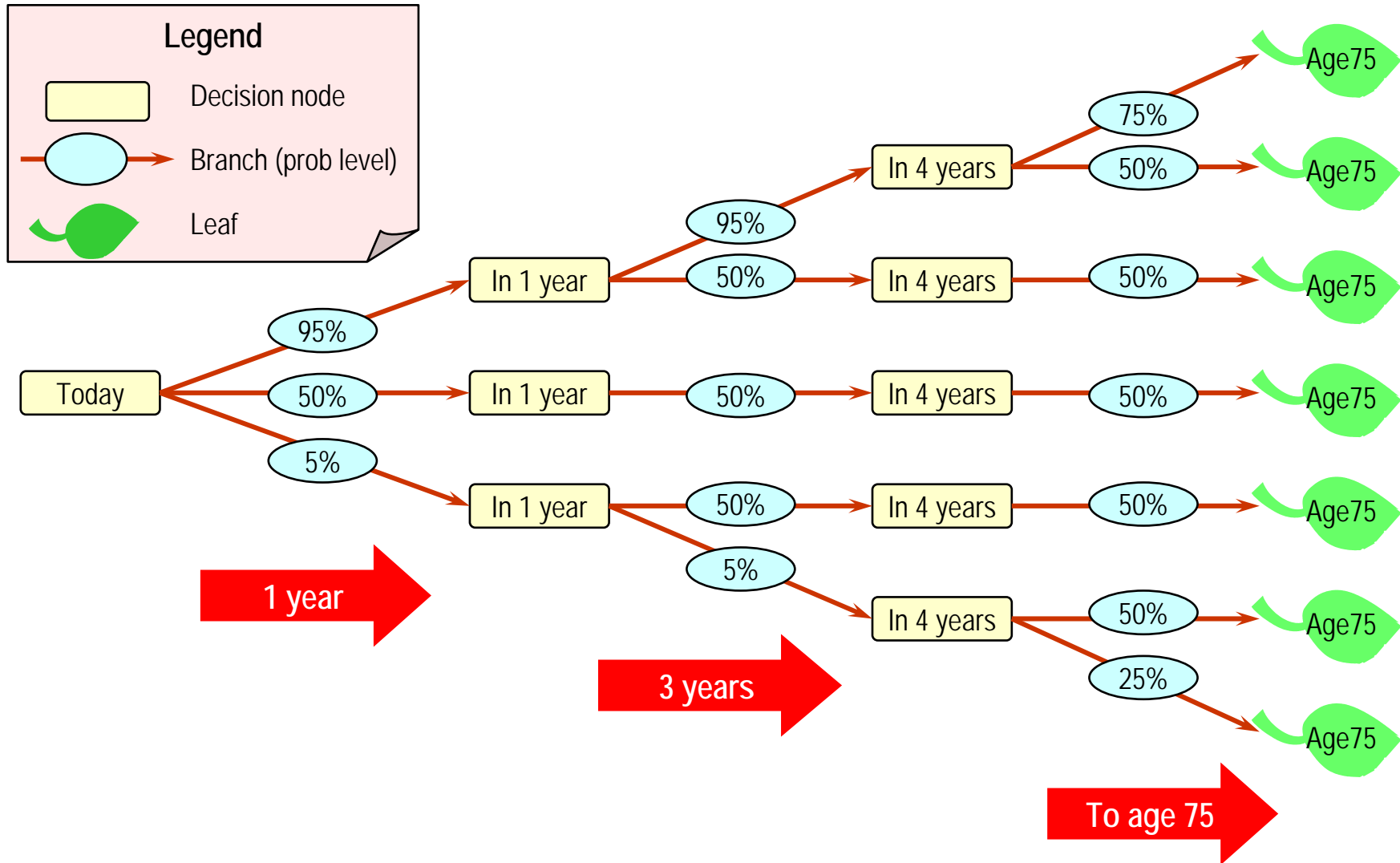
- Existing tools do exist.
- Some are very good.
- But none got to the nub of the issue

⇒ *Forcing investors to think today about how they will respond in the future when risk is realised.*

“Robust Planning” concept - design criteria

- Mirror the reality of the planning review cycle
- Obvious to the planner and investor
- Quick to run
- Non-controversial econometric model
- Small number of inputs
- Cater for taxation (super, non-super, allocated pension)
- Didactic model - no optimisation

"Robust Planning" concept - decision tree



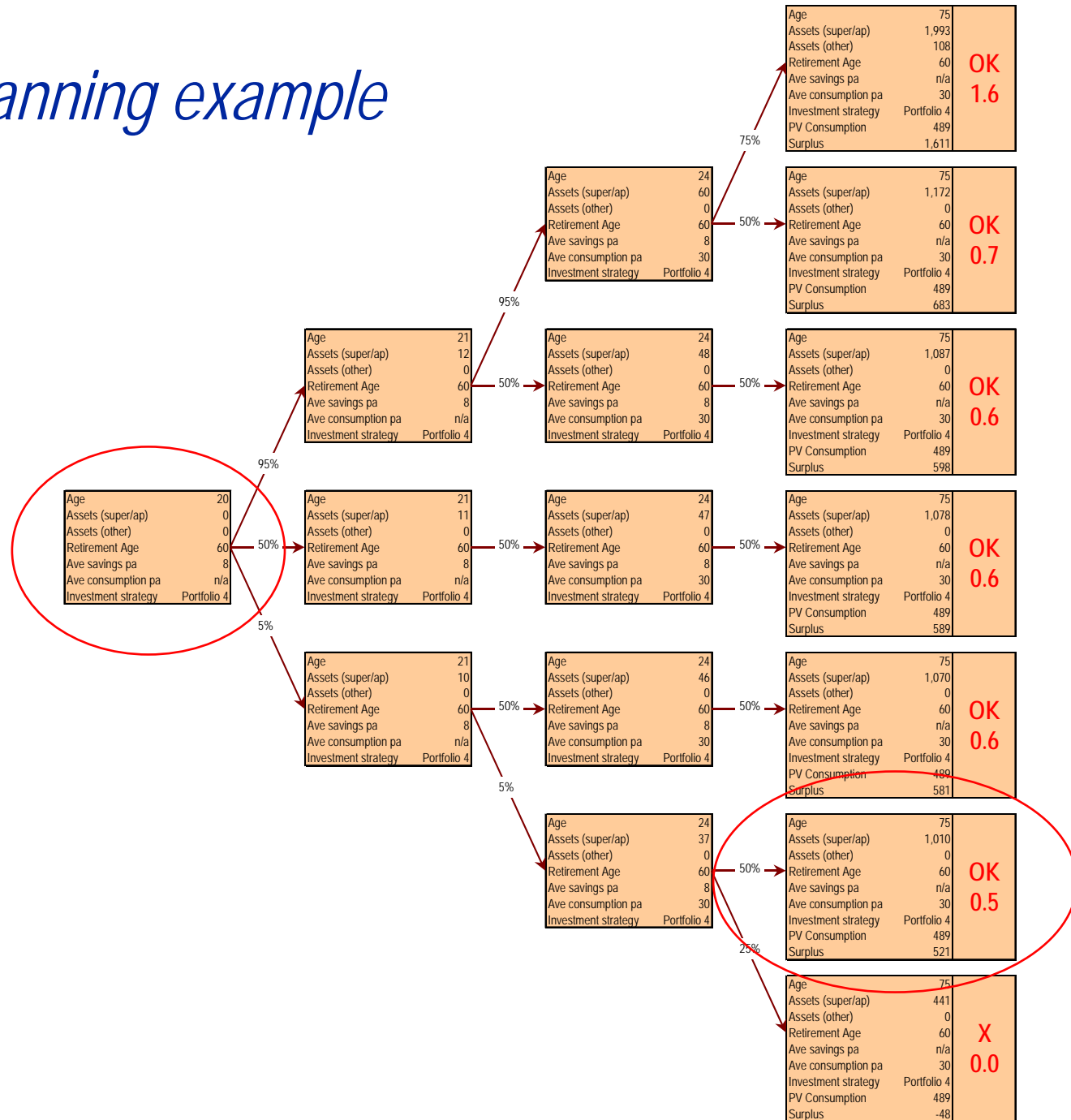
“Robust Planning” concept - Usage

- Planner/investor enters decision parameters at each node
- Examine impact on the “leaves” (the ends of the branches)
- Change decisions in specific nodes to achieve acceptable results
- Demonstrates what the investor would need to do in the future if risk is realised. *The hard discussions happen before the bad events occur.*

Robust Planning example

- Age today 20 years
- Savings rate (out of after tax income): \$8,000 pa
- Consumption (net of tax): \$30,000 pa
- Initial assets nil
- Other taxable income: \$100,000 pa
- Investment strategy: "Portfolio 4", a strategy with 70% in growth assets

Robust planning example



Zoom in on initial node

Age	20
Assets (super/ap)	0
Assets (other)	0
Retirement Age	60
Ave savings pa	8
Ave consumption pa	n/a
Investment strategy	Portfolio 4

95%

50%

5%

Zoom in on a leaf

Surplus	581
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24	Age	75	OK 0.5
37	Assets (super/ap)	1,010	
0	Assets (other)	0	
60	Retirement Age	60	
8	Ave savings pa	n/a	
30	Ave consumption pa	30	
4	Investment strategy	Portfolio 4	
	PV Consumption	489	
	Surplus	521	

50% →

25%

Return assumptions

- Equity risk premium assumed to continue
- Returns include allowance for active management
- Tax is deducted (super, ordinary, allocated pensions)
- Fees are deducted (conservative: fees also cover advice)
- Real returns assumed to be lognormally distributed
- IID returns distributions for each period (although they could be easily modelled to be different)
- Within each period (of varying and sometimes very long lengths) the return is assumed to be constant. (Of relevance for rolling up continuous rates of savings and consumption.)

Taxation regimes (need updating for recent changes)

- Superannuation
 - 15% headline tax on investment earnings
 - Contributions “salary sacrificed”: grossed up for ordinary income tax then a 15% contribution tax (+ surcharge if required) applied
- Ordinary (ie non-super)
 - Marginal tax rate based on assumed other income (pre-retirement)
- Allocated pensions
 - No tax on earnings.
 - All redemptions assumed to fall within ATO allocated pension range.
 - Net redemptions grossed up for ordinary tax

Directing savings

Process

1. Investor specifies after-tax savings they can make each year
2. Model estimates capacity to invest in super is determined each year:
 - RBL is discounted using mean, net of tax and fees, real return
 - Capacity \equiv Assets at beginning - discounted RBL
3. If capacity exists, savings are salary sacrificed to super, grossed up:
(1 - Super Cont Tax Rate) / (1 - Marginal Tax Rate)
4. If no capacity exists, then after-tax savings made into non-super account

Issue

- Early capacity utilisation results in massive super balances in some branches. Not penalised (yet) for excess RBLs.

Mortality in retirement assumptions

Assumptions

- Ignore mortality before age 80
- Death rate after this age: half IF80 (projected) for females born in 1963
- Age of certain death: 100

Issues

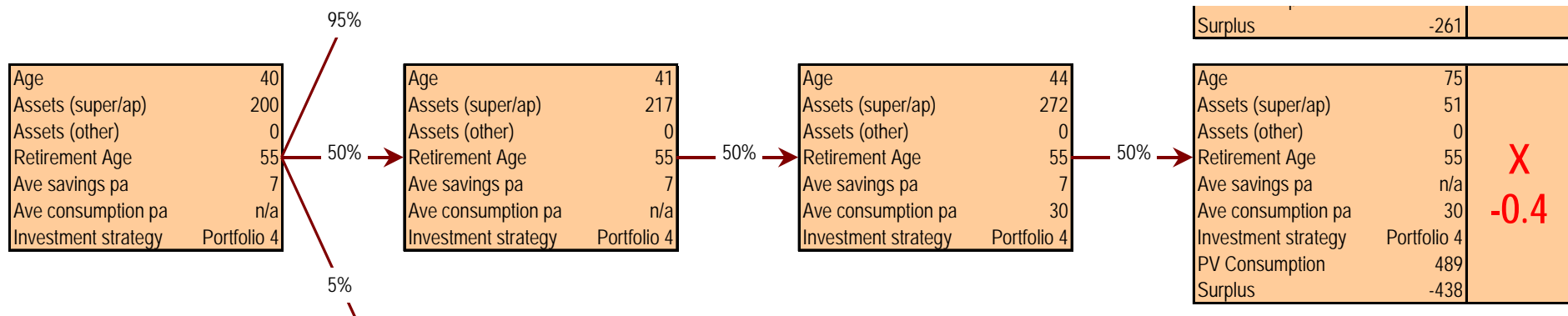
- Remains an unsatisfactory way to model mortality
- Highlights need for true longevity insurance

Demonstration of a discussion

Step 1: Discuss desires

- 40 year old
- \$200,000 in assets
- desires to retire at 55
- saving \$7,000 pa
- retire on on \$30,000 net pa

Conclusion:
Not realistic

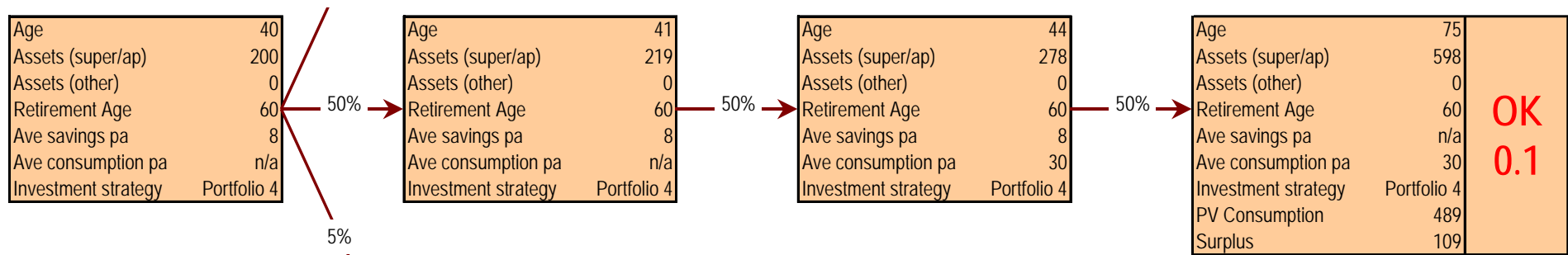


Step 2: Set realistic expectations

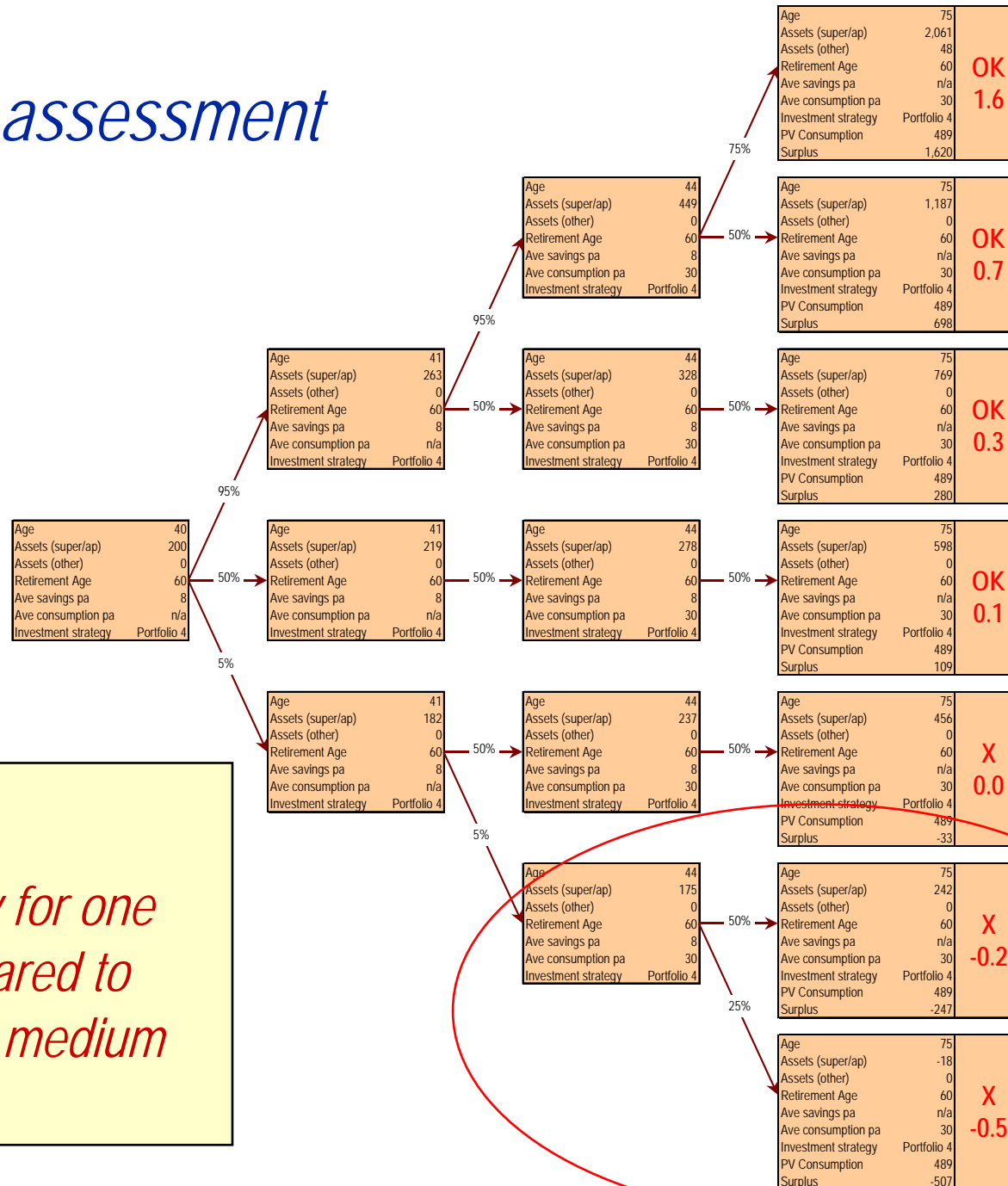
- retire at 60 (5 years later)
- save \$8,000pa (\$1,000pa more)
- retain retirement income objective of \$30,000 net pa

Result:

*Will just make it,
but little buffer.*

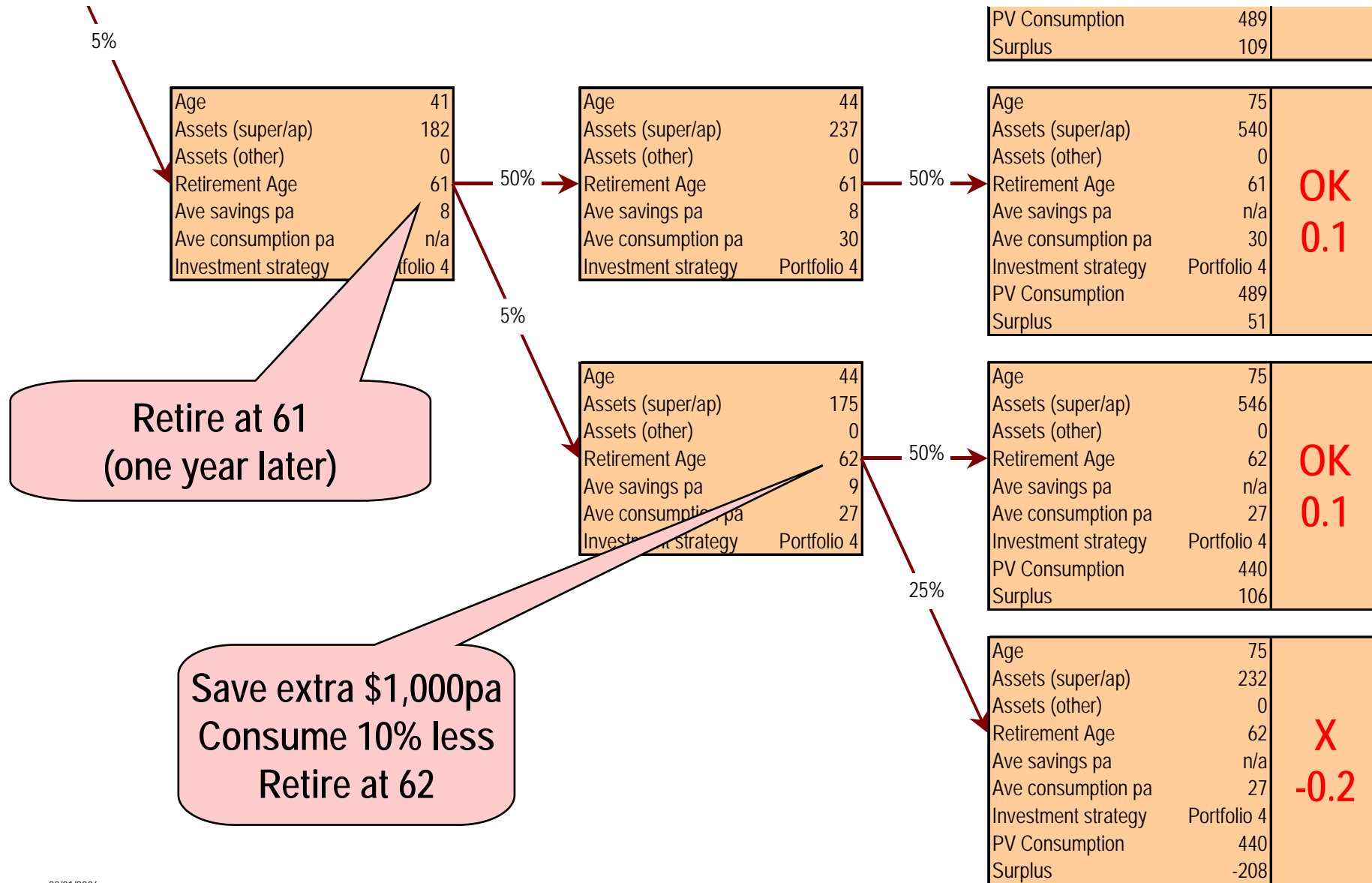


Step 3: Risk assessment

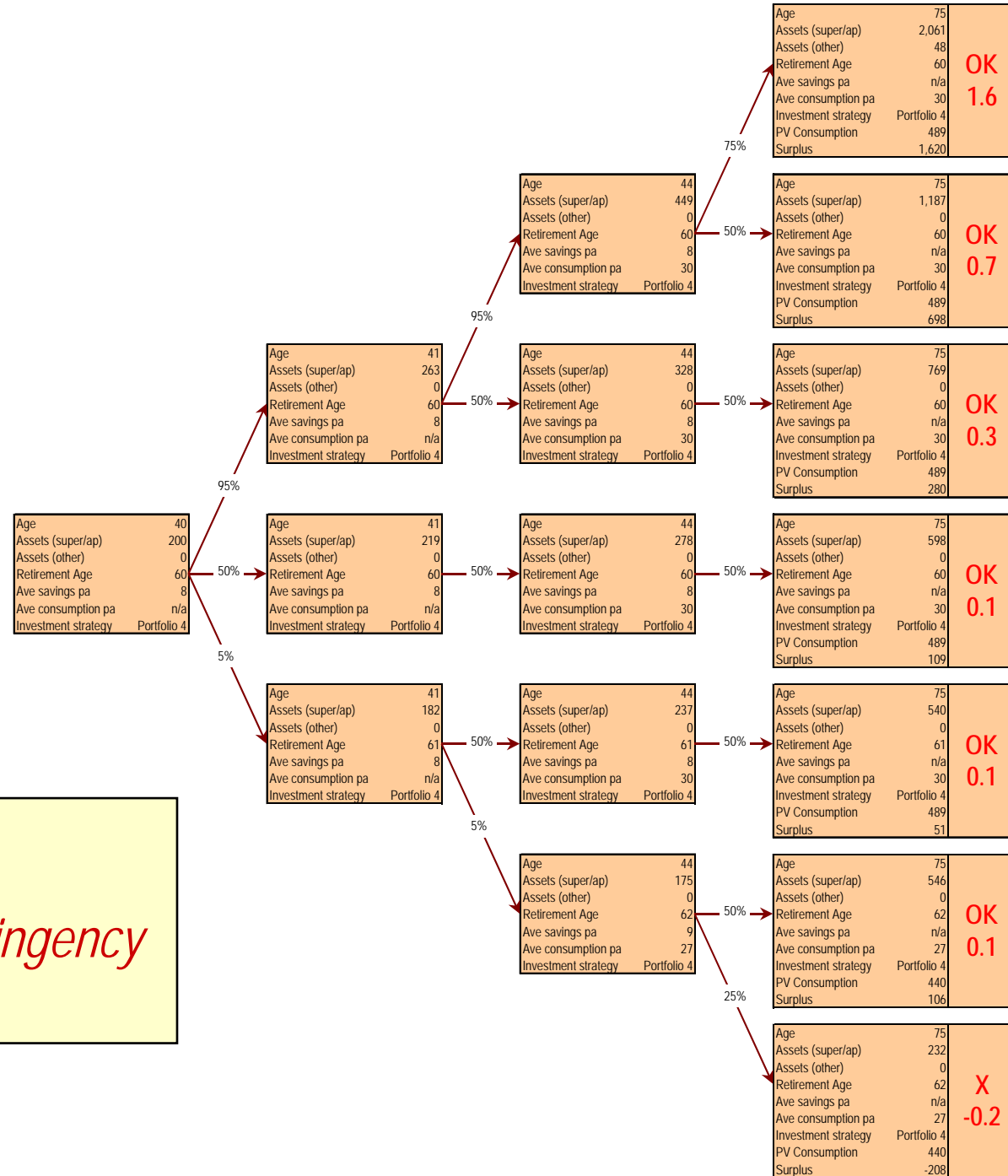


Conclusion:
Keep the strategy for one year, but be prepared to tighten belt in the medium term.

Step 4: Set set contingency plans



Overview



Result

A strategy with contingency if things go bad

Further work

- Improve the return model
 - Recognise today's valuation levels
 - Incorporate long term mean reversion leads
 - Allow for non-normality of returns
- Capture the effect of home ownership
- Incorporate longevity insurance
- Anticipate "Baby-Boom" driven changes to social security for pensioners
- Remove the cost of advice from investment fees

Recap

Monte Carlo model



Insufficient

A story of woe



Planners need help

"Robust planning"
concept



Supplements decision
making

Open issues



Key issues:
(a) returns model
(b) longevity risk