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# Outline

- Brief history
- What we do and how we work
- A couple of specific contemporary issues



# History

- Charles Wickens first AGA: 1924-32
- Walter Balmford: 1938-57
- Sid Caffin: 1957-78
- John Ford: 1978-85
- Since 1985, there have been 6 including me
  - Two were on a part-time, secondment basis
  - Donald Duval was AGA when I joined the office in 1992



# History

- A part of the Treasury originally
- Moved to the ISC when it was established in 1987
  - >90% of the work related to public sector superannuation, general insurance regulation, later superannuation policy settings
- Moved back to Treasury after APRA was established in the late 1990s
- Kevin Deeves laid the foundations for a big change to the way the office operated





# Operational basis

- Pre-2000: underwritten by ISC/APRA
- About 60% on public sector superannuation
- About 30% supporting the prudential regulator (particularly on GI)
- About 10% other – general consulting to government departments – eg Defence on military compensation



# Operational basis

- Post-2000: required to become self-funding
  - Public sector superannuation outsourced
  - Very little new work with APRA
  
- Needed to develop a relationship with Treasury and, more generally, to diversify



## Statutory basis

- Neither the person nor the office is established in law
- But the law requires the AGA to do various things
- During the late 90's a number of statutory references to AGA were purged, but over time new ones have been added
- Nonetheless, statutory roles account for a very small fraction of what the office does





# Operational basis

- Today: advise around 40 govt agencies each year, including all the main ones
- Treasury a key client agency
- Both technical actuarial and related public policy advice
  - technical: agency financial management , program administration and financial reporting obligations
  - policy: can be informed by either or both technical actuarial analysis or actuarial principles which govern the system being considered



# Operational basis

- The vast majority of the AGA's work is wholly contestable
- Despite that (or because of that?), joining up the public sector with the actuarial profession is an important area of AGA's activity



## Advice areas

- Public sector superannuation and employee benefits more generally
- Retirement income system policy
- Insurance system policy
- HELP
- NDIS
- Australian Investment Approach



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## Advice areas

- Tuition Protection Service
- Litigation expert witness
- Family Law
- Immigration
- Australian Life Tables
- National electricity market, ETS
- Payday lending
- Etc etc etc



# Influencing policymakers

- Good timing critical but usually unpredictable
- Know who's who and how they think – eg Treasury operates in an economic framework
- Credibility helps
- Shaping the message is important





# Influencing policymakers

- Treasury has a good opinion of the Institute
  - Unbiased, thoughtful, intelligent
- Increasing awareness of the value that an actuarial perspective can bring to public policy formulation: NDIS, welfare investment approach among many other examples



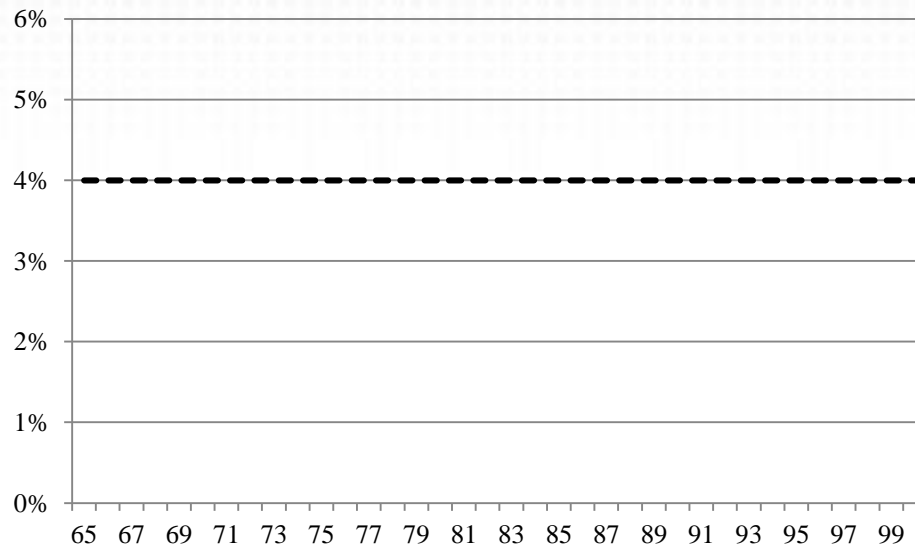
## Two current issues

- Retirement income products:
  - Australia's superannuation system based on individual self provision
  - People need to save enough money for a maximum possible lifespan
- Govt accepted FSI recommendation regarding development of CIPRs
  - Big opportunity for actuaries to lead development



# Simple example

A 65 yo retiree buys a 35 year annuity certain to protect against the twin risks of running out of money on long living and of losing capital on short living. This is an example of maximising living standards within a longevity risk self-insurance model.

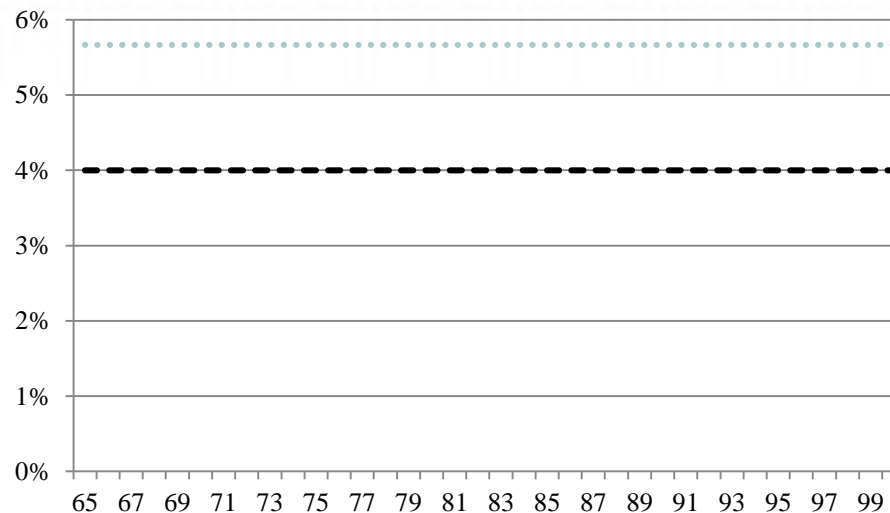




Another retiree buys a GSA income stream to ensure maximum retirement living standards while minimising the risk of running out of money. This is an example of maximising living standards within a longevity risk collective-insurance model.

The second retiree enjoys 40% higher living standards than the first\*. The price is loss of capital upon early death (to bequest to middle aged children).

\*obviously depends on assumptions but using a life expectancy of 22 years and real interest rate of 2%, it's 40%.





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# Simple example

These are two extremes.

The CIPR regime is looking in the middle.

Eg – combining a 35 year annuity certain with, say, a 20 year annuity certain and a deferred income product can deliver materially higher living standards than the pure self-insurance model without complete loss of capital (and again with no risk of running out of money).

It's possible to develop formulae to target a required capital-retention level.

For example, suppose we are targeting a 'half way house'.





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# Simple example

The annuity certain purchaser has income  $t$  say.

The GSA purchaser has income  $1.4 \times t$ .

The expected present value of the death benefit for the annuity certain purchaser is  $(1.4-1)/1.4 \times \text{purchase price} = \text{about } 30\%$  of the purchase price.

Say we want to increase the income efficiency by reducing the expected death benefit to 15% of the purchase price.

This would result in an improvement in living standards of  $(1-0.15)/(1-0.3)-1 = \text{about } 20\%$ .



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# Simple example

We can show\* that if you allocate about:

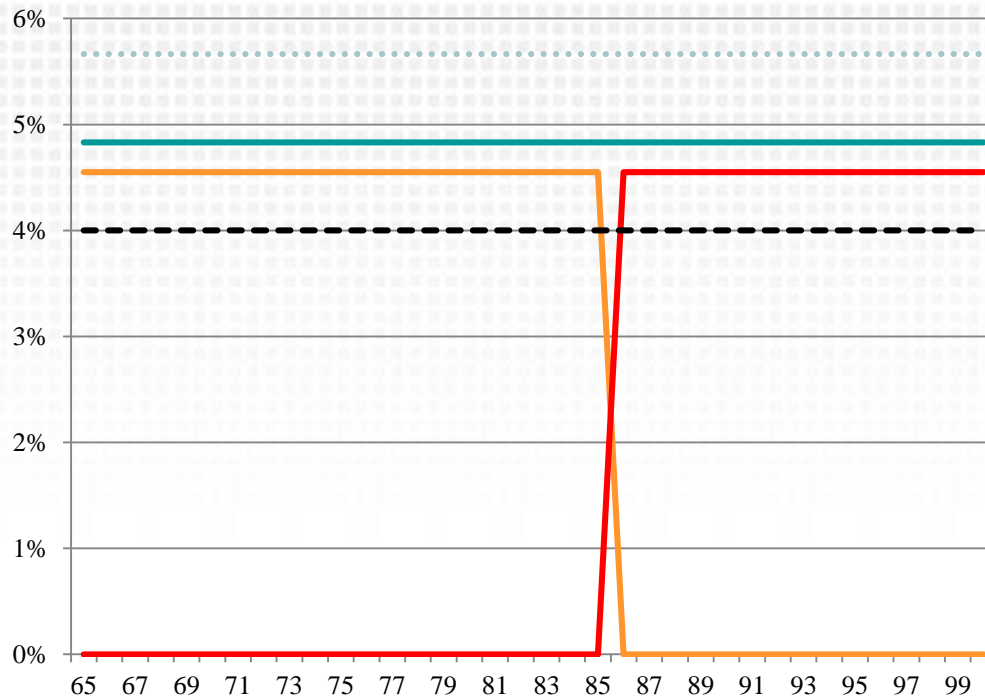
- 7% to a 35 year annuity certain
- 74% to a 20 year annuity certain
- 19% to a deferred income product, triggering if you live to age 85

Then you will enjoy retirement income which is 20% more than the pure 40 year annuity certain self-insurance purchaser.

And there's no risk of running out of money.

But your kids can only expect 15% of your accumulated retirement balance instead of 30%.

\* Obviously depends on the underlying mortality curve and the interest rate, but there is a closed solution for a given basis





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# Simple example

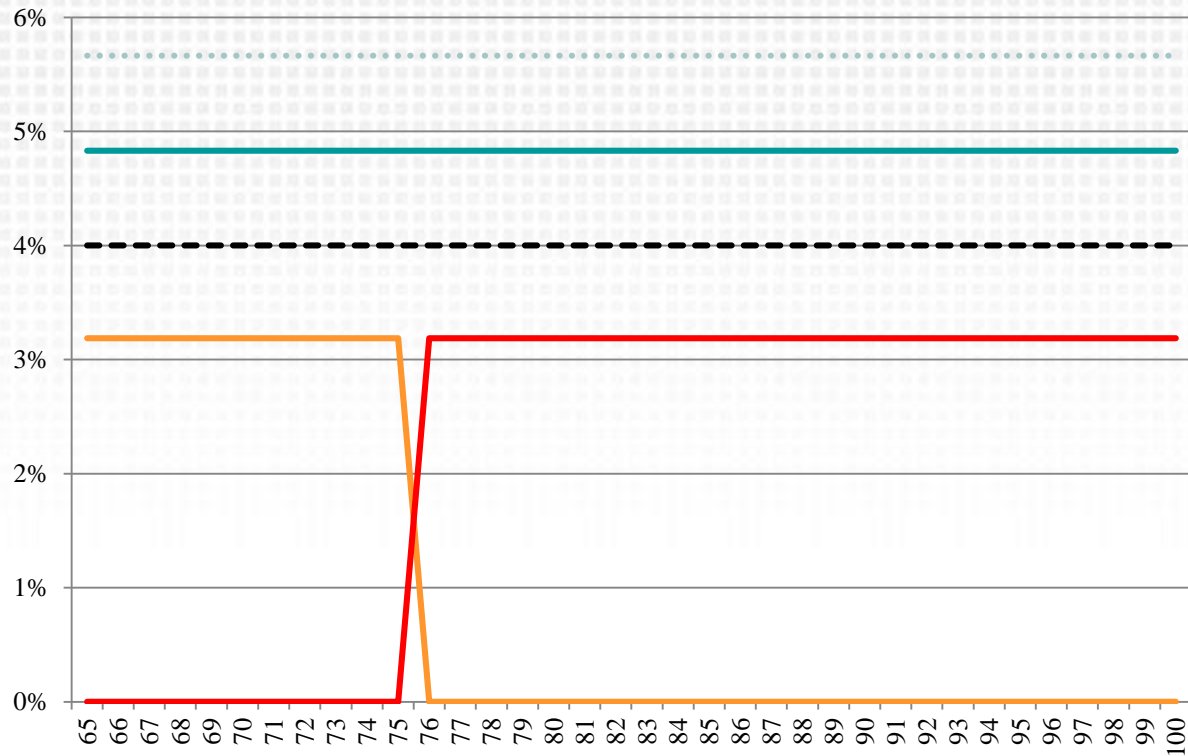
There's also some flexibility.

You can get the same income profile using, eg, a 10 year deferral period.  
In this case, allocate about:

- 41% to a 35 year annuity certain
- 29% to a 10 year annuity certain
- 30% to a deferred income product, triggering if you live to age 75

Again you will enjoy retirement income which is 20% more than the pure 35 year annuity certain self-insurance purchaser.

But again your kids can only expect 15% of your accumulated retirement balance instead of 30%.







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# Age Pension and Means Testing

The objective of the Age Pension is to provide income support to those who are unable, or not required, to support themselves.

A means test is required to provide **equity** such that those with more means receive less age pension than those with less.

A methodology is required for measuring an individual's 'means'.



# Age pension means testing

- Income and asset test – unusual by international standards
- Assessed income tested against a free area of about \$4,000 with a taper rate of 50%
- Max age pension for a single homeowner is around \$22,000
- So income cut-out is  $\$4,000 + \$22,000/.5 =$  about \$48,000



## Age pension means testing

- Assessed assets tested against a free area of about \$250,000 with a taper rate of 7.8%
- So asset cut-out is  $\$250,000 + \$22,000 / .078$   
= about \$530,000



# Age pension means testing

- Means test has a ‘greater of’ structure
- So, age pension payable is the lesser of the income test result and the asset test result



## Measuring Means

### Person A

\$400k of financial assets

vs

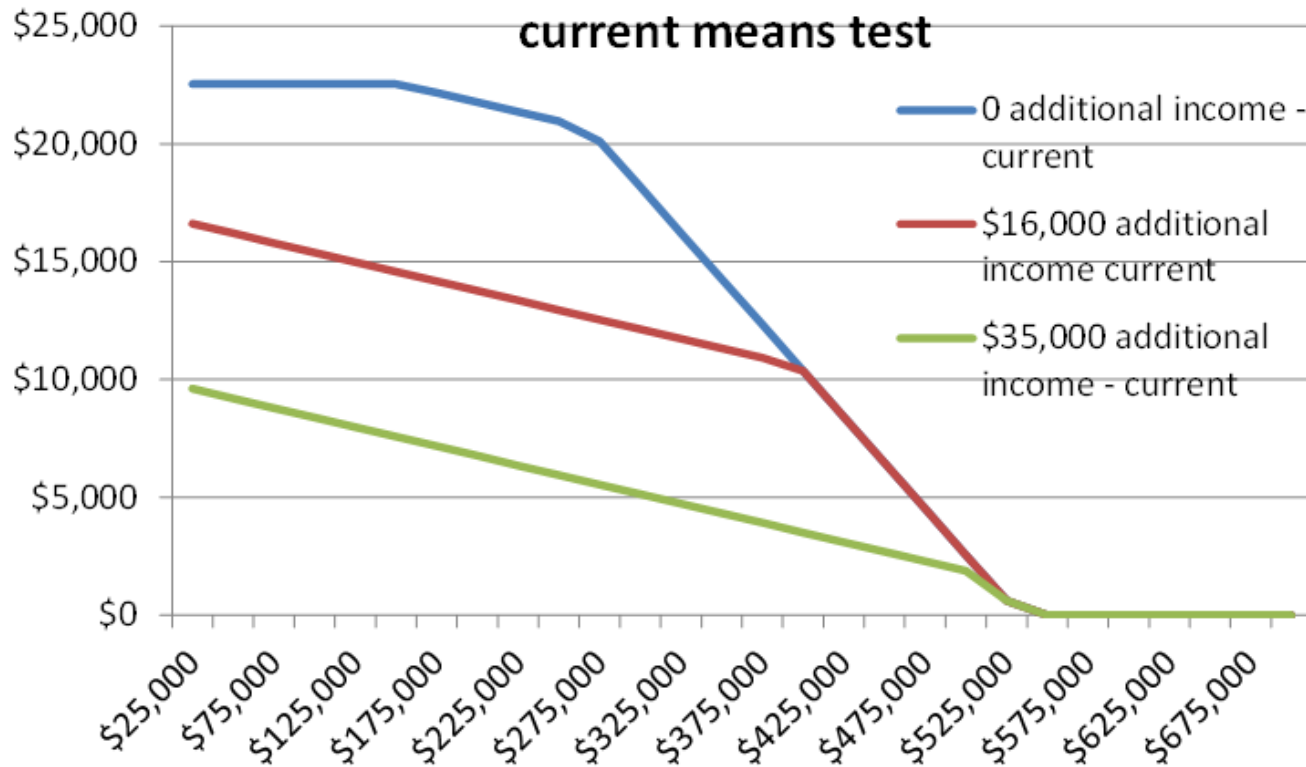
### Person B

\$400k of financial assets  
\$15k p.a. CSS pension

**Age Pension = 10,366**  
Financial Asset = 20,000  
**Total Income = 30,366**

**Age Pension = 10,366**  
Financial Asset = 20,000  
CSS pension = 15,000  
**Total Income = 45,366**





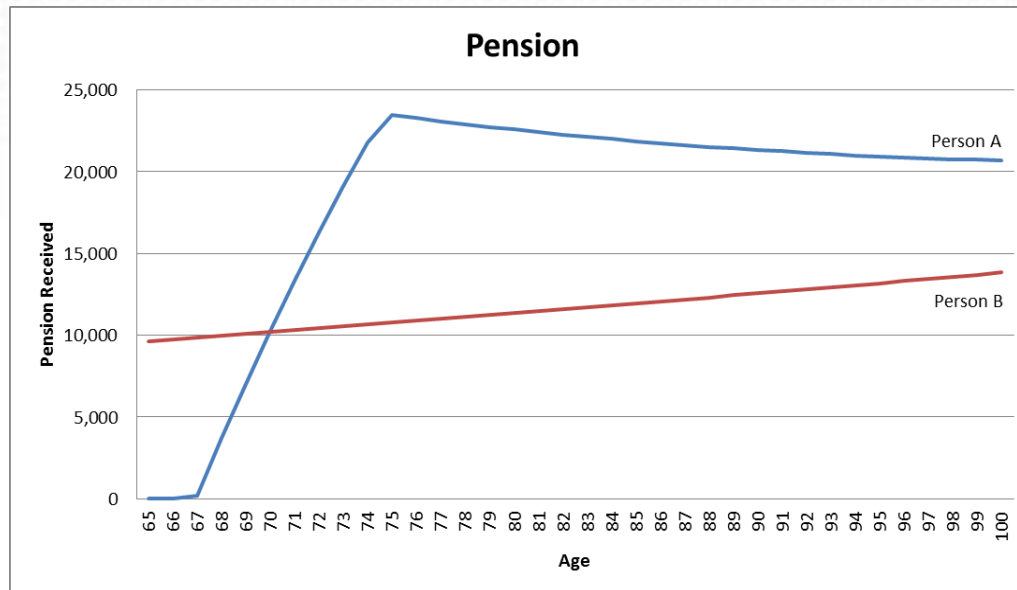


# Measuring Means

**Person A**  
\$30k p.a. life annuity

vs

**Person B**  
\$30k p.a. CSS pension





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## Measuring Means

### Person A

65 years old  
\$400k life annuity

vs

### Person B

95 years old  
\$400k life annuity

**Pension = 10,366**

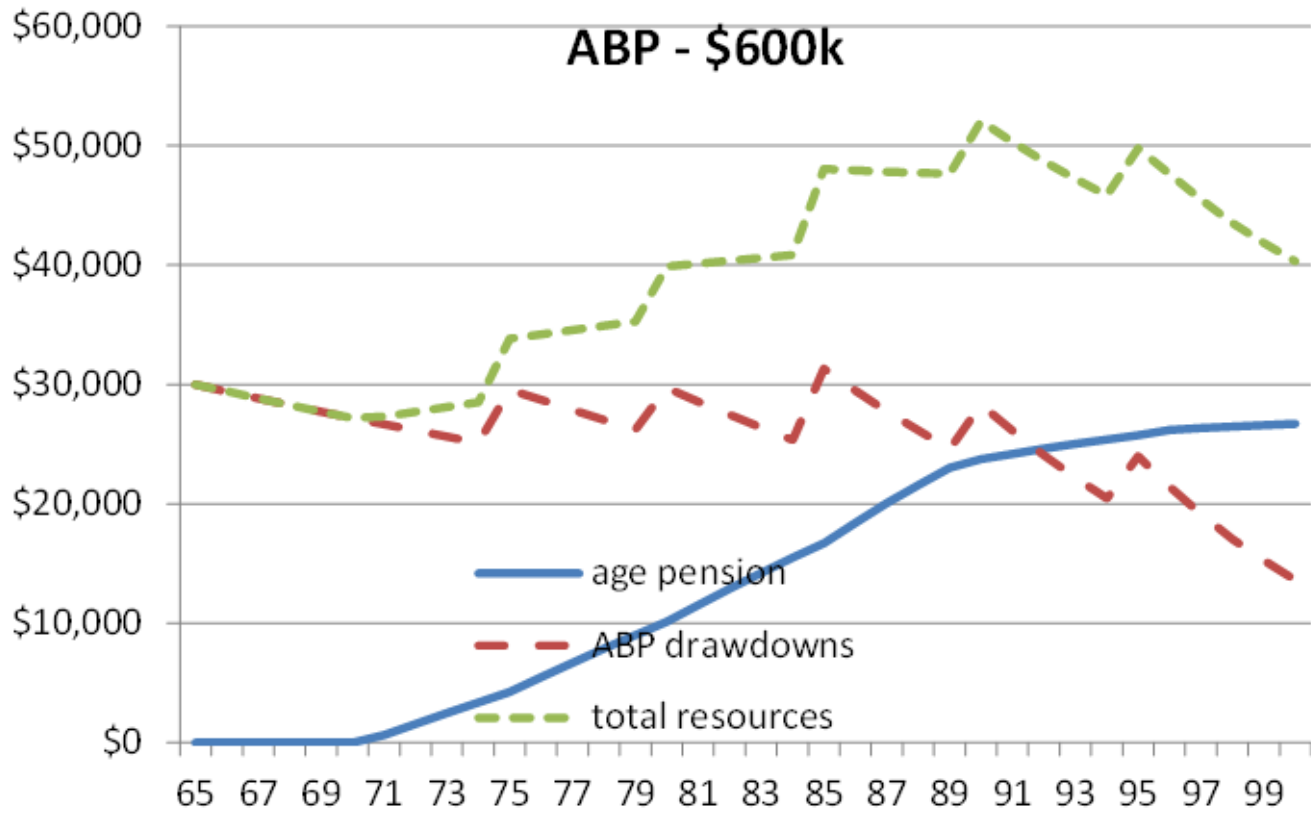
Annuity Income = 19,200

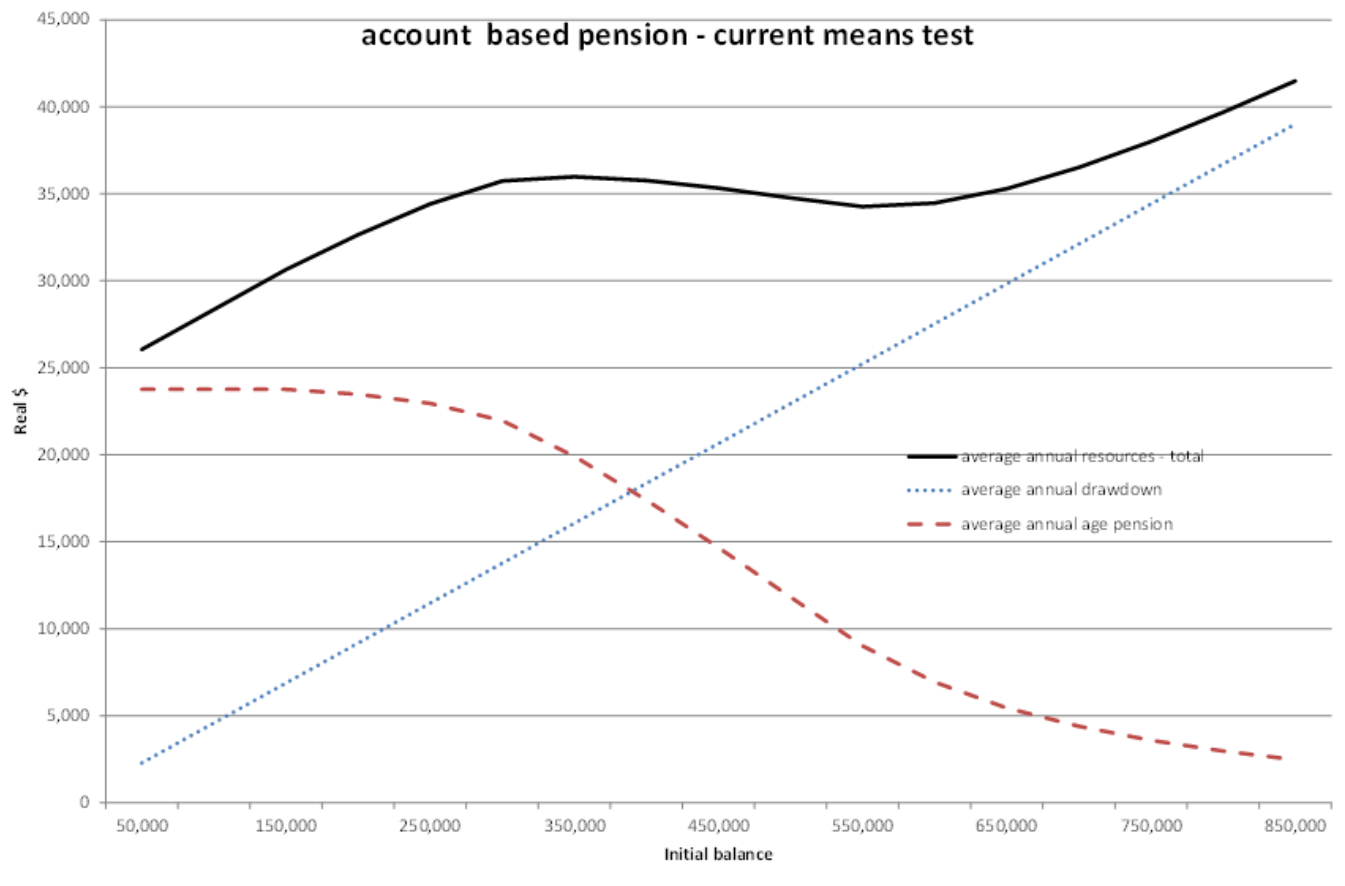
**Total Income = 29,566**

**Pension = 10,366**

Annuity income = 62,000

**Total Income = 72,366**









## Possible improvements?

- Use an additive structure rather than a ‘greater of’ structure
- That is, think about means as **both** income and assets, rather than **either** income **or** assets



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# Possible improvements?

Under an additive structure:

assessed income would be added to a suitable asset measure

and then tested against a free area and taper rate

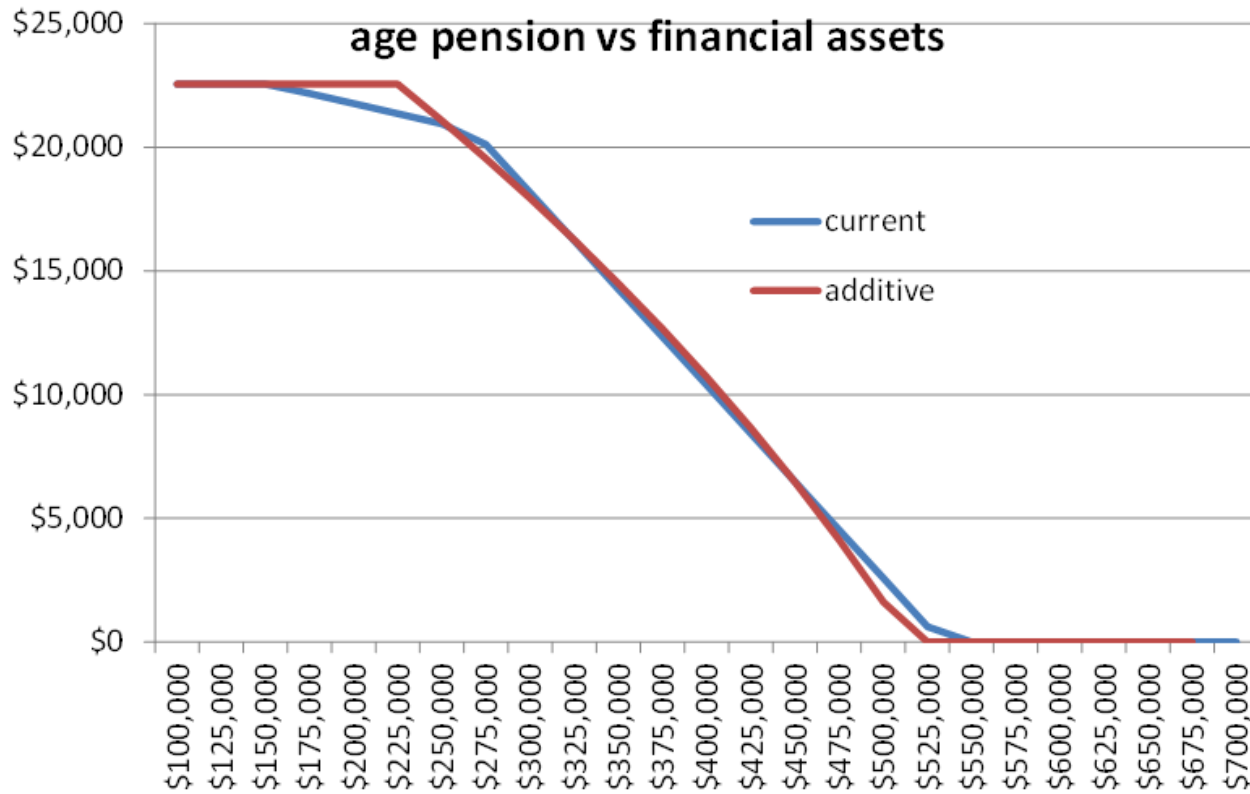


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# Possible improvements?

It's possible to develop an additive test that delivers essentially the same outcomes as the current test, including over time.







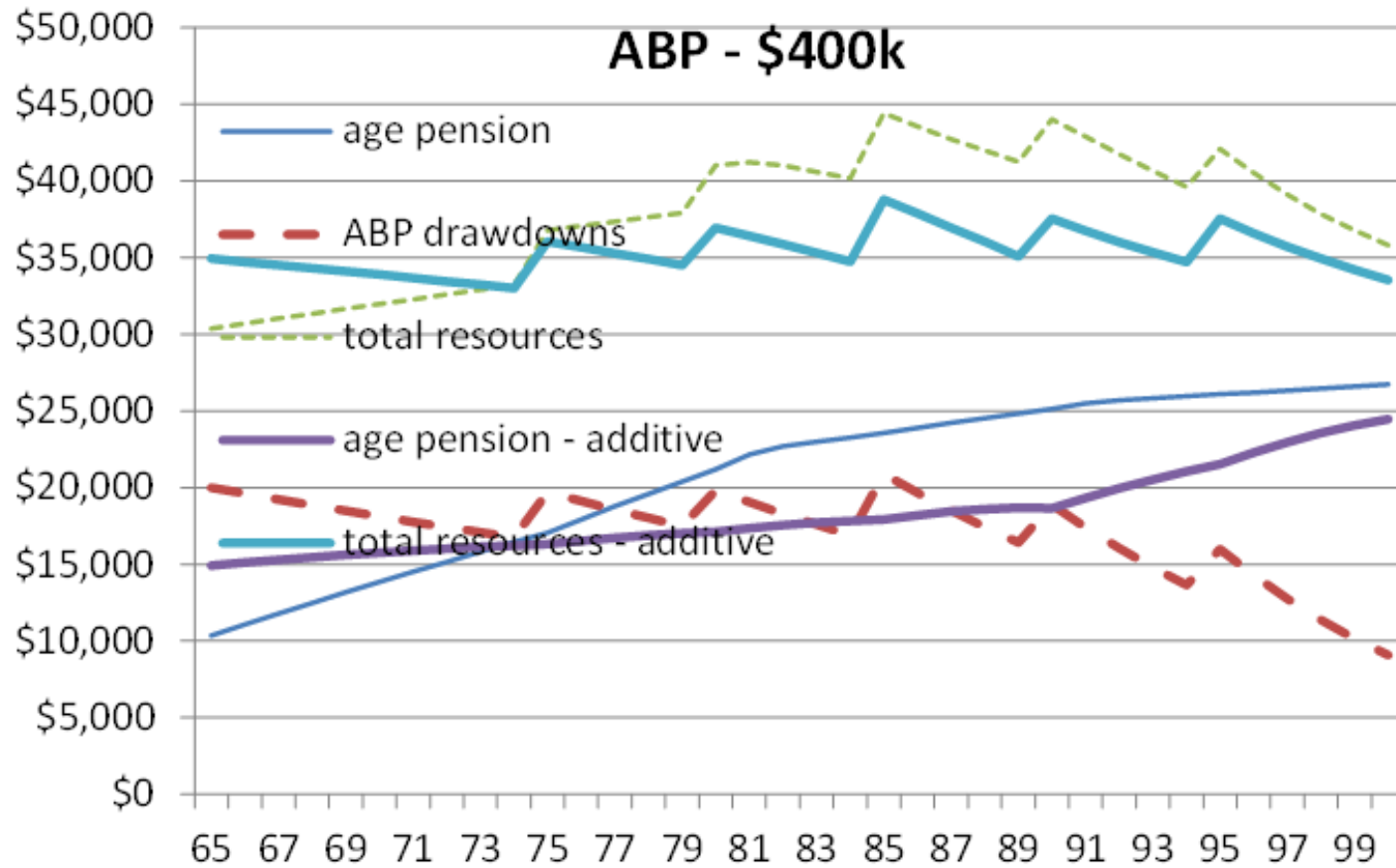


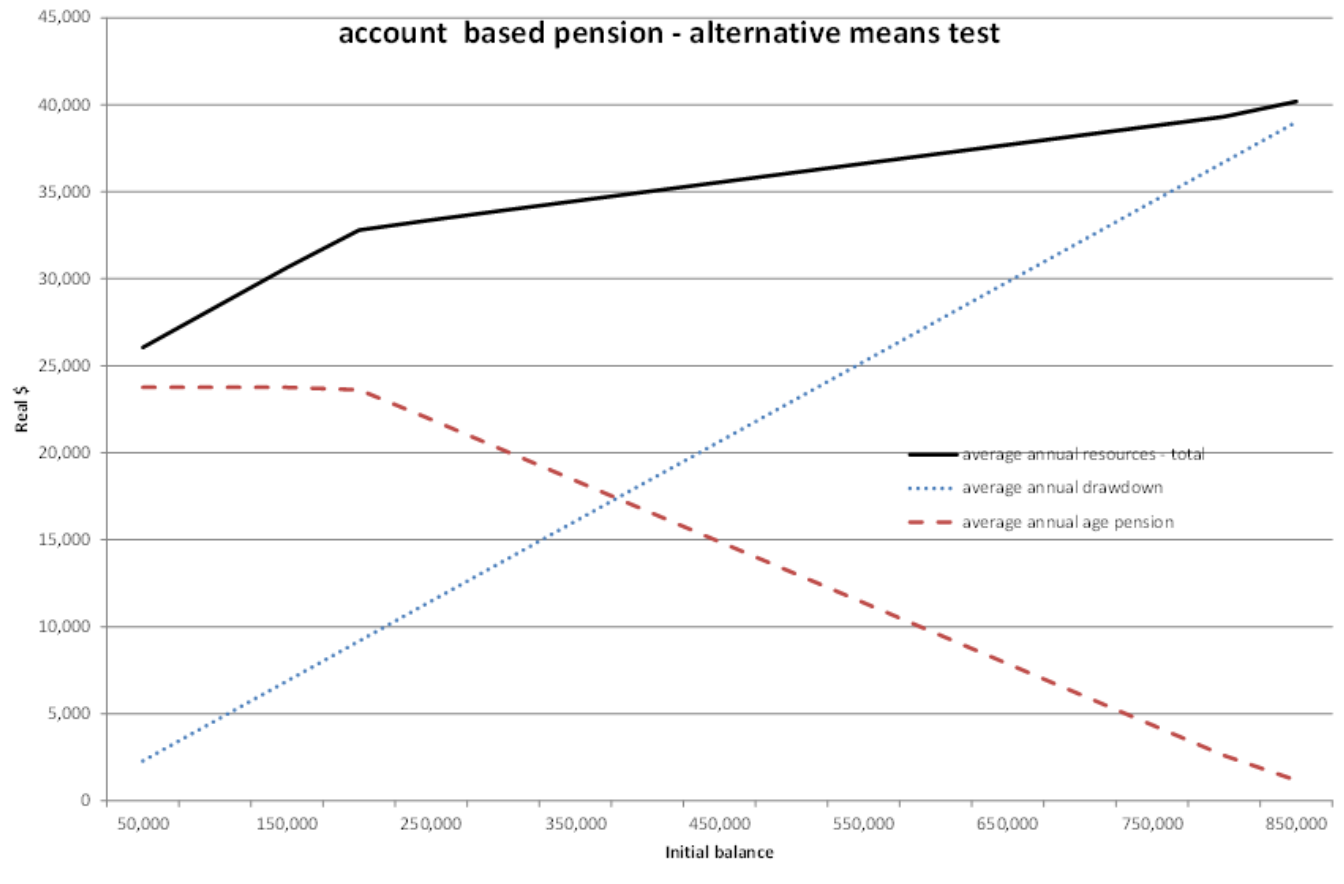
## Possible improvements?

A suitable asset measure needs to be based on a sensible reasonably expected rate of asset consumption....

A sensible starting point is to consider “how long the assets need to last”:

- Life expectancy?
- Some other period?







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## Conclusion

- Just two of many public policy areas where there is real scope for close actuarial input into the public policy process