Actuaries Summit

Think Differently

Actuaries Institute

21-23 May 2017 • Grand Hyatt Melbourne

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Fair's Fair – A Discussion of Intergenerational Equity

Richard Lyon

Fair's Fair – Intergenerational Equity

- Background – IGR
- Cohort incomes
- Housing
- The real issues

Intergenerational Reports

- Released at least once every 5 years
- 40-year projections: **economic**, **demographic**, **fiscal** outlook
- Intent: Assesses long-term sustainability of Government policies in the context of economic & demographic challenges
- 4 reports released so far: 2002, 2007, 2010, 2015

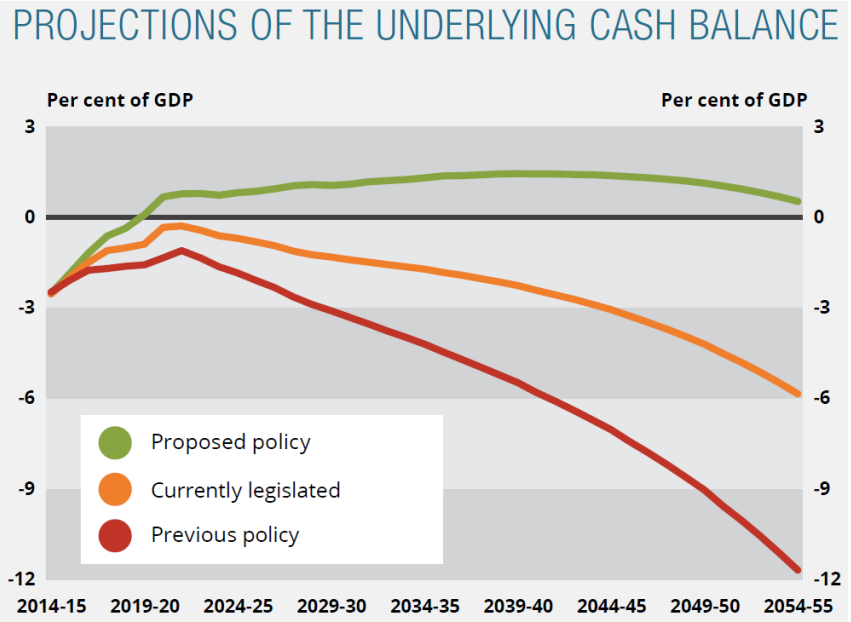
From: *Lies, Damned Lies and the 2015 IGR*

Unsustainable "sustainability"

2015 IGR Overview (p. 17)

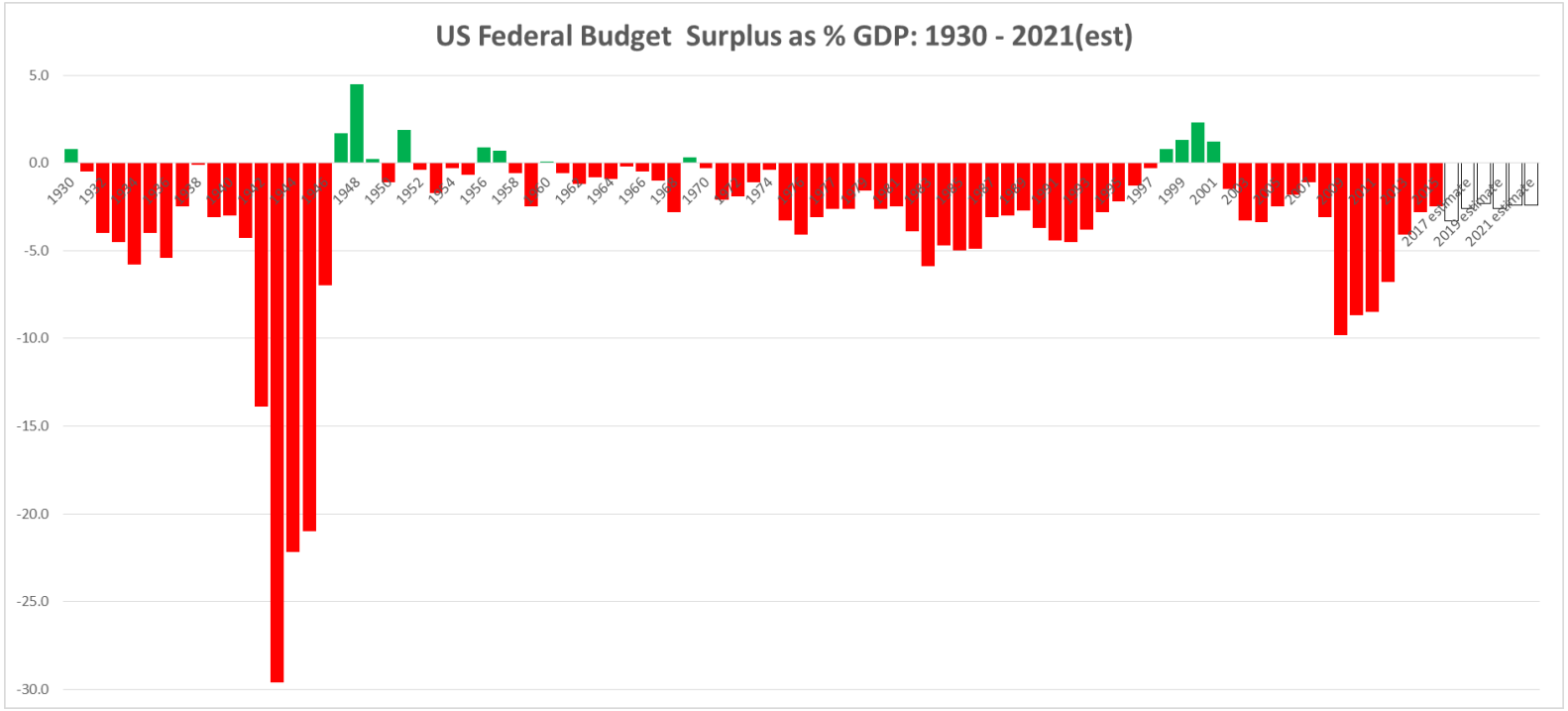
*The first two scenarios show a very significant deterioration in the Budget. The third scenario shows that the Government's current set of policies would bring the Budget back to a **sustainable** path over the medium to long term.*

[emphasis added]



From: *Lies, Damned Lies and the 2015 IGR*

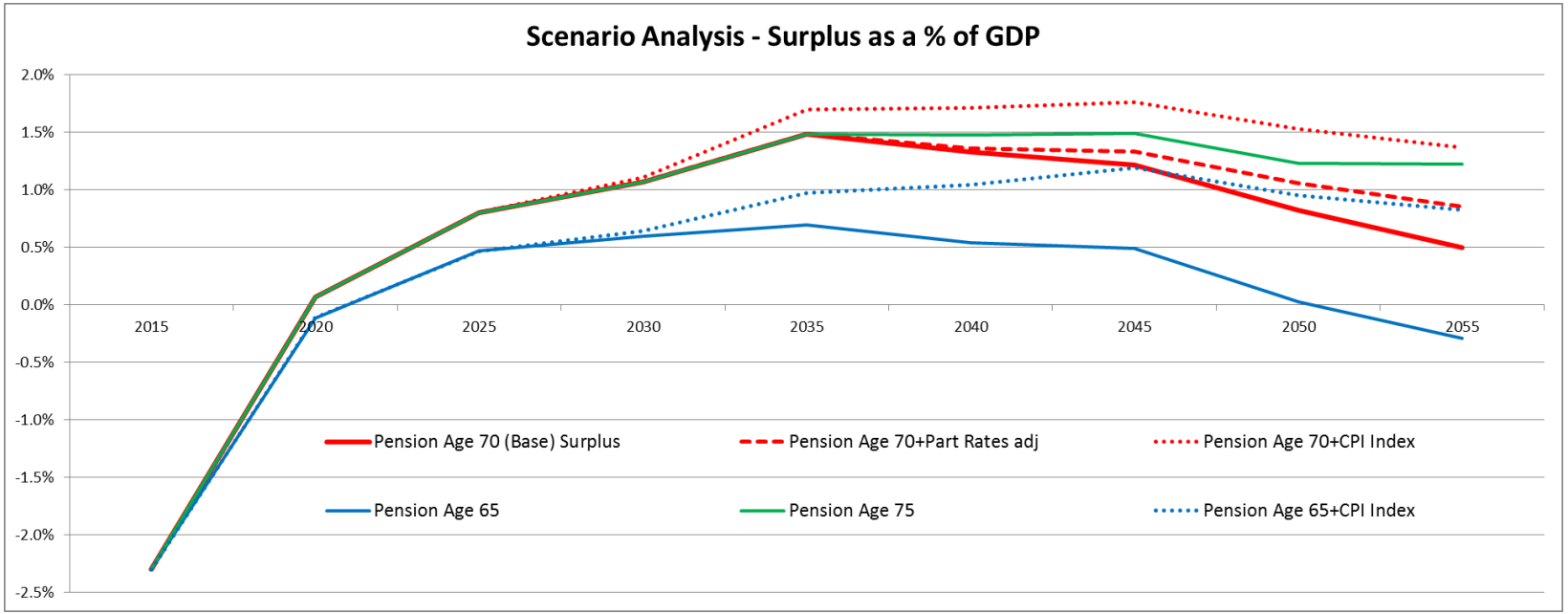
Household-style budgeting



From: *Lies, Damned Lies and the 2015 IGR*

Age Pension adjustments

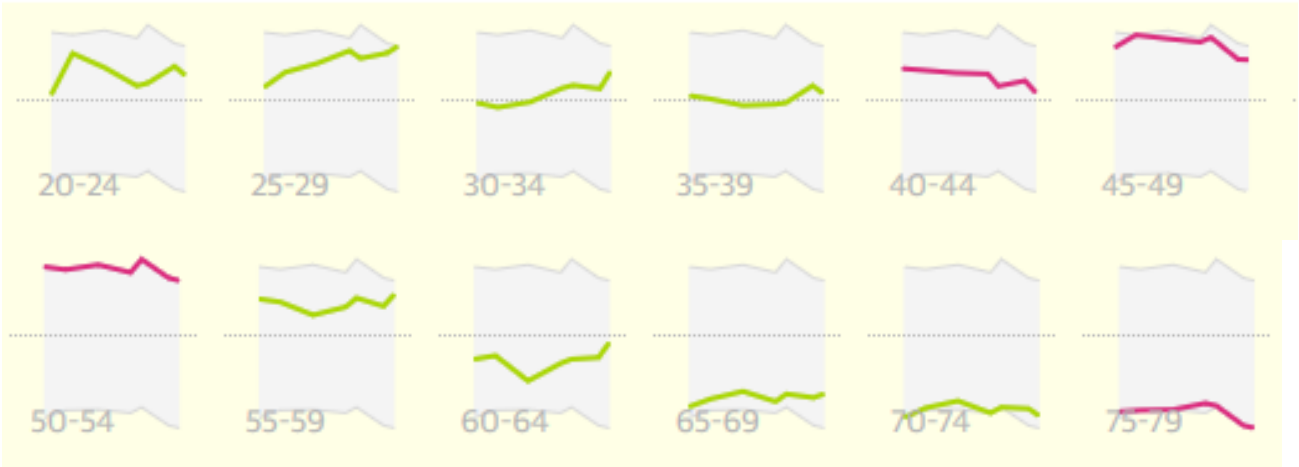
We can play with Eligibility Age, long-term indexation rate and old-age participation rates:



From: *Lies, Damned Lies and the 2015 IGR*

Cohort incomes

Disposable income follows a clear trend over a lifetime



Does this chart show that inter-generational equity exists?

Source:
http://www.theguardian.com/world/ng-interactive/2016/mar/07/whos-winning-find-out-how-your-income-compares-with-every-other-generation
Based on data from Luxembourg Income Study from 1985 to 2010

From: *Lies, Damned Lies and the 2015 IGR*

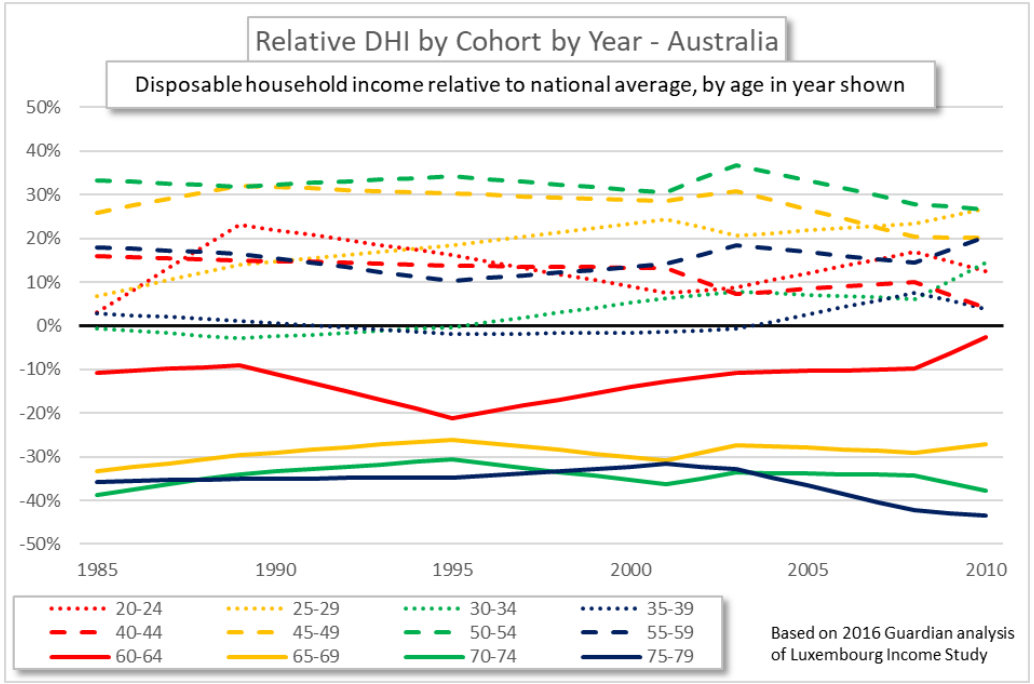
Disposable Household Income (DHI)

- Guardian study makes Luxembourg Income Study (LIS) data accessible
- DHI is after taxes and welfare transfers
  - would include age pension and unemployment benefits
- Cohorts based on age of "head of household"
- No known adjustment for number in household
  - e.g. singles v couples v families

Cohort relative DHI – Australia

Measured by age of head of household and expressed relative to national average, DHI is highest at mid ages and lowest at oldest ages

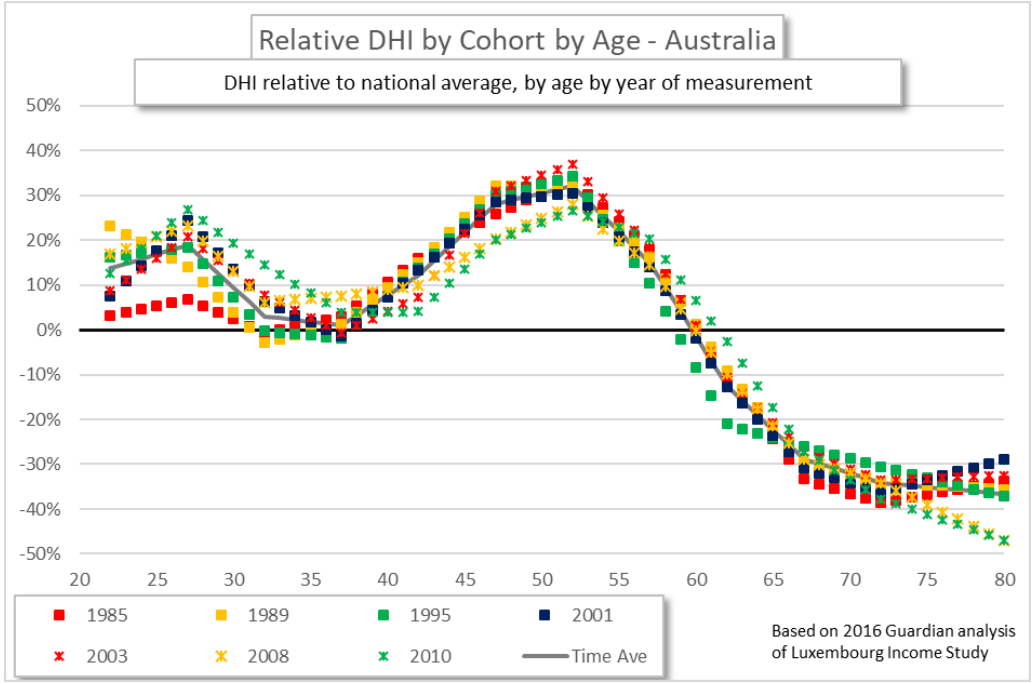
Relationship has remained broadly consistent over time



Cohort relative DHI – Australia by age over time

The shape of DHI by age at different dates can be derived from the data.

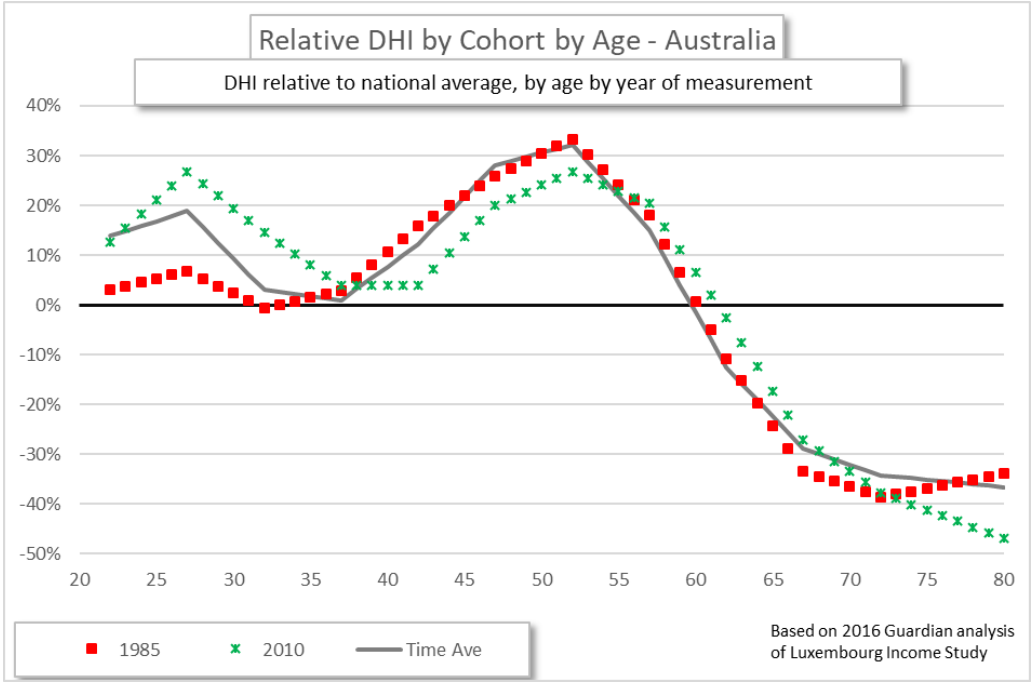
For Australia, this shows quite a stable trajectory, suggesting reasonable intergenerational equity.



Cohort relative DHI – Australia by age over time

Cleaning out the intermediate years clarifies the picture for Australia:

Young have gained at the expense of the very old and the mid ages.

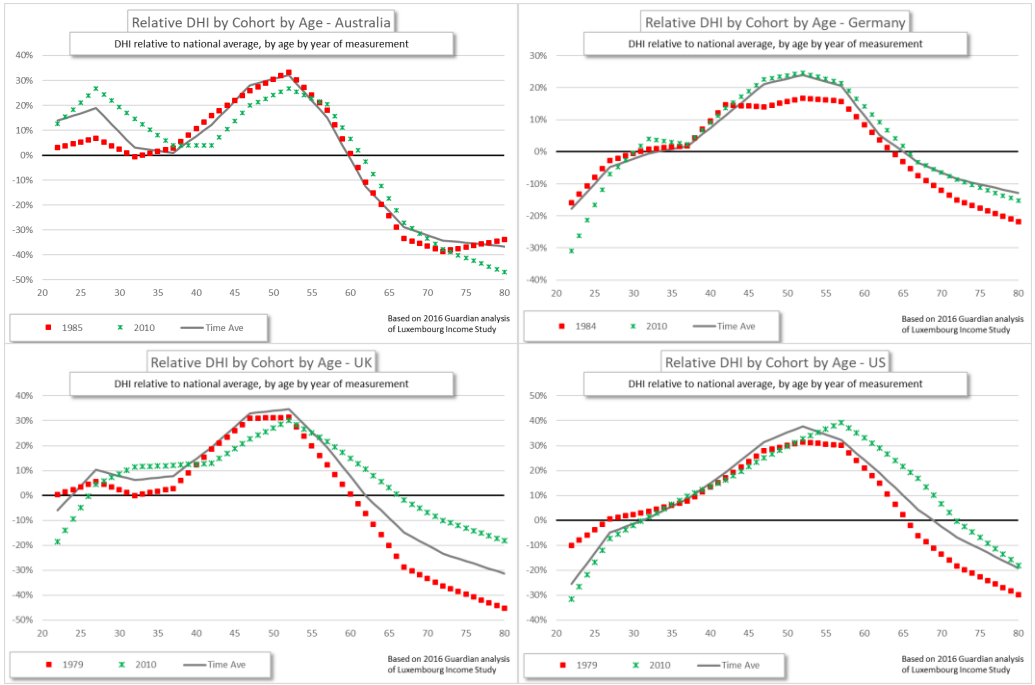


Cohort relative DHI – various countries by age over time

These charts confirm the contrasting trends:

Australian young gain relative to mid ages and very old

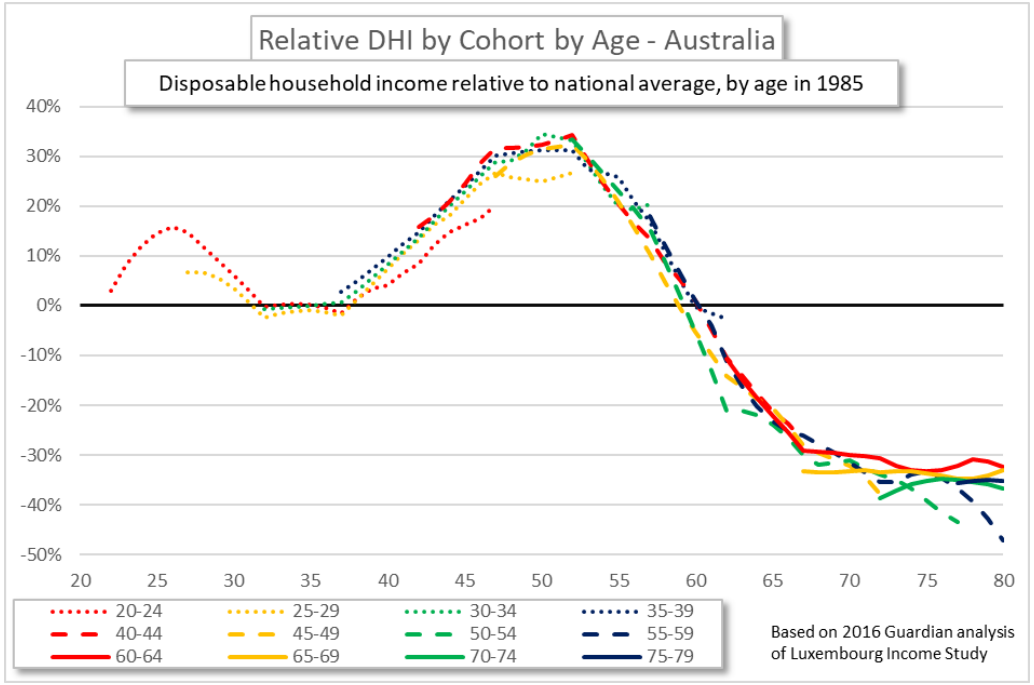
German, UK & US older ages gain relative to the young



Cohort relative DHI – Australia by cohort over time

From 1985, Australia shows essentially the same shape and broadly the same relativities, wherever we start.

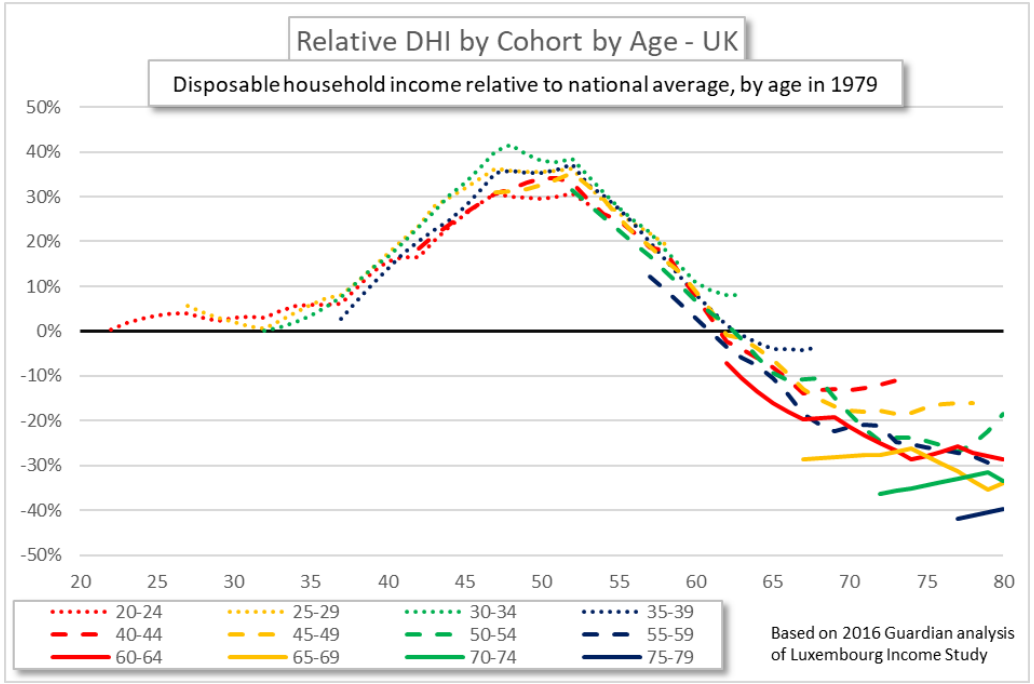
Perhaps the clear under-tracking of the youngest, from reaching their late thirties, is a cause for concern?



Cohort relative DHI – UK by cohort over time

From 1979, the UK young track well, but there is a clear favourable shift for those starting at older ages.

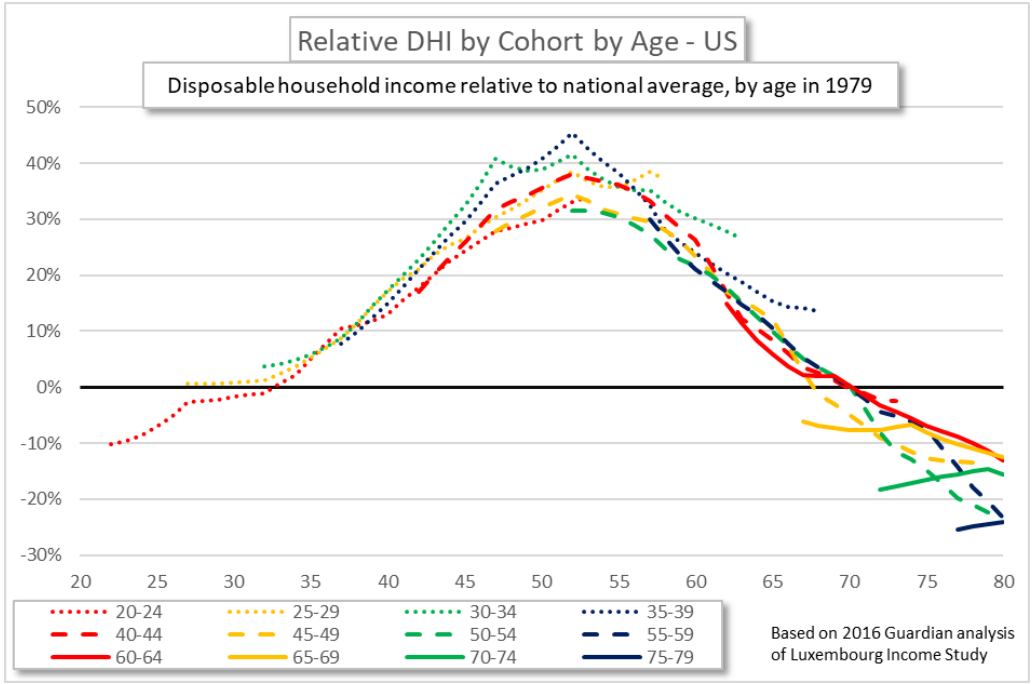
Will this be matched by those still passing through the system?



Cohort relative DHI – USA by cohort over time

From 1979, the US young appear to have underperformed, but the shift to the right is clear at most other starting ages.

Will the youngest match this?



Cohort analysis conclusion

- Australian income progression is relatively stable and appears fair
- Trend is opposite to rest of world (and to general opinion)

Australian house prices – an equity issue?

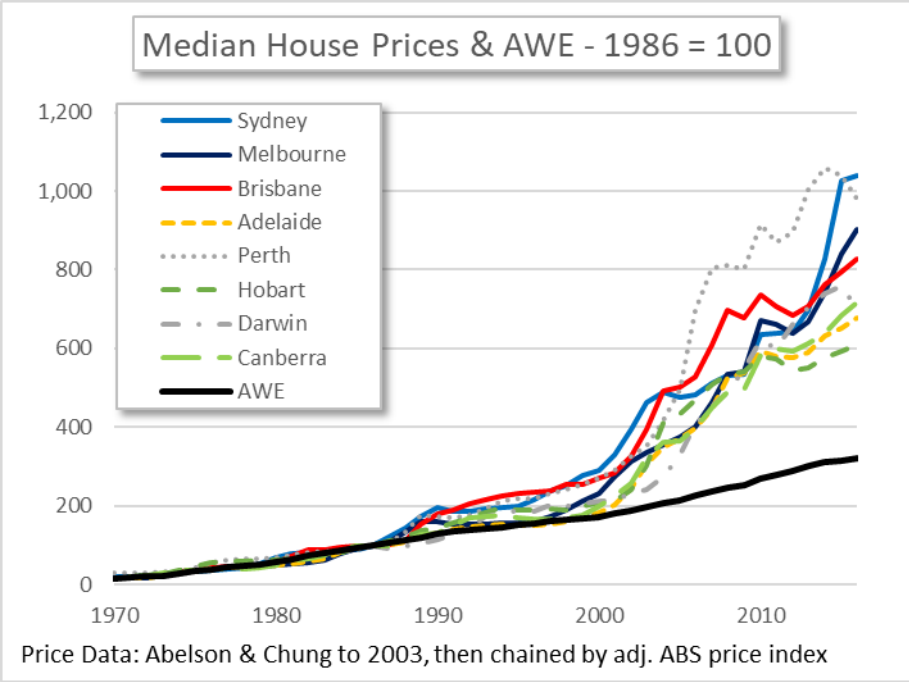
- One common example of intergenerational inequity is the "unaffordability" of housing
- Consider housing as a broadly constant cost in the long run (subject to short-term swings) as a percentage of available income. Average & median long-term prices will be driven by:
  - AWE;
  - mortgage interest rates;
  - average number of incomes available in the household (between 1 & 2); and
  - housing quality (e.g. space per person and quality of fittings)

Australian house prices – AWE

Median house prices broadly grew with AWE from 1970 to 1986.

But they have grown much faster since then.

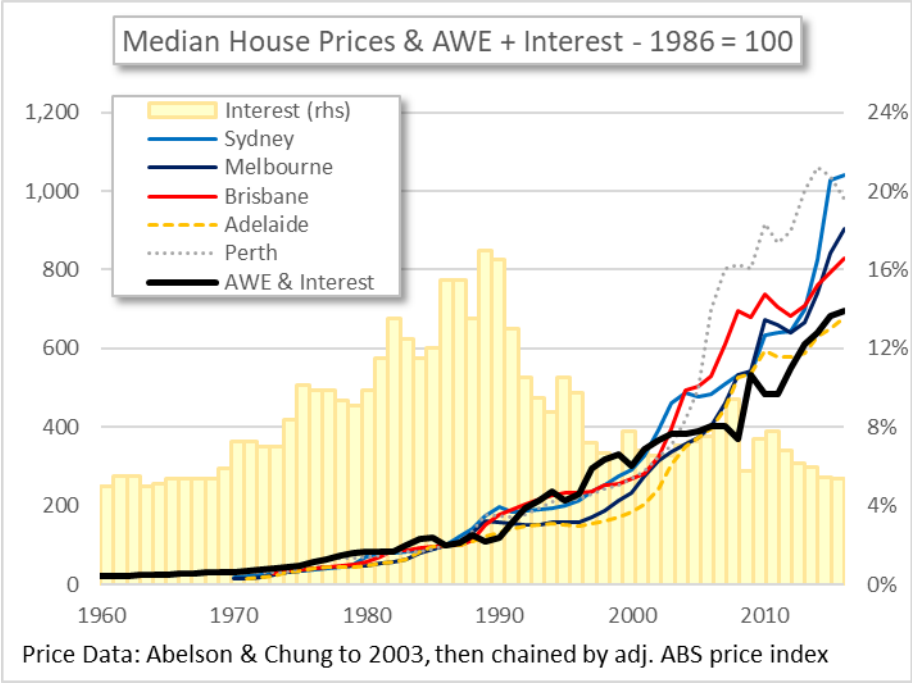
Is this an intergenerational equity issue, given that Baby Boomers benefited from buying their first properties up to the mid-80s?



Australian house prices – interest rates

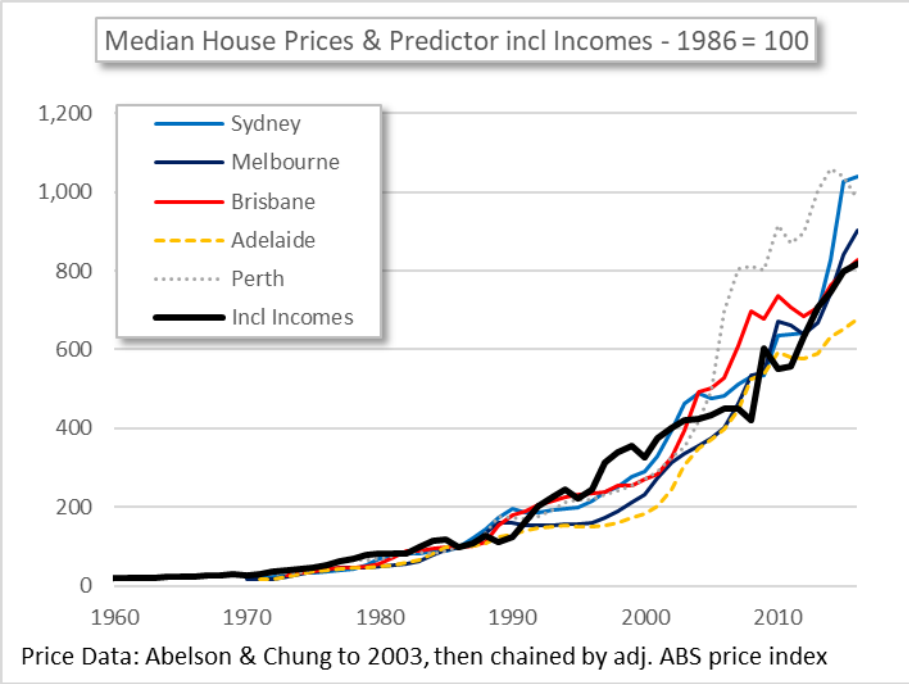
Overlaying the impact of standard mortgage interest rates (relative amount purchased by a 25-year mortgage) on top of AWE growth explains much of the difference between AWE and property prices since 1986.

It fully explains current Adelaide prices.



Australian house prices – incomes

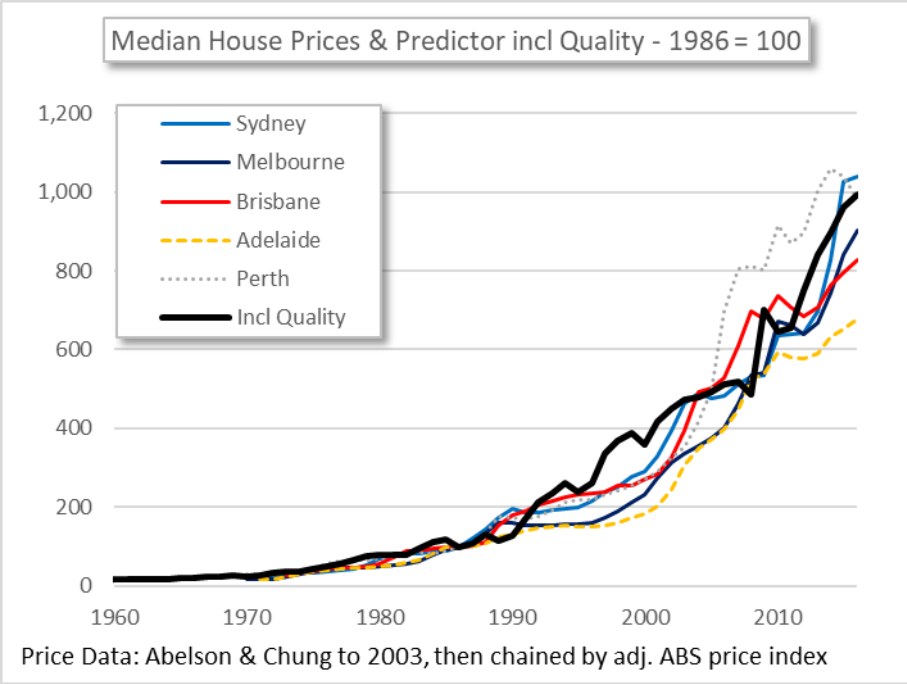
An increasing proportion of second incomes is used to purchase homes. If we allow for average available household income in 2016 at 1.4 times 1959 (after allowing for AWE), then we explain current Brisbane prices.



Australian house prices – quality

Houses are larger and of higher quality than in 1959. US figures suggest a doubling of size and almost triple the space per person.

If we allow for average quality in 2016 at 1.5 times 1959, then we more than explain current Melbourne prices and almost explain Sydney and Perth.



Australian house prices – projections

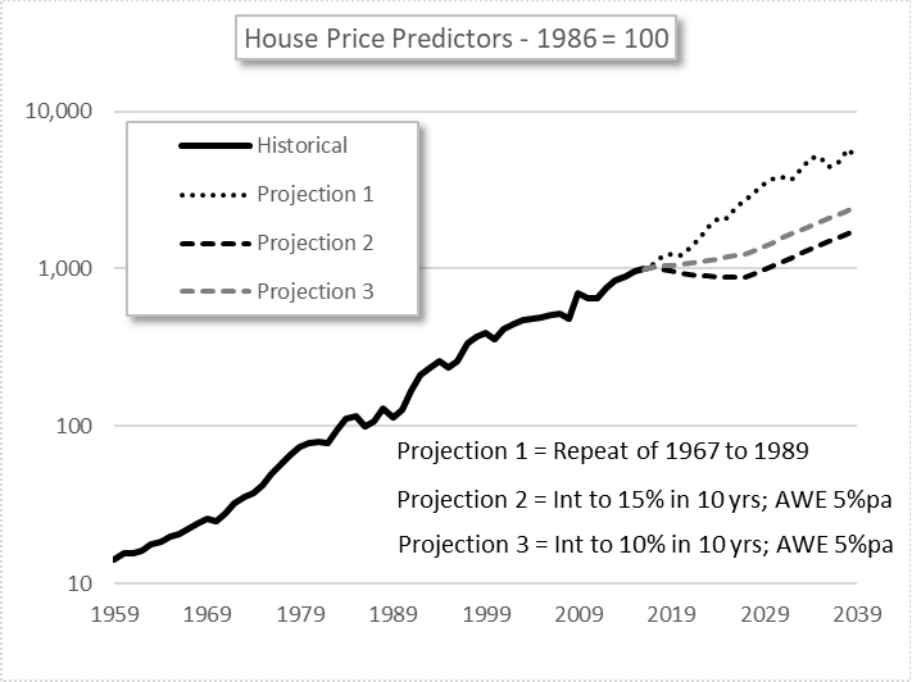
Assuming that interest rates are on their way back up, what will happen to house prices?

Here are three scenarios:

1 – repeat of 1967 to 1989

2 – grow to 15% in 10 yrs (AWE 5%)

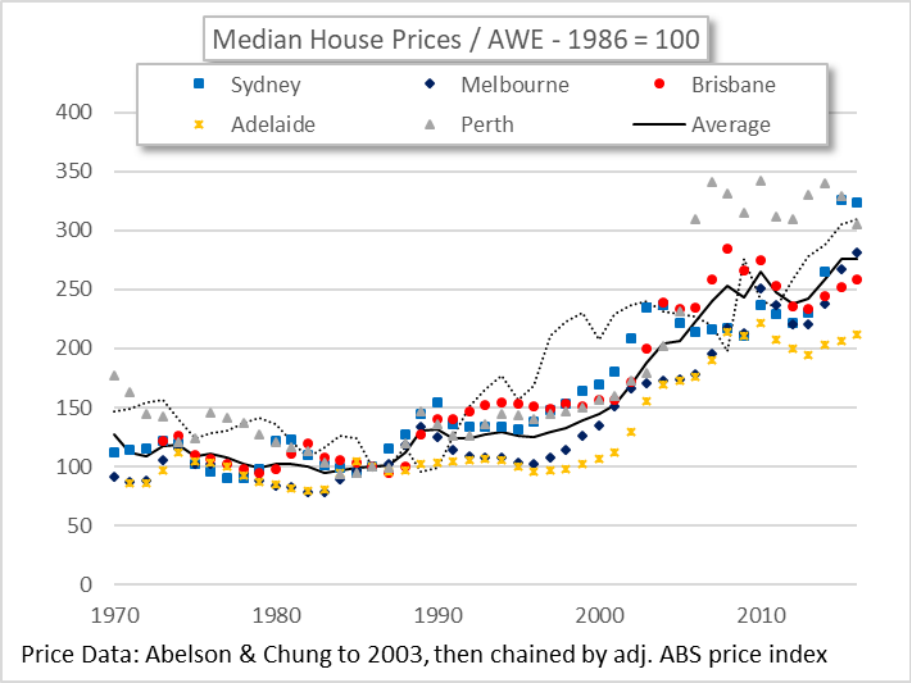
3 – grow to 10% in 10 yrs (AWE 5%)



Australian house prices – compared to AWE

Consider prices in relation to AWE:

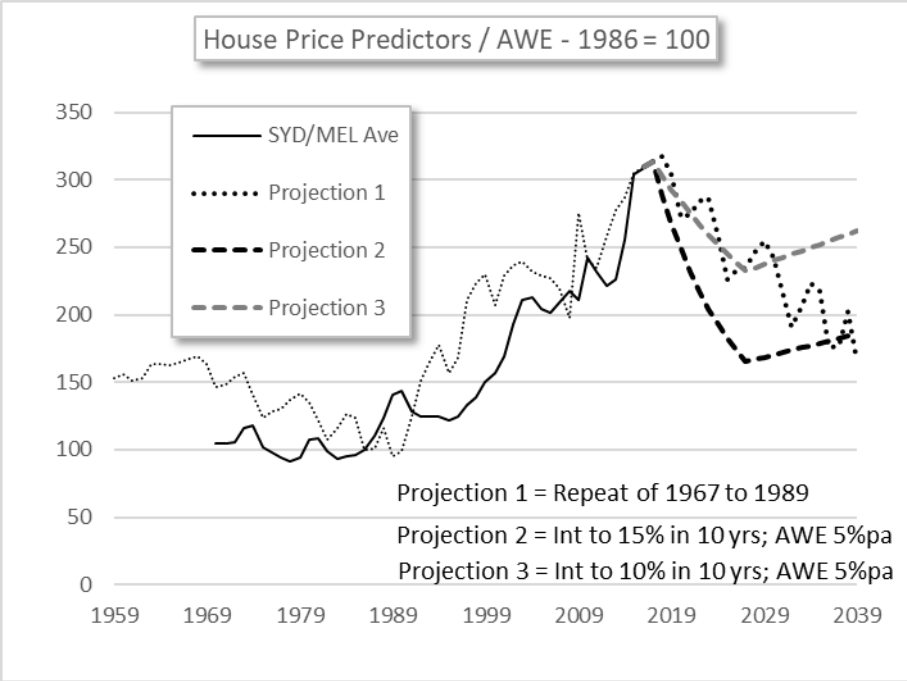
- broadly flat from 1970 to 1986, but generally strong growth thereafter
- large short-term variances from suggested proxy (dotted line)
- clear impact of latest mining boom in Perth



House price projections compared with AWE

The three projections all result in significant falls in the ratio of the house price predictor to AWE.

Large short-term variances between the predictor and actual prices mean that these projections are only indicative.



The real intergenerational equity issues…

OECD, 2001

Intergenerational equity is the issue of sustainable development referring, within the environmental context, to fairness in the intertemporal distribution of the endowment with natural assets or of the rights to their exploitation.

https://stats.oecd.org/glossary/detail.asp?ID=1387

Edith Brown Weiss, 1990

As members of the present generation, we hold the earth in trust for future generations. At the same time, we are beneficiaries entitled to use and benefit from it.

http://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=2639&context=facpub

The real intergenerational equity issues…

Measures of the quality of what is transferred to future generations include:

- Environmental health and diversity
- Social conditions
- Physical health and longevity
- Economic wellbeing

What other issues?

What priorities?

How are we doing?