



ARC CENTRE OF
EXCELLENCE IN
**POPULATION
AGEING
RESEARCH**

Retirement Income Design with an Ageing Demographic

John Piggott



The Message

Australia's retirement income *framework* is as good as it gets



i.e., a means-tested pillar + compulsory pre-funded second pillar
+ tax preferred voluntary retirement saving



Economic analysis (economics of taxation and experimental
economics) provide analytic support



But some policy and research issues are outstanding

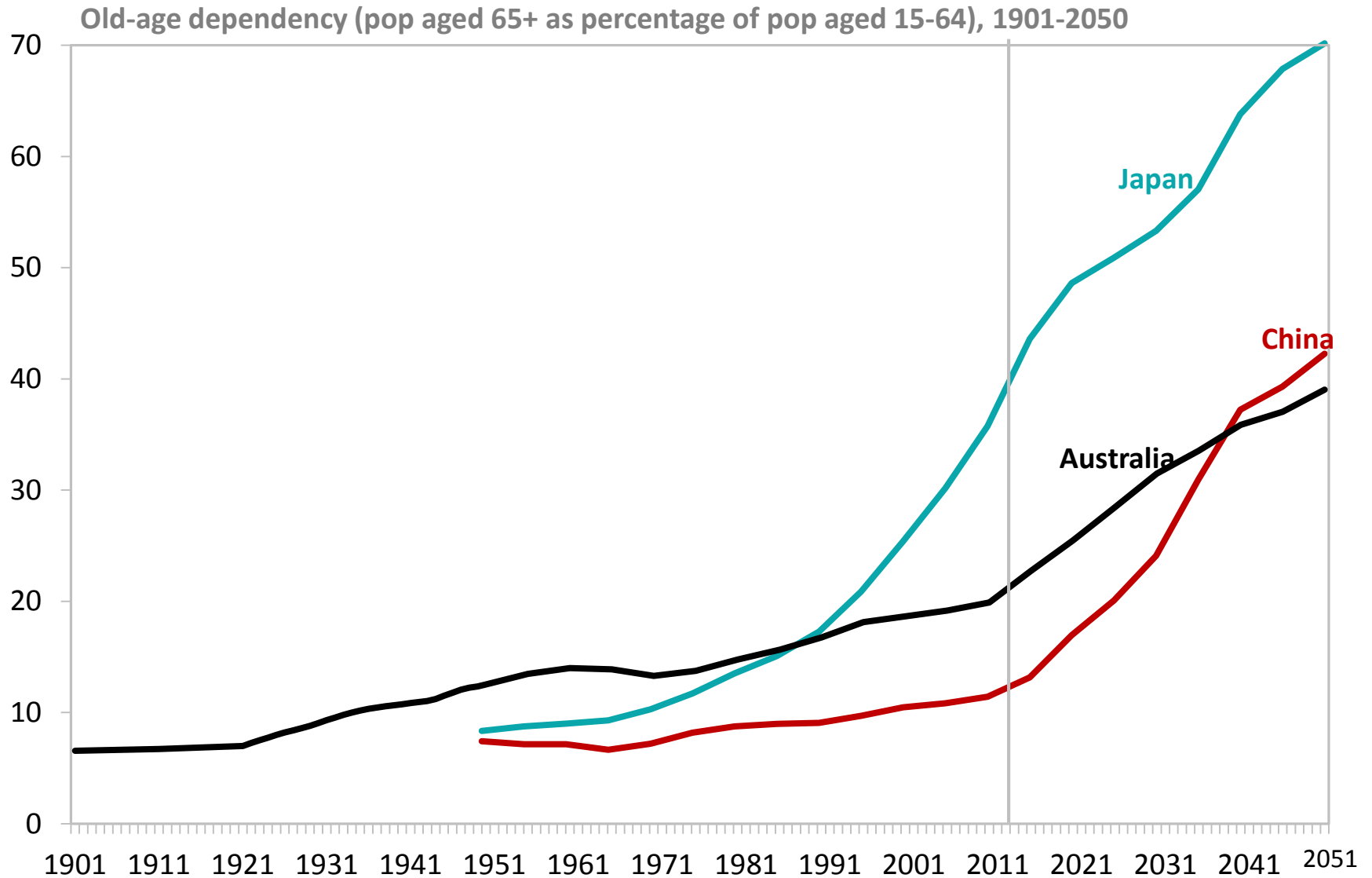
Lecture Outline

1. Demographics and pension design
2. First pillar – means testing
3. Second pillar – Mandating retirement saving
4. Implementation issues: Policy and Products

Lecture Outline

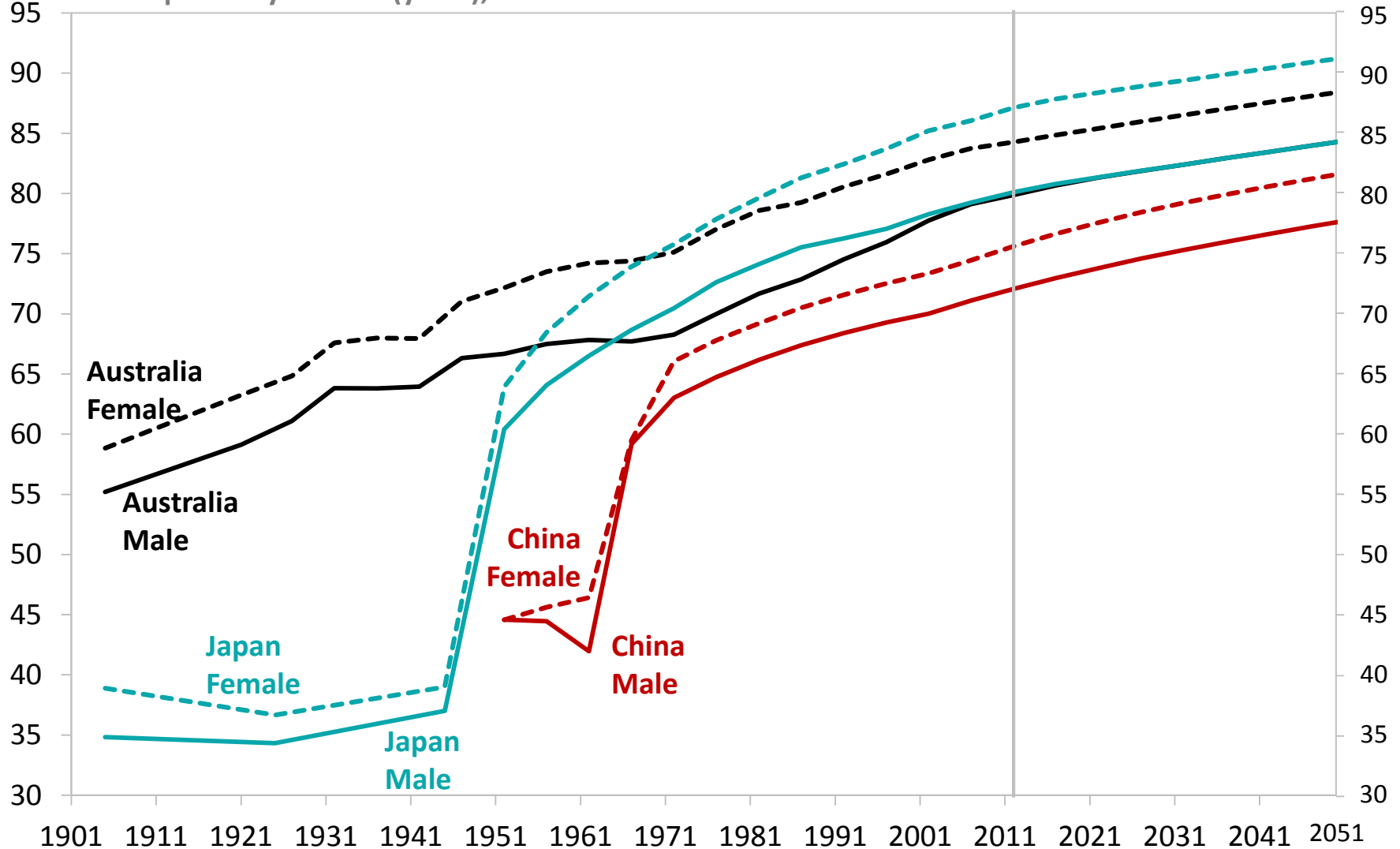
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Demographics – dependency ratio

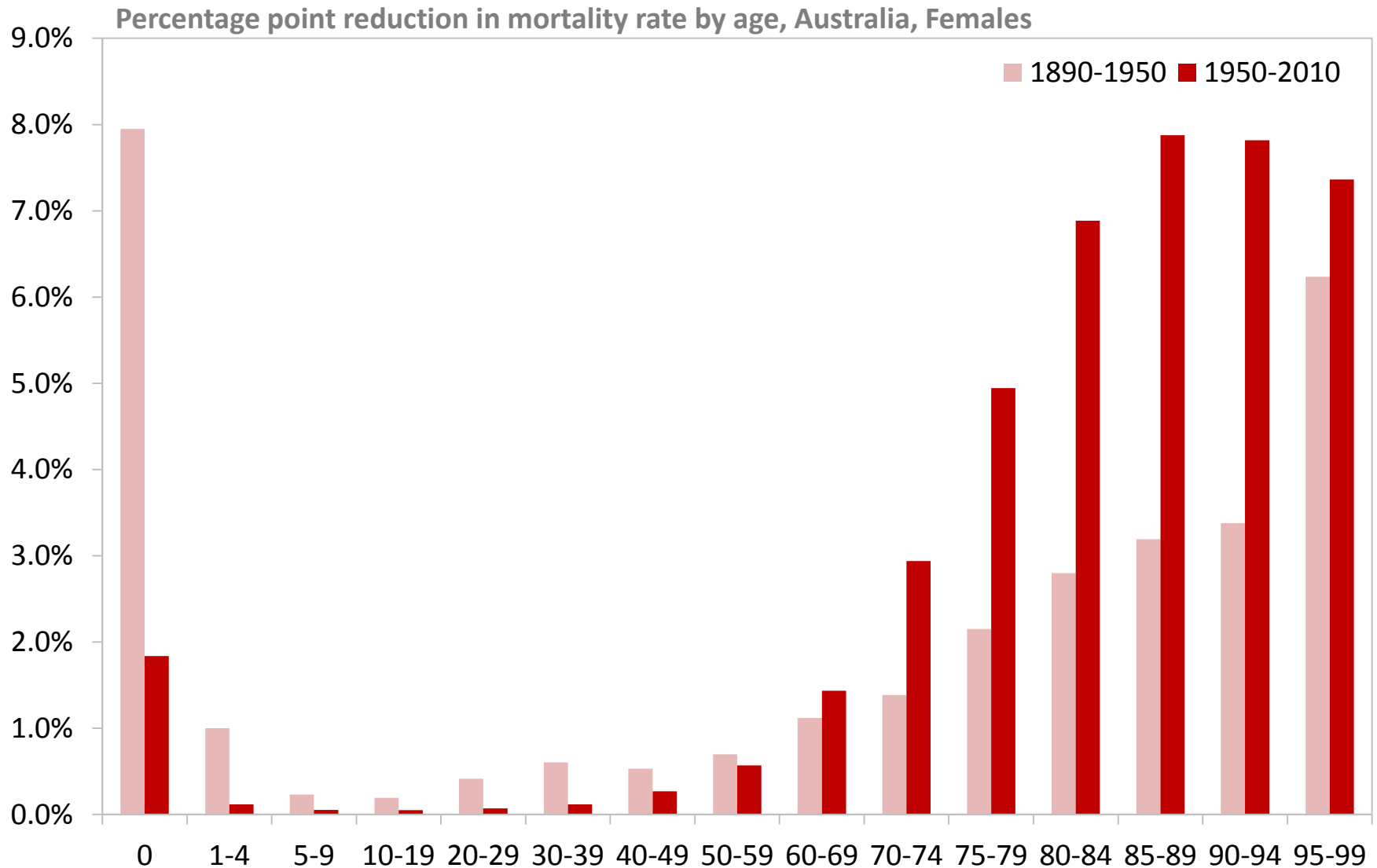


Demographics – life expectancy

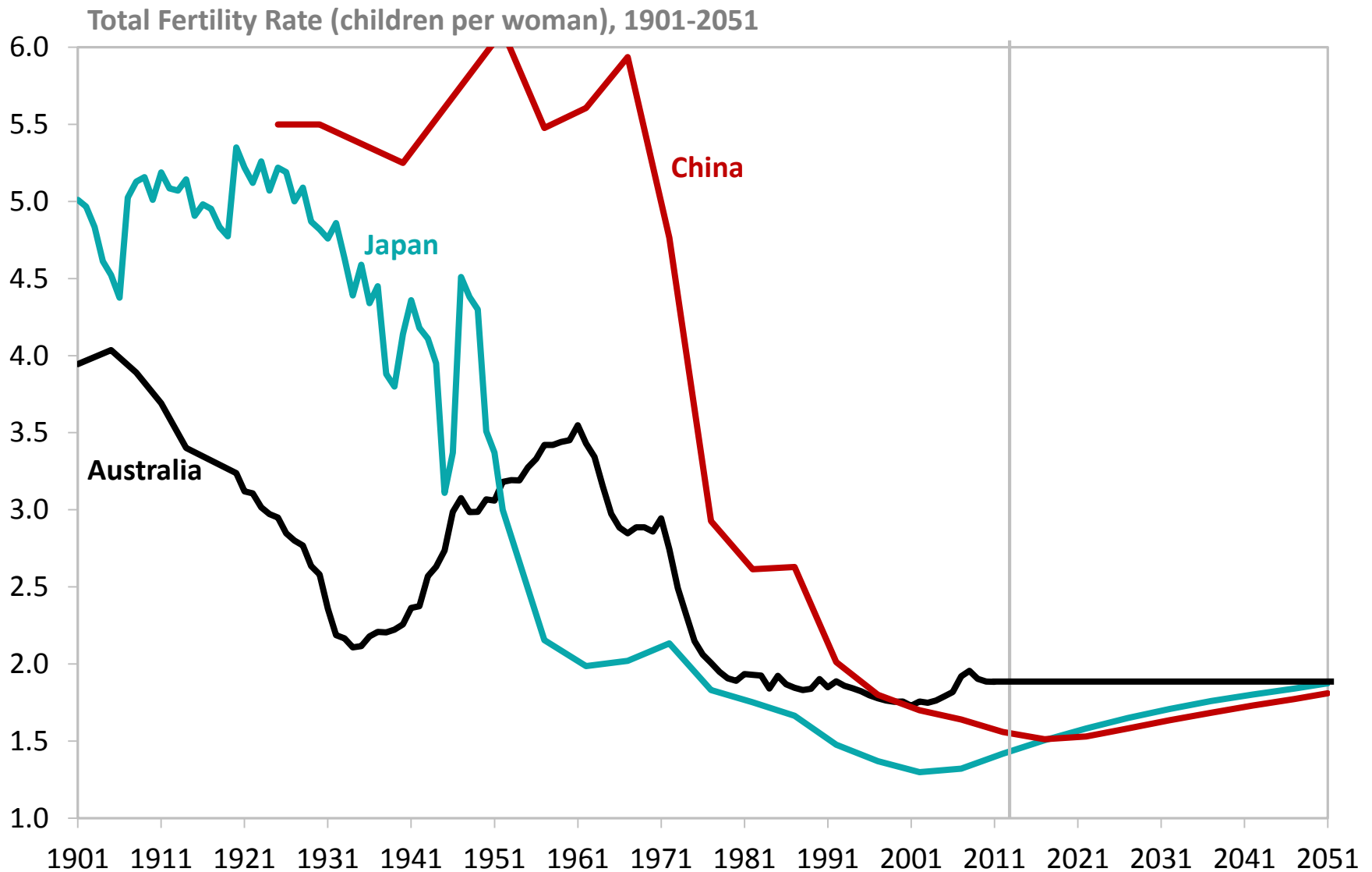
Life expectancy at birth (years), 1901-2051



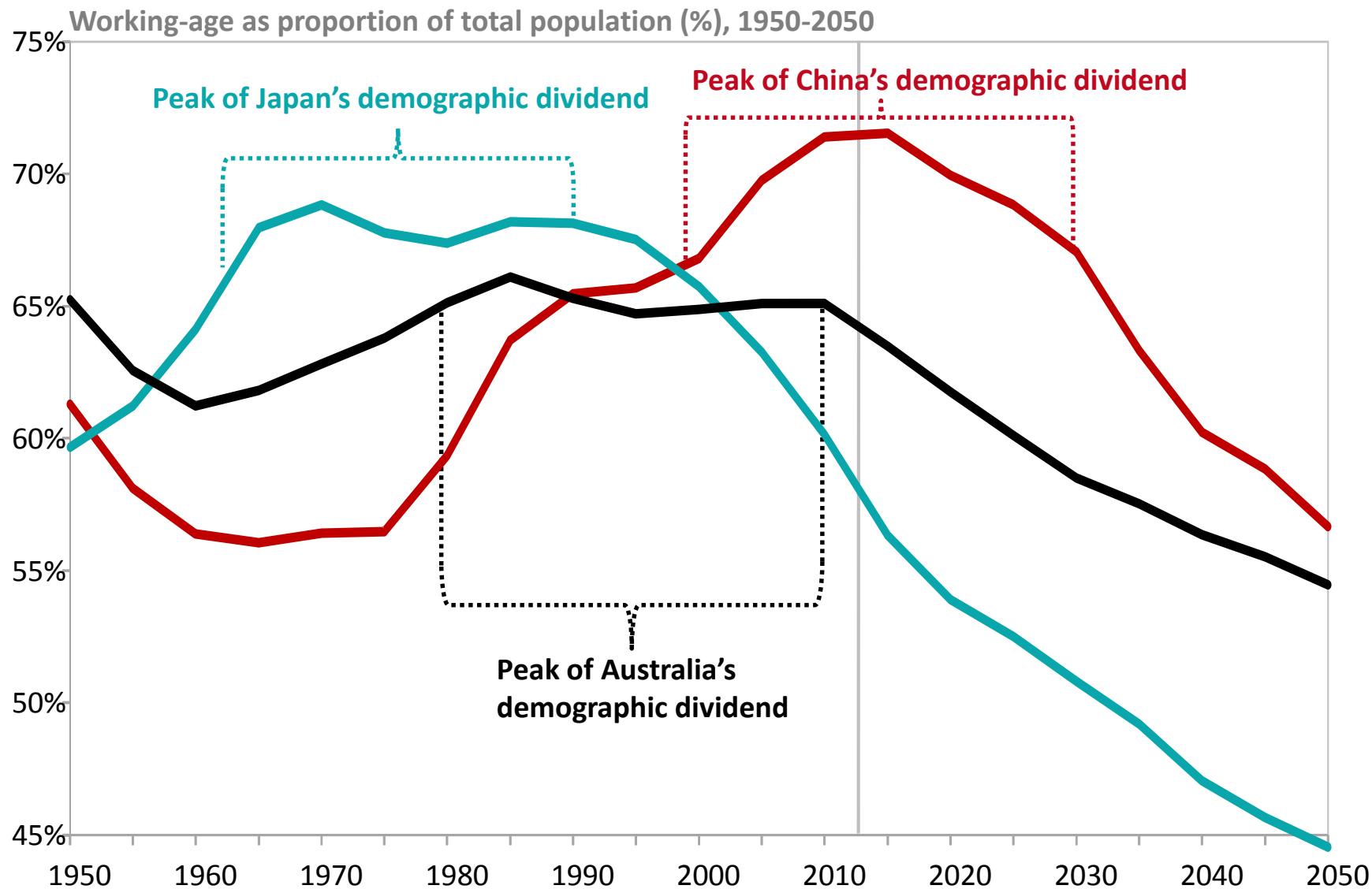
Demographics – life expectancy by age



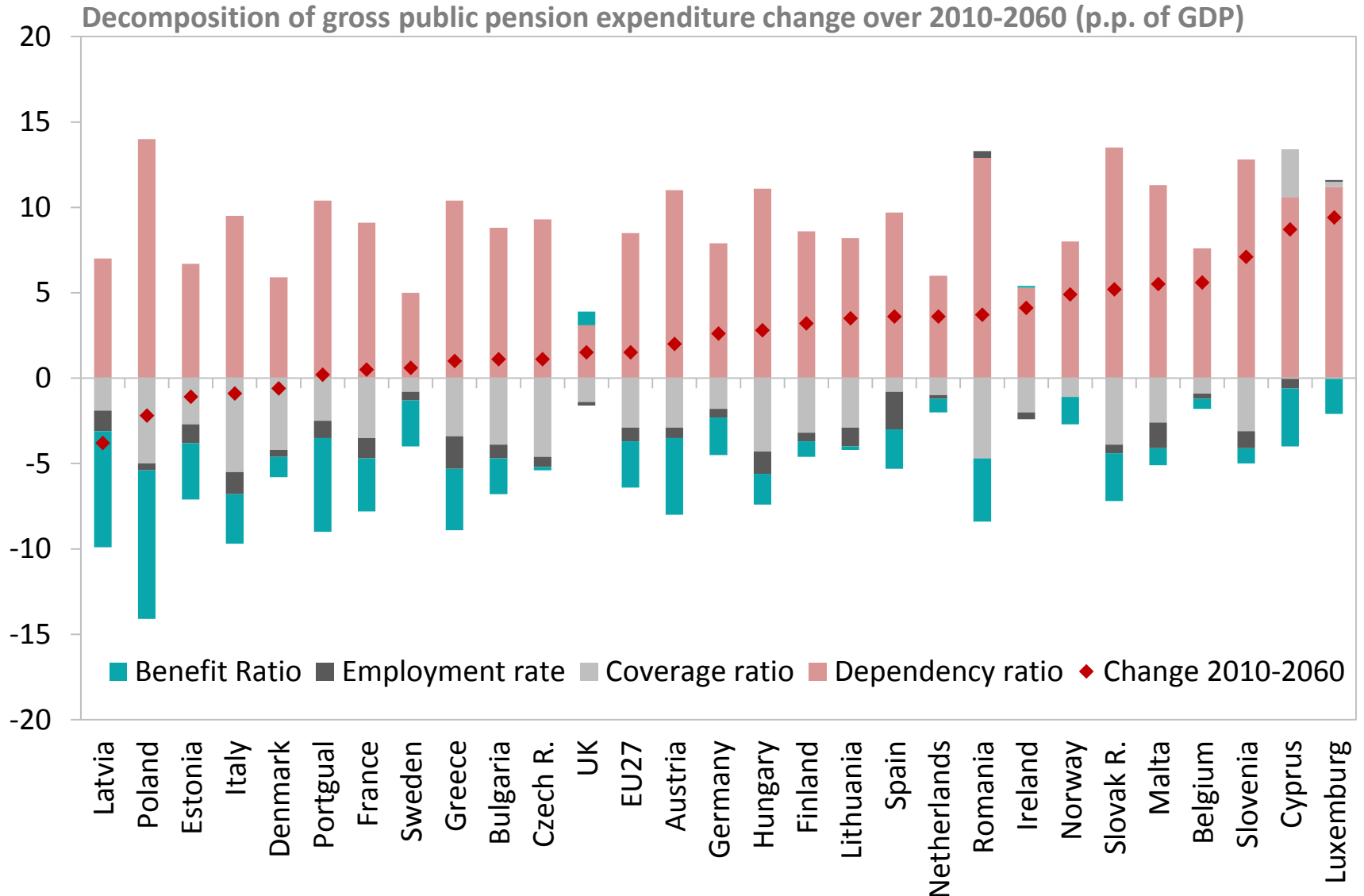
Demographics - fertility



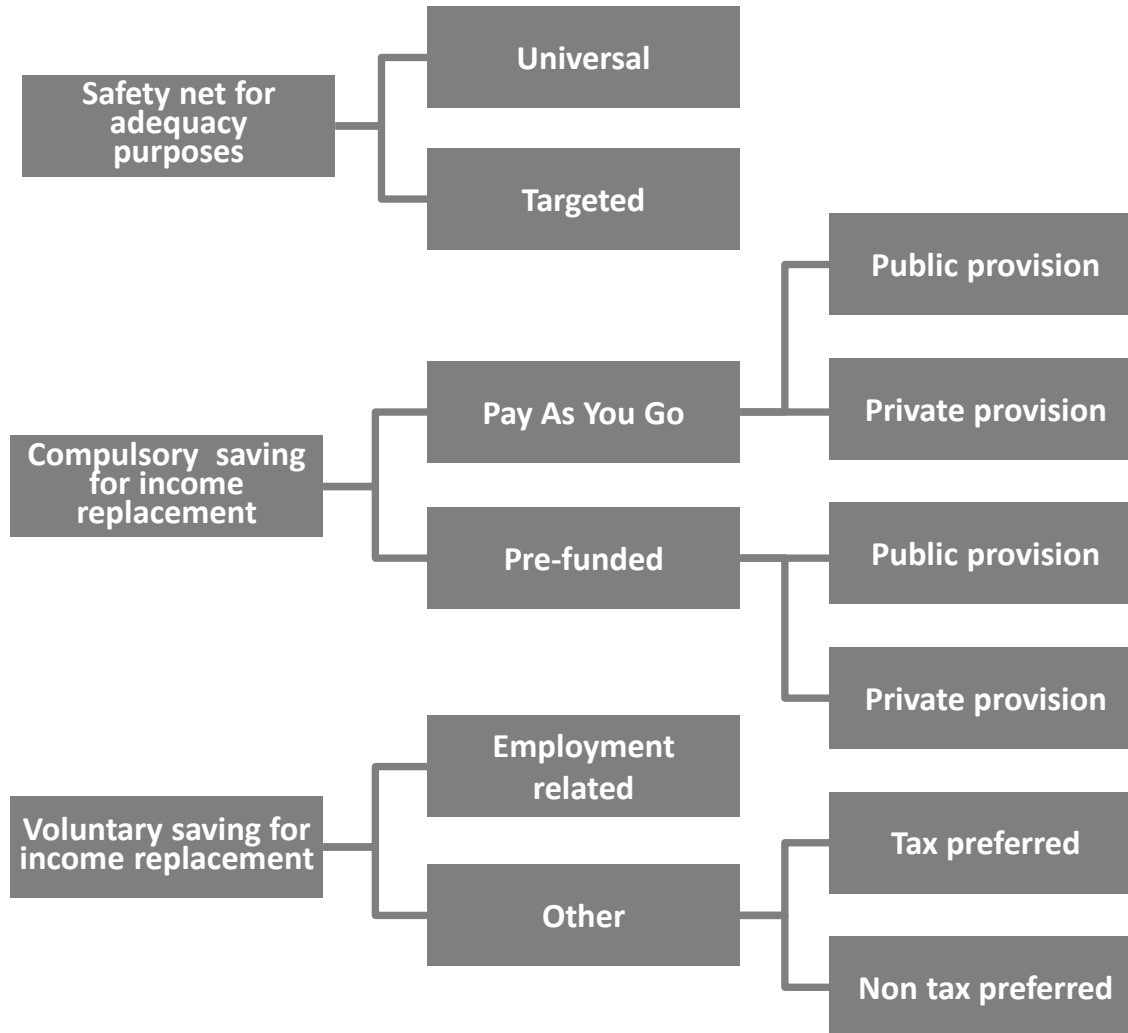
Demographics – Window of opportunity



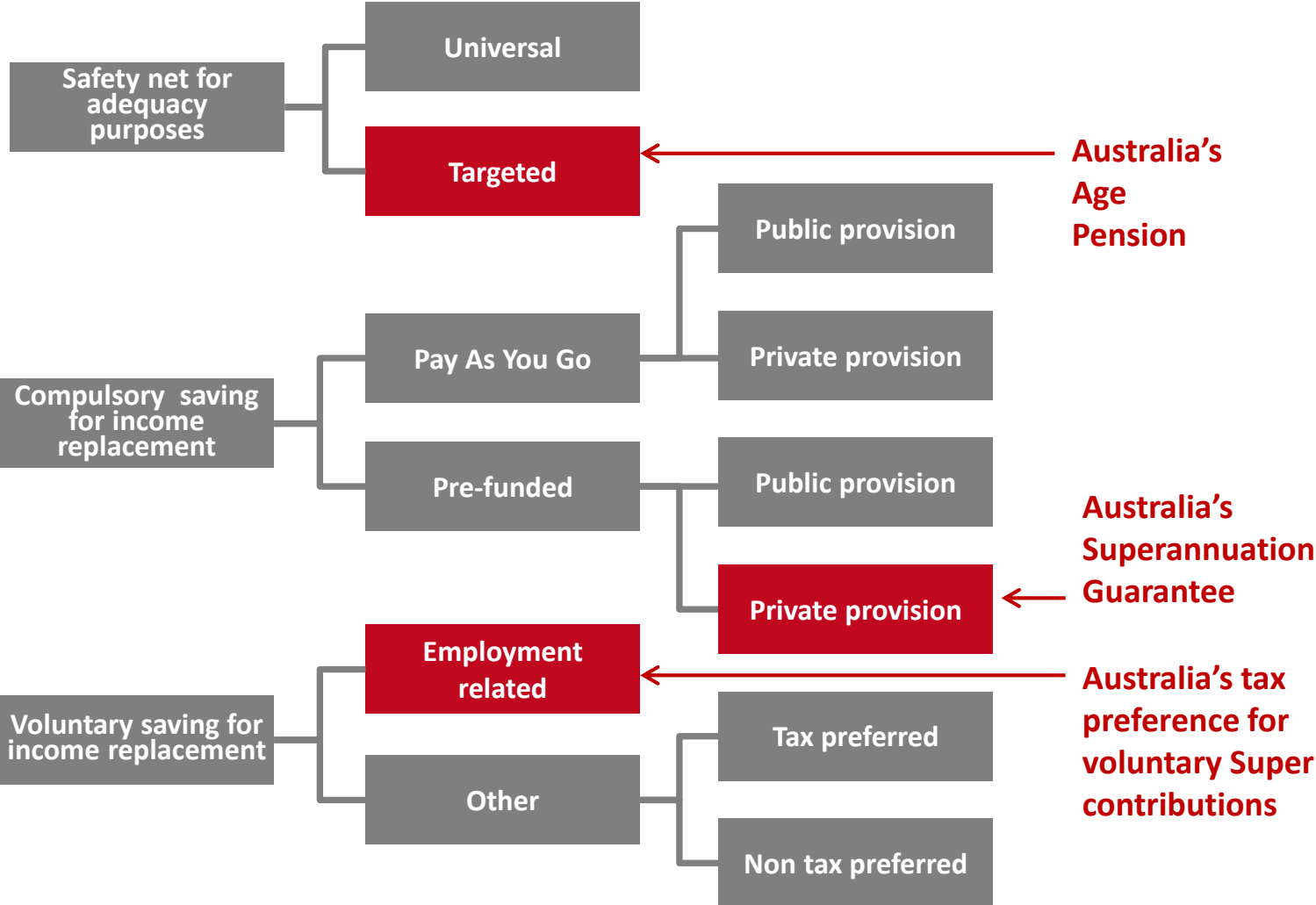
Pension design – When pensions become unaffordable



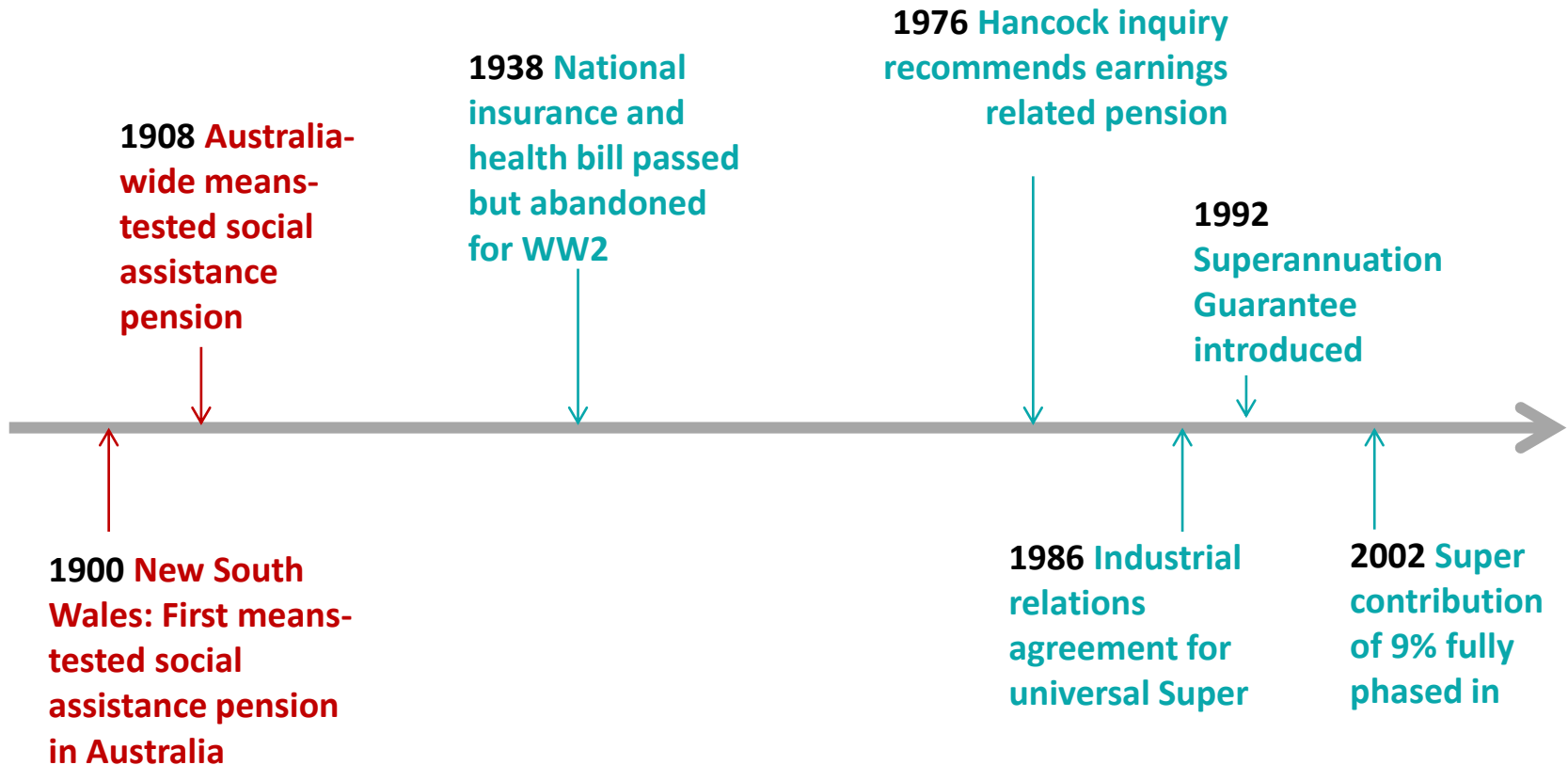
Pension design – options



Pension design – What we have



Pension design – How we got here



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The Australian Age Pension

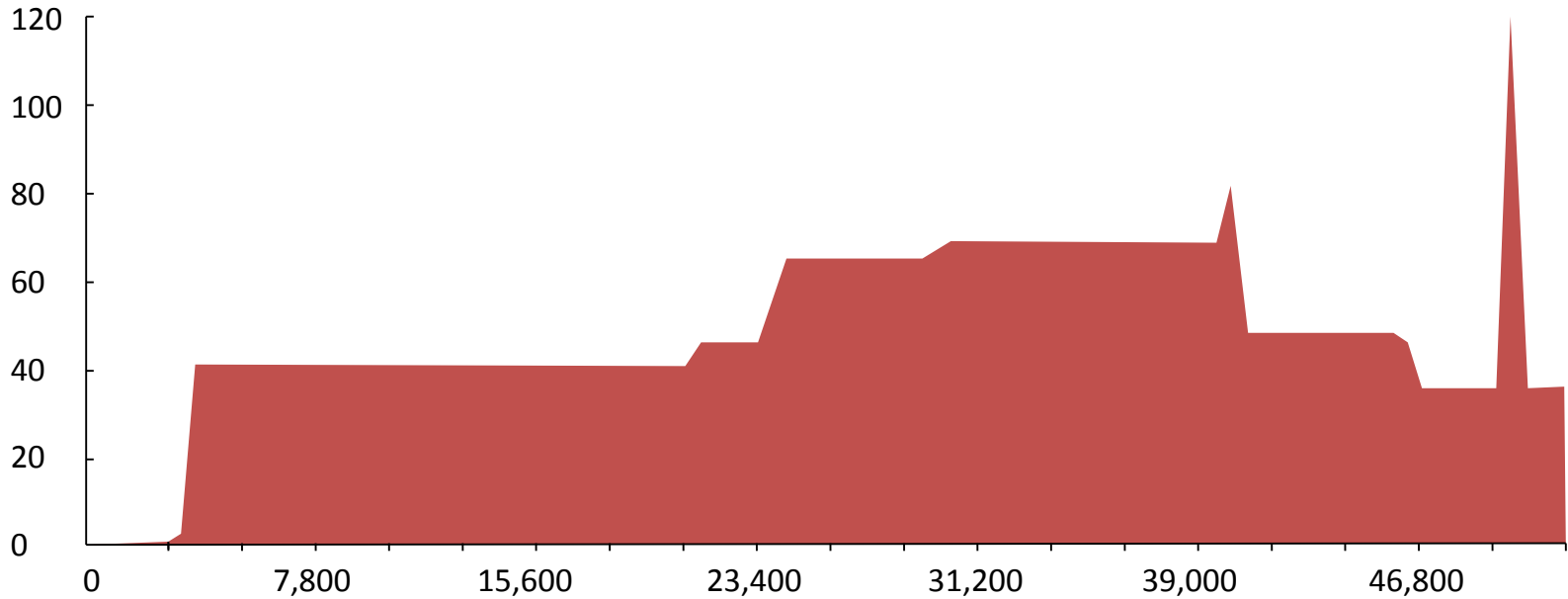
- Access age: 65, moving to 67
- Non-contributory, tax financed, means tested
- 28% of average f/t male earnings for singles
- 50% full, 25-30% part, 20-25% get nothing
- Costs 2.7% of GDP in 2010; 3.9% in 2050

Issues in means testing

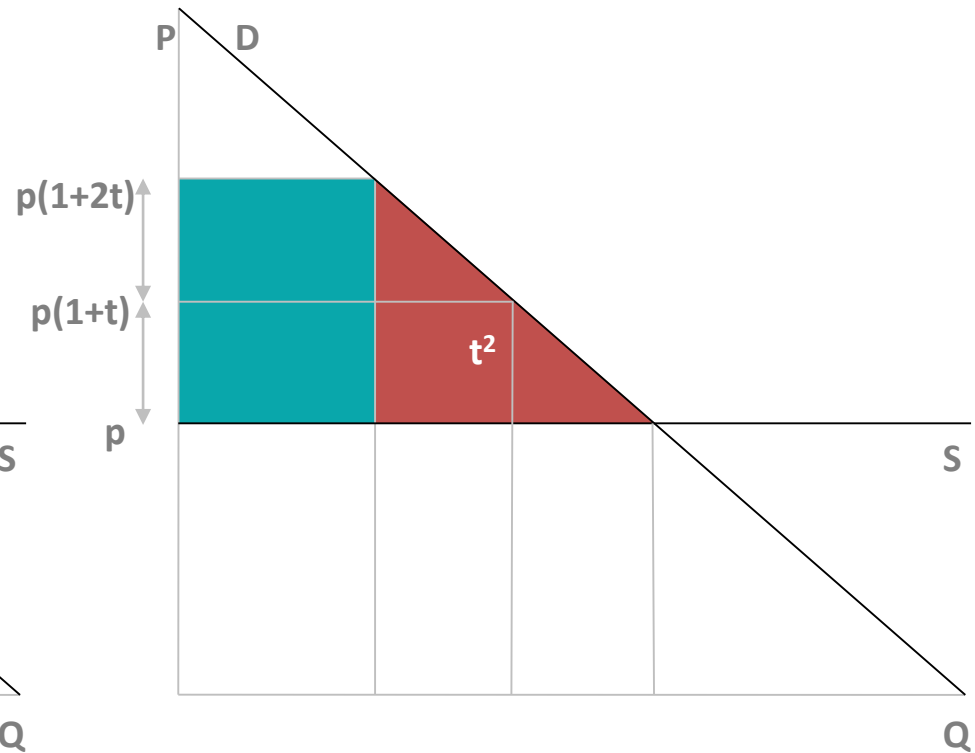
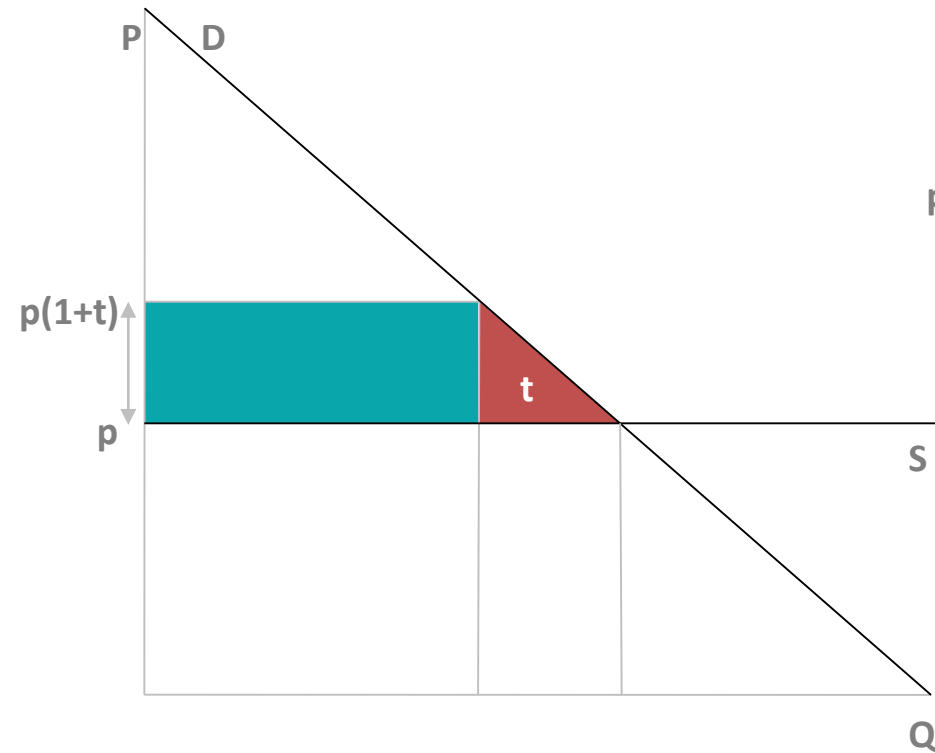
- Public administration costs
- Personal costs
- Political costs
- Economic distortions

Issues in means testing

Effective marginal tax rates—single age pensioner, January 2009



Arguments for means testing: revenue requirements



Literature: from optimal tax to means-test

Include **capital income in tax** at the same rate – **comprehensive income tax**
(Haig 1921 and Simons 1938)

Don't tax capital income to avoid
distorting $S \rightarrow I \rightarrow GDP \rightarrow W$
(Judd 1985; Chamley 1986)

Since retirement saving & retirement leisure are complements, **means testing may be an efficient tax on capital**
(Kumru and Piggott, 2010)



Age-specific taxes are less distorting
(Erosa and Gervais 2002)

In absence of age-specific taxes, OLG modelling shows **should tax capital income**
(Conesa et al. 2009)

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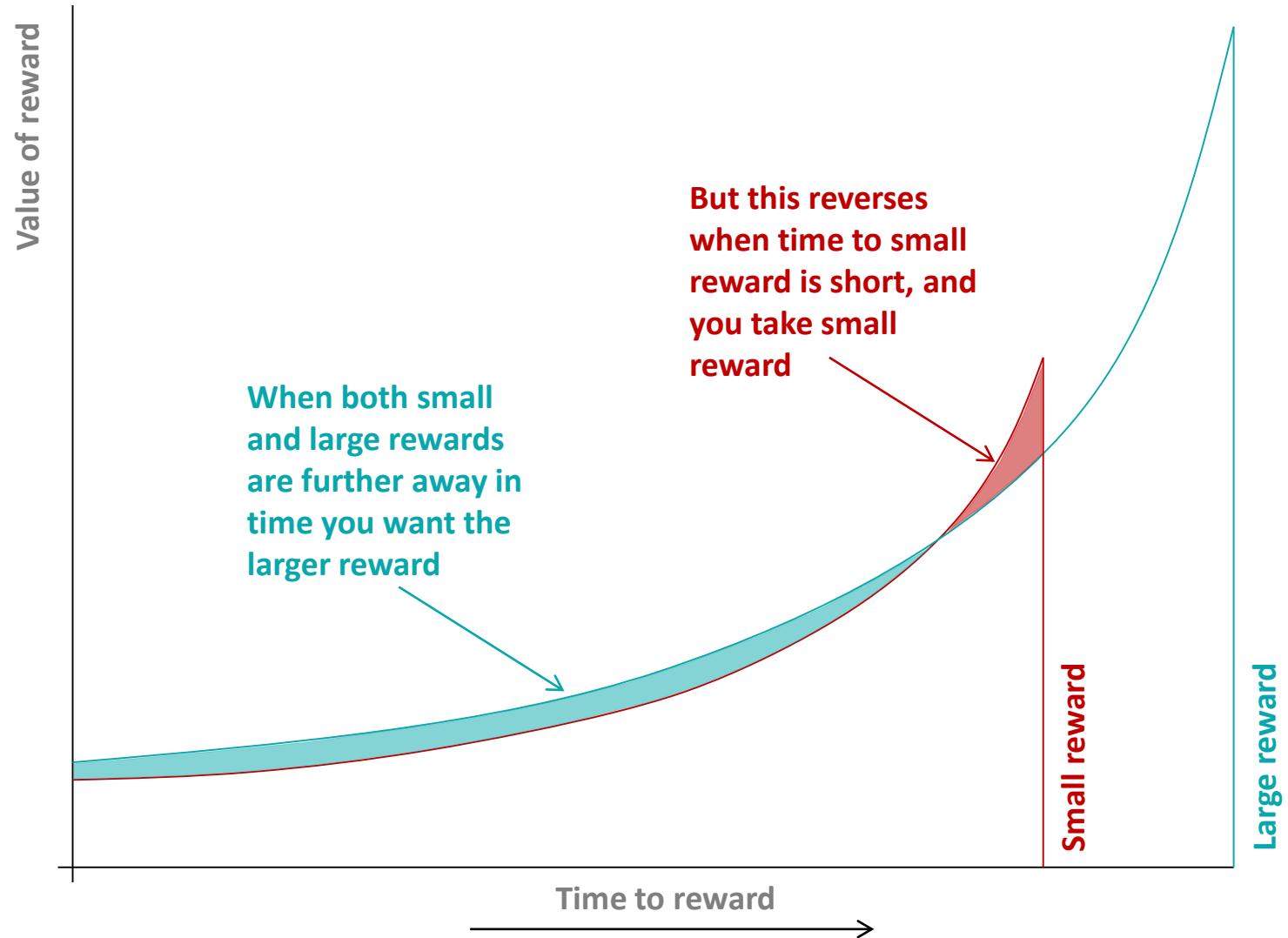
The Superannuation Guarantee

- Covers almost all employees
- Contribution rate of 9% (moving to 12%)
- Preserved to age 55 -> 60, tax free at 60
- Tax preferred
- No decumulation structure

Why mandate saving?

- To offset saving disincentives of a safety net (Hayek, 1960)
- To offset dynamic preference inconsistency

How to think about preference inconsistency?



Historical Hints

*"We are often willing even to **pay a price to pre-commit** future actions (and to avoid temptation)."*

– Strotz (1956)

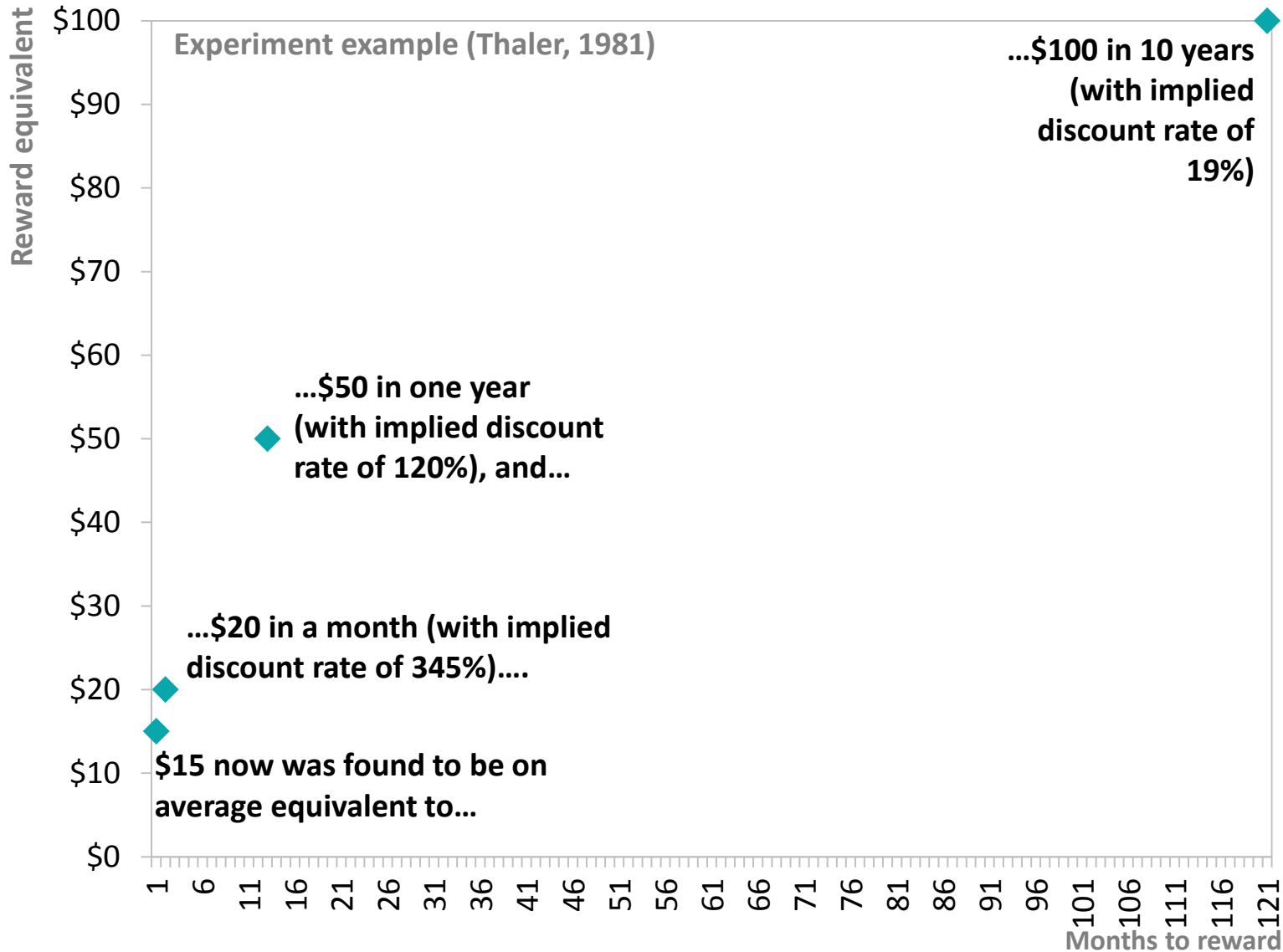
"Much that a . . . public system accomplishes could have been contrived privately. But it wasn't.

And the voters are at least partially aware of their own imperfections.

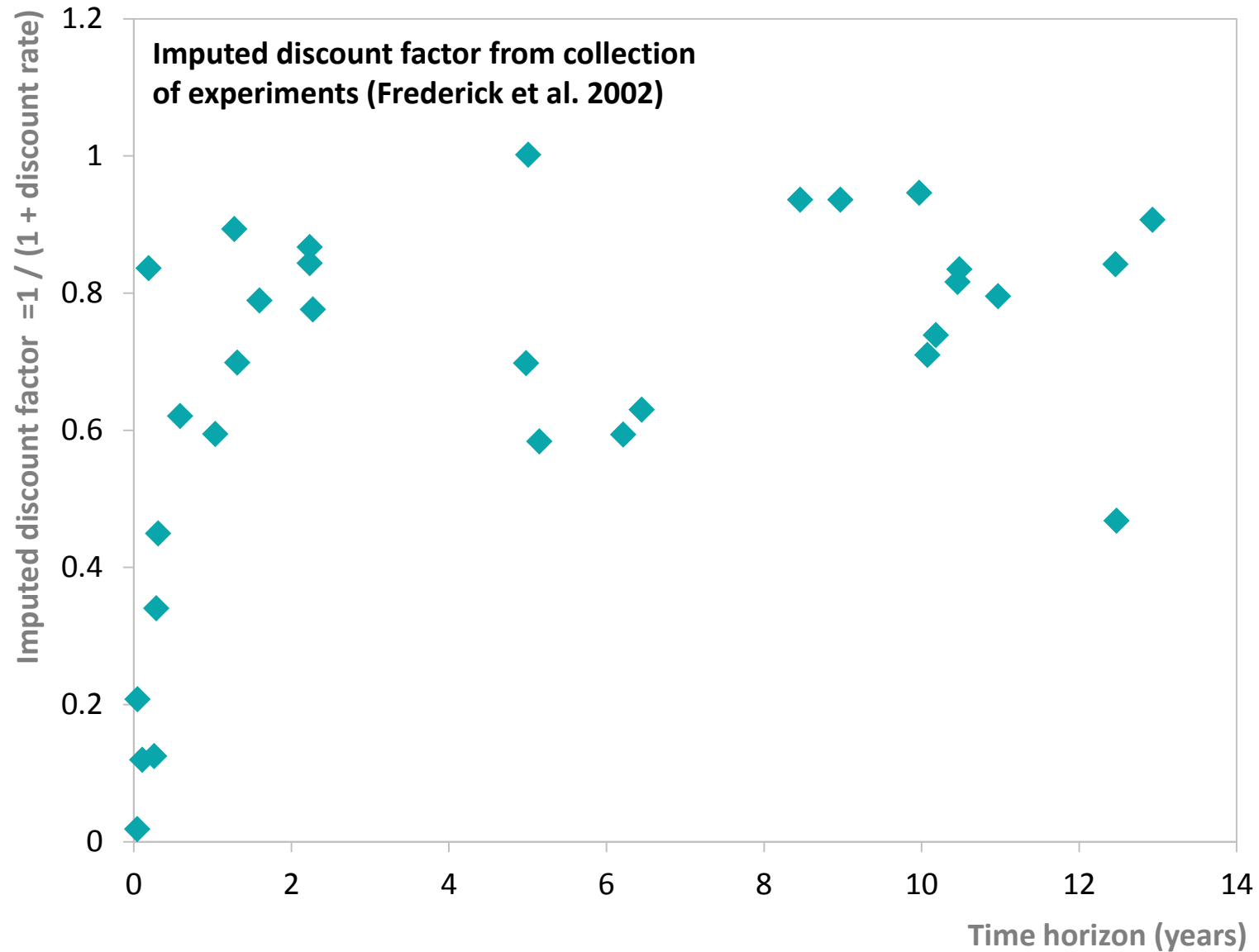
***Models that ignore this miss an important point of the problem.**"*

– Samuelson (1987)

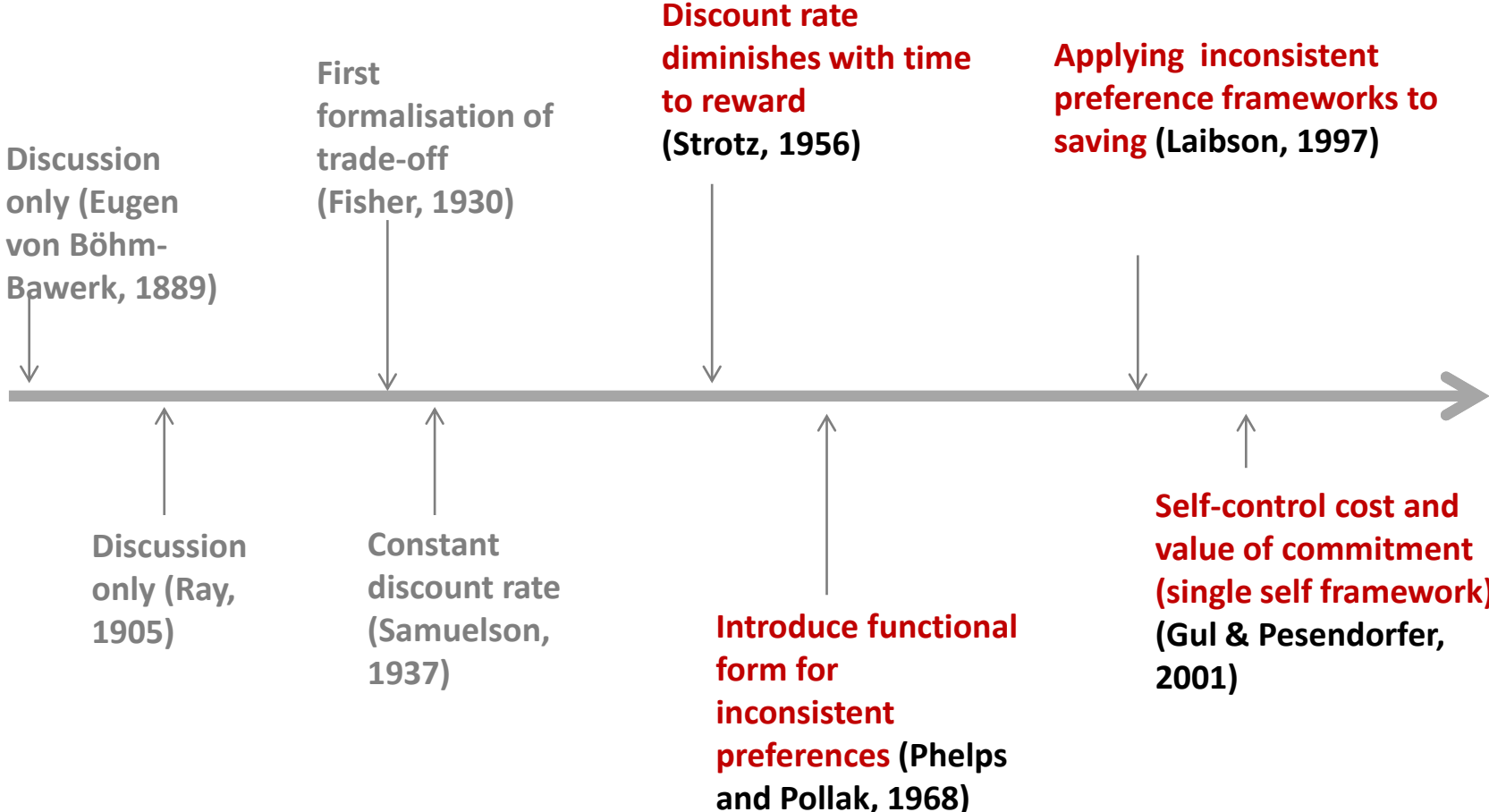
Empirical evidence



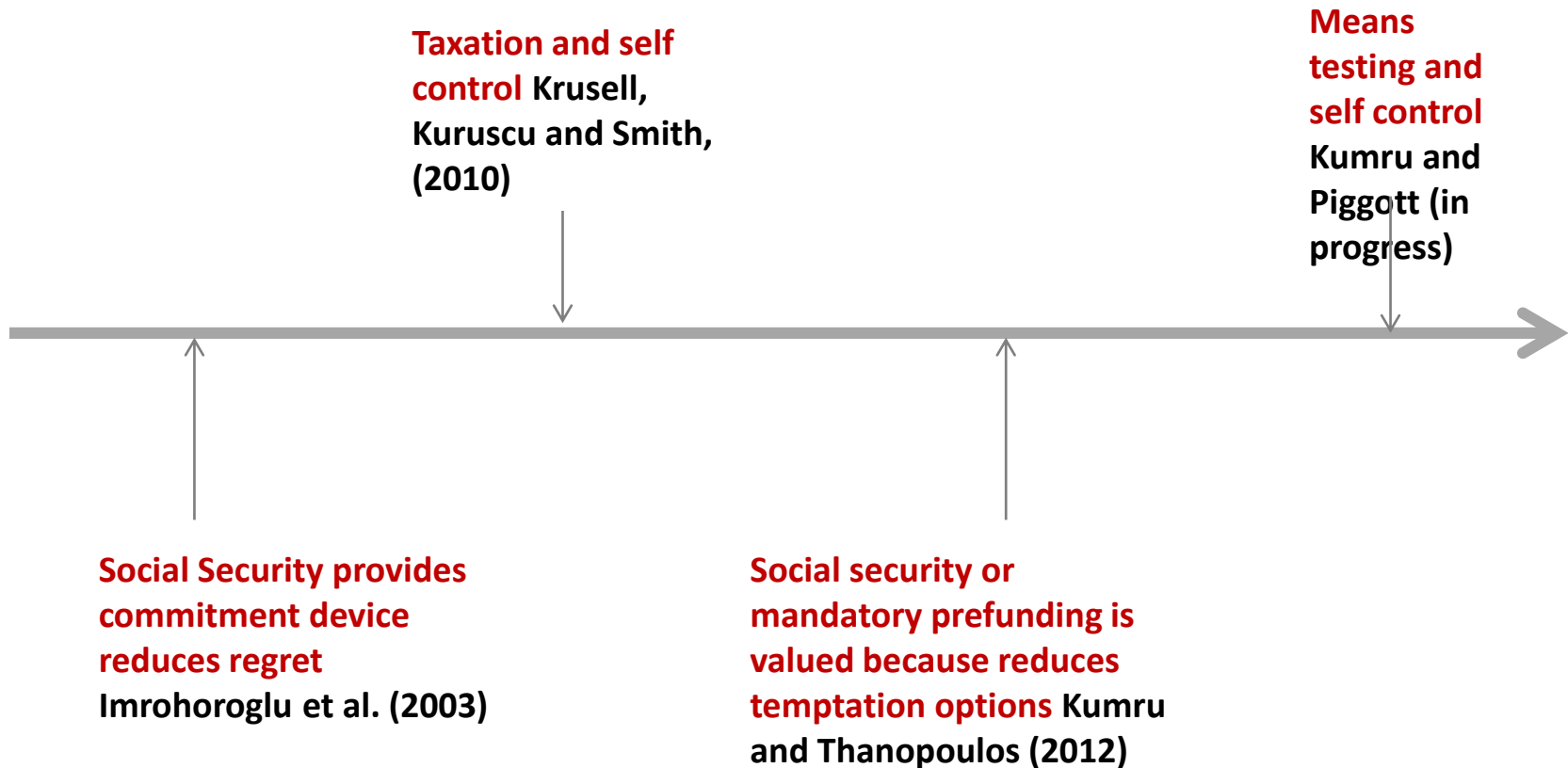
Empirical evidence



From intuition about self-control to its modelling



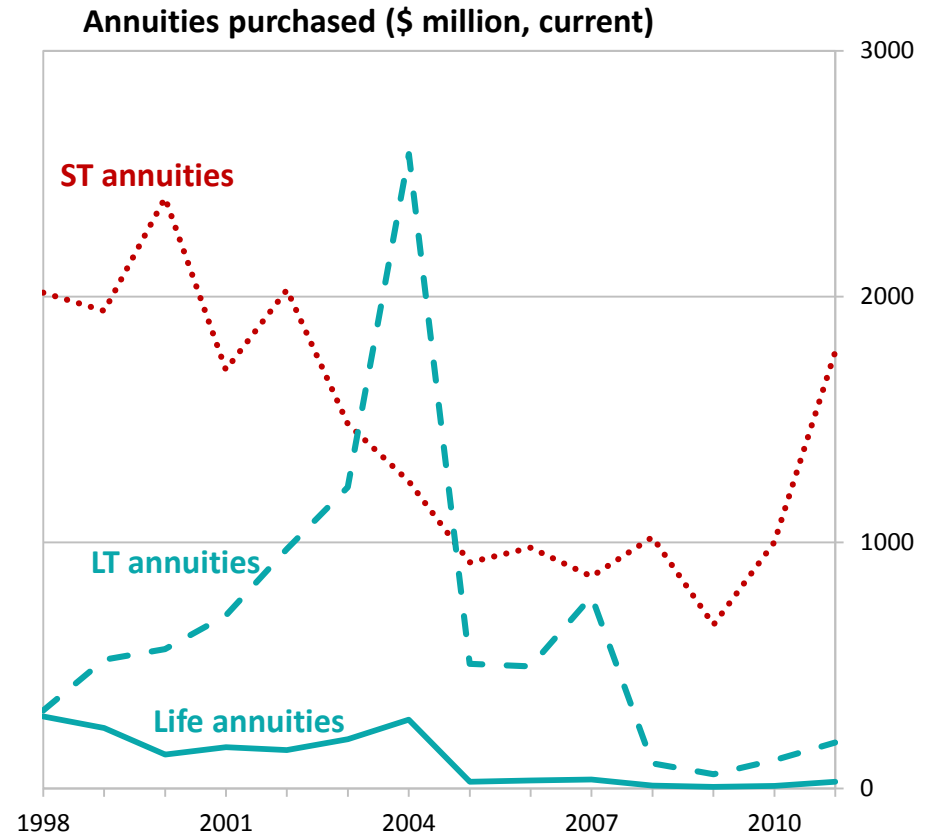
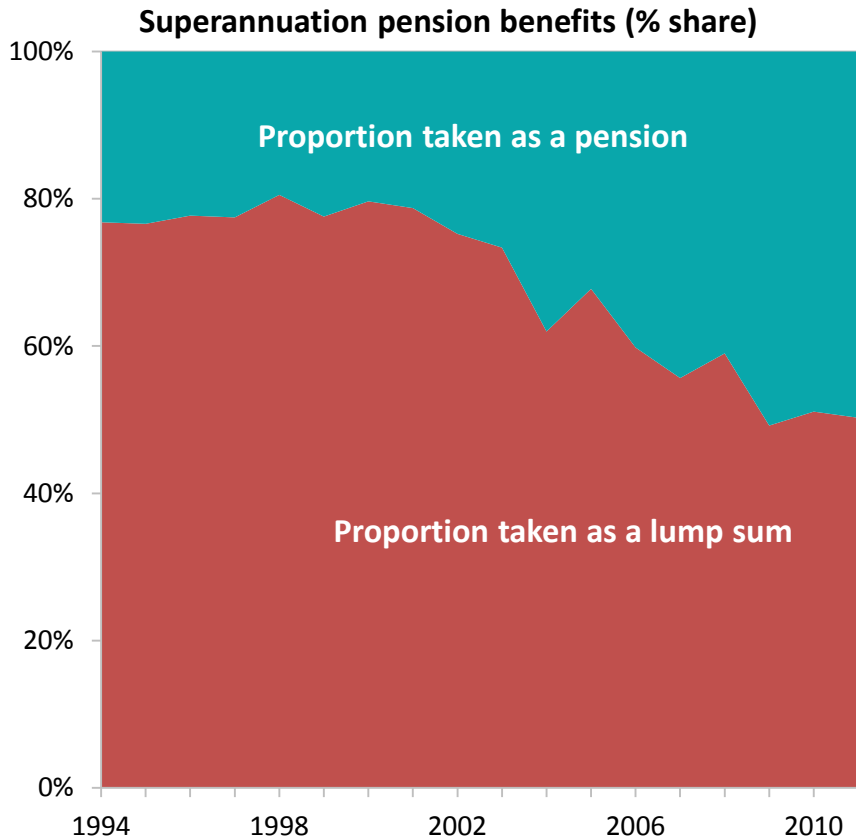
Policy implications in OLG models



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Decumulation



Policy

- Australia the only OECD country with an established mandatory pre-funded structure without an effective decumulation structure
- Need support for longevity insurance + coordination of agencies

Products

**Standard
annuity family**
(Yaari 1965)



**Pooled annuity
funds** (Piggott et
al 2005)



**Deferred
Annuities**
(Milevsky
2005)



**Ruin contingent
life annuities**
(Milevsky et al
2009)



So...

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i.e., a means-tested pillar + compulsory pre-funded second pillar + tax preferred voluntary retirement saving



Economic analysis (economics of taxation and behavioural economics) provide analytic support



But some policy and research issues are outstanding – we have a bridge only partly built.



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Questions?