

Institute for
Fiscal Studies



The state (of) pensions

Soumaya Keynes

Why should you care about pensions?

- We can use our economic framework
 - Life-cycle theory
 - Insurance
 - Redistribution
- Important policy issue
 - By 2020, 28% of UK population will be above the State Pension Age
 - Major concerns about adequacy of pensions in retirement
- Relevant to:
 - Grandparents
 - Parents
 - You

Outline

1. Economic rationale for government intervention
2. Trade-offs when designing a scheme
3. Redistribution and replacement rates: pension policy in practice
 - Basic State Pension (1908, 1948)
 - + Earnings related pension (1975, 1986, 1995)
 - Single tier pension (2002, 2007, 2013)
4. Making pensions cheaper
 - Upgrading the state pension
 - Increasing the SPA
5. Adequacy of pensions
 - Auto-enrolment

An individual's problem

- Life cycle model

$$U = \sum_{t=0}^T \beta^t u(c_t) \quad r = \frac{u'(c_{t+1})}{\beta u'(c_t)}$$

Diminishing marginal utility invites consumption smoothing

As long as $u'(c) \rightarrow \text{infinity as } c \rightarrow 0$, will never choose zero consumption in a period t

- Individuals may not know that value of T , in which case there will be demand for insurance against the risk that $T \gg E(T)$

An individual's problem

- Life cycle model

$$r = \frac{u'(c_{t+1})}{\beta u'(c_t)}$$

- **But** we can't observe marginal utility
- Nor can we (or the government) observe consumption
- When we talk about a **replacement rate**, we usually are referring to replacement of pre-retirement income with post-retirement income (usually from savings)
- Not necessarily equal to 1
- High earner will need higher income in retirement to achieve a particular replacement rate

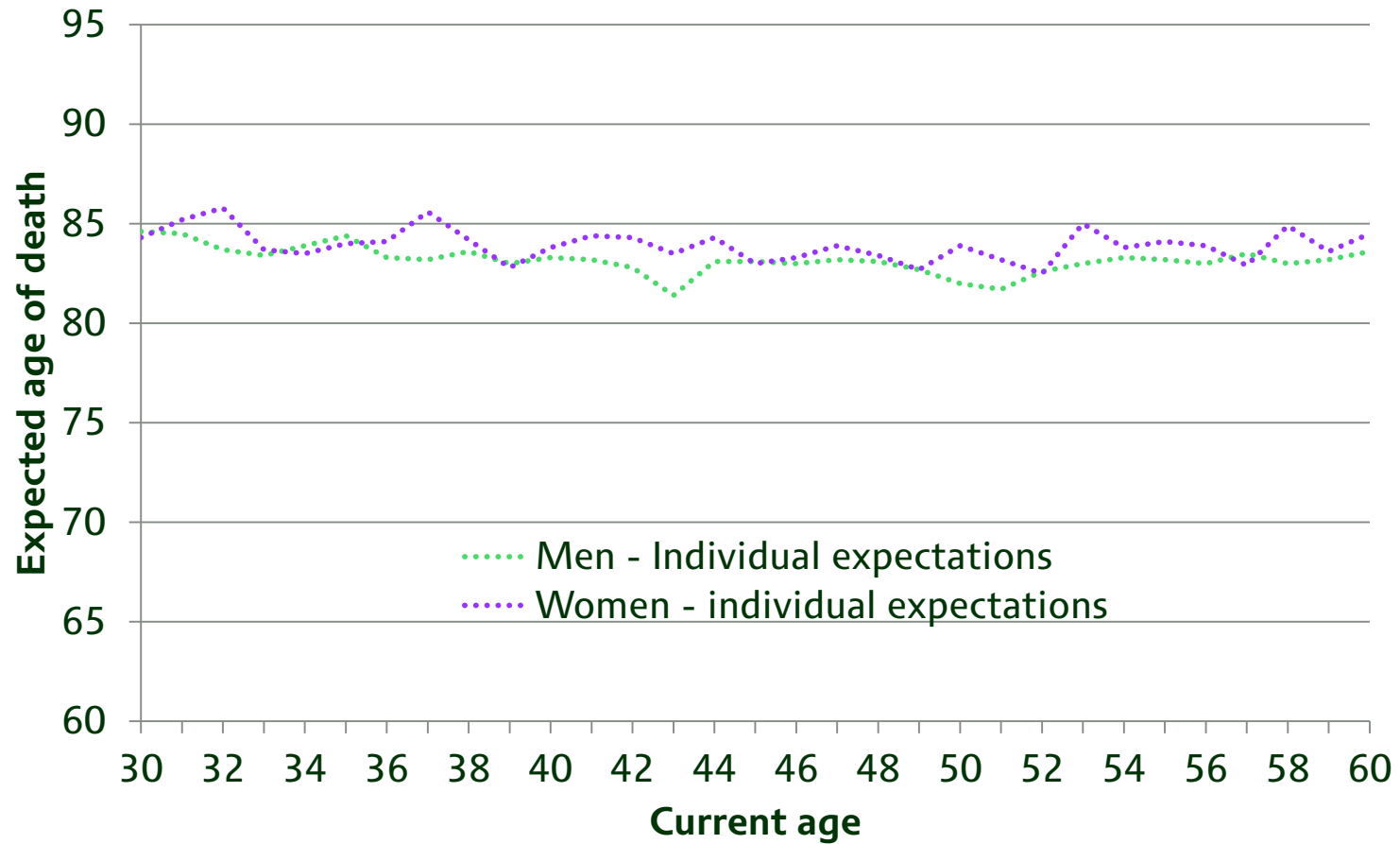
What is a pension?

- Solves individual's problem:
- Savings vehicle that gives income stream in retirement
 - Allows consumption smoothing
- During **working life**: save/contribute
- At **retirement**: contributions/savings converted to pension, providing some **replacement rate**
 - income stream that continues until death
 - insurance against risk of longevity
- Private firms can provide pensions
 - can pool risk across pension recipients

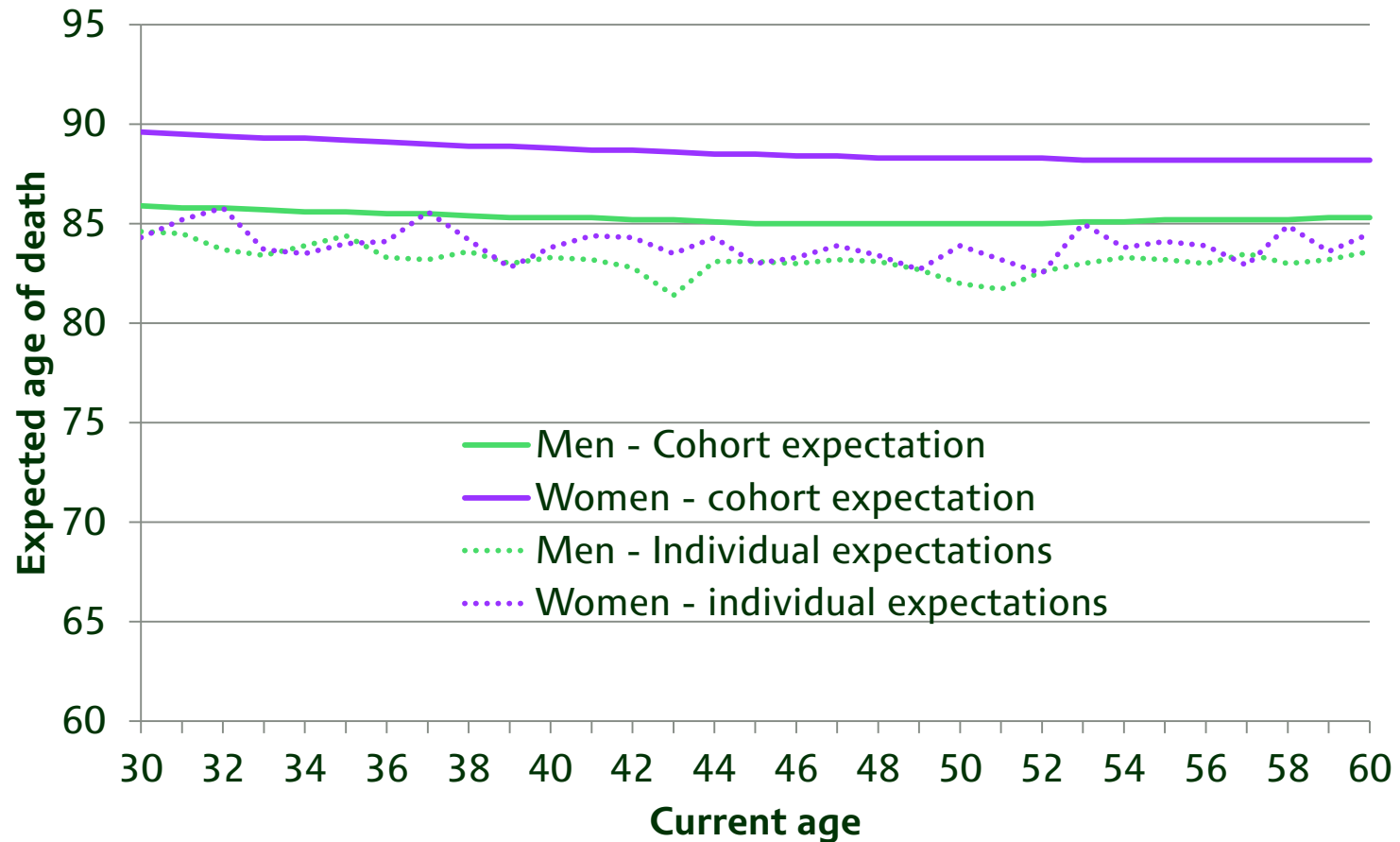
Why might the government intervene?

- People might not save ‘enough’
 - Myopia
 - Misinformation

Average individual life expectancy



Average individual life expectancy



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- Inequality between...
 - Rich and poor pensioners
 - Younger and older generation

Replacement rate

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Replacement rate

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Redistribution

- Rich and poor pensioners
- Younger and older generations

- Insurance market undermined by adverse selection?

- Government relatively well-suited to coping with risk
- Can pool risk across *everyone*

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Redistribution

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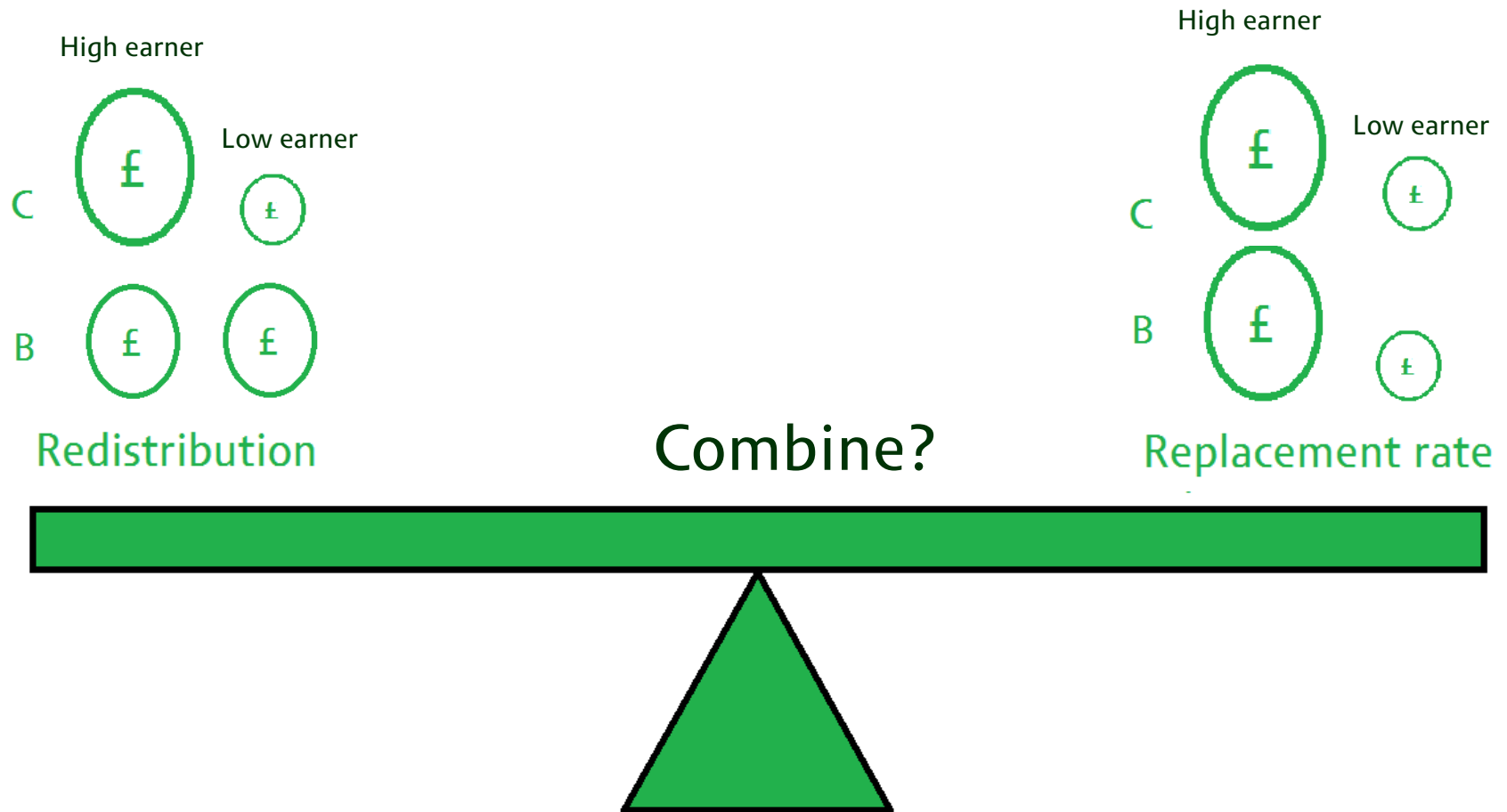
- ~~• Insurance market undermined by adverse selection?~~

- ~~— Government relatively well suited to coping with risk~~
- ~~— Can pool risk across everyone~~

How should the state intervene?

- Suppose the government forces contributions via the tax system, and provides people with a state pension in old age
- How should the government distribute benefits across people?
- **Replacement rate** Benefits related to contributions
- **Redistribution** Benefits flat-rate

How should the state intervene?

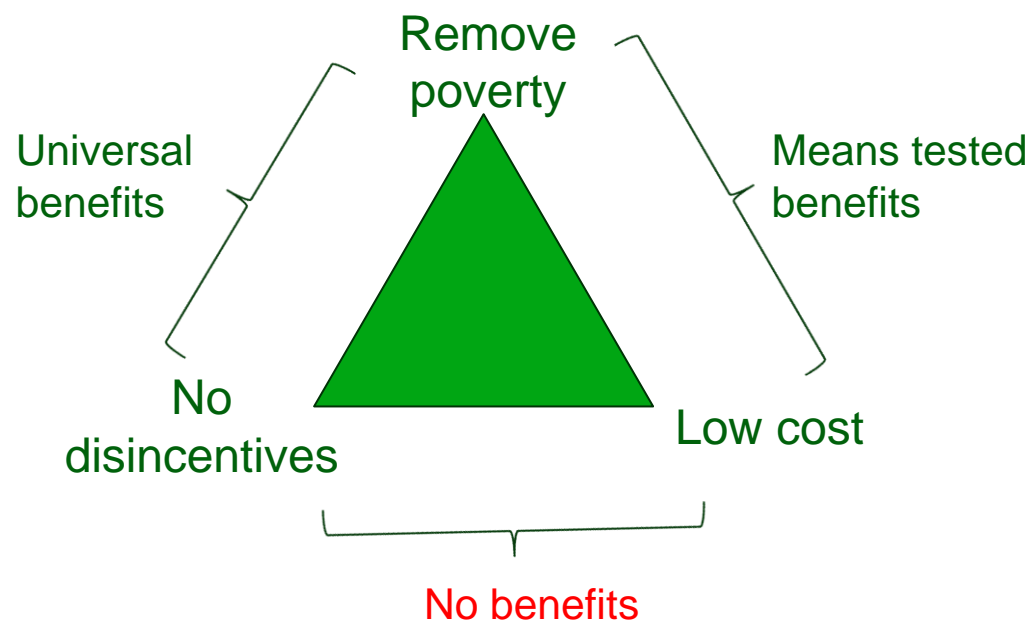


How should the state intervene?

- Suppose the government forces contributions via the tax system, and provides people with a state pension in old age
- How should the government distribute benefits across people?
- **Replacement rate** Benefits related to earnings
- **Redistribution** Benefits flat-rate
- **Design issues...**
 - Adequacy
 - Cost
 - Incentives to save

 Triangle of impossibility!

Triangle of impossibility



Design and cost

- With a fixed budget, there is a trade-off between adequacy and incentives
- Sustainability/credibility of the pension scheme also depends on where the budget is coming from
- Two funding options:
 1. Funded pension – each cohort pays for its own pension
 2. Unfunded - working population pays for pension of the currently retired population

Funding the state pension

- Pay As You Go (PAYG) system
- Working population pays pensions of the retired population
- One period budget constraint:

$$t w L = b R$$

t = tax w = wage L = N workers b = pension R = N retirees

- Rearranging yields:

$$\frac{L}{R} = \frac{b}{tw}$$

- With fixed t and w , b sensitive to demographic change

Pension design (summary)

- The government may intervene to force people to save, ensuring an ‘adequate’ income in retirement
- Definition of adequacy depends on whether the government wants to:
 - **Redistribute** (adequacy defined relative to some poverty threshold)
 - **Ensure a replacement rate** (adequacy defined relative to pre-retirement income)
- Unfortunately there is a trade-off between
 - Cost
 - Adequacy
 - Incentives
- In an unfunded scheme, current benefits relative to current contributions depend on ratio of old to young

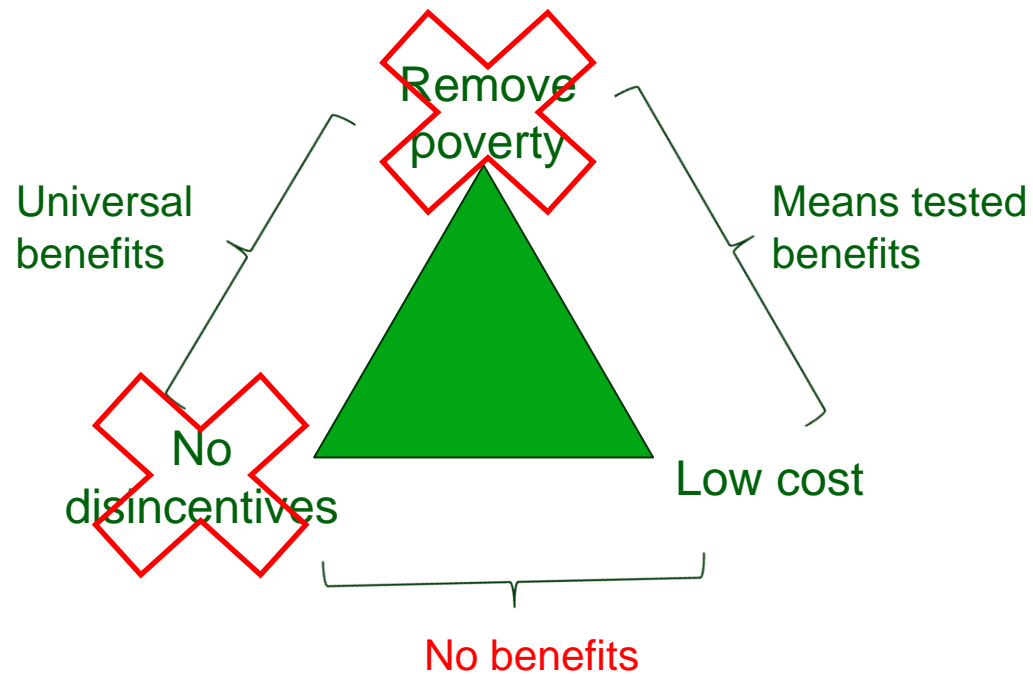
The UK state pension

- Weekly sum
- Payable from the State Pension Age (SPA) until death
 - Insurance against longevity risk
- PAYG scheme, so current workers pay for current retirees

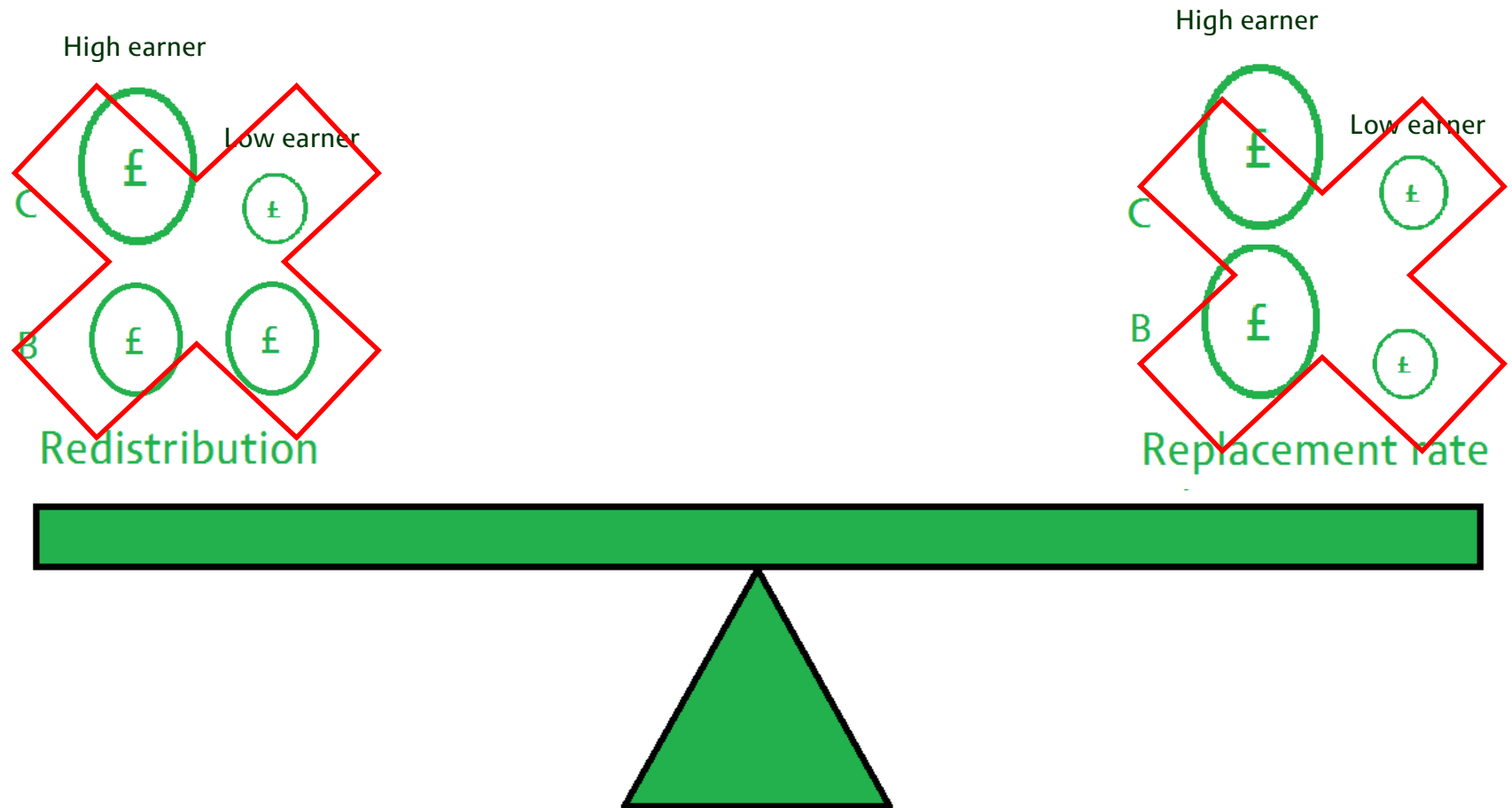
In the very beginning (1908)

- £22 a week to those over 70 (State Pension Age, SPA)
 - Male/female life expectancy 50/54
- Strict eligibility criteria
- Unavailable to those who:
 - Had annual income over £2,717
 - Failed a ‘character test’
 - Were lunatics
 - Had been convicted of drunkenness
- 0.5 million eligible (out of 2 million >65)

Triangle of impossibility



Redistribution and replacement rates



State Pension 1948

- Birth of the **Basic State Pension (BSP)**
- Universal (not means-tested)
- Everyone gets a book
- Pay **National Insurance Contributions (NICs)**
 - get a stamp in the book

National Insurance stamp circa 1948

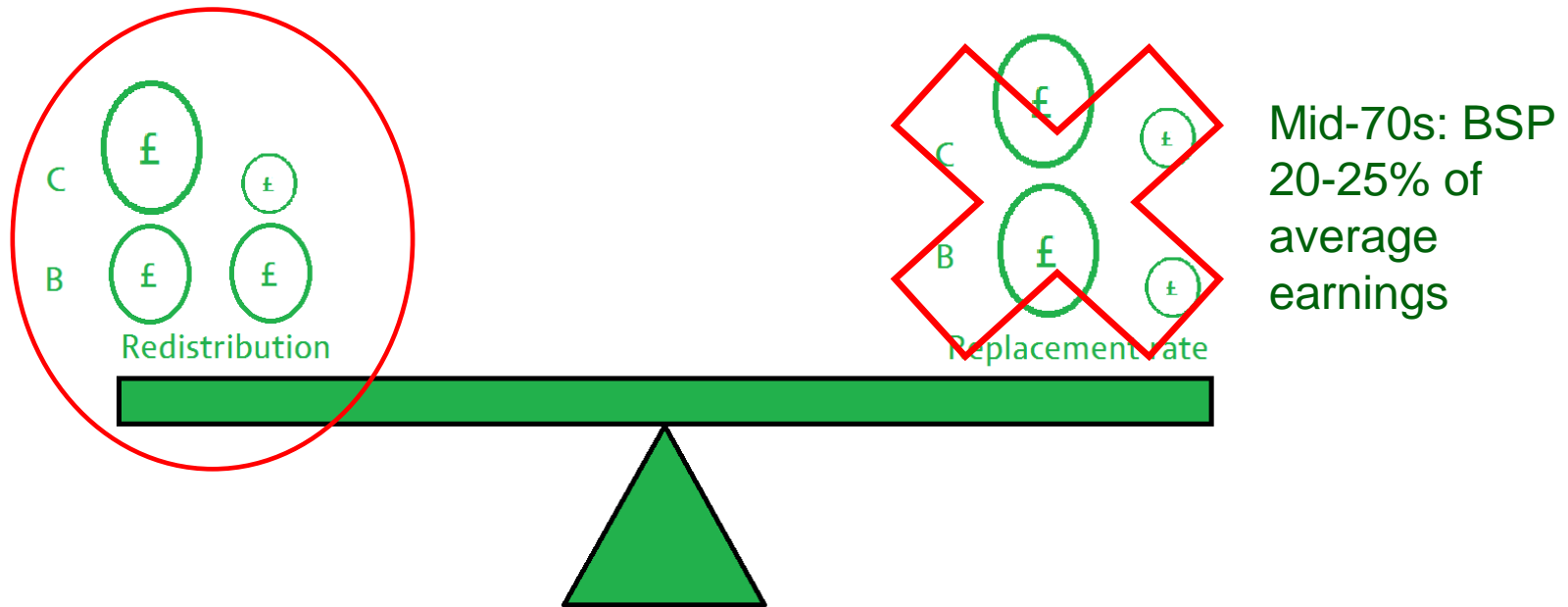


State Pension 1948

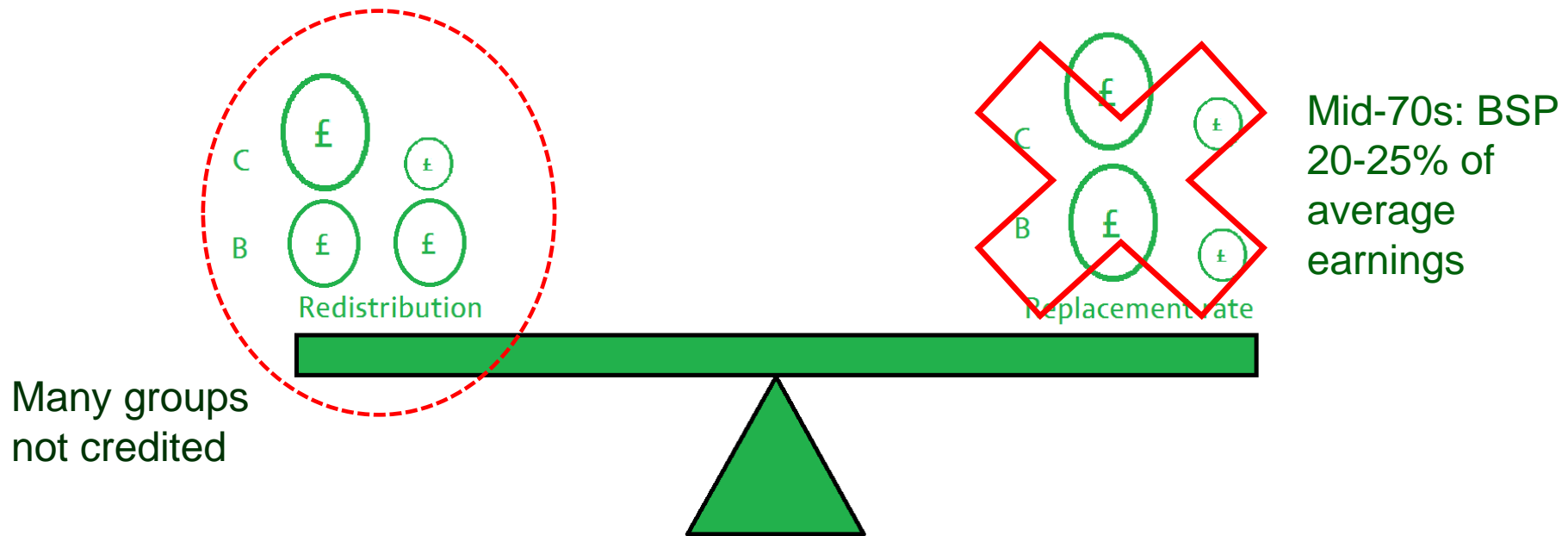
- Birth of the **Basic State Pension (BSP)**
- Universal (not means-tested)
- Everyone gets a book
- Pay **National Insurance Contributions (NICs)**
 - get a stamp in the book
- The short-term unemployed/sick still accrued some entitlement
 - element of redistribution

$$pension = \frac{\text{Number of stamps}}{50} \times £40$$

State Pension 1948



State Pension 1948



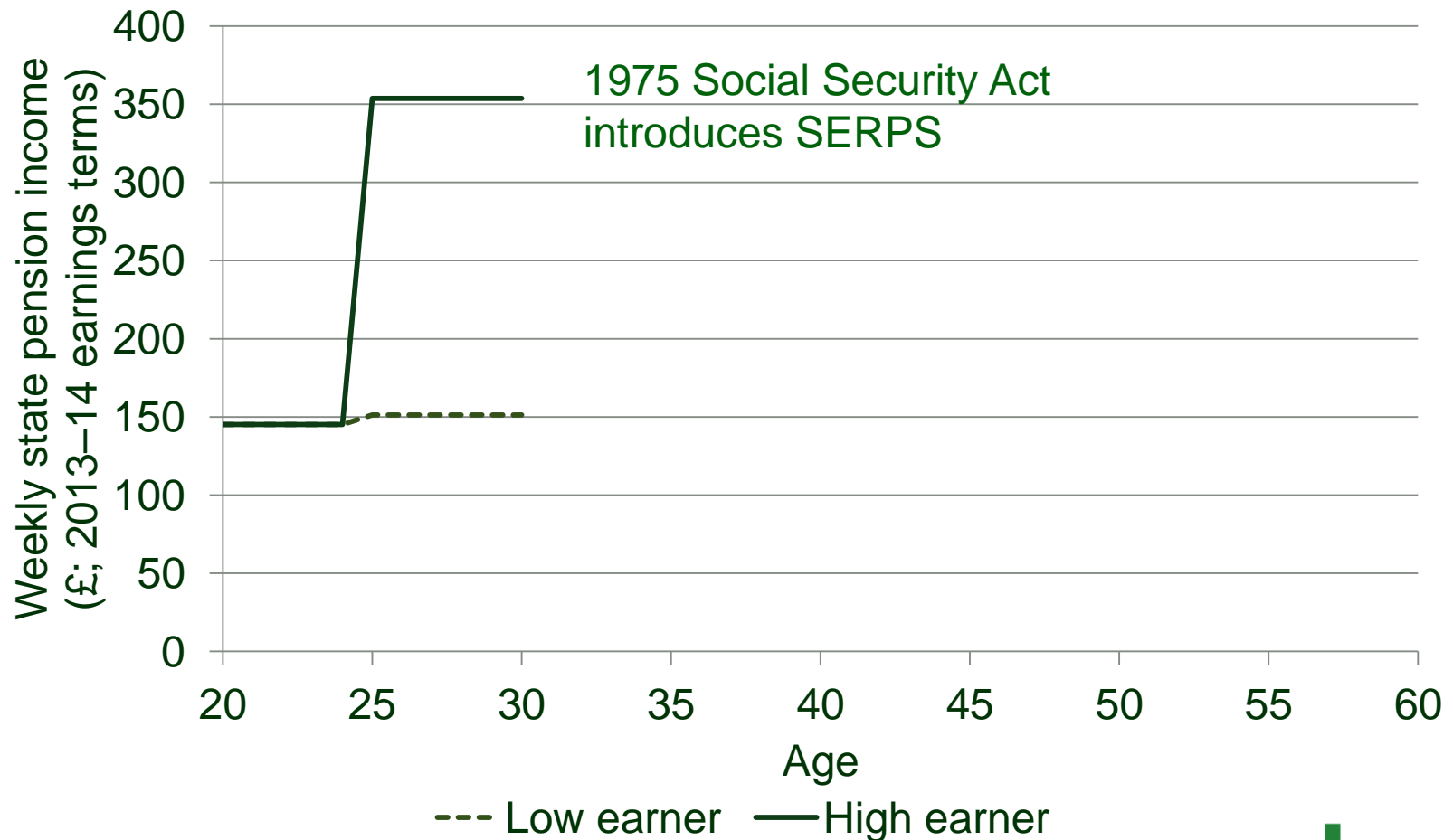
State Earnings Related Pension System (1978)

- Addressed **replacement rate** objective – concerns that not everyone had access to employer schemes
- SERPS introduced from 1978, as an earnings-related top-up to the Basic State Pension
- Compulsory – though could opt out into employer pension

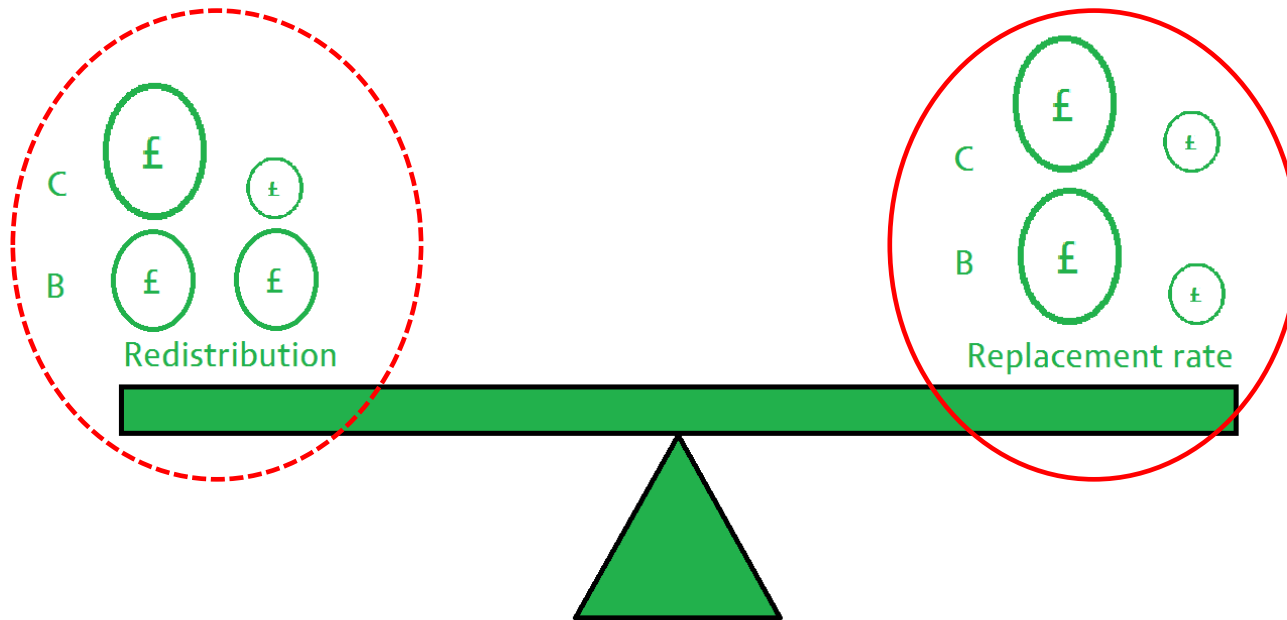
Example high-and low-earnings born in 1950 who expect to work for 49 years



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With SERPS



State Earnings Related Pension System (1978)

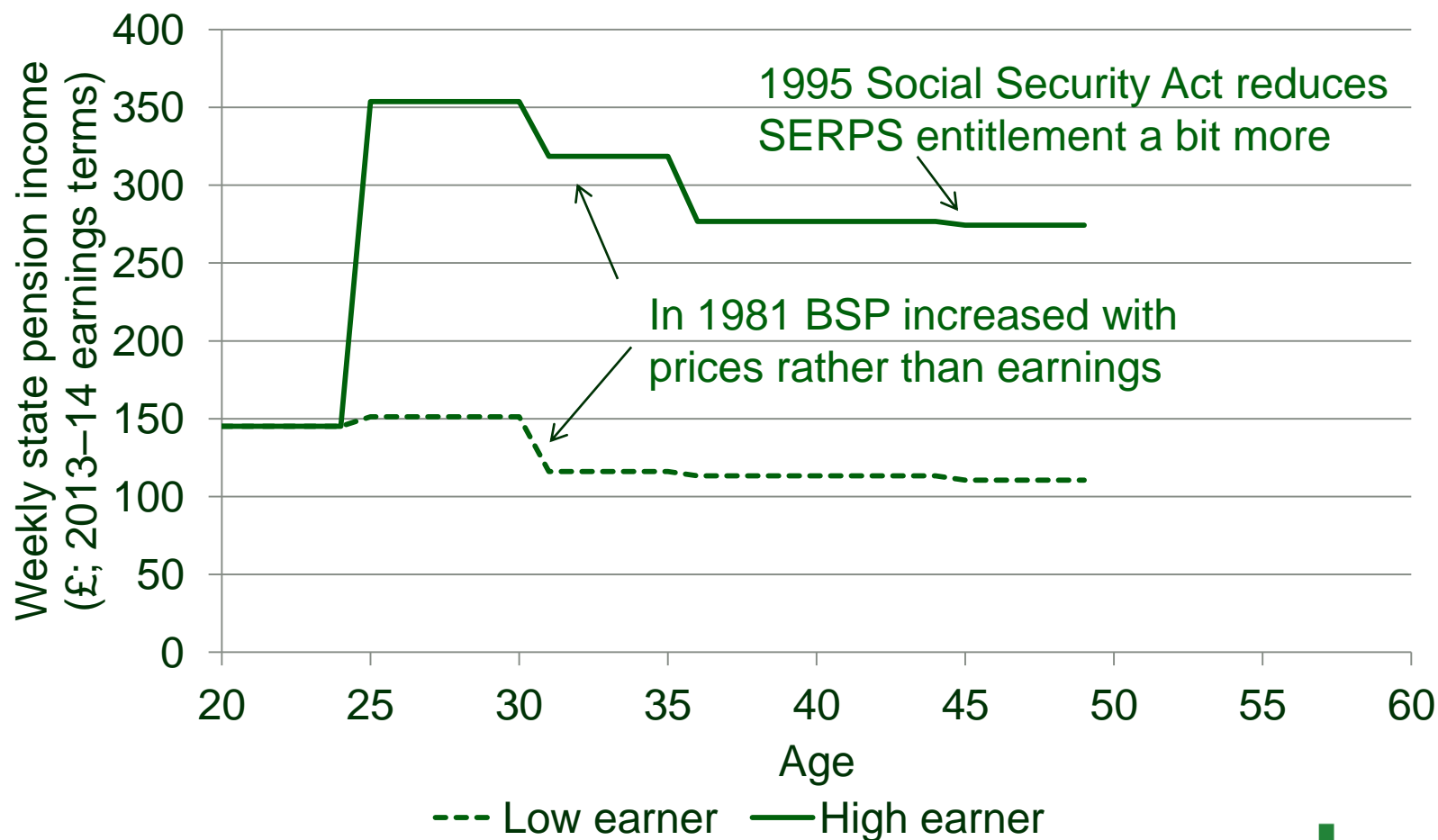
- **Replacement rate** objective not being realised for many – concerns that not everyone had access to employer schemes
- SERPS introduced from 1978, as an earnings-related top-up to the Basic State Pension
- Compulsory – though could opt out into employer pension
- Secretary of State for Social Services

“The cost of the commitments ... has been very carefully considered in relation to the capacity of the country to support it”

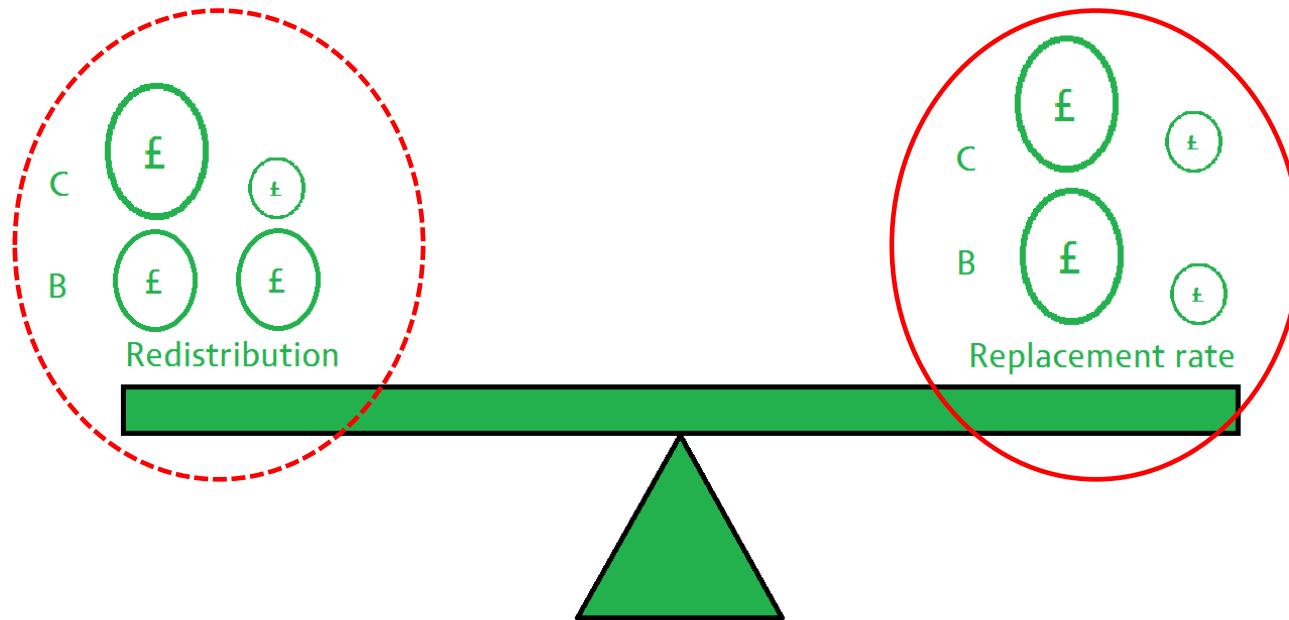
- The IFS (Hemming & Kay, 1982)

“We can find little to indicate that this is a true statement”

Example high-and low-earnings born in 1950 who expect to work for 49 years



After SERPS was made less generous...



Politics of offering replacement rate too difficult

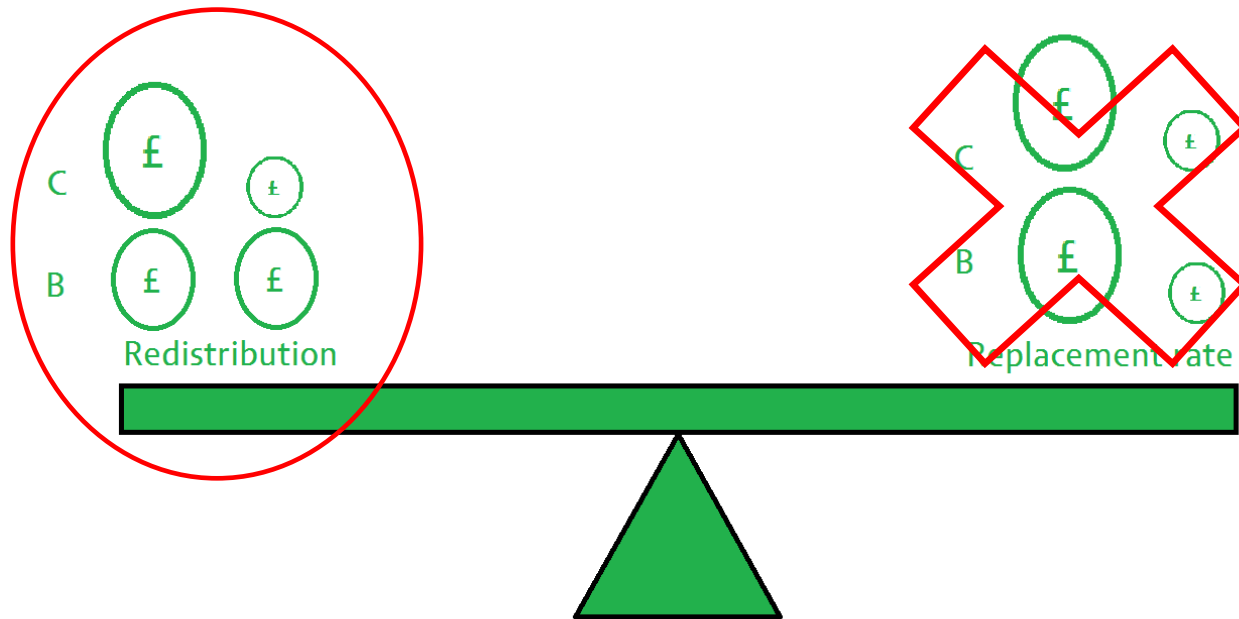
2002 and 2007 – SERPS replaced by S2P

- From 2002 low earners and disabled ‘topped up’
- 2007 reform increased number of creditable activities
- Thresholds were set so no more earnings-related component by 2030

Pensions Bill 2013: The Single Tier Pension

- ‘Last ever reform’ (sure)
- Speeds up move to flat rate, so no earnings component after 2016, not 2030.
- 35 years of contributions to get £146 per week at SPA
- Looks very like original BSP, except with more generous crediting
- Coincidentally, £146.30 is how much the basic state pension would have been worth if the government had stuck to earnings uprating from 1981...

Current state pension

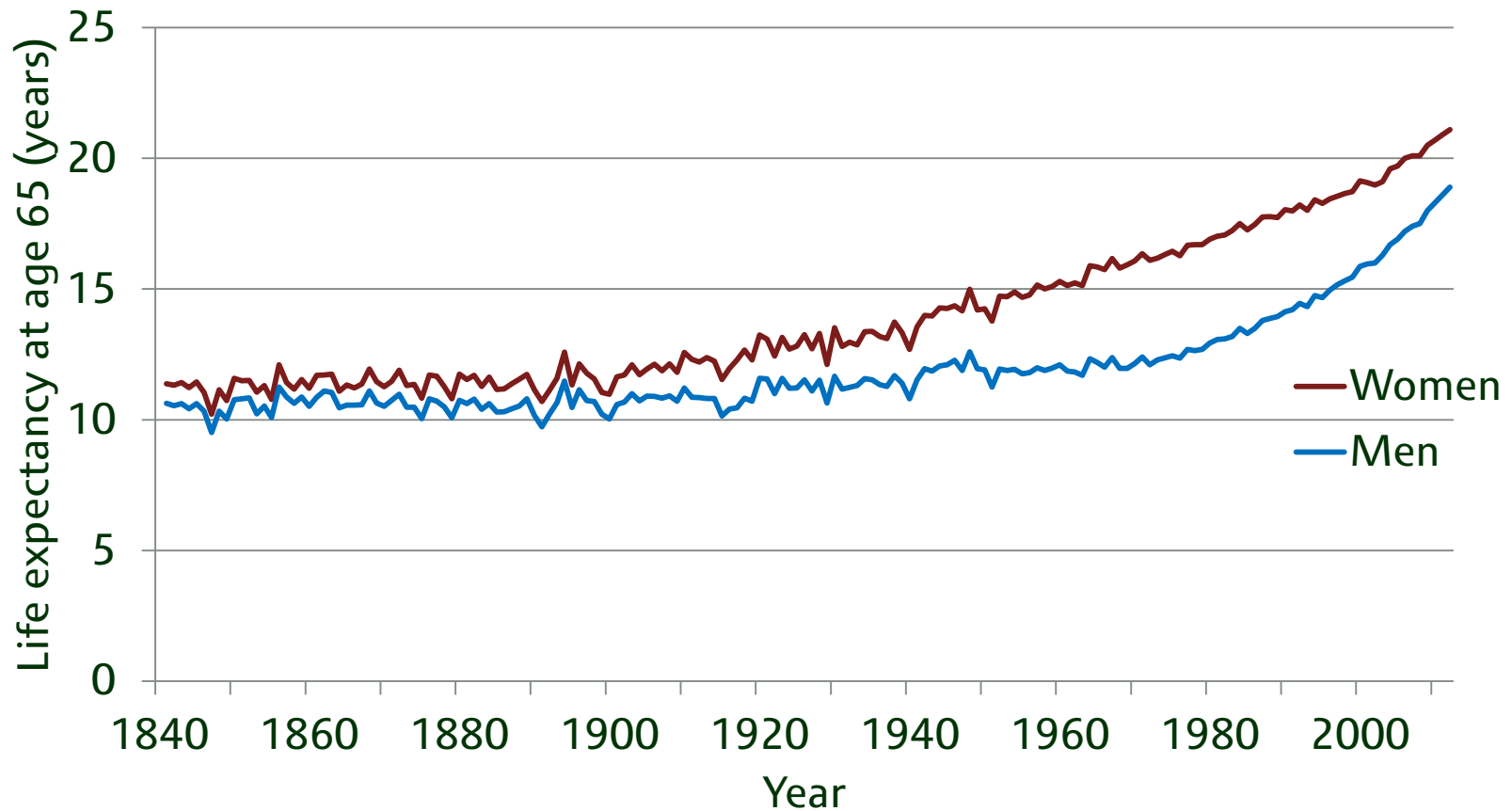


So far...

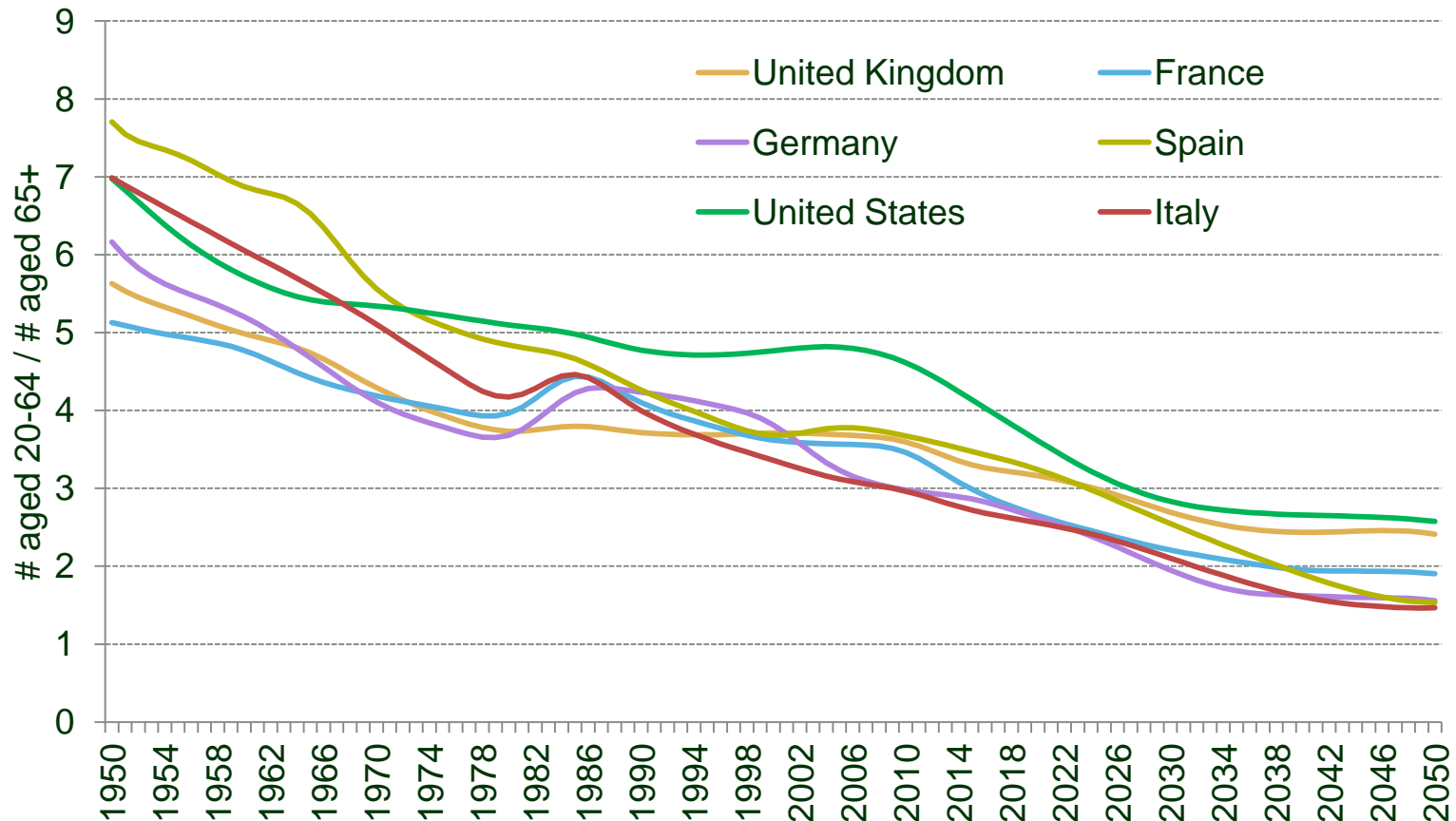
$$\frac{\underline{L}}{R} = \frac{\underline{b}}{t w}$$

- Have discussed how the government might want to distribute **b**
 - To help individuals smooth consumption
 - To reduce inequality
- **But** the other parameters are not fixed...
- May have to cut **b** for budgetary reasons
- For example, in response to an ageing population...

Populations are aging: Life expectancy at age 65 has increased



Populations are ageing: 'Old age support ratio' has fallen



How to reduce costs?

- Difficult because expectations already formed – government doesn't want to get sued
- Any change has to be done slowly...

$$\frac{\underline{L}}{R} = \frac{\underline{b}}{t w}$$

1. Ship pensioners off to Australia

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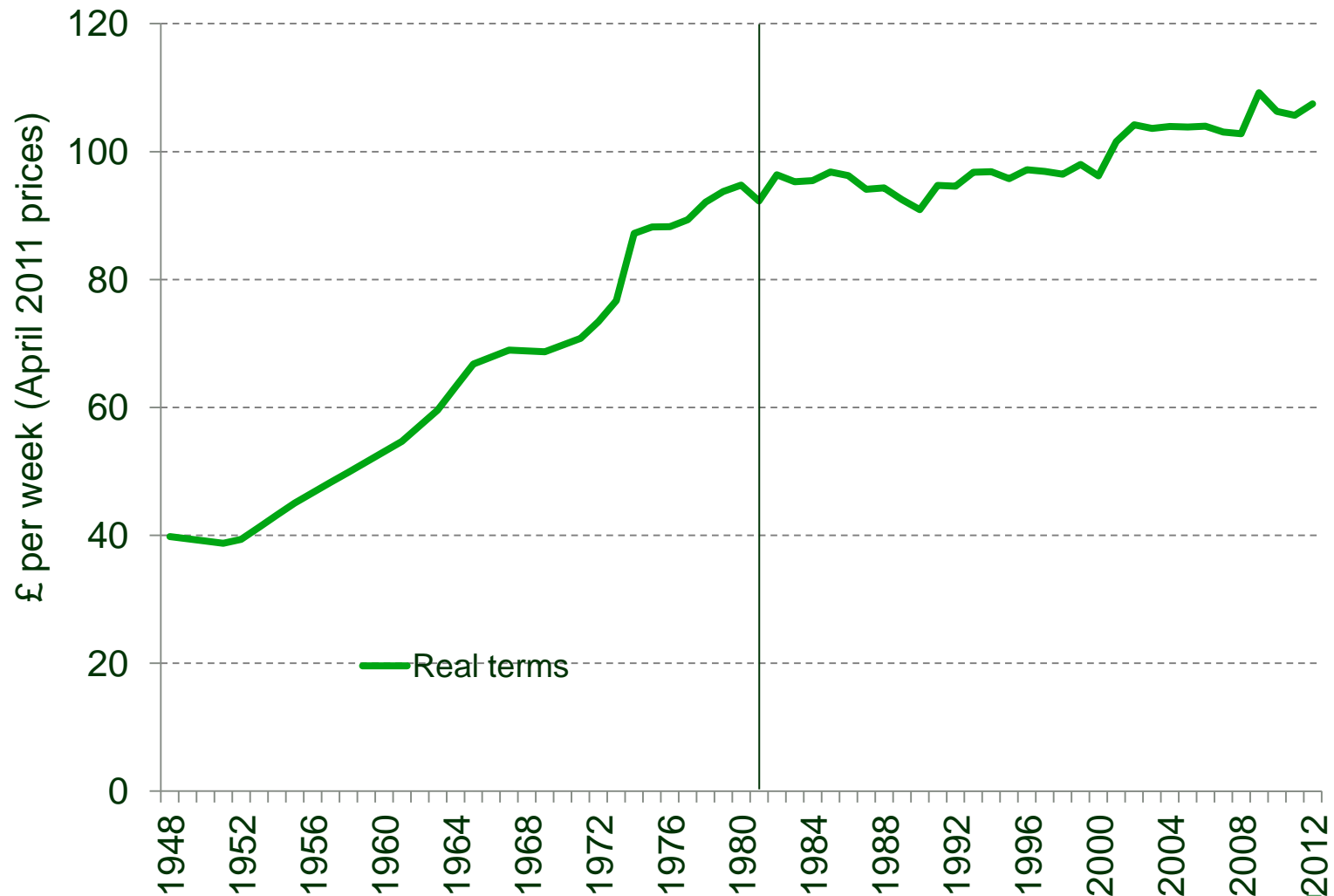
$$\frac{\underline{L}}{R} = \frac{\underline{b}}{t w}$$

- ~~1. Ship pensioners off to Australia~~
2. Get rid of earnings-related component ✓
3. Uprate pension more slowly
4. Reduce number of pension years: increase SPA

Option 3: Uprating the State Pension

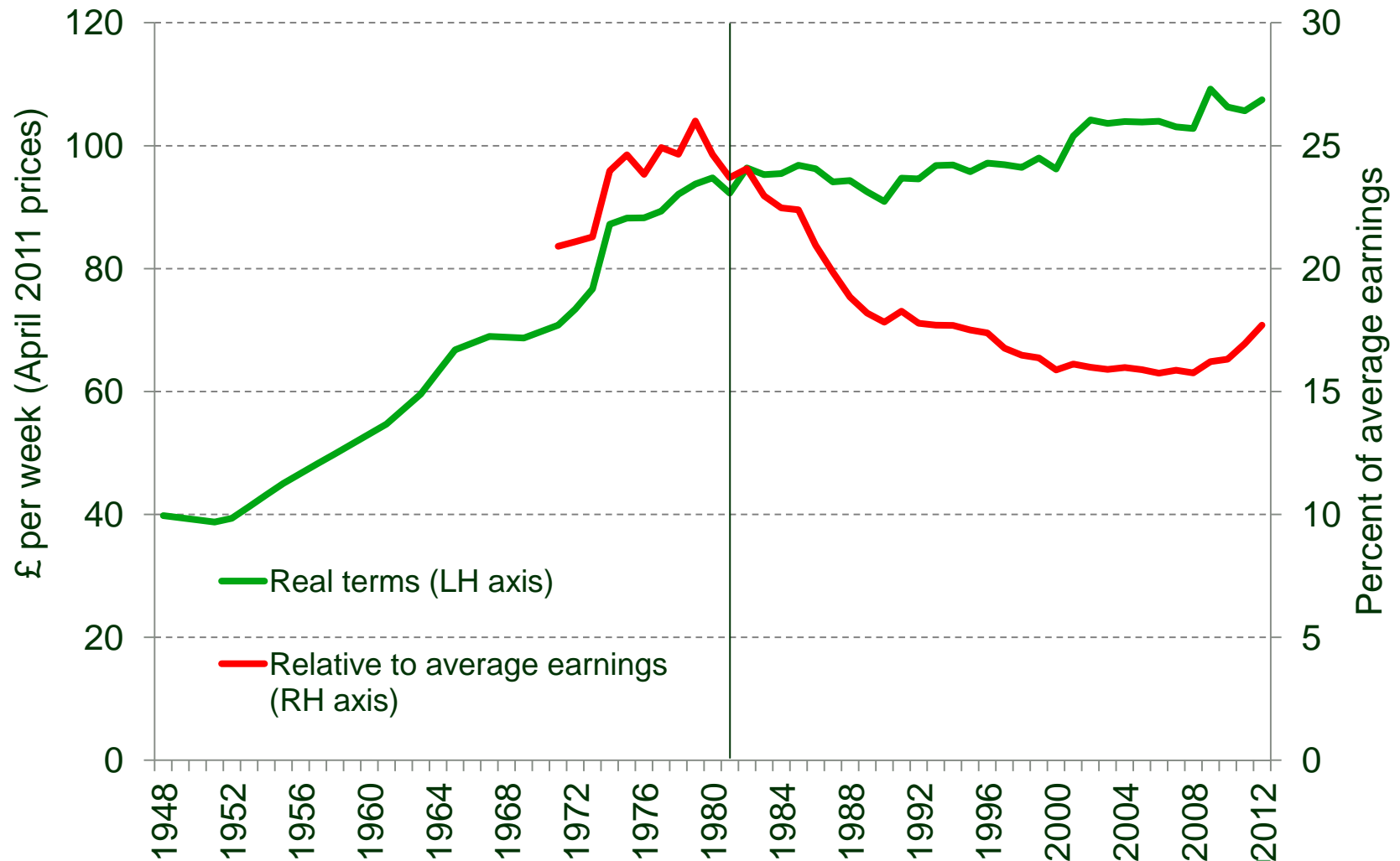
- Small changes compound, so a small increase/decrease is **very** expensive/cheap
- Different methods one could choose:
 - Prices
 - To maintain a particular standard of living
 - RPI – includes housing costs
 - CPI - geometric mean so usually goes up more slowly than RPI index
 - Earnings growth
 - If aim is to reduce inequality across generations
 - Link to sustainability of pensions system?
 - Triple lock(?)
 - Means state pension projected to increase by more than average earnings in the long-run

Value of the BSP over time



Source: DWP Abstract of Statistics 2013

Value of the BSP over time



Source: DWP Abstract of Statistics 2013

Option 4: increase the SPA

- Since the introduction of the state pension:
 - Employment rates at older ages have been rising
 - Life expectancies have been rising
- So delay receipt of state pension in line with this increases?
 - Save money on benefits no longer paid
 - Encourage people to work (and pay taxes) for longer?
- If SPA too low...
 - More expensive to provide
 - Incentivise people to leave work early
- SPA too high...
 - Those unable to work don't have access to (state) pension
 - State pension becomes less effective for redistribution *and* providing decent replacement rate

Policy and impacts

- Male and female SPAs equalised between 2010 and 2018
- IFS research found that increasing the female SPA by one year from 60 to 61 saved the Exchequer £2.1 billion (0.14% of GDP)
 - Mostly savings in pensions not paid, rather than labour supply response boosting public finances
- Further reforms are increasing the SPA to
 - 66 by 2020 (born after October 1954)
 - 67 by 2026 (born after April 1969)
 - 68 by 2046 (born after April 1978)

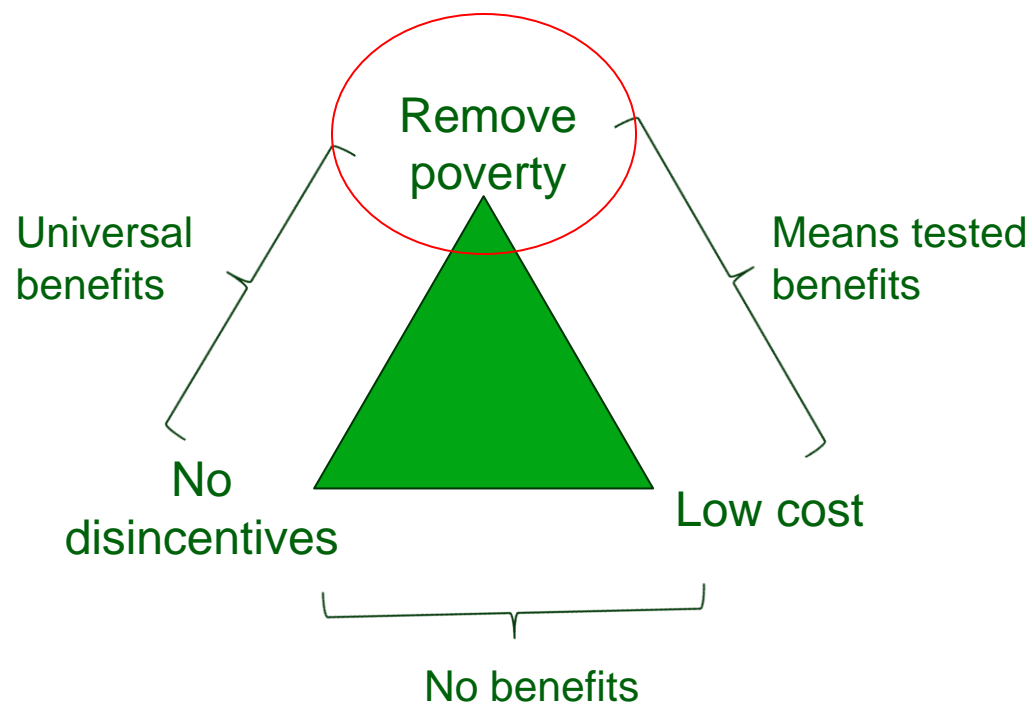
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 - 66 by 2020 (born after October 1954)
 - 67 by 2026 (born after April 1969)
 - 68 by 2046 (born after April 1978) (you)

The state of our state pensions system

- Recent reforms have sped up the transition to a fully flat-rate pension, with no earnings related component, and a focus on **redistribution** rather than providing a **replacement rate**
- Changes to uprating policy, the single-tier pension and the latest increases to SPA have limited the increase in public spending on pensioners
- By 2060, 8.1% of GDP will be spent on pensioners, compared to 6.9% today
- The cost appears to be under control, but is the state pension adequate?

Triangle of impossibility



Pension adequacy

- Single tier pension will be £146.30 per week (£7,608 per year)
- Just above level of the Pension Credit Guarantee Credit
- But represents about a third of average earnings, so most will experience a significant drop in income if they only rely on the state pension
- IFS research predicted that based on savings for those 50+ between 2002 and 2010, nearly 40% would get a replacement rate of less than 67% (or rely on means-tested benefits)
- 10 million employees without private pension coverage
- Concern that individuals not saving enough for retirement

Private pension reform – auto-enrolment

- Uses behavioural economics insight – people like default option
- Compulsory employer contributions of at least 3% of ‘band’ earnings
- Employees automatically enrolled with 5% of ‘band’ earnings contribution rate
- Employees can opt out (re-enrolled 3 years later)
- National Employment Savings Trust set up, with government subsidy, to ensure access to everyone



- Seems successful - fewer than expected have opted out

Individuals *still* not saving enough?

- Is the default contribution rate enough?
- High uncertainty surrounding private pension outcomes
 - Uncertain return on investments
 - Though higher contributions do increase chances of having a particular amount in retirement
- In many cases the default contribution rate won't achieve replacement rate of 67%
- Pensions Policy Institute recently published a report saying that for a median earner, under the default contribution settings, 49% chance of achieving 67% replacement rate
- Many will need to contribute more than the legal minimum

Conclusions (1)

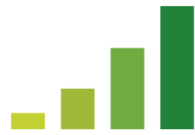
- Pensions are vehicles for individuals to
 - smooth consumption
 - Insure against longevity risk
- The government may want to:
 - Increase savings to ‘adequate’ level
 - Use the pensions system to redistribute within/across generations
- But the government faces trade-offs between
 - Cost
 - Adequacy
 - Incentives
- In an PAYG scheme, finances are sensitive to demographic changes

Conclusions (2)

- Demographics have changed in the UK since the introduction of the state pension
- Increasing life expectancies have prompted previous governments to increase the SPA and index the Basic State Pension less generously
- Current policy is to remove the earnings-related component that was introduced in from 1978, so the UK state pension will be focussed on redistribution rather than providing a particular replacement rate
- Recent policies such as auto-enrolment have tried to increase private pension saving, but challenges remain...

Conclusions (3)

- Save, because the government isn't doing much for you



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