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)
4. Making pensions cheaper
   - Uprating 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 \( u'(c) \to \infty \) as \( c \to 0 \), 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

Source: Crawford and Tetlow (2012)
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  - Rich and poor pensioners
  - Younger and older generation

Replacement rate
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• Insurance market undermined by adverse selection?
  – Government relatively well-suited to coping with risk
  – Can pool risk across everyone
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  - Younger and older generations
- Insurance market undermined by adverse selection?
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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?

Redistribution

Combine?

Replacement rate

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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

Universal benefits
No disincentives
Low cost
Remove poverty
Means tested benefits
No benefits
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:

\[ t \, w \, L = b \, R \]

- \( t = \text{tax} \)
- \( w = \text{wage} \)
- \( L = N \text{ workers} \)
- \( b = \text{pension} \)
- \( R = N \text{ retirees} \)

• 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

- Remove poverty
- Universal benefits
- No disincentives
- Means tested benefits
- Low cost
- No benefits
Redistribution and replacement rates

Redistribution

High earner

Low earner

Replacement rate

High earner

Low earner

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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

Mid-70s: BSP 20-25% of average earnings
State Pension 1948

Mid-70s: BSP 20-25% of average earnings

Many groups not credited
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

![Graph showing weekly state pension income (\(\mathbf{\text{\£}}\); 2013–14 earnings terms) by age for low and high earners.]

Source: A Single Tier Pension: what does it really mean, Figure 6.1
Example high-and low-earnings born in 1950 who expect to work for 49 years

1975 Social Security Act introduces SERPS

Weekly state pension income (£; 2013–14 earnings terms)

Source: A Single Tier Pension: what does it really mean, Figure 6.1
With SERPS

Redistribution

Replacement rate
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

In 1981 BSP increased with prices rather than earnings

1995 Social Security Act reduces SERPS entitlement a bit more

Source: Figure 6.1
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...

\[
\frac{L}{R} = \frac{b}{t}\ w
\]

- 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

Source: Government Actuary's Department
Populations are ageing: ‘Old age support ratio’ has fallen

Source: OECD Pensions at a Glance 2011
How to reduce costs?

• Difficult because expectations already formed – government doesn’t want to get sued
• Any change has to be done slowly…

\[ \frac{L}{R} = \frac{b}{t \cdot w} \]

1. Ship pensioners off to Australia
How to reduce costs?

• Difficult because expectations already formed – government doesn’t want to get sued
• Any change has to be done slowly…

\[ \frac{L}{R} = \frac{b}{t w} \]

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

£ per week (April 2011 prices)

Source: DWP Abstract of Statistics 2013
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Value of the BSP over time

£ per week (April 2011 prices)

Real terms (LH axis)

Relative to average earnings (RH axis)

Source: DWP Abstract of Statistics 2013

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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)
Policy and impacts

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  - 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

Remove poverty

Universal benefits

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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

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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
The state (of) pensions

Soumaya Keynes