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Institute of Actuaries seminar

Economics of pension take-up: theory and evidence for the UK

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The policy issues

- Do people make sensible choices about *whether* to save for retirement and if so *how much,* in the UK context?
- The adequacy of retirement saving is a policy concern: many reports e.g. forthcoming from *Pension Commission*
- The saving issue is related to whether individuals are capable of making 'rational' choices concerning retirement saving.
- It is now fashionable to construct 'models' of behaviour where people are not 'life cycle' savers.
- This is embodied in ideas of *bounded rationality, time inconsistent behaviour,* and so on.
- Such views then used to justified interventions such as compulsion, changing default options on saving programmes etc.

An alternative view

- People face an uncertain environment and a set of very complex pension choices
- There are costs to acquiring information on what are 'rational' optimal choices
- Government policies are frequently time inconsistent and poorly evaluated (especially at the time of implementation)
- Professional advice is often poor and self-serving to the commercial interests providing the advice
- Welfare maximising households are therefore trying to save over their life cycle subject to imperfect information, which is costly to acquire, and to uncertainty.
- They make mistakes and regret with hindsight although choice may have been 'rational' at the time

Plan of paper

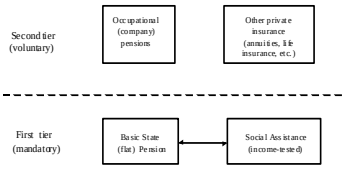
- Summarise increasing complexity of pension choices in UK
- Summarise 'life cycle' model of saving and provide simple illustration in context of alternative definitions of saving 'adequacy'
- Sketch out the 'new views' ('behavioural models') of household choices
- Evaluate examples where behaviour might be at odds with stated aims, or predictions.
- Focus on four policies:
  - Who bought Personal Pensions?
  - Why do people not join company pension plans when they have the chance?
  - Why have Stakeholder Pensions had no effect on take-up of private pensions?
  - Will the Pension Credit improve saving incentives?

Evolution of pension programme in UK

- Pre-1975: Beveridge. Limited access to private pensions (DB or DC). 'Two nations' of pensioners.
- 1975-86: Opting out of SERPS permitted into DB company plans.
- 1986-97: Opting out expanded to include DCs plans. More variety of private plans. Growth of Personal Pensions.
- 1997 on: SERPS replaced by S2P. Another option for opting out: Stakeholder Pensions. Introduction of Pension Credit.
- Trend to greater complexity in provision…..

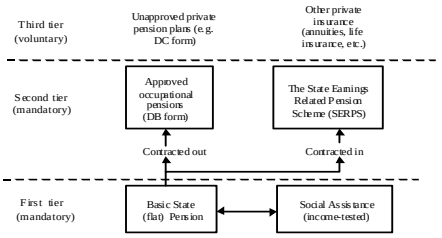
Two nations of pensioners?

1960



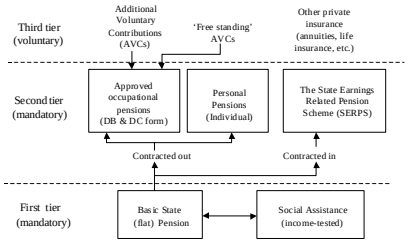
The 1970s compromise: mandatory second tier provision + contracting-out

1980

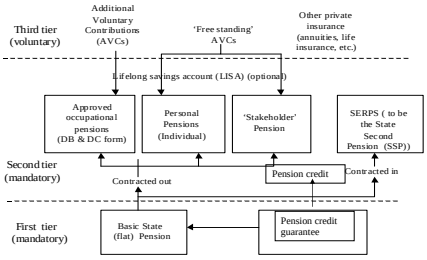


The 1980s: The sticks and carrots to greater contracting-out

1990



Fundamental reform or just greater complexity? UK pension scheme 2005



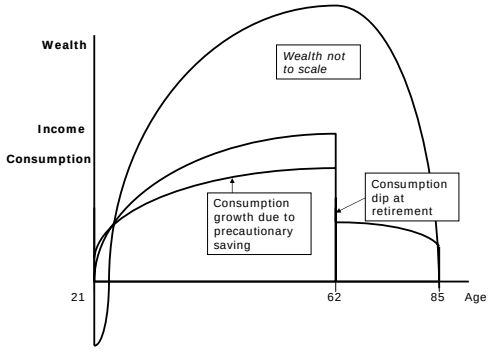
The benchmark for the 'rational' saver: the life cycle/Permanent Income model of consumption smoothing

- Attributable to Modigliani *et al* (1954/55), Friedman (1957)
- Households have access to capital markets
- They save & borrow to smooth consumption in the face of income fluctuations
- The model is sophisticated insofar as it can deal with:
  - Variations in household preferences over the life cycle (demographics)
  - Uncertain income streams
  - Alternative motives for saving (e.g. retirement, precautionary, bequests) and choice of saving instruments
  - Costs of acquiring information(?)
- Note that *no* model predicts *ex post* that some households don't regret their actions given new information!

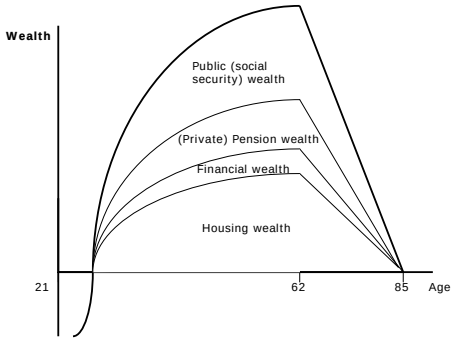
Saving adequacy

- It is a common perception that retirement saving is 'inadequate' in the UK
- Cannot be derived from aggregate 'saving rate; which is an accounting, not an economic concept.
- Need a definition of 'adequacy' (consumption smoothing?)
- And to agree as to what resources are included in lifetime wealth
- The US debate (e.g. Bernheim *et al* v Engen, Gale at Brookings, Mitchell & Moore *NBER* 1997) and elsewhere (e.g. Piggott *et al* for Australia, Scobie and Gibson for NZ) does not prove that most households 'undersave' (the poor certainly don't save)
- A simple illustration from the LCH model

Life cycle model of wealth accumulation with time-varying consumption smoothing



Benchmark I for ‘inadequate saving’



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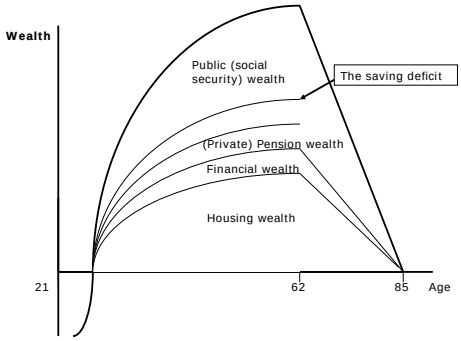
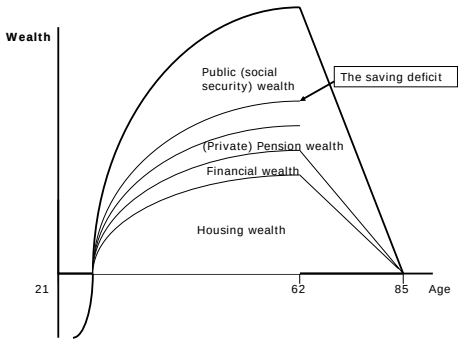


Benchmark II for ‘inadequate saving’



The revisionist view of saving

- People cannot optimise complex intertemporal problems
- They adopt simple 'rules of thumb' and ignore time-varying incentives
- 'Bounded rationality' implies people collapse the future to a single period – save now or tomorrow?
- But people have non-linear preferences and prefer to defer to tomorrow choices that should be made today
- 'Framing' choices implies that people go for the standard or 'default' option rather than what is best for them
- Implies greater role for compulsion, paternalism in saving choices, framing options the 'right' way

Comments on the revisionist view

- Obviously people do not solve complex recursive problems in their head!
- People rely on advice – if the advice is bad, then so is the decision
- How do people process what is 'good' advice? (for example: they may treat the 'default option' as information)
- Evidence on lack of saving is not *per se* evidence of irrationality (e.g. saving is affected by the presence of a public programme)
- We can examine some cases where people face choices (e.g. take-up of private pension benefits) and search for evidence of inconsistency or 'irrationality'

Four examples:

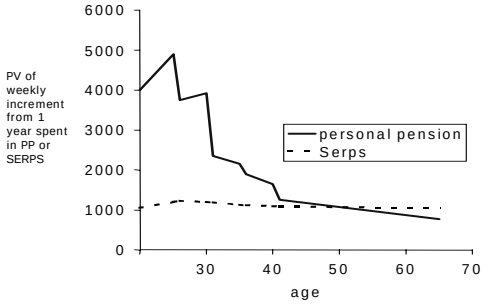
- Personal pensions
  - A bad choice for many?
- Occupational pensions
  - Why doesn't everybody join their OP scheme?
- Stakeholder pensions
  - Targeted at middle earners – why didn't they buy them?
- Pension Credit
  - For the future – how will it affect incentives?
- I'll show:
  - Household behaviour is consistent with actual incentives
  - What is not always easy to understand is the intention of the policy!

Who bought Personal Pensions after 1987?

- Personal Pensions have had a bad press due to mis-selling, high administrative costs etc.
- But take-up far exceeded expectations of policy-makers
- Initial incentives to contract-out into Personal Pension were substantial, on average
- But the 'return' to contracting out of SERPS into a Personal Pension varied by age group
- So a standard incentive model would predict:
  - High take-up overall
  - High take-up among groups where incentives were highest
  - These were younger earners, who traditionally do not save for retirement (compare with take-up by age in US of IRAs)

Switching incentives in the United Kingdom: 1987-95

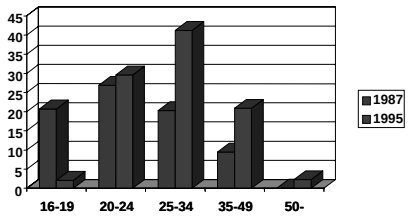
Source: Disney & Whitehouse *The Personal Pension Stampede*, IFS, 1992



Assumptions: 2% real earnings growth; 3.5% rate of return after tax; lump sum annual charge + 4% of value of fund at purchase of annuity

Who switched? Coverage of personal pensions in the United Kingdom by age, 1987 and 1995

(per cent of employees)



Source: Whitehouse *World Bank WP* 1998, based on one per cent sample of personal-pension members in Department of Social Security; employment data from quarterly *Labour Force Survey*

Why do people not join their occupational pension plans?

- A significant minority of people who are covered by a pension plan do not take-up the offer – they prefer to buy a Personal Pension or contract-in to SERPS/S2P
- This could be myopia and/or a preference for current consumption (thereby they do not have to pay employee contribution) – so maybe should not permit?
- But they forgo employer contribution and (on average) more generous prospective entitlements
- But accrual structures of DB plans are 'backloaded' and expected quitters may be better off in a portable pension plan
- Moreover, after 'job search' they may find a better job and subsequently join a pension plan, if offered.

A significant minority don't join their OP pension plan

Source: Disney and Emmerson, IFS *Working Paper* 02/09

	Offered OP? No (47%)	Yes (53%)	*All (100%)*
No private pension	**84.3**	**17.6**	***48.9***
Occupational pension (OP)	**–**	**63.5**	***33.7***
Personal pension (PP)	**15.7**	**7.9**	***11.5***
Both OP and PP	**–**	**11.1**	***5.9***
Observations	*19,594*	*22,155*	*41,749*

(Conditional) Probabilities of moving job and pension status

Individual's pension status	(Model 1) dependent variable = Prob of moving (mean = 11.2)	(Model 2) dependent variable = Prob of moving (mean = 11.2) (selectivity corrected)	(Model 3) dependent variable = Prob of moving for 'better job' (mean = 5.1) (selectivity corrected)
All individuals	**9.1**	**9.6**	**4.5**
Not offered OP	**15.3**	**16.7**	**7.7**
Offered OP	**7.3**	**7.7**	**3.6**
(p-value of difference, 1 v 2)	*(0.000)*	*(0.000)*	*(0.000)*
Not offered OP, SERPS	**17.7**	**19.2**	**8.7**
Not offered OP, PP	**13.3**	**14.0**	**7.3**
(p-value of difference, 3 v 4)	*(0.000)*	*(0.000)*	*(0.048)*
Offered OP, OP (& not PP)	**5.5**	**5.8**	**2.7**
Offered OP, SERPS	**12.2**	**13.0**	**6.9**
Offered OP, PP (& not OP)	**11.0**	**11.6**	**5.1**
(p-value of difference, 5 v 6)	*(0.000)*	*(0.000)*	*(0.000)*
(p-value of difference, 5 v 7)	*(0.000)*	*(0.000)*	*(0.000)*
(p-value of difference, 6 v 7)	*(0.268)*	*(0.190)*	*(0.025)*

Job movers may subsequently join an OP scheme

Pension in year	Pension in subsequent year: Not offered None	Not offered PP	Offered None	Offered PP	Offered OP	Offered Both
Not offered:						
None	65.6	3.9	14.4	1.2	13.7	1.1
PP	16.3	53.8	2.8	14.7	7.8	4.7
Offered QP						
None	41.8	2.4	29.1	3.8	21.7	1.2
PP	8.0	33.7	7.4	36.8	7.4	6.7
OP	21.6	2.9	13.2	1.9	55.7	4.7
Both	13.7	19.4	6.5	16.5	18.7	25.2

Stakeholder pensions: what evidence of take-up?

- Targeted by Green Paper at 'middle income earners' (c£10k - £20k)
- Impact on take-up rates seems minimal, especially among target group
- Was this myopia among the target group or was the policy 'experiment' not thought through?
- Current research with Emmerson and Wakefield (IFS)

Private pension coverage by type

	1999	2000	2001	2002	99-02
SHP	0.0	0.0	0.9	1.4	+1.4
PP	11.2	10.1	9.7	8.7	–2.5
OP	46.8	46.6	46.9	46.8	0.0
Multiple	1.9	1.9	2.0	2.2	+0.3
Total	59.8	58.6	59.4	58.9	–0.8

Private pension coverage, by earnings group

	1999	2000	2001	2002	99-02
Zero	3.4	3.6	3.5	3.5	+0.1
Low	34.0	34.2	35.6	35.2	+1.2
Medium	68.2	66.9	67.3	65.5	–2.7
High	86.2	85.4	84.6	83.8	–2.4

Change in coverage relative to trend:

'Diff-in-diff' effects (1)

- Zero earners: 0.3% (0.4%)
- Low earners: 3.6% (1.7%)*
- Mid earners: 1.6% (1.1%)

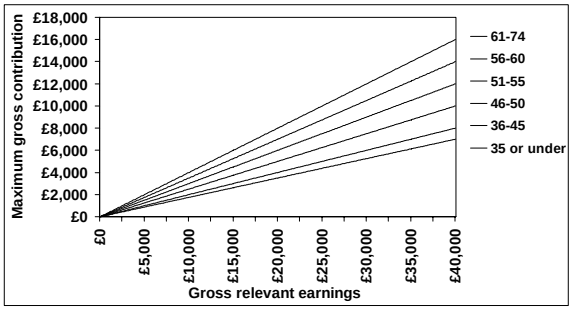
– Significant only for 'low' group
  - Small & insignificant for target ('mid') group
  - Surprising?
– Low earners finding money to save?
– Could another element of SHP reform drive this pattern?

Diff-in-diff effects (2)

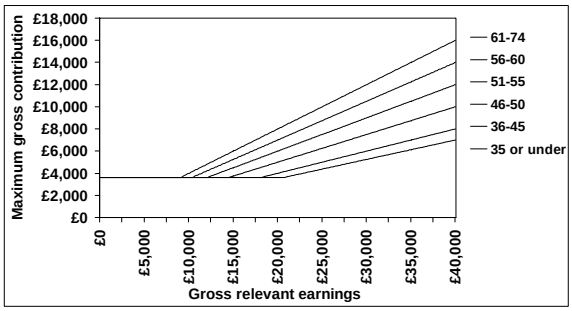
Take account of spouse's income:
First term is own income, 2nd term is spouse's income

– Zero + zero/low: 0.1% (0.3%)
– Zero + mid/high: 1.1% (0.8%)
– Low + zero/low: 2.6% (1.6%)
– Low + mid/high: 5.2% (2.3%)*
– Mid + zero/low: 1.7% (1.3%)
– Mid + mid/high: 1.4% (1.4%)

A possible reason: the simultaneous change in the contributions limit: Maximum contributions (old)



Maximum contributions (new)



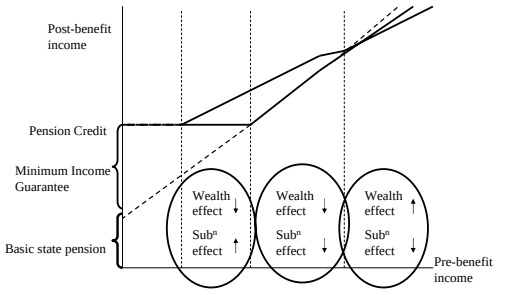
Suggests a direct test of effect on private pension coverage: Diff-in-diff effects (3)

- Had a limit increase: 2.4% (0.9%)*
- Limit increase & zero earnings: 0.6% (0.3%)*
- Limit increase & earnings: 3.3% (1.4%)*
- Inferences:
  - Targeting on middle income earners irrelevant
  - There was a downward trend in coverage overall 1999-2002
  - But new contribution limits induced positive change in coverage, mostly among zero/low earners married to better off spouses (mostly husbands)
  - This, not the Green Paper 'target group', was the 'real' reform

Should low and middle income families save at all for retirement?

- Introduction of Pension Credit intended to 'improve incentives' relative to 100% withdrawal from MIG/PCG
- But there are both wealth and substitution effects involved.
- And Pension Credit currently uprated more generously than Basic State Pension, so eligibility will increase as % of population.
- Pension Credit more likely to *reduce* incentives to save, not increase them
- There are both *wealth* and *substitution* effects to policy reforms such as Pension Credit, size of COR etc.
- But people would not be wise to assume that Pension Credit will continue in present form…

MIG v. Pension Credit: Incentive effects on saving



Conclusions

- Have examined incentives attached to various retirement saving policies
- The basic model is of a rational consumer optimising subject to uncertainty and imperfect information
- Some 'revisionist' theory argues that consumers can't do this – so greater role for paternalist interventions
- For 3 case studies (and 1 projected outcome) reasonable evidence that consumer response, at the time, was broadly 'rational' (even if subsequent 'regret')
- That behaviour did not accord with prior evaluations suggests improving quality of evaluations (and policies)!
- In such circumstances, need to be careful before promoting excessive degree of prescription in saving behaviour.