



Institute for
Fiscal Studies



Do up-front tax incentives affect private pension saving in the UK?

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Working paper: <http://www.ifs.org.uk/publications/6073>

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Motivation

- Interesting questions:
 - To what extent do individuals, and households, respond to complex decision-making environments
 - Up-front financial incentives are an often used policy lever to encourage retirement saving – is this an effective method?
- Our specific focus: to what extent does tax relief on private pension contributions encourage pension saving?
- Look at two instances where the ‘tax planning’ incentives differ in their *transparency* and in their *complexity*

What are the ‘upfront incentives to save’?

- Individual contributions to pensions are exempt from income tax and are also deducted from income before assessment for means-tested tax credits
 - £1 of pension contributions costs £1-EMTR of disposable income
- Upfront incentive to save: effective tax relief on individual pension contributions

	EMTR / effective tax relief
Basic rate taxpayer	22% (20%)
Basic rate taxpayer on WTC taper	59%
Higher rate taxpayer	40%
Higher rate taxpayer on CTC taper	46.7%

Empirical strategy (1/3)

- Focus (in this paper) on the discontinuity at the HRT
 - the tax relief on pension saving jumps from 22%(20%) to 40%
- Other than the tax difference those ‘just’ above the HRT and those ‘just’ below the threshold should be ‘the same’
- Therefore compare the pension saving behaviour of:
 1. Those with income just above and just below the higher rate threshold
 - Might expect those just above the HRT to be *more* likely to engage in pension saving than those just below
 2. Married individuals below the HRT who have a partner just above the HRT, with married individuals below the HRT who have a partner just below the HRT
 - Might expect those below the HRT with a partner just above the HRT to be *less* likely to engage in retirement saving than those with a partner just below the HRT

Empirical strategy (2/3)

- Regression discontinuity approach
 - Those ‘just’ above and ‘just’ below the HRT should be very similar in terms of their observed and unobserved characteristics
 - If pension coverage increases smoothly with income, any discontinuity at the HRT can be associated with the HRT
- Size of ‘just’ trades off individual similarity with sample sizes
 - Use 3 definitions: annual income within £10,000, within £5,000 & within £2,000

Empirical strategy (3/3)

- Operationalised using 2 methods:

- **Non parametric**

Plot smoothed scatterplot curves separately above and below the HRT

- **Parametric**

$$A \quad Y_i = \alpha + \beta_1(X_i - c) + \tau I_i + \gamma_1(X_i - c)I_i + \varepsilon_i$$

$$B \quad Y_i = \alpha + \beta_1(X_i - c) + \beta_2(X_i - c)^2 + \tau I_i + \gamma_1(X_i - c)I_i + \gamma_2(X_i - c)I_i^2 + \varepsilon_i$$

$$C \quad Y_i = \alpha + \beta_1(X_i - c) + \tau I_i + \gamma_1(X_i - c)I_i + \theta Z_i + \varepsilon_i$$

$$D \quad Y_i = \alpha + \beta_1(X_i - c) + \beta_2(X_i - c)^2 + \tau I_i + \gamma_1(X_i - c)I_i + \gamma_2(X_i - c)I_i^2 + \theta Z_i + \varepsilon_i$$

where X_i is income, c is the HRT, I_i is an indicator of whether individual is above the HRT, Z_i is a vector of individual characteristics

Estimated using ordinary least squares regression (results similar from probit)

Data: Family Resources Survey

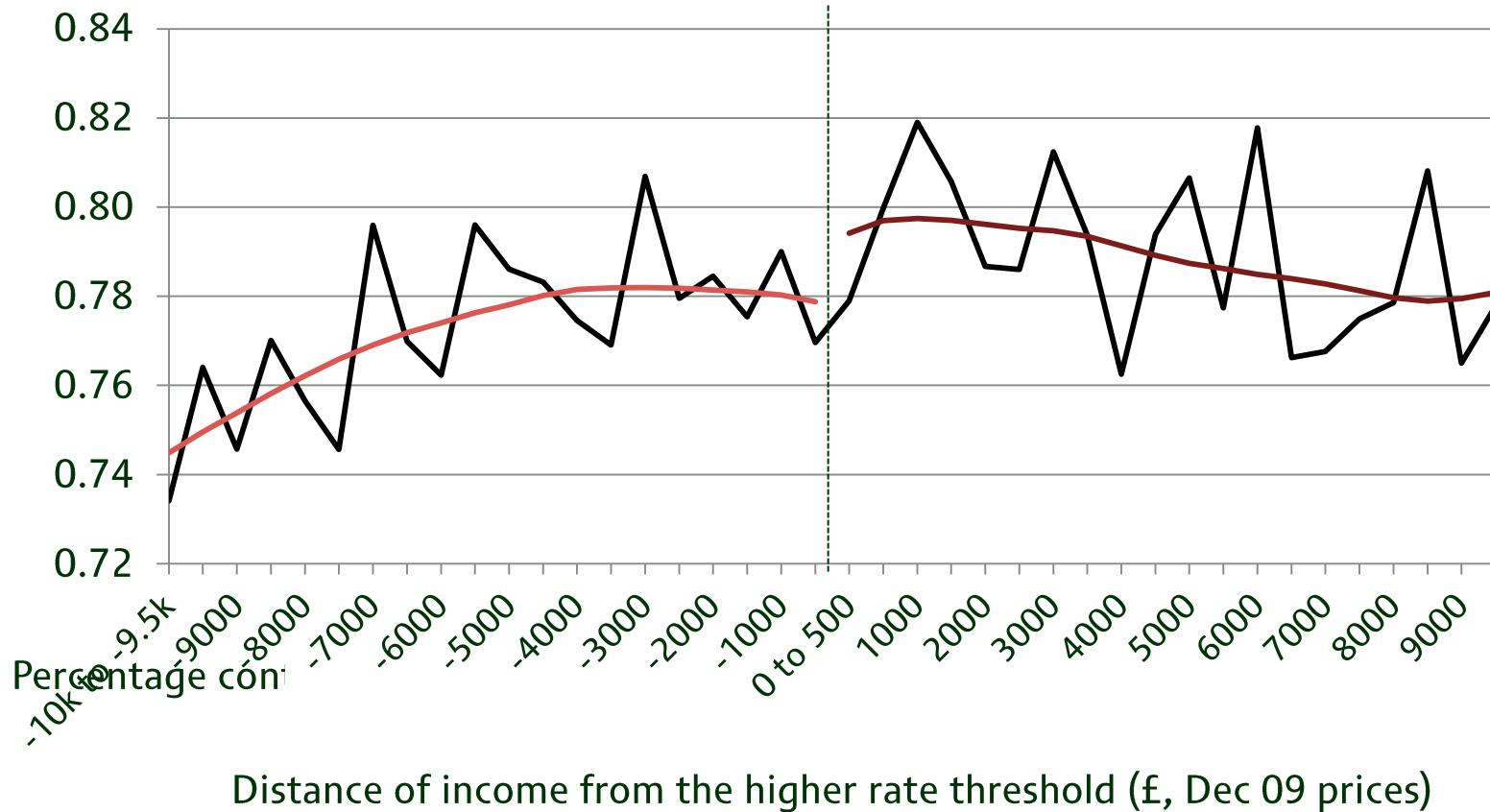
- FRS is a cross sectional survey that records detailed income information for a large sample of the GB/UK population
- Pooled 9 years of FRS: 2000/1 to 2008/9
- All nominal values (income, thresholds etc) updated to Dec 2009 prices using RPI
- Analysis restricted to employees aged 22-59, with no self employment or pension income
- Outcome of interest:
 - **current pension membership:** individuals only counted as being a member of a pension if they contributed in the last 12 months

1: Individual analysis

- Recall: compare pension saving behaviour of those with income just above and just below the higher rate threshold
- Expect those just above the HRT to be more likely to engage in pension than those just below since upfront incentive to save is greater

1: Individual analysis – coverage

Non-parametric (income)



1: Individual analysis – coverage

Parametric (income)

	H = £10,000		H = £5,000		H = £2,000	
τ	0.023	0.019	0.021	0.020	0.014	0.014
	(0.014)	(0.013)	(0.013)	(0.013)	(0.021)	(0.020)
Characteristics	x	✓	x	✓	x	✓
Income specification	Quadratic	Quadratic	Linear	Linear	Linear	Linear
Equation	B	D	A	C	A	C
<i>N</i>	34,697	34,108	16,278	16,001	6,339	6,213

- Standard errors in parenthesis. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels respectively.
- Individual characteristics include: age, age², sex, marital status, education, # children, whether has a child aged under 5, housing tenure, industry worked in, whether worked in the ‘public sector’, hours worked, region, partner characteristics if applicable (age difference, (age difference)², education, employment, industry, hours), other household income, (other household income)²

1: Individual analysis

Earnings justification

- ‘True’ upfront incentive to save in a pension depends on taxable **income**
- BUT:
 - Individuals may not understand their true tax position and instead approximate based on most visible sources of income
 - Also possible that individuals may not declare all income sources and so act like basic rate taxpayers (and be entitled to only basic rate tax relief) even though they have income greater than the HRT
- ⇒ Repeat analysis using **earnings** to calculate distance from the HRT and the upfront incentive to save
 - For those around the HRT the difference between income and earnings is less than £1,000 in 90% of cases, with the rest typically having significant investment or rental income from property

1: Individual analysis – coverage

Parametric (earnings)

	H = £10,000		H = £5,000		H = £2,000	
τ	0.034**	0.030**	0.032**	0.029**	0.036*	0.033
	(0.014)	(0.014)	(0.013)	(0.013)	(0.021)	(0.020)
Characteristics	x	✓	x	✓	x	✓
Income specification	Quadratic	Quadratic	Linear	Linear	Linear	Linear
Equation	B	D	A	C	A	C
<i>N</i>	34,015	33,432	15,893	15,617	6,185	6,061

- Standard errors in parenthesis. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels respectively.
- Individual characteristics include: age, age², sex, marital status, education, # children, whether has a child aged under 5, housing tenure, industry worked in, whether worked in the ‘public sector’, hours worked, region, partner characteristics if applicable (age difference, (age difference)², education, employment, industry, hours), other household income, (other household income)²

1: Individual analysis

Response to financial incentive or signalling?

- Discontinuity at the HRT does not necessarily imply individuals are responding to the greater tax incentive to save
- Becoming a higher rate taxpayer may act as a signal of the need for better tax planning or for more saving
- Attempt to test this by considering the effect of the HRT on saving in Individual Savings Accounts (ISAs)
 - Incentives story => no discontinuity (relative incentive to save in an ISA compared to other liquid assets increases only slightly at the HRT)
 - Signalling story => positive discontinuity (ISAs are tax advantaged savings products)
- Find no evidence of a discontinuity in ISA holding at the HRT

2: Couples analysis

- Recall: Compare pensions saving behaviour of married basic rate taxpayers who have a partner just above the HRT, with those who have a partner just below the HRT
- Expect those with a partner just above the HRT to be less likely to engage in retirement saving than those with a partner just below the HRT
- Caveats:
 - Availability of occupational pensions matters
 - Within-family separation risk important
 - Self reliance and financial independence important
- Expect these to dampen discontinuity in coverage

2: Couples analysis – coverage Parametric (earnings)

	H = £10,000	H = £5,000	H = £2,000
τ	0.050* (0.023)	0.044** (0.021)	0.013 (0.035)
Characteristics	✓	✓	✓
Income specification	Quadratic	Linear	Linear
Equation	D	C	C
<i>N</i>	14,312	6,713	2,569

- Individual characteristics include: age, age², sex, marital status, education, # children, whether has a child aged under 5, housing tenure, industry worked in, whether worked in the ‘public sector’, hours worked, region, partner characteristics (age difference, (age difference)², education, employment, industry, hours), other household income, (other household income)²
- Standard errors in parenthesis. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels respectively.

Conclusions so far

- The higher rate threshold is associated with around a 3ppt increase in the probability of individual contributing to a pension
 - Effect clearer when compare earnings to the HRT rather than income
 - Lack of a similar effect for ISAs could indicate this is an incentives effect rather than a signalling effect
- Partner hitting the higher rate threshold is associated with around a 4-5ppt increase in the probability of contributing to a pension
 - Opposite coverage effect to that implied by an incentives story
 - Could imply that the HRT effect *is* an signalling one
 - Can't reject that the effect is of signalling the need to save in a pension for retirement (rather than a need to save in a tax-efficient way more generally)



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