

Empirical Evidence and Tax Reform

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Slide Presentation

Empirical Evidence and Tax Reform

- Focus here on the labour market, human capital and earnings tax reforms.
- Even before the recent crisis, governments around the EU faced pressure to increase employment and earnings.
- The current recession has added to pressure on government revenues.
- Ask two general questions:
 - What are the key margins where might expect tax/welfare reform to have most impact on earnings and employment growth?
 - How has this changed in the light of the great recession?
- 1. Develop an empirical foundation for tax design and reform.
- 2. Use the Mirrlees Review as a running example.
- 3. Main issues and prospects with current tax systems.

Summary overview.....

- Current systems remain unnecessarily complicated and induce too many people not to work or to work too little.
- Target work incentives where they are most effective
 - simulations in Mirrlees (2011) show key increase in work/earnings
 - reducing means-testing and improving the flows into work for lower education mothers and maintaining work for those aged 55+.
- Integrate overlapping benefits - a single integrated benefit
 - *Mirrlees* - 'ifs' reforms.
- Reduce disincentives at key margins for the educated
 - enhancing working lifetime and the career earnings profile
 - simulations show significant impact on human capital.
- Align tax rates at the margin across income sources
- Make better use of social insurance and welfare accounts.....

Empirical Foundations for Tax Design and Reform

- Use the *Mirrlees Review* as an example
 - an integrated picture of tax design and reform, published in 2011
<http://www.ifs.org.uk/mirrleesReview>
- Comprehensive review of reform, drawing on:
 - new evidence,
 - new theory,
 - a new economic environment.
- View the tax system as a whole
 - earnings, direct taxation and welfare benefits, indirect taxation,
 - savings taxation, capital and corporate taxation,.....
- For developed open economies
 - the UK as the running experiment.
- Taxing an independent Scotland?
 - IFS Briefing note No 141, October 2013.

Composition of onshore revenue in Scotland and the UK, 2011–12



Empirical Foundations for Tax Design and Reform

- In this talk I draw loosely on four of my recent ‘post-Mirrlees’ studies
 - *‘Labor Supply and the Extensive Margin’; AER 2011*
 - *‘Empirical Evidence and Tax Reform’; JEEA 2012*
 - *‘Hours of Work and the Optimal Taxation of Low Income Families’; ReStud 2012*
 - *‘Labour Supply, Human Capital and Welfare Reform’; NBER 2013*
- Additional question: To what extent do dynamic ‘longer-run’ issues change our view of earnings tax reform?

We started from a structure of taxes and benefits that..

- Does not work as a *system*
 - Lack of joining up between welfare benefits, personal taxes, local taxes and corporate taxes
- Is not *neutral* where it should be
 - Inconsistent savings taxes and a corporate tax system that favours debt over equity,..
- Is not well designed where it should deviate from neutrality
 - A mass of different tax rates on carbon and failure to price congestion properly,..
- Does not achieve *progressivity* efficiently
 - VAT zero and reduced rating a poor way to redistribute, and taxes and benefits damage work incentives more than necessary

An Empirical Foundation

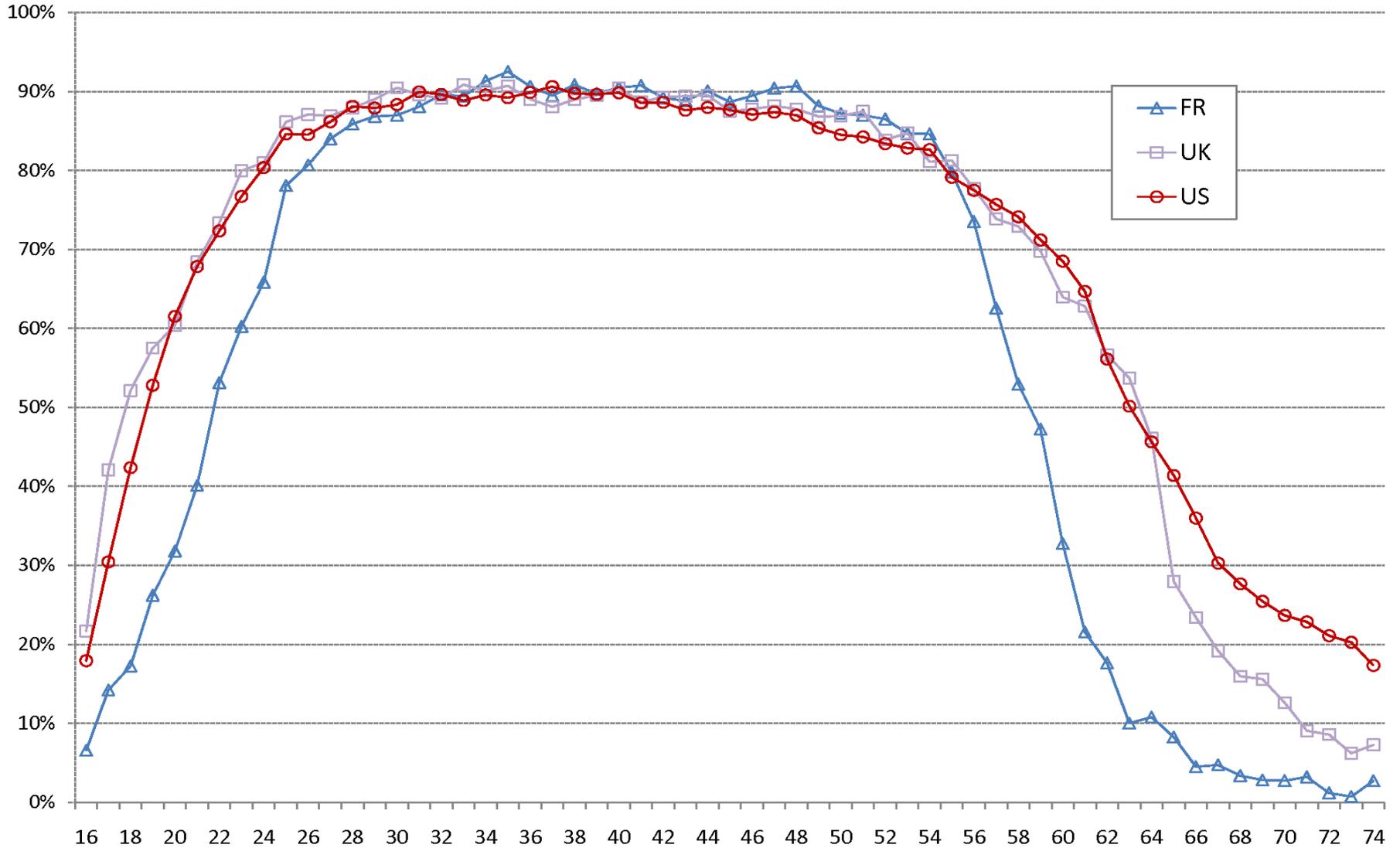
- How should we assemble the empirical foundations for tax policy design?
- Consider the role of evidence under five headings:
 1. Key margins of adjustment to reform
 2. Measurement of effective incentives
 3. The importance of information and complexity
 4. Evidence on the size of responses
 5. Implications for policy design
- Use these to build an empirically based agenda for reform
 - > an efficient redesign of tax policy....
- What have we learned ... so far?

What we have learned?

- There are common key points in the life-cycle where individuals are likely to be most responsive to effective tax and welfare incentives
 - Derives from extensive comparative work across FR, DE, UK and US
 - Labour market entry, parents of younger children and older workers
- Human capital on the job is strongly complementary with formal education
 - Pay-off to on the job experience and training is low for those with lower educational qualifications.
- Effective tax rates can be extremely high for no real good reason
 - Interactions of means-tested programmes at the bottom and employer/employee taxes /contributions in the middle.
- Effective budget constraints are complex and often poorly understood
 - Working age parents in France face the interaction of more than 17 different overlapping taxes, employer contributions and benefits – only 13 in UK!
- Differential rates on similar sources of remuneration induce significant tax shifting and avoidance

1. Key margins of adjustment

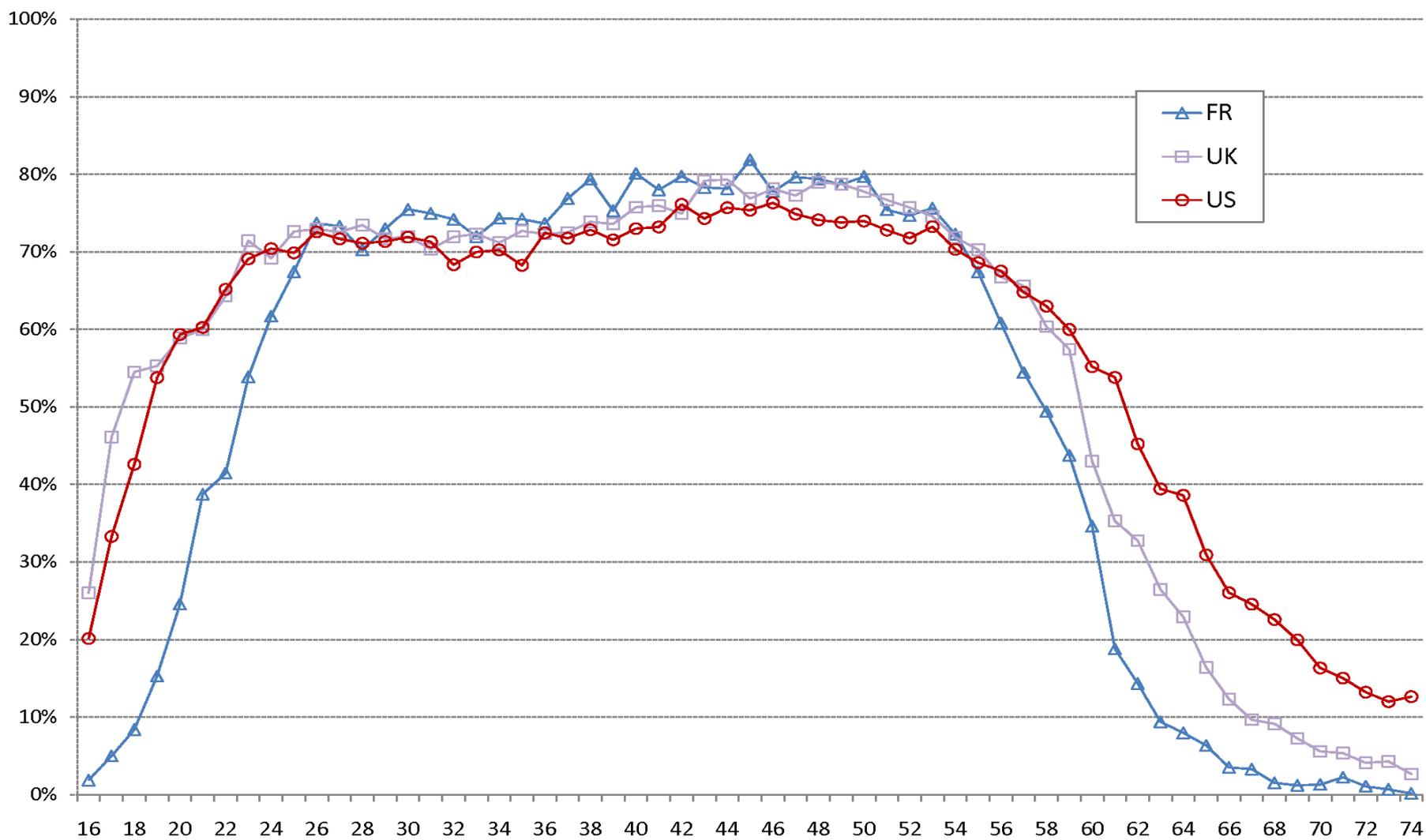
Employment for men by age – FR, UK and US 2007



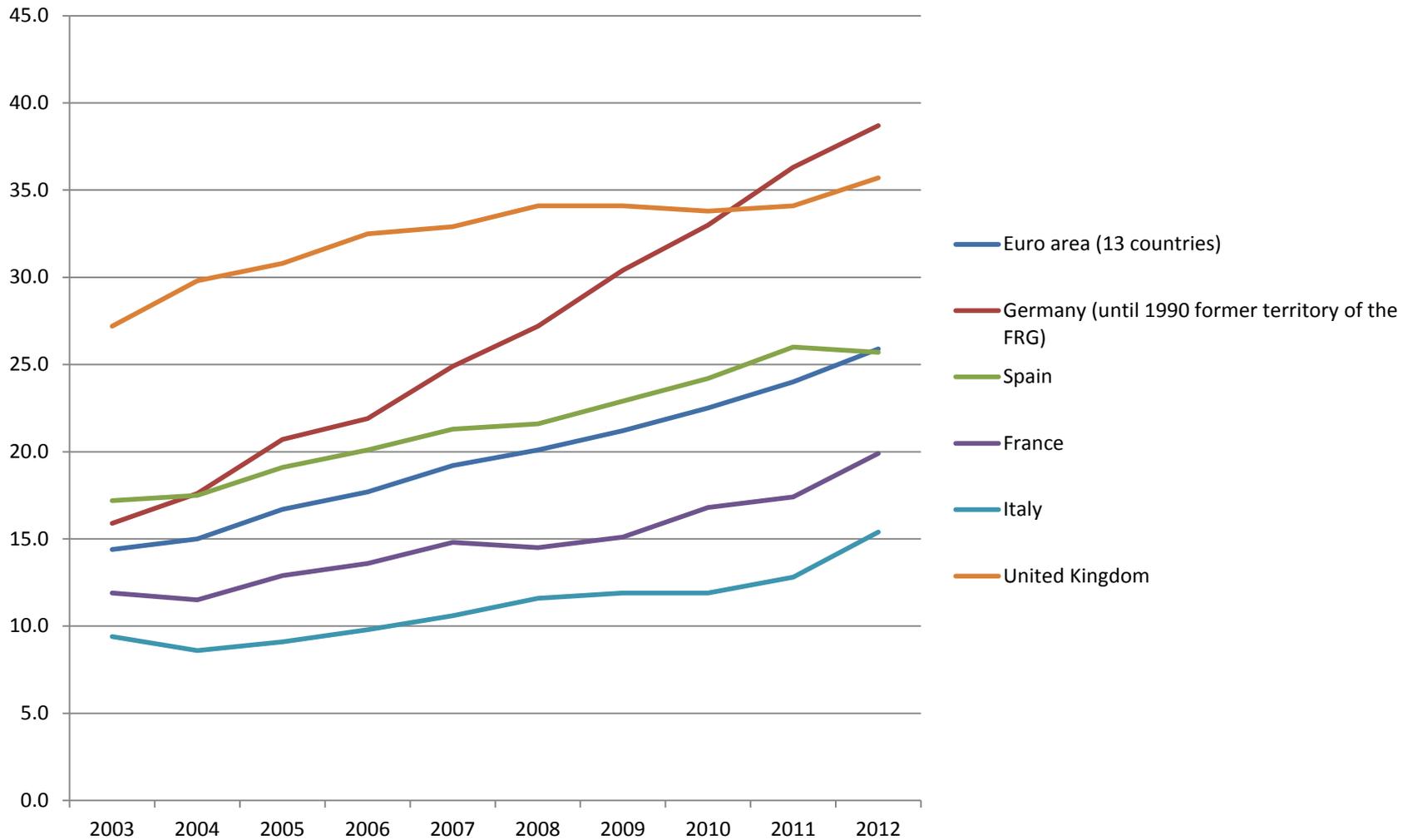
Blundell, Bozio and Laroque (2011)

and for women

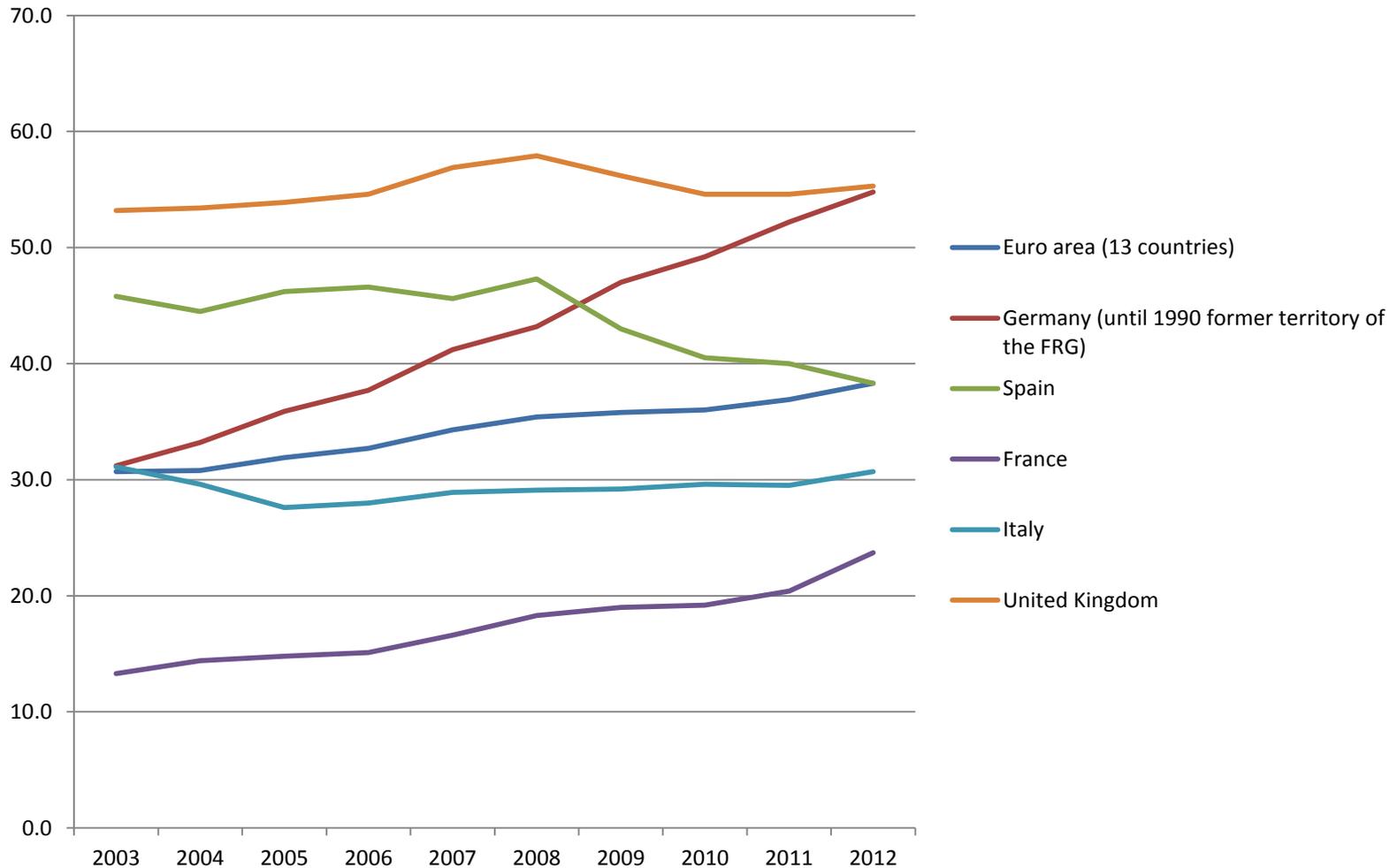
Female Employment by age – US, FR and UK 2007



Employment rate for older workers: women aged 60-64

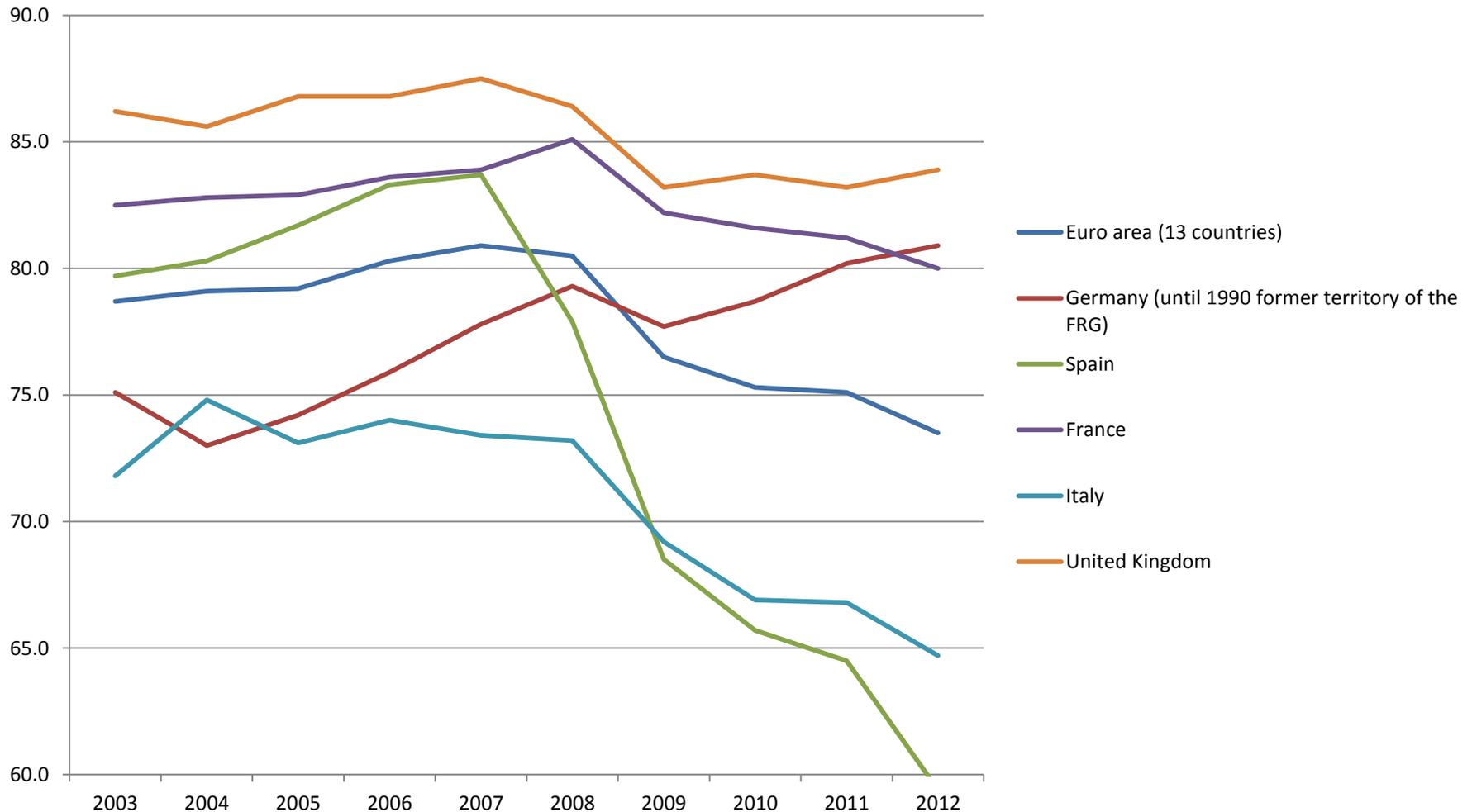


Employment rate for older workers: men aged 60-64

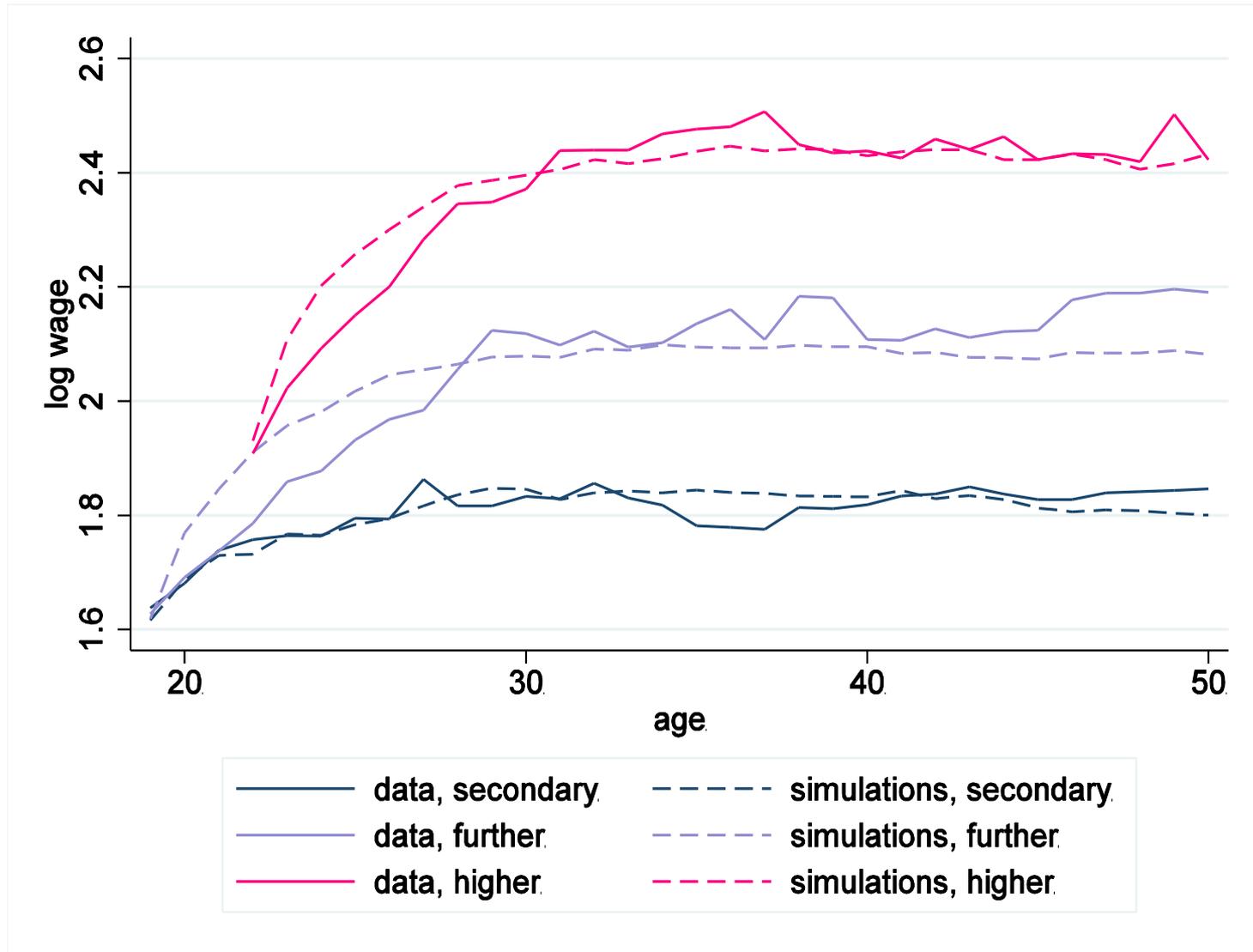


Employment fell back differentially....

Employment rate: men aged 25-29



Wage profiles by education and age



Data: UK women BHPS

Source: Blundell, Dias, Meghir and Shaw (2013)

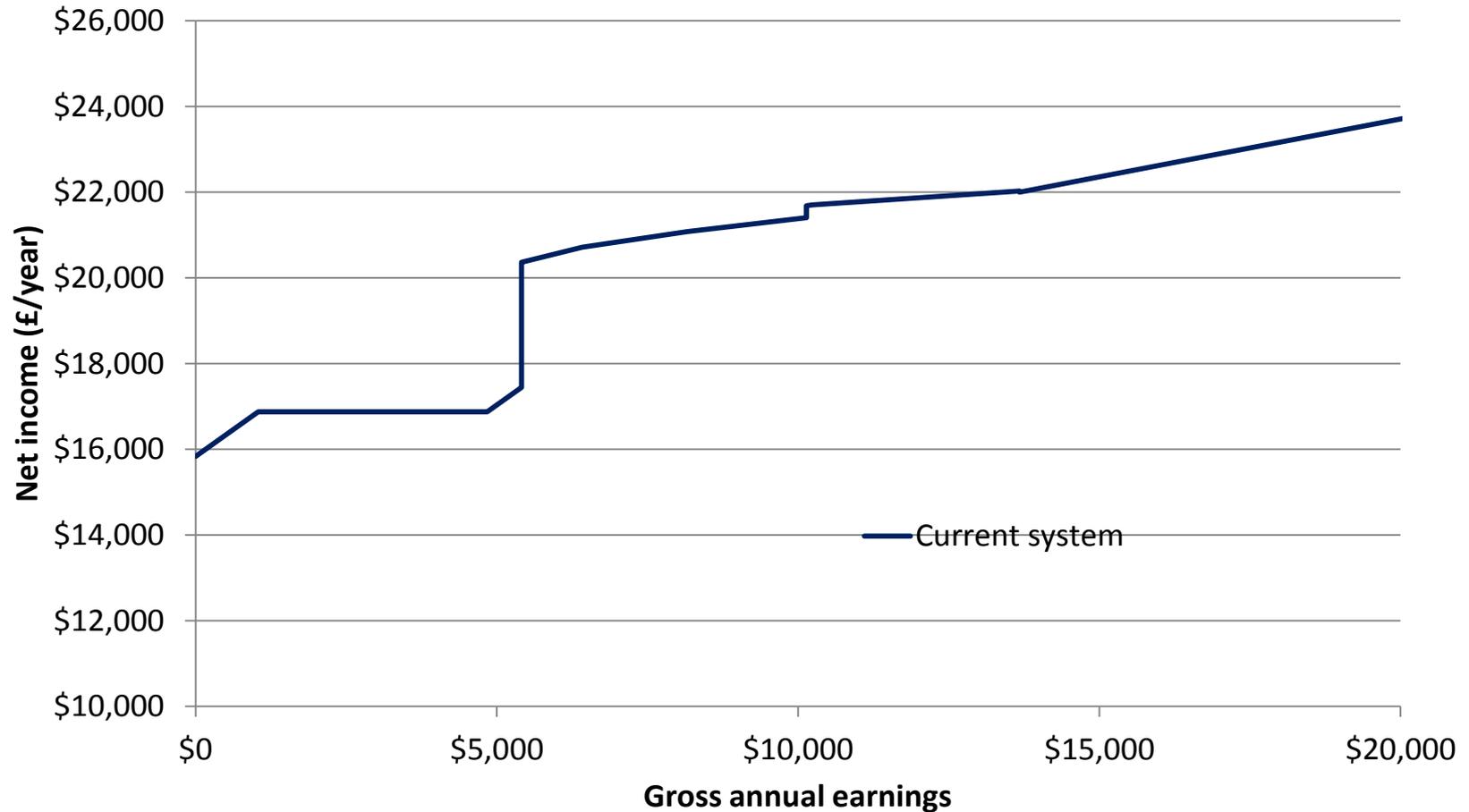
Summary so far...key facts

- A lifetime view of employment and hours
 - differences accentuated at particular ages and for particular demographic groups.
 - higher attachment to the labor market for higher educated, career length matters.
- Wages grow stronger and longer over the lifetime for higher educated
 - human capital accumulation during work is shown to be complementary to education
 - essential to explain employment and wage profiles for those with more education.
- Other key facts noted in the paper(s) include growth of high employment incomes and consequent impact on inequality

2. Measurement of effective incentives

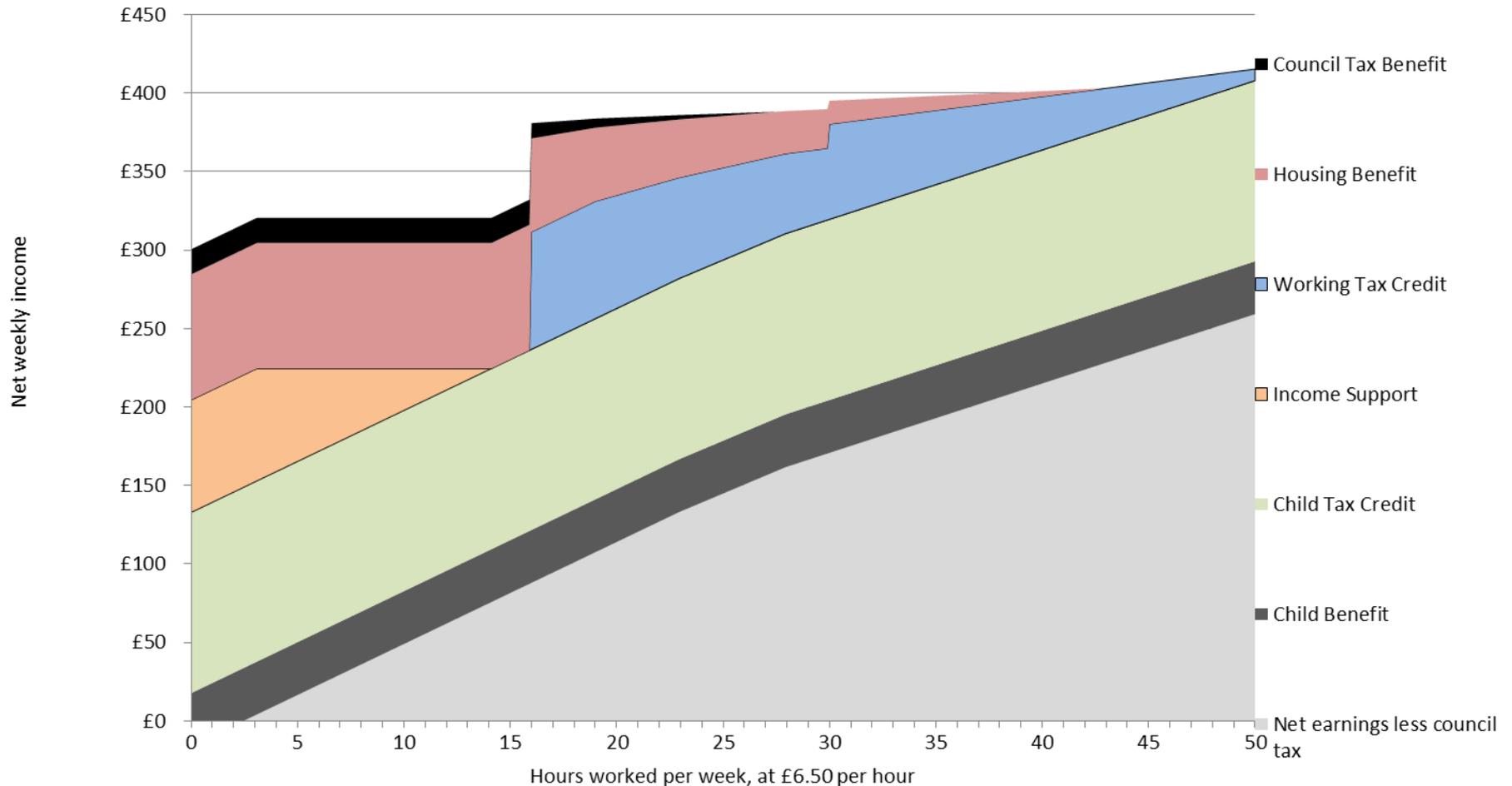
- Precisely how do tax policies impact on the incentives facing the key players?
- e.g. overlapping taxes, tax credits and welfare benefits.
 - What are the 'true' effective tax rates on (labor) earnings?

Budget Constraint for Single Parent: UK 2011



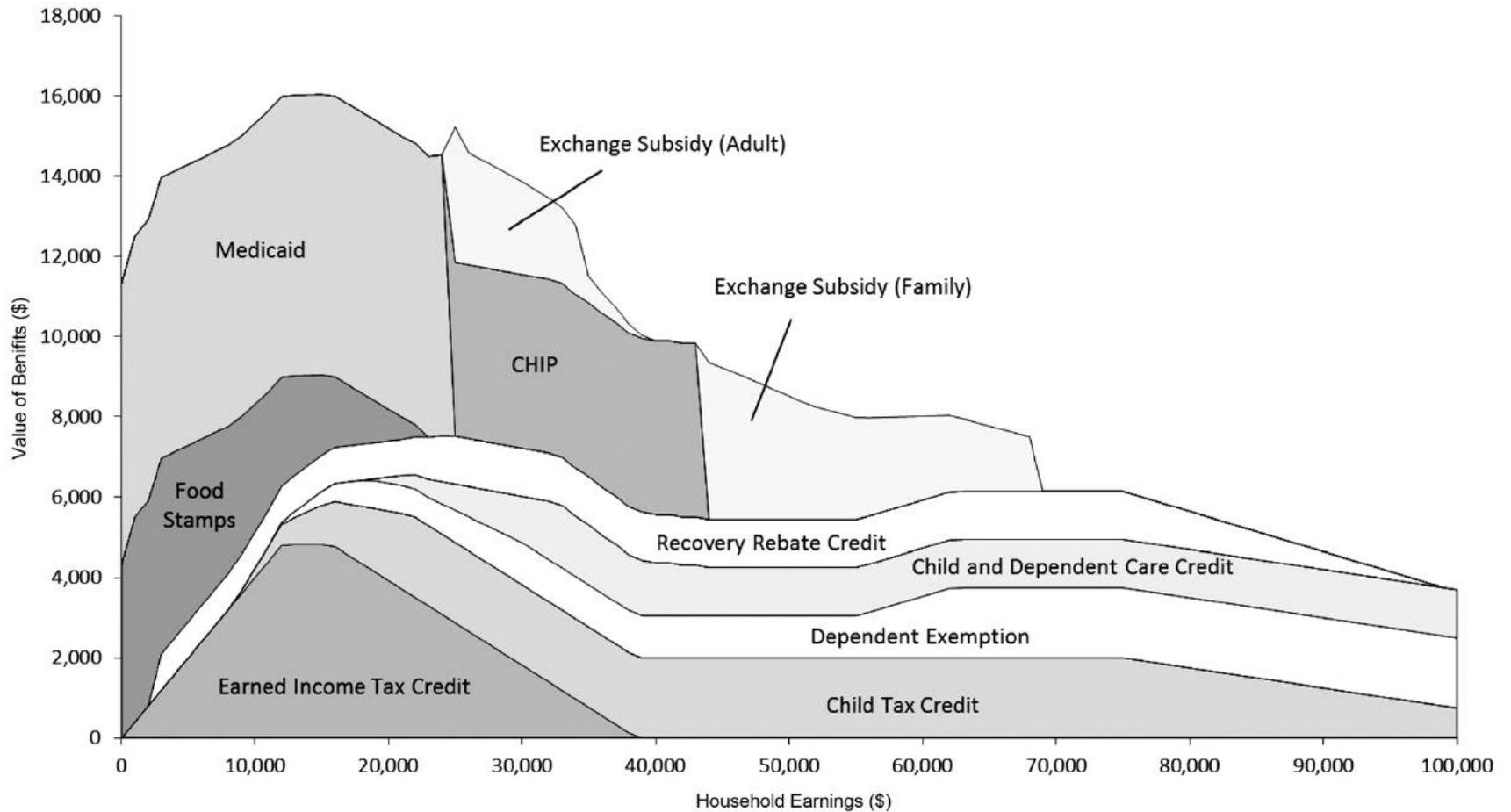
Notes: wage £6.50/hr, 2 children, no other income, £80/wk rent. Ignores council tax and rebates

Budget Constraint for Single Parent: UK 2011



Notes: wage £6.50/hr, 2 children, no other income, £80/wk rent. Ignores council tax and rebates

Universally Available Tax and Transfer Benefits in US (Single Parent with Two Children, 2008)

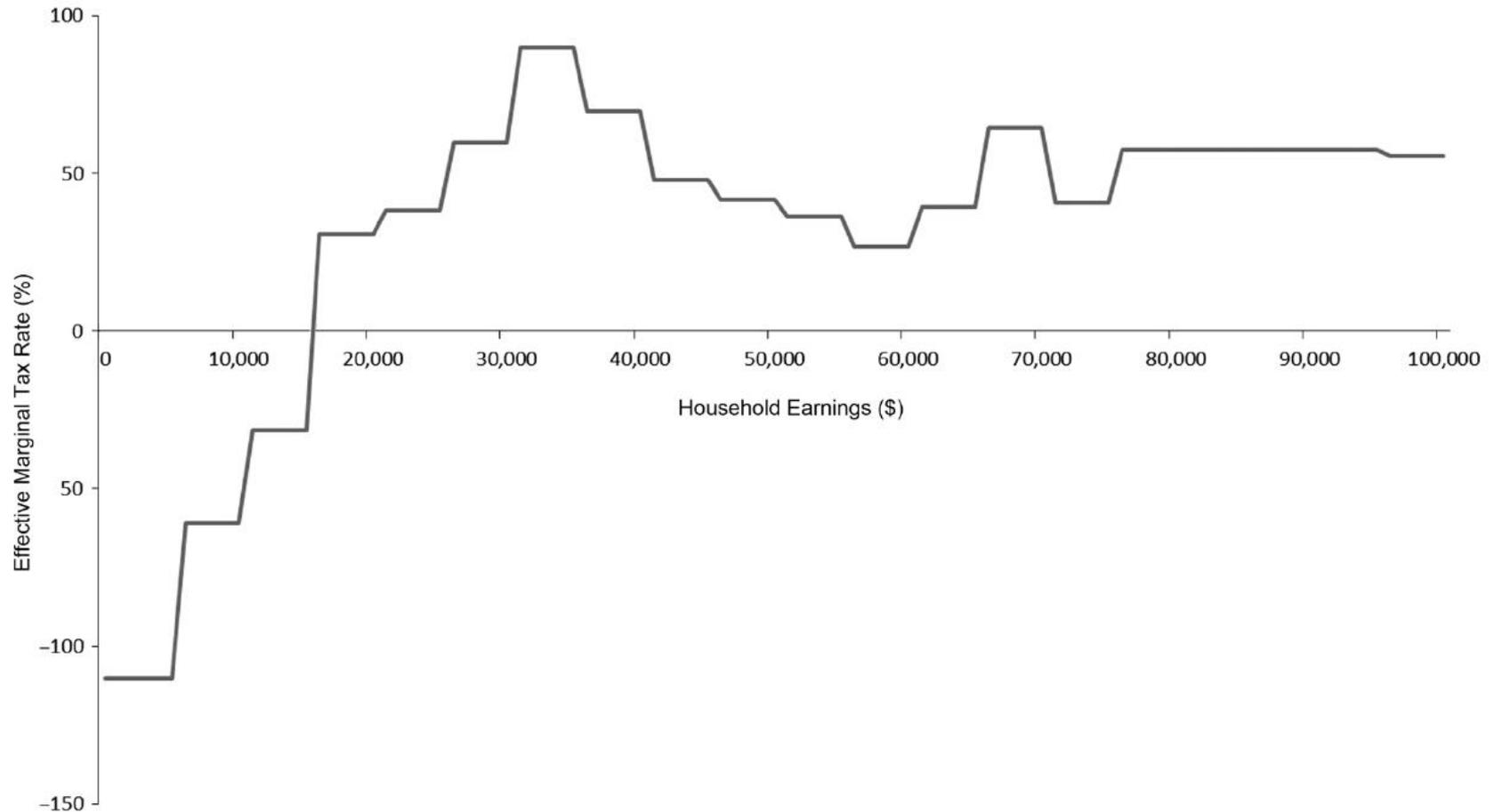


Source: Urban Institute (NTJ, Dec 2012).

Notes: Value of tax and value transfer benefits for a single parent with two children.

Effective Marginal Tax Rates

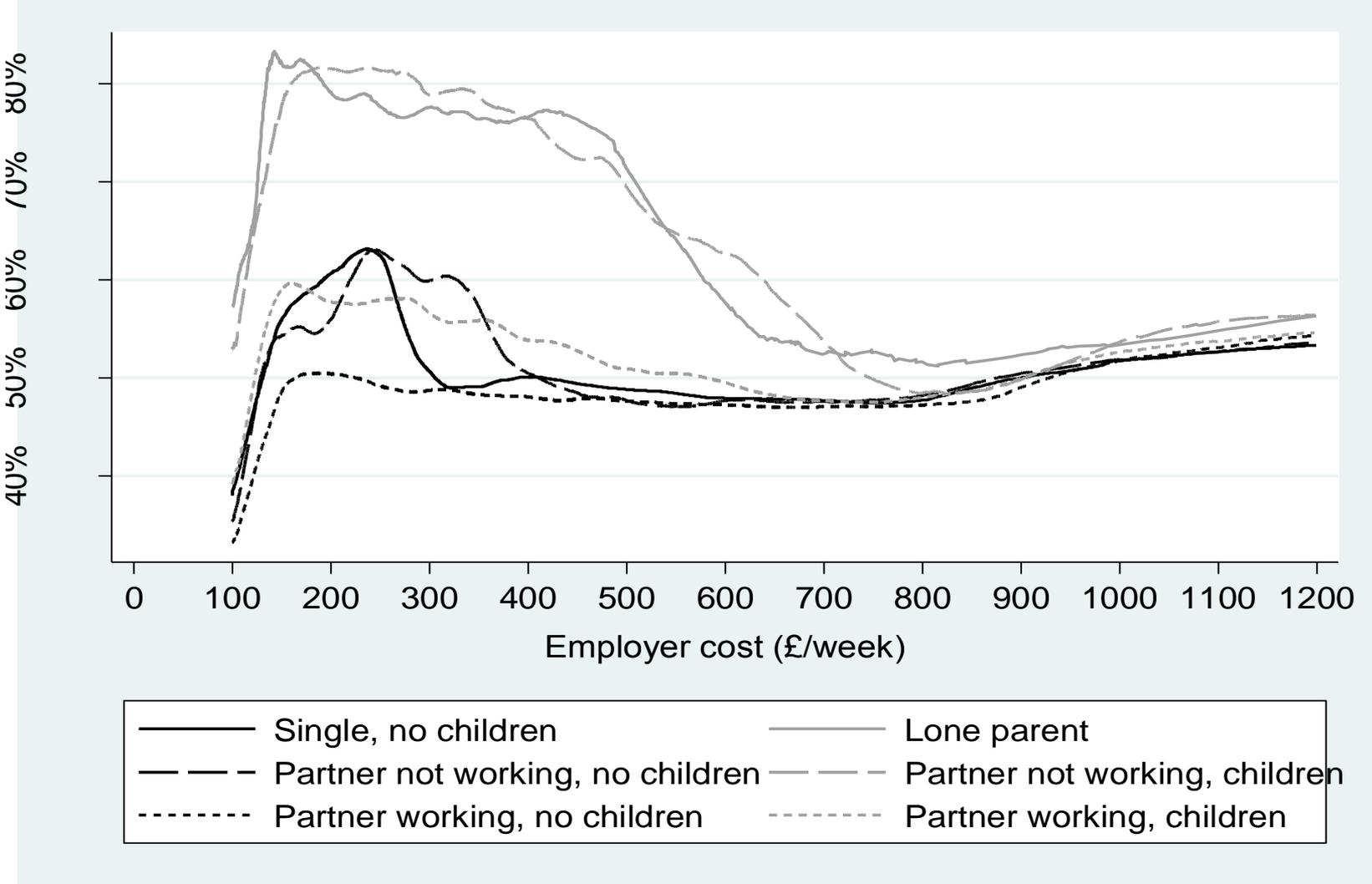
(US Single Parent with Two Children in Colorado, 2008)



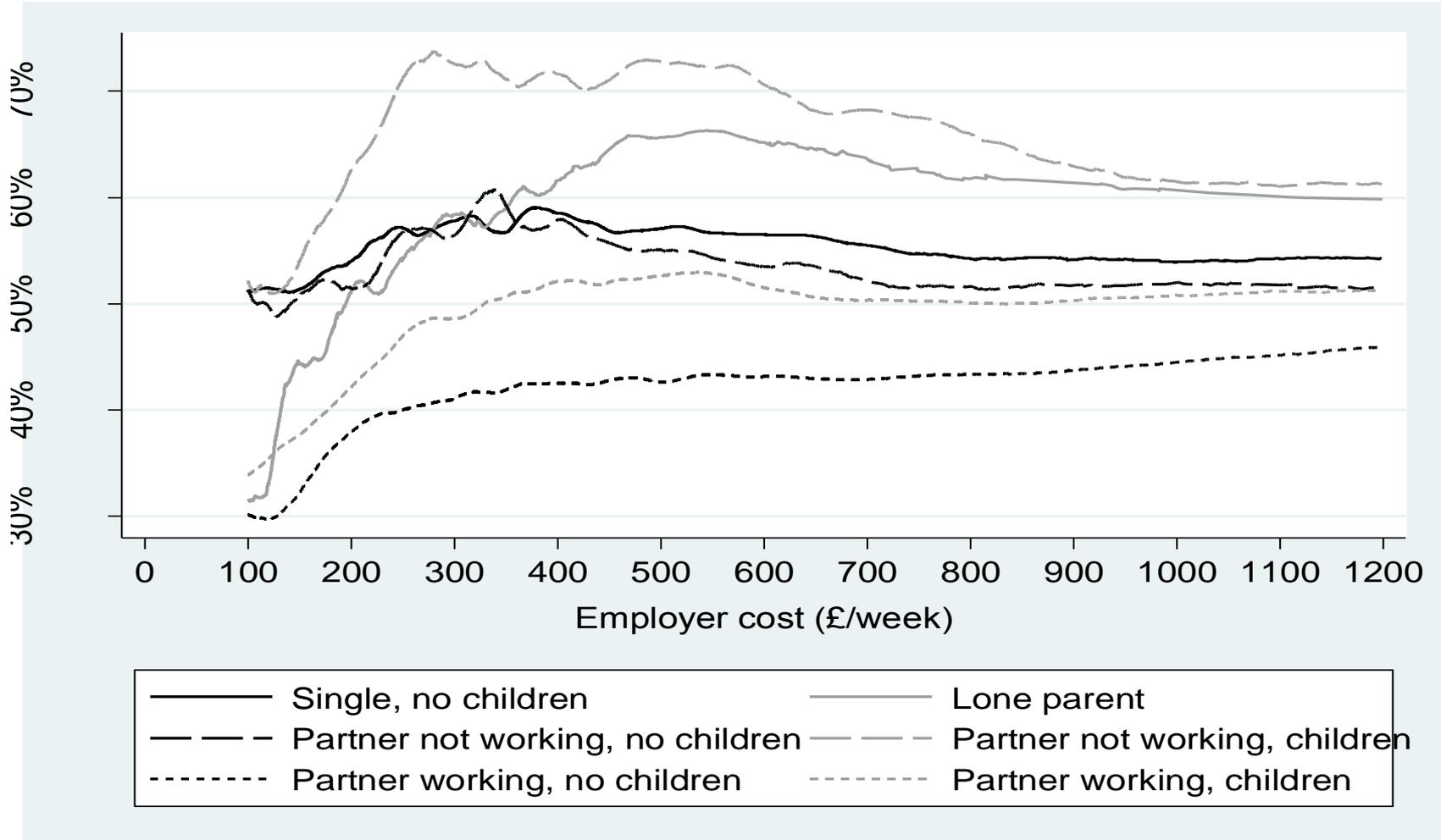
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Average EMTRs for different family types: UK 2011



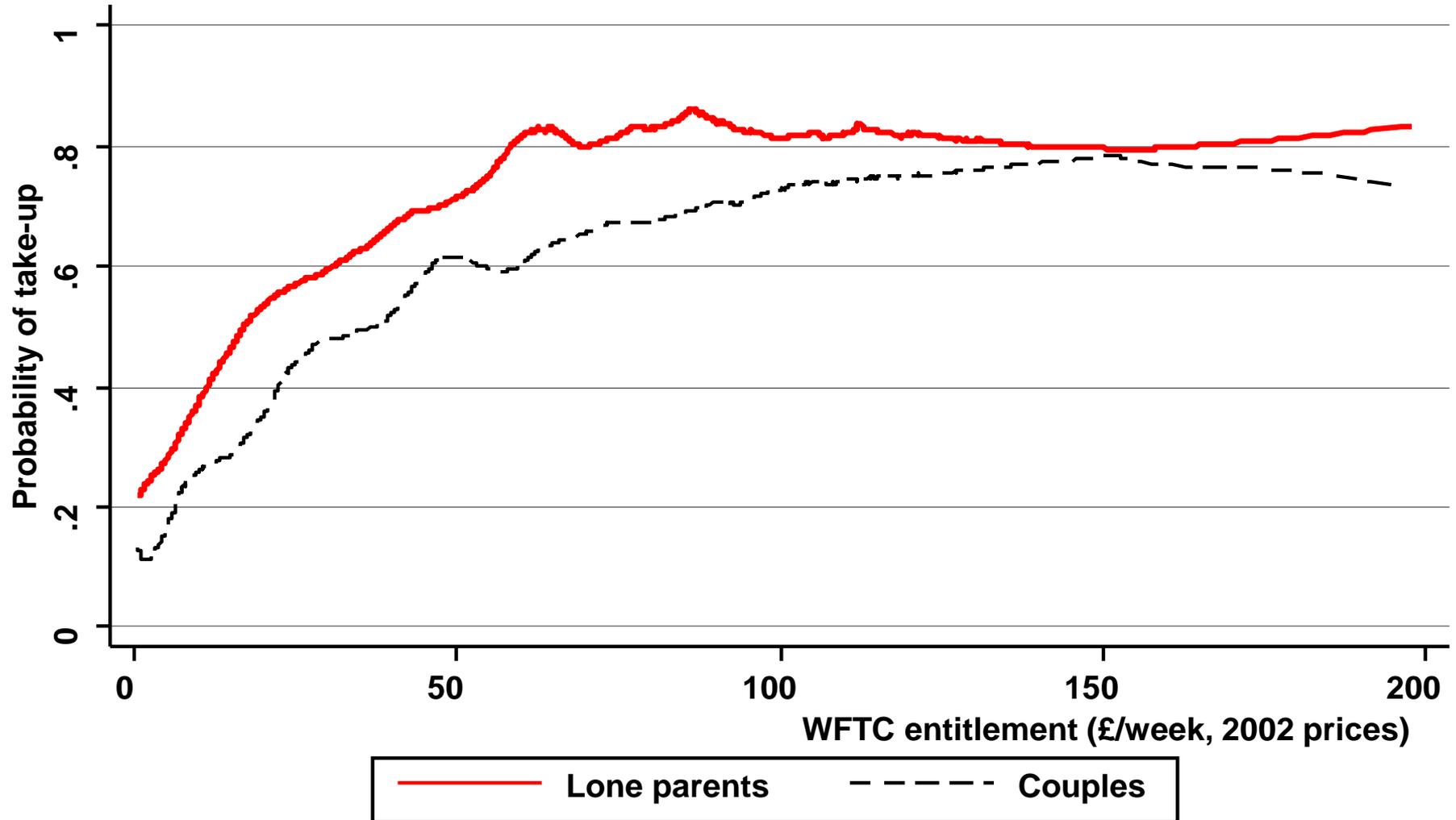
Average PTRs for different family types: UK 2011



3. The importance of information and complexity

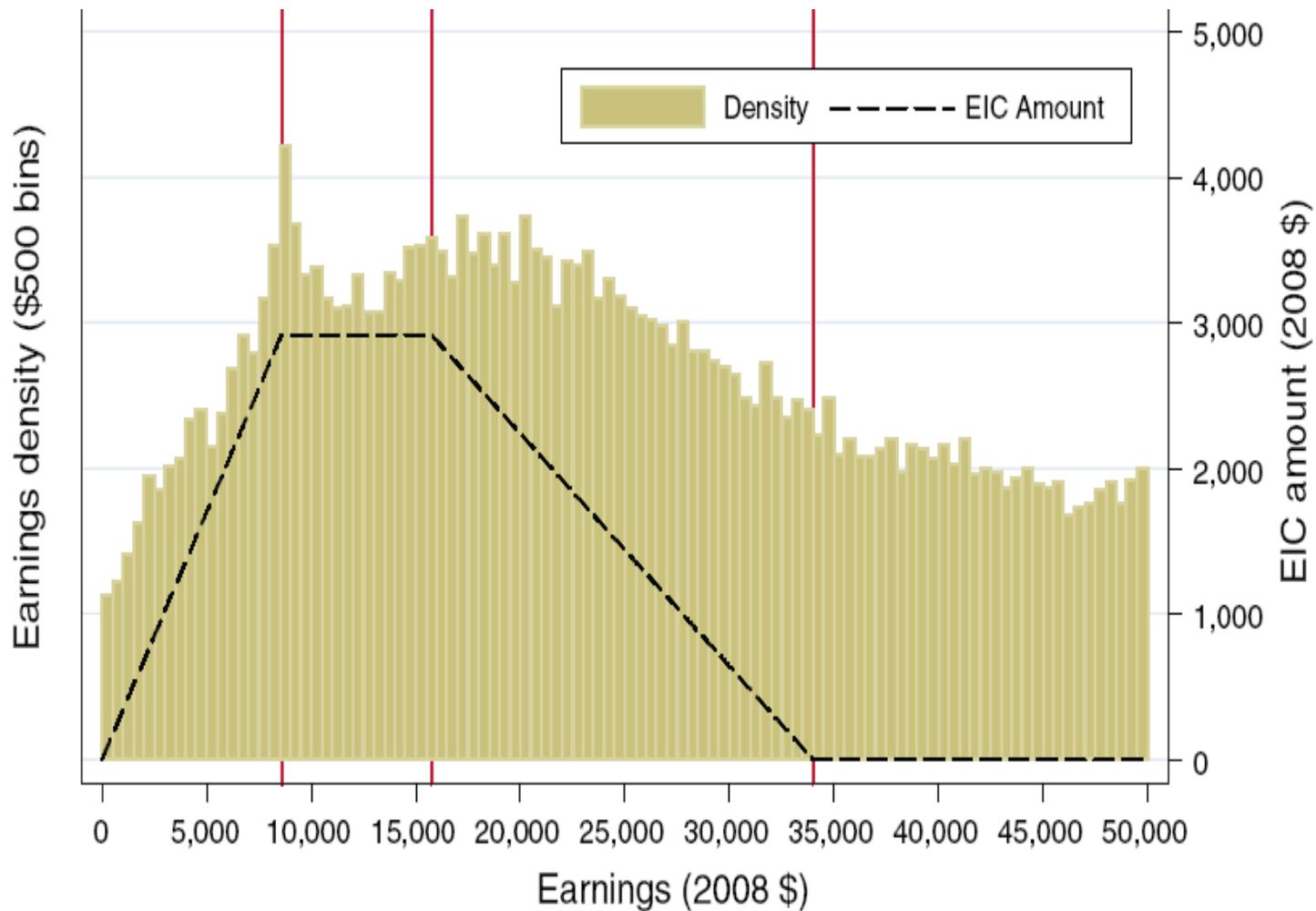
- How is the policy likely to be understood by the agents involved?
- For example, how 'salient' are the various tax incentives in the policy reform?
 - 'Take-up' among eligible families
 - 'Bunching' at kink points

Variation in tax credit 'take-up' with value of entitlement



Bunching at Tax Kinks and the EITC

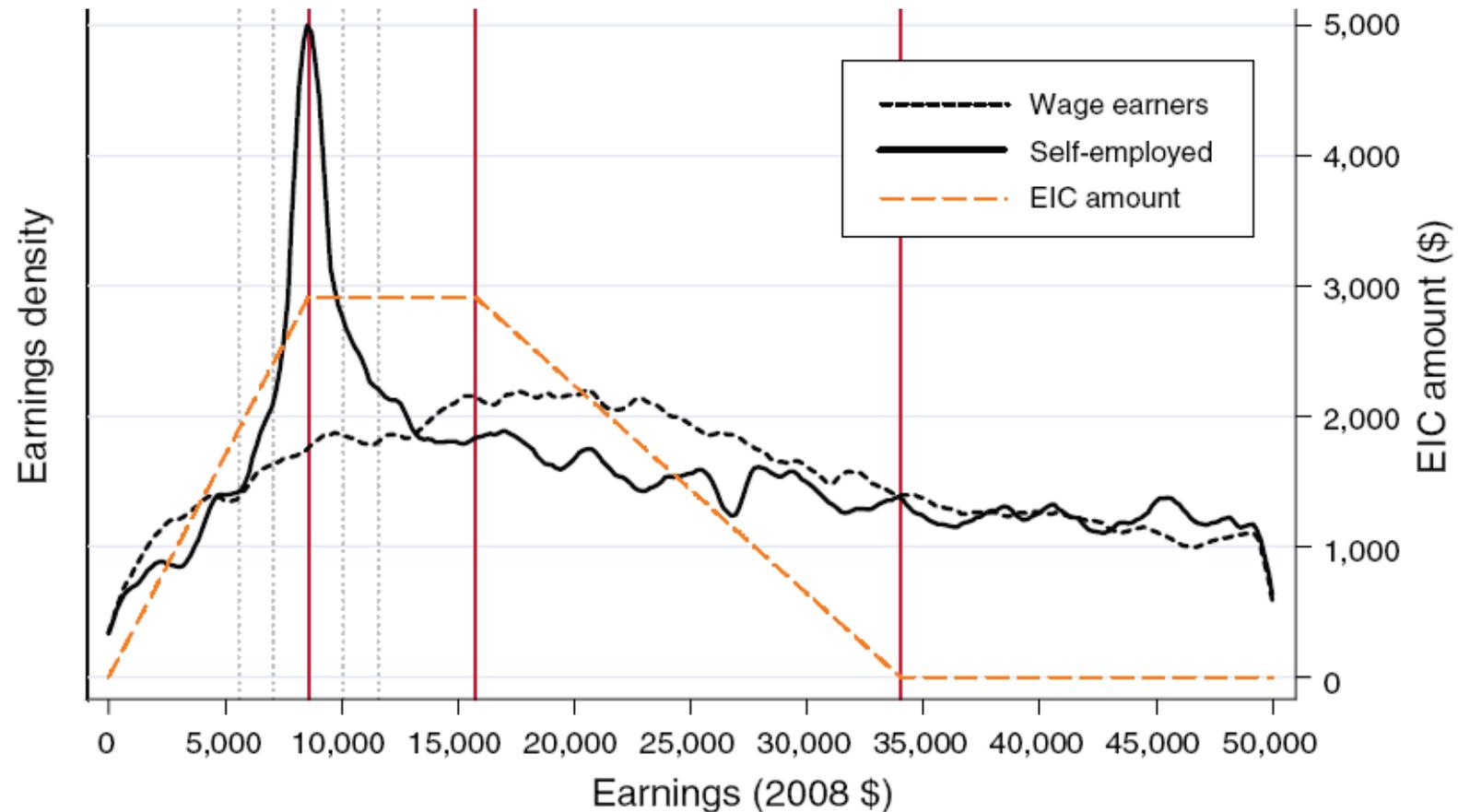
One child families: US



Source: Saez (2010)

Bunching at Tax Kinks and the EITC

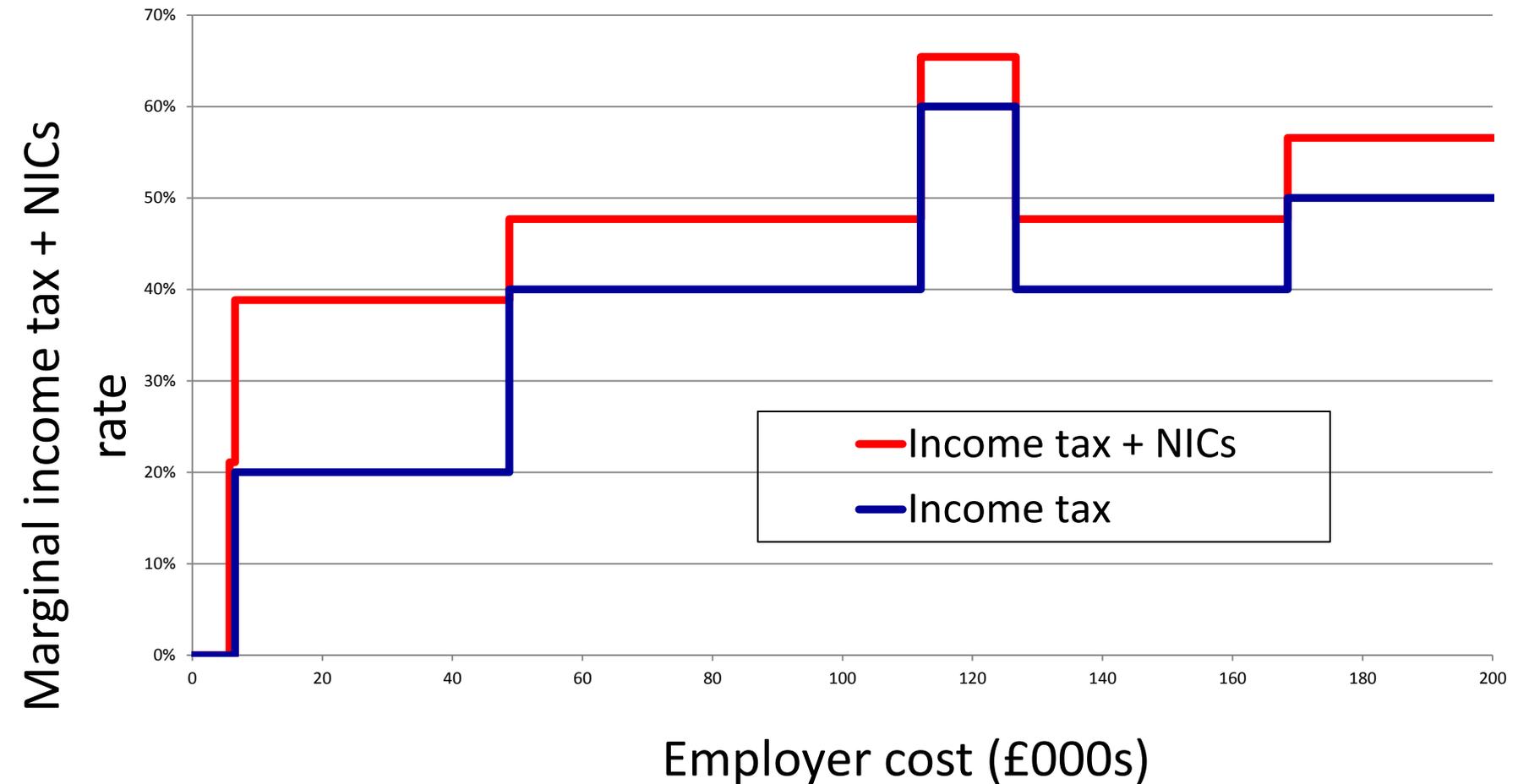
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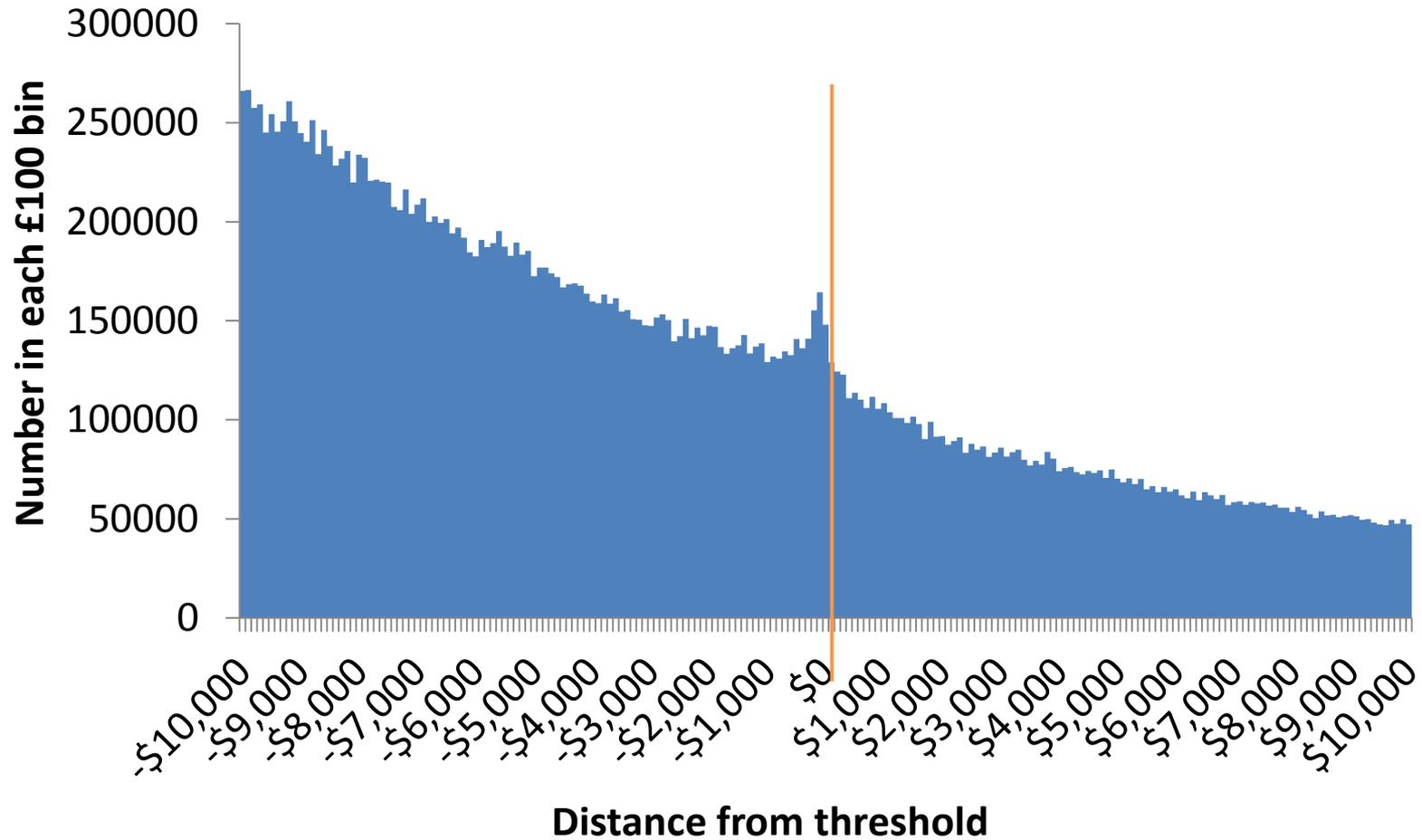
Marginal rates for higher earners

Income tax schedule for those aged under 65, UK 2010–11

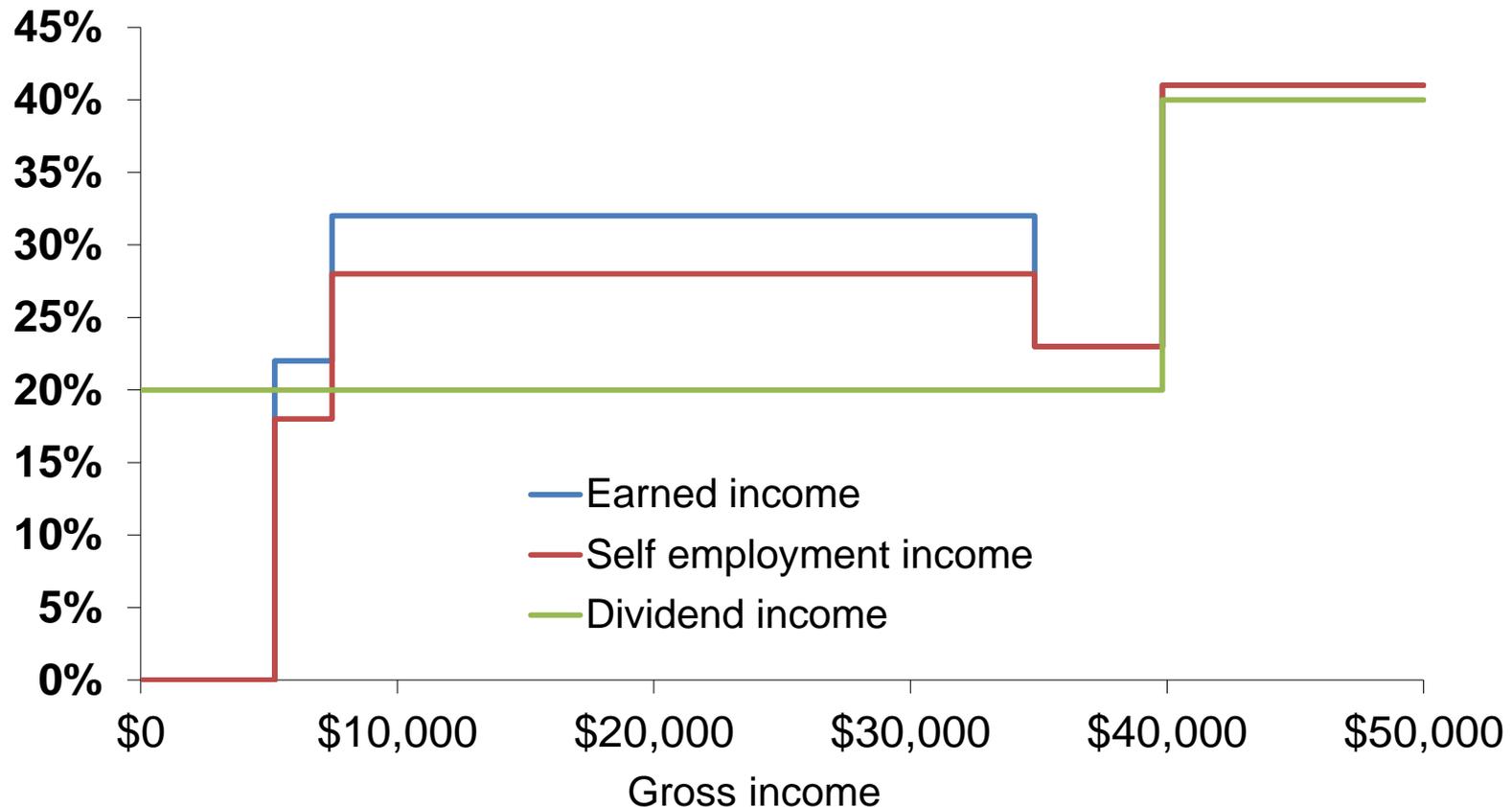


Source: Mirrlees Review (2011)

Bunching at the higher rate threshold, UK 2007–08

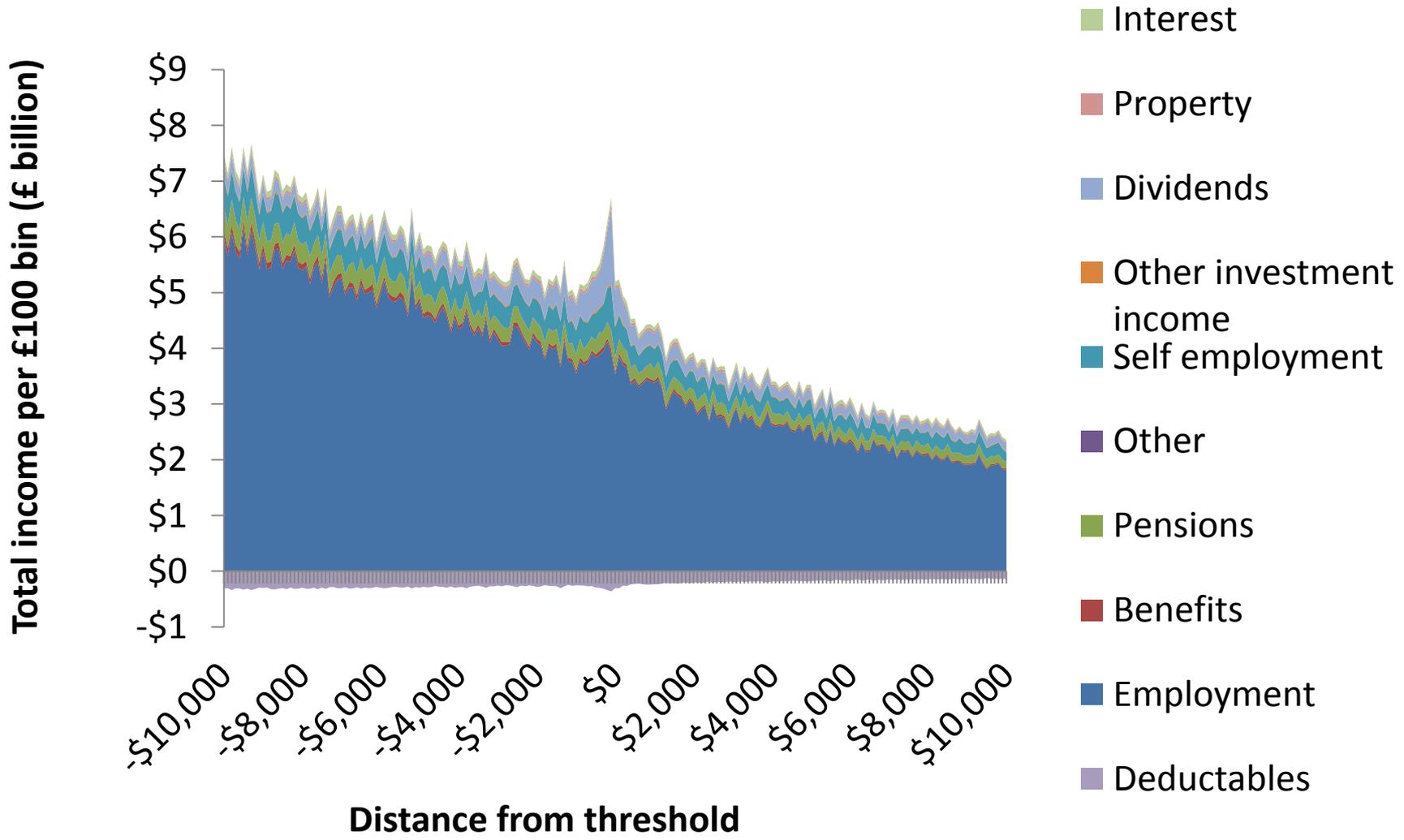


Marginal tax rates by income level, UK 2007–08



Note: assumes dividend from company paying small companies' rate. Includes income tax, employee and self-employed NICs and corporation tax.

Composition of income around the higher rate tax threshold



4. Evidence on the size of responses

- This is where the rigorous econometric analysis of structure and causality comes into play
- Eclectic use of two approaches:
 1. Quasi-experimental/RCT/reduced form evaluations of the impact of (historic) reforms
 - robust but limited in scope
 2. A 'structural' estimation based on the pay-offs and constraints faced by individuals and families
 - comprehensive in scope and allow simulation, but fragile.
 - need to account for life-cycle facts, effective tax rates, and salience/stigma.

Younger Workers

- Extensive margin responses for ‘permanent’ changes in net income are low ($e \approx .15$) at young ages for college educated
 - But much higher ($\approx .9$) for mothers with basic education and kids in 3-7 age range, and larger than intensive elasticities which are more modest ($\approx .5$)
 - ‘static’ models work surprisingly well for low educated but need to account for ‘take-up’.

Human capital effects

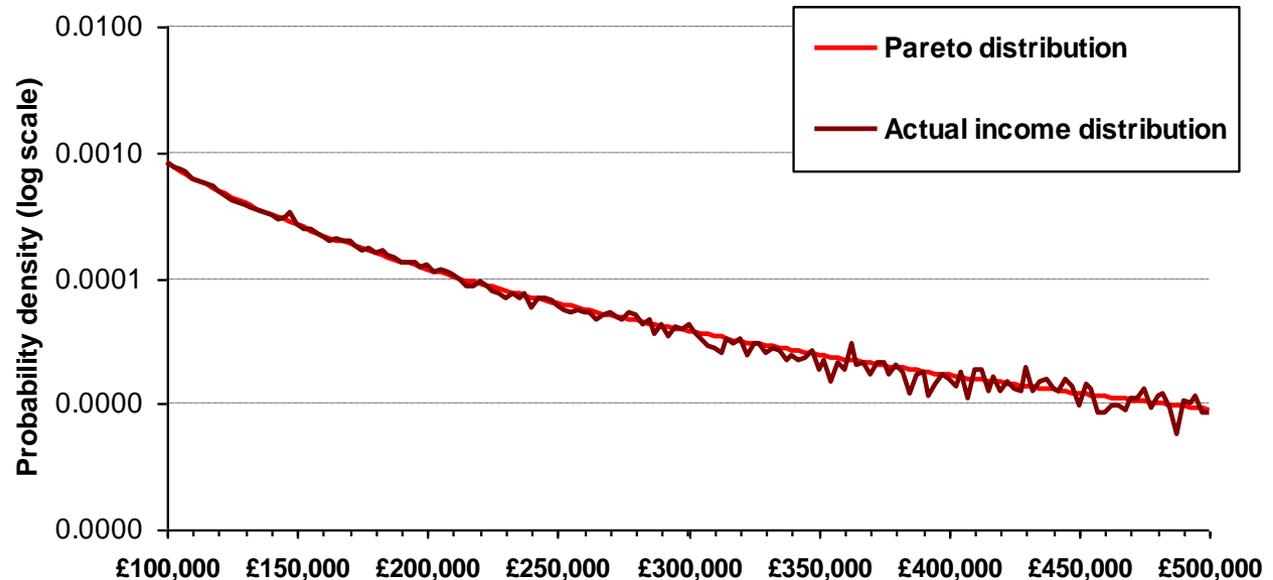
- Two forms of human capital – schooling and on-the-job investment
 - the hourly wages of those with more education are higher, and grow faster and for longer into the working life - formal education complements experience capital
 - for educated young workers, employment generates valuable experience, unlikely to respond to tax incentives during career, rather effect career length and retirement.

Older workers...

- Elasticities increase for 60+ age group for both men and women
 - appear to remain higher for women at both margins
 - elasticities increase as mandatory retirement restrictions/earnings tests are lifted and actuarial fairness introduced
 - joint retirement matters above pure incentives
- Lower educated are responsive to incentives in disability insurance, social security and medical insurance.
- Higher educated more responsive too at these ages
 - larger density of workers around the work/no-work margin
 - wage and wealth effects become important
- Response elasticities are sizable but do not appear to explain all the recent rises in employment at older ages (e.g. in UK and US).

Taxable income...for top earners

- Captures additional avoidance and tax shifting responses
 - the ‘elasticity’ can be expected to fall as the tax base broadens
- For a given tax base we can get an idea of the Laffer rate, the revenue maximising rate, for the top bracket at least
 - $1/[1 + \text{taxable income elasticity } (e) * \text{Pareto parameter } (a)]$



- ‘a’ around 1.67 and ‘e’ around .45 for UK; Mirrlees (2011).
- ‘e’ reliable?, Ignore a variety of dynamic and structural issues.

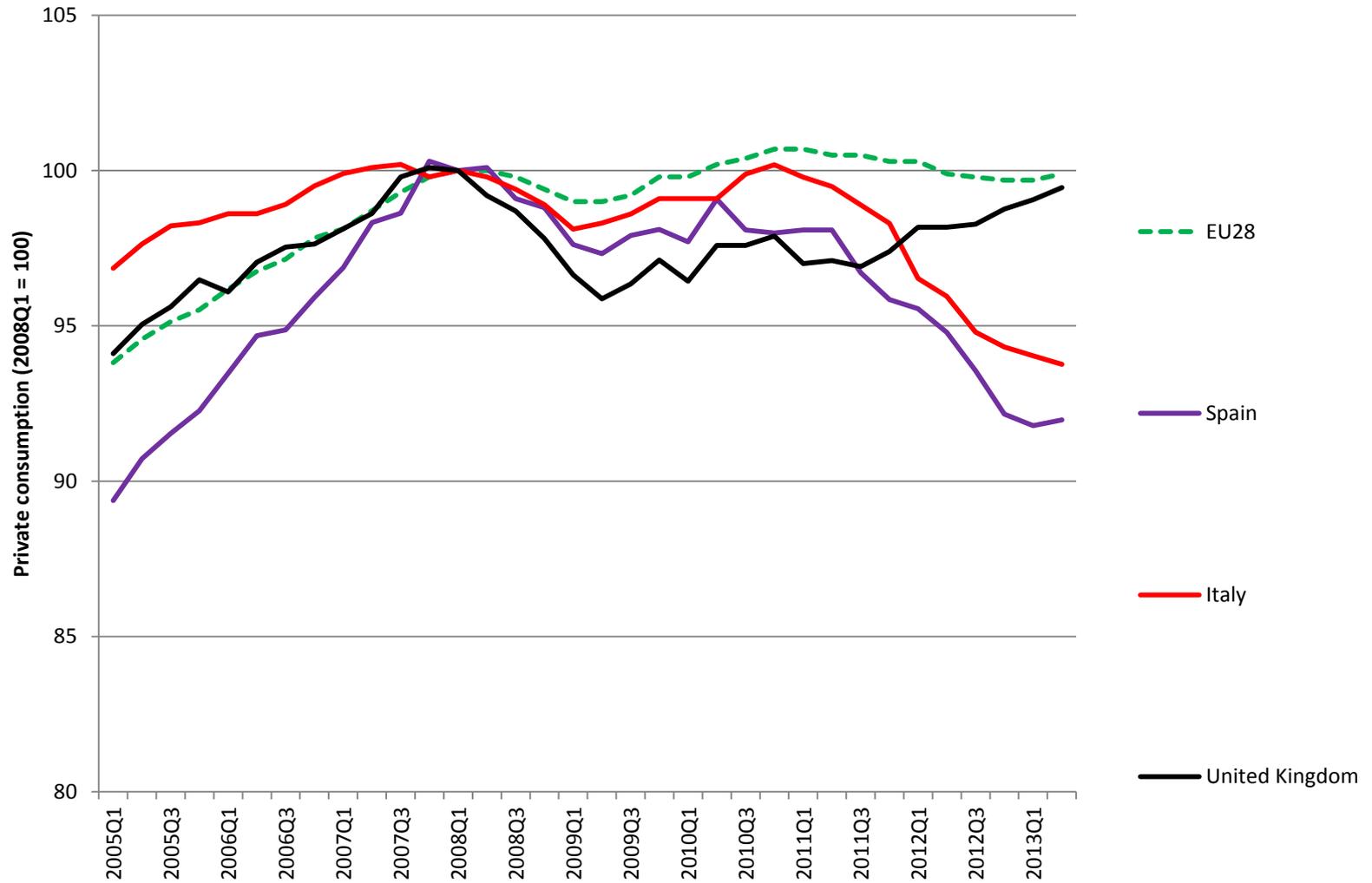
Some key messages emerge for reform:

- First, it is important to take a ‘lifetime’ view
 - key points in the working life where tax incentives matter.
- Second, must account for interactions between taxes and welfare
 - effective tax rates depend on incentives in the welfare system, taxes on employers as much as in the personal tax system.
- Third, fixed costs, information costs and stigma are important
 - responses at the extensive margin differ from intensive margin
 - take-up among eligibles is costly
- Fourth, accounting for human capital investment matters
 - educational investments enhance human capital at work
 - incentives for educational investments influenced by taxes
- Finally, taxable income captures avoidance/shifting opportunities.

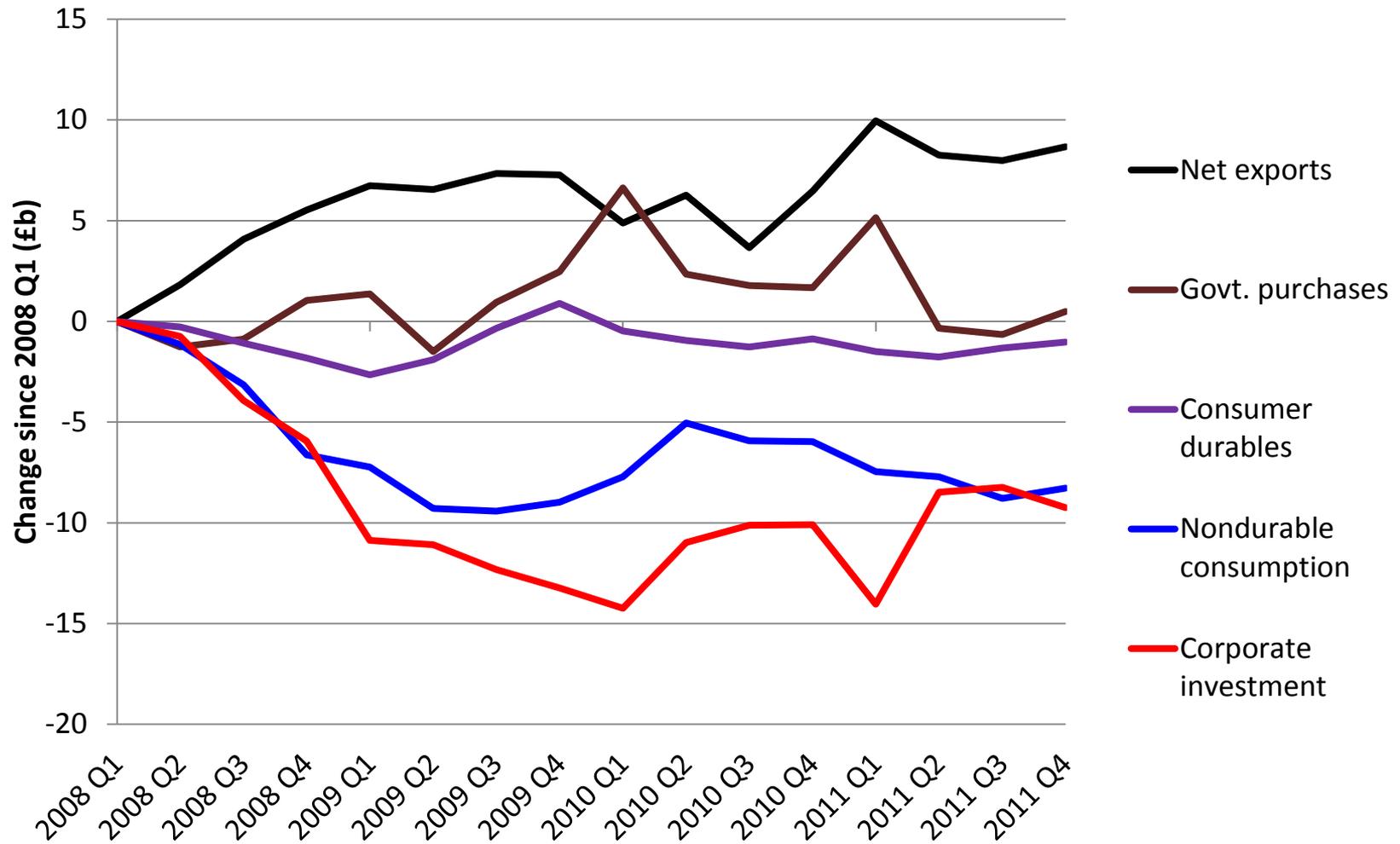
Recent evidence suggests

- In general workers and families are acting as if they expect a long-run fall in relative living standards
 - evidence from consumption and saving; responses in labour supply.
- Capital investment and/or productivity have been slow to pick up
 - employment for the young/low skilled may bounce back, but what of real wages and productivity?
- Appears the number of routine jobs near the middle of the earnings distribution has declined steadily
 - more jobs are now professional or managerial.
- Suggests longer term earnings growth will mostly come from high-skilled occupations, with some at the very bottom.
- There remain the same key points where tax systems can be reformed to enhance earnings, employment and human capital.

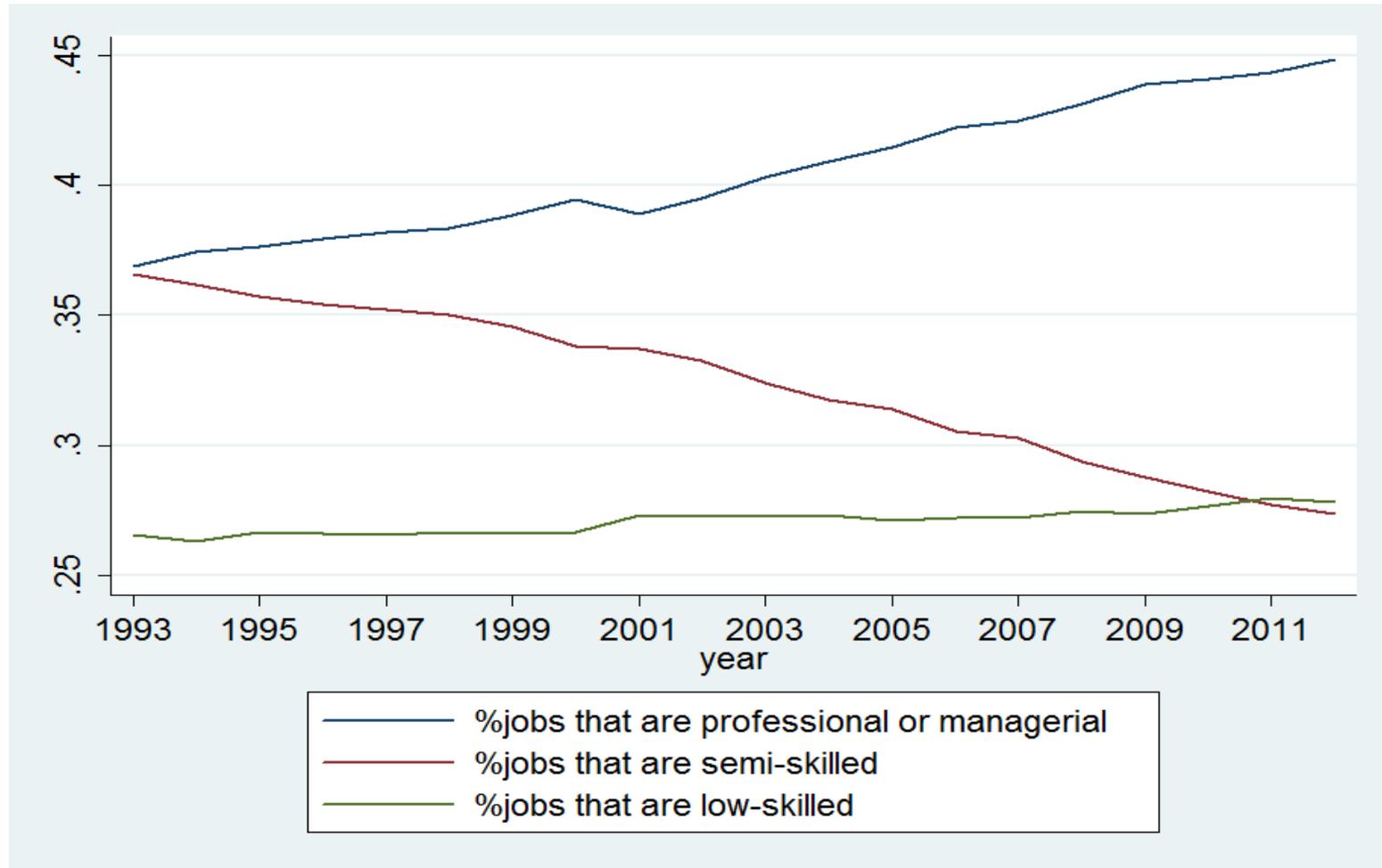
Consumption Growth



Components of GDP: UK



Employment shares of occupation groups: UK



Note: the discontinuities in occupation classification in 2001 and 2011 have been addressed in the following way. For the conversion of SOC 1990 to SOC 2000, we look at individuals who were surveyed in 2000Q4 and 2001Q2 and stayed with the same employer and infer the transition matrix from this group. For the conversion of SOC2010 to SOC 2000, we used the ONS two-way tabulation of the LFS 2007 Q1 sample by the major occupation groups under the two SOC systems.

Recent evidence suggests

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 - more jobs are now professional or managerial.
- Suggests longer term earnings growth will mostly come from high-skilled occupations, with some at the very bottom.
- There remain the same key points where tax systems can be reformed that will also enhance earnings, employment and human capital.

Prospects...

- Still much to do in focussing on older workers in general, on return to work for parents/mothers, and on entry into work.
- There are some potential big gains here,
 - for example, as (higher skilled) women age in the workforce.
- Tax/welfare reforms to enhance earnings (from *Mirrlees*):
 - refocus incentives towards transition to work, return to work for lower skilled mothers and on enhancing incentives among older workers.
- Productivity remains the key
 - (financial) capital misallocation and potential investment returns.
- Human capital and ‘on the job’ wage/productivity complementarity
 - note the relative importance of mismatch of entry skills in this recession.
- Productivity and wages are related but note recent growth in the wedge between labour costs and hourly wages
 - the growing importance of employer pension contributions in the UK – future trends?

5. Implications for efficient redesign of tax policy

- Current systems remain unnecessarily complicated and induce too many people not to work or to work too little.
- Target work incentives where they are most effective
 - simulations in Mirrlees (2011) show key increase in work/earnings
 - reducing means-testing and improving the flows into work for lower education mothers and maintaining work for those aged 55+.
- Integrate overlapping benefits - a single integrated benefit
 - Mirrlees (2011) - 'ifs' and 'universal credit' reforms.
- Reduce disincentives at key margins for the educated
 - enhancing working lifetime and the career earnings profile
 - simulations in BDMS (2013) show significant on human capital.
- Align tax rates at the margin across income sources
- Make better use of social insurance and welfare accounts.....

Empirical Evidence and Tax Reform

- Examined how to assemble the empirical foundations for tax policy design.
- Considered the role of evidence under five headings:
 1. Key margins of adjustment to reform
 2. Measurement of effective incentives
 3. The importance of information and complexity
 4. Evidence on the size of responses
 5. Implications for policy design
- Used these to build an empirically based agenda for reform
 - an efficient redesign of tax policy.....

Empirical Foundations for Tax Design and Reform

- I referenced four of my recent 'post-Mirrlees' studies
 - *Labor Supply and the Extensive Margin; AER 2011*
 - *Empirical Evidence and Tax Reform; JEEA 2012*
 - *Hours of Work and the Optimal Taxation of Low Income Families; ReStud 2012*
 - *Labour Supply, Human Capital and Welfare Reform; NBER 2013*
- On my webpage <http://www.ucl.ac.uk/~uctp39a/>
- And *Mirrlees Review* webpage: <http://www.ifs.org.uk/mirrlees>

- Incentive effects: labour supply elasticities vary in key ways by education group, family type and age. No single number!
 - large at specific points in the working life and for specific types
- Experience matters: especially for those with more than basic formal education - and often only in full-time jobs
 - can explain ‘success’ of simpler simulations of reforms for low-wage workers
- Education choices: a small but key impact of redistributive taxes
 - on return to education and on the insurance value of education
- Information, stigma and salience matter
 - larger responses for large reforms that are well understood
- Taxable income is responsive for self-employed and top earners
 - but often reflects tax shifting and avoidance
- More specifics =>

Scope of the Mirrlees Review

- Comprehensive review of tax reform, drawing on:
 - new evidence
 - new (applied) theory
 - new economic environment
- View the tax system as a whole
 - savings and capital
 - earnings and direct taxation
 - indirect taxation
 - corporate taxation
- For developed open economies
 - the UK as the running experiment

The Mirrlees Review

Reforming the Tax System for the 21st Century

Chairman: Sir James Mirrlees

Tim Besley (LSE & IFS)

Richard Blundell (IFS & UCL)

Malcolm Gammie QC (One Essex Court)

James Poterba (MIT & NBER)

with:

Stuart Adam (IFS)

Steve Bond (Oxford & IFS)

Robert Chote (OBR)

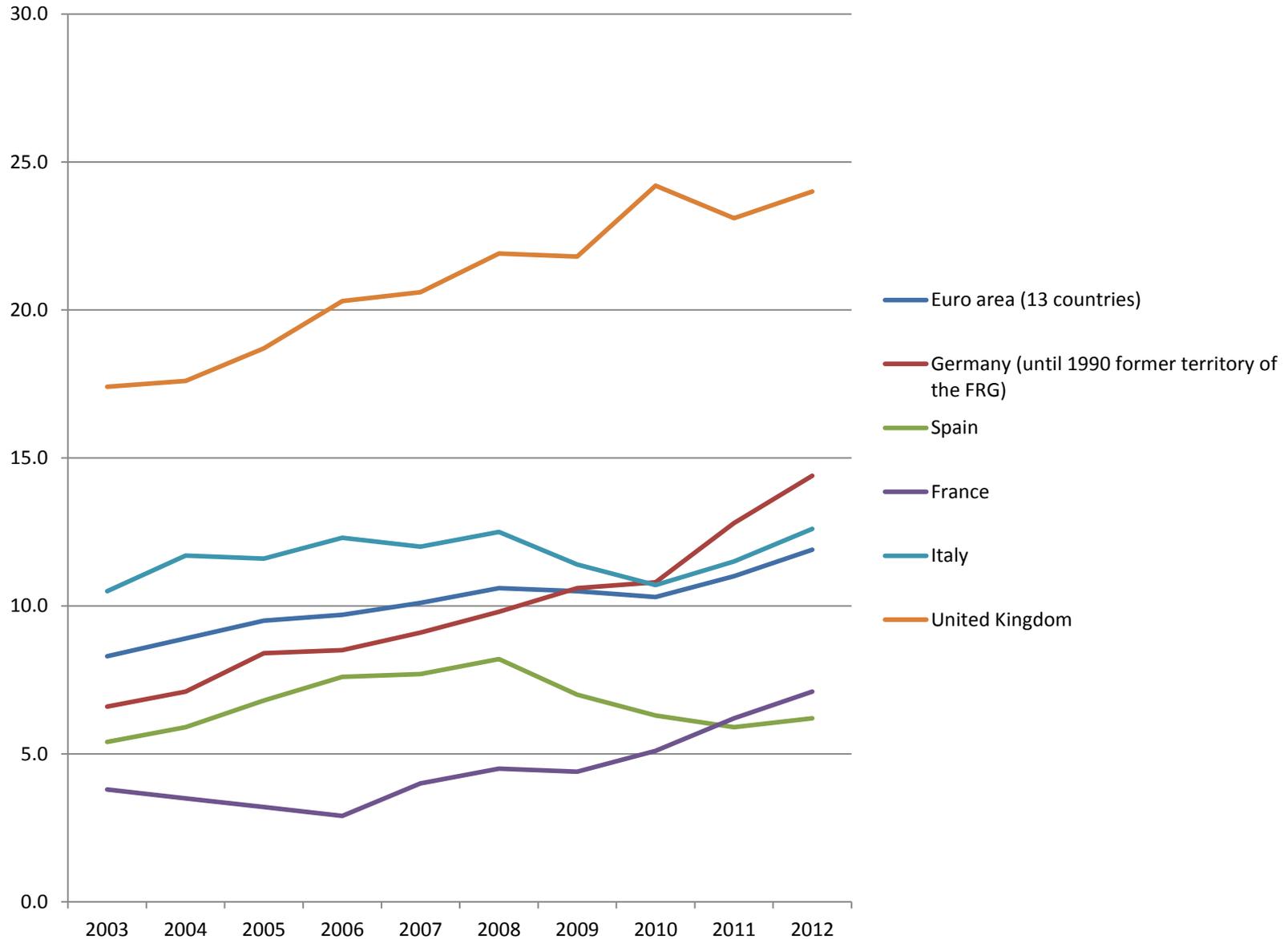
Paul Johnson (IFS)

Gareth Myles (Exeter & IFS)

Two Volumes

- 'Dimensions of Tax Design': published April 2010
 - a set of 13 chapters on particular areas by IFS researchers + international experts, along with expert commentaries (MRI)
- 'Tax by Design': findings published September 2011
 - an integrated picture of tax design and reform, written by the editors (MRII)
- OUP but also open access at:
 - <http://www.ifs.org.uk/mirrleesReview>

Employment rate for older workers: men aged 65-69



Draw on new empirical evidence: – some examples

- Labour supply responses for individuals and families
 - at the intensive and extensive margins
 - by age and demographic structure
- Taxable income elasticities
 - top of the income distribution using tax return information
- Consumer responses to indirect taxation
 - interaction with labour supply and variation of price elasticities
- Intertemporal behaviour
 - consumption, savings and pensions
 - persistence and magnitude of earnings shocks over the life-cycle