

Tax Reform, Labour Supply and Earnings Growth

Economic Policy Lecture

ZEW

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Slide Presentation [Draft paper available]

Tax Reform, Labour Supply and Earnings Growth

- 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 (2011)* as a running example.
- 3. Overview of 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
 - our simulations 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.

- 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*
 - *... and on-going work with Antoine Bozio, Guy Laroque and Andreas Peichl.*
- Additional question: To what extent do dynamic ‘longer-run’ issues change our view of earnings tax reform?
 - *Labour Supply, Human Capital and Welfare Reform’; NBER 2013*

- Overall question: 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?
- Are the proposals still relevant post recession?

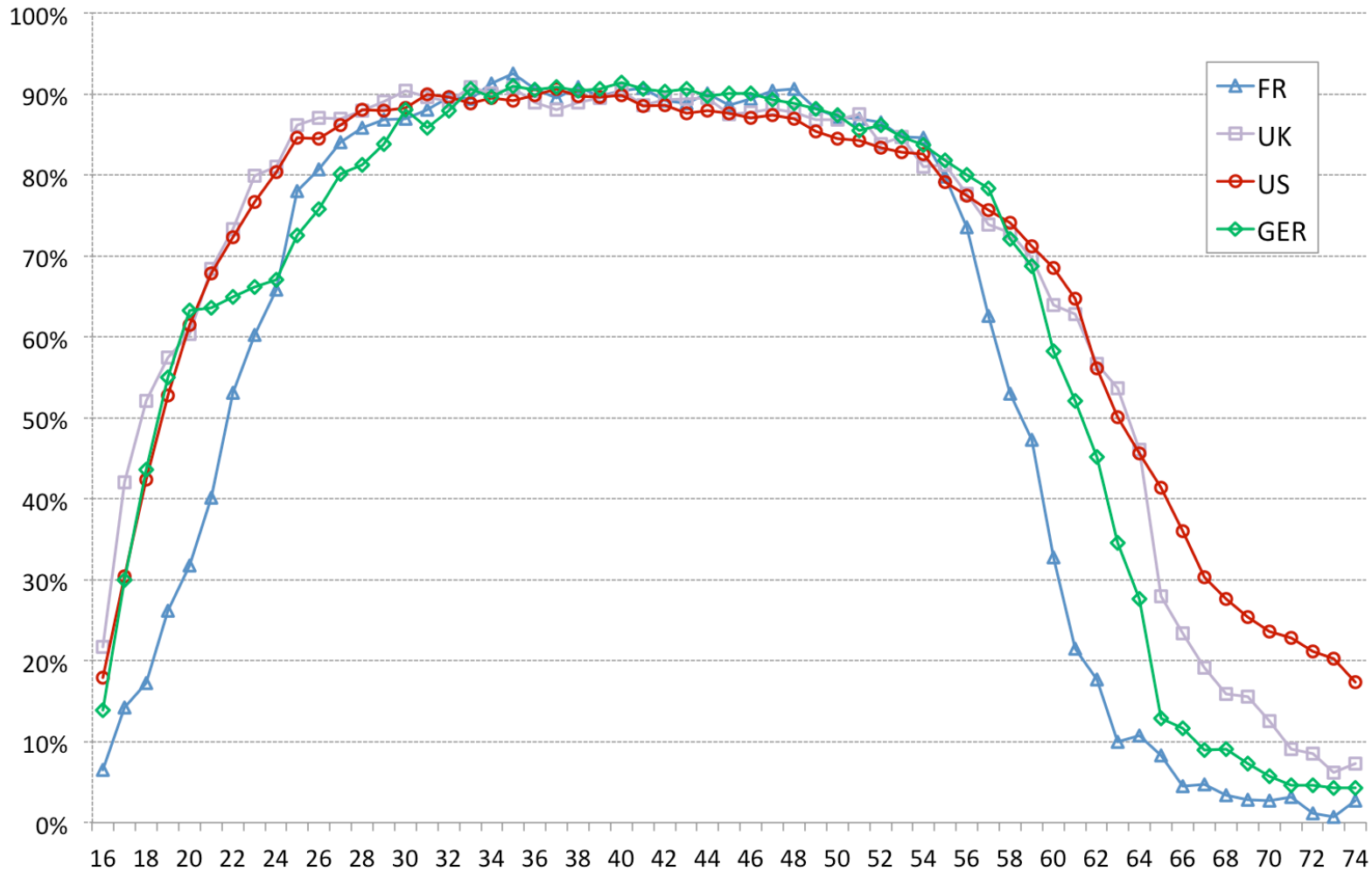
- There are common key points in the life-cycle where individuals are likely to be most responsive to effective tax and welfare incentives
 - Derives from comparative work across UK, US, FR and DE,
 - Labour market entry, parents of younger children and older workers.
- Human capital on the job is strongly 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 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.
- Let's take a run through the evidence..... The five steps....

1. Key margins of adjustment to reform

- A 'descriptive' analysis of the key aspects of observed behaviour
 - not 'causality' just the correlations in the data,
 - the key facts!
- Where is it that individuals, families and firms most likely to respond?
 - e.g. the margins of labour market adjustment.

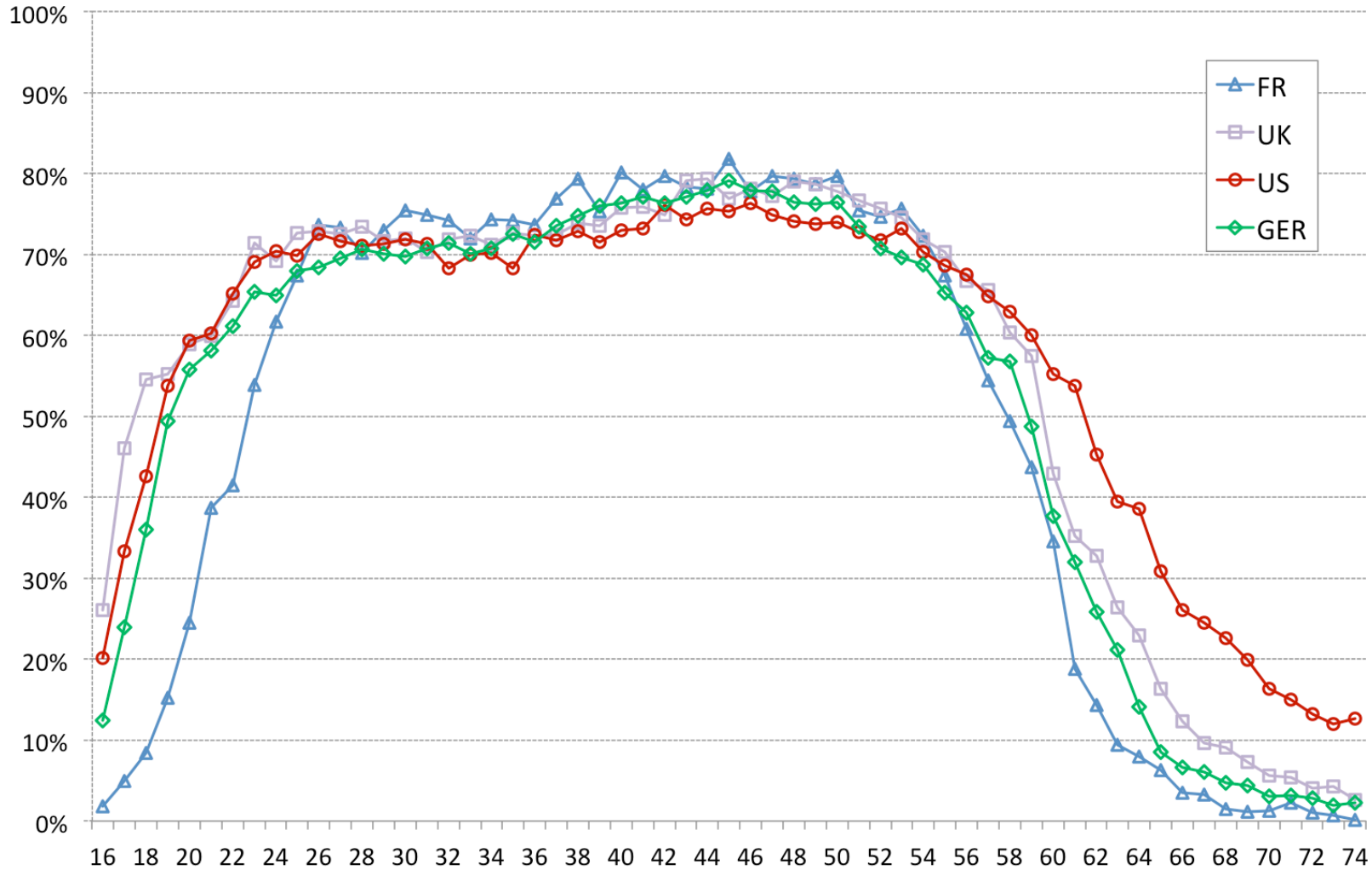
Key margins of adjustment

Employment for men by age – FR, UK, US & GER 2007

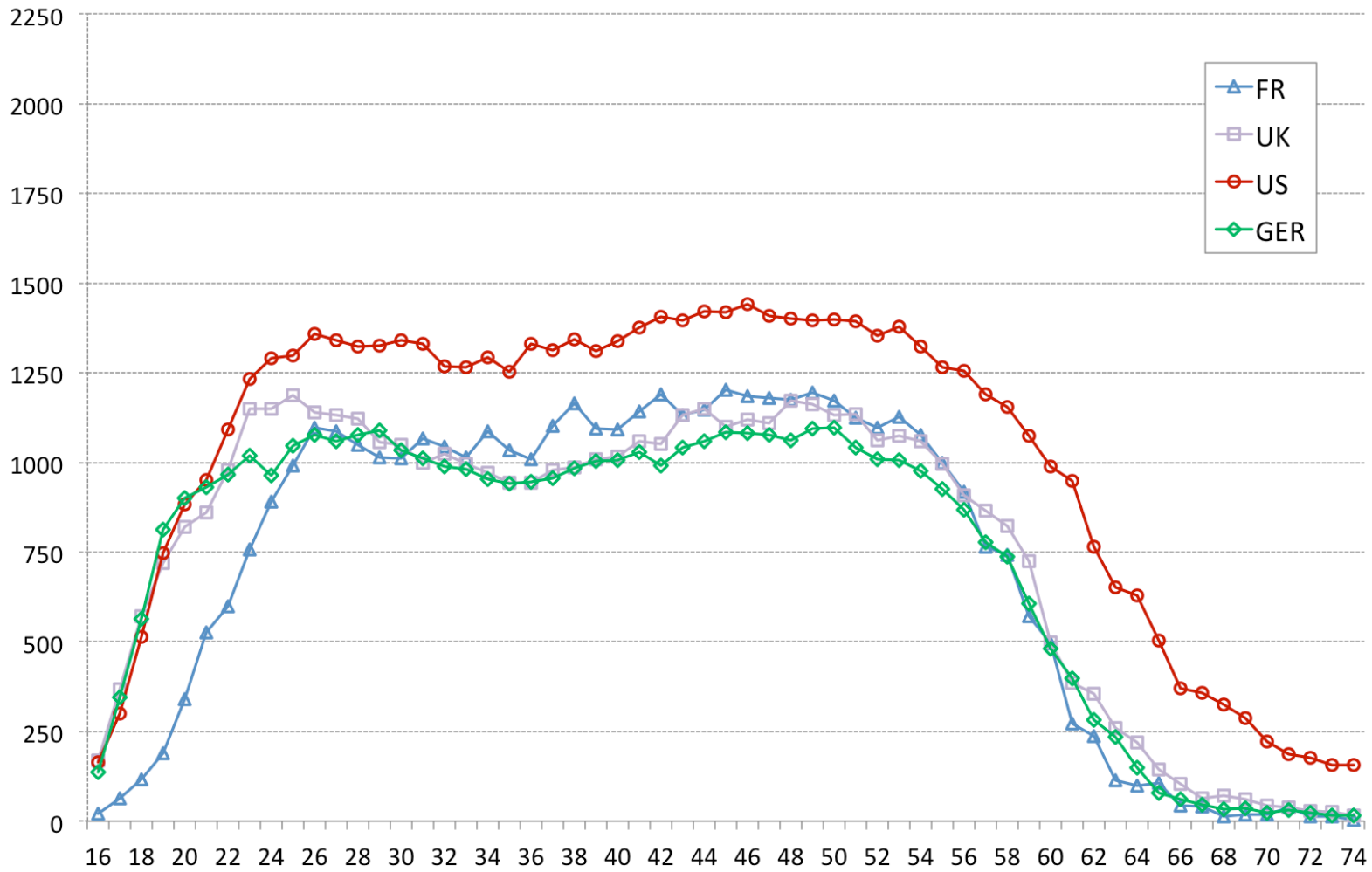


and for women

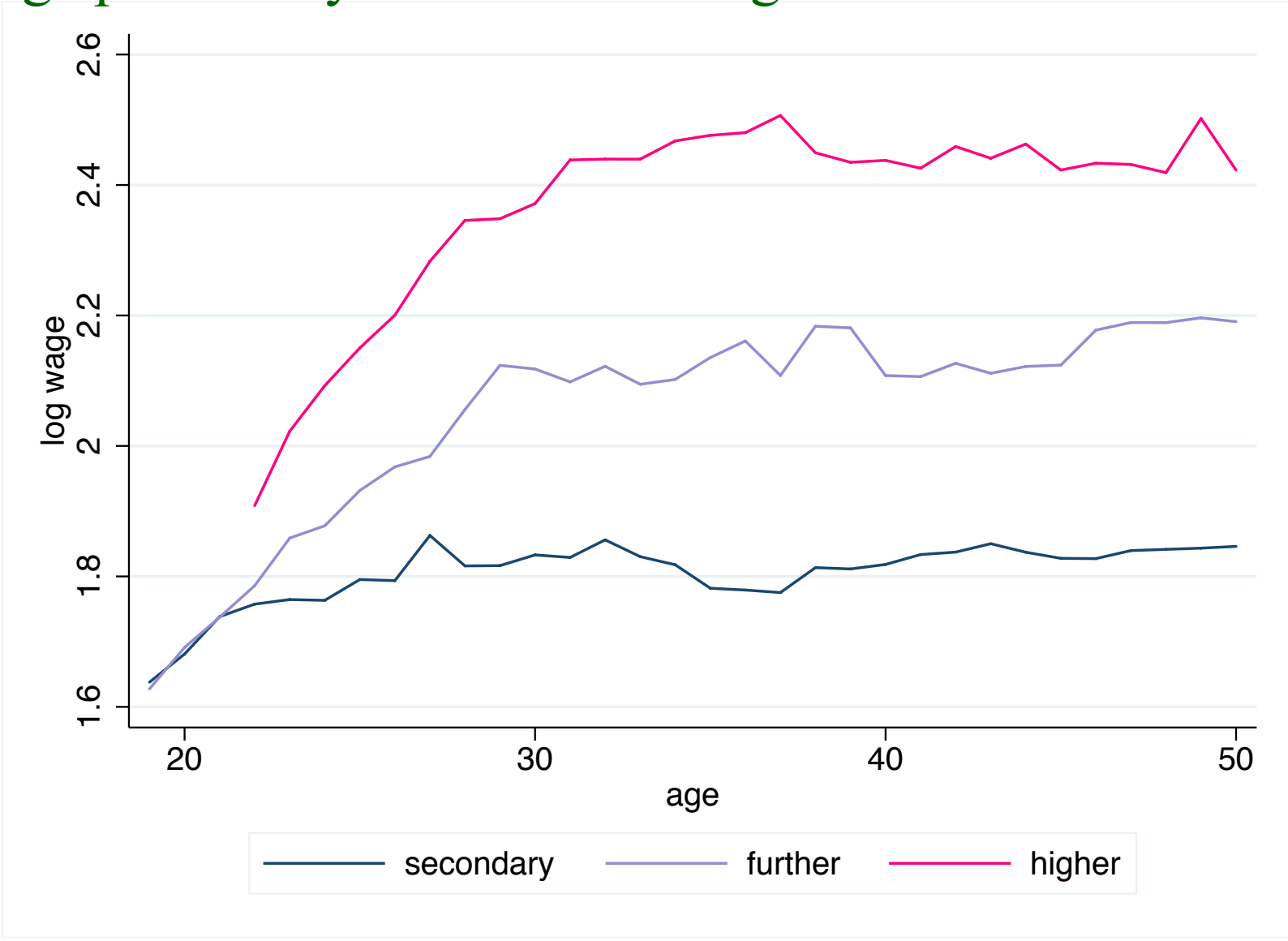
Female Employment by age



Female Hours by age

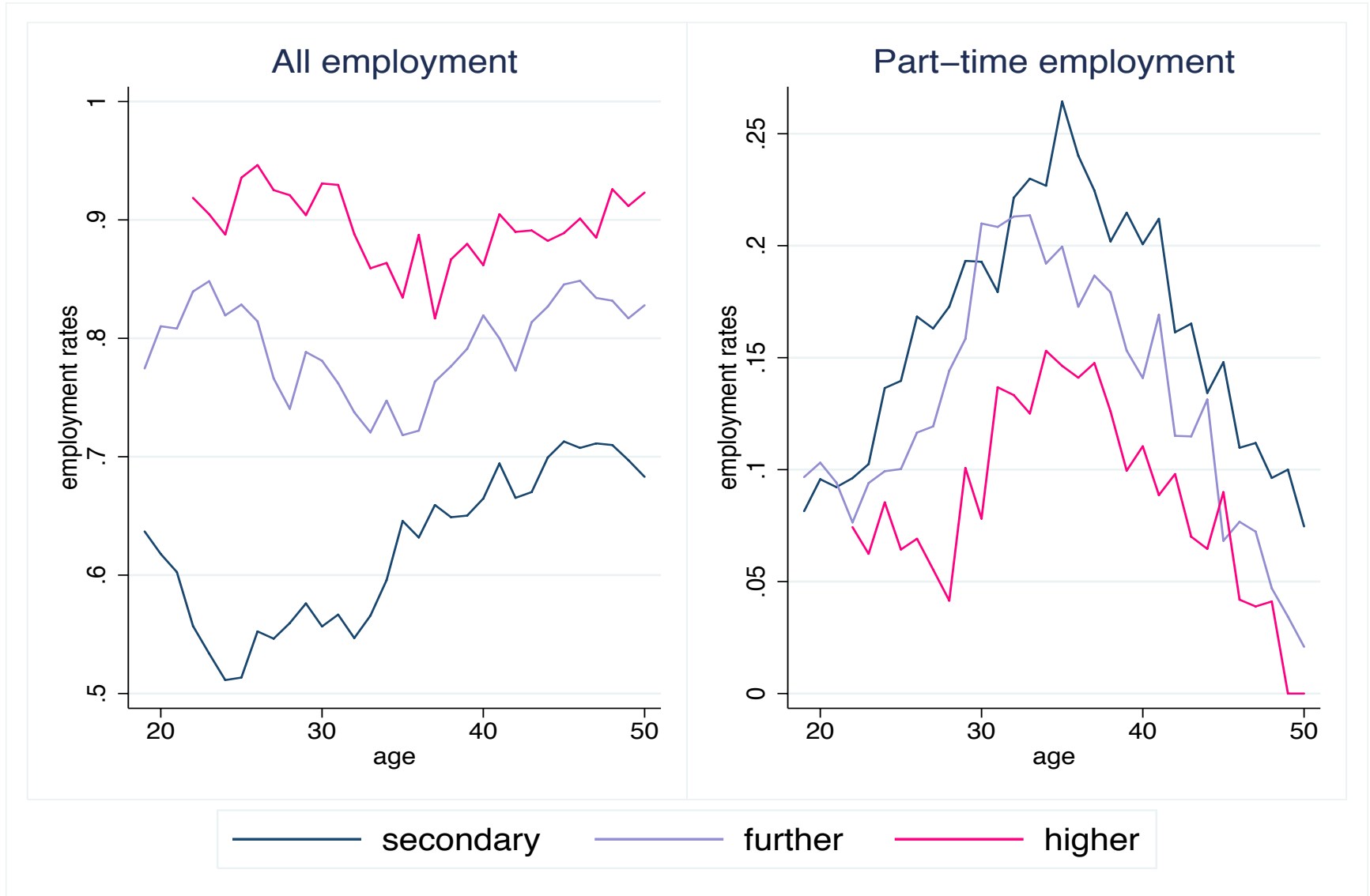


Wage profiles by education and age – UK Women



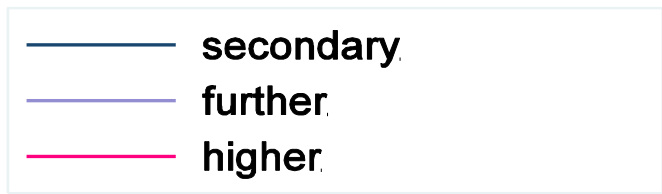
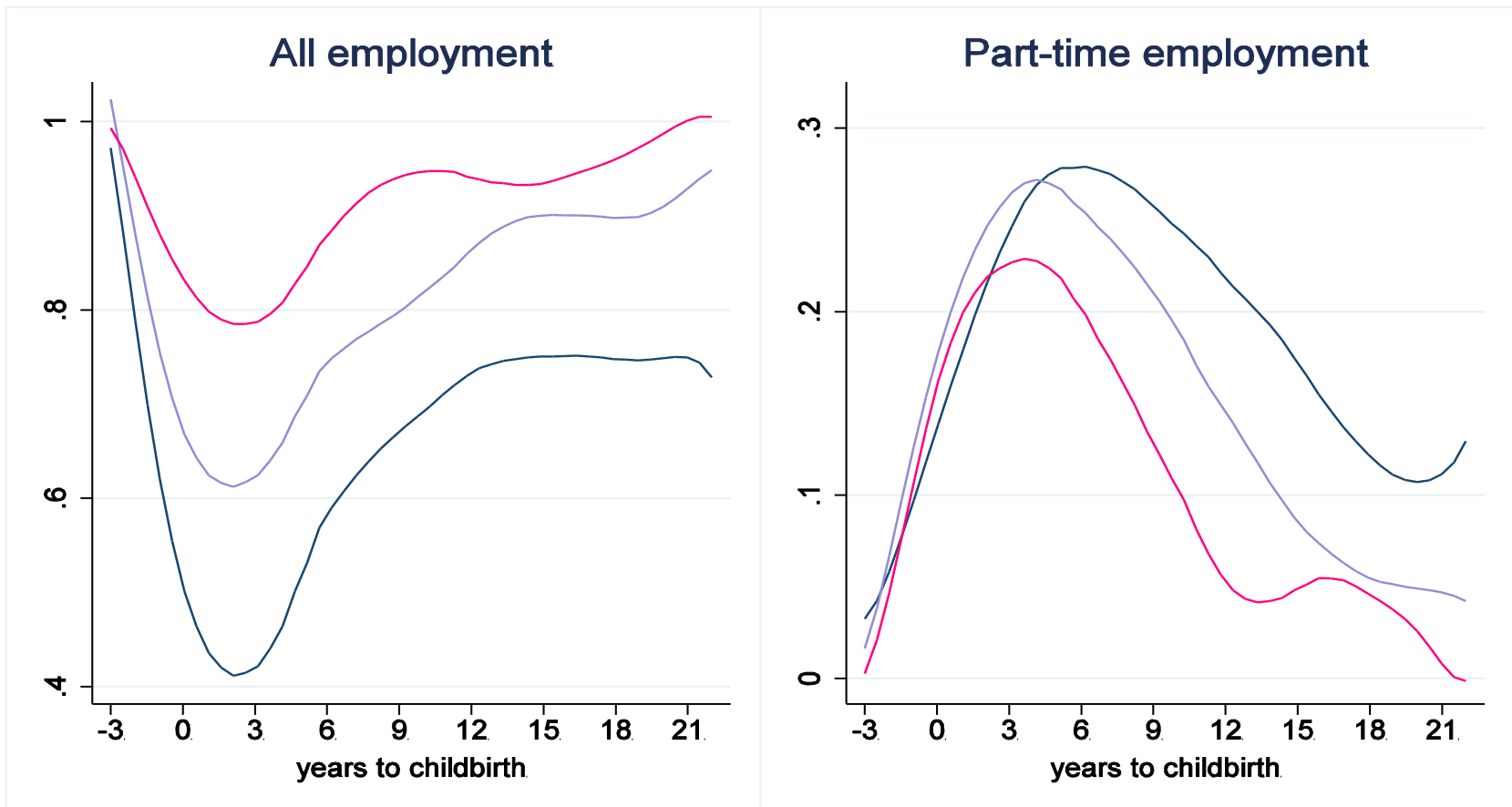
Source: Blundell, Dias, Meghir and Shaw (2013)

Women's employment - UK



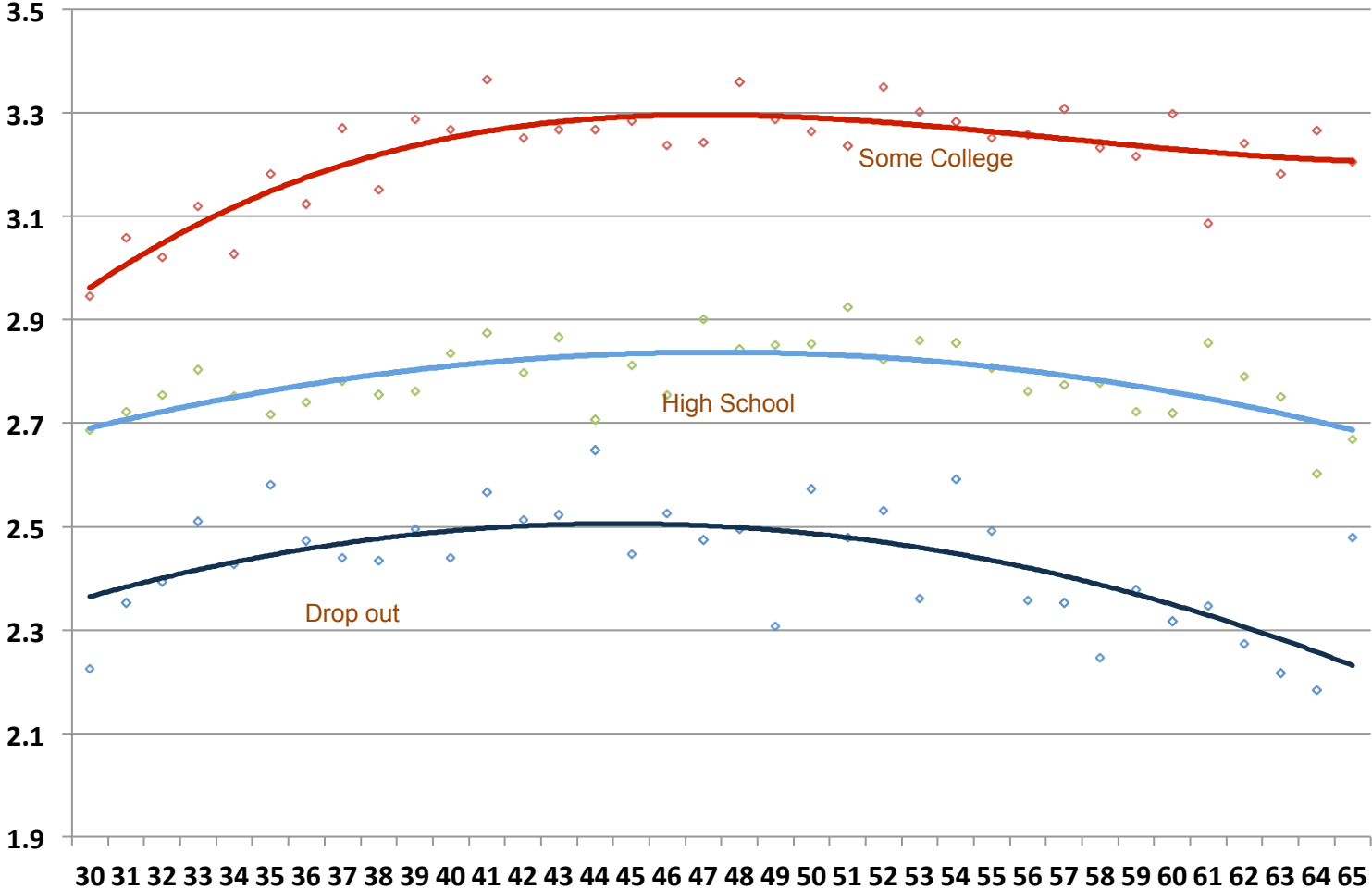
Source: Blundell, Dias, Meghir and Shaw (2013)

Women's employment after childbirth - UK



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

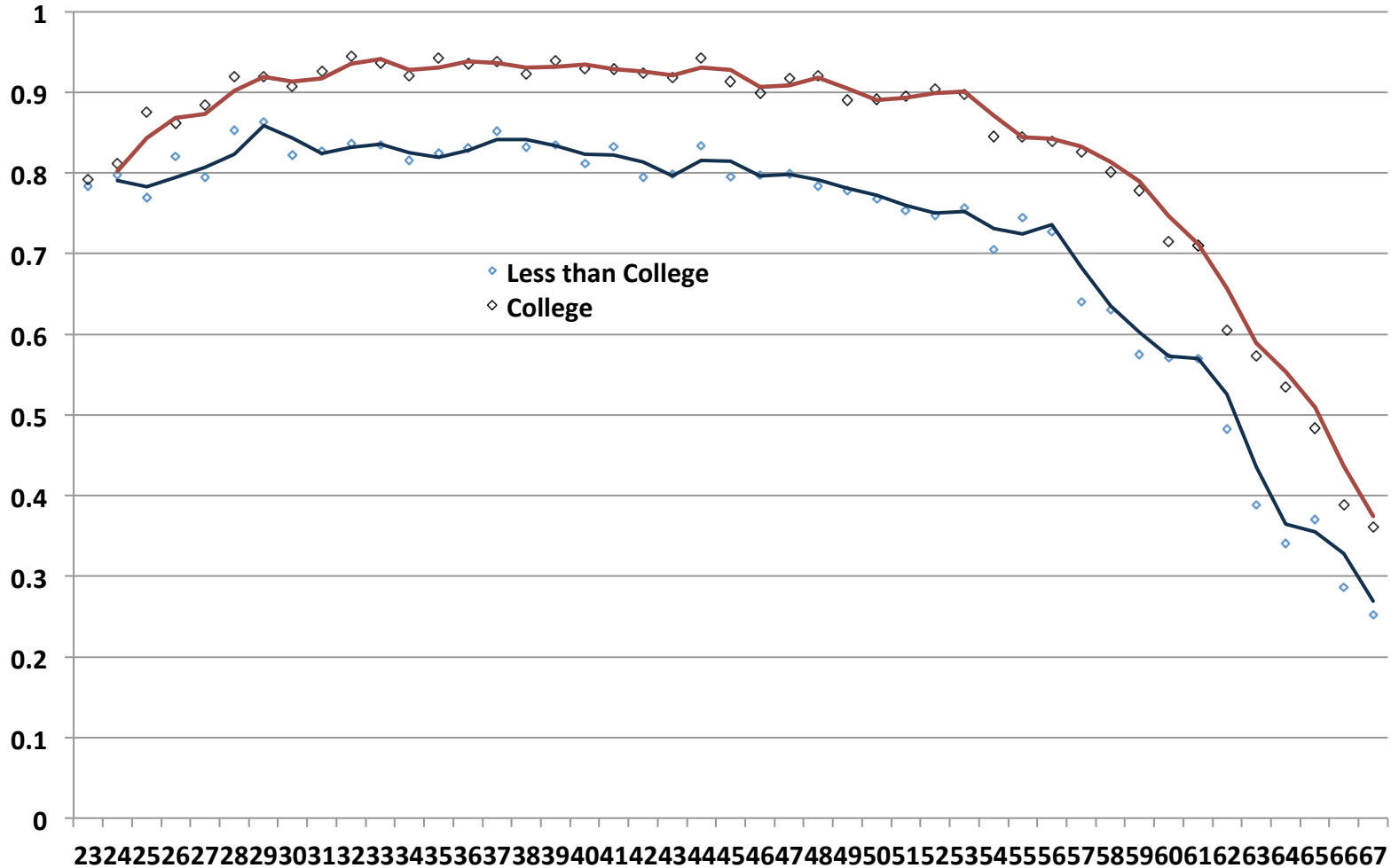
Wages by education and age – US Men



Notes: PSID, 1996-2010, mean log wage by age, cohort effects removed

Source: Blundell, Pistaferri and Saporta (2013)

Employment for men by education and age – US



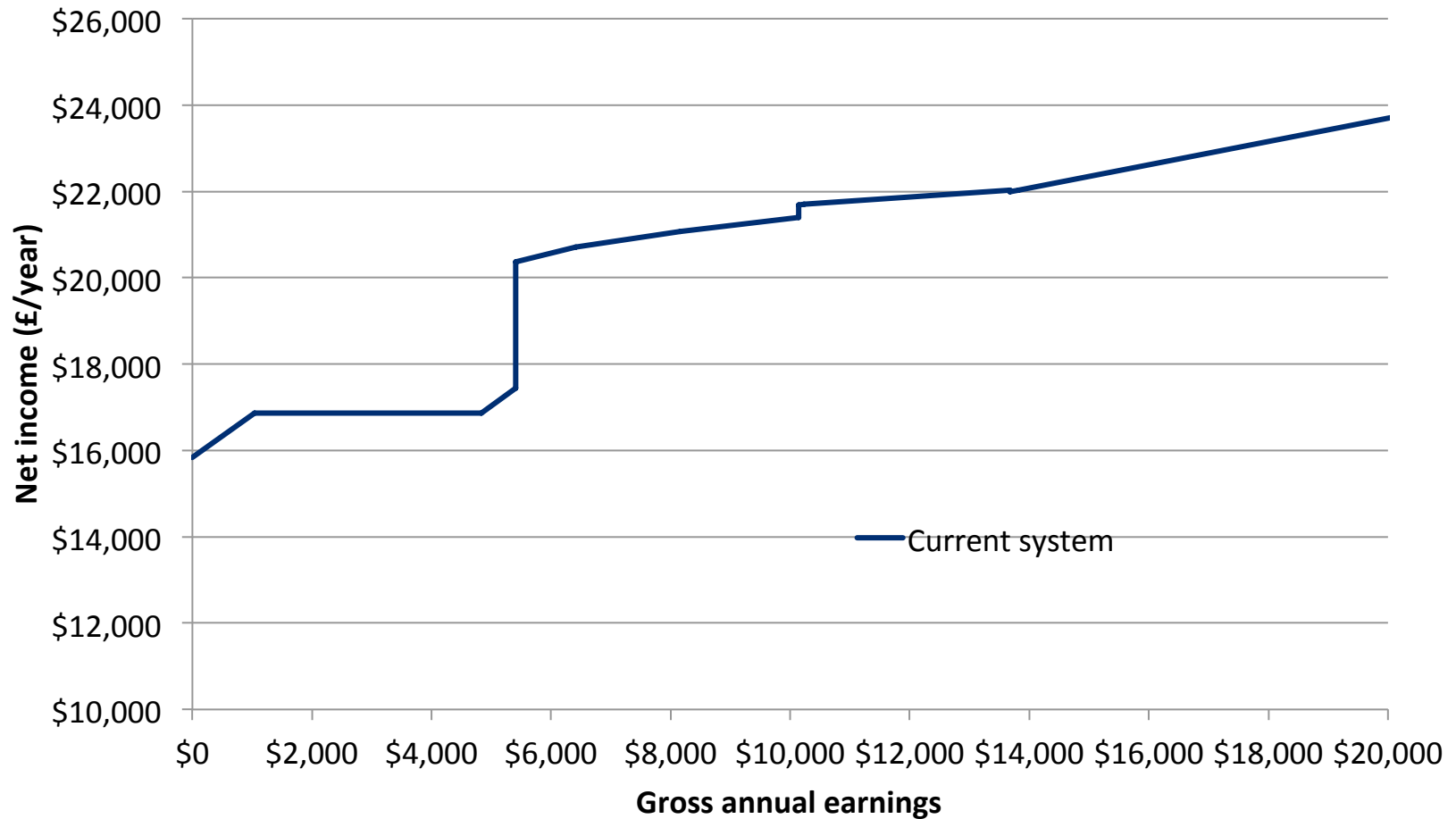
Summary so far...key facts

- 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 include growth of high employment incomes and consequent impact on inequality.

2. Measurement of effective incentives

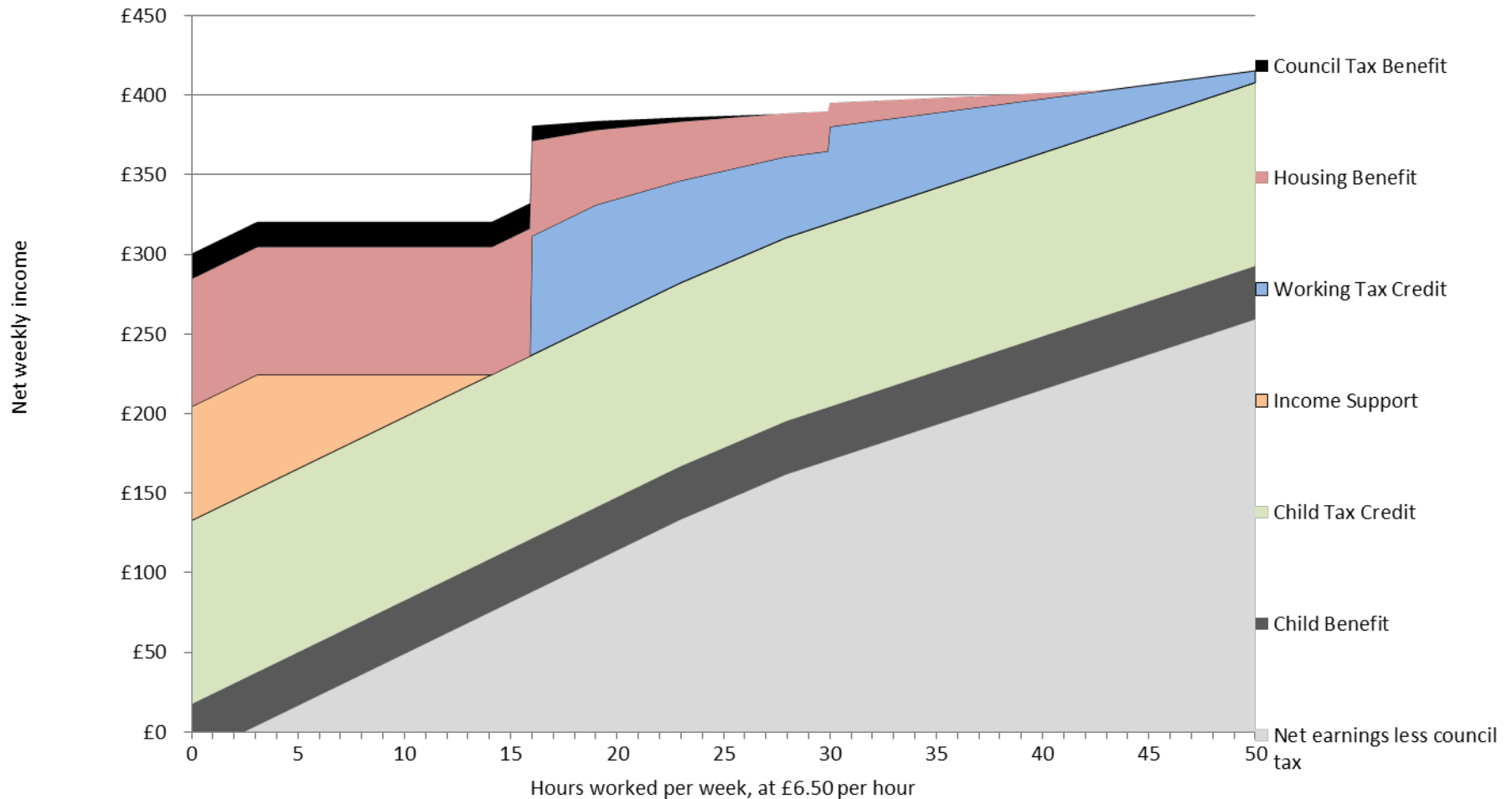
- Precisely how do tax policies impact on the incentives facing the key players?
- e.g. overlapping taxes, tax credits and welfare benefits.
 - What are the ‘true’ effective tax rates on (labor) earnings?

Budget Constraint for Single Parent: UK 2011



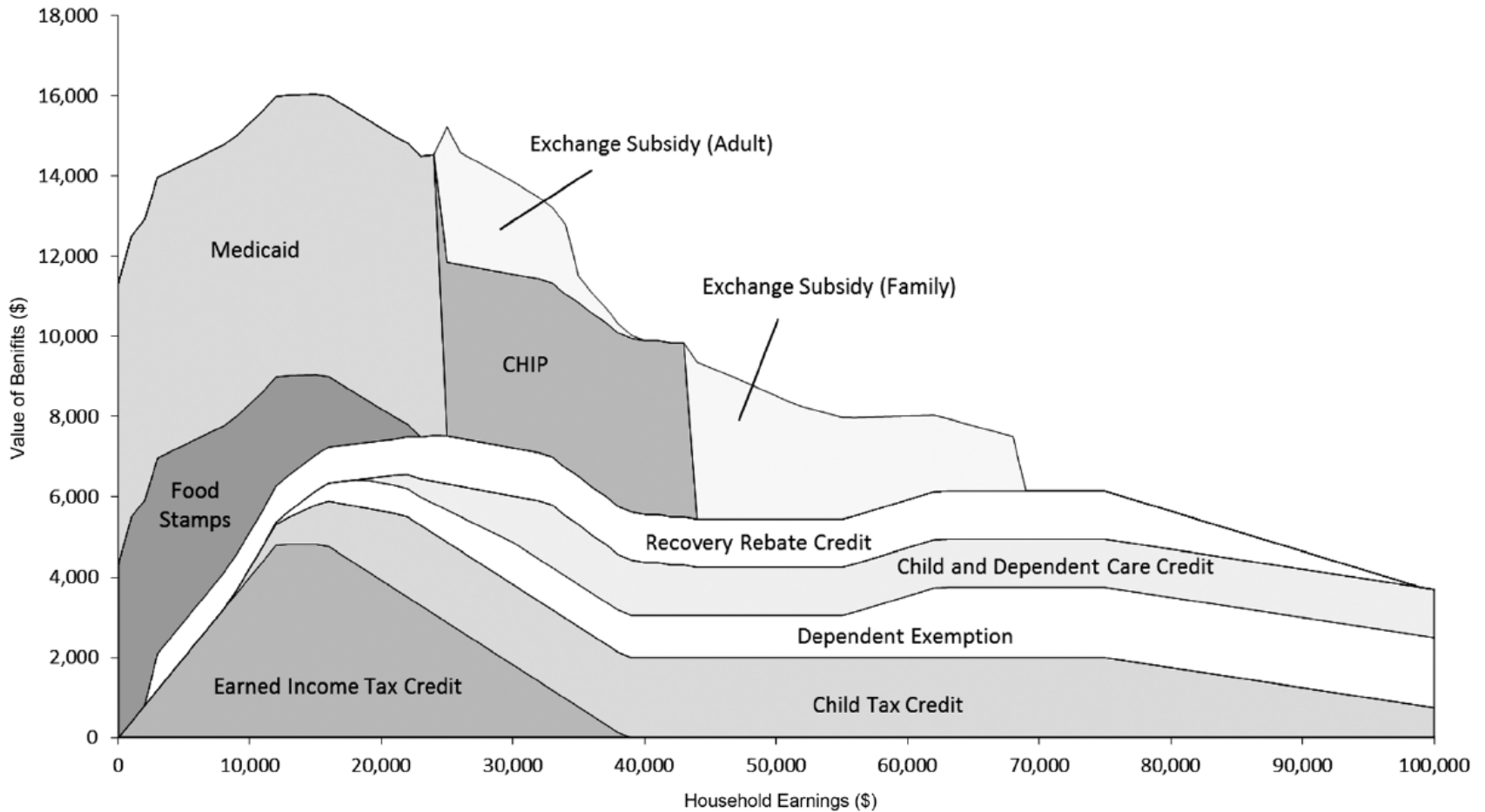
Notes: wage £6.50/hr, 2 children, no other income, £80/wk rent. Ignores council tax and rebates

Interactions matter: Budget Constraint for Single Parent in UK



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)

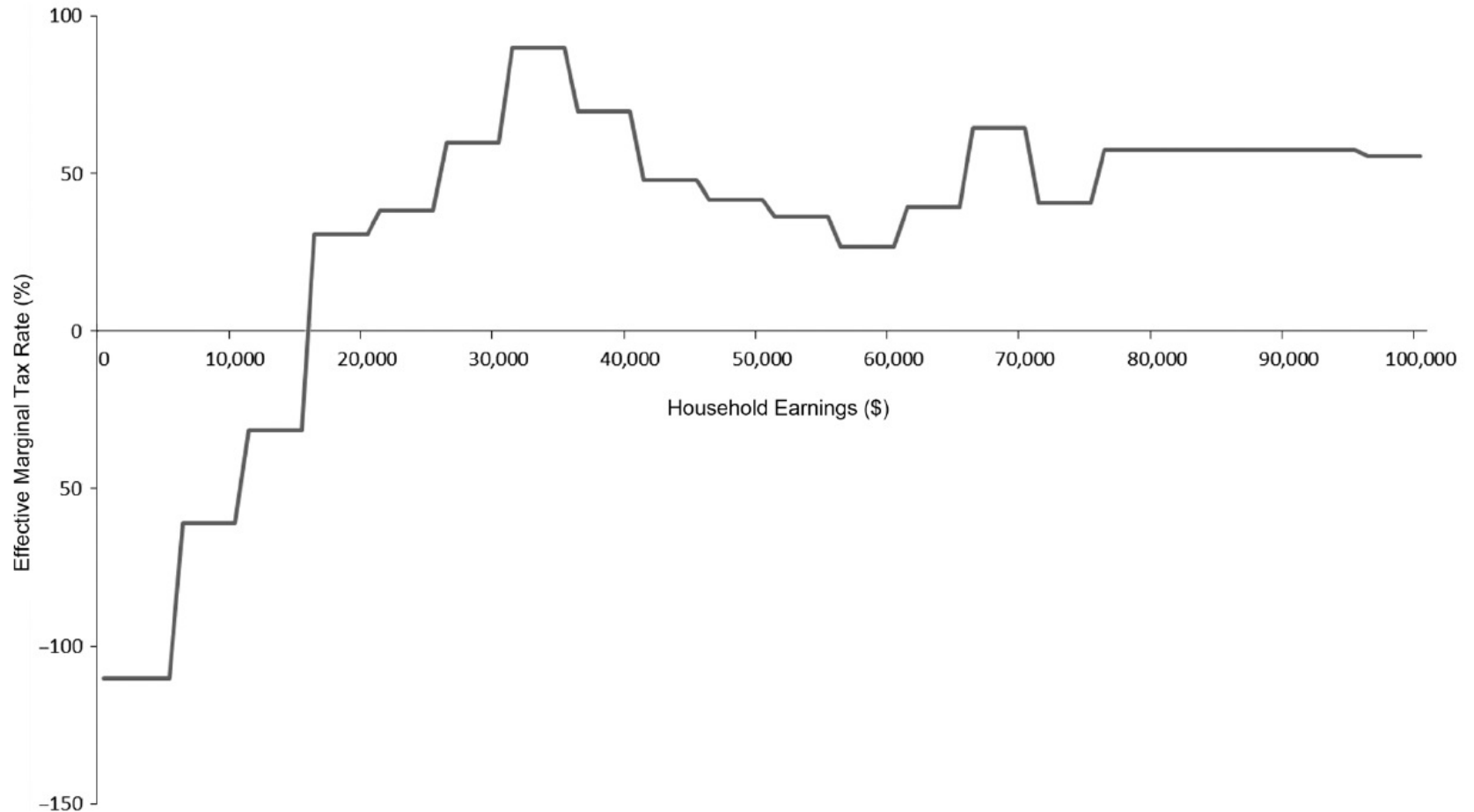


Source: Urban Institute (NTJ, Dec 2012).

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

Effective Marginal Tax Rates

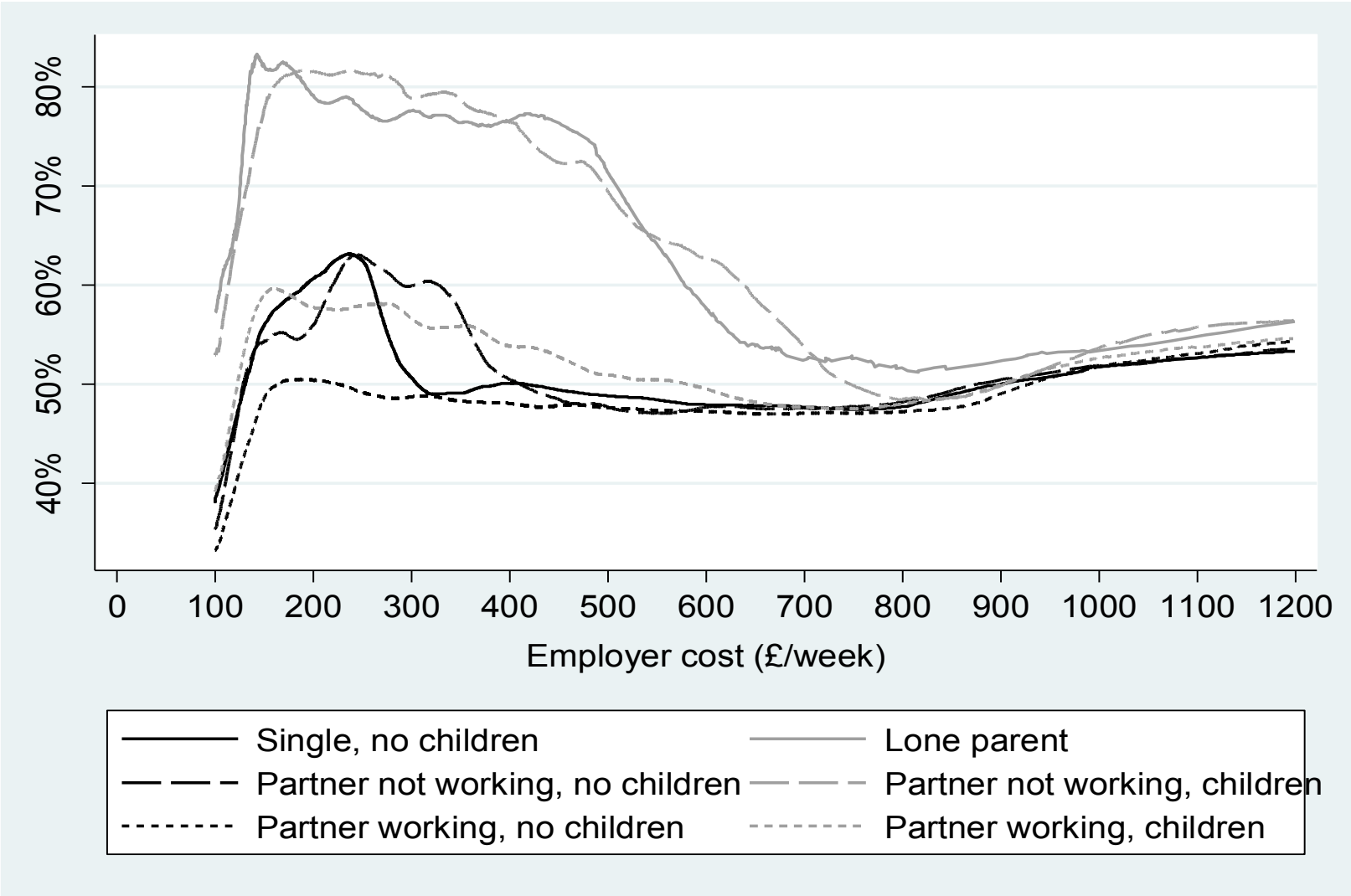
(US Single Parent with Two Children in Colorado, 2008)



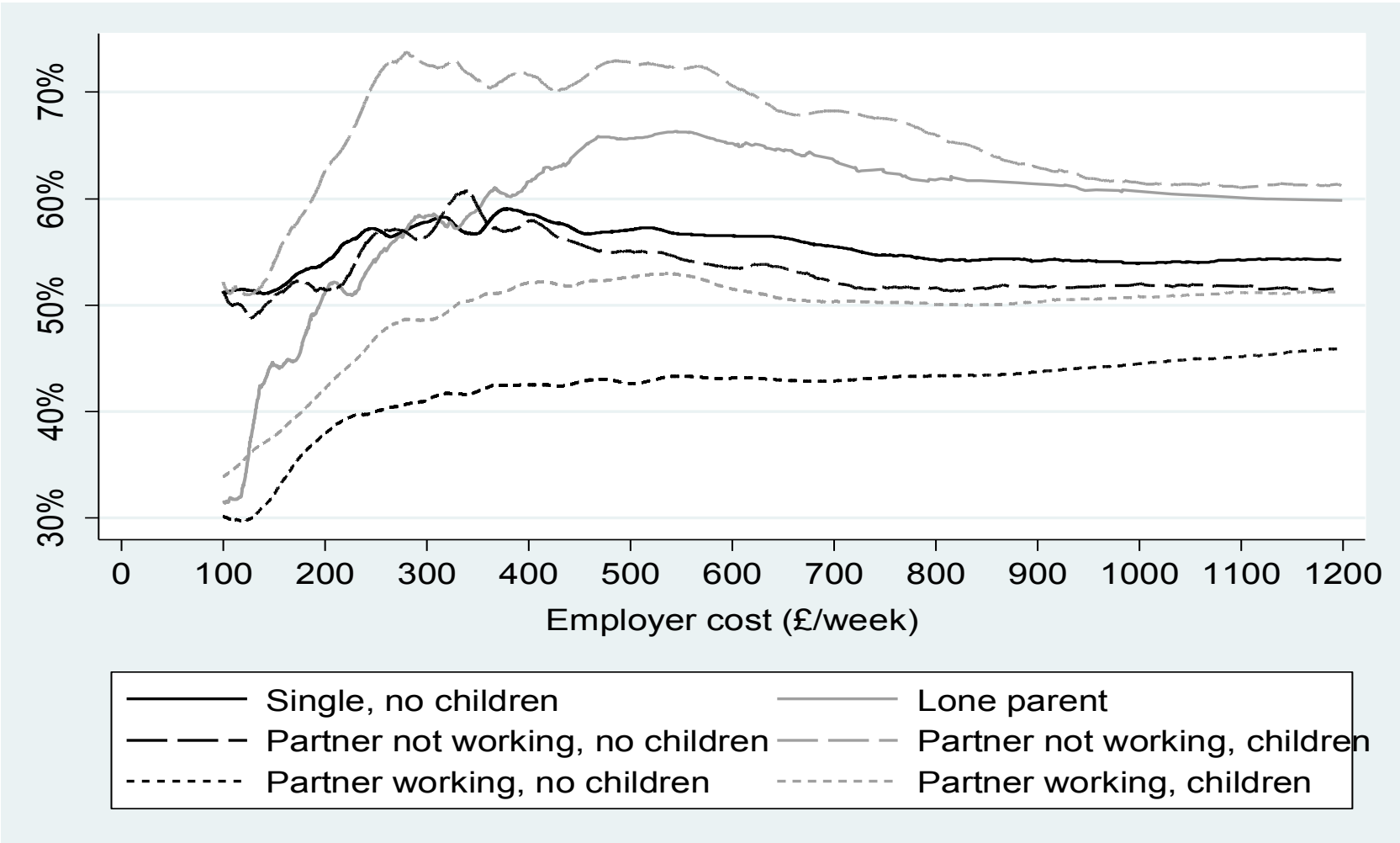
Source: Urban Institute (NTJ, Dec 2012).

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Average EMTRs for different family types: UK 2011



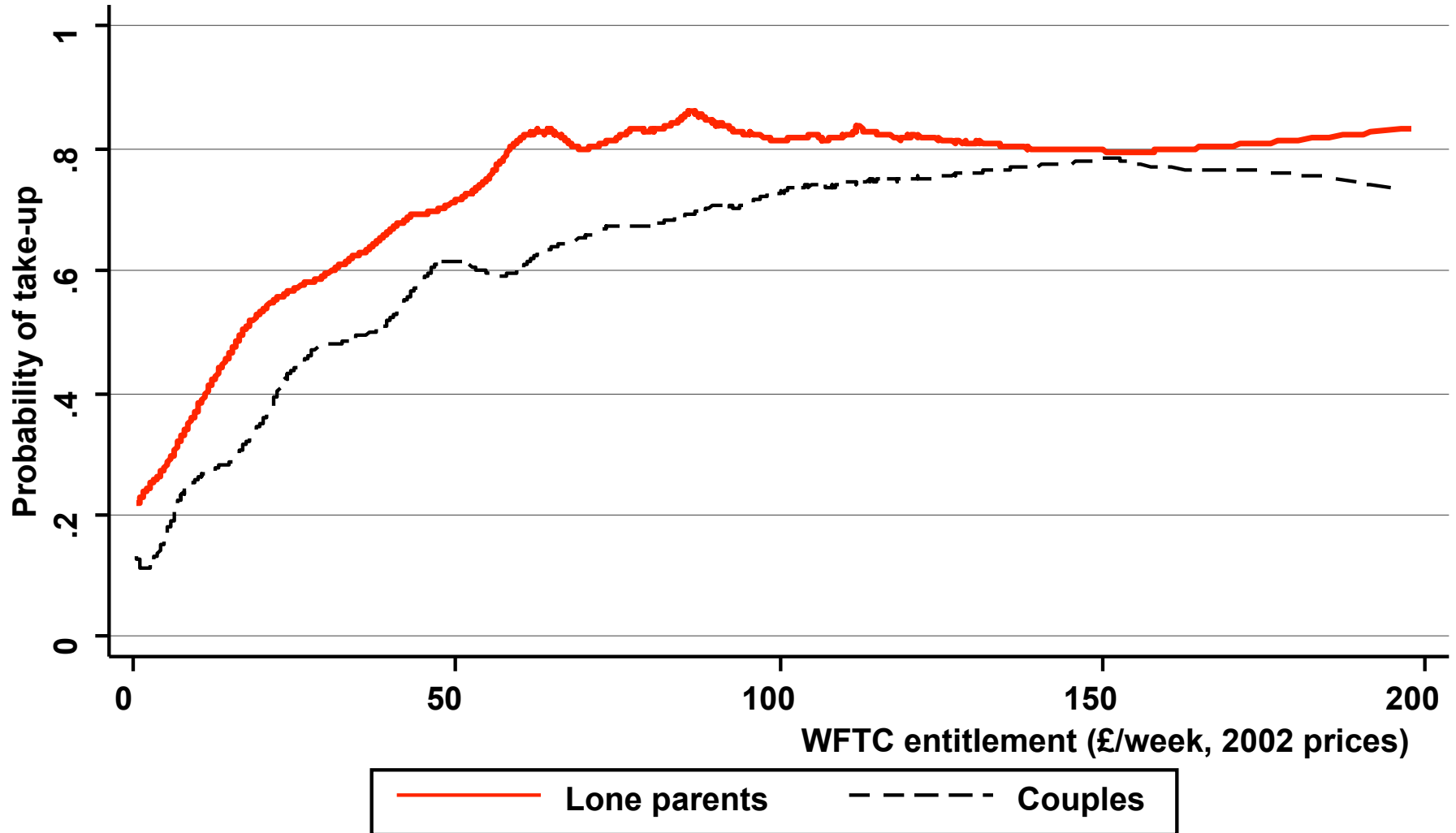
Average PTRs for different family types: UK 2011



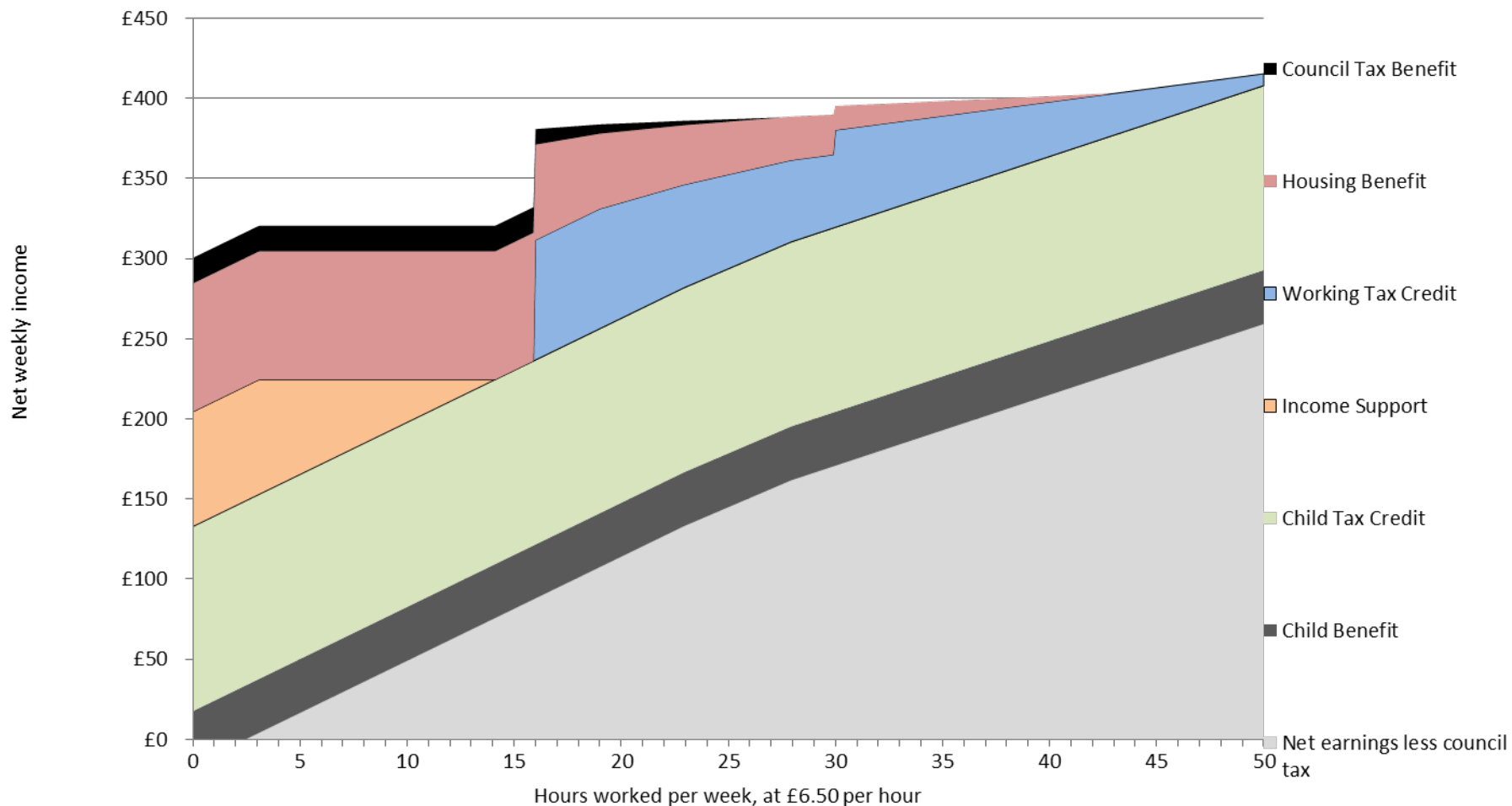
3. The importance of information and complexity

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

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



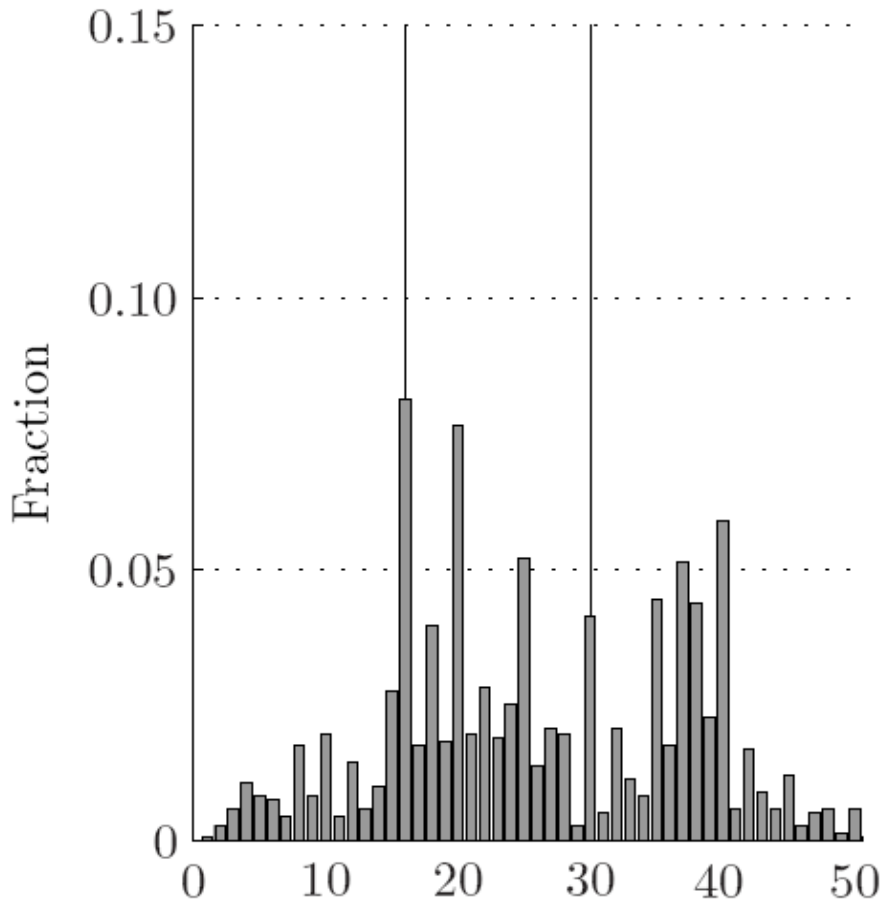
Budget Constraint for Single Parent: UK



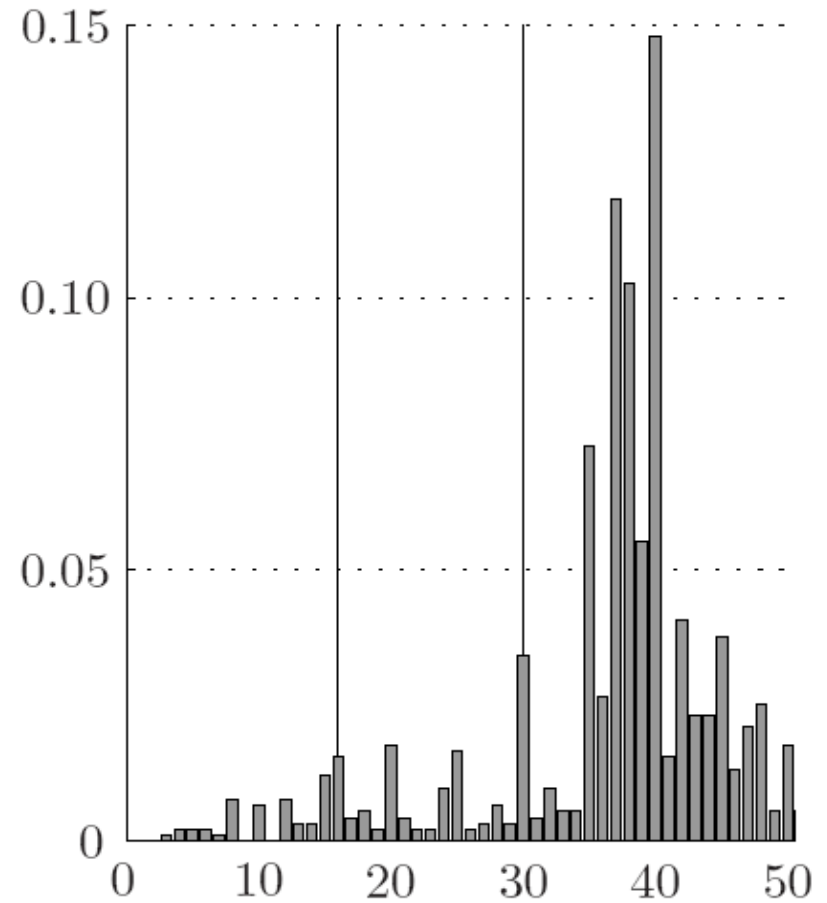
Notes: wage £6.50/hr, 2 children, no other income, £80/wk rent. Ignores council tax and rebates

Are these hours rules salient?

Single Women (aged 18-45) - 2002



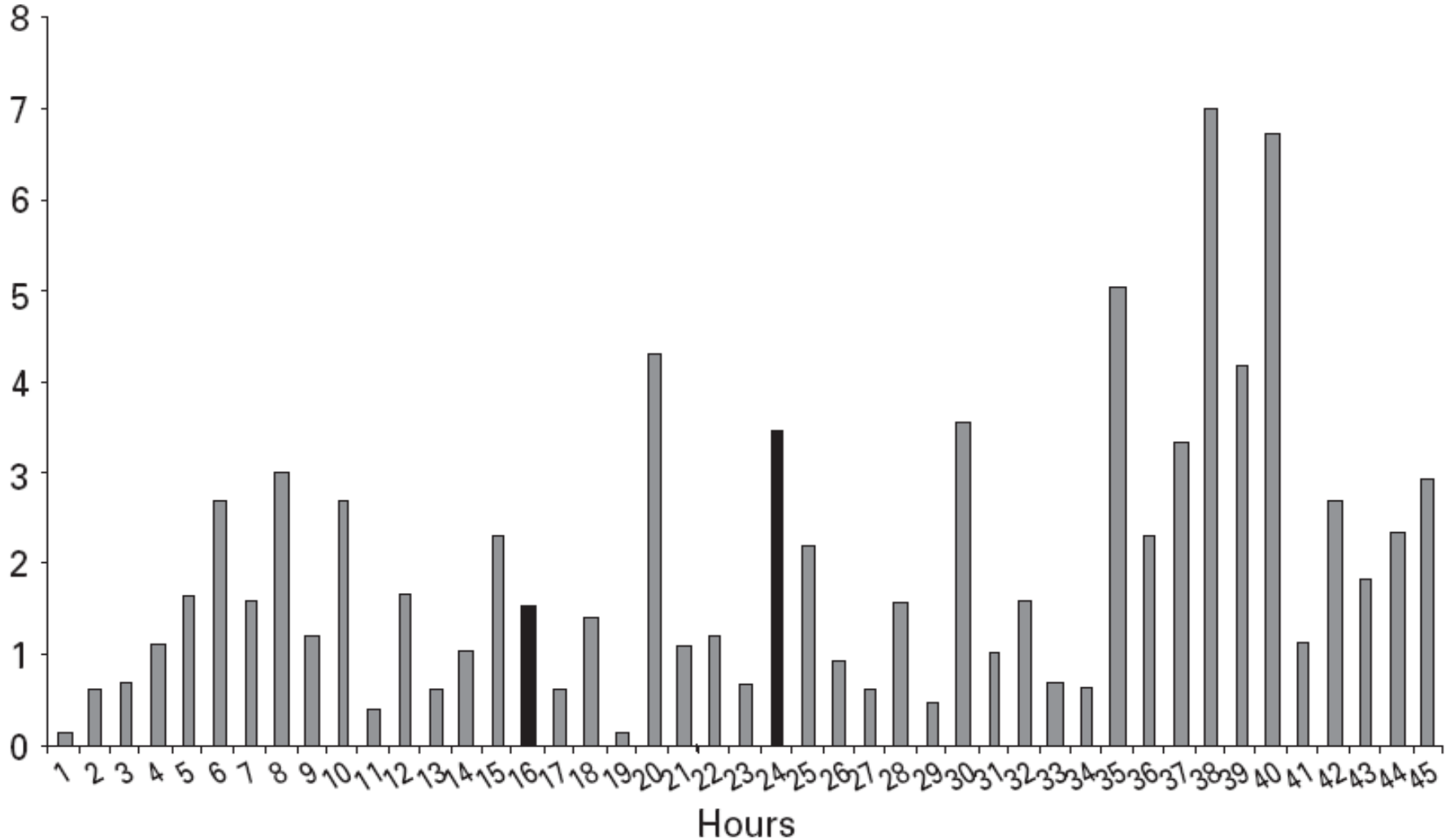
Hours of Work, Lone Mothers



Hours of Work, Childless Single Women

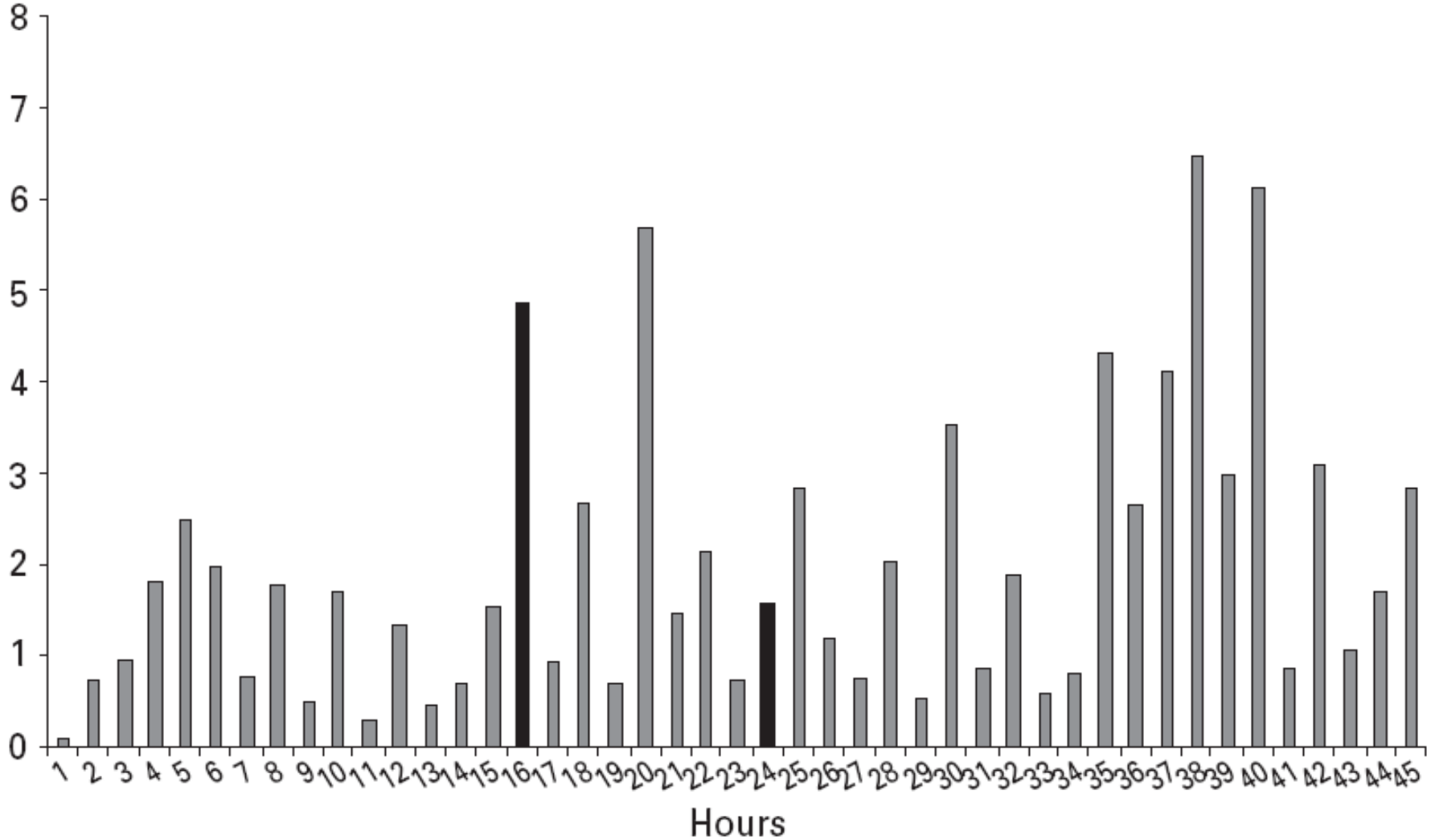
Blundell and Shephard (2010)

Hours' distribution for lone parents, before WFTC



Blundell and Shephard (2010)

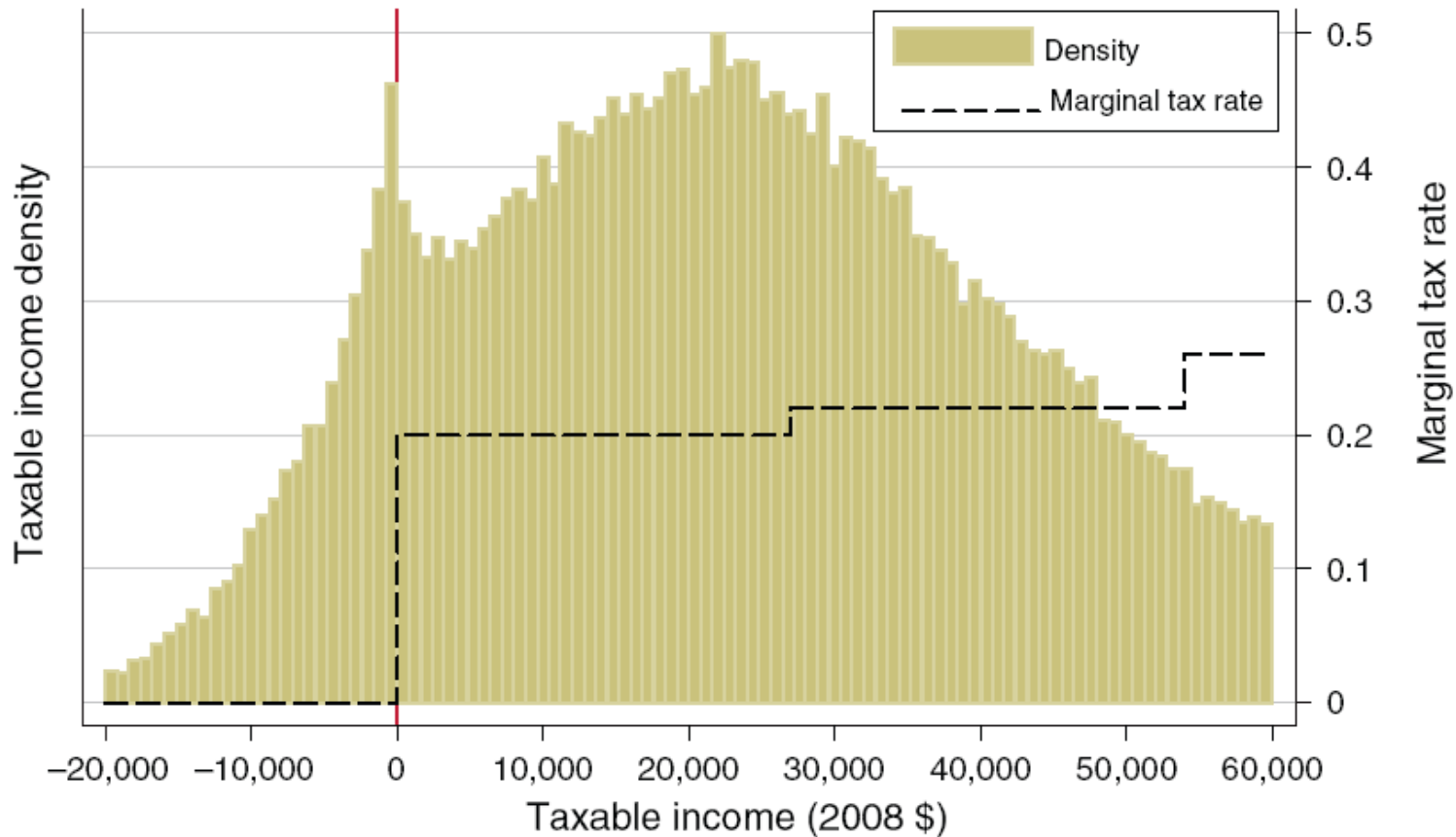
Hours' distribution for lone parents, after WFTC



Blundell and Shephard (2010)

Bunching at Tax Kinks

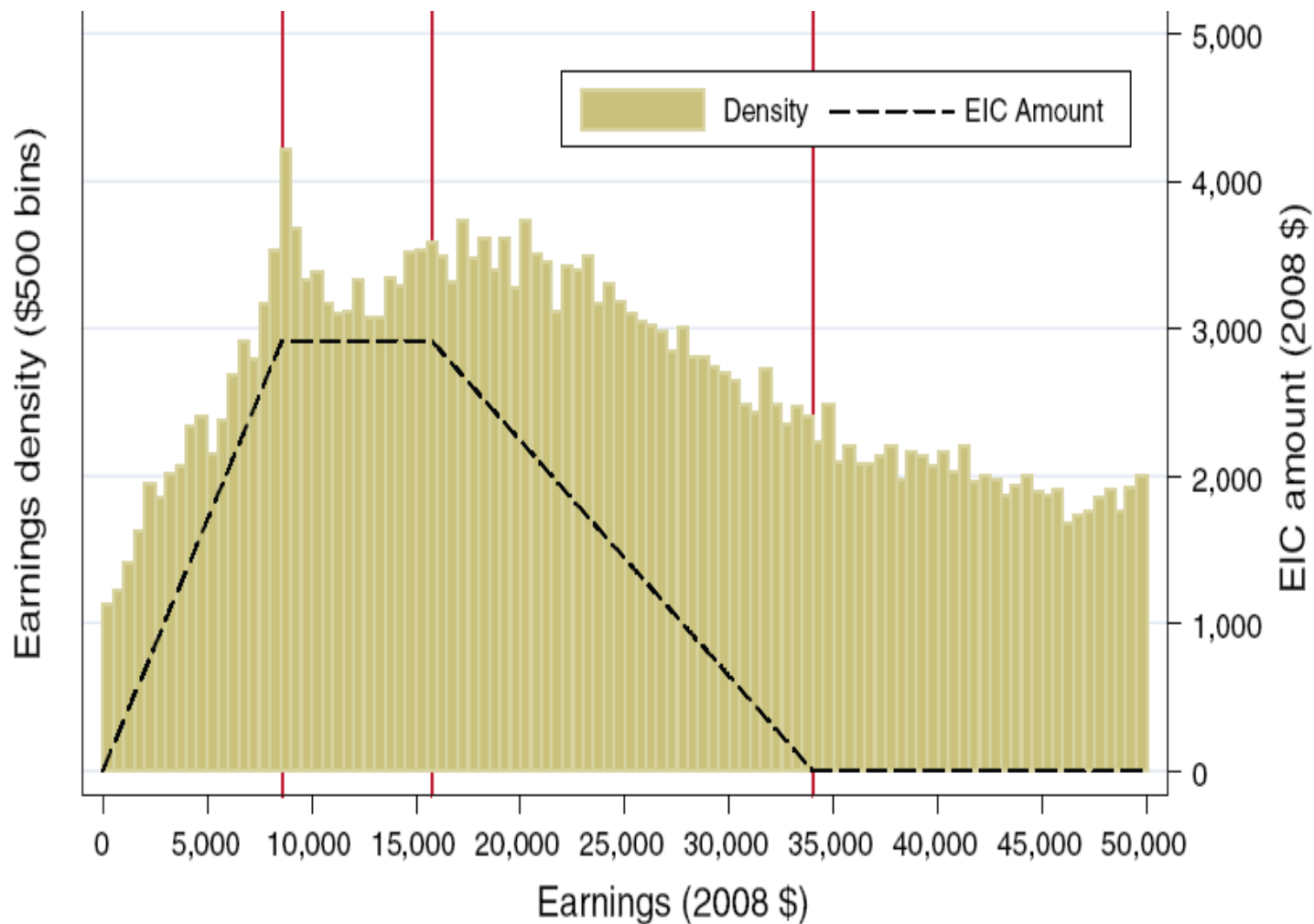
Married Tax Filers: US



Source: Saez (2010)

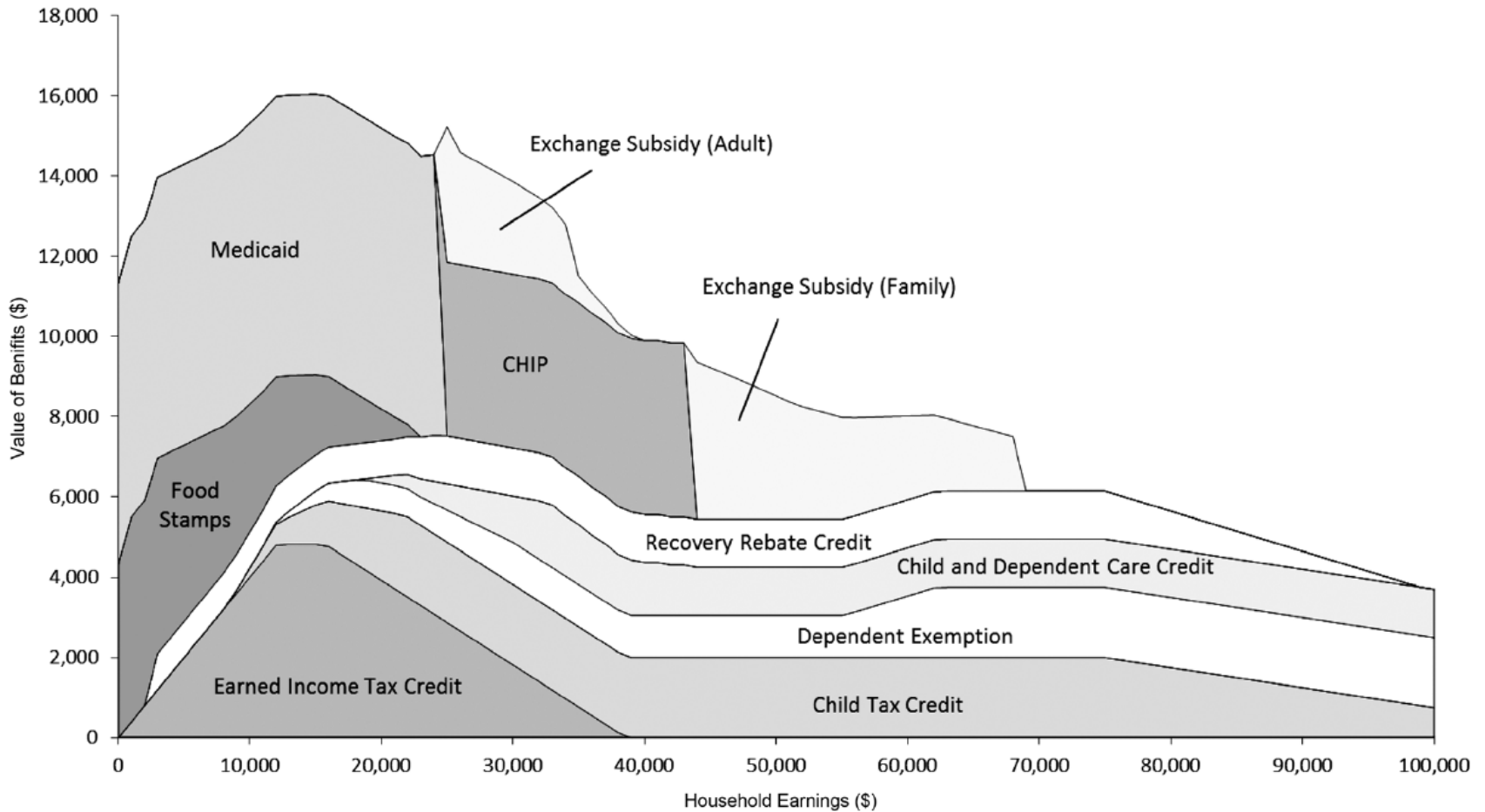
Bunching at Tax Kinks and the EITC

One child families: US



Source: Saez (2010)

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

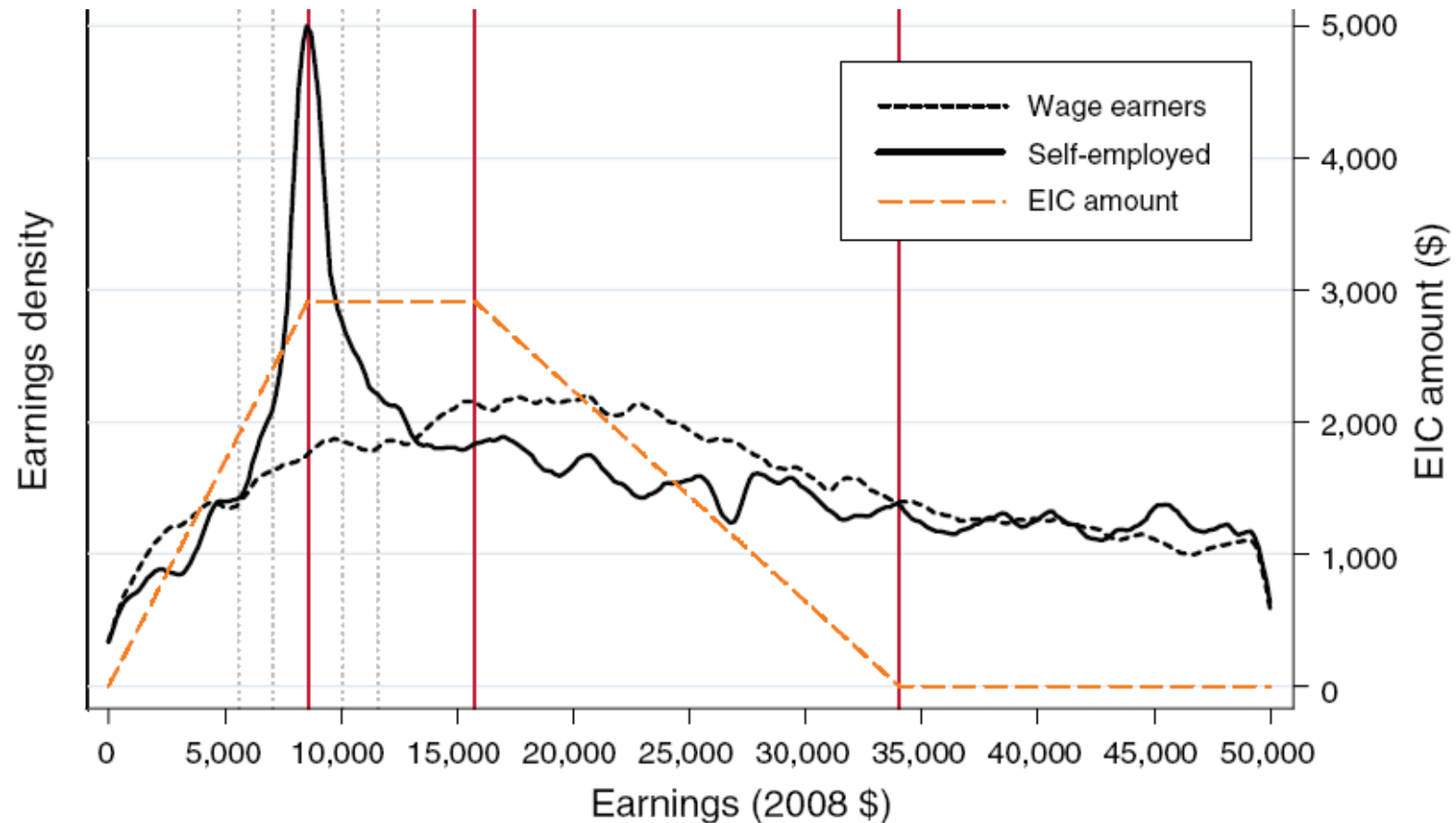


Source: Urban Institute (NTJ, Dec 2012).

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

Bunching at Tax Kinks and the EITC

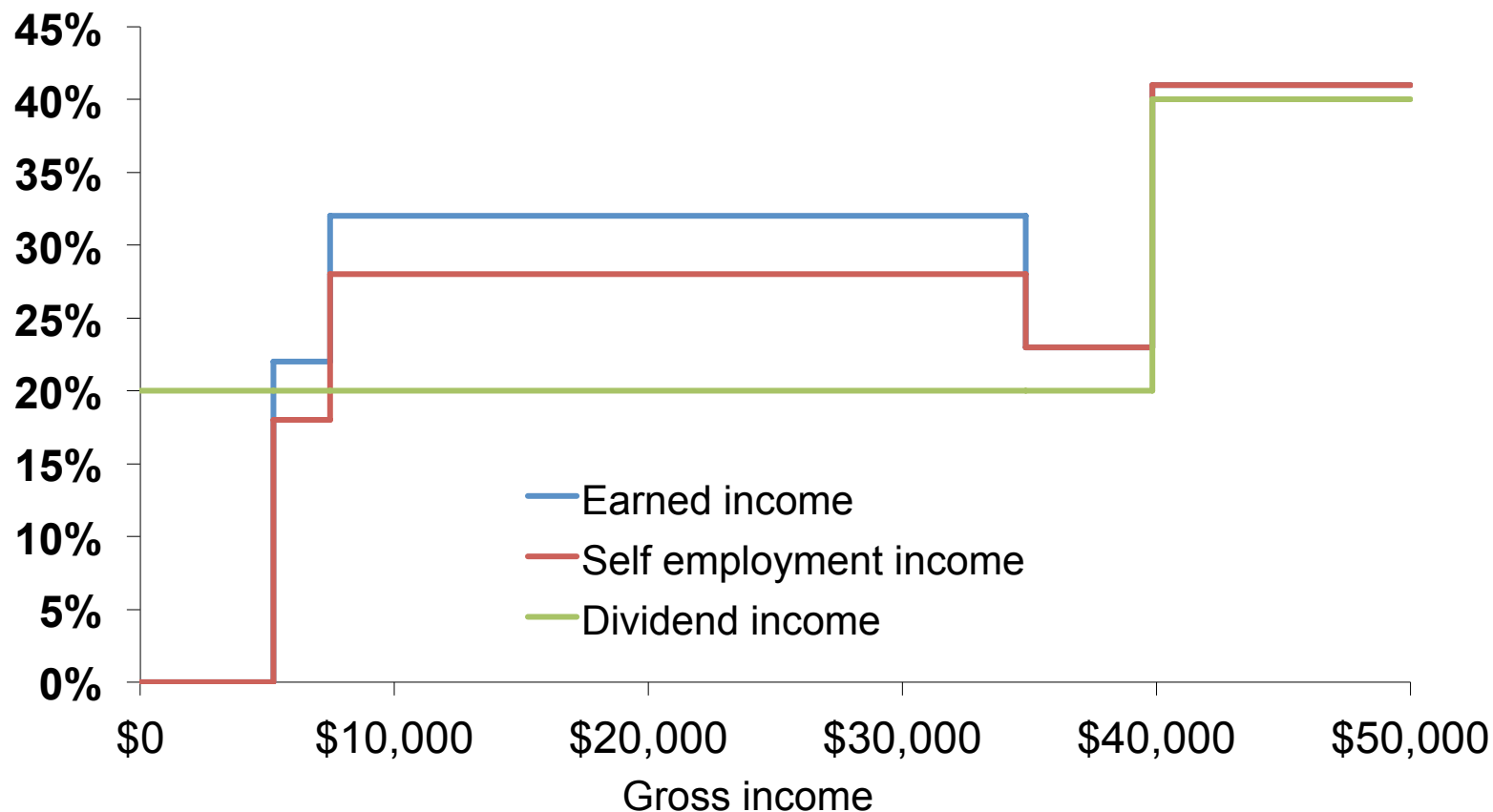
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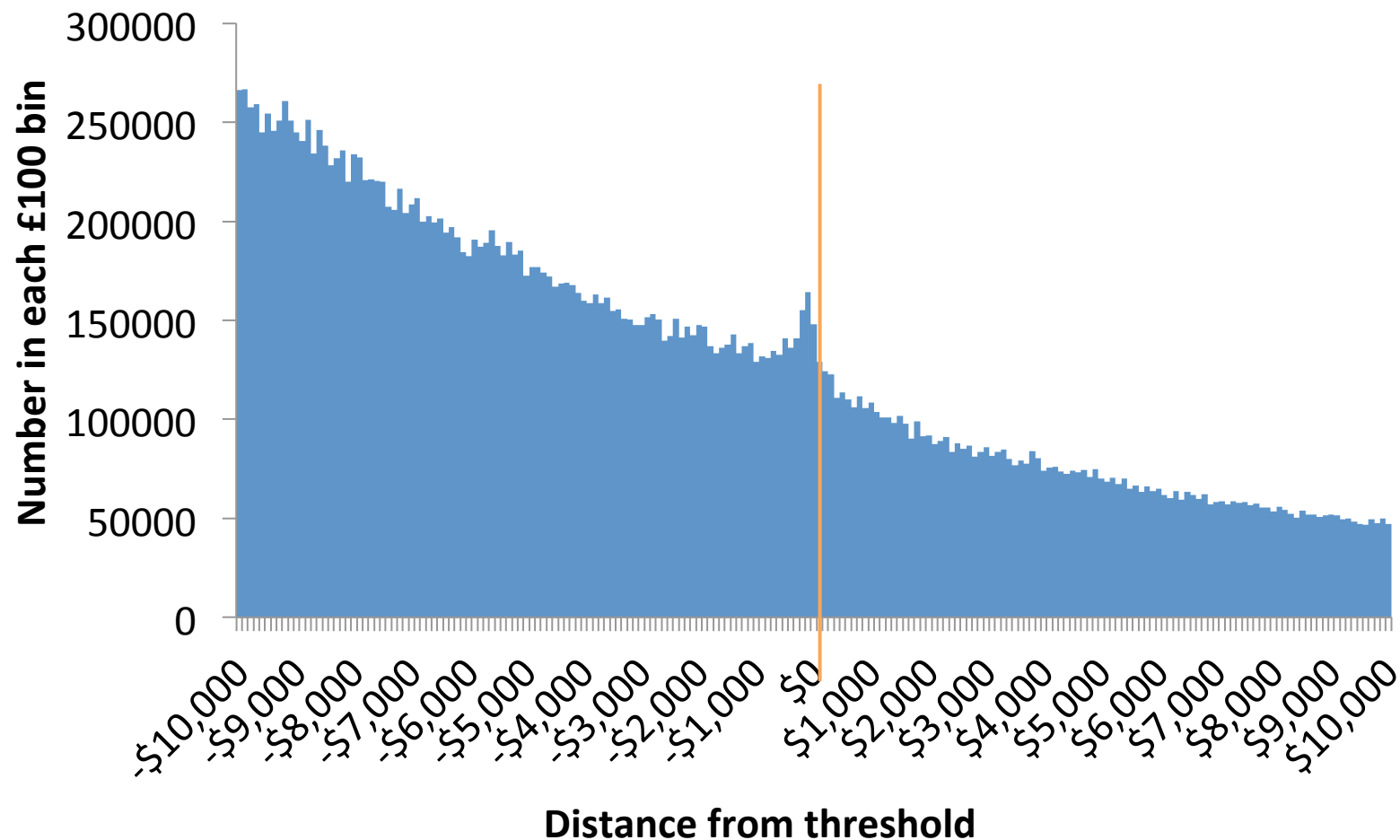
Taxes on Higher Incomes

Marginal tax rates by income level, UK

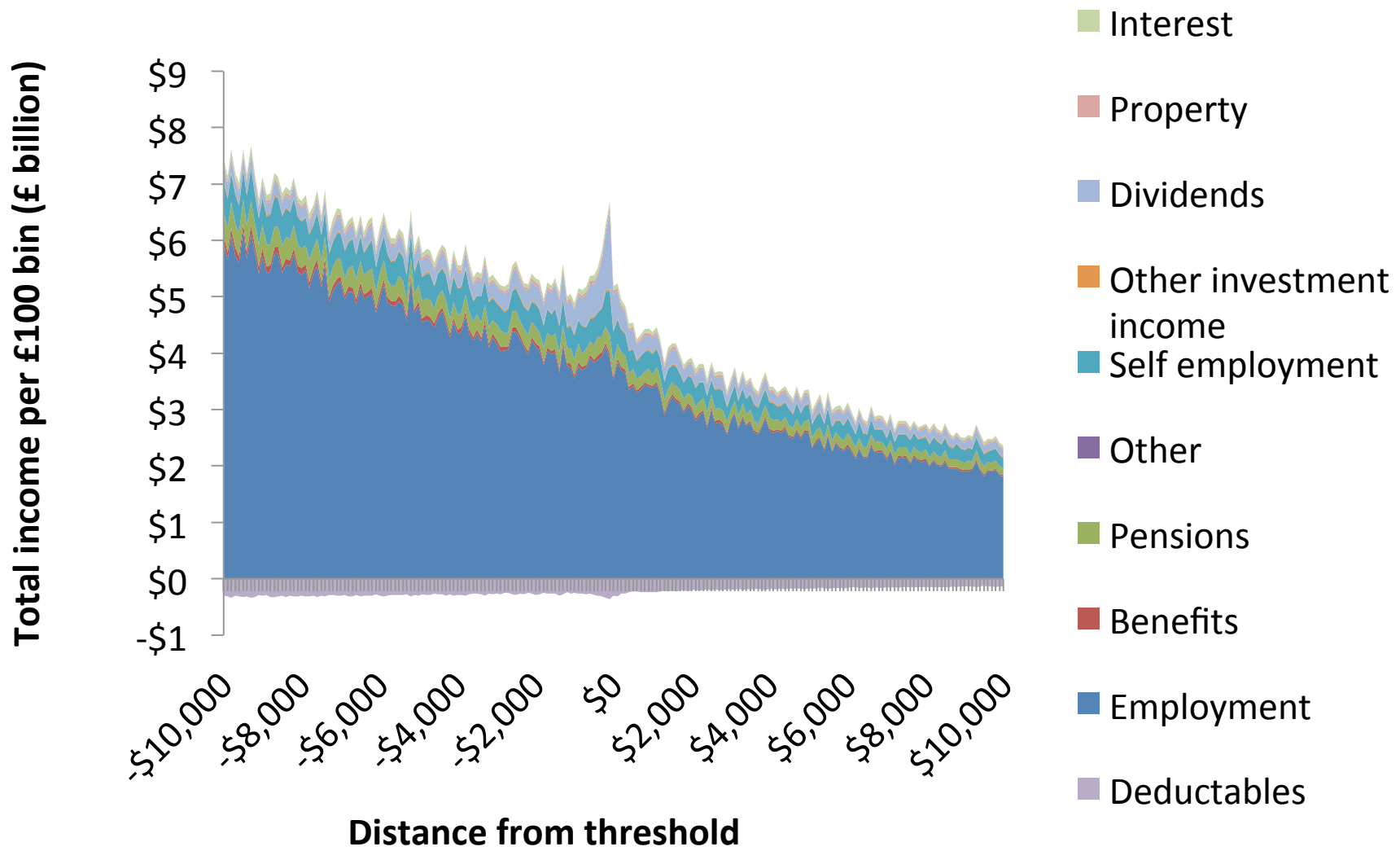


Note: assumes dividend from company paying small companies' rate. Includes income tax, employee and self-employed NICs and corporation tax.

Bunching at the higher rate threshold, UK



Composition of income around the higher rate tax threshold

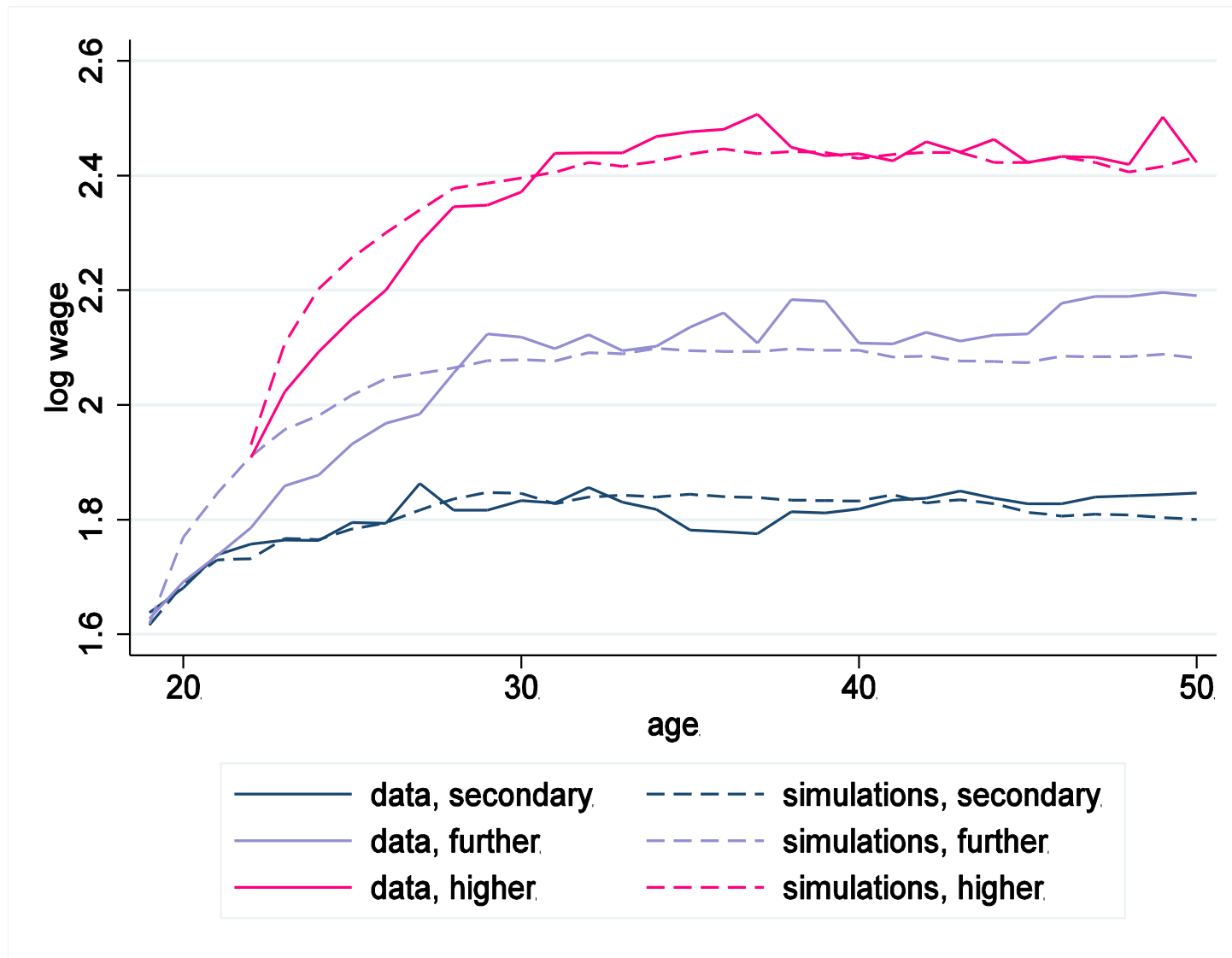


4. Evidence on the size of responses

- 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.
 - account for life-cycle facts, effective tax rates, and salience/stigma.
- What do we need to get observed responses to match with incentives?

- Labour supply elasticities vary in key ways by education group, family type and age. No single number!
 - large at certain key points in the working life and for certain demographic groups, this is where tax and welfare benefit distortions are important.
- Information, stigma and salience matter
 - distinguish large reforms that are well understood.
- Taxable income is responsive for self-employed and top earners
 - but often reflects tax shifting and avoidance.
- Experience matters: especially for those with above basic education
 - and, it seems, only for those in full-time employment,
 - can explain ‘success’ of simpler simulations of reforms for low-wage workers.
- To match employment, hours and wages over the life-cycle it is key is to allow complementarity between human capital investments
 - between schooling and ‘on the job’ investments.

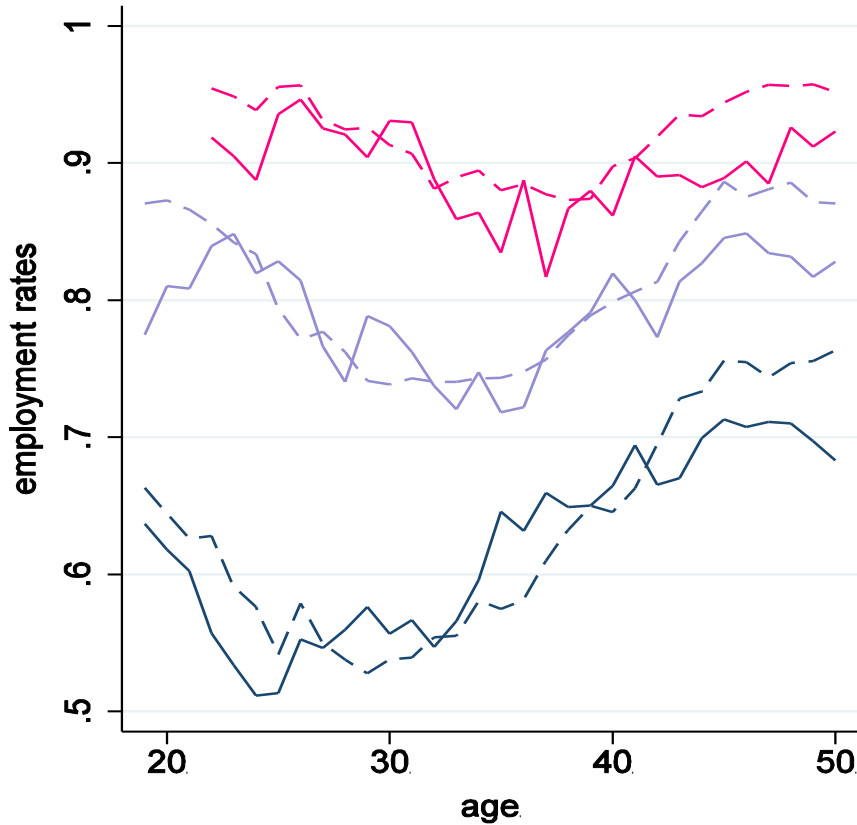
Data and Simulations for Wages by education and age – UK Women, BHPS



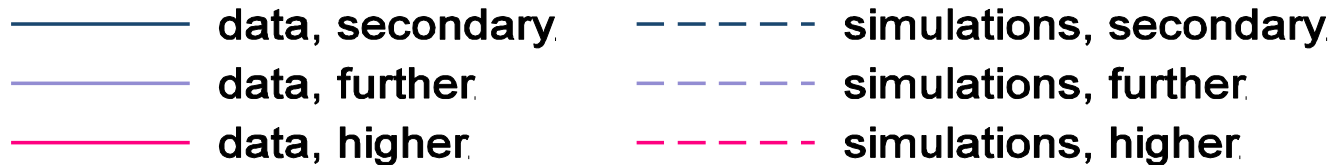
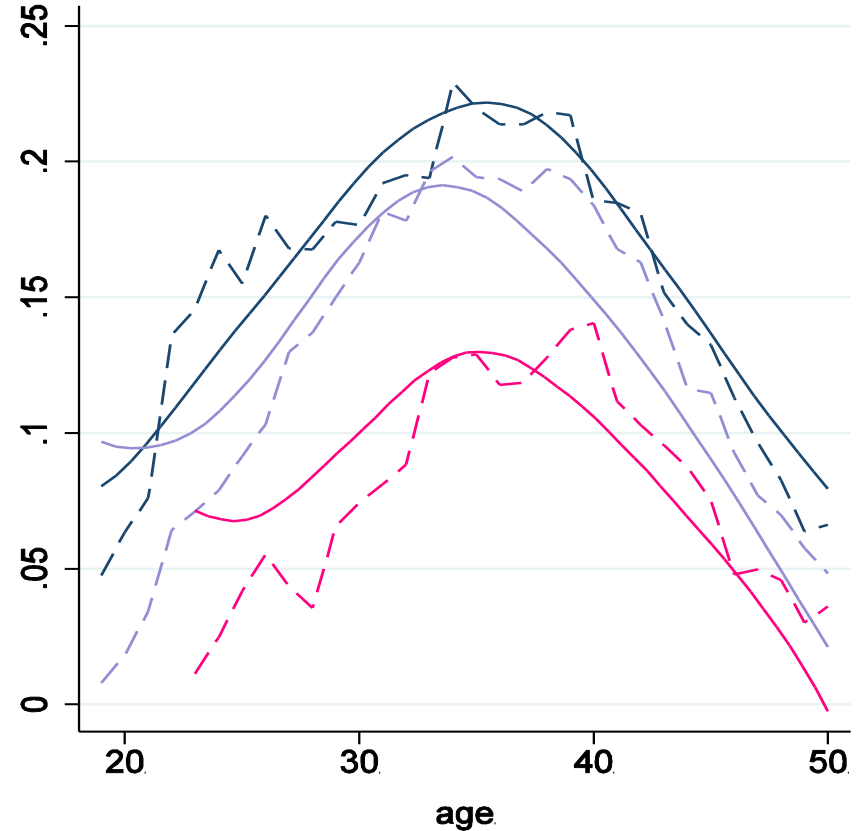
Source: Blundell, Dias, Meghir and Shaw (2013)

Data and Simulations for Women's Employment - UK

All employment



Part-time employment



Younger Workers

- Extensive margin responses are low ($e \approx .15$) at young ages for college educated
 - but much higher ($\approx .9$) for mothers with basic education & kids in 3-7 age range, and larger than intensive elasticities which are more modest ($\approx .5$)
 - extensive/intensive elasticities imply optimal earned income tax credits,
 - small human capital/experience effects for low educated so little progressivity but need to account for ‘take-up’.

Human capital effects

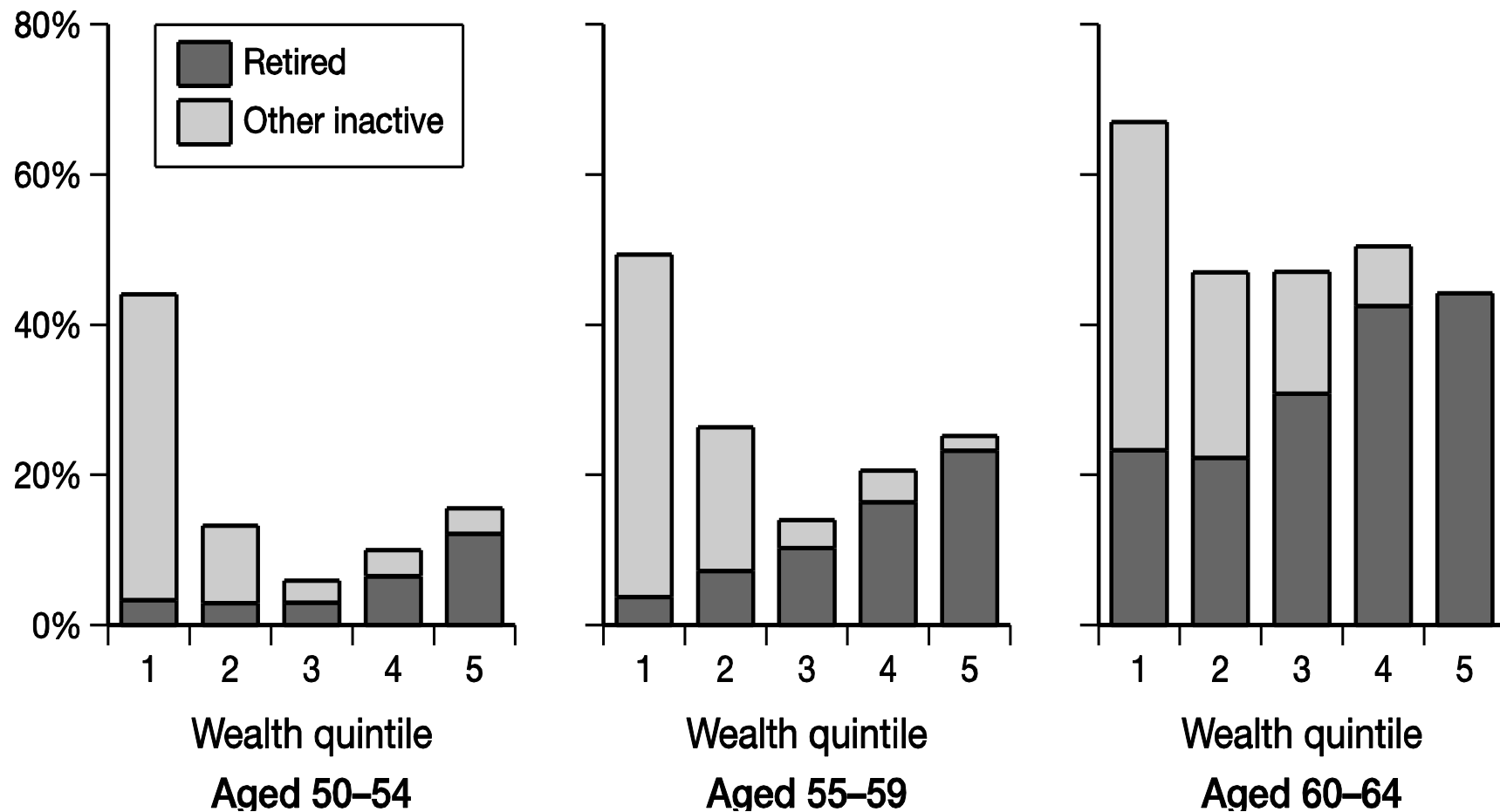
- Two forms of human capital – schooling and on-the-job investment
 - the hourly wages of those with more education are higher, and grow faster and for longer into the working life - formal education **complements** experience capital,
 - for educated young workers, unlikely to respond to tax incentives 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).

Early retirement and inactivity by age and wealth quintile

UK: men

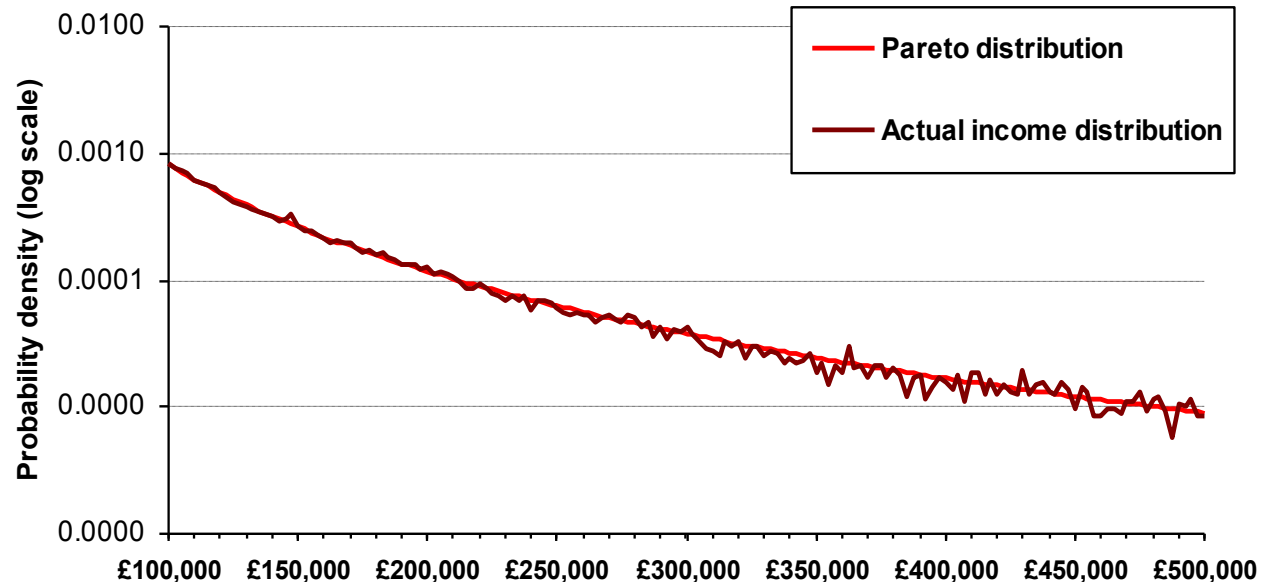


Note: Wealth quintiles are defined within each five-year age group.

Source: Banks and Casanova (2003), based on sample of men from the 2002 English Longitudinal Study of Ageing.

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 top rate
 - $1/[1 + \text{taxable income elasticity (e)} * \text{Pareto parameter (a)}]$



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

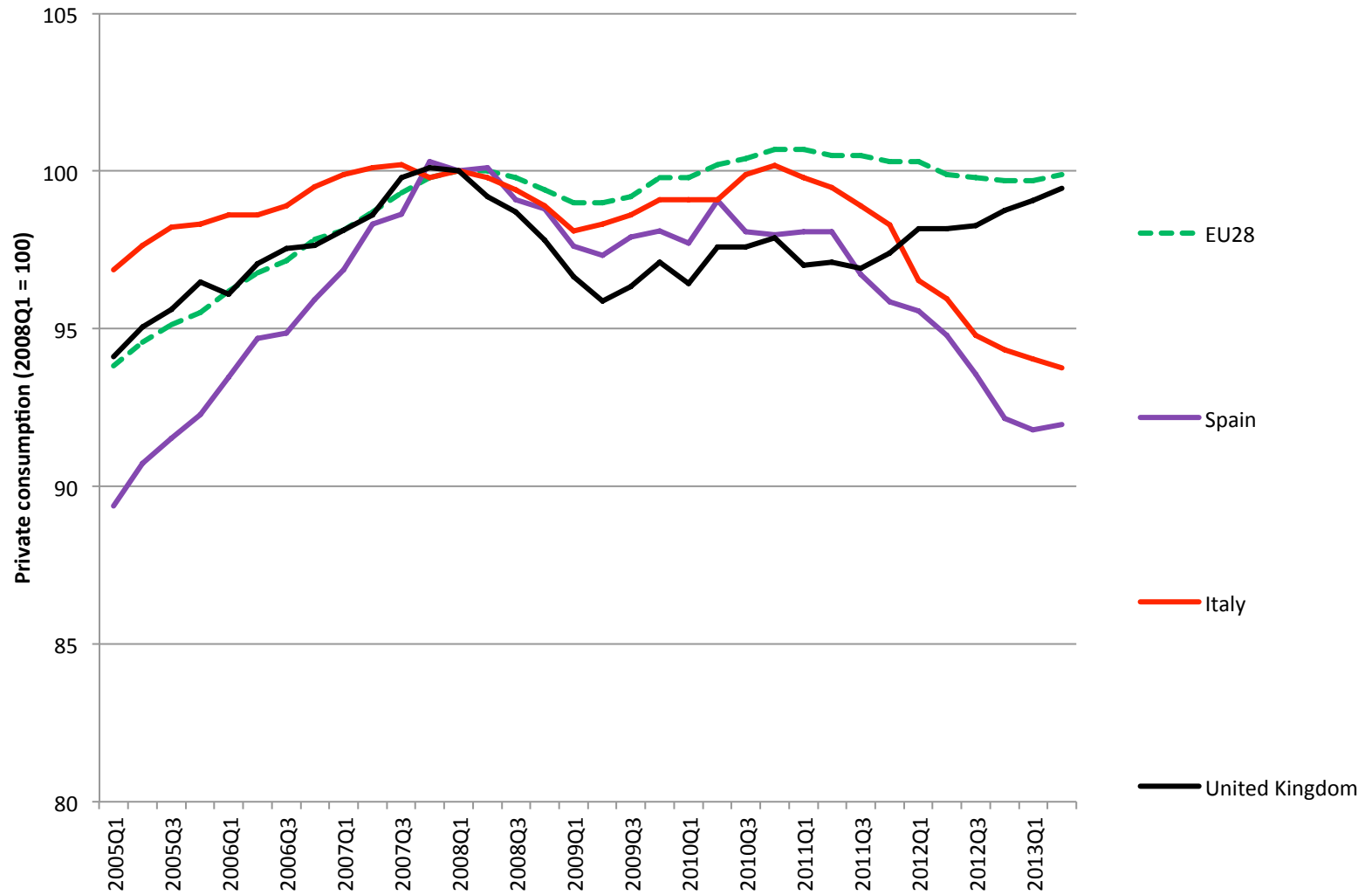
Some key messages emerge for reform:

- 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.

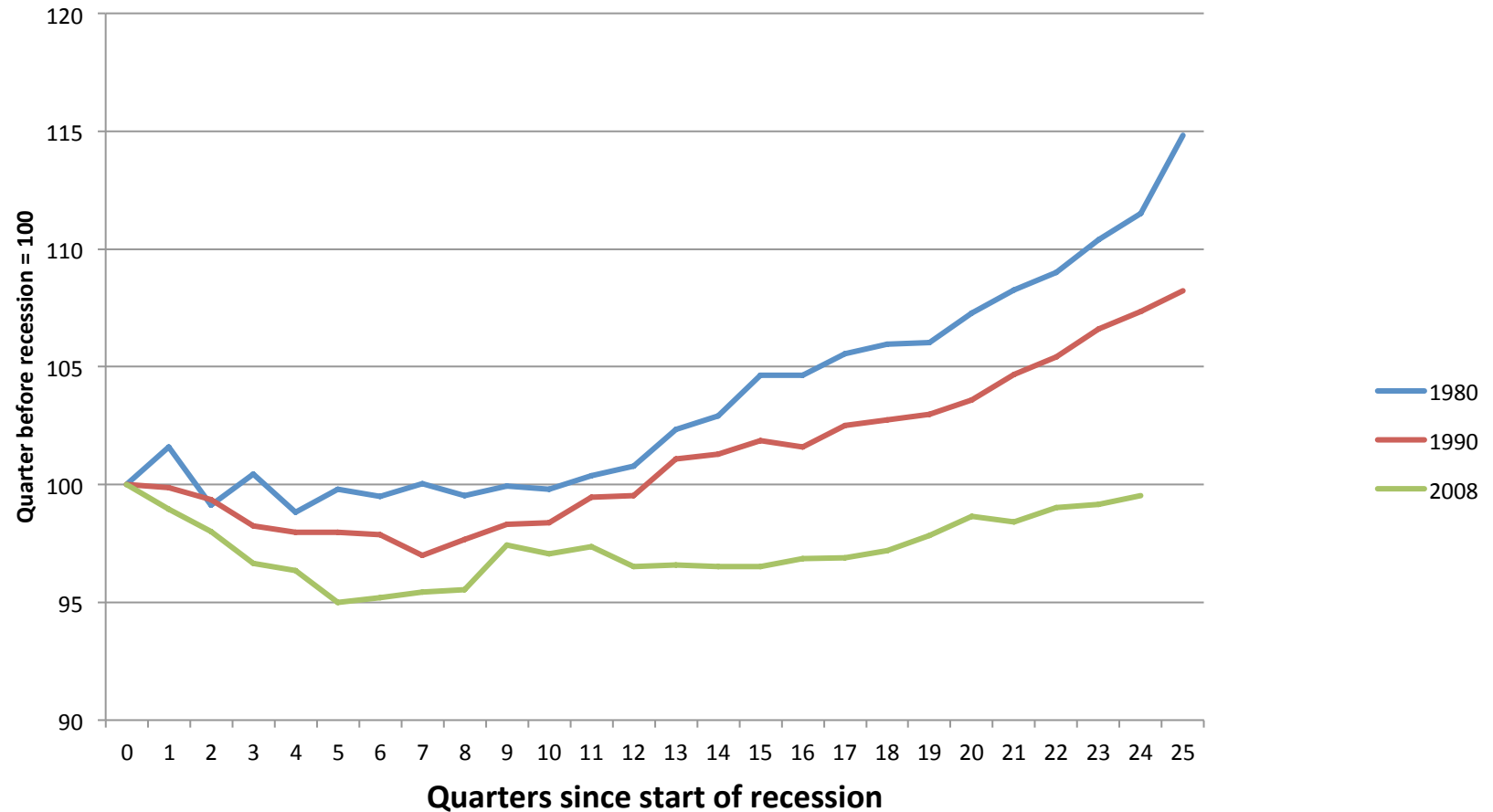
Evidence since the financial crisis suggests

- In general workers and families are acting as if they expect a long-run fall in relative living standards
 - evidence from consumption and saving; and 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, at least in the UK and US
 - 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.

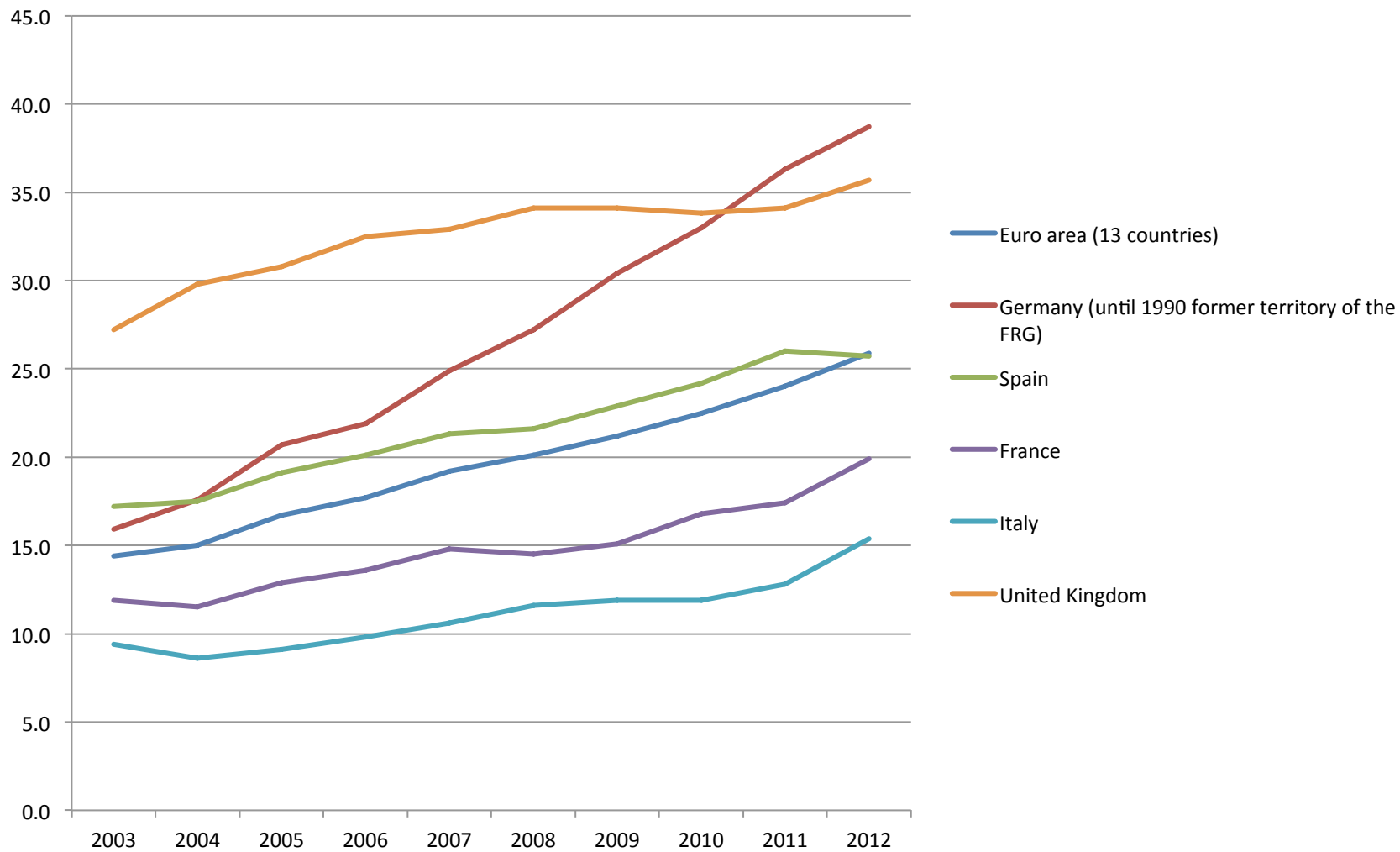
Consumption Growth



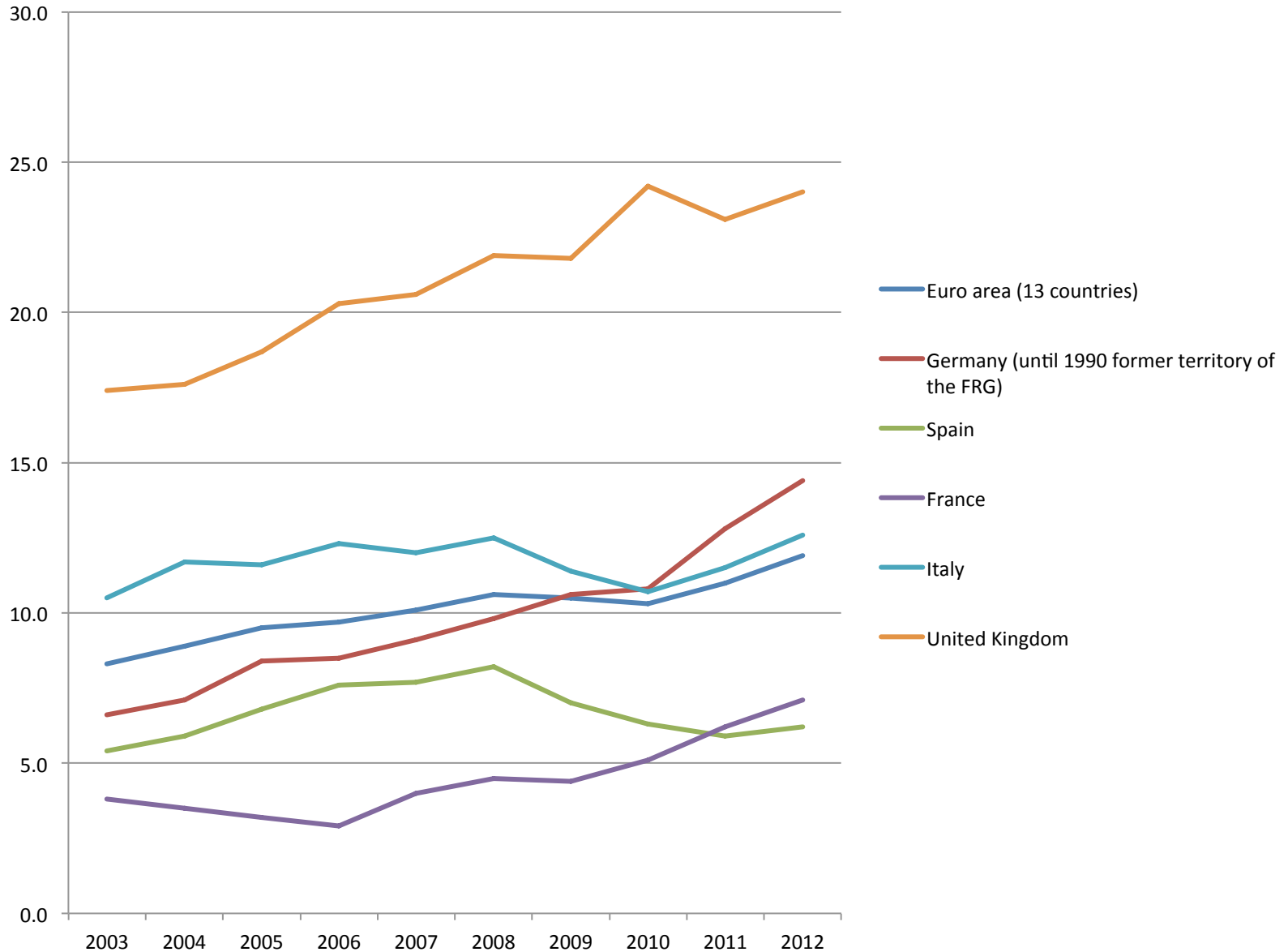
Non- (and semi) durables; UK recessions



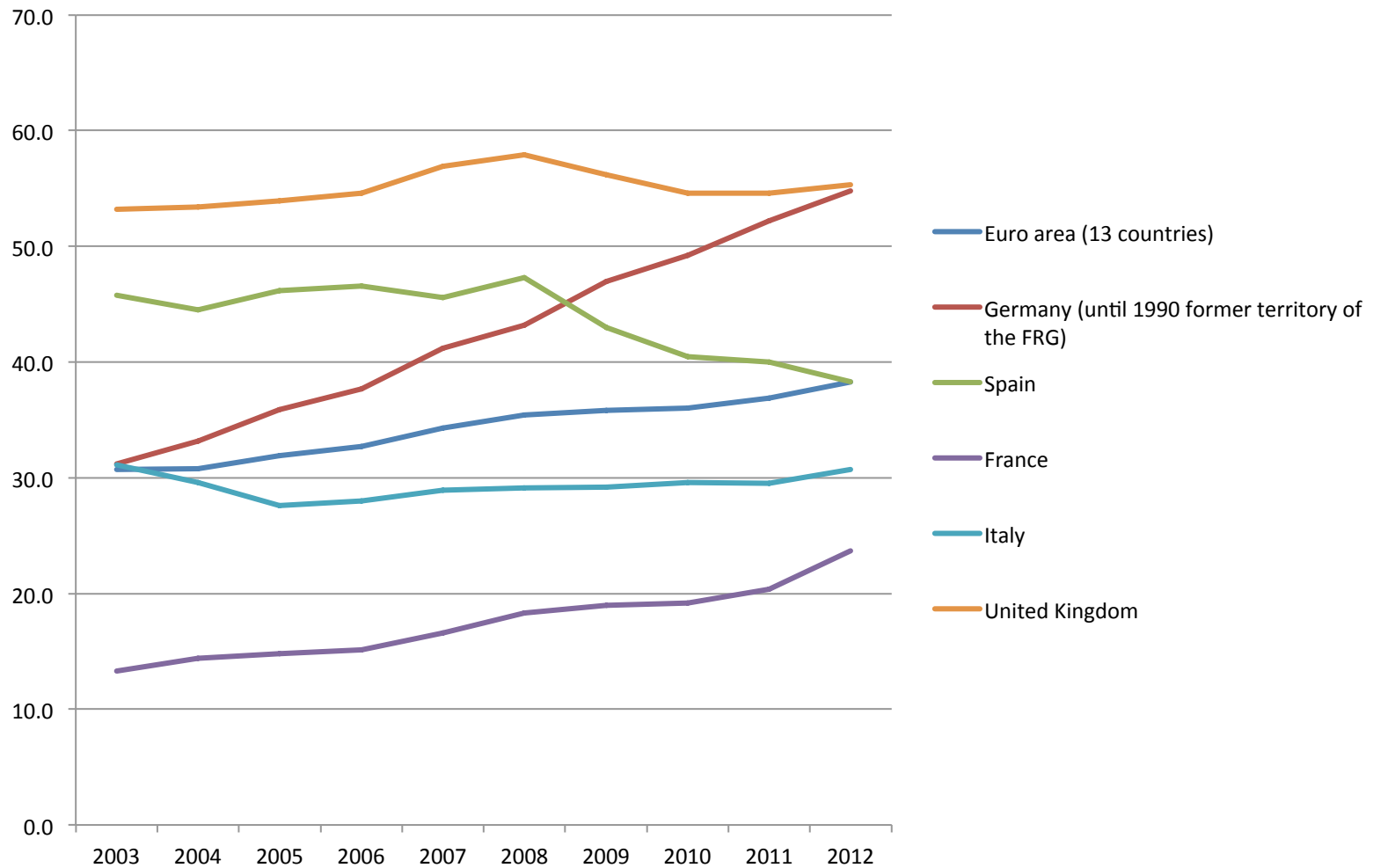
Employment rate for older workers: women aged 60-64



Employment rate for older workers: men aged 65-69

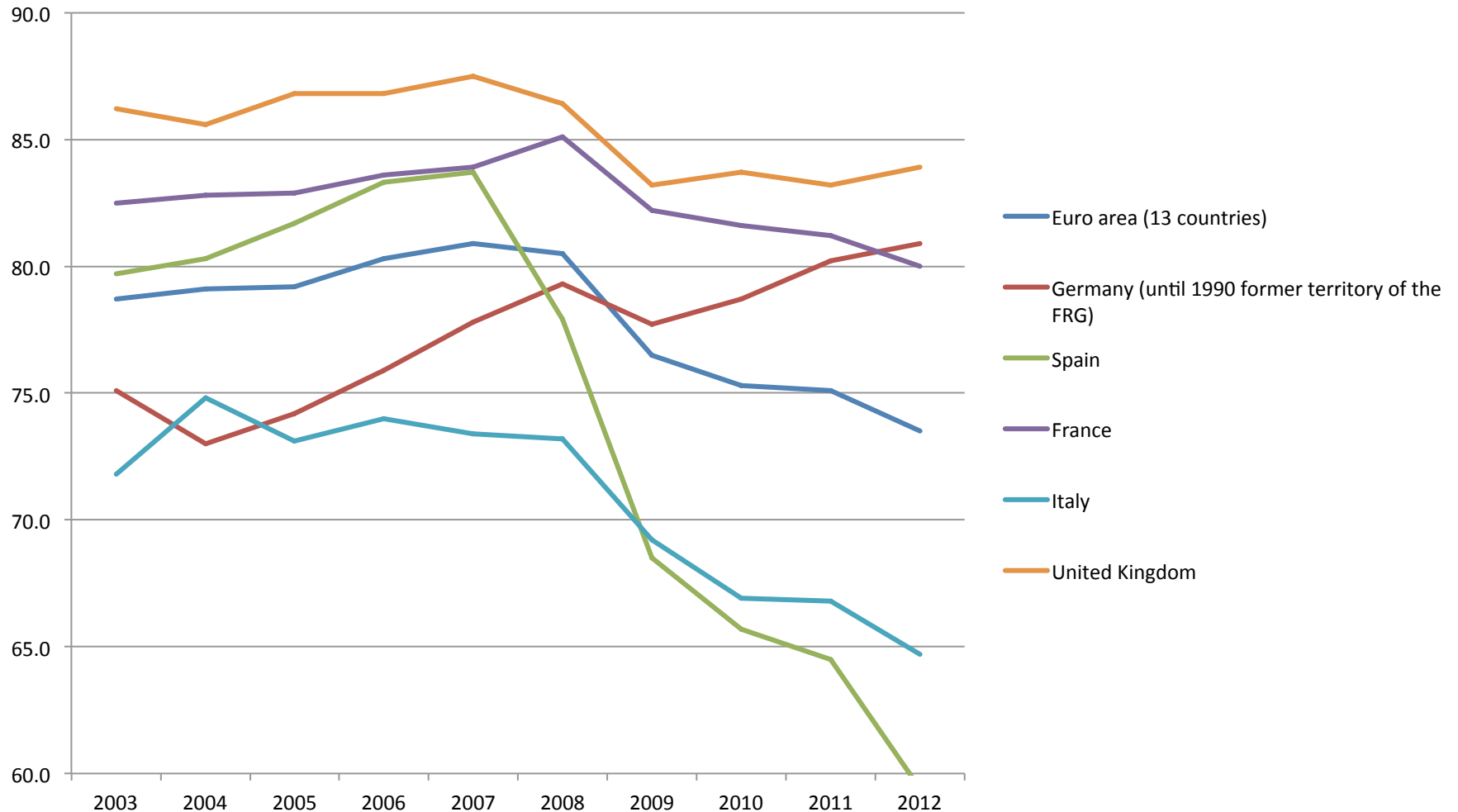


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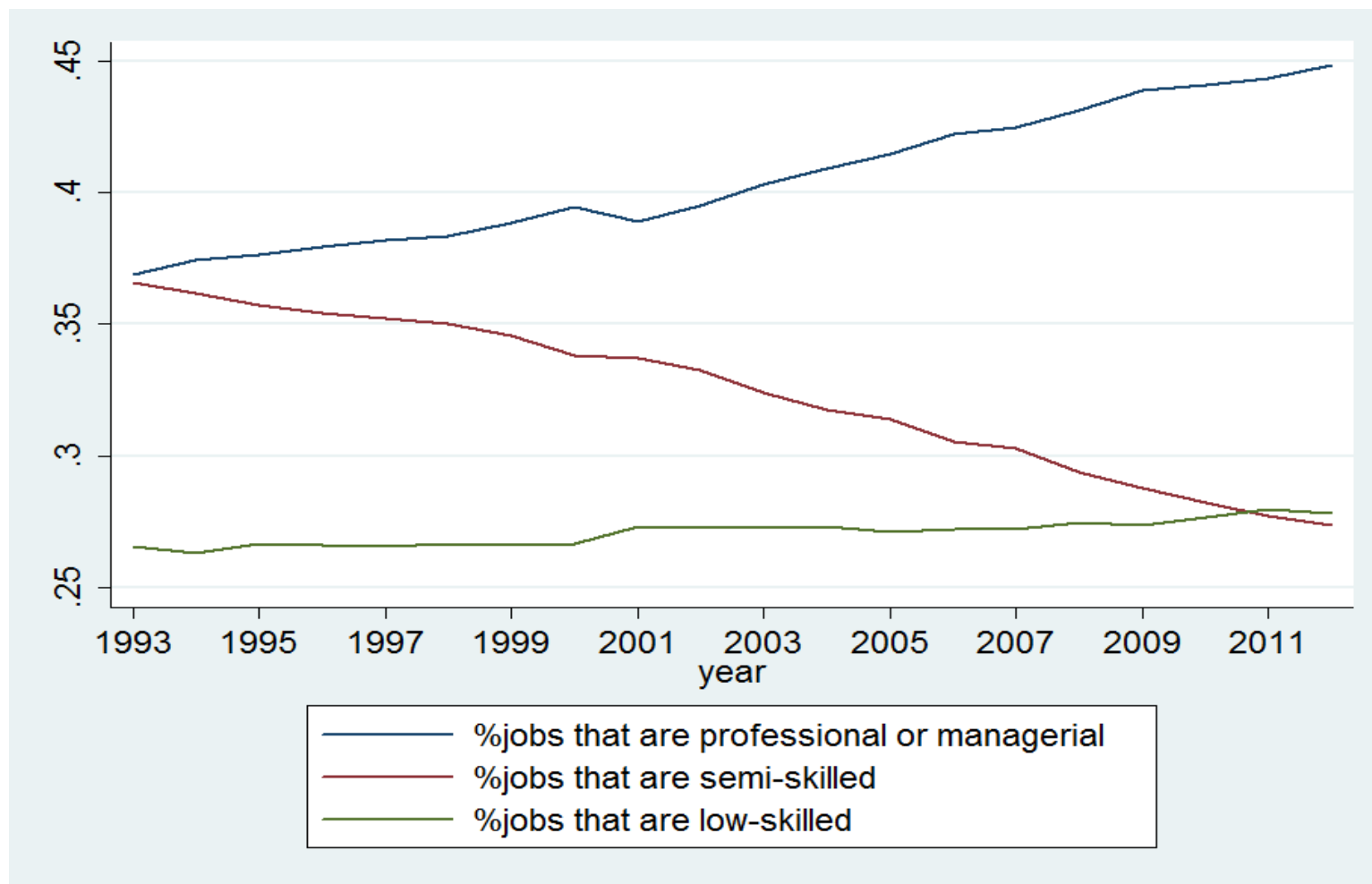


For the young employment fell back....

Employment rate: men aged 25-29



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

- 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.
- Productivity and capital investment 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 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.
- Human capital and ‘on the job’ wage/productivity complementarity
 - note the potential importance of mismatch of entry skills in this recession.
- Productivity remains a key issue.

5. 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.
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 - 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.

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 effect on human capital.
- Align tax rates at the margin across income sources