

# Inequality, Tax Reform and the Labour Market

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SBE Masterclass

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Richard Blundell

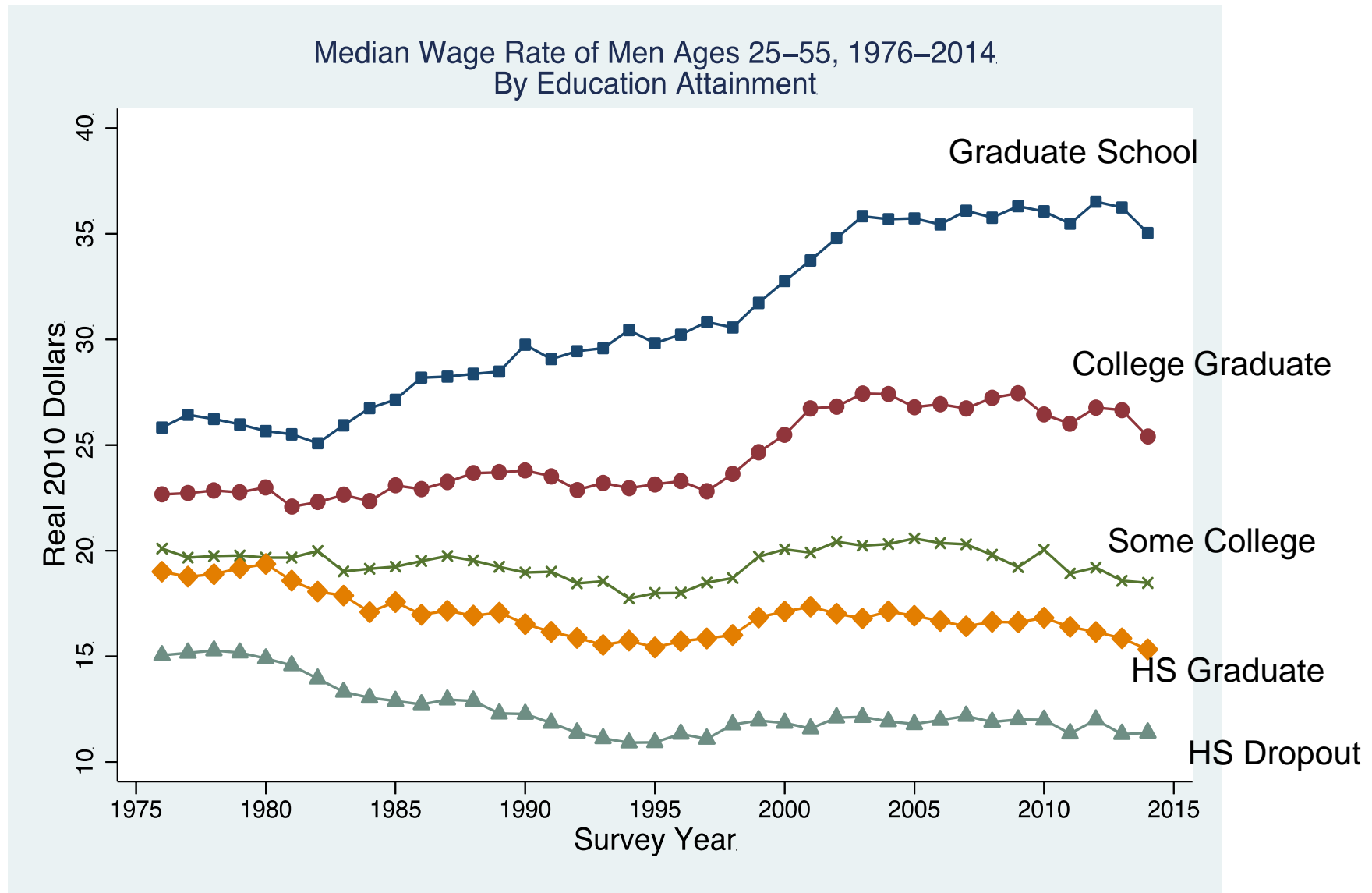
*University College London and Institute for Fiscal Studies*

Slide Presentation

# Inequality, Tax Reform and the Labour Market

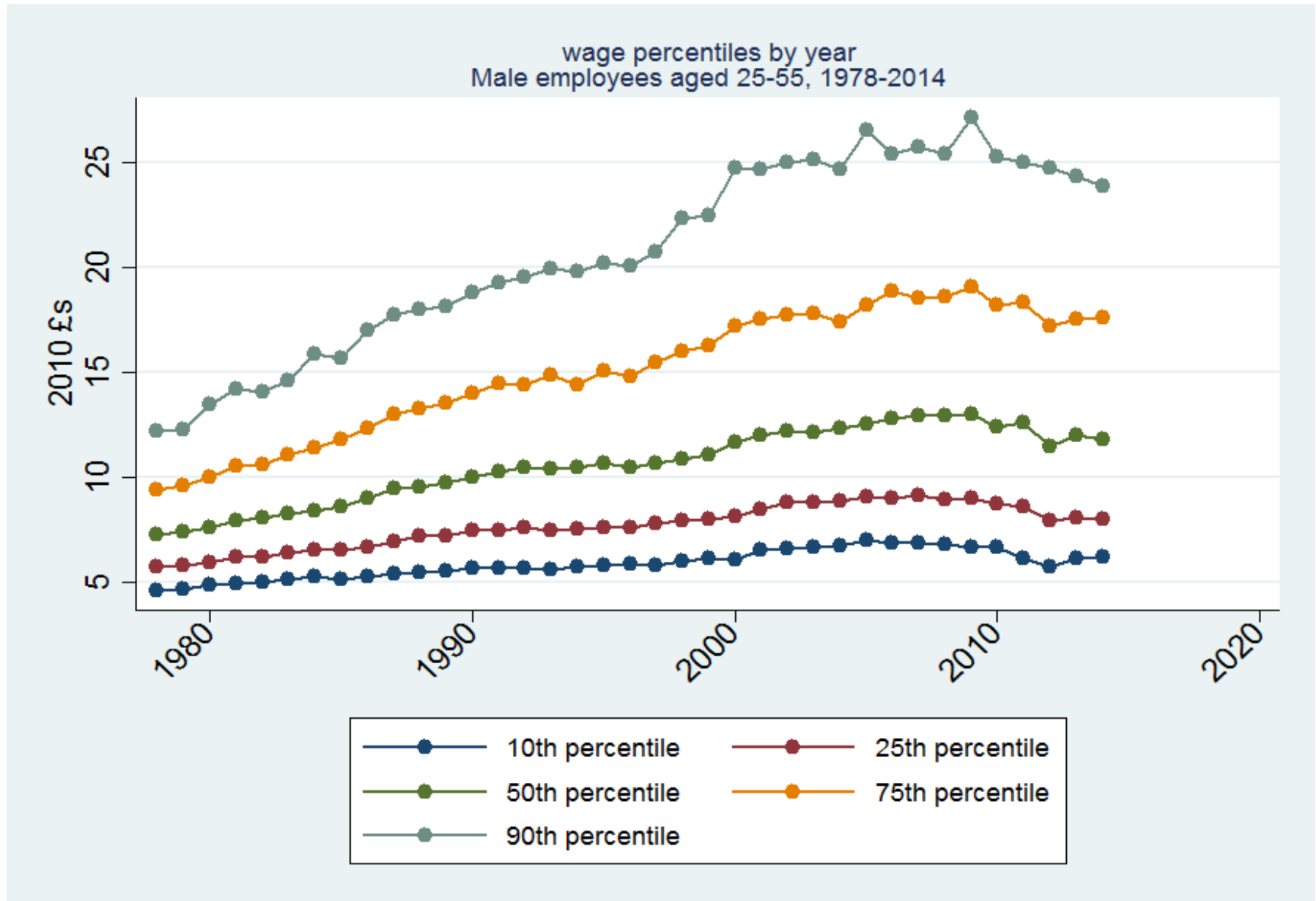
- Even before the financial crisis, many economies faced increasing inequality and growing pressure to increase employment and earnings
  - the great recession added to the pressure on government revenues, making it even more important to get the tax and welfare-benefit system right.
- Focus here will be on tax and welfare-benefit reforms as they impact on the *earnings, family incomes and inequality*
  - Looking also at the *role of empirical evidence in the analysis of tax reform*. A data revolution in empirical economics...
- Examining some of the key challenges:
  - falling real earnings for low skilled, especially men,
  - inequality at the top.
- Let's set the scene with evidence from both sides of the Atlantic....

# Male Median Real Wages for Men (US)



Source: Blundell and Ziliak (2017), Notes: CPS.

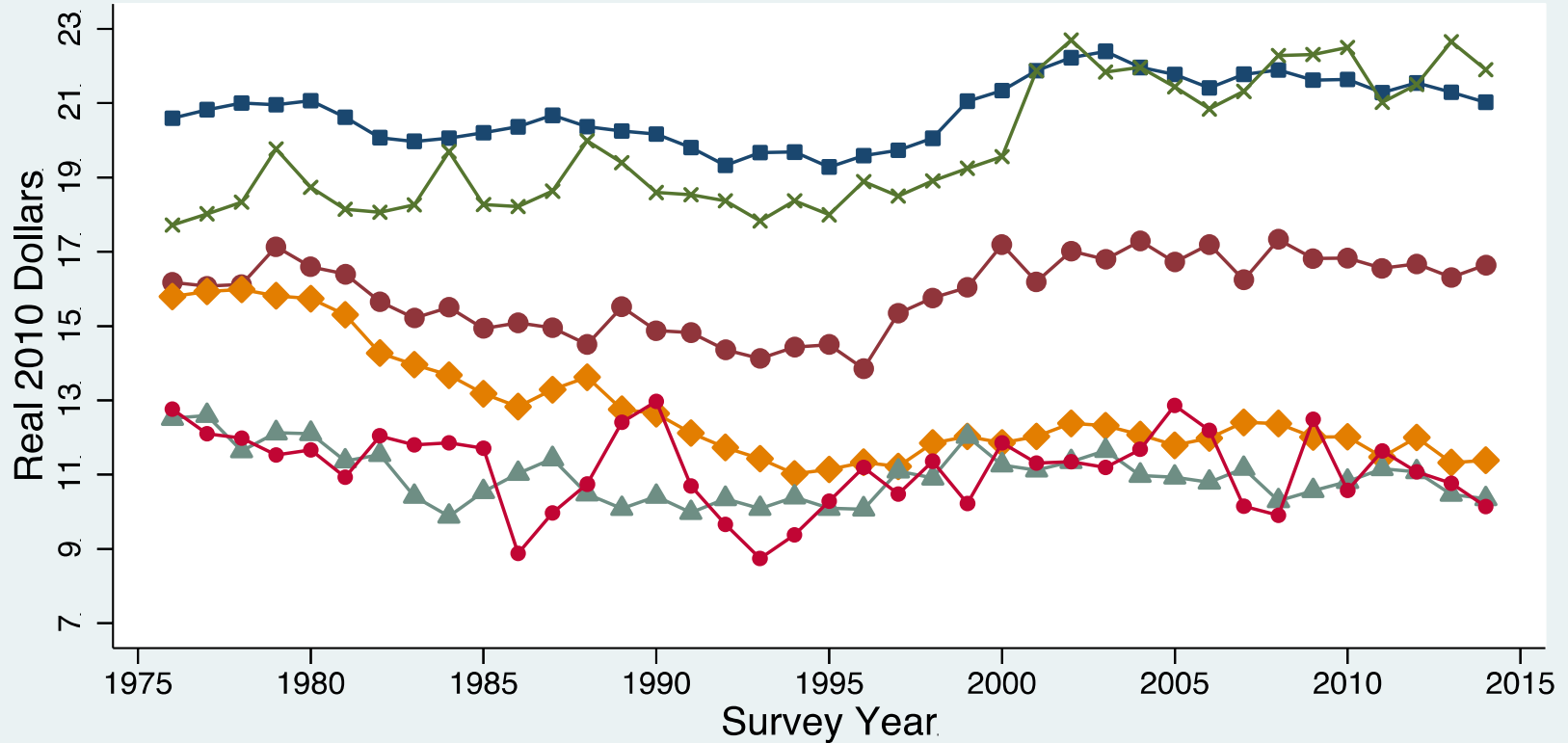
# Male Median Real Wages for Men (UK)



Source: Blundell and Ziliak (2017), Notes: FES.

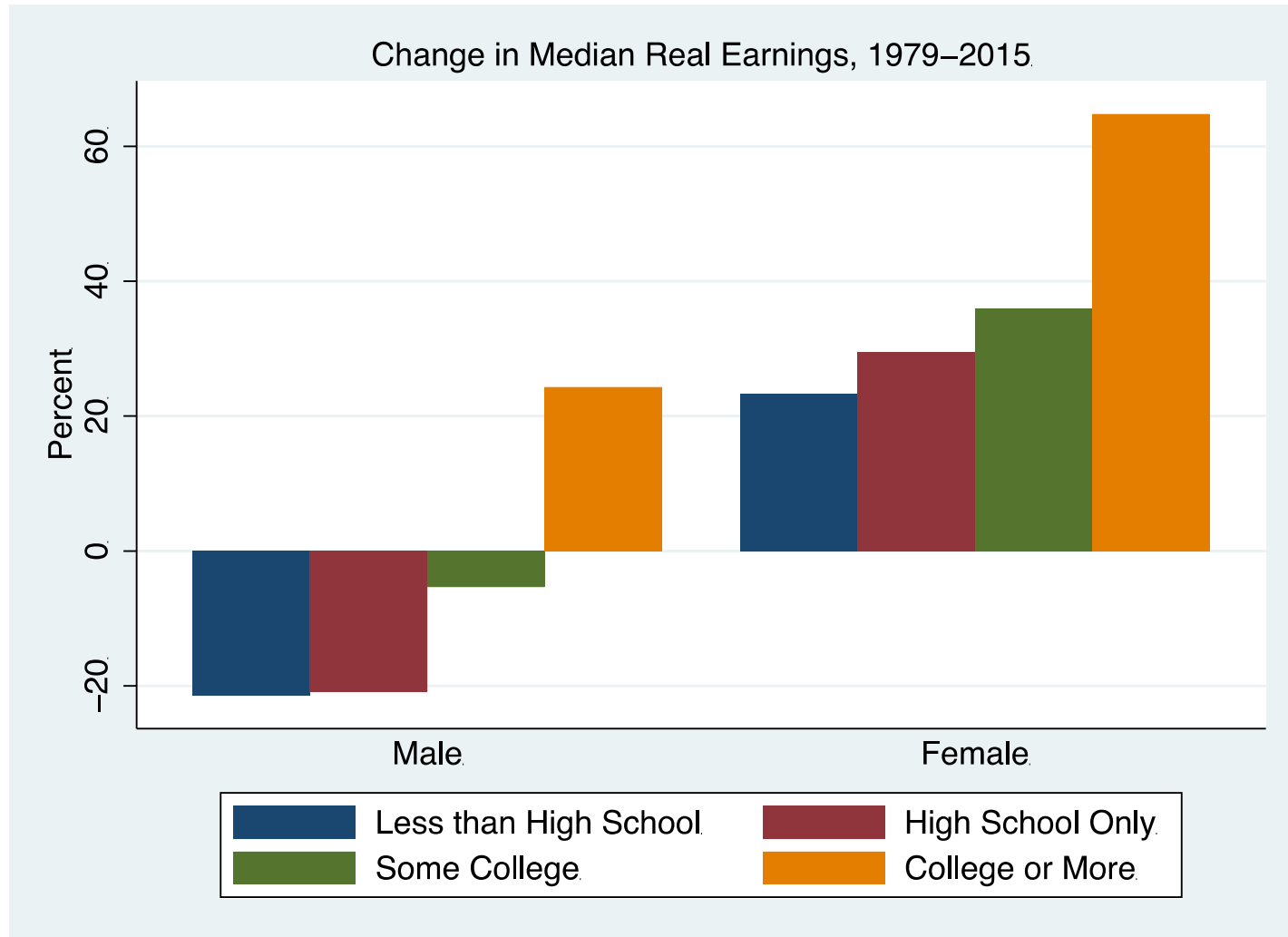
# Male Median Real Wages by Race and Education (US)

Median Wage Rate of Men Ages 25–55, 1976–2014.  
By Race and Education Attainment



Source: Blundell and Ziliak (2017), Notes: CPS.

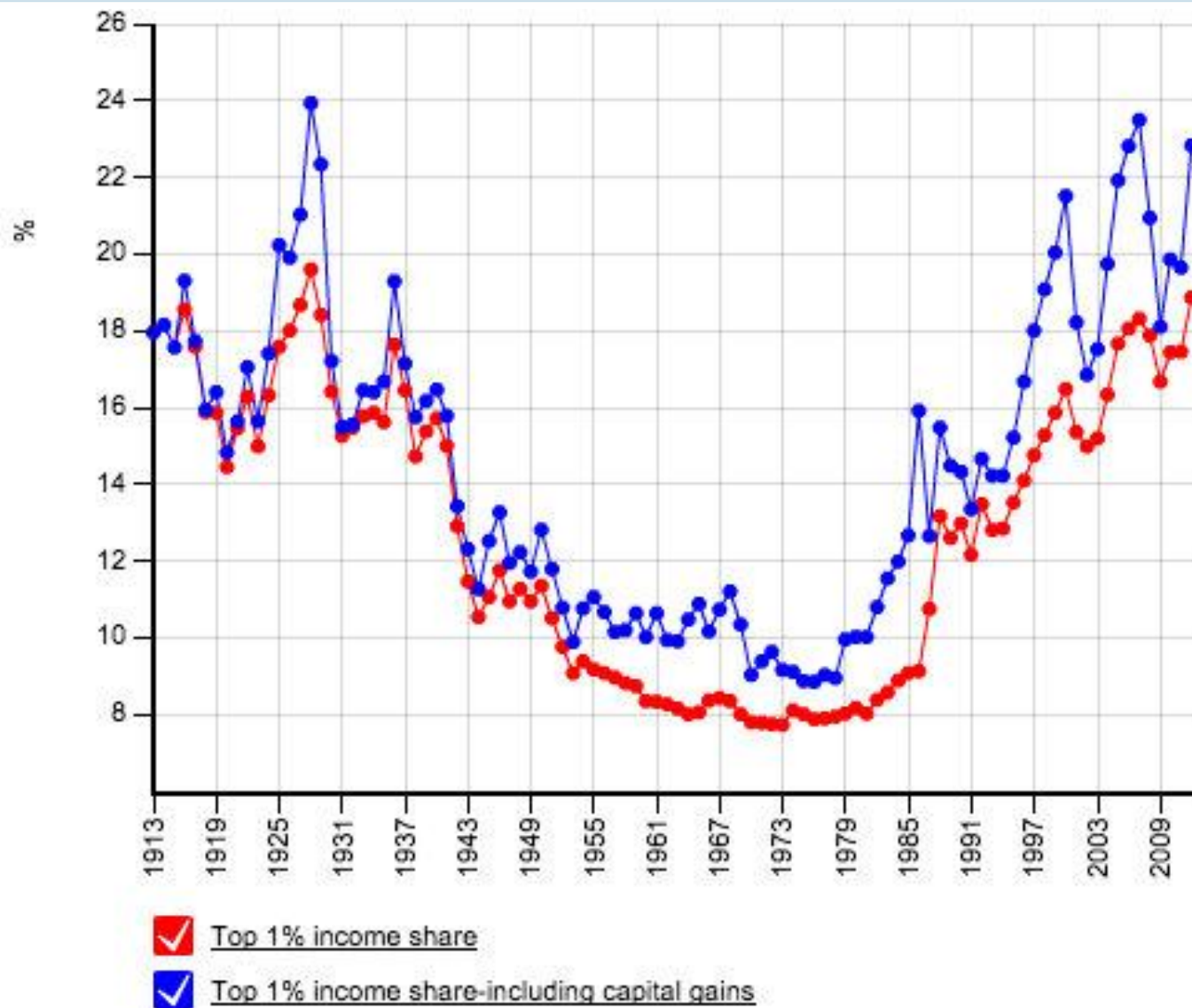
# Percent Change in Median Real Earnings for Men and Women from 1979-2015, for US by Education



Note: assortative partnering implies this has not improved 'between family inequality'.

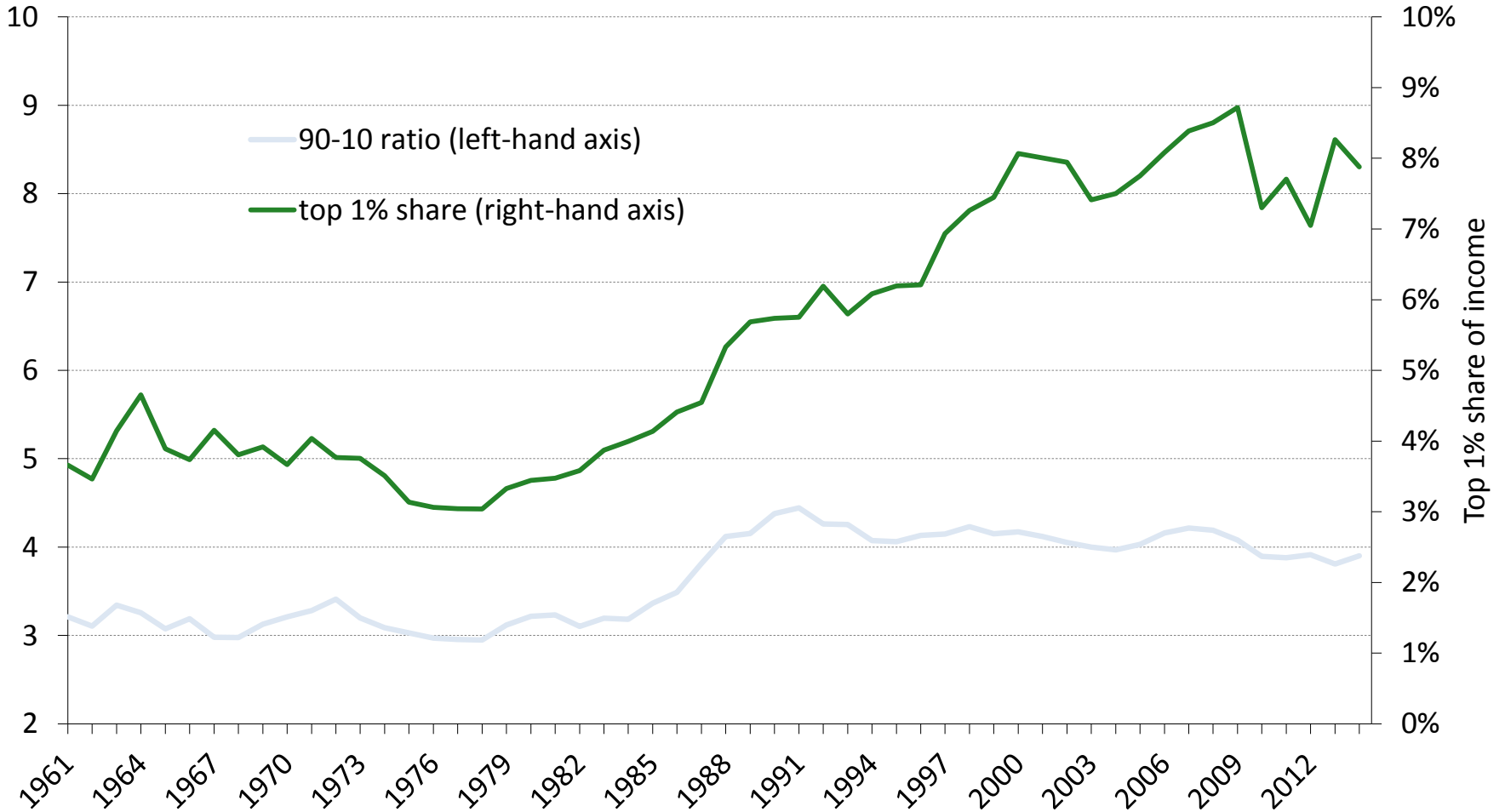
Source: Blundell and Ziliak (2017)

# Top Income Shares in the US



Source: Piketty and Saez (2013), Notes: World Top Incomes Database

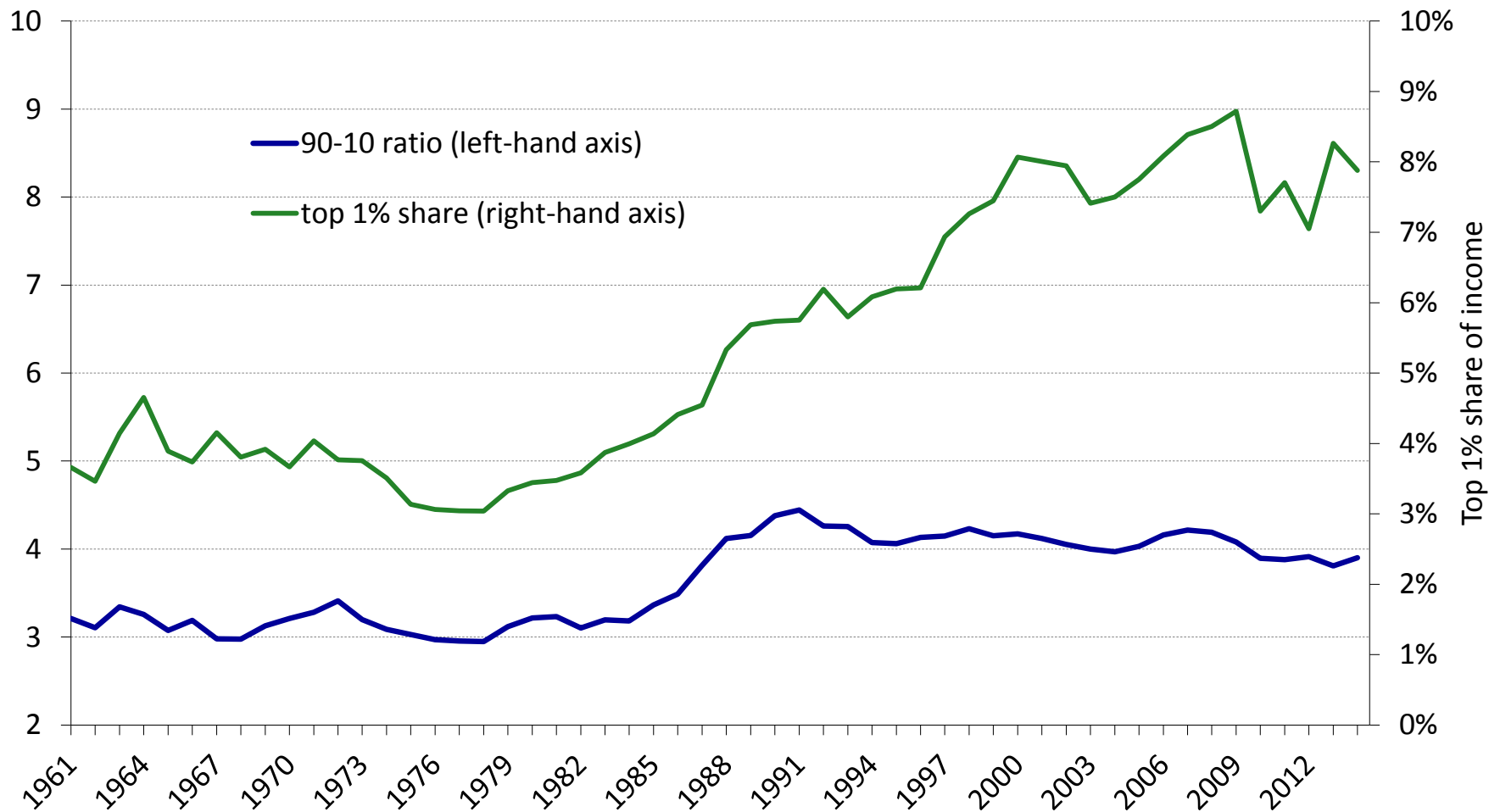
# In the UK Similar trends: the top 1%



Source: Belfield, Blundell, Cribb, Hood and Joyce (2016)



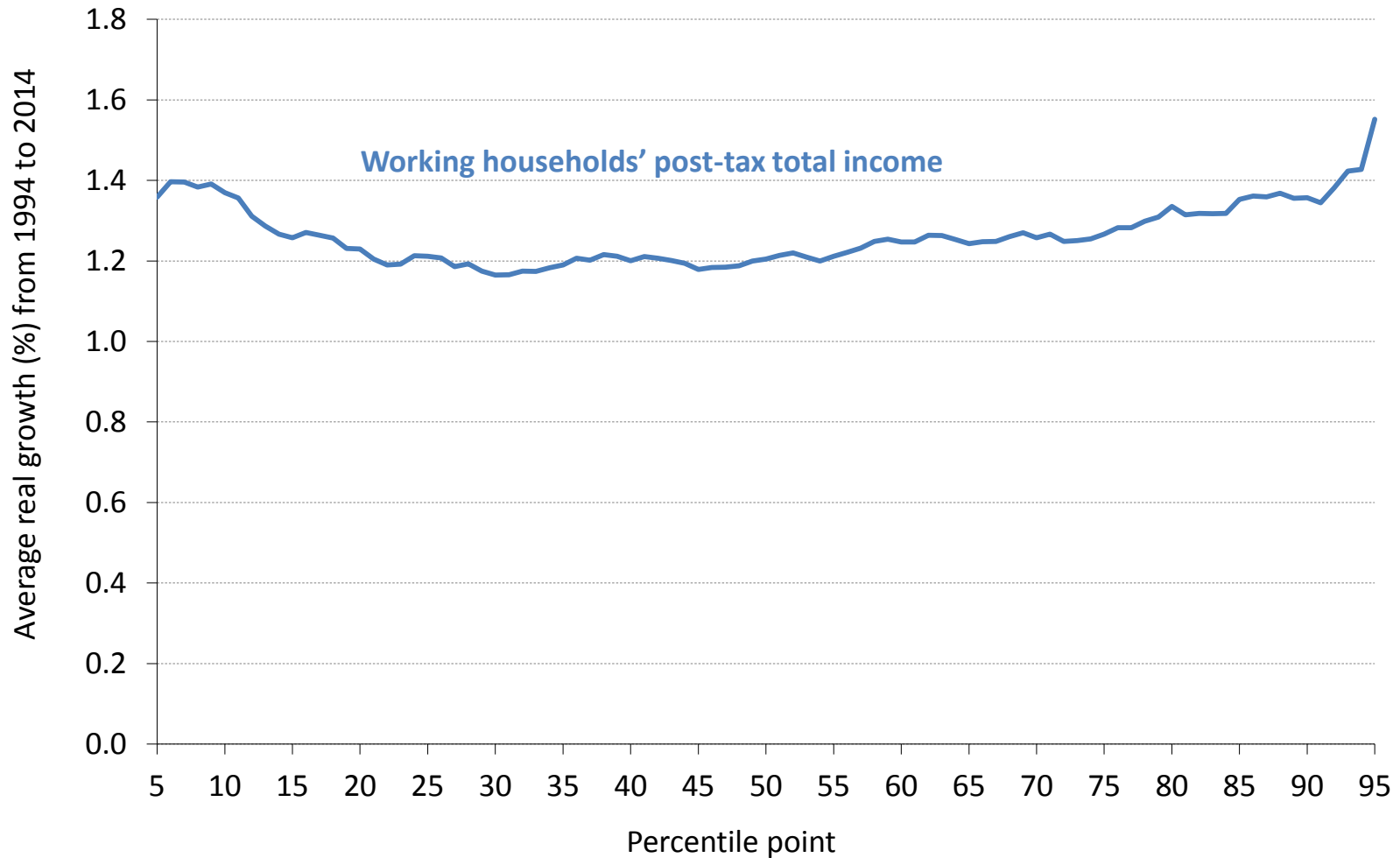
# The 90:10 ratio and the top 1% share show very different trends: Why?



Source: Belfield, Blundell, Cribb, Hood and Joyce (2016)

In the UK there has been a key role for benefits and tax-credits:

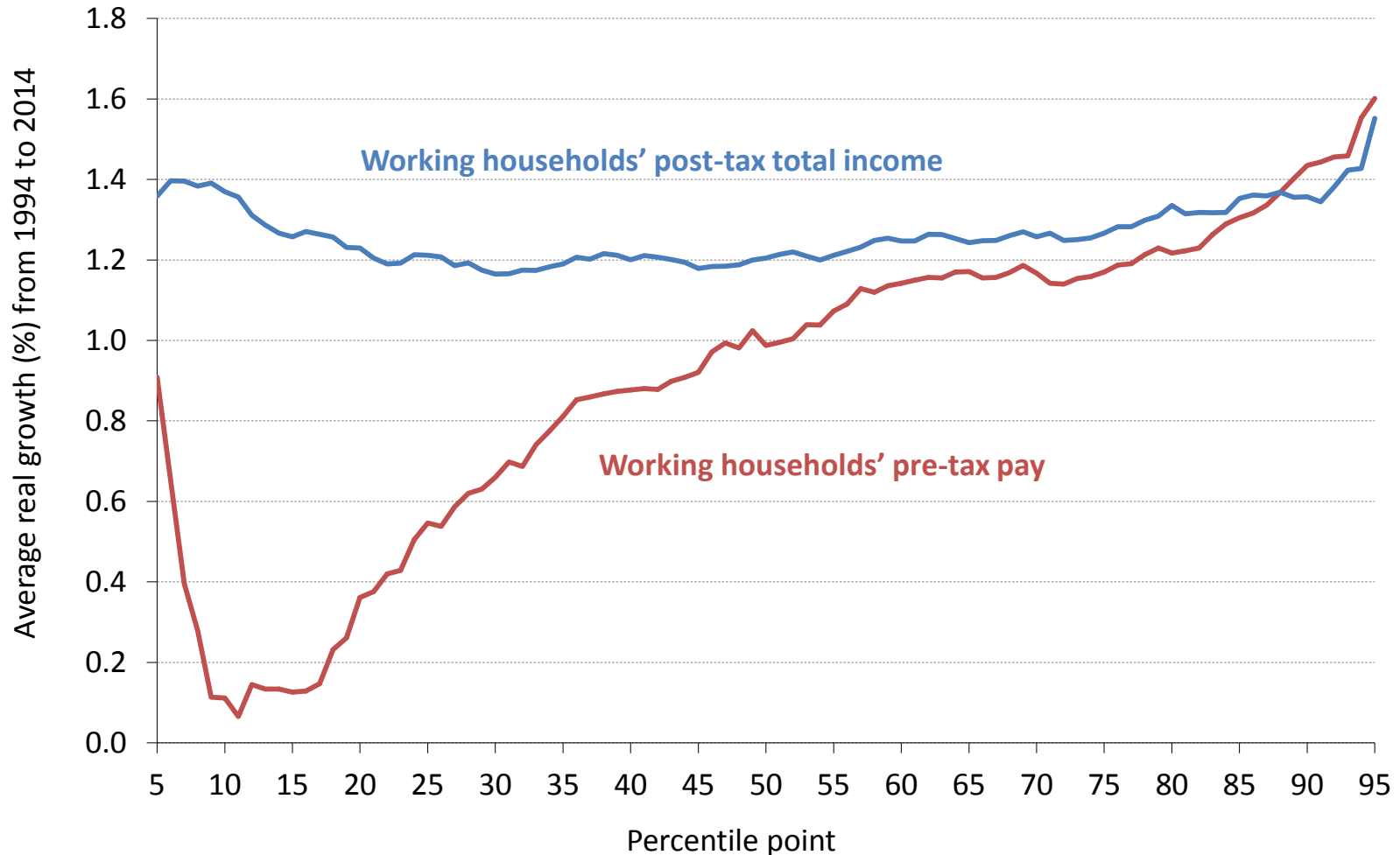
## *Household income growth for working households 1994/5 to 2014/5*



Notes: Includes self employment income and self employed households.  
Family Resources Survey. All income measures are equivalised.  
Source: Belfield, Blundell, Cribb, Hood and Joyce (2016)

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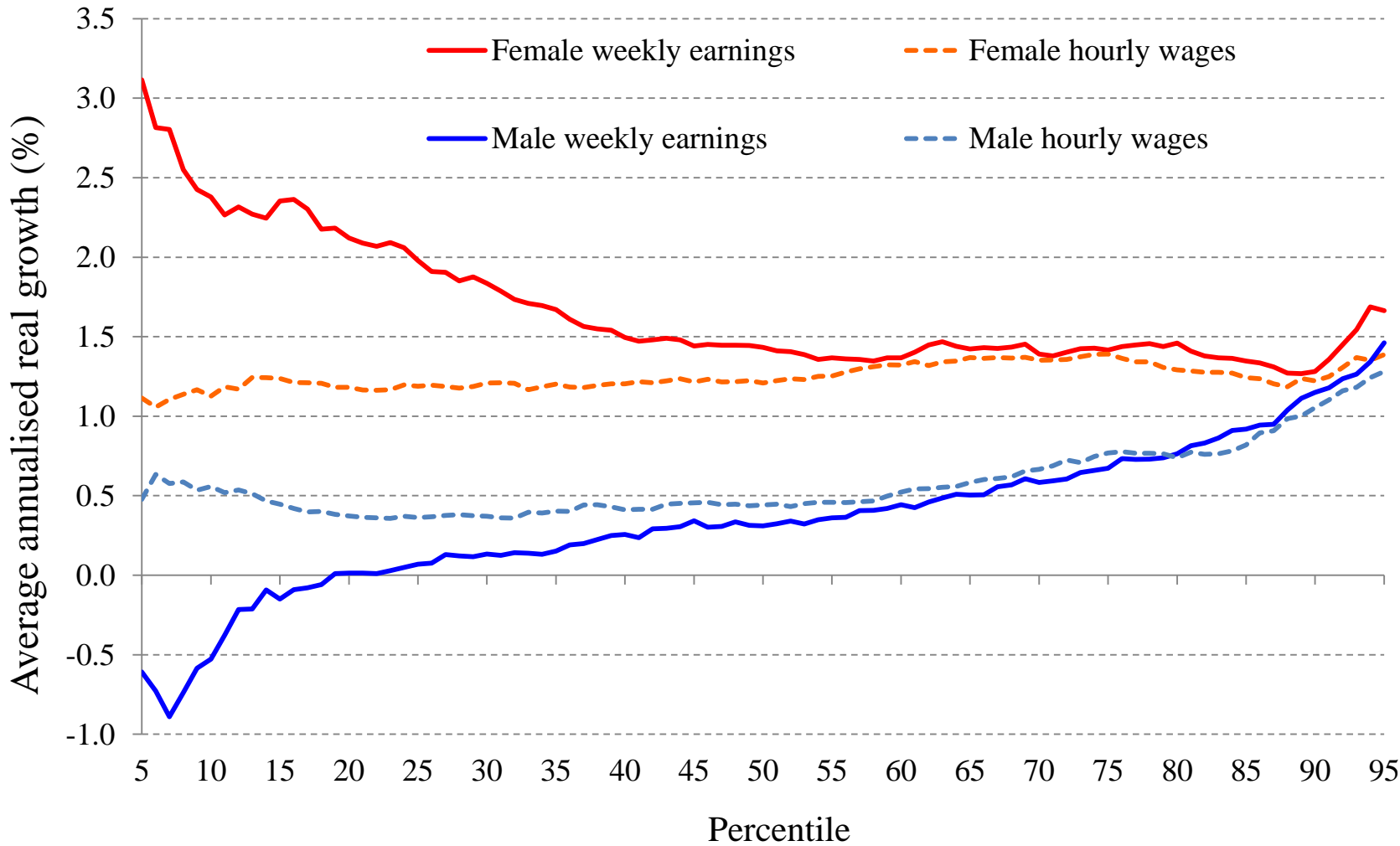
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Family Resources Survey. All income measures are equivalised.  
Source: Belfield, Blundell, Cribb, Hood and Joyce (2016)

# And a role for hours

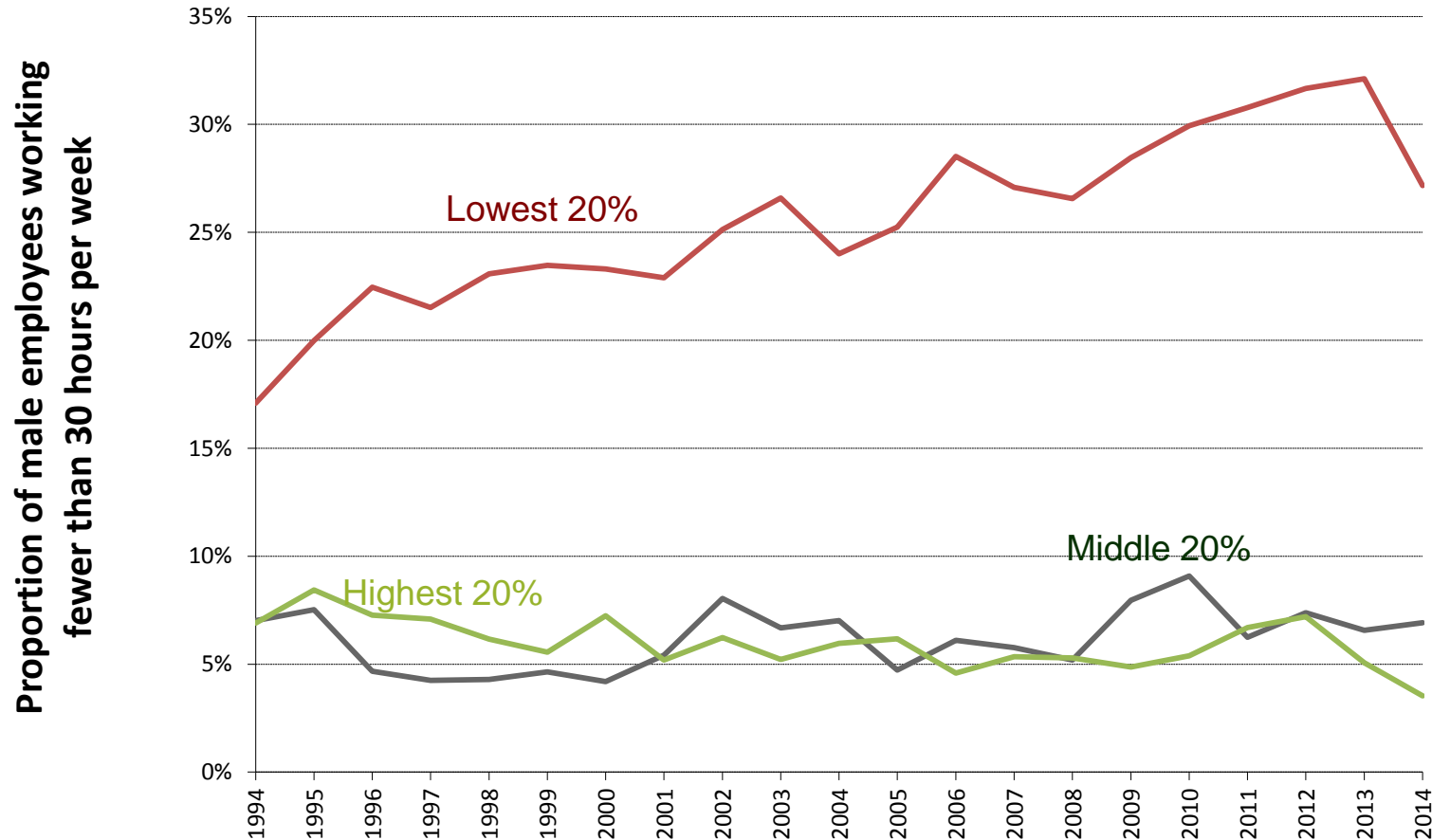
Weekly earnings and hourly wage growth, men and women, 1994–95 to 2014–15



Note: assortative partnering implies this has not improved between family inequality

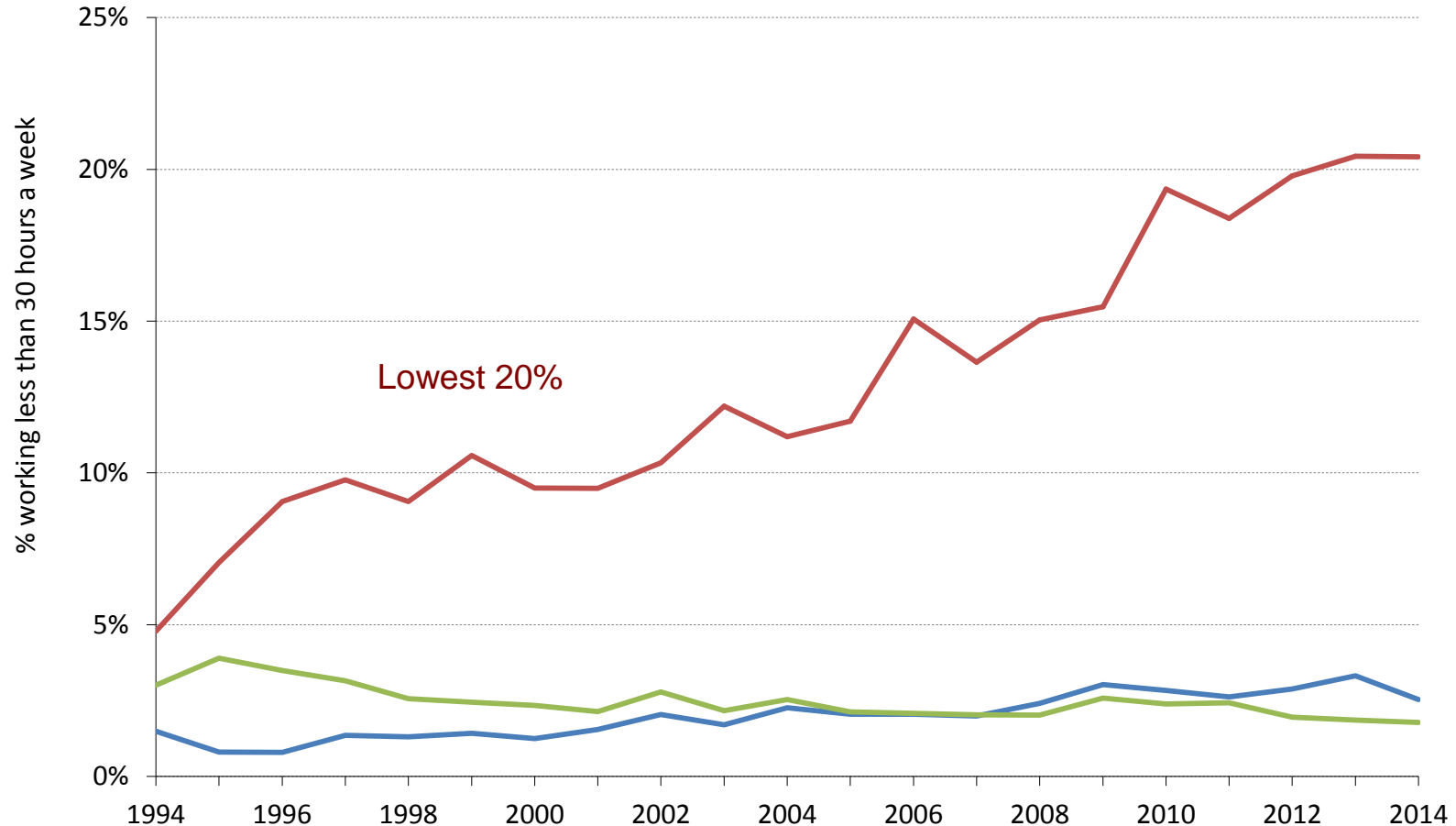
Source: Belfield, Blundell, Cribb, Hood and Joyce (2016)

# Proportion of men working less than 30 hours in the UK by hourly wage quintile



Notes: Sample is single male employees of working age, excluding those with hourly pay in the bottom 5% or top 5% of the overall hourly pay distribution. Hours are those in main job, and include paid but not unpaid overtime. Source: IFS calculations using Labour Force Survey

# Proportion of men working less than 30 hours in the UK by hourly wage quintile – aged 25-55



Notes: LFS: Men aged 25-55.

Source: IFS calculations using Labour Force Survey

## Draw on the *Mirrlees Review*

=> *Chaired by Jim Mirrlees; organised by IFS.*

- A comprehensive review of tax reform for the 21<sup>st</sup> century:
  - new evidence, new theory, a new economic environment.
- Aimed at developed open economies:
  - UK, US, France, Germany, Spain, Korea, NZ, Holland, Japan,...
- Two accessible volumes: 'Dimensions of Tax Design' and 'Tax by Design', published in 2011 by OUP, available *open access*.
- Also draw on four “spin-off” studies:
  - 'Labour Supply and the Extensive Margin'; *AER* '11
  - 'Optimal Taxation of Low Income Families'; *REStudies* '12
  - 'Two Decades of Inequality: earnings and redistribution'; *Economica* '16.
  - 'Labour Supply, Human Capital and Tax Reform'; *Ecta* '16

## Microeconomic research has experienced a data revolution:

1. Detailed access to tax and welfare records allows incentives to be measured correctly and benefit take-up accurately modelled.
2. Administrative panel data also allows us to see what adjusts, when, and for whom.
3. Linked with surveys and field experiments this is a powerful tool for research and a persuasive tool for practical policy reform.

Use this Masterclass to think through how we should use evidence in tax design:



# How we should use evidence in tax design?

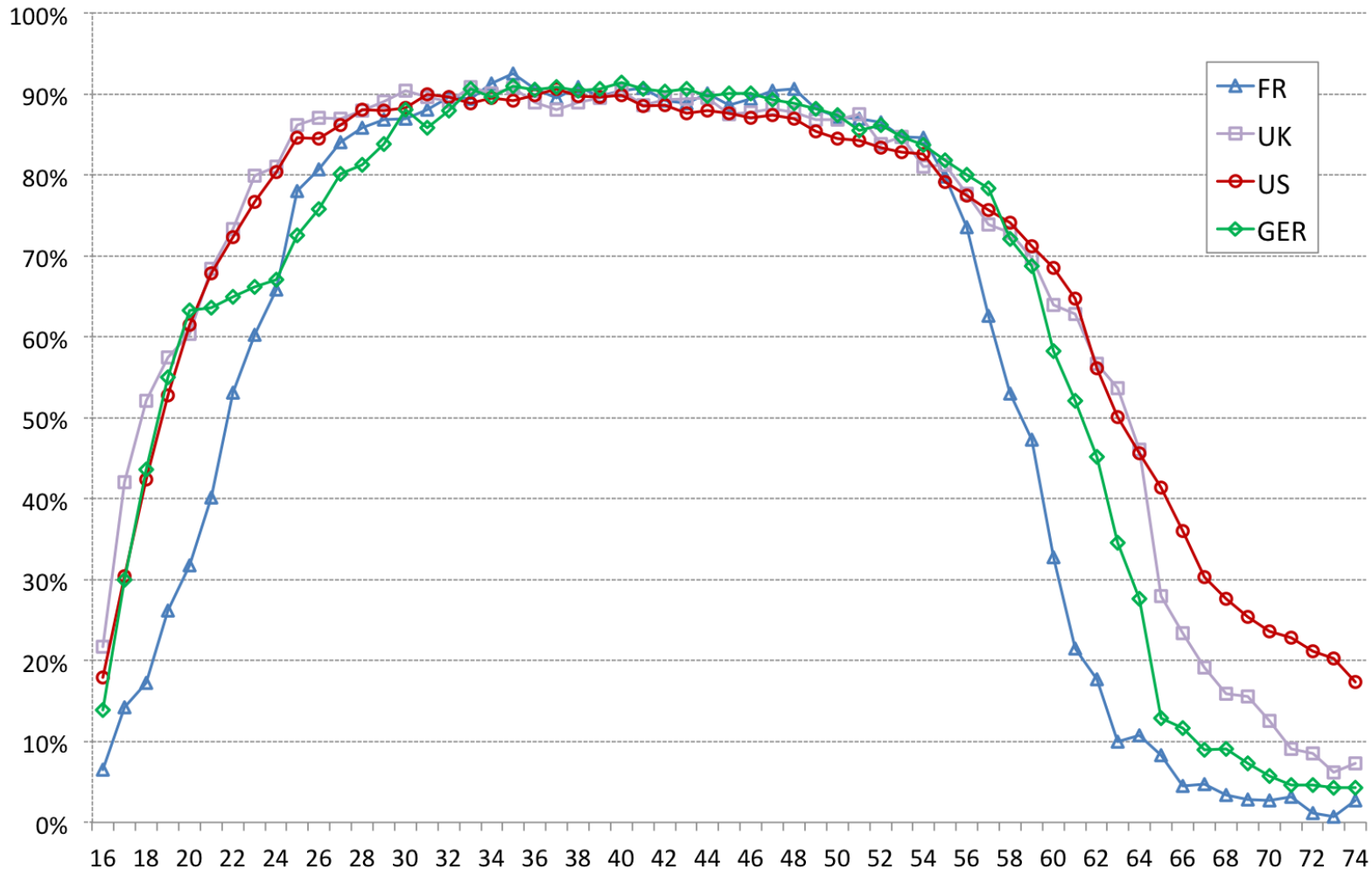
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Reflecting on the *Mirrlees Review*, propose 5 steps(!):

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
- => build an empirically based agenda for tax reform to address inequality and enhance earnings.

# 1: Key margins of adjustment

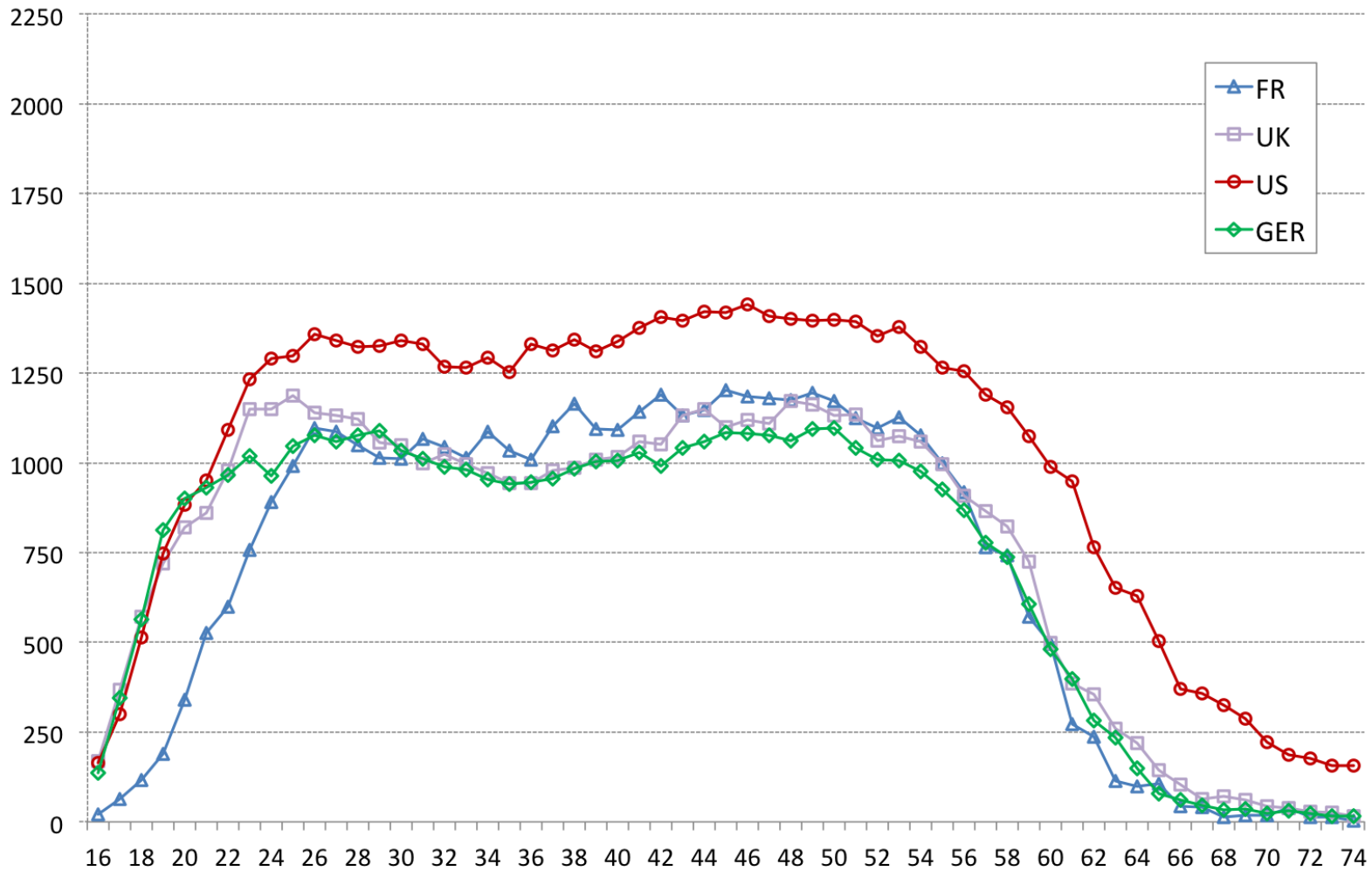
## Employment for men by age – FR, UK, US & GER 2007



Source: Blundell, Bozio, Laroque and Peichl (2014)

- It's not all the extensive margin
  - intensive and extensive margins both matter
  - and they matter in different ways by age and demographic groups
- Female hours?

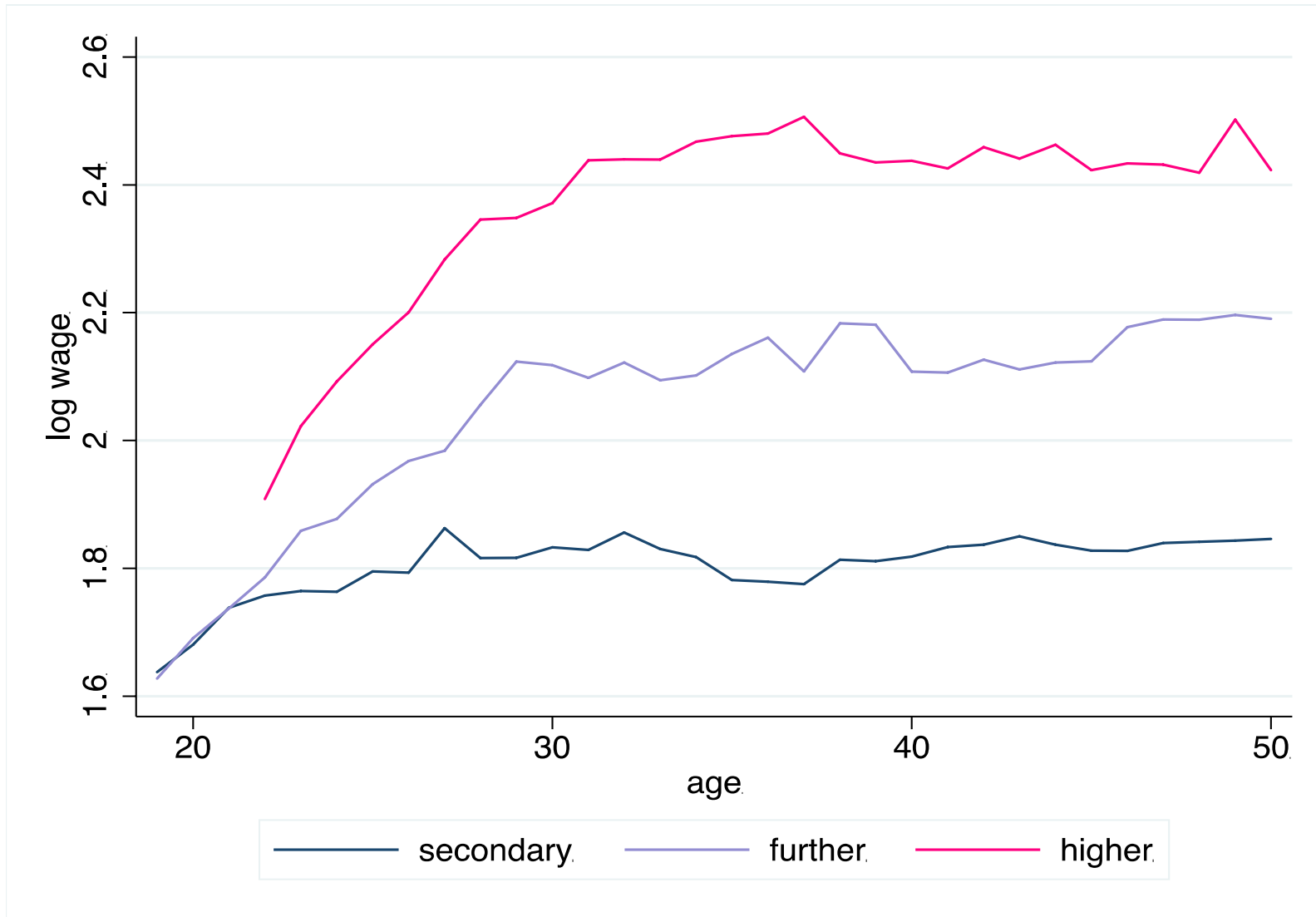
# Female Hours by age



Blundell, Bozio, Laroque and Peichl (2014)

# Wage profiles by education and age – Women

- returns to experience appear strongly *complementary* with education



Source: Blundell, Dias, Meghir and Shaw (2016), Notes: UK BHPS

# Key facts .....

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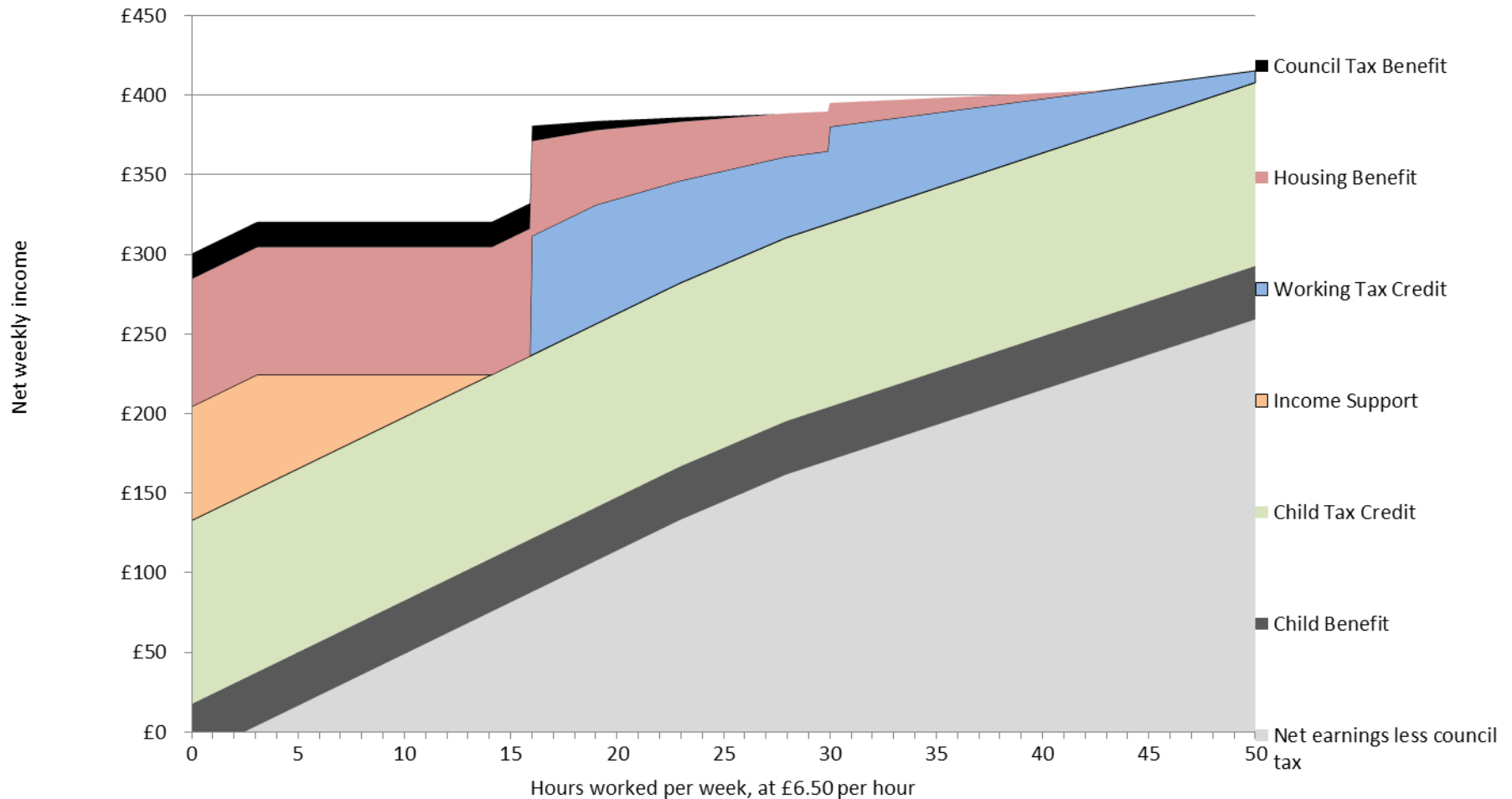
- A lifetime view of employment and hours
  - differences by extensive and intensive margin accentuated at particular ages and for particular demographic groups,
  - higher attachment to the labor market for higher educated, career length matters.
- Wages grow stronger and longer over the lifetime for higher educated
  - human capital profiles in work appear to be complementary to education investments.

## 2. Measurement of effective incentives

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- Precisely how is tax (and welfare benefit) policy likely to 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 2012



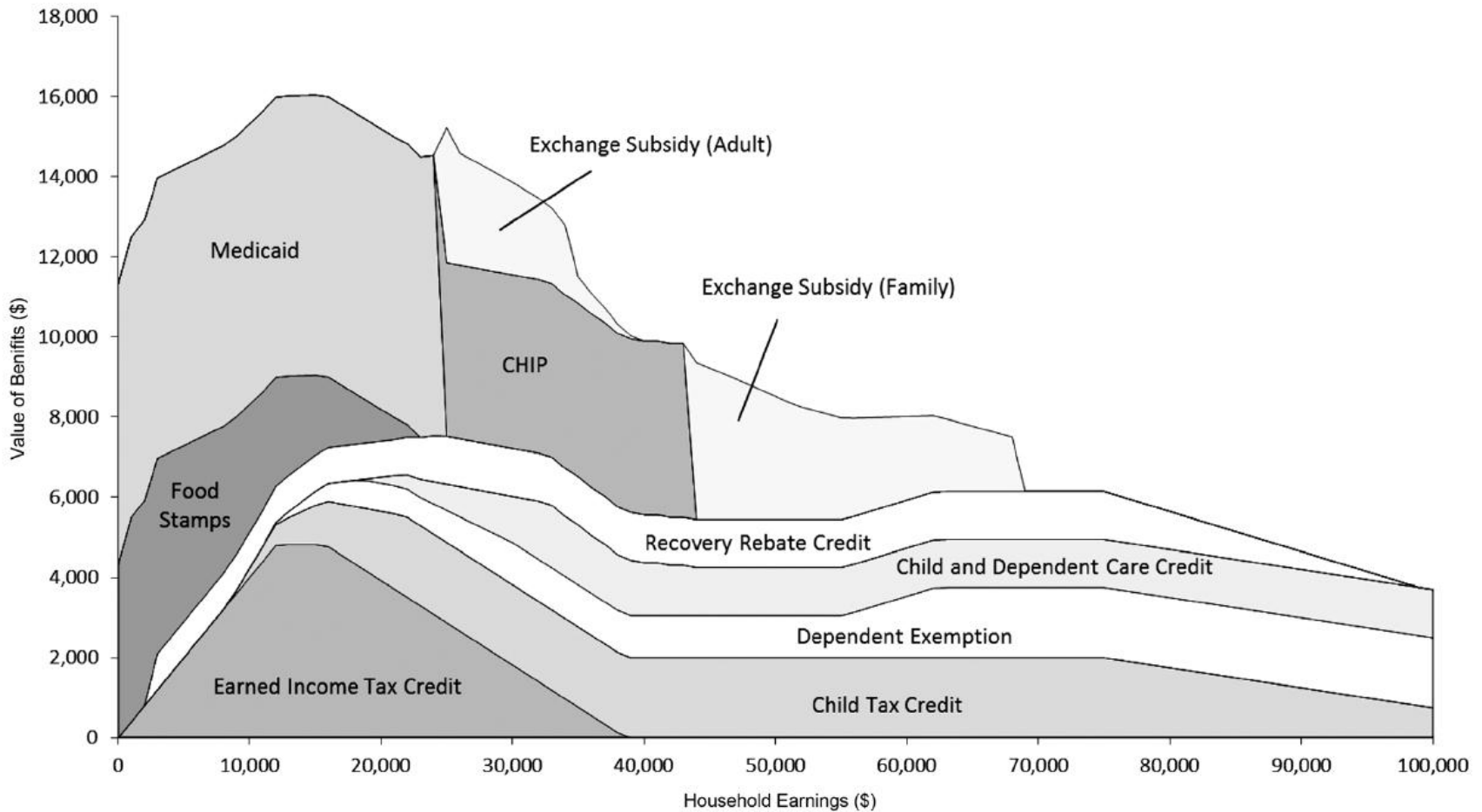
Notes: wage £6.50/hr, 2 children, no other income, £80/wk rent. Ignores council tax and rebates

Source: Mirrlees Review



# Universally Available Tax and Transfer Benefits

## US Single Parent with Two Children 2011



Source: Urban Institute (NTJ, Dec 2012).

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

# Effective tax rates on lower incomes.....

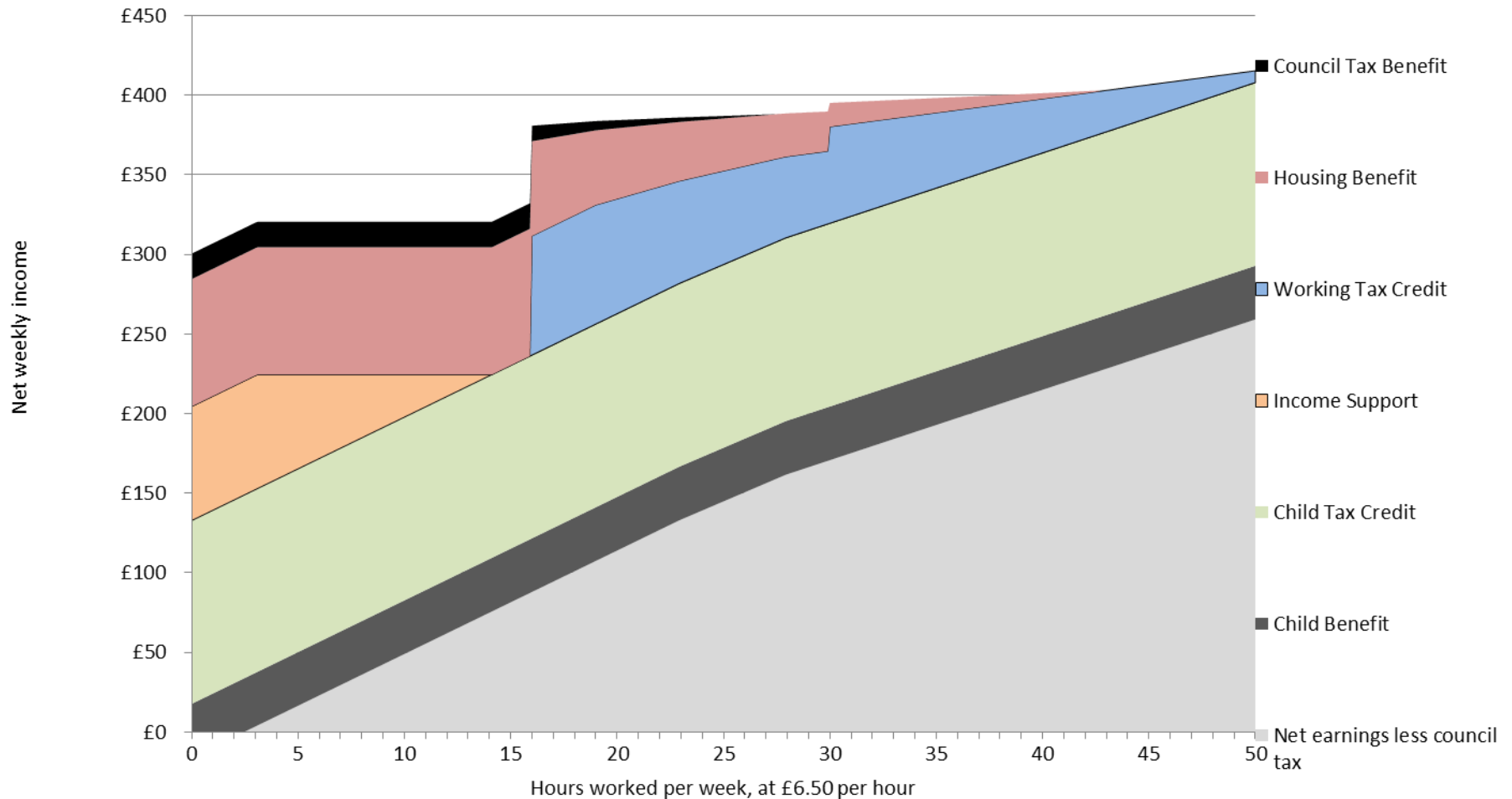
- The main defects in current tax credit and welfare/benefit systems
  - *Participation tax rates* at the bottom remain very high
  - *Marginal tax rates* are very high for some low income working families because of phasing-out of means-tested welfare-benefits and tax credits
  - *Complex cocktail* of different overlapping welfare-benefits, tax credits and taxes.
- We'll come back to look at tax rates on top incomes...

### 3. The importance of information and complexity

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- 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?
  - Information, stigma and take-up
  - 'Bunching' at kink points

# Budget Constraint for Single Parent: UK 2012

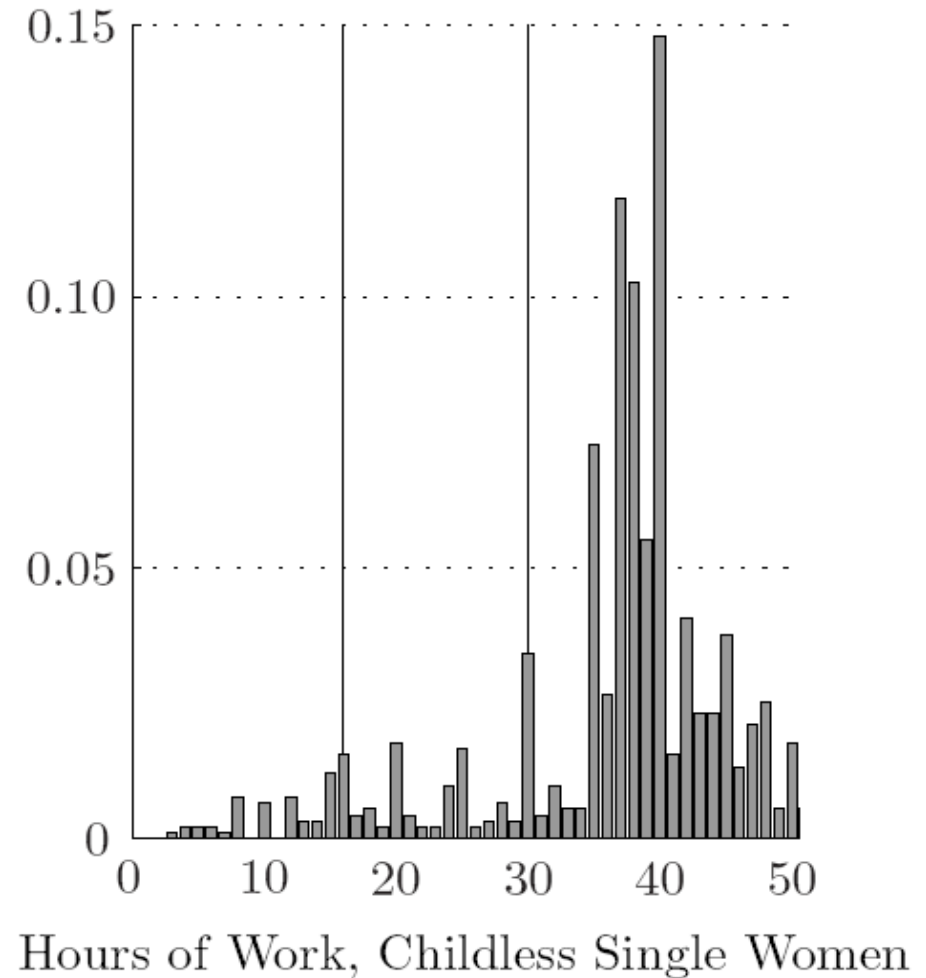
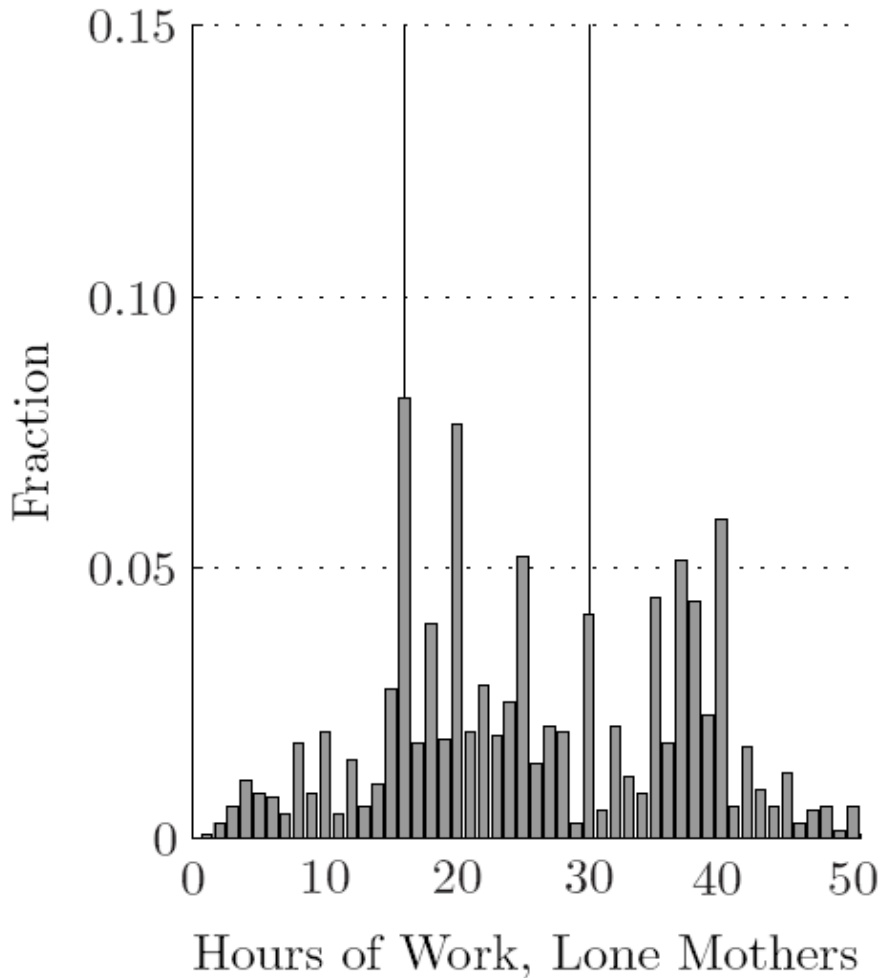


**Notes: wage £6.50/hr, 2 children, no other income, £80/wk rent. Ignores council tax and rebates**

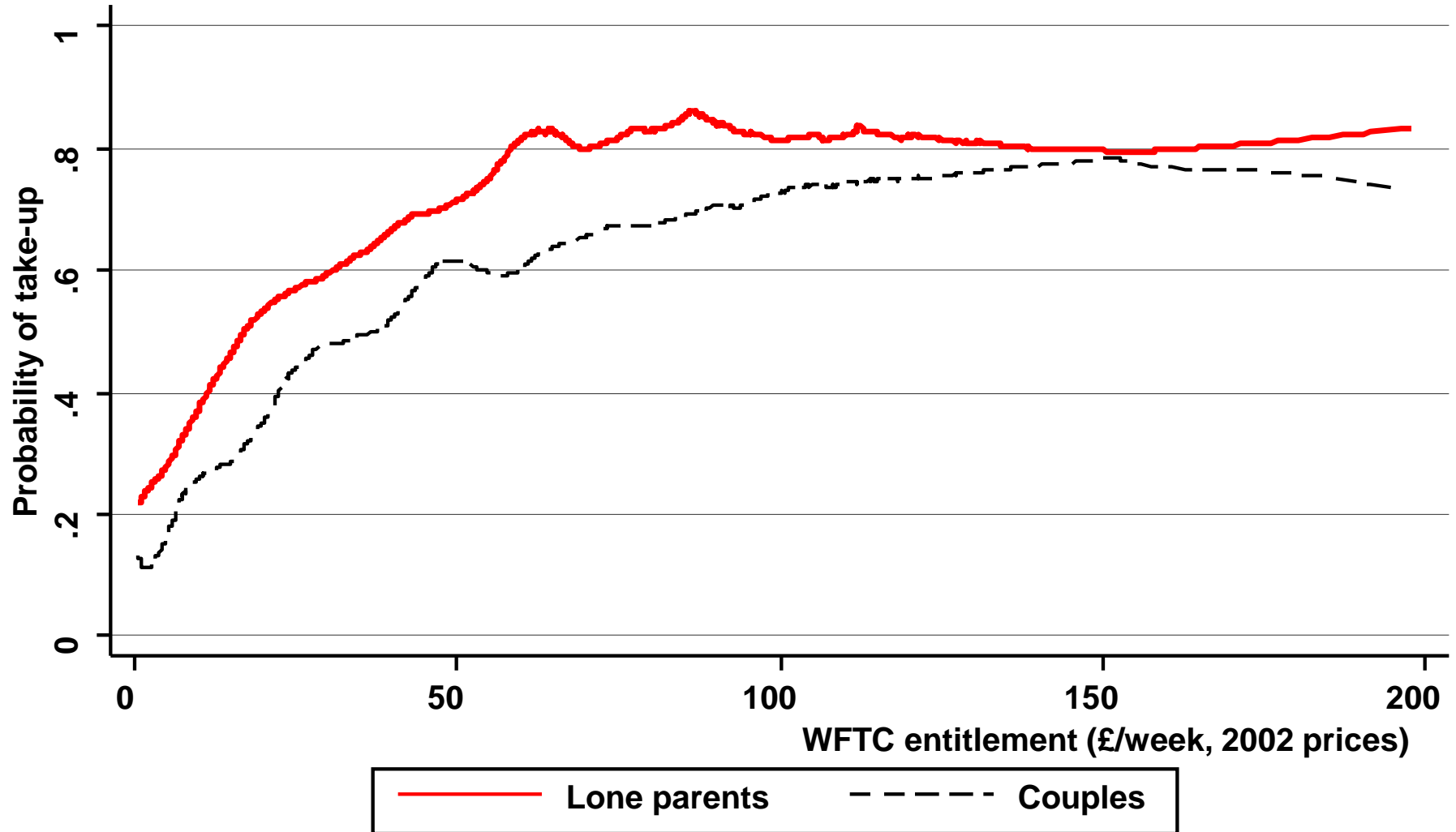
Source: Mirrlees Review

# Are these hours rules salient?

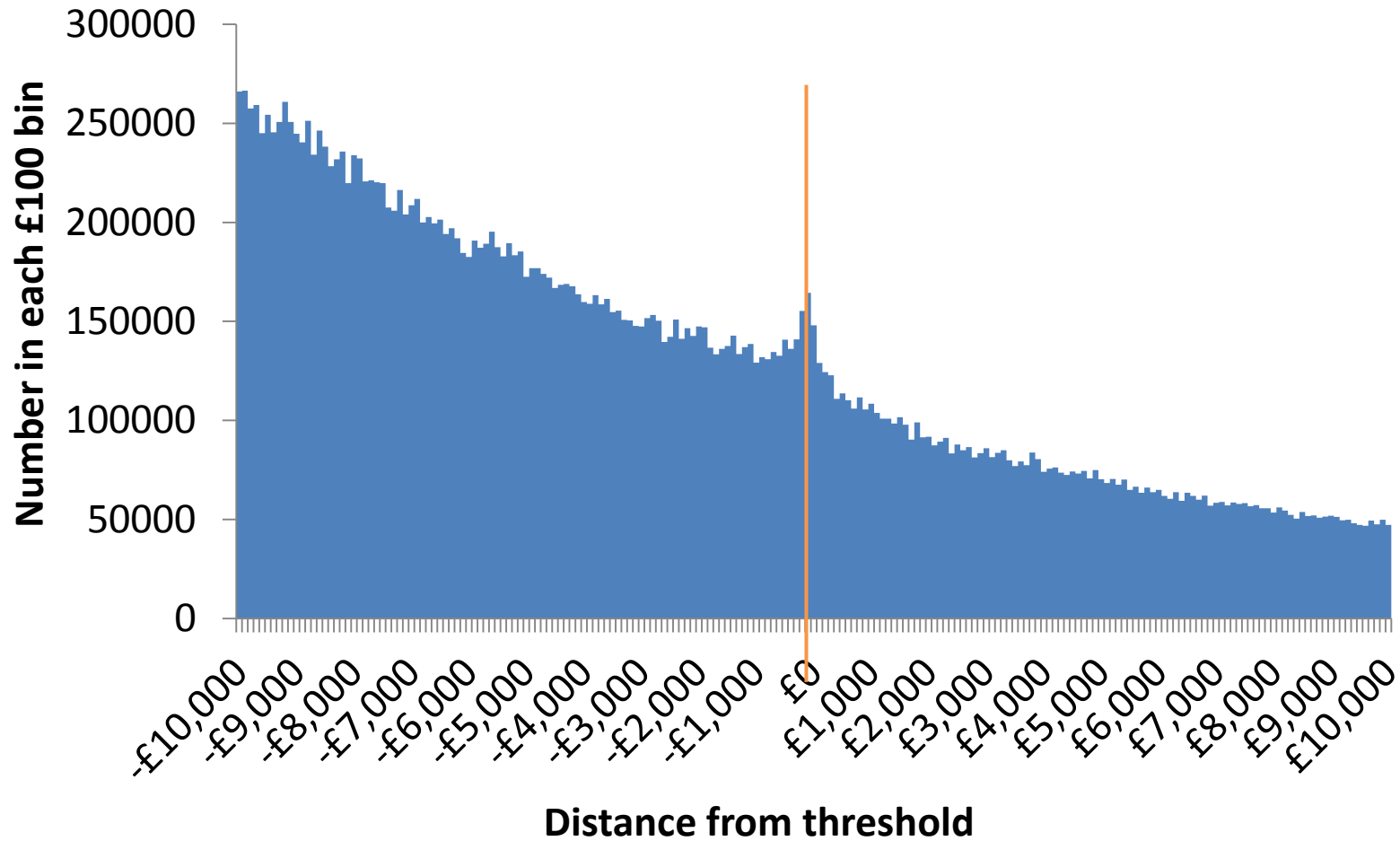
## Single Women (aged 18-45): Bunching at Tax Kinks



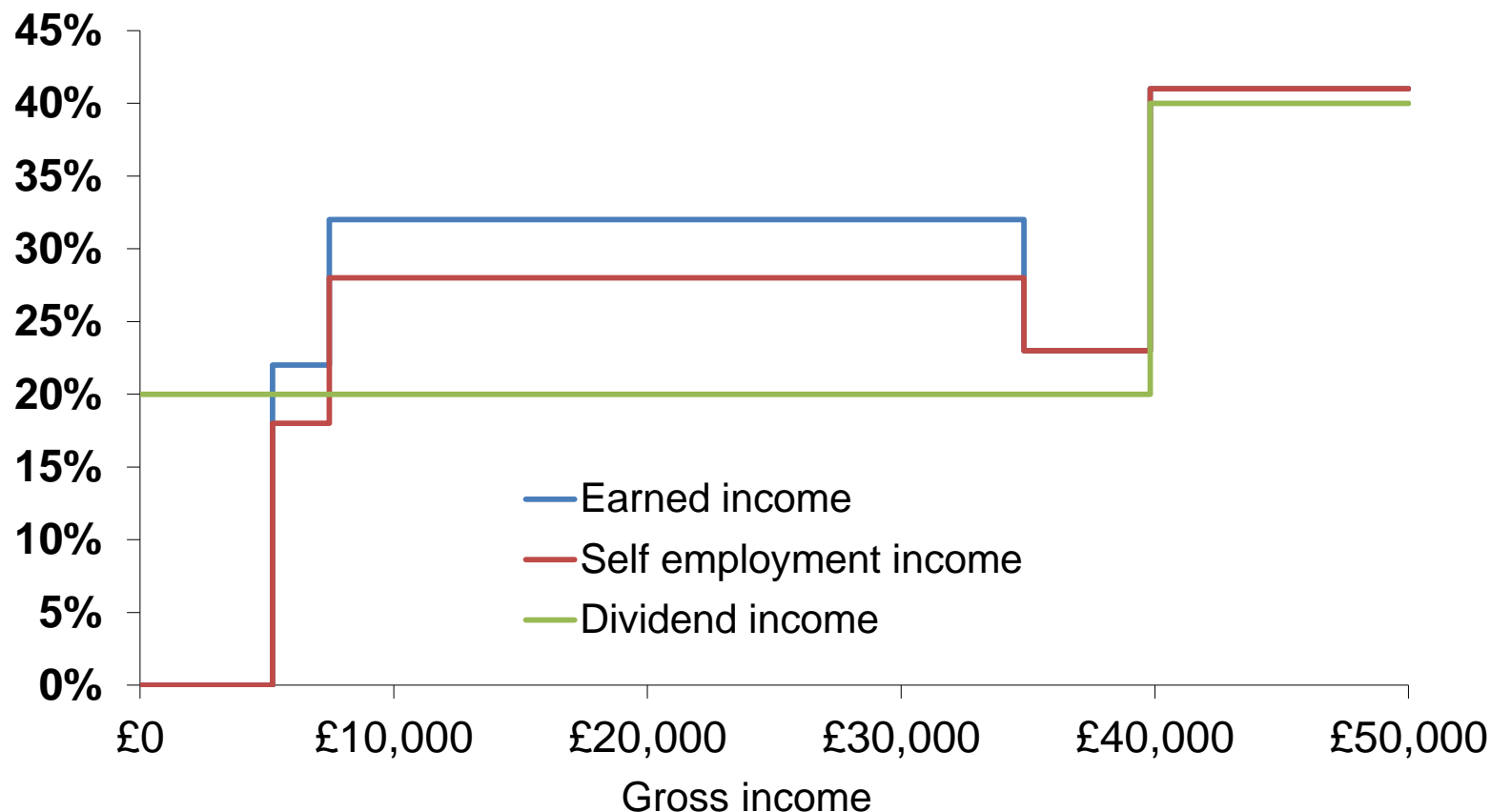
# Variation in tax-credit 'take-up' with value of entitlement



# Bunching at the higher rate tax thresholds,



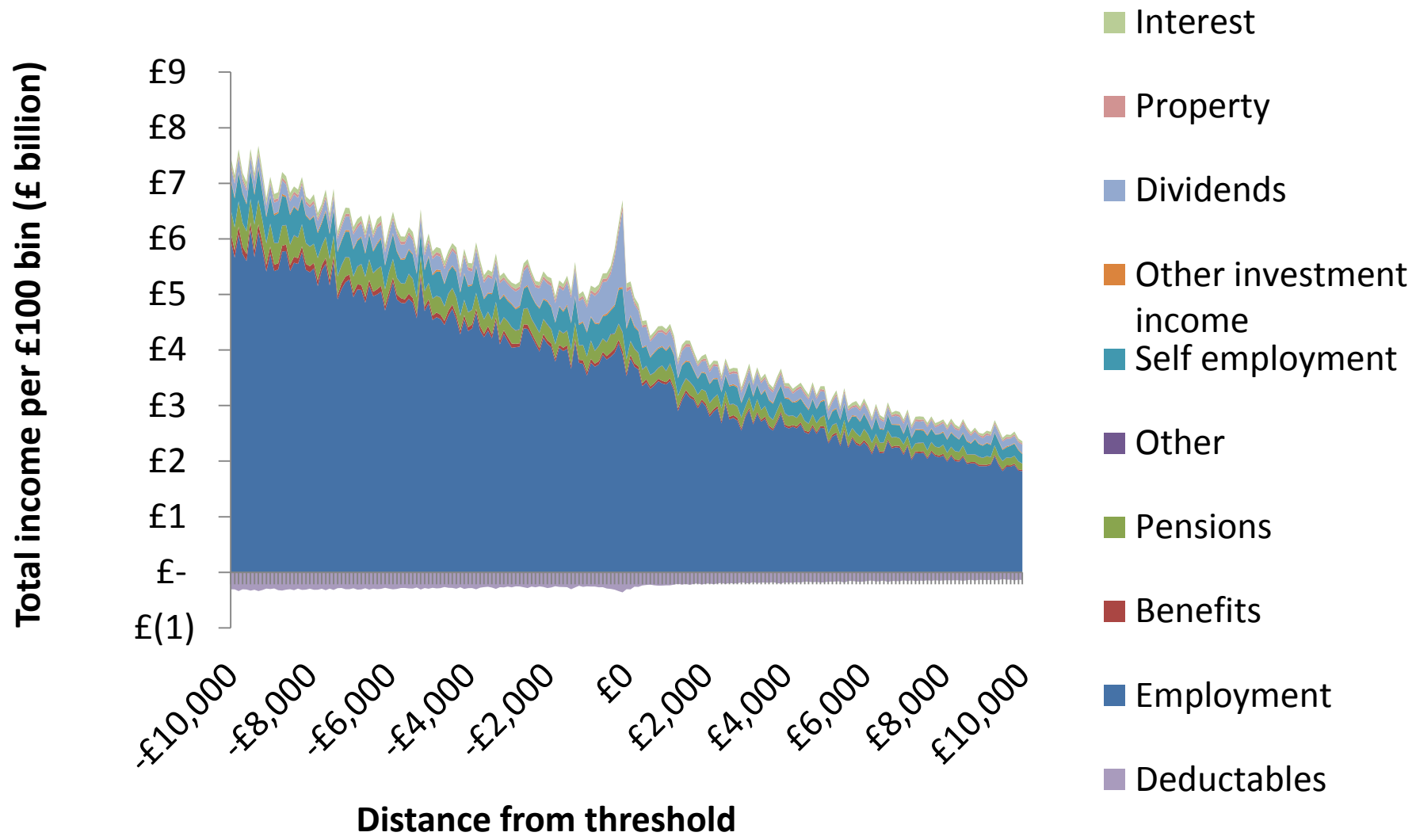
# Marginal tax rates by income level, UK 2007–08



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



=> measure taxable income elasticity

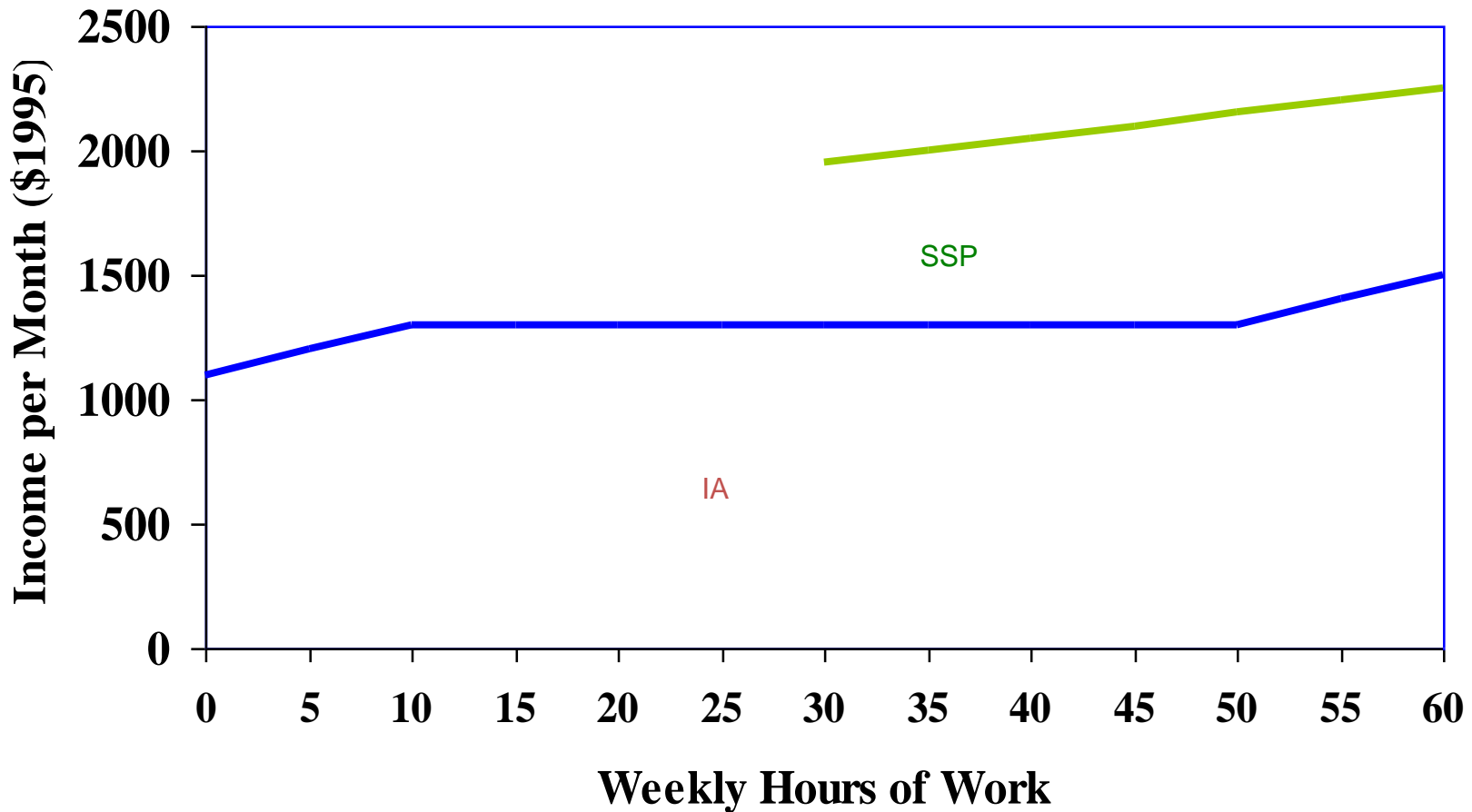
## 4. Evidence on the size of responses

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- This is where rigorous *microeconometrics* is essential.
- An 'eclectic' use of two approaches:
  1. Quasi-experimental/RCT/reduced form evaluations of the impact of specific (historic) reforms.
    - 'robust' but limited in scope.
  2. A 'structural' estimation based on the detailed pay-offs and constraints faced by individuals and families
    - comprehensive in scope and allows *counterfactual policy simulations and optimal design*, but fragile;
    - need account for life-cycle facts, effective tax rates, nonlinear budget constraints, and salience/stigma.
- Do we have an RCT for tax credit reform?

# Self Sufficiency Program (SSP): An RCT Field Experiment

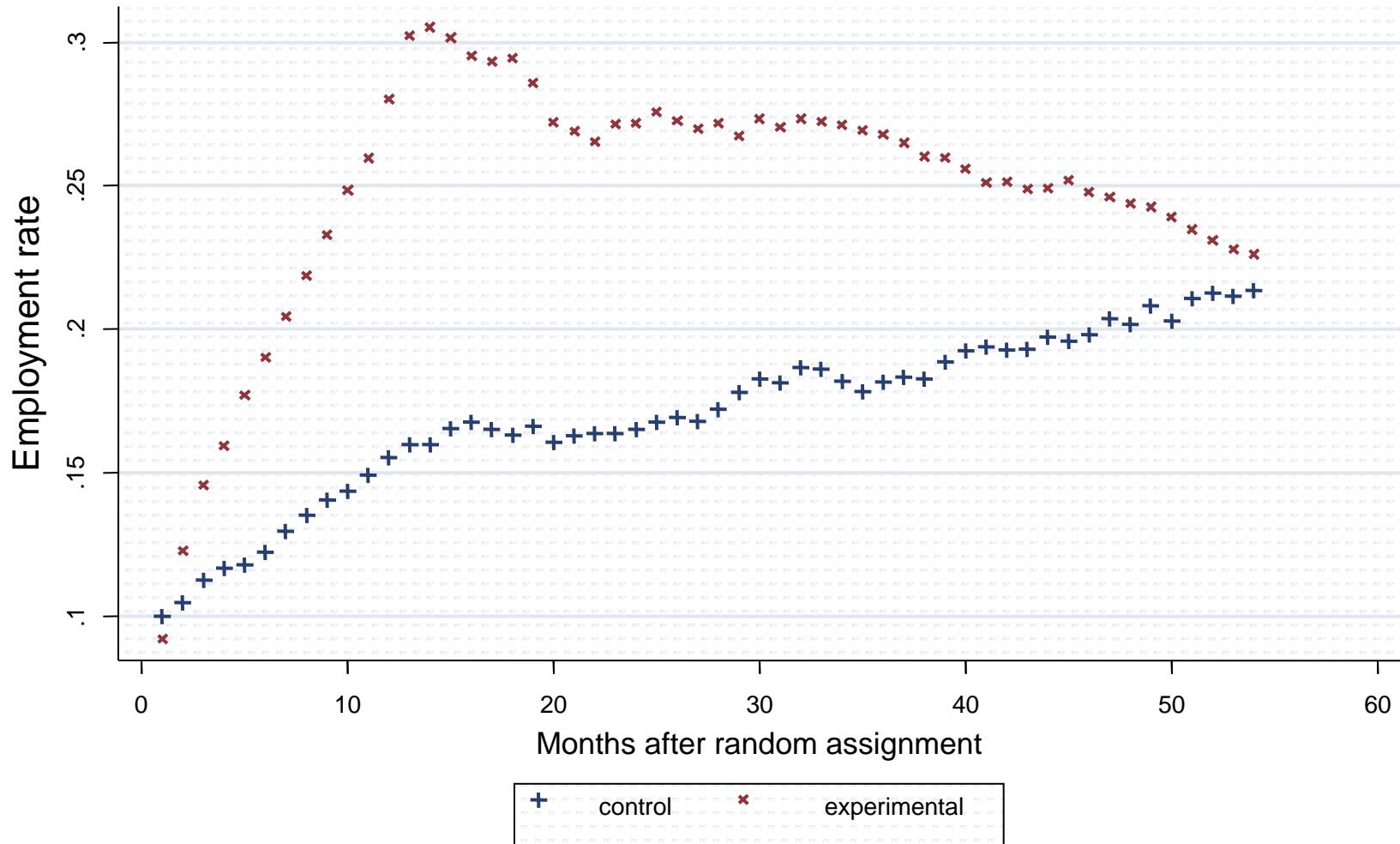
*Budget Constraint for a Single Parent on Minimum Wage*



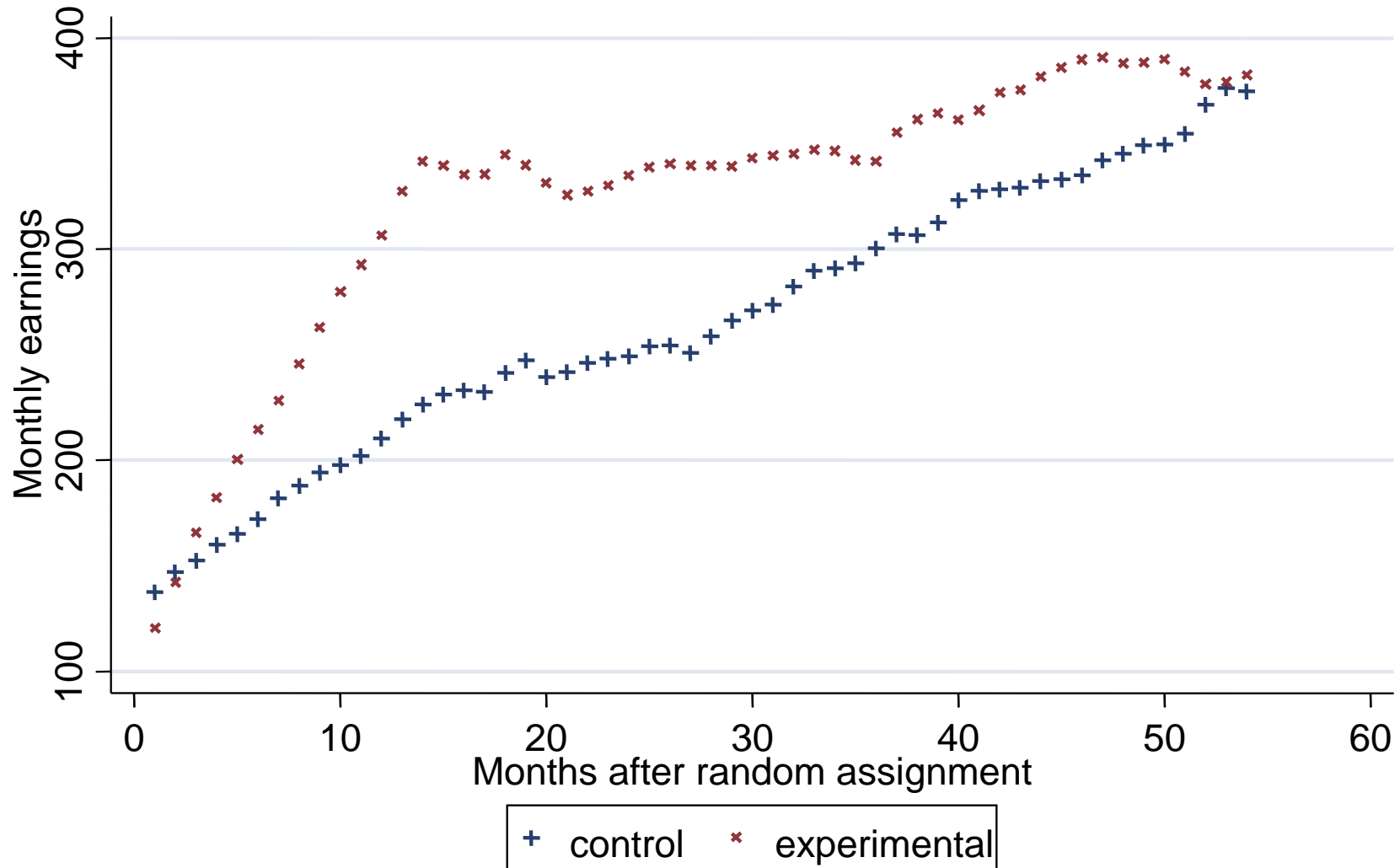
— Income Assistance — Self Sufficiency Program

Blundell and Moffitt (2010)

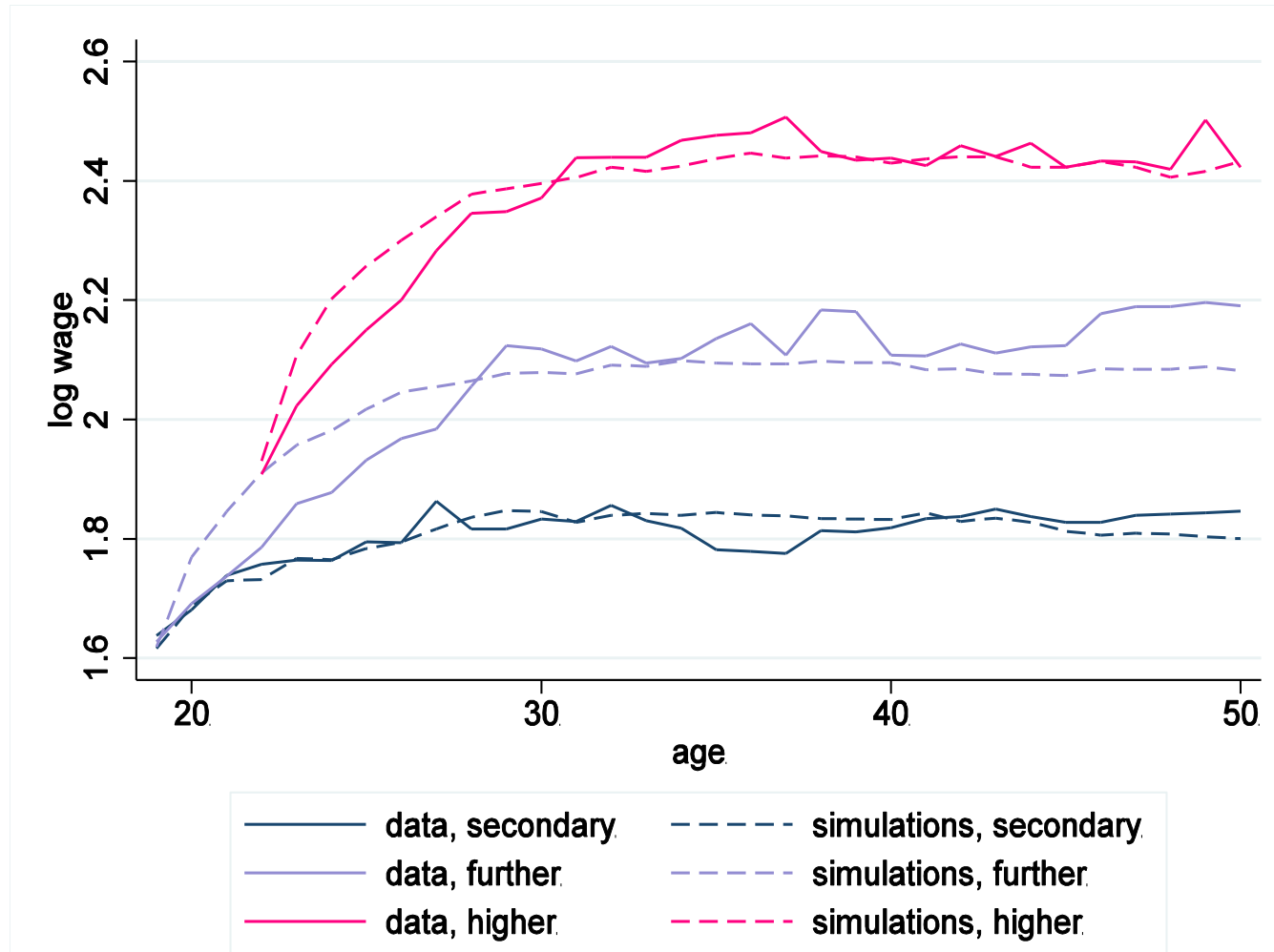
# SSP: Employment Rate by months after RA



# SSP: Monthly earnings by months after RA



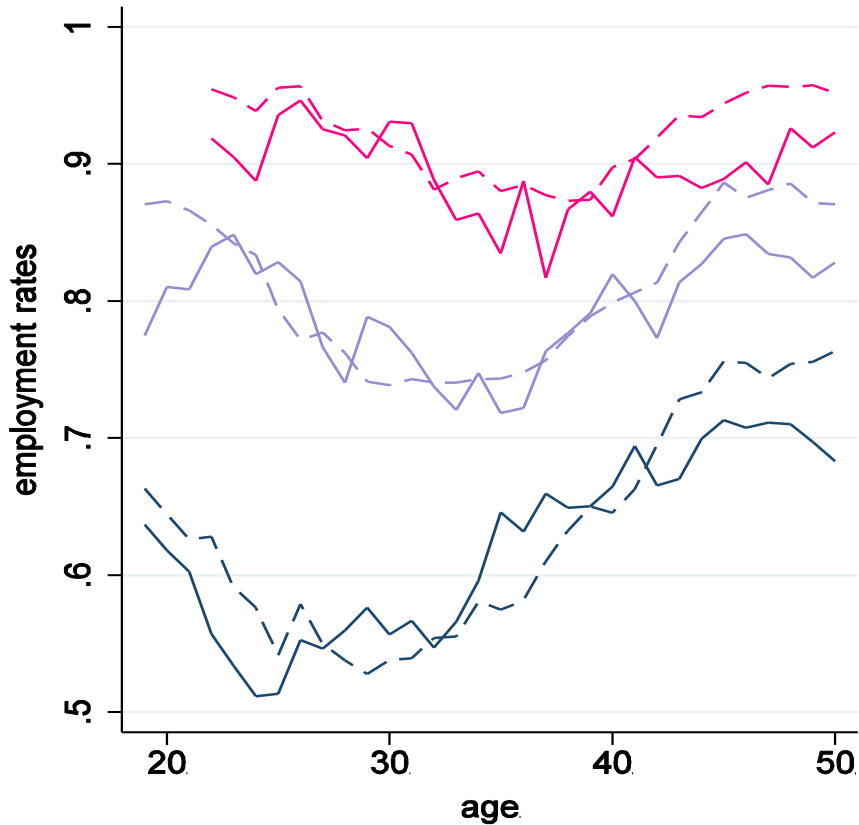
# Wages for women by education and age - a structural model



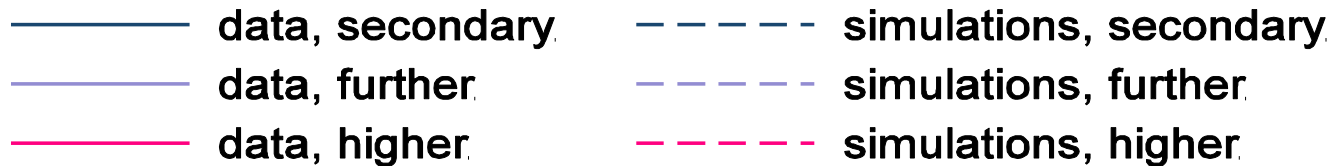
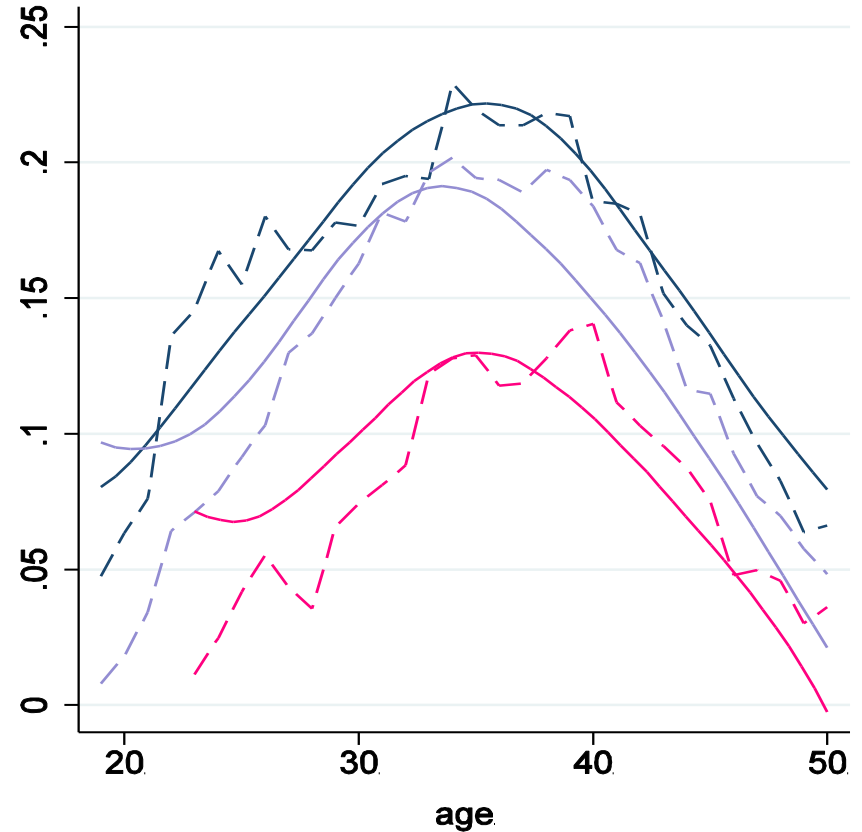
=> to match wages, employment and hours over the life-cycle it is key is to allow *complementarity* between human capital investments.

# Women's employment – a structural model

## All employment



## Part-time employment



## 5. Using this evidence for tax reform/design?

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- Employment and hours responses are larger at the extensive margin (employment), than at the intensive margin (hours)
  - for low educated mothers with young school age kids.
- A ‘large’ extensive elasticity can ‘turn around’ the impact of declining social weights in the ‘Mirrlees’ optimal tax formula
  - implying an in-work transfer to low wage workers,
  - a clear role for earned income tax credits.
- Significant differences in responses by age and demographic type, suggesting ‘conditional targeted’ EITCs
  - parents with school age children, and older workers.
- Labor supply elasticities increase for 60+ age group
  - lower skilled are particularly responsive to incentives in disability benefits and means-tests



# Human capital responses

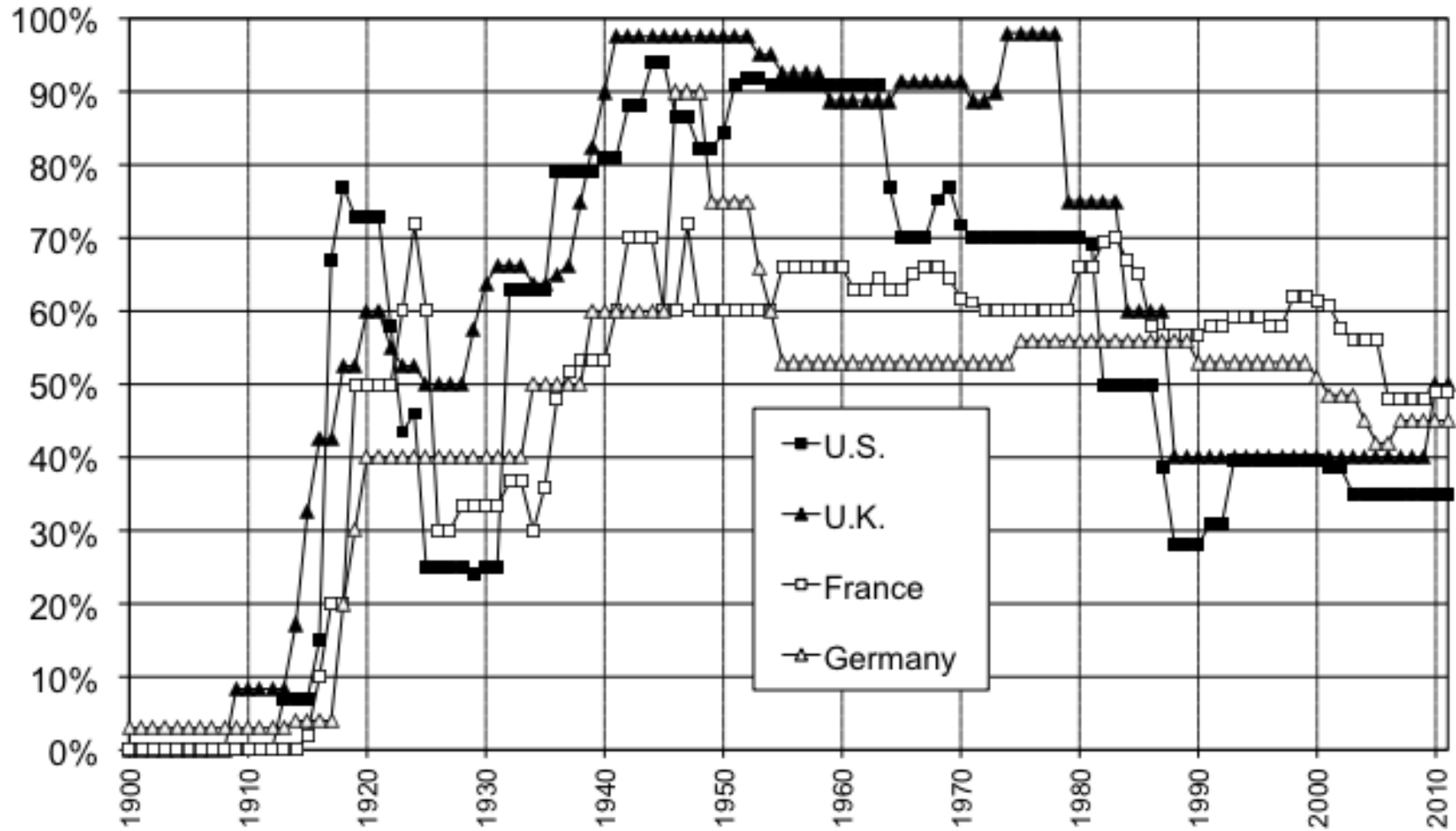
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- The hourly wages of those with more education grow faster and for longer into the working life
  - formal education *strong complement* to experience capital during working life;
  - little experience pay-off/wage progression for those with low initial education, and those in part-time work.
- For *educated* young workers, employment generates valuable experience,
  - unlikely to respond to tax incentives early in career;
  - but taxes effect education choices, career choice and retirement;
  - in turn, retirement policies effect human capital incentives.

# Turning to the top 1% and top tax rates

- Consider taxable income responses capture *additional* avoidance and tax shifting responses
  - the ‘elasticity’ can be expected to fall as the *tax base* broadens
- As Slemrod and Kopczuk note:
  - ‘*When personal tax rates on ordinary income rise, businesses may shift to corporate form, there may be a rise in deductible activities, and individuals may rearrange their compensation packages to receive more income as tax-preferred capital gains. These responses to higher taxes will show up in declines in taxable income.*’

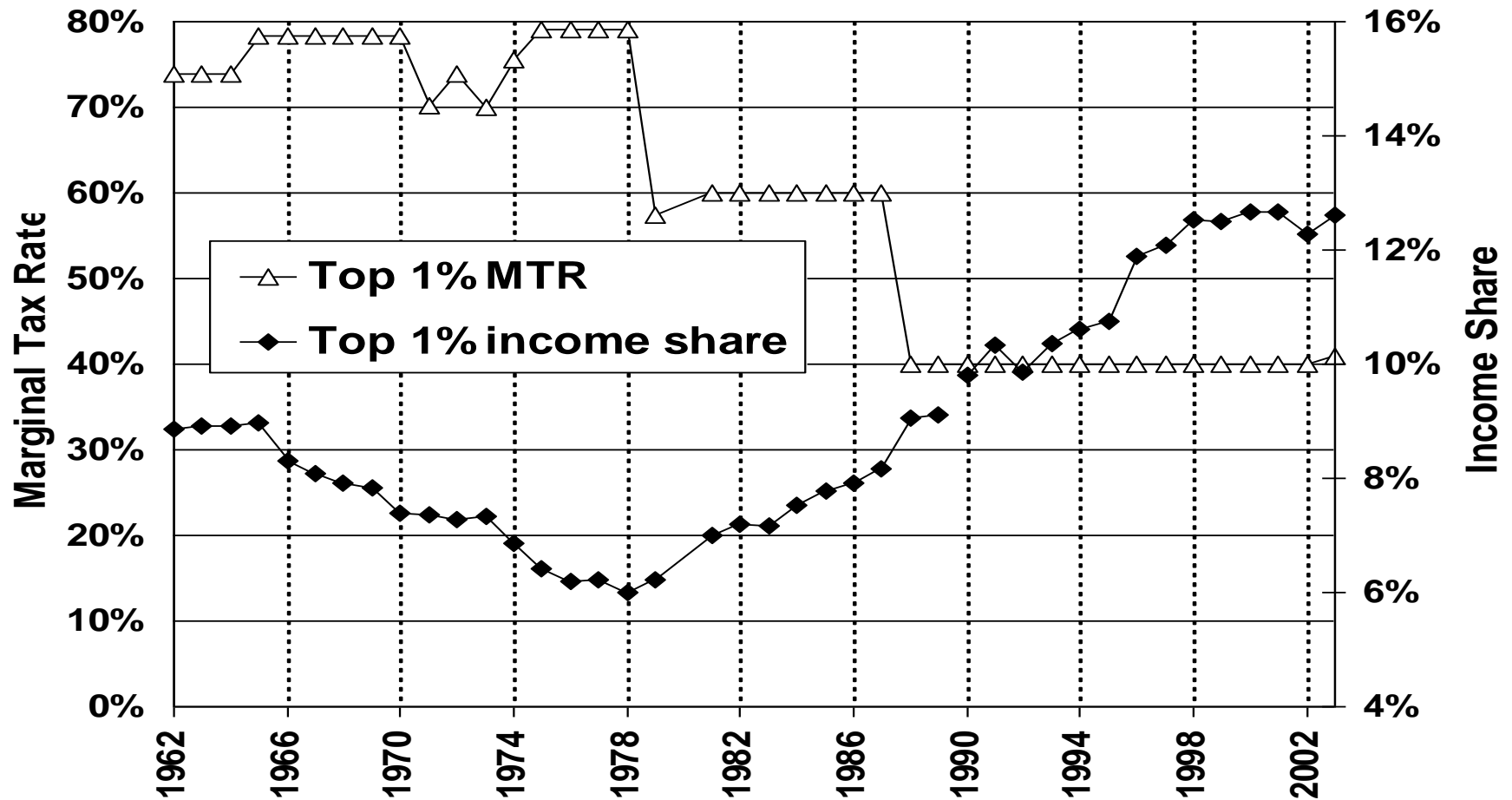
# The History of Top Tax Rates



Top Marginal Income Tax Rates, 1900-2011

# Top income shares and marginal tax rates – the UK

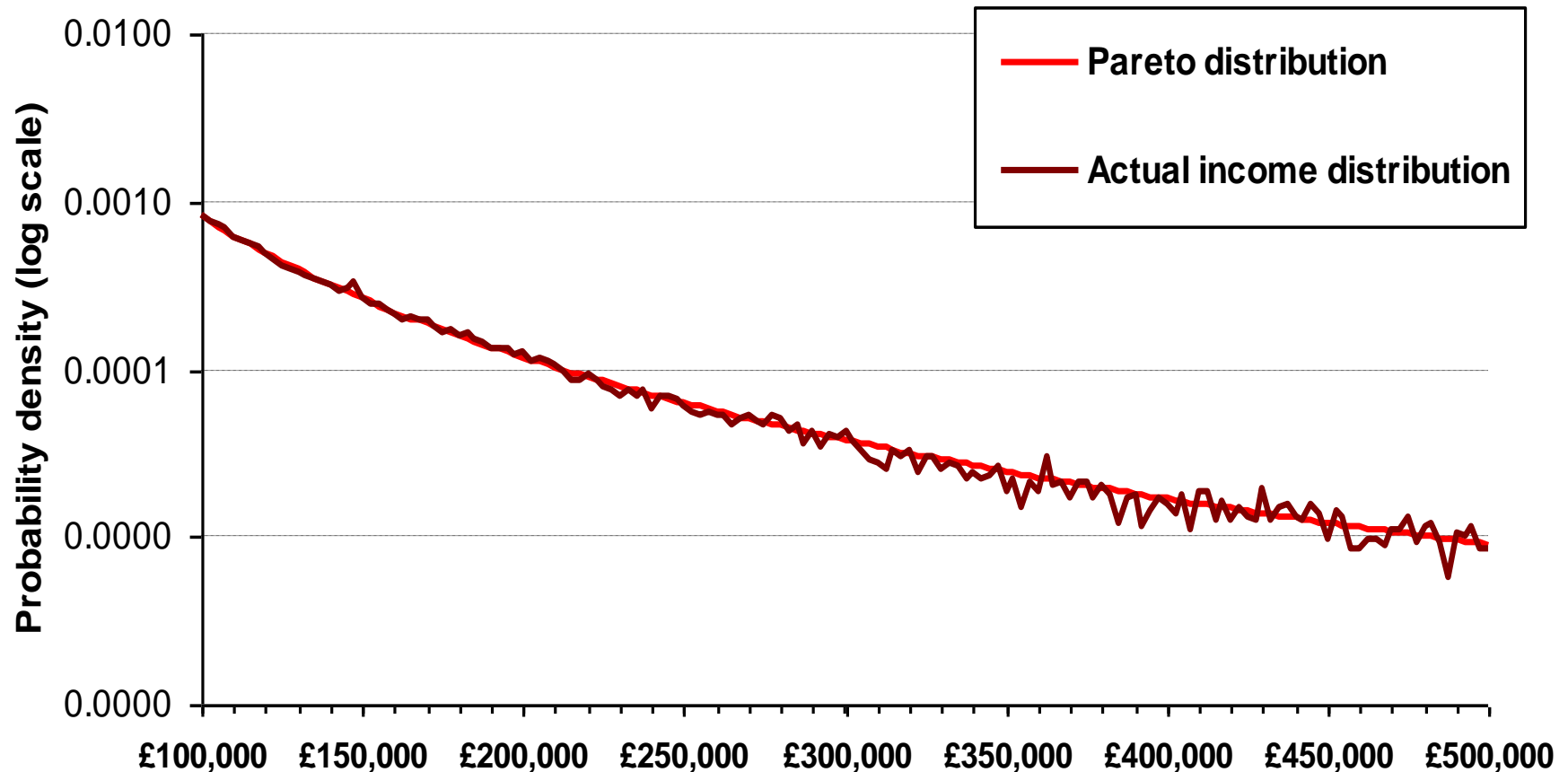
## A. Top 1% Income Share and MTR, 1962-2003



# Making use of the ‘*taxable income elasticity*’

- 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 use the elasticity to calculate the revenue maximising top tax rate (an ‘optimal’ top rate?)
  - $t = 1/(1 + e*a)$
  - where ‘*e*’ is the taxable income elasticity, and
  - ‘*a*’ is the Pareto parameter
- Estimate  $e \approx 0.46$  from the evolution of top incomes in tax return data. But difficult to identify and precisely estimate.
- Estimate  $a \approx 1.67$  from the empirical distribution in the UK.

# The Pareto distribution and the income distribution



- Pareto parameter quite accurately estimated at 1.67 for the UK and around 1.91 for the US; 'optimal' top tax rate for the UK of 56%.
- But is estimated elasticity 'e' reliable? - ignores key dynamic issues.
- *See discussion in Mirrlees Review.*

# Taxable Income Elasticities at the Top

Simple Difference (top 1%)      DiD using top 5-1%  
as controls

1978 vs 1981	0.32	0.08
1986 vs 1989	0.38	0.41
1978 vs 1962	0.63	0.86
2003 vs 1978	0.89	0.64
Full time series	0.69 (0.12)	0.46 (0.13)

With updated data the estimate remains in the .35 - .55 range with a central estimate of .46, but remain quite fragile – see bunching estimates for high income tax thresholds.

# The implications for redesign of tax policy

Some potential for big gains from reforms to enhance earnings and address inequality:

- focus incentives on transition to work, return to work for parents and on enhancing work incentives among older workers,
- reduce complexity improve take-up of benefits,
- reduce disincentives at key margins for the educated - enhancing working lifetime and the career earnings profile.

Limits to reform of taxes at the top without tax base reform

- some evidence that a significant part of tax responses have come largely from avoidance,
- align tax rates at the margin across income sources to make taxation at the top more effective; e.g. *dividends and capital gains*.



# What about policy responses for inclusive growth?

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- little evidence of earnings progression for lower skilled and part-time workers
  - employment (especially part-time) is not enough!
- implications for welfare-benefit reform and expansion?
  - Integrated 'universal tax credit' plus?
  - well designed contribution based social insurance?
- minimum wage?
  - proven useful at the very bottom but does not solve low productivity growth or inclusion.
- early years investment?
  - kids of low educated parents are the key.
- innovative firms and innovation technology?

# R&D Incentives and Innovation Policies

- Innovative and high R&D intensity firms pay higher wages
  - Returns to education can be maintained by endogenous technical change,
  - Even for lower skilled workers relative wages increase in R&D intensive firms (Aghion, Blundell and Griffith, 2017); *But* hire less low skilled workers.
- Top tax rates and innovation
  - Some evidence that incomes from innovation have enhanced top incomes in the US (Aghion, Blundell, ... (2016)).
  - Big question is whether top tax rates themselves can stimulate innovation? This has turned out to be a hard problem to untangle due to increased entry barriers and rent capture,
    - need a balance of competition and tax policies.

# How we should use evidence in tax design?

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Reflecting on the *Mirrlees Review*, propose 5 steps(!):

1. Key margins of adjustment to reform
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That's it for now!

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references to specific studies listed on my website and at:

<http://www.ifs.org.uk/mirrleesReview>