

Empirical Evidence and Earnings Taxation: Lessons from the Mirrlees Review

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Empirical Evidence and Earnings Tax Design: Lessons from the Mirrlees Review

- The role of evidence is loosely organised under five headings:
 1. Key margins of adjustment to tax reform
 2. Measurement of effective tax rates
 3. The importance of information, complexity and salience
 4. Evidence on the size of responses
 5. Implications for tax design

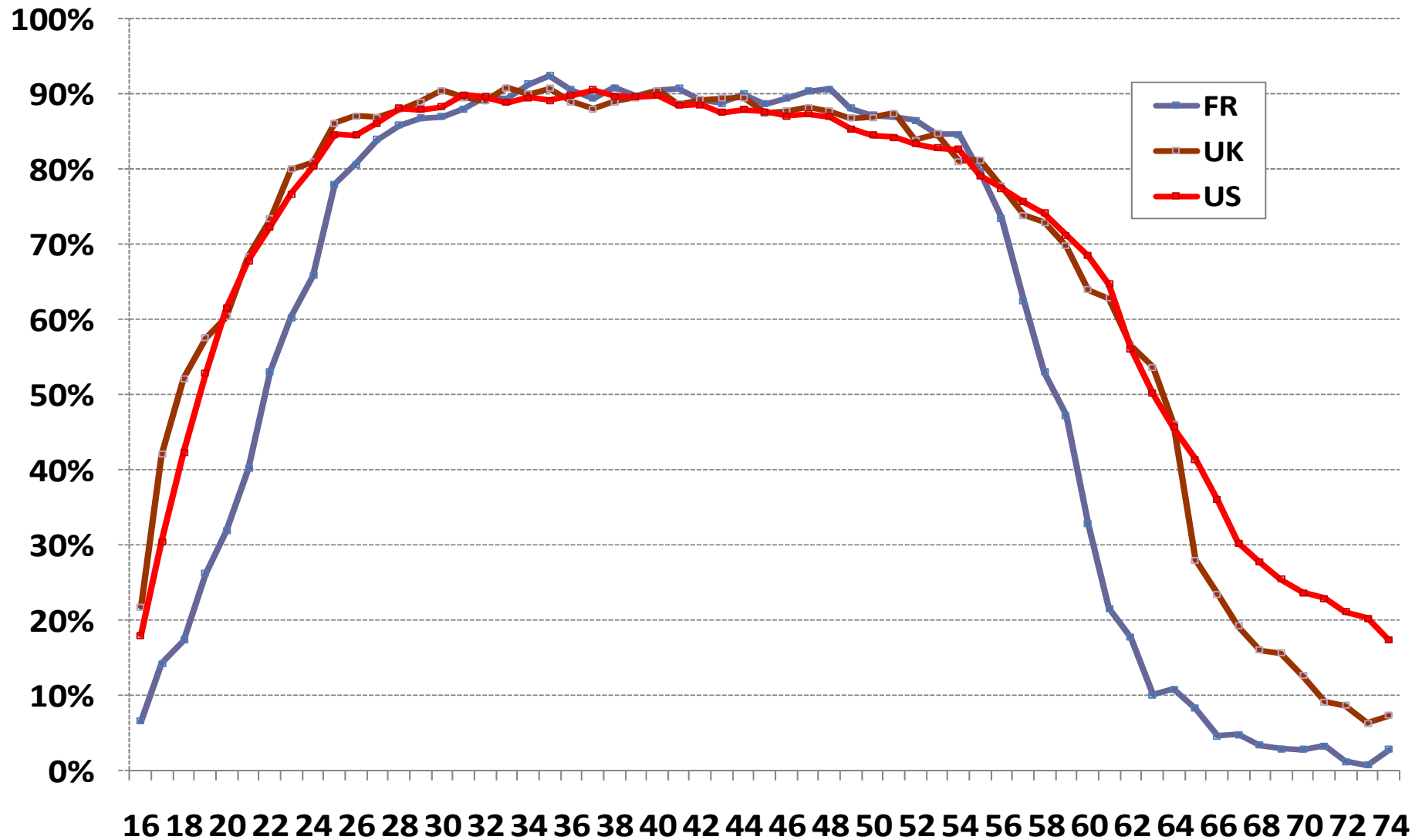
Increased empirical knowledge: – some examples

- labour supply responses for individuals and families
 - at the intensive and extensive margins
- taxable income elasticities
 - top of the income distribution using tax return information
- consumer responses to indirect taxation
 - nonseparability with leisure and variation in price elasticities
- income uncertainty
 - persistence & magnitude of earnings shocks over life-cycle
- ability to (micro-)simulate marginal and average rates
 - simulate ‘optimal’ reforms

Key Margins of Adjustment

- Extensive and intensive margins of labour supply
 - Both margins both matter
 - They matter for tax policy evaluation and design
 - And they matter empirically in different ways by age and demographic groups

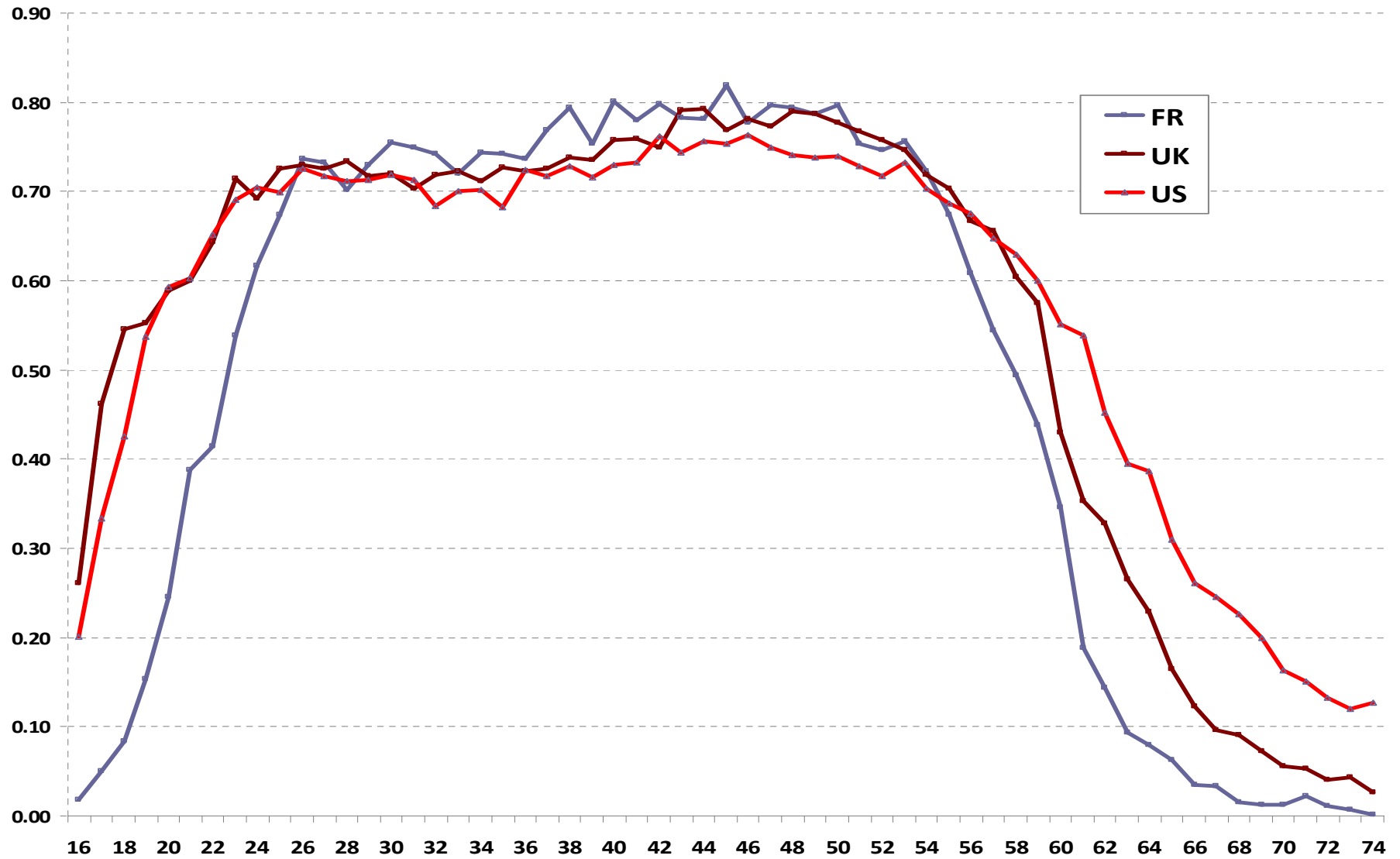
Employment for men by age – FR, UK and US 2007



Blundell, Bozio and Laroque (2010)

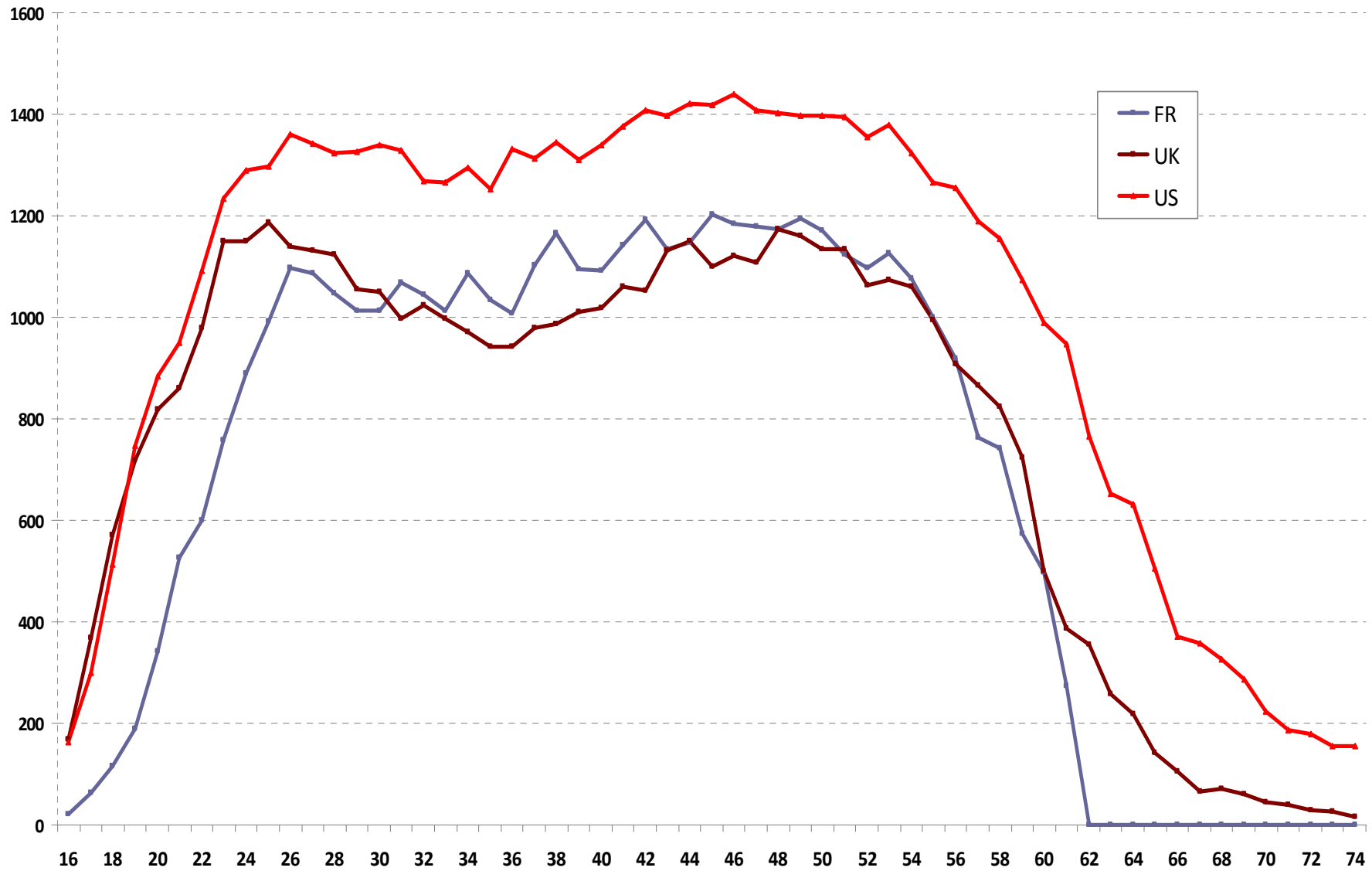
Extensive and intensive margins for women

Female Employment by age – US, FR and UK 2007



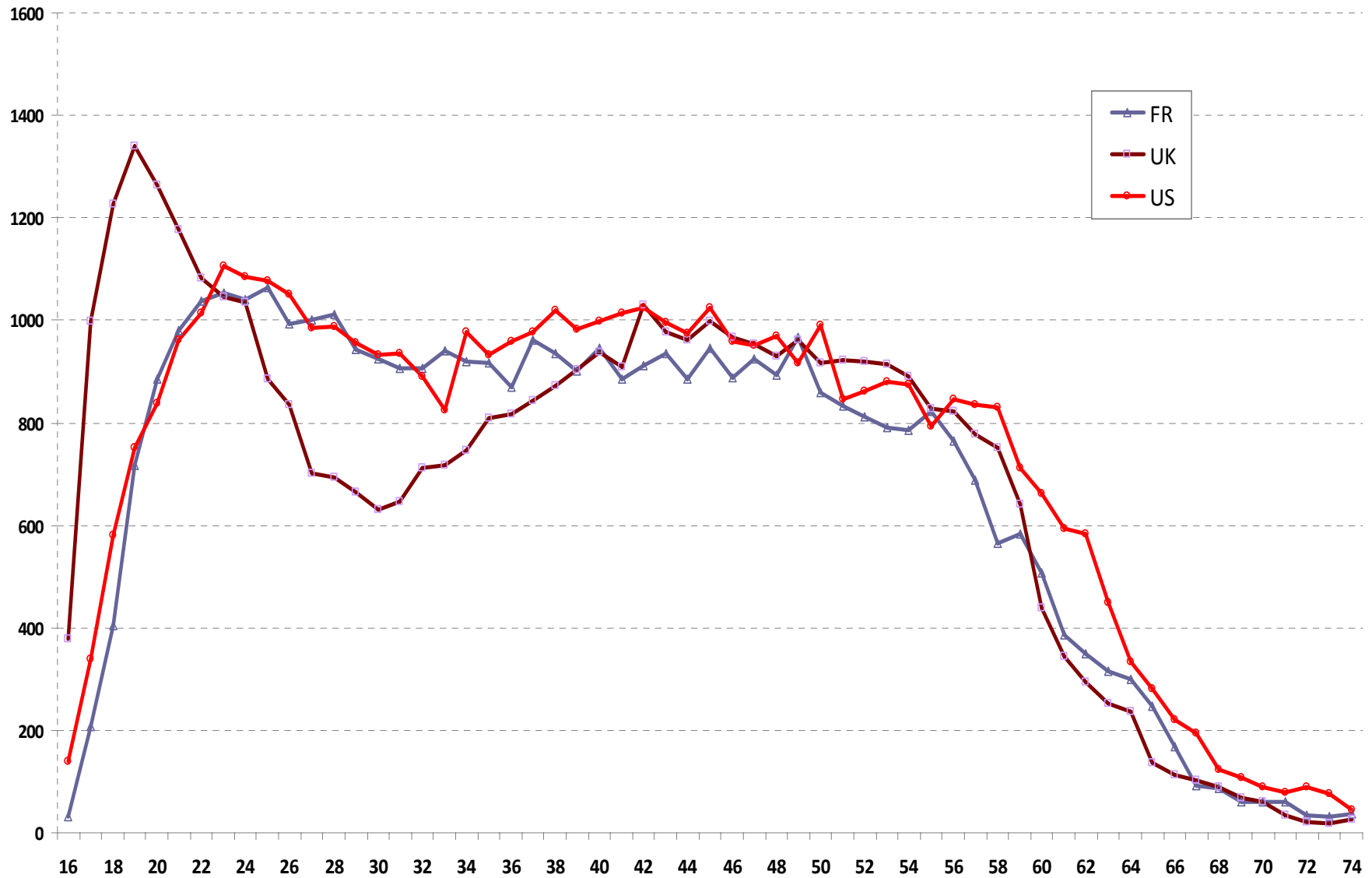
Blundell, Bozio and Laroque (2010)

Female Hours by age – US, FR and UK 2007



Blundell, Bozio and Laroque (2010)

Female Hours by age – US, FR and UK 1977



Blundell, Bozio and Laroque (2010)

The extensive – intensive distinction is important for a number of reasons

- Understanding responses to tax and welfare reform
 - Heckman, Rogerson, Wise, .. all highlight the importance of extensive labour supply margin
- The extensive and intensive elasticities are also key parameters in the recent literature on tax design
 - referenced heavily in this Review.

Why is this distinction important for tax design?

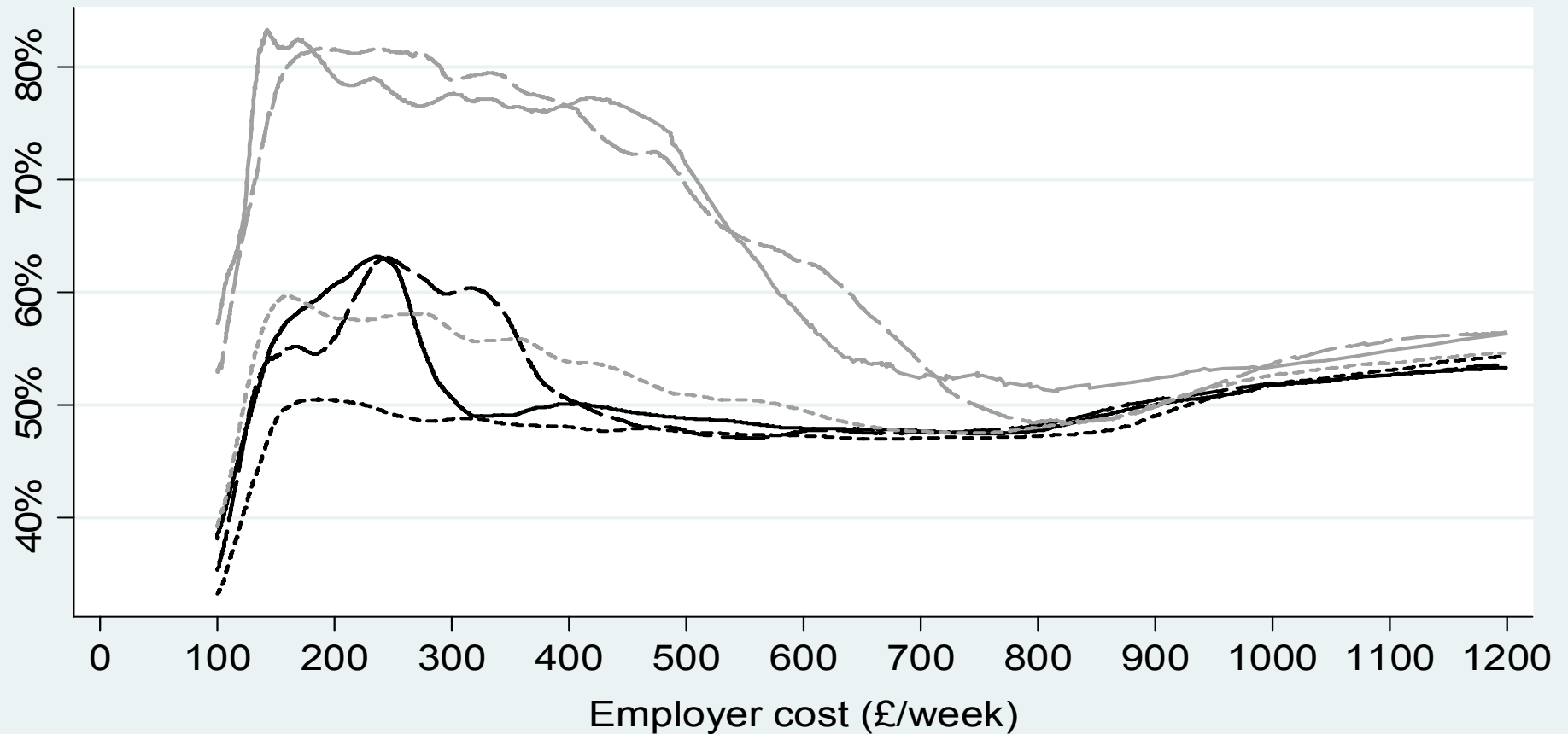
- A 'large' extensive elasticity at low earnings can 'turn around' the impact of declining social weights
 - implying a higher transfer to low earning workers than those out of work – potentially a role for earned income tax credits
- But how do individuals perceive the tax rates implicit in the tax credit and benefit systems - salience?
 - are individuals more likely to 'take-up' if generosity increases?
 - suggests a move to a 'single integrated family benefit'
 - we argue it is more difficult to integrate benefits with the tax system
- Importance of margins other than labour supply/hours
 - use of taxable income elasticities

Focus first on tax rates on lower incomes

Possible defects in current welfare/benefit systems

- Participation tax rates (PTRs) and effective marginal tax rates (EMTRs) at the bottom remain very high in UK and elsewhere
- EMTRs are well over 80% for some low income working families
 - because of phasing-out of the various means-tested benefits and tax credits
 - and overlap of these with the income tax system

Average EMTRs across the earnings distribution for different family types



What about the size of labour supply responses?

Structural Model Elasticities – low education lone parents

(b) Youngest Child Aged 4-11

<i>Weekly Earnings</i>	<i>Density</i>	<i>Extensive</i>	<i>Intensive</i>
0	0.4327		
50	0.1575	0.380 (.020)	0.085 (.009)
150	0.1655	0.321 (.009)	0.219 (.025)
250	0.1298	0.172 (.005)	0.194 (.020)
350	0.028	0.068 (.003)	0.102 (.010)
<i>Employment elasticity</i>		0.820 (.042)	

Blundell and Shephard (2010)

Structural Model Elasticities – low education lone parents

(c) Youngest Child Aged 0-3

<i>Weekly Earnings</i>	<i>Density</i>	<i>Extensive</i>	<i>Intensive</i>
0	0.5942		
50	0.1694	0.168 (.017)	0.025 (.003)
150	0.0984	0.128 (.012)	0.077 (.012)
250	0.0767	0.043 (.004)	0.066 (.010)
350	0.0613	0.016 (.002)	0.035 (.005)
<i>Participation elasticity</i>		0.536 (.047)	

Blundell and Shephard (2010)

- Differences in intensive and extensive margins by age and demographic composition can have important implications for the design of the tax schedule...

Implications for Tax Reform

- Change transfer/tax rate structure to match lessons from 'new' optimal tax analysis and empirical evidence:
- Lower marginal rates at the bottom
 - means-testing should be less aggressive
 - at least for some key groups =>
- Age-based taxation
 - distinguish by age of youngest child for mothers/parents
 - pre-retirement ages
 - points to a 'life-cycle' rearrangement of tax incentives and benefit payments to match elasticities
 - empirical results suggest significant increases in employment and earnings

Top tax rates and taxable income elasticities

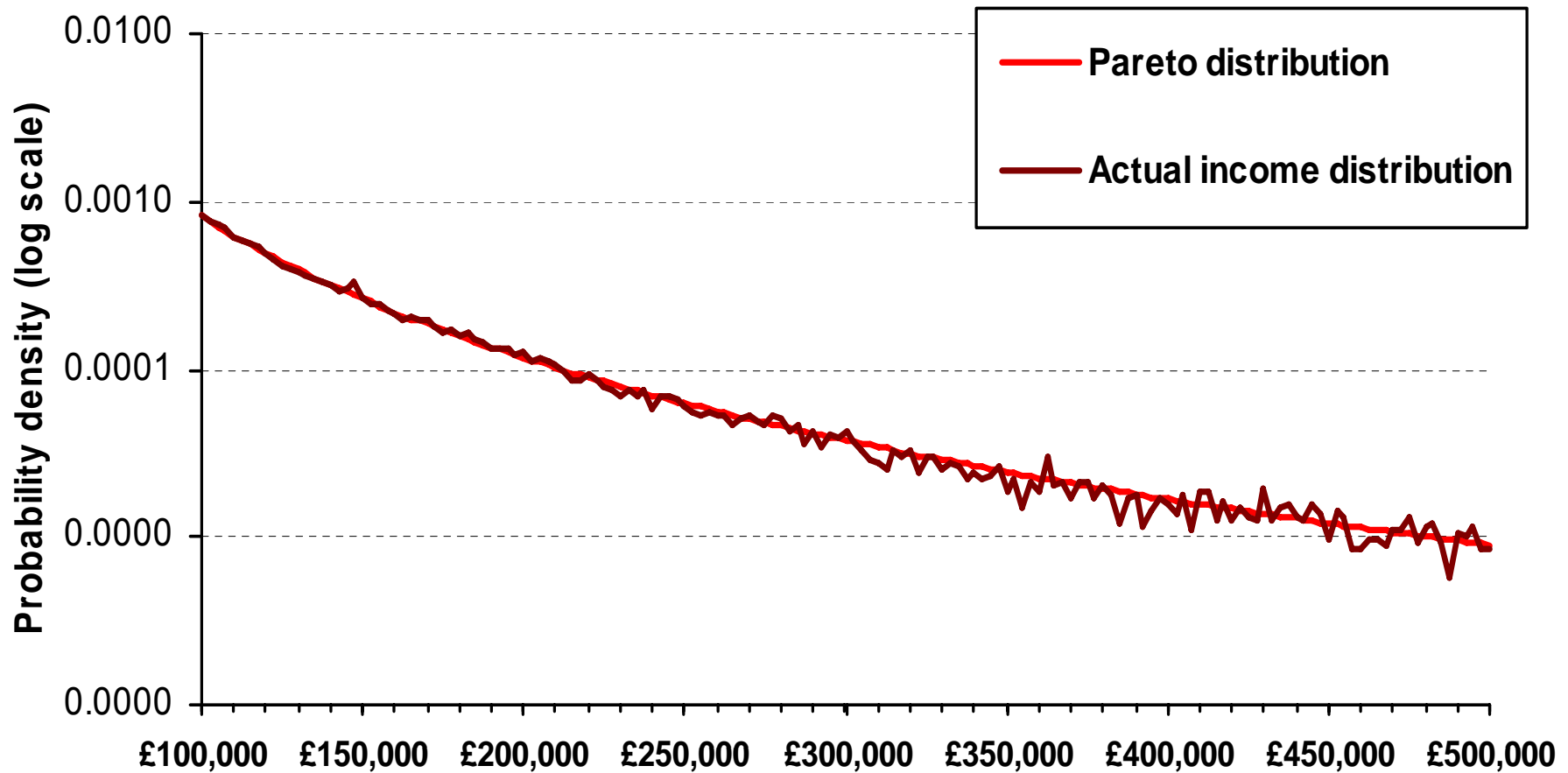
A revenue maximising top bracket tax rate:

$$t = 1 / (1 + a \cdot e)$$

a - is the Pareto parameter

e - taxable income elasticity

Pareto distribution as an approximation to the income distribution



Pareto parameter quite accurately estimated at 1.8

Taxable Income Elasticities at the Top (UK)

	Simple Difference (<i>top 1%</i>)	DiD using (<i>top 5-1% as control</i>)
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 (.12)	0.46 (.13)

=> revenue maximising tax rate for top 1% of $\approx 55\%$.

- Note also the key relationship between the size of elasticity and the tax base

=> capital gains tax reforms, etc

Implications for Tax Reform

- Key role of labour supply responses at the extensive and intensive margins
 - both matter but differ by gender, age, ed. and composition
- Results suggest lower marginal rates at the bottom
 - means-testing should be less aggressive
 - at least for some key low income groups
- Reduce complexity of benefit and tax credit system
 - move to a single integrated family benefit
- Taxable income elasticities at the top
 - limited room for tax rate rises without changes to tax base
- Endogenous family composition and dynamics?

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Five building blocks for the role of evidence in tax design....

- Key margins of adjustment to tax reform
- Measurement of effective tax rates
- The importance of information, complexity and salience
- Evidence on the size of responses
- Implications for tax design
- Additional role for earnings tax design to undo the distributional effects of the rest of the reform package ...

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

Some Additional References (in addition to papers in the Dimensions volume)

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